Core High-Elevation Summer Range for the Narraway Caribou Herd

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March 2015

The Peace Northern Caribou Plan (PNCP) includes a commitment to:

"manage the industrial footprint in identified high and low elevation habitats by requiring standardized industry management practices across all industry sectors to reduce or prohibit surface disturbance and habitat alteration, and support long-term sustainable caribou habitat conditions."

http://www.env.gov.bc.ca/wld/speciesconservation/nc/

The purpose of this report is to identify the core high-elevation summer range (HESR) for the Narraway caribou herd within the PNCP area. Caribou in this herd use primarily subalpine and alpine habitats in summer. In some places, summer range occurs in areas that are also used as high-elevation winter range (HEWR). However, the HESR includes additional areas that are not heavily used by caribou in the winter period.

Radio-telemetry data from Narraway caribou have been used to develop seasonal habitat use models that can be used to identify important habitat areas (Williamson-Ehlers 2012). Four habitat selection classes were used to quantify habitat quality for caribou in summer (Very High, High, Moderate, and Low). Habitats identified as being "Very Highly" and "Highly" selected by caribou in summer were mapped within the caribou range. The model was primarily based on forest cover types and topographic features, however, without a specific variable for elevation. Consequently, the modeled habitat included lower elevation portions of some highly selected forest types, but those lower elevation areas had little use by caribou. The telemetry data indicated that 95% of high-elevation summer telemetry locations (locations occurring outside of the Narraway low-elevation winter range and the BWBS biogeoclimatic zone) occurred above 1300 m. Therefore we did not include areas below 1300 m as HESR.

Many of the Narraway caribou migrate west into the Prince George Forest District during summer. We did not include that portion of the summer range because the high-elevation habitat in that area is already protected as high-elevation winter range for the Hart Ranges caribou herd. We also deleted patches of habitat that were isolated from the area of core HESR and had little or no use by radio-collared caribou. The mountain ridge between the Red Deer and Wapiti valley has the capability to provide HESR, but most of that area is a burn and is currently not used by caribou. Over time it may develop into HESR if further habitat

destruction was prevented, but we did not include it as it currently is not functional habitat, and will take a very long time before it does provide functional habitat.

1. There were a total of 124,514 summer telemetry locations for the Narraway caribou herd, but 46,862 of them were for caribou that moved out of the Peace Forest District in summer, and used summer habitat within the Prince George Forest District.

2. There were 594 summer telemetry locations of Quintette caribou that occurred within the Narraway summer range and those were included in this analysis of HESR use.

3. For the 78,246 summer locations within the Peace Forest District, 25,937 were at elevations below 1300 m and were removed because they did not constitute HESR use.

4. Therefore, we used 52,309 caribou locations to refine core high-elevation summer range for Narraway caribou within the Peace Forest District.

5. The final version of core high-elevation summer range for the Narraway caribou herd incorporated 83% of the high-elevation caribou locations within the Peace Forest District within 173,164 hectares (Figure 2). 80% of caribou locations were within areas classified as “Very Highly” selected (122,789 ha), and 20% of caribou locations were within areas classified as “Highly” selected (50,375 ha).

Reference

Williamson-Ehler, E.P. 2012. Seasonal habitat selection for woodland caribou (*Rangifer tarandus caribou*) across the Peace region of northeastern British Columbia. Unpublished report, B.C. Ministry of Environment.

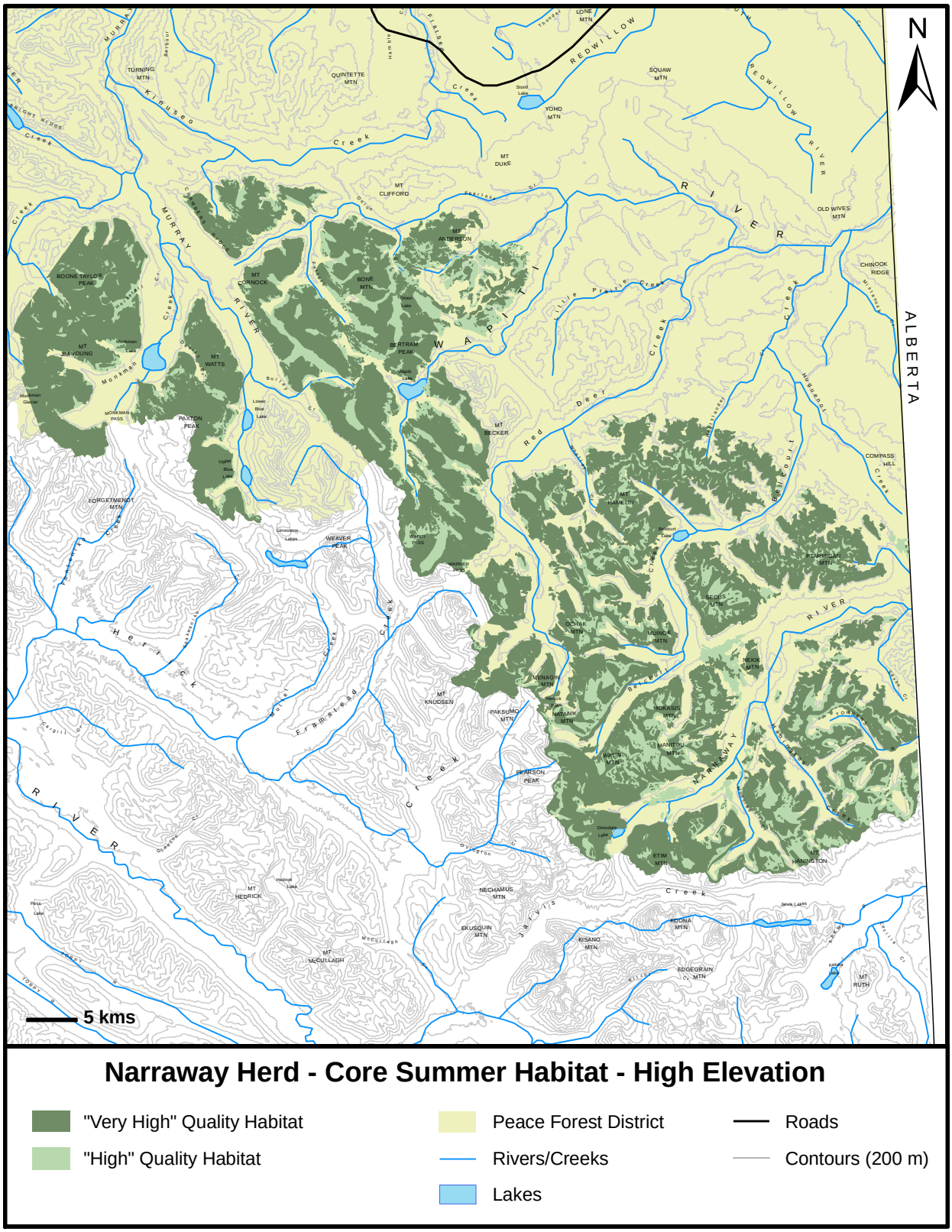

Figure 1. Core high-elevation summer range for the Narraway caribou herd.

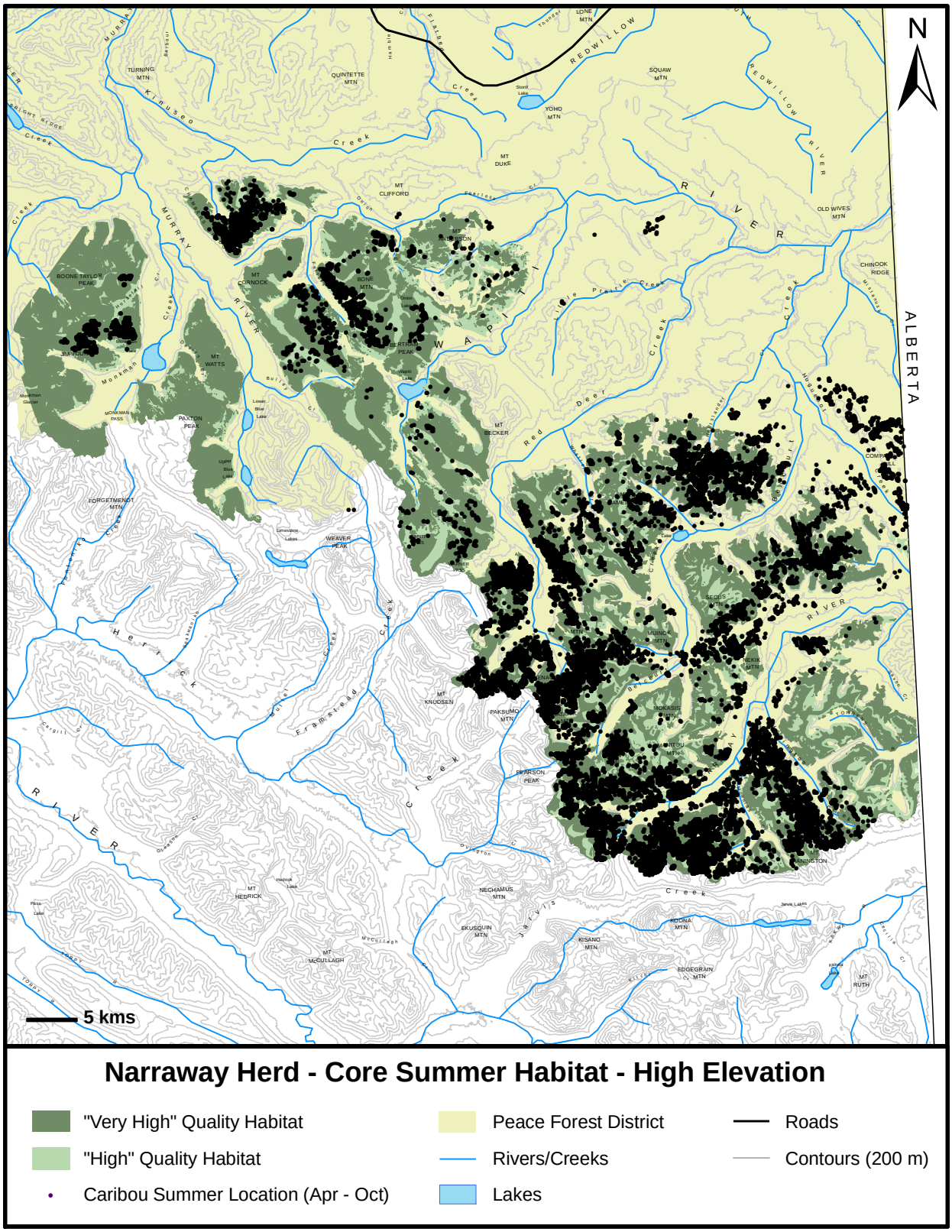

Figure 2. Core high-elevation summer range and high-elevation summer locations from 2000 to 2014 for the Narraway caribou herd.