

Core High-Elevation Summer Range for the Quintette Caribou Herd

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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 Quintette 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 have been used in three projects to develop seasonal habitat use models that can be used to identify important habitat areas (Jones et al. 2007, Williamson-Ehlers 2012a, Williamson-Ehlers 2012b). The Williamson-Ehlers 2012b model incorporated more telemetry data than the 2012a model so we used the 2012b version. We merged areas identified as having "Very High" selection by caribou from the Williamson-Ehlers (2012b) model, and "Very High" selection by caribou from the Jones (2007) model in order to delineate core HESR for the Quintette herd. We removed areas that occurred within the Prince George Forest District because those areas are managed as habitat for the Hart Ranges mountain caribou herd. We also removed some small patches of habitat that were very isolated from the area of core HESR, and had little or no evidence of use by radio-collared caribou.

The integrated model for the Quintette caribou herd was separated into two habitat quality classes. "Very Highly" selected habitat from the Williamson-Ehlers model (2012b) was classified as "Very High" quality habitat. "Very Highly" selected habitat from the Jones et al. (2007) model was classified as "High" quality habitat. In situations where the two models overlapped the area was classified as "Very High" quality habitat (Figure 1).

1. There were a total of 45,994 summer telemetry locations for the Quintette caribou herd, but 2,990 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. Those areas are already protected as winter range for the Hart Ranges mountain caribou herd.
2. For the 43,004 summer locations within the Peace Forest District, 437 were at low elevations in the Boreal White and Black Spruce (BWBS). Those low-elevation habitats are also used by Narraway caribou, and habitat management strategies for those areas are being developed. An additional 594 locations were removed because they fell within an area that has been delineated as high-elevation summer range for the Narraway herd.
3. Therefore, we used 41,973 caribou locations to refine core high-elevation summer range for Quintette caribou within the Peace Forest District.
4. The final version of core high-elevation summer range for the Quintette caribou herd incorporated 94% of the high-elevation caribou locations within the Peace Forest District within 112,694 hectares (Figure 2). 64% of caribou locations were within areas classified as “Very Highly” selected (33,016 ha), and 30% of caribou locations were within areas classified as “Highly” selected (79,677 ha).

References

Jones, Elena S., Michael P. Gillingham, Dale R. Seip and Douglas C. Heard. 2007. Comparison of seasonal habitat selection between threatened woodland caribou ecotypes in central British Columbia. *Rangifer* Special Issue No. 17: 111-128.

Williamson-Ehlers, E.P. 2012a. Impacts of industrial developments on the distribution and movement ecology of wolves (*Canis lupus*) and woodland caribou (*Rangifer tarandus caribou*) in the south Peace region of British Columbia. M.Sc. thesis, University of Northern British Columbia. 163 pp.

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

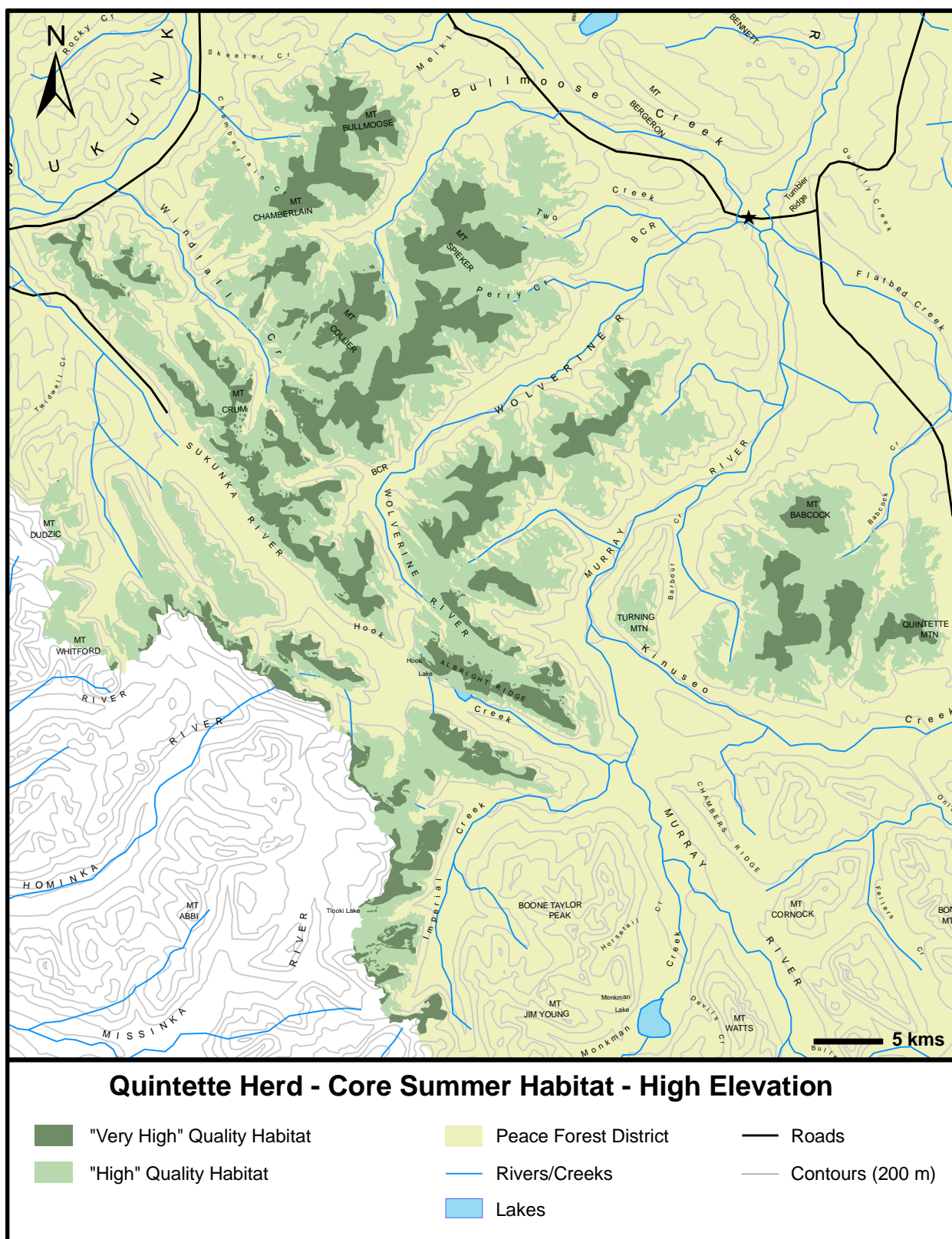


Figure 1. Core high-elevation summer range for the Quintette Caribou Herd.

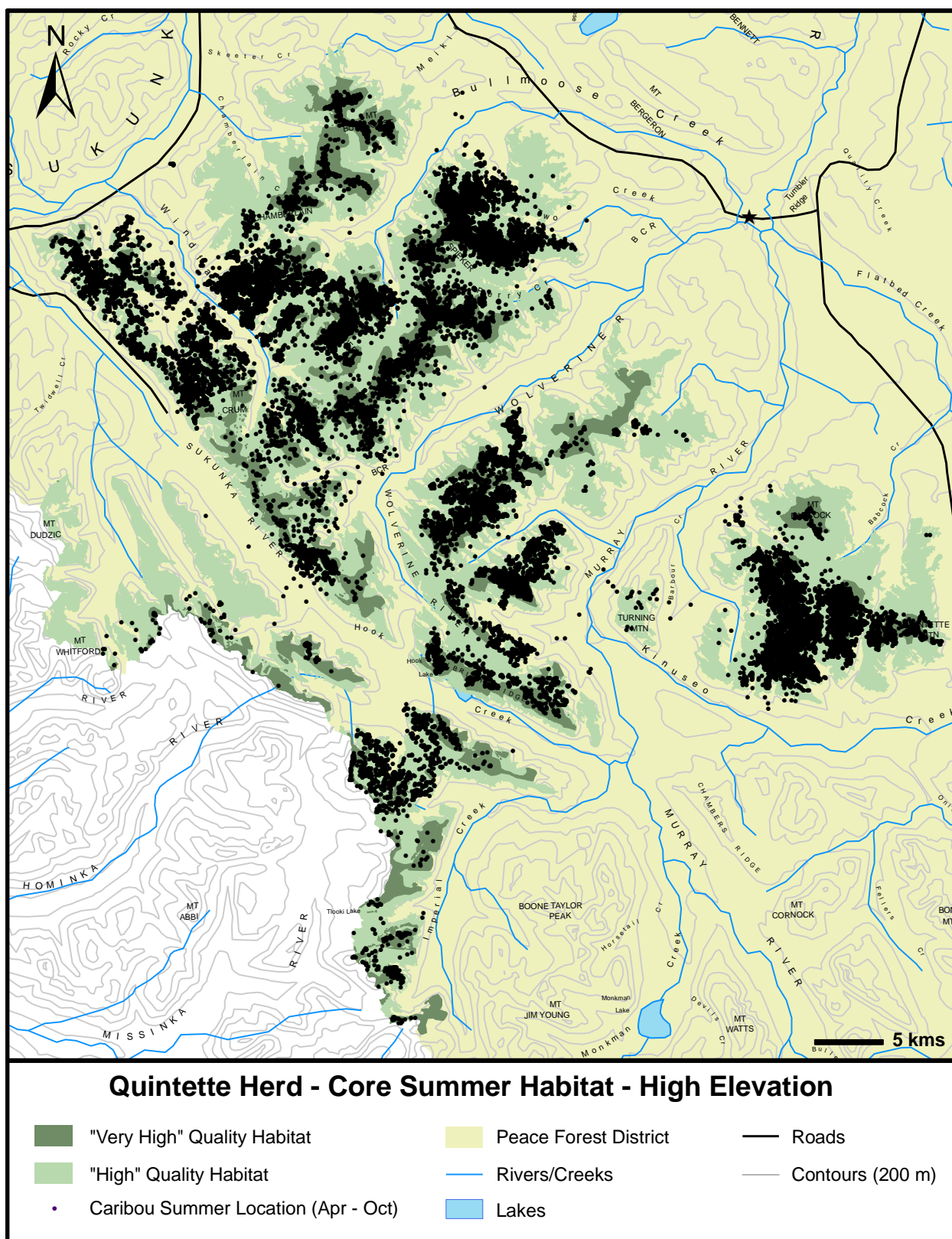


Figure 2. High-elevation summer locations and core high-elevation summer range for the Quintette caribou herd from 2002 to 2014.