

# Dawson Land Use Planning March 2008 Moose Survey



**Yukon**  
Environment

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# **DAWSON LAND USE PLANNING MARCH 2008 MOOSE SURVEY**

## **Fish and Wildlife Branch SR-10-03 Yukon Department of Environment**

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## Summary

A fixed wing aerial survey for moose was conducted south of Dawson City to the Stewart River and west to the Yukon-Alaska border, covering the Sixty Mile River. The total area of 10,027.3 square kilometers was surveyed in 4,166 minutes. A total of 326 moose in 225 groups were recorded. There were 31 calves (9.5% of the population). There were more moose on the east side of the Yukon River than the west side. Large numbers of Fortymile Caribou were seen, mainly in the Sixty Mile River drainage. Four groups of wolves were seen.

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## Introduction

In preparation for a land use planning process to start in the Dawson region, we undertook an aerial survey to document the relative distribution and abundance of moose south of Dawson in late winter. We tentatively identified 3 areas for large scale, low intensity moose surveys which cover the bulk of the preliminary land use planning region (Figure 2). The March 2008 survey area was the priority area to survey because it receives high moose hunting pressure and contains a large human footprint, mostly placer mines. It covers the Dawson East and Dawson West moose survey areas and beyond.

## Survey area

Survey area boundaries were drawn based on river drainages as much as possible. This survey area covered the Sixty Mile River drainage, the Indian River drainage and 3 smaller streams flowing into the Stewart River.

Several small areas were removed from the original survey area because of a lack of coverage noted after the field work was complete. Several decisions in the field to not survey additional areas were made because the habitat was unsuitable (western portions) or the aircraft contract time ran out (southern portion). The remainder of the survey area was covered. The GPS track does not show up on some spots on the map (Figure 3) because of a lack of GPS memory however these spots were surveyed.

A survey grid was drawn after the survey had been flown; survey characteristics presented in this report are based on these survey units.

Total potential survey area = 10,457.3 km<sup>2</sup>  
Total surveyed = 10,027.3 km<sup>2</sup>  
Total un-surveyed = 368.9 km<sup>2</sup>  
Total removed from survey area = 61.1 km<sup>2</sup>

## Survey methods

The survey was flown with a Cessna 206 aircraft with a pilot, 2 observers in the back seat, and a navigator and data recorder in the front seat.

The survey was conducted over 14 days between March 10 and March 28, 2008. Total flight time was about 84 hours. The total survey time was 4,166 minutes, covering 10,027.3 km<sup>2</sup> for an intensity of 0.42 minutes per km<sup>2</sup>. This is within the range of search intensities normally flown for stratification monitoring surveys.

Weather conditions were good. Snow cover was 100% but old. We judged that we were seeing tracks that were many days old. Temperatures were between -10 and -25 degrees Celsius. Eight of the 14 flying days were cloudy with the remaining 6 clear and bright.

Observations of other wildlife and significant features were also recorded.

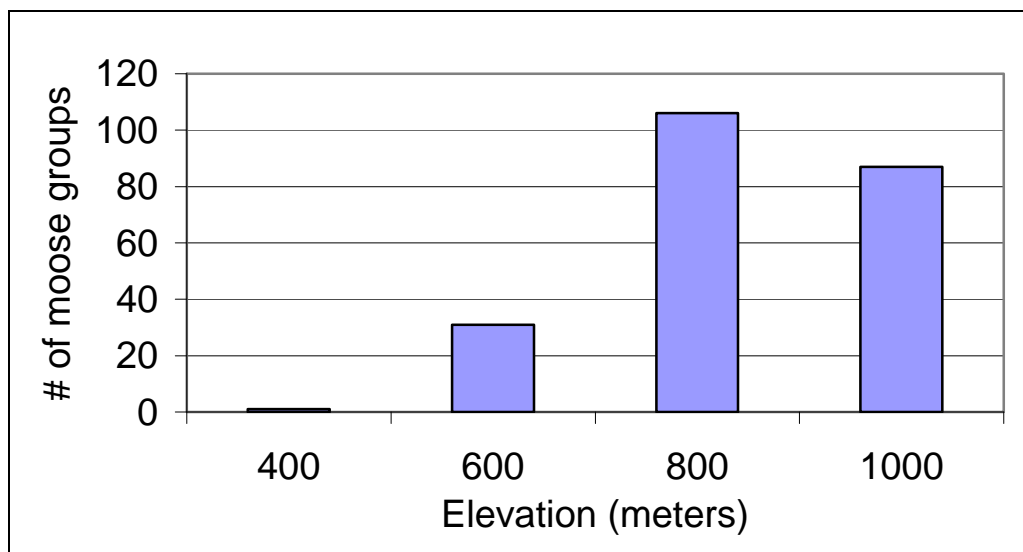
### **Moose Population Abundance and Distribution Results**

A total of 326 moose in 225 groups were recorded. The east side of the Yukon River had more moose than the west side (Figure 4). Overall, there were 31 calves which calculates to 9.5% calves in the population. Only one set of twins were seen during the survey and the remaining 29 calves were single calves. These numbers are higher than seen during the 2007 early winter survey which showed dramatically fewer calves. Normally 10 to 15% calves in late winter are needed to maintain stable moose populations.

Most groups recorded were of a single or a pair of moose (211 of 225 = 94%). There were 9 groups of 3 moose, 3 groups of 4 moose and 2 groups of 5 moose.

Almost 86% of the groups were located above 800 meters (2,625 feet) above sea level (Figure 1).

Figure 1. Elevation of moose groups



### **Other wildlife recorded**

There were 452 caribou in 69 groups recorded (Figure 5). This is probably the best documentation of Fortymile Caribou distribution in Yukon that we've made in recent years. When caribou cross the international border into Yukon, Government of Yukon often does 1 or 2 telemetry flights however we do not get this level of detail during those surveys. Small groups of caribou were seen on the Yukon River both upstream and downstream this year.

We saw 4 groups of wolves, 3 lynx, 1 wolverine and 1 fox. Two kill sites were seen and documented. One was a moose calf along the Yukon River and the other was probably a caribou in the upper Sixty Mile River. We also recorded the locations of the only 2 stands of pine trees that we noticed.

## **Acknowledgements**

Navigators / recorders for this survey were Martin Kienzler, Dorothy Cooley and Matt Larsen (Yukon Environment). We had many observers: Hans Algotsson, J.P Hawkins, Darren Kormendy, Dan Marvin, Francis Poulin, Michel Vincent, and Lolita Welchman. We'd also like to especially acknowledge Shawn Hughes (Conservation Officer), Roberta Joseph (Tr'on dek Hwech'in Fish and Wildlife Coordinator) and Ryan Peterson (Tr'on dek Hwech'in Fish and Wildlife Steward) who participated in the survey as part of their job duties. Thanks to Jim Healy flying for Whitehorse Air Services for persevering for 18 days. This survey was funded by a budget managed by Karen Clyde (Yukon Environment). Finally thanks to Rick Ward and Susan Westover for guidance and advice, and for reviewing this report.

Figure 2. Map of tentatively proposed Dawson LUP moose survey areas

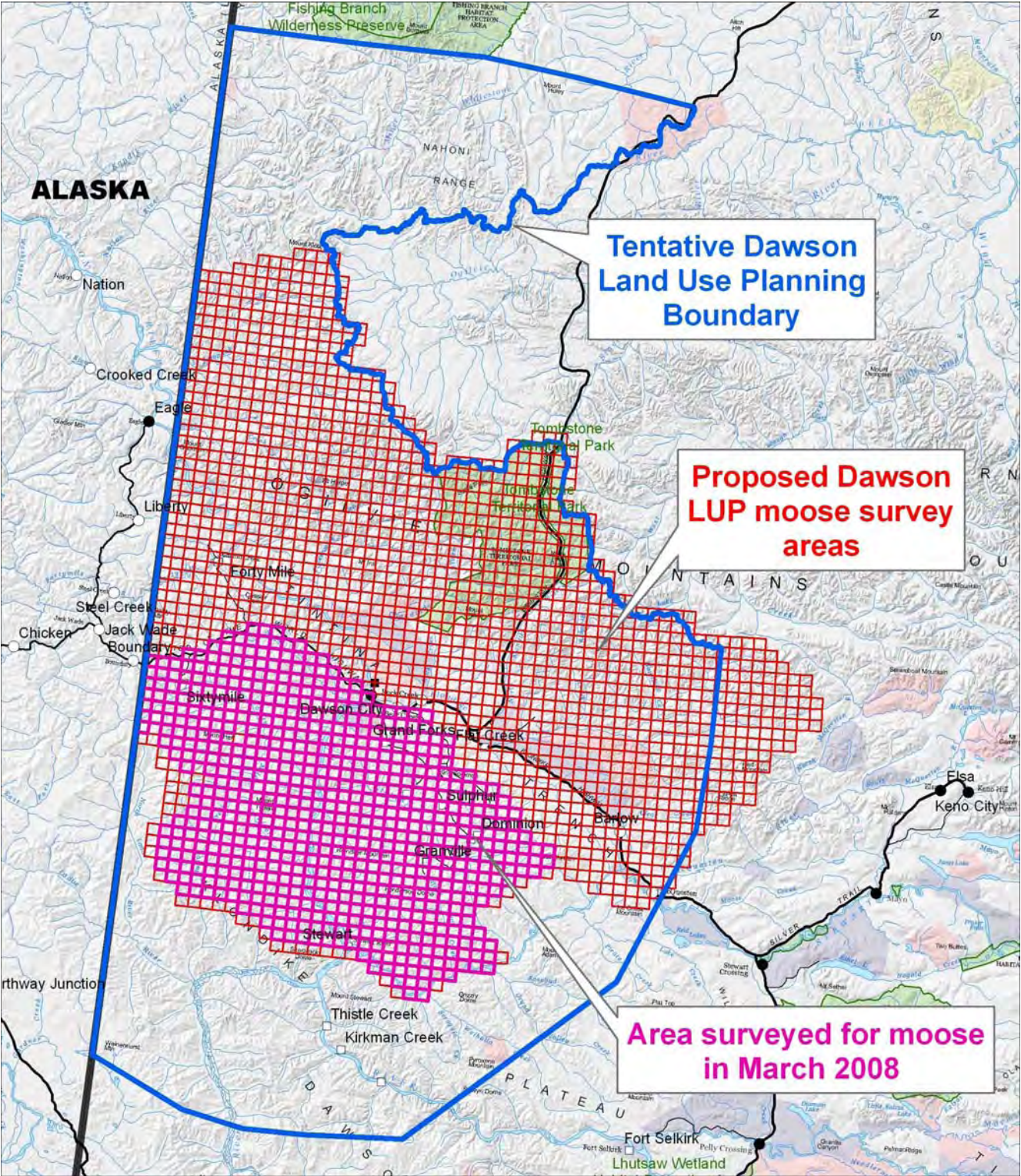


Figure 3. Map of flight lines, color coded by flight date. Note that not all flight lines show up due to GPS memory limitations.

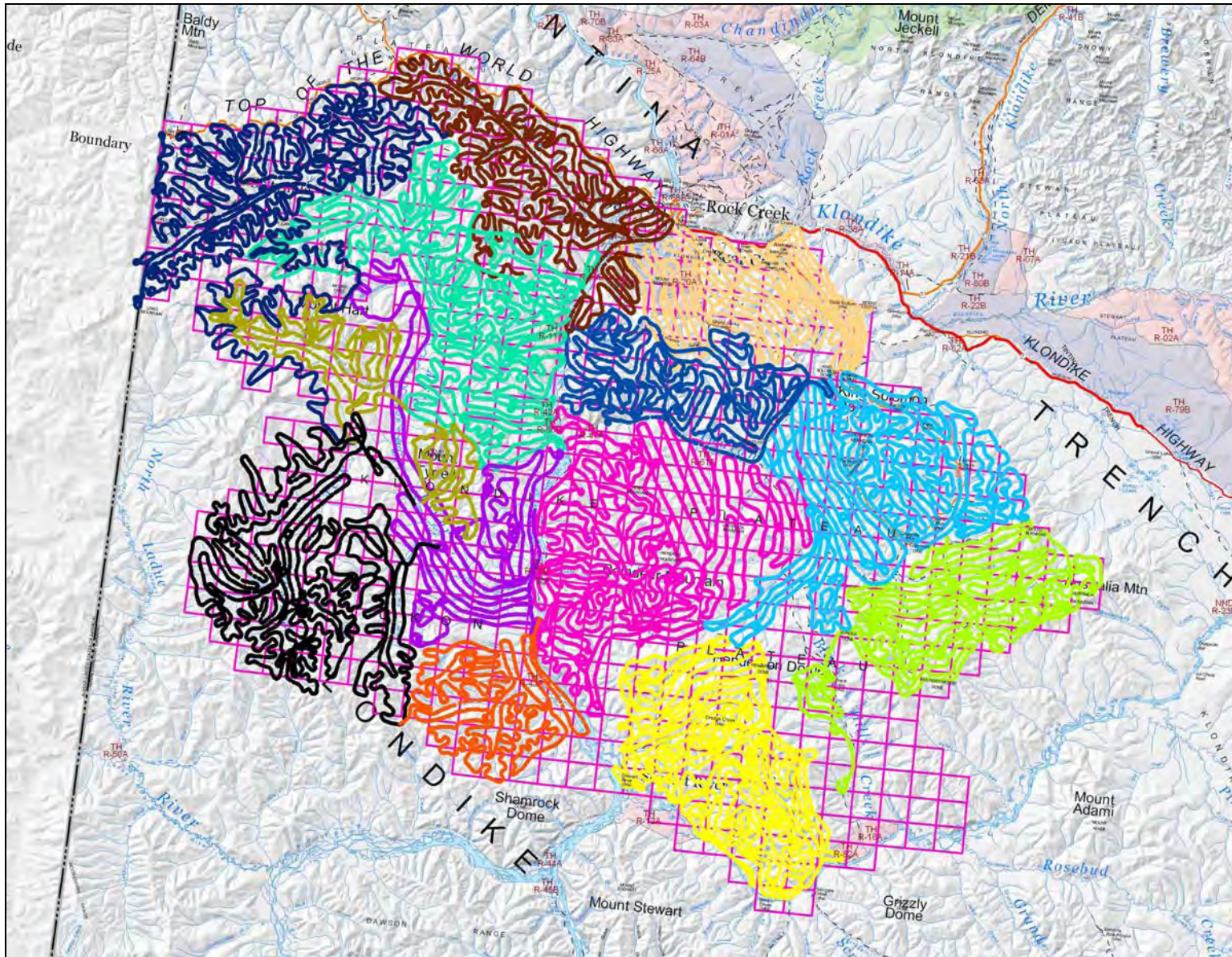


Figure 4. Locations of moose groups, coded by group size.

