

Core High-Elevation Winter Habitat for the Kennedy Siding Caribou Herd

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The Kennedy Siding caribou herd is one of the herds included in the Peace Northern Caribou Planning initiative. Radio-collared caribou have been monitored in this herd since 2002 and their range use patterns are well documented. Caribou in this herd use primarily high-elevation habitats for summer (Figure 1), and both low and high-elevation habitats during winter (Figure 2). In early winter, Kennedy Siding caribou migrate to a low-elevation pine forest and then return to subalpine and alpine habitats on the eastern edge of the Rocky Mountains during late winter and summer. Radio-telemetry data have been used to develop seasonal habitat use models that can be used to identify important habitat areas (Jones et al. 2007).

One of the key management objectives of the Peace Northern Caribou Plan is to protect much of the core high-elevation winter range from industrial activities. Therefore, we integrated the available habitat models and telemetry locations for the Kennedy Siding caribou herd to delineate a core area that incorporates most of the high-elevation locations for Kennedy Siding caribou in winter.

1. There were a total of 23,407 winter telemetry locations for the Kennedy Siding caribou herd, but 221 of them were for caribou east of the Burnt River and Mountain Creek, within the winter range of the Burnt Pine caribou herd. Habitat in that area has been identified and mapped as Burnt Pine core high-elevation winter range. An additional 10 locations were removed east of Reynolds Creek. This area is designated as Ungulate Winter Range for the Hart Ranges caribou.
2. There were 9,917 winter telemetry locations for the Kennedy Siding herd in the low-elevation pine forest used in early winter. This area will be identified and mapped as Kennedy Siding low-elevation winter range.
3. Therefore, we used 13,259 caribou locations to refine core high-elevation winter habitat for Kennedy Siding caribou east of the Burnt Pine River and Reynolds Creek.
4. The “Very Highly” selected habitat from Jones et al. (2007) incorporated 54% of the high-elevation winter locations within 35,426 hectares. The “Highly” selected habitat from Jones et al. (2007) incorporated 38% of the high-elevation winter locations within 30,213 hectares.
5. Small isolated patches of high-elevation habitat that had little or no use by radio-collared caribou were removed from the final model.

6. The final model for the Kennedy Siding caribou herd was separated into two habitat quality classes. “Very Highly” selected habitat was classified as “Very High” quality habitat, and “Highly” selected habitat was classified as “High” quality habitat.
7. The final version of the Core High-Elevation Winter habitat for the Kennedy Siding caribou herd (Figure 3) incorporated 91% of the high-elevation caribou locations within 65,639 hectares (Figure 4).

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.

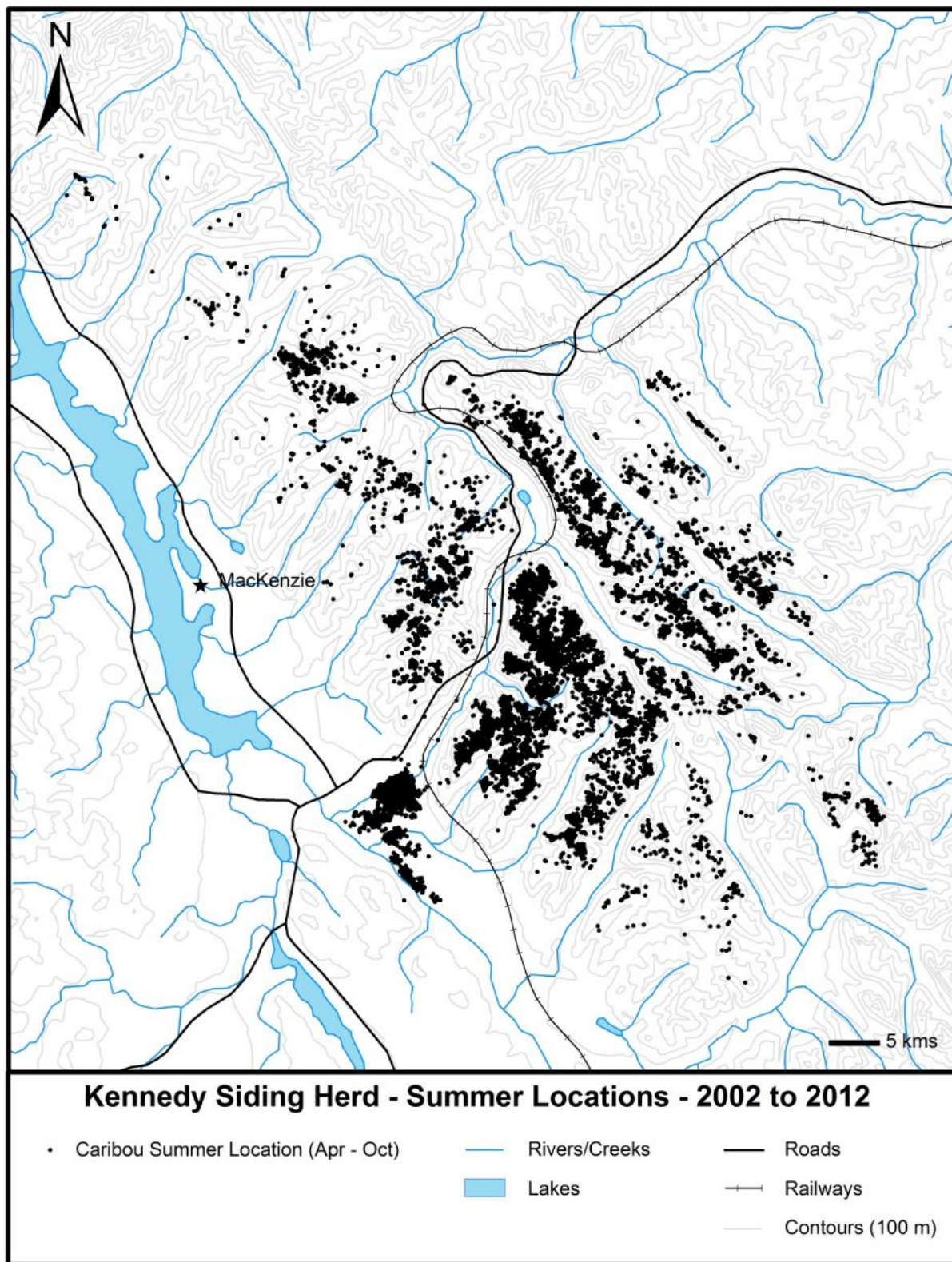


Figure 1. Summer locations (Apr to Oct) for the Kennedy Siding caribou herd from 2002 to 2012.

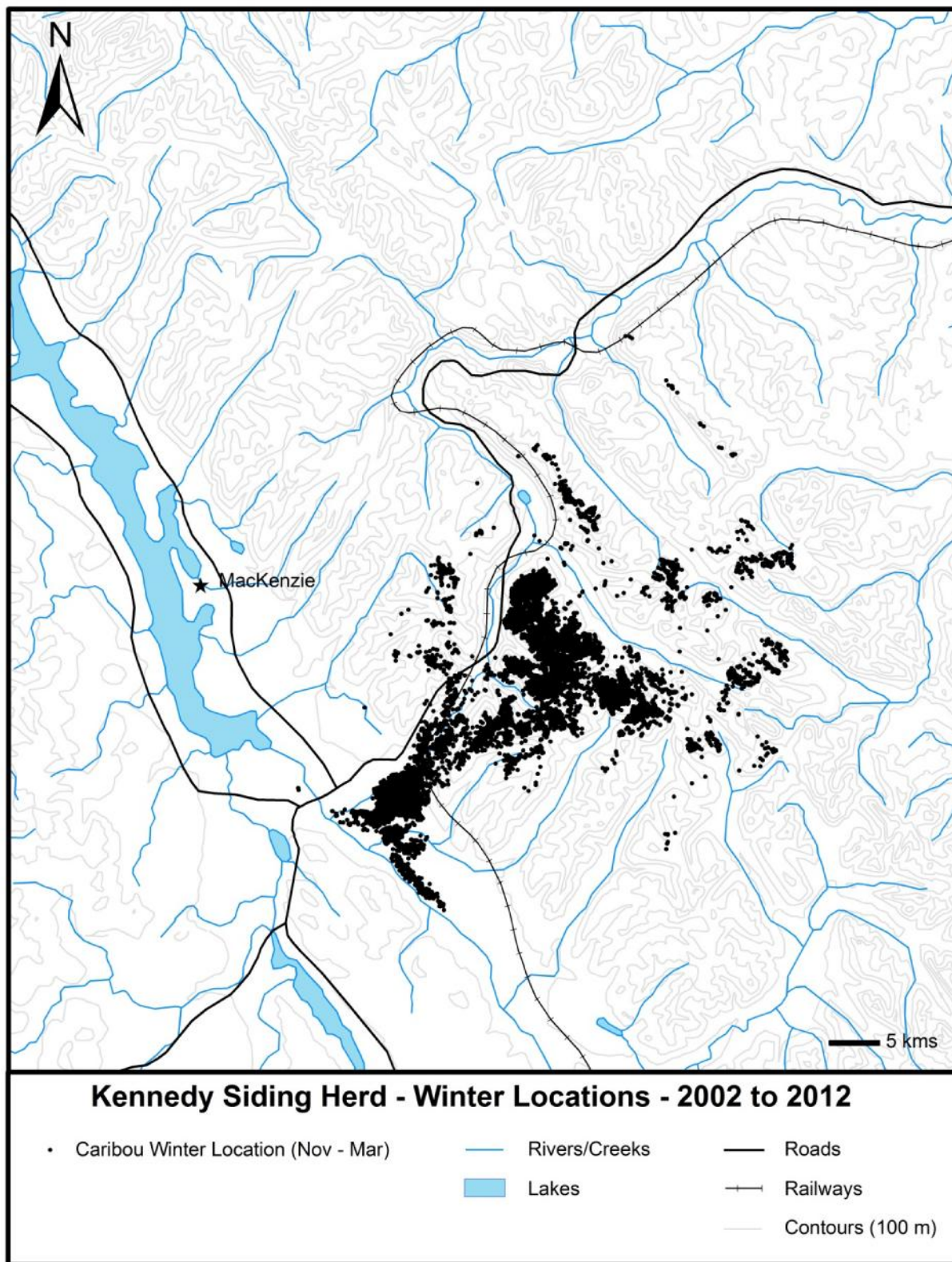


Figure 2. Winter locations (Nov to Mar) for the Kennedy Siding caribou herd from 2002 to 2012.

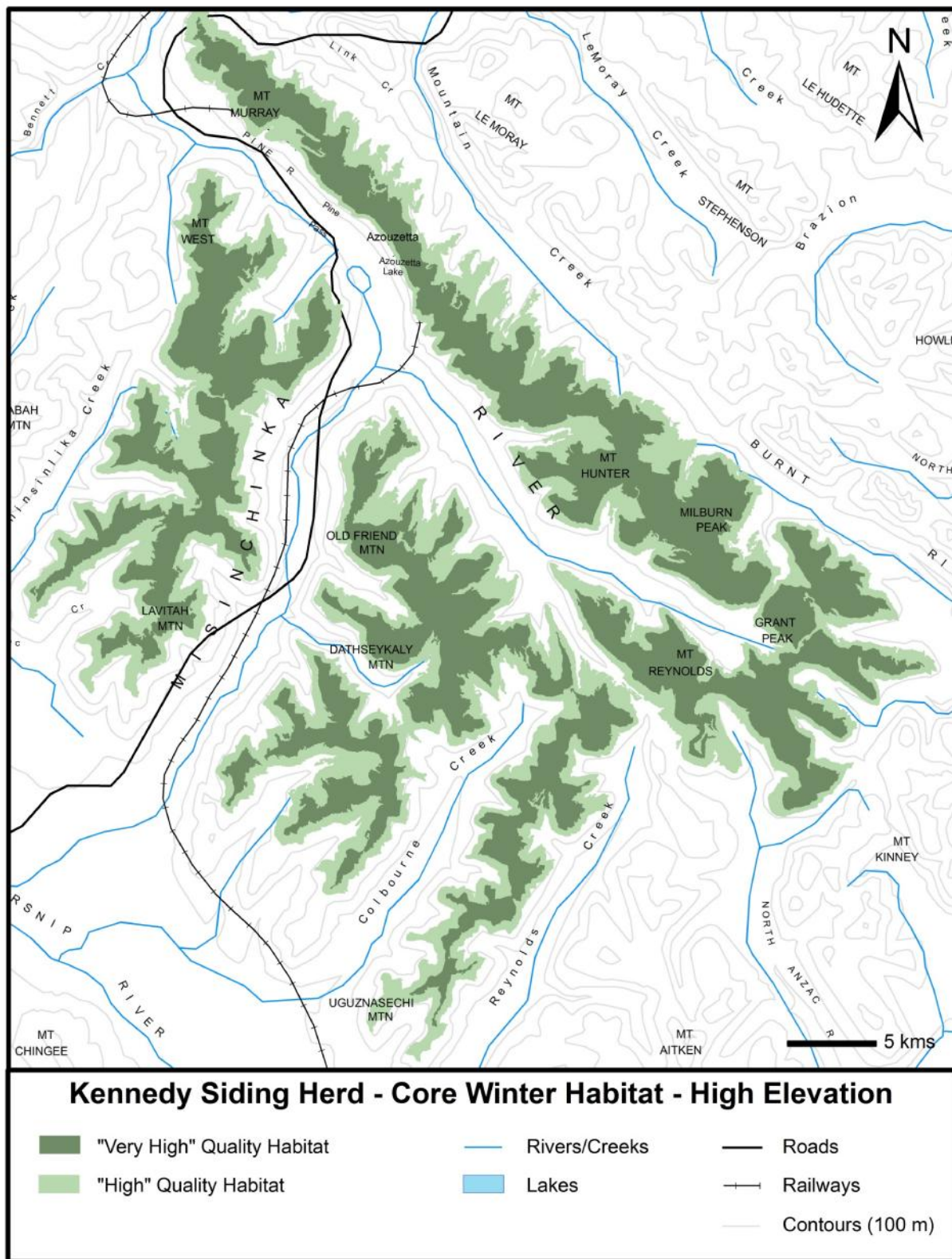


Figure 3. Core High-Elevation Winter habitat for the Kennedy Siding caribou herd.

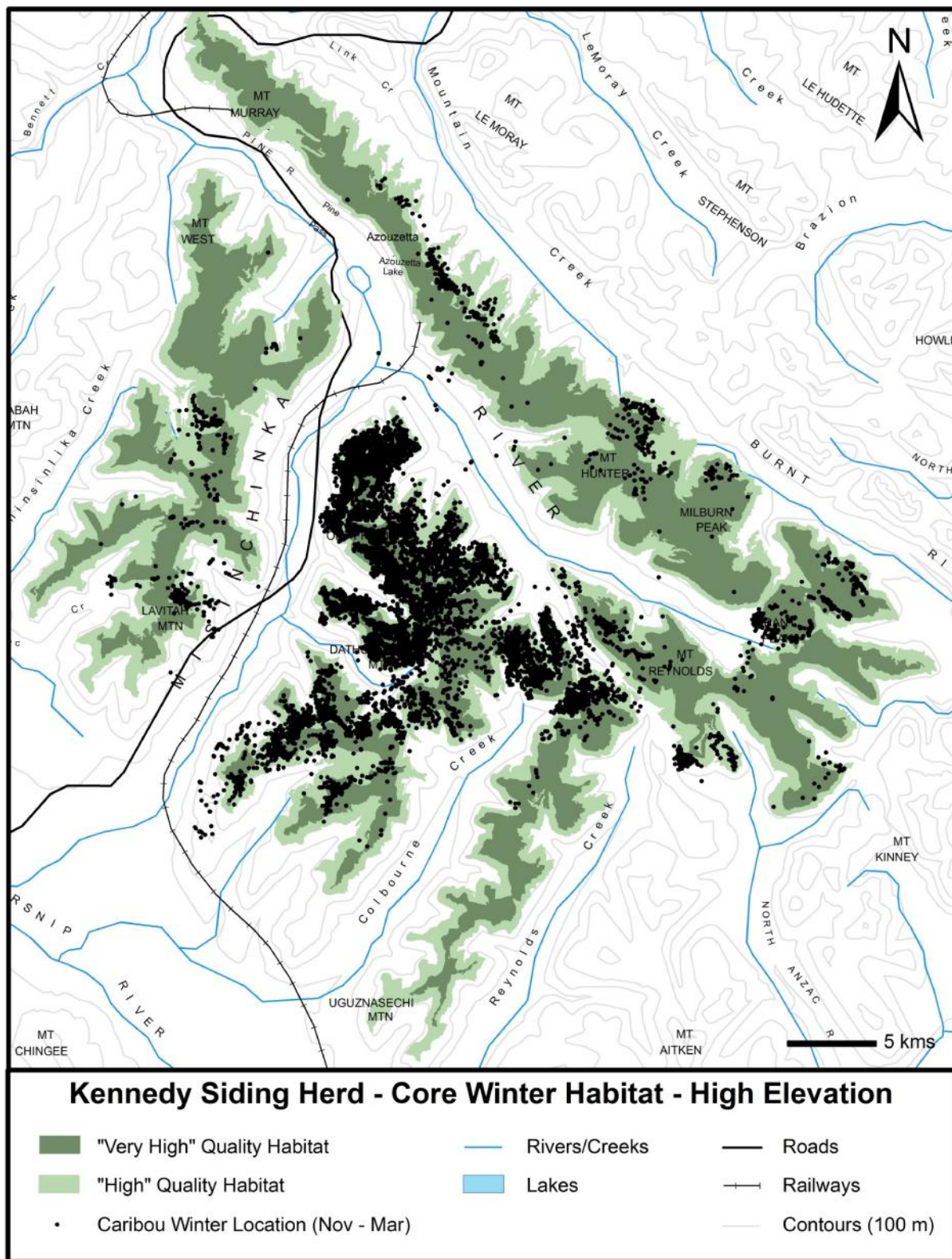


Figure 4. High-elevation winter locations for the Kennedy Siding caribou herd from 2002 to 2012.