TOMBSTONE PARK MOOSE

STRATIFICATION SUVEY

NOVEMBER 2000

Yukon
Environment

November 2009

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Fish and Wildlife Branch
SR-09-09
Yukon Department of Environment

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Suggested citation:
ENVIRONMENT YUKON. 2009. Tombstone Park Moose: Stratification Survey November 2000. Yukon Fish and Wildlife Branch Report SR-09-09, Whitehorse, Yukon, Canada.

November 2000 Tombstone Park Moose Survey

We surveyed Tombstone Park on November 13th, 14th and 17th, 2000 (see Figure 1). The survey focused on moose distribution and abundance, but observations on other wildlife and human activity were also recorded. The survey was flown using a Cessna 206. Brian MacDonald of Bonanza Air was the pilot. Four different observers took part (three per day), Dorothy Cooley, Dan Reynolds, Jay Farr and Martin Kienzler. Dan and Jay are local people from Dawson that had been recommended to us by the Dawson District Renewable Resources Council. We used just over 12 hours to complete the survey. Weather conditions were poor but we were able to fly for part of the day on the 13th and 14th. On the 17th, conditions improved and we were able to complete the survey.

We would like to thank Dan Reynolds and Jay Farr for assisting with the surveys. We especially appreciated Dan's continued willingness to share knowledge of the area. His input during this survey and throughout the gathering of wildlife information for Park boundary decisions, and management planning has been invaluable.

Dan assessed that snow conditions in the area were typical for this time of year. The largest accumulation of snow has been along the major drainages (Chandindu, Blackstone and North Klondike Rivers) and along the southern faces of the mountain ranges. It was also noted that ridges used by sheep for winter range were staying free of snow.

We surveyed all areas of potential winter moose habitat within the park boundaries. Roughly one-third of the park is too rocky and precipitous to be suitable for moose at any time of the year. Of the remainder, the northeast quarter contains scant moose habitat with only scattered willow patches along the creeks, which is better suited to the caribou that are often found there at various times during the winter. The best moose habitat for this time of year is the sub-alpine, or the upper parts of drainages throughout the park. Of the total moose observed during this survey, 80 % were in drainages of the Chandindu and West Blackstone Rivers, while only 20 % of the moose seen were in drainages associated with the North Klondike and East Blackstone Rivers. Fewer moose were down in the main valley of these rivers. Cow moose with calves were spread out throughout the park, and were typically at higher elevations within basins than other moose groups observed.

We counted a total of 162 moose in the park and 10 moose immediately adjacent to park boundaries. Specific observations can be found in the attached figure and tables. The number of moose seen during this survey was significantly higher than during the late-winter moose survey of March 2000, where only 62 moose were observed within the park. This difference in moose number is not unexpected, however, and is likely due to seasonal moose movement that occurs between late and early winter. Moose found in sub-alpine areas in the park in early winter likely move into the lower main river valleys, which are mostly located outside of the park, as snow depth increases over the course of the winter.

The number of cows with calves was quite low (19 calves per 100 mature cows), and only one set of twins was observed. Similarly, the number of yearlings was low, (5 per 100 cows). In general, 30 calves and yearlings per 100 mature cows are considered necessary to sustain a stable moose population. The number of mature bulls, however, was quite high at 76 per 100 cows.

Three dall sheep were observed during the survey and sheep tracks were seen in numerous places. Windblown ridges were noted on the map when it was possible, and did not detract from searching for moose. Dan provided information on the places where sheep are typically found in winter. While it was

not possible to thoroughly document the state of sheep winter range so far this year, Dan's comment was that this was a more typical year, in that the most important ridges used as winter range were free of snow.

Caribou and caribou sign were observed in large numbers in the northeast corner of the park along the Blackstone River and Upland area, and in most valleys and ridges east of the highway. Smaller groups of caribou were counted, but it was not possible to get a total count of the caribou observed. It was estimated that there were probably several thousand caribou in these areas. The majority were probably from the Porcupine Caribou Herd. It is known, however, that Hart River caribou were west of the highway just south of Two Moose Lake the previous week, as hunters had unintentionally shot a radio-collared Hart River cow. On the November 17th flight, we put radio-telemetry equipment in the plane, in order to listen for signals from those radio-collared Hart River caribou that had been close to the Dempster Highway in October. Radio signals from collared Hart River caribou were not heard, but two satellite collared Porcupine Caribou, Donner and Isabella, were located by signals from their radio transmitters. Two small groups of caribou were also seen in the upper North Klondike River west of the Tombstone campground. These were suspected to be Hart River caribou. Few moose were observed near where the caribou were most concentrated.

Two wolves were observed in the hills just west of Chapman Lake, in close proximity to several large groups of caribou. Four wolves were observed in upper Char Creek, on the easternmost boundary of the park opposite the headwaters of Yakama Creek. In the vicinity, were numerous caribou, and 2 groups of moose.

Snowmobile tracks were observed in some of the areas where caribou were, both east and west of the highway. Recent snow and the continually gusty conditions along the Dempster Highway had covered up older tracks. Open water along the East Blackstone may have kept hunters from accessing the east side of the highway until recently. Snowmobile tracks were not observed in proximity to any of our moose observations.

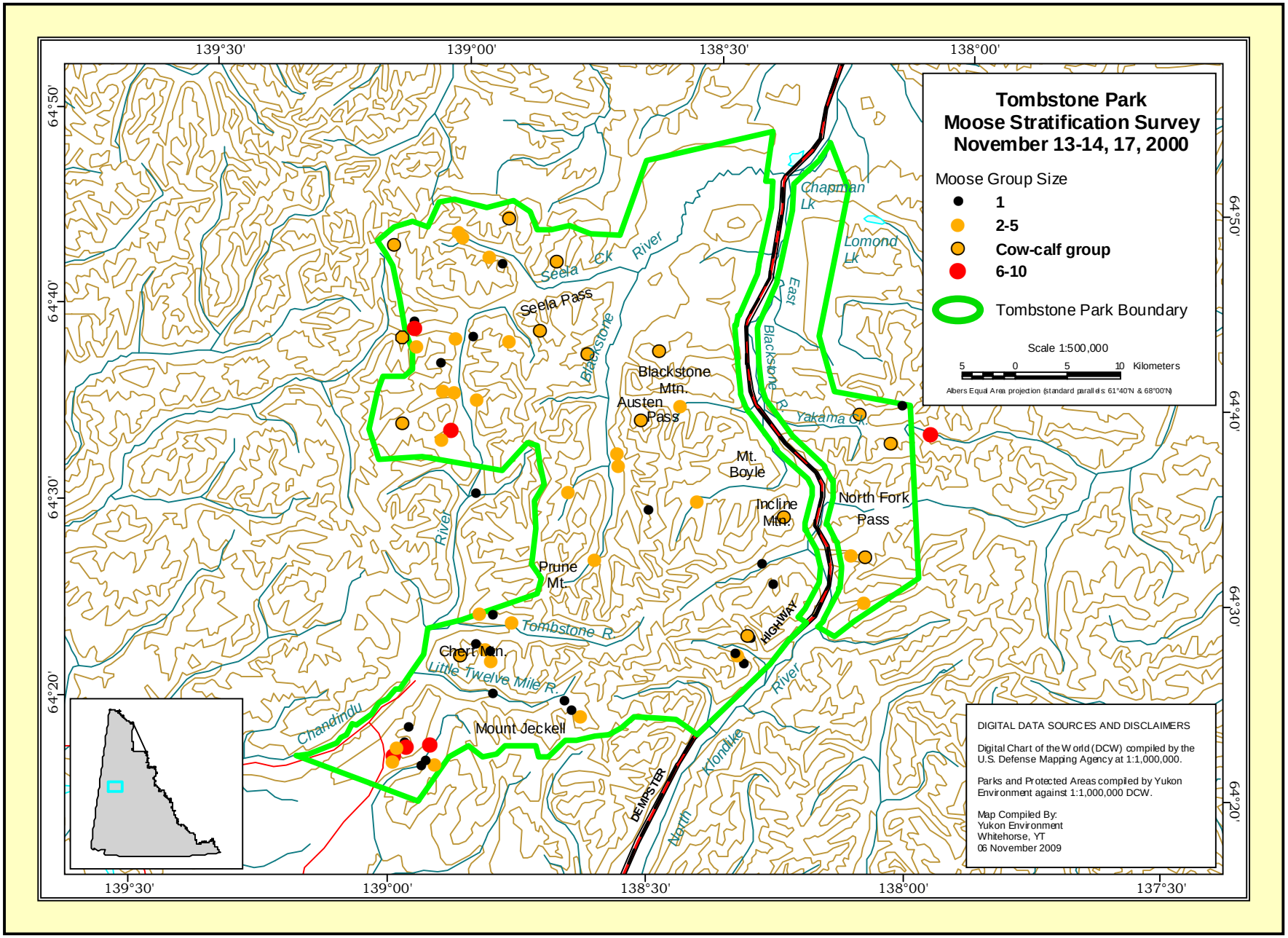
Tombstone Park
Moose Stratification Survey
November 13-14, 17, 2000
Moose Group Size
1
2-5
Cow-calf group
6-10
Tombstone Park Boundary
Scale 1:500,000
5 0 5 10 Kilometers
Albers Equal Area projection (standard parallels 61°40'N & 68°00'N)
DIGITAL DATA SOURCES AND DISCLAIMERS
Digital Chart of the World (DCW) compiled by the U.S. Defense Mapping Agency at 1:1,000,000.
Parks and Protected Areas compiled by Yukon Environment against 1:1,000,000 DCW.
Map Compiled By:
Yukon Environment
Whitehorse, YT
06 November 2009
139°30'
139°00'
138°30'
138°00'
137°30'
64°50'
64°40'
64°30'
64°20'
Seela Pass
Seela Crk
Blackstone River
Blackstone Mtn.
Austen Pass
Chapman Lk
Lomond Lk
East Blackstone R.
Yakama Crk.
Mt. Boyle
Incline Mtn.
North Fork Pass
Prune Mt.
Tombstone R.
Chert Mtn.
Little Twelve Mile R.
Chandindu River
Mount Jeckell
HIGHWAY
DEMPSTER
North Klondike River

Table 1. Observations made during the Tombstone Park Moose Survey, November 2000

Observation Number	Lone Cows	Cows / 1 Calf	Cows/ 2 Calves	Yearling Bulls	Mature Bulls	Total Moose	Comments	Drainage
2	3				1	4		Chandindu
3	1					1		Chandindu
4	1				1	2		Seela Pass
5		1				2		Seela Pass
6		1				2		West Blackstone
7	1				2	3		West Blackstone
8	3				1	4		West Blackstone
9		1				2		Arrow Creek
10		1				2		West Blackstone
11		1				2		Seela Pass
12	1					1		Seela Pass
13					2	2		Seela Pass
14	1				2	3		Seela Pass
15	3					3		Seela Pass
16		1				2		Seela Pass
17		1				2		Headwaters of Chandindu
18	3					3		Headwaters of Chandindu
20	1					1		Headwaters of Chandindu
21	1				6	7		Headwaters of Chandindu
22	2					2		Chandindu
23	1					1		Chandindu
24	2					2		Chandindu
25	1	1				3		Chandindu
26	1				1	2		Chandindu
27					3	3		Chandindu
28	7				2	9		Chandindu
29	1				1	2		Tombstone River
30	1					1		Tombstone River
31	2				1	3		Tombstone River
32					2	2		Tombstone River
33	2				1	3		Tombstone River
34					1	1		Tombstone River
35					1	1		Tombstone River
36		1				2		Tombstone River
37	1					1		Little 12 Mile
38	1				2	3		Little 12 Mile
39	1					1		Little 12 Mile
40	1					1		Little 12 Mile
41	1				0	1		Kentucky Point
42	1					1		Kentucky Point
43					6	6		Kentucky Point
44					2	2		Kentucky Point
45	4				4	8		Kentucky Point
46	2				2	4		Kentucky Point
47					6	6		North Rock Creek
48	1				2	3		North Rock Creek
49					1	1		North Rock Creek
50					1	1		North Rock Creek
51	1					1		North Klondike River

Table 1 Cont.

Observation Number	Lone Cows	Cows / 1 Calf	Cows/ 2 Calves	Yearling Bulls	Mature Bulls	Total Moose	Comments	Drainage
52	2				1	3		North Klondike River
53	1					1		North Klondike River
54	1					1		North Klondike River
55		1				2		North Klondike River
56	1					1		Headwaters of North Klondike
57					1	1		Headwaters of North Klondike
58		1				2		Headwaters of North Klondike
59	1				1	2		Headwaters of East Blackstone
60		1				2		Yakama Creek
61	1					1		Yakama Creek
64			1		1	4		Yakama Creek
65	1			1		2		Foxy Creek
66	2				3	5		West Blackstone
67	1			1	1	3		West Blackstone
69		1				2		Black Shale Creek
70	2					2		Black Shale Creek
71	3					3		August 17 Creek
Total moose	**69**	**13**	**1**	**2**	**62**	**162**		

Mature Cows =	81	**Calves/100 mature cows =**	18.8
Mature Bull =	62	**Yearlings/100 mature cows =**	4.9
Yearlings =	4	**Mature Bulls/100 mature cows =**	76.5
Calves =	15		

Observation Number	Lone Cows	Cows/ 1 Calf	Cows/ 2 Calves	Yearling Bulls	Mature Bulls	Total Moose	Comments	Drainage
1					1	1	Outside of Park	Chandindu
19		1			1	3	Outside of Park	Headwaters of Fifteen Mile
63	3				3	6	Outside of Park	Yakama Creek

Other Wildlife Observations

11a	2 wolves	West Blackstone
37a	2 Dall sheep	Little 12 Mile
62	4 grey wolves	Yakama Creek
68	Dall sheep	West Blackstone

Table 2. Summary of moose observed during the Tombstone Park Moose Survey, November 2000, based on drainage.

	Drainage	Total	% of Total	Grouped Total	% of Grouped Total	By Drainage (# / %)
Chandindu River	Headwaters of Chandindu River	28	16.3	44	25.6	98 / 57
	Upper Chandindu River	13	7.6			
	Headwaters of Fifteenmile	3	1.7			
	Tombstone River	15	8.7	21	12.2	
	Little 12 Mile River	6	3.5			
	Kentucky Point	22	12.8	33	19.2	
	North Rock Creek *not within Chandindu River drainage	11	6.4			
Blackstone River	Arrow Creek	2	1.2	38	22.1	55 / 32
	West Blackstone	19	11.0			
	Seela Pass	17	9.9			
East Blackstone River	Foxy Creek	2	1.2	17	9.9	
	Yakama Creek	13	7.6			
	Headwaters of East Blackstone	2	1.2			
North Klondike River	Headwaters of North Klondike	3	1.7	19	11.0	19 / 11
	North Klondike River	8	4.7			
	Black Shale Creek	4	2.3			
	August 17 Creek	4	2.3			
Total Moose		172	100.0	172	100.0	