DAWSON LAND USE PLANNING MARCH 2010 MOOSE SURVEY – FORTYMILE AREA.

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Dawson Land Use Planning March 2010 moose survey – Fortymile area
Summary report – 19 January 2011

Summary

A fixed wing aerial survey for moose was conducted north and west of Dawson City from Tombstone Territorial Park to the Alaska border. The total area of approximately 6,837 square kilometres was surveyed in 2874 minutes. A total of 315 moose in 222 groups were recorded in the survey area. This included 28 calves (8.9 % of the total moose counted). We saw numerous other species during the survey, including caribou, sheep, wolves, a lynx, a fox and a wolverine.

Introduction

This is the final survey in a series of 3 late winter aerial surveys done n preparation for a land use planning process to start in the Dawson region. We undertook these surveys to document the relative distribution and abundance of moose in the region in late winter. We tentatively identified 3 areas for large scale, low intensity moose surveys to cover the bulk of the preliminary land use planning region (Figure 1). The area covering Dawson East and Dawson West moose survey areas and beyond was done in March 2008. The survey in March 2009 covered mainly the Klondike River. This survey was intended to cover mainly the Fortymile River area east to Tombstone Territorial Park.

Survey area

The original survey area boundaries were drawn based on river drainages as much as possible. This survey area abutted the March 2008 survey area on the southern boundary and the March 2009 survey on the eastern boundary. The area covered was from Dawson City west along the Top of the World Highway, north along the Alaska border to about Last Chance Creek, east to Tombstone Territorial Park, then south to Dawson City. A grid consisting of blocks approximately 4 by 4 kilometres (about 14.9 km^2 in size) was overlain and this grid guided the areas flown.

Survey methods

The survey was flown with 2 Cessna fixed wing aircraft. Personnel in each plane consisted of a pilot, 2 observers in the back seats, and a navigator/ data recorder in the front seat. The survey blocks were flown at about 300 feet above ground in lines about 1 kilometre apart (Figure 2). For moose sighted in a survey block, a GPS waypoint was recorded and the number and composition of the group was recorded. Moose were classified as cows with calves, unknown adults (which would be yearlings, cows without calves, and bulls without antlers), and antlered bulls.

For this survey, we started recording the presence of moose tracks in areas where we did not see moose. This information could potentially be used as an index of moose presence.

Observations of other wildlife were also recorded.

Survey conditions

The survey was conducted over 8 days between March 4 and 13, 2010. Total flight time for both aircraft was just over 65 hours. The total survey time was 2,874 minutes, covering 6,837 km^2 (including portions of the high country that was not flown) for a search intensity of 0.42 minutes per km^2. This is within the range of search intensities normally flown for stratification monitoring surveys.

Weather conditions varied quite a bit over the duration of the survey with clear and overcast days, windy and calm days. The wind was strong enough to influence where we chose to survey on most days, and caused cancelled or aborted flights on 2 survey days.

Snow cover was 100% throughout the survey area. There was wet snow and freezing drizzle late in the afternoon of March 1st. There were several days during the survey period when fresh snow fell: In mid afternoon of March 2nd, a very light snow resulted in about 1 centimetre of accumulation. On March 7th, approximately 2 centimetres of snow fell in Dawson. On March 9th, another 12 centimetres of snow fell in Dawson and finally about 2 centimetres of snow fell during the night of March 12th.

Moose Population Abundance and Distribution Results

A total of 315 moose in 222 groups were recorded during the survey (Figure 3).

Table 1. Summary of numbers recorded

Area surveyed (sq km)	6,837
Minutes of survey	2,874
Minute per sq km	0.42
Total moose seen	315
# calves (%)	8.9
Moose per minute	0.11

Overall, there were 28 calves representing about 8.9% of the total population. Normally 10 to 15% calves in late winter are needed to maintain stable moose populations. We saw only 2 sets of twin calves, or about 7.7% of the maternal groups (cows with twins divided by total cows with calves).

Most groups recorded were of a single moose (68%). The largest group we saw was 6 moose (2 observations).

Other wildlife recorded

Approximately 454 caribou were seen in 45 groups in, or near, the survey area. Most of these were probably Fortymile Caribou however we did see some caribou in the Ogilvie Mountains which could have been Hart River or Porcupine Caribou. We saw one lynx, one red fox, and one wolverine. We saw one group of 3 sheep and a total of 7 wolves in 2 groups. See Figure 4.

Acknowledgements

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Planes were piloted by Jim Healy (Whitehorse Air), Craig Untershute and Eric Reider (Great River Aviation).

This survey was funded by a budget managed by Karen Clyde (Yukon Environment). Finally thanks to Rick Ward and Susan Westover (Yukon Environment) for advice, providing the database, crunching the numbers and reviewing this report.

Figure 1. Map of tentatively proposed Dawson Land Use Planning (LUP) moose survey areas

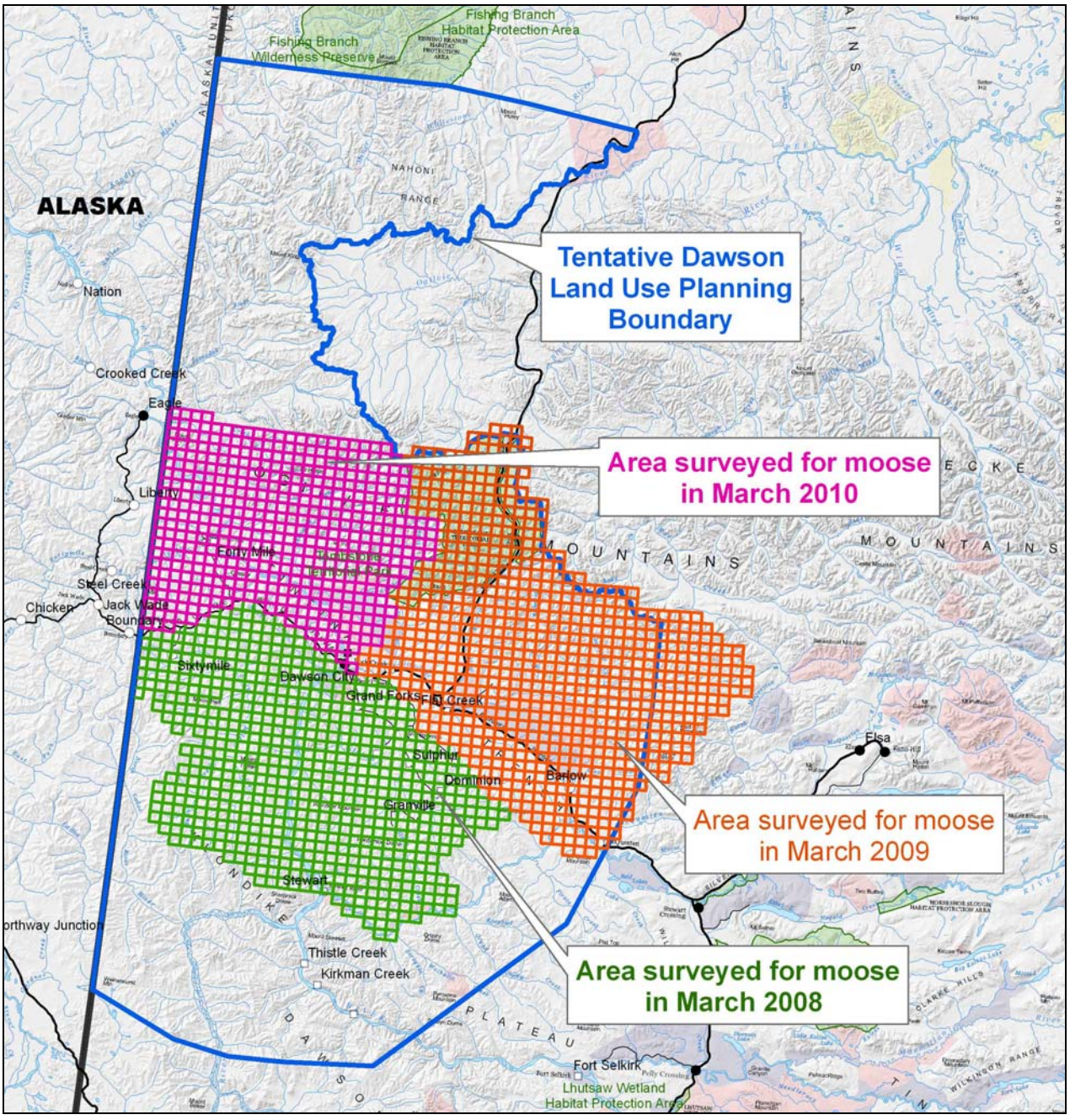

Figure 2. Map of flight lines, color coded by flight date. Some high elevation areas were not flown. There are 3 survey blocks in the southwestern quadrant that were flown however the GPS track is not shown on this map.

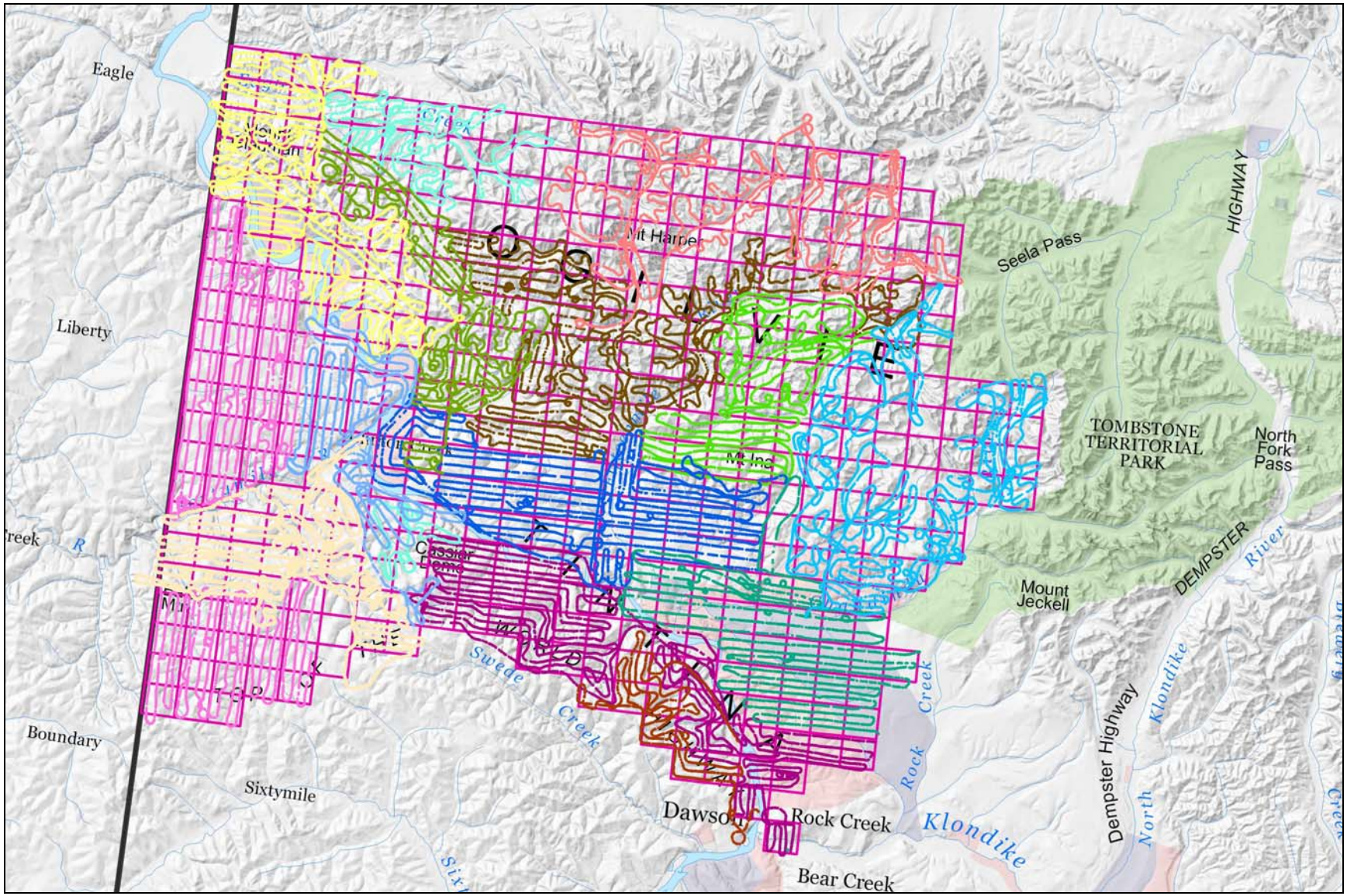

Figure 3. Locations of moose groups, coded by group size. Does not include moose tracks recorded or moose seen outside of the survey area.

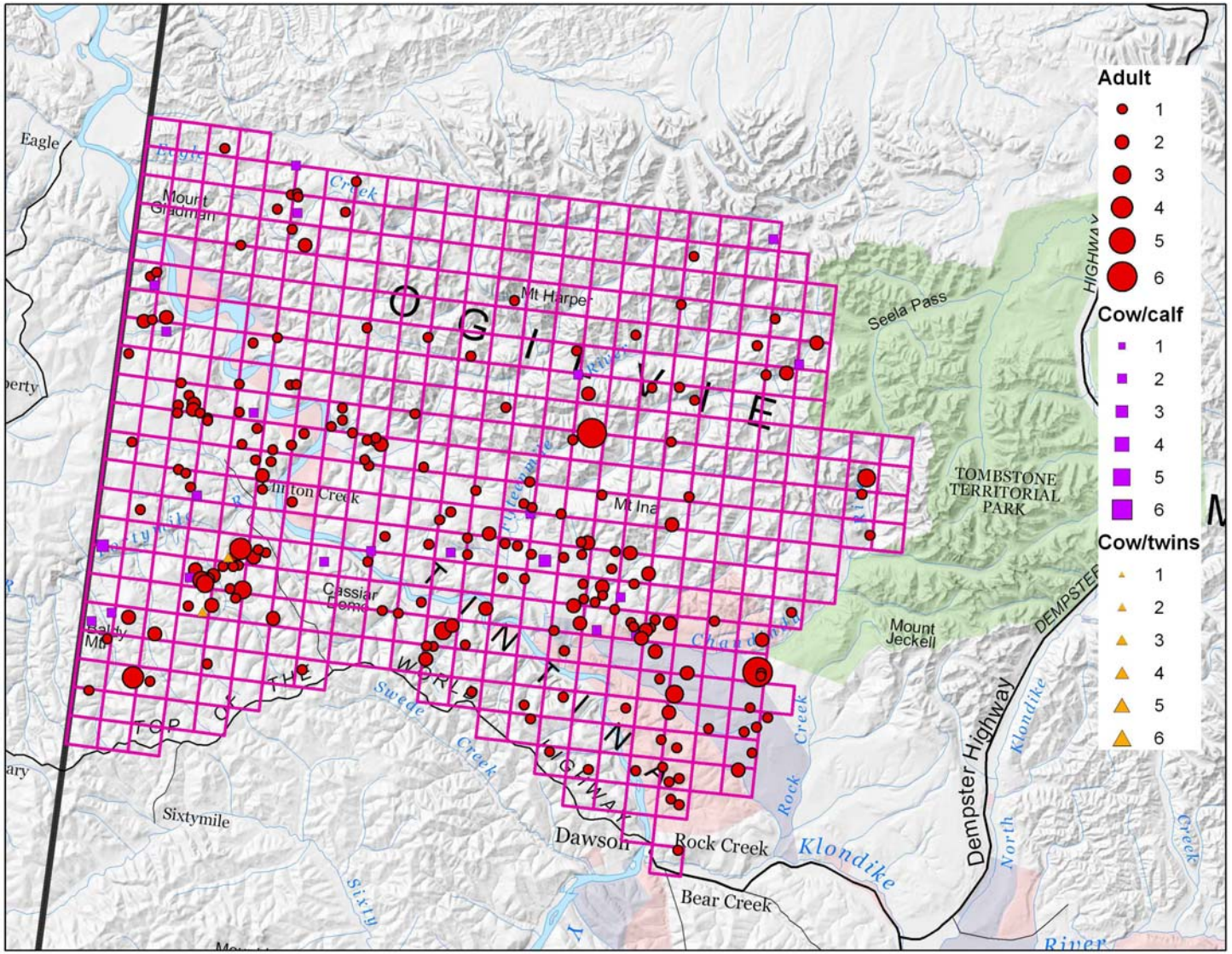

Figure 4. Locations of other species seen.