

Core High-Elevation Winter Habitat for the southern Narraway Caribou Herd

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The Narraway caribou herd is one of the herds included in the Peace Northern Caribou Planning initiative. GPS-collared caribou have been monitored in this herd since 2000 and their range use patterns are well documented. The Narraway herd includes two subgroups, the Bearhole/Redwillow group and the southern Narraway group. There is some interchange between these two groups and their habitat use patterns are similar, however, their winter ranges are spatially separated by the unused Red Deer valley (Figure 1). Both subgroups primarily use low-elevation forests for winter range, but the southern Narraway subgroup also uses some high-elevation winter habitat areas. Therefore, this report only addresses core high-elevation habitat for the southern Narraway subgroup.

The southern Narraway caribou live in alpine and subalpine forests during the summer, with many using areas on the west side of the Rocky Mountains (Figure 2). In fall, most of the caribou migrate to the eastern side of the Rocky Mountains. The majority of winter locations occur in low-elevation forested habitat within B.C. and extending into Alberta. Some winter caribou locations, however, occur in high-elevation alpine and subalpine habitats.

One of the key management objectives of the Peace Northern Caribou Plan is to protect much of the high-elevation winter range from industrial activities. Therefore, this report identifies core high-elevation winter ranges for the southern Narraway caribou. Management practices for the low-elevation winter range will be developed as a separate process.

Habitat modelling has recently been completed for the low-elevation winter range in the southern Narraway (Williamson-Ehlers 2012), but not for the high-elevation winter range. Therefore, we utilized an elevational boundary to define the high-elevation habitat, and then used caribou telemetry locations to identify which high-elevation habitat areas were heavily used by the caribou.

Analysis of the winter telemetry data indicated that most of the low-elevation winter habitat occurred below 1300 m. The subalpine parkland zone (ESSFmvp), a high-elevation habitat type that is heavily used by caribou in winter starts at about 1600 m. The upper portion of the adjacent subalpine forest zone (ESSFmv2) also provides high-elevation habitat in winter. Therefore, we initially identified areas ≥ 1500 m as high-elevation habitat. Next, we used the winter radio-telemetry locations to remove areas of high-elevation habitat that had little or no evidence of use. We used only GPS-collar locations from December to March to identify high-elevation winter habitat as many November locations were indicative of caribou that were still migrating from the summer range.

1. There were a total of 63,268 winter telemetry locations for southern Narraway caribou, but 14,003 of those were on low-elevation winter range within the Bearhole/Redwillow subgroup.
2. For the 49,265 winter locations in the southern Narraway range, 3,257 were in the Prince George Forest District, outside of the Peace Northern Caribou Planning area. Also, those areas are already protected as winter range for the Hart Ranges mountain caribou herd.
3. For the remaining 46,008 locations, 2,715 were within Kakwa Provincial Park, primarily at low elevations but also some widely scattered within high-elevation habitat.
4. For the remaining 43,293 locations outside of the Park, 33,793 were on low-elevation winter ranges within the Peace Forest District and adjacent Alberta.
5. Therefore, 9,500 winter locations were used to delineate high-elevation winter habitat for southern Narraway caribou within the Peace Forest District.
6. Within the Peace Region, there were 108,318 hectares of habitat ≥ 1500 m within the range of the caribou. Many of those areas, however, had no evidence of caribou use in winter and were deleted (Figure 3). This process left 35,961 hectares of habitat ≥ 1500 m that had significant use by radio-collared caribou in winter (Figure 4).
7. These core high-elevation habitat areas incorporate 87% of the southern Narraway caribou winter locations in the Peace Forest District that are not on the low-elevation winter range or within Kakwa Provincial Park (Figure 5).

References

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.

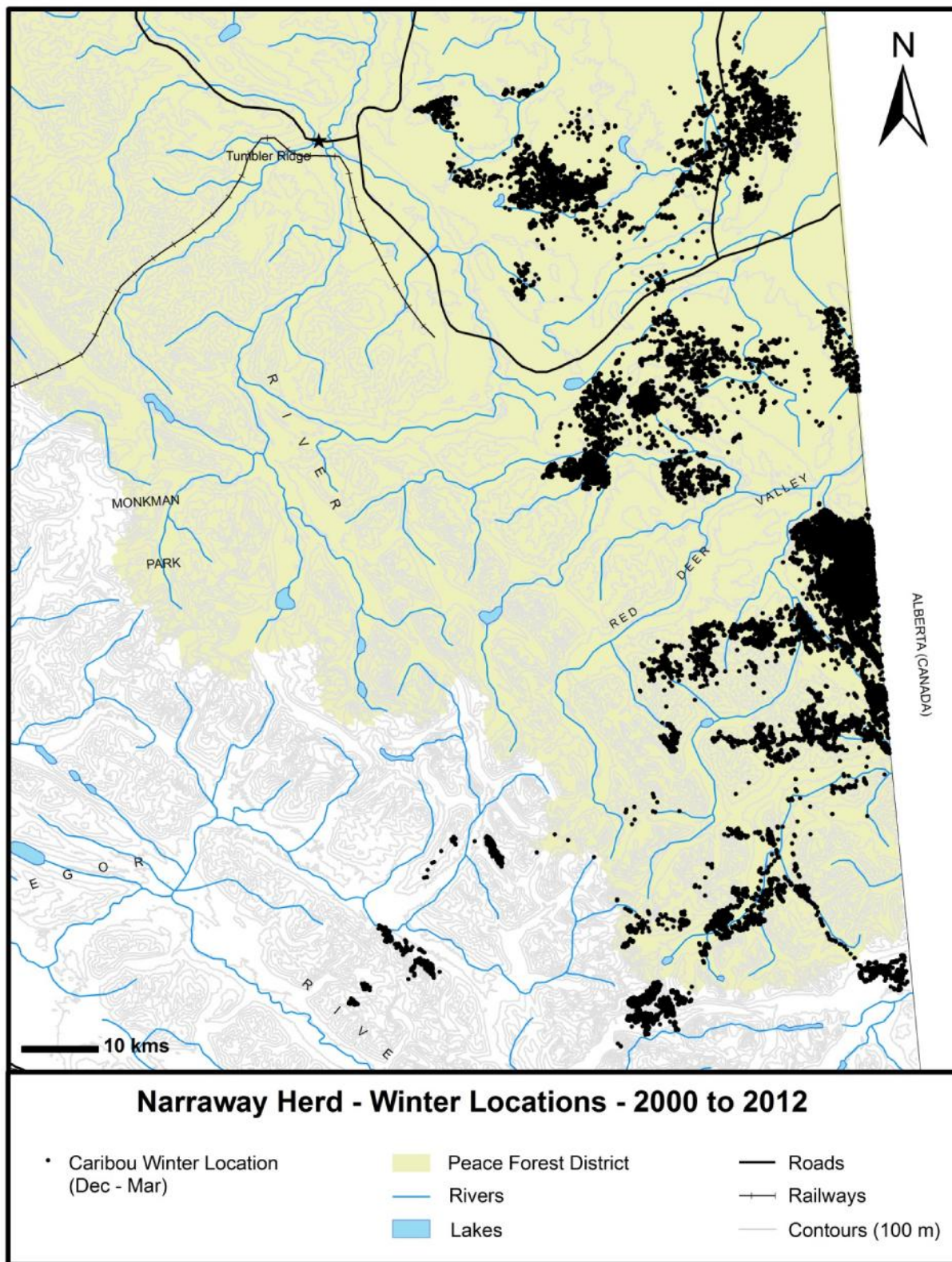


Figure 1. Winter locations (Dec – Mar) for the Narraway caribou herd from 2000 to 2012. The Bearhole/Redwillow and southern Narraway subgroups are separated by the Red River Valley.

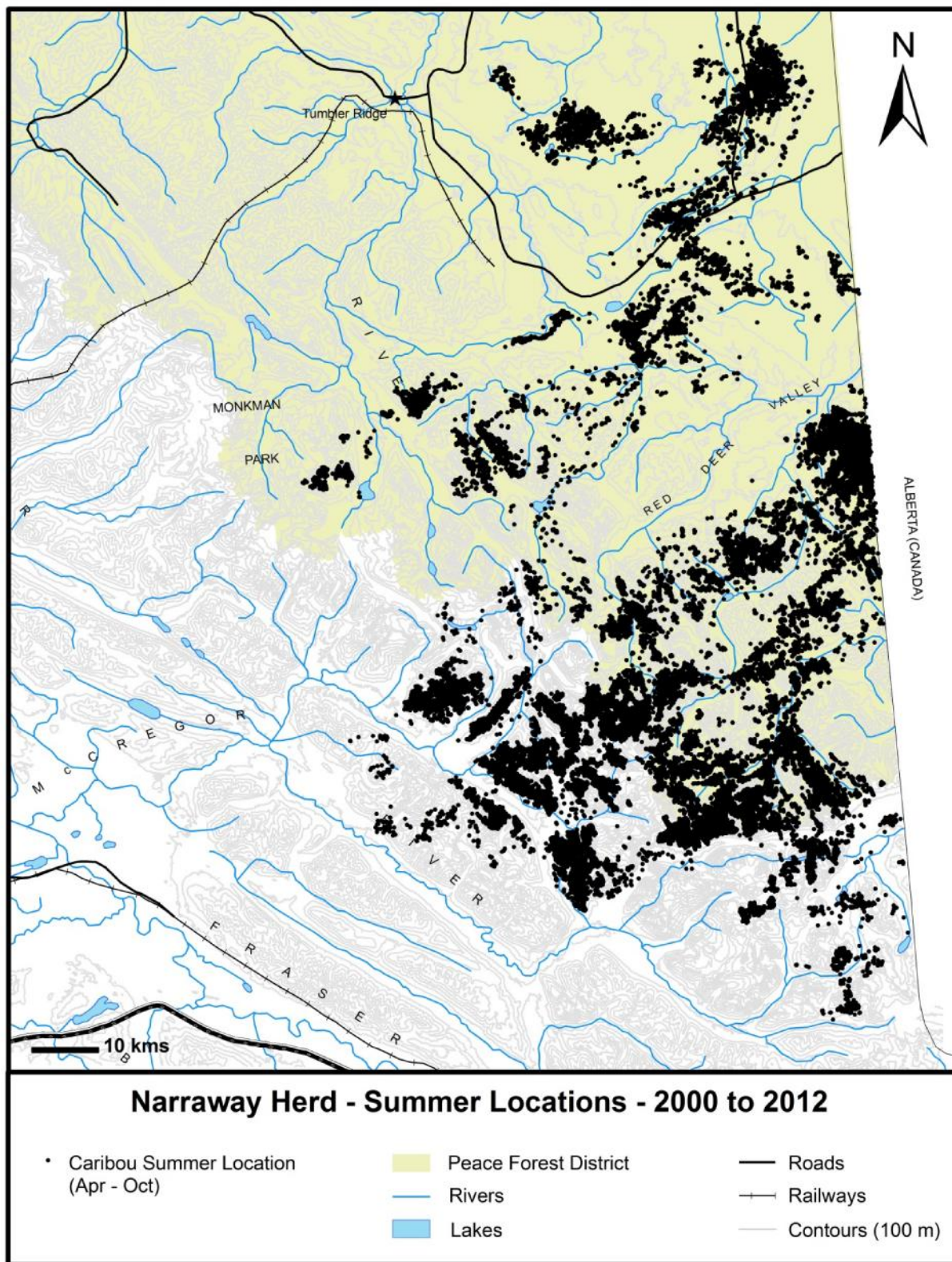


Figure 2. Summer locations (Apr to Oct) for the Narraway caribou herd from 2000 to 2012.

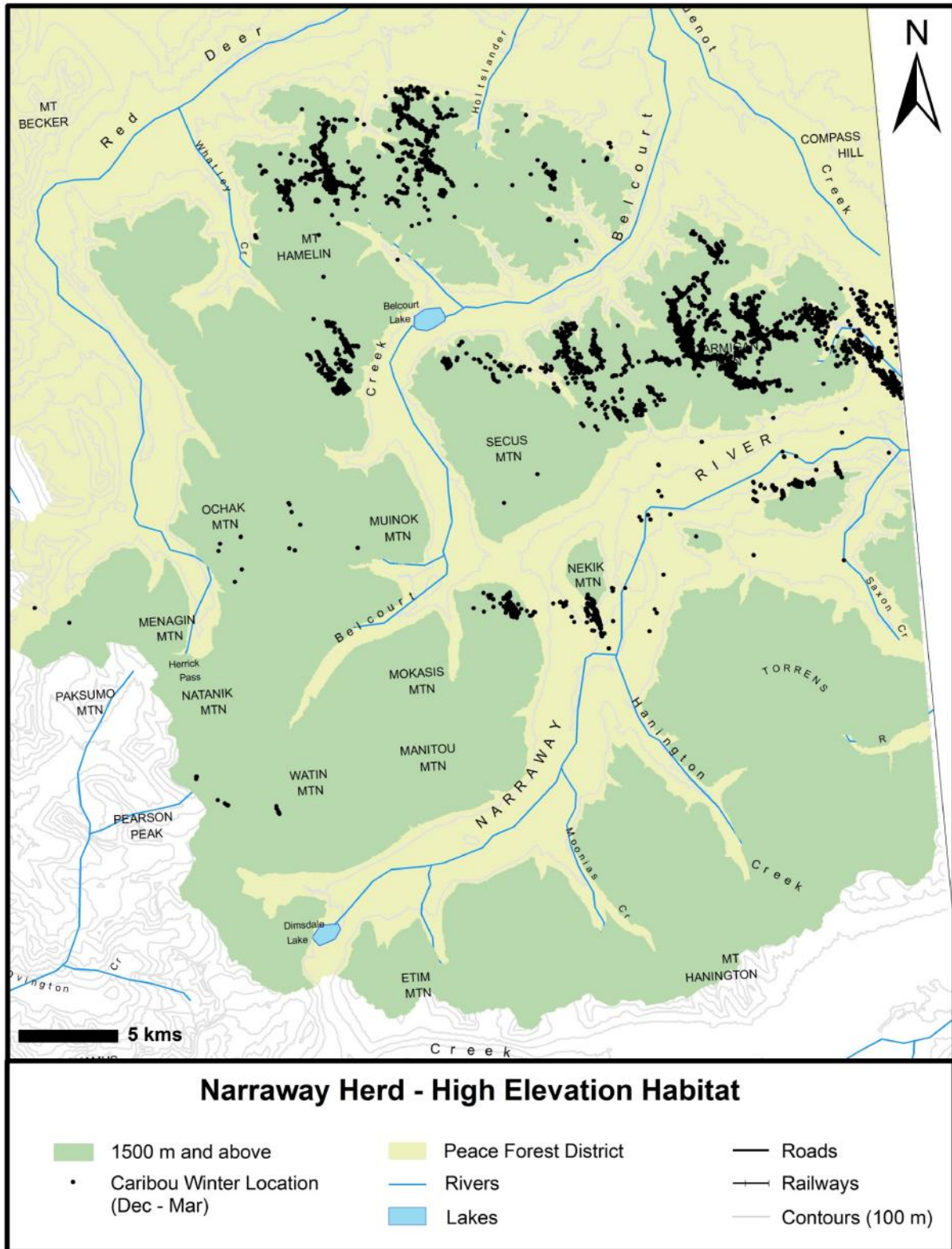


Figure 3. Area depicting elevation ≥ 1500 m and winter locations (Dec – Mar) used to delineate Core High-Elevation Winter Habitat of the southern Narraway caribou herd within the Peace Forest District.

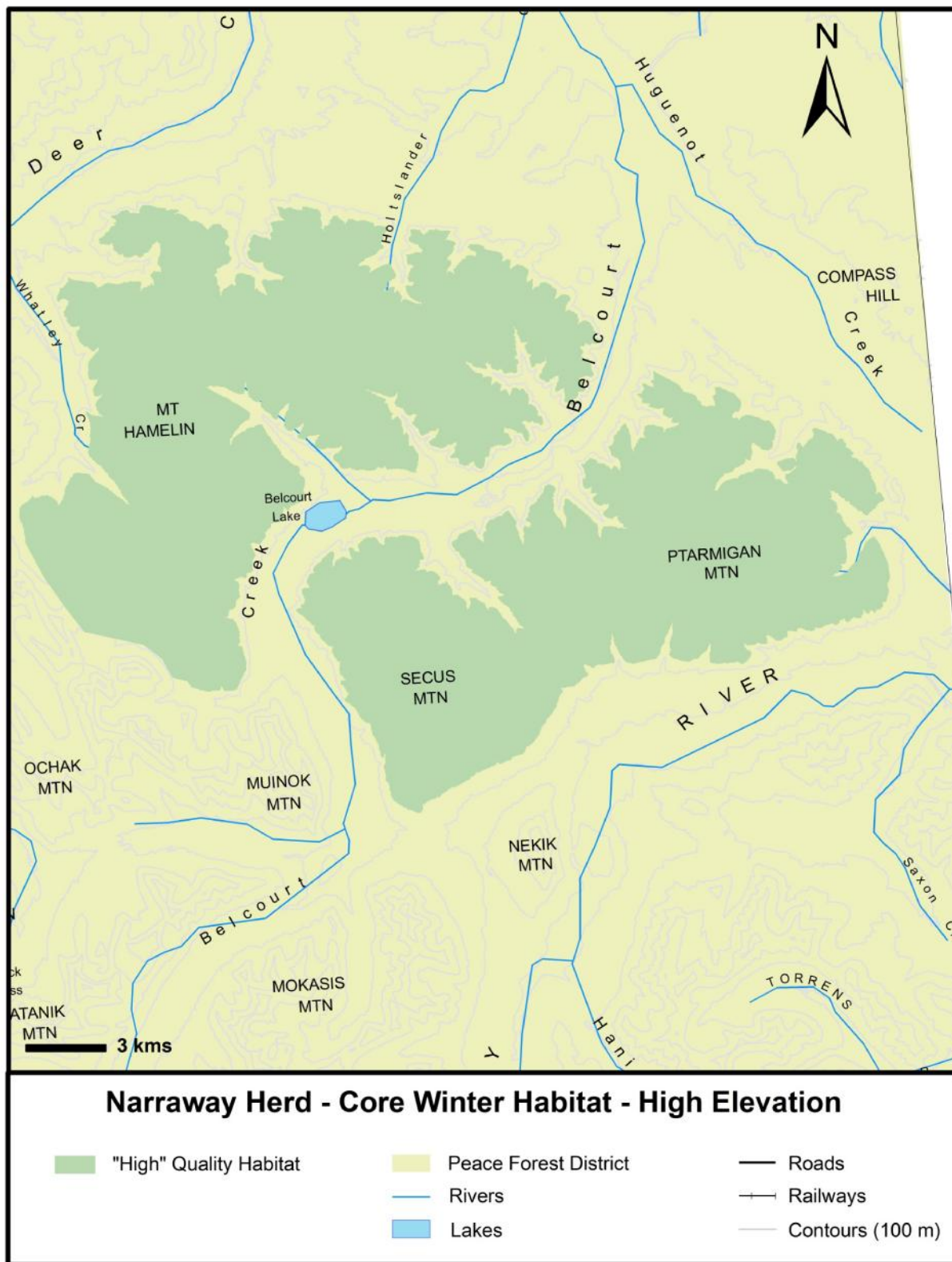


Figure 4. Core High-Elevation Winter Habitat for the southern Narraway caribou herd within the Peace Forest District.

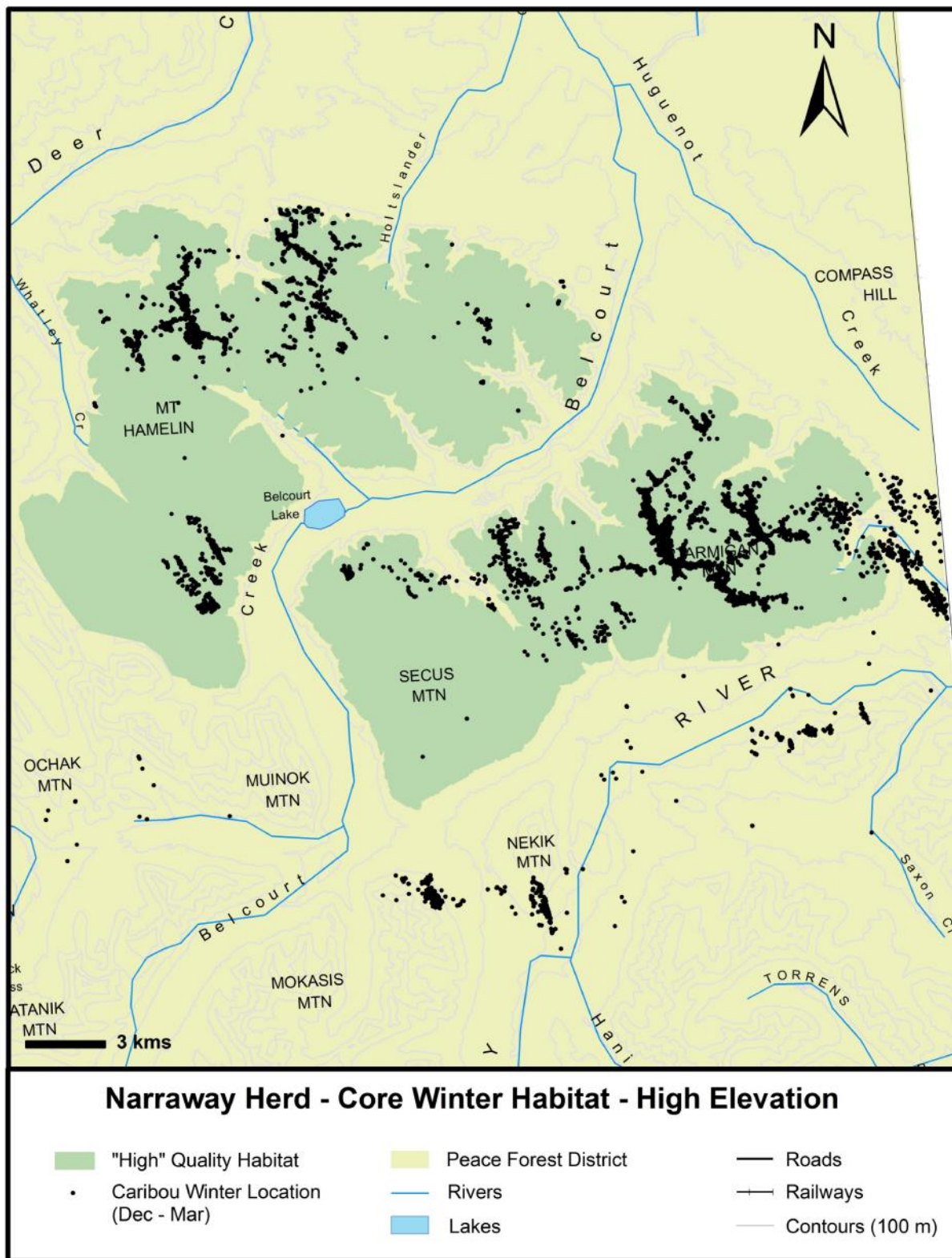


Figure 5. Core High-Elevation Winter Habitat and winter locations (Dec – Mar) used to delineate Core High-Elevation Winter Habitat for the southern Narraway caribou herd within the Peace Forest District.