

Core High-Elevation Winter Habitat for the Burnt Pine Caribou Herd

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The Burnt Pine 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. Recent data suggest that this herd may now be extirpated, but habitat protection is still required if the herd is to be recovered in the future.

Caribou in this herd used primarily high-elevation habitats for summer (Figure 1) and winter range (Figure 2). Many of the caribou used the central portion of the Rocky Mountains in summer, but most migrated to the eastern edge of the Rocky Mountains and used alpine and subalpine habitats during the winter. 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).

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 Burnt-Pine caribou herd to delineate a core area that incorporates most of the high-elevation locations for caribou in winter. The Williamson-Ehlers 2012b model incorporated more telemetry data than the 2012a model, so we used that version.

1. There were a total of 3,423 winter telemetry locations for the Burnt Pine caribou herd.
2. The “Very Highly” selected habitat from Williamson-Ehlers (2012b) incorporated 77% of the high-elevation winter locations within 7,430 hectares.
3. The “Very Highly” selected habitat from Jones et al. (2007) incorporated 88% of the high-elevation winter locations within 19,799 hectares.
4. The integrated model that we have developed includes the “Very Highly” selected habitat from Jones et al. (2007) plus the “Very Highly” selected habitat from Williamson-Ehlers (2012b).
5. Habitat areas west of Lemoray Creek and south of the North Burnt River in the Watson Peak area were removed because there was very little winter caribou use in those areas.
6. The integrated model also removed some small isolated patches of high-elevation habitat that had no use by radio-collared caribou.

7. The integrated model for the Burnt Pine 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.
8. The final version of the Core High-Elevation Winter habitat for the Burnt Pine caribou herd (Figure 3) incorporated 89% of the high-elevation caribou locations within 20,586 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.

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.

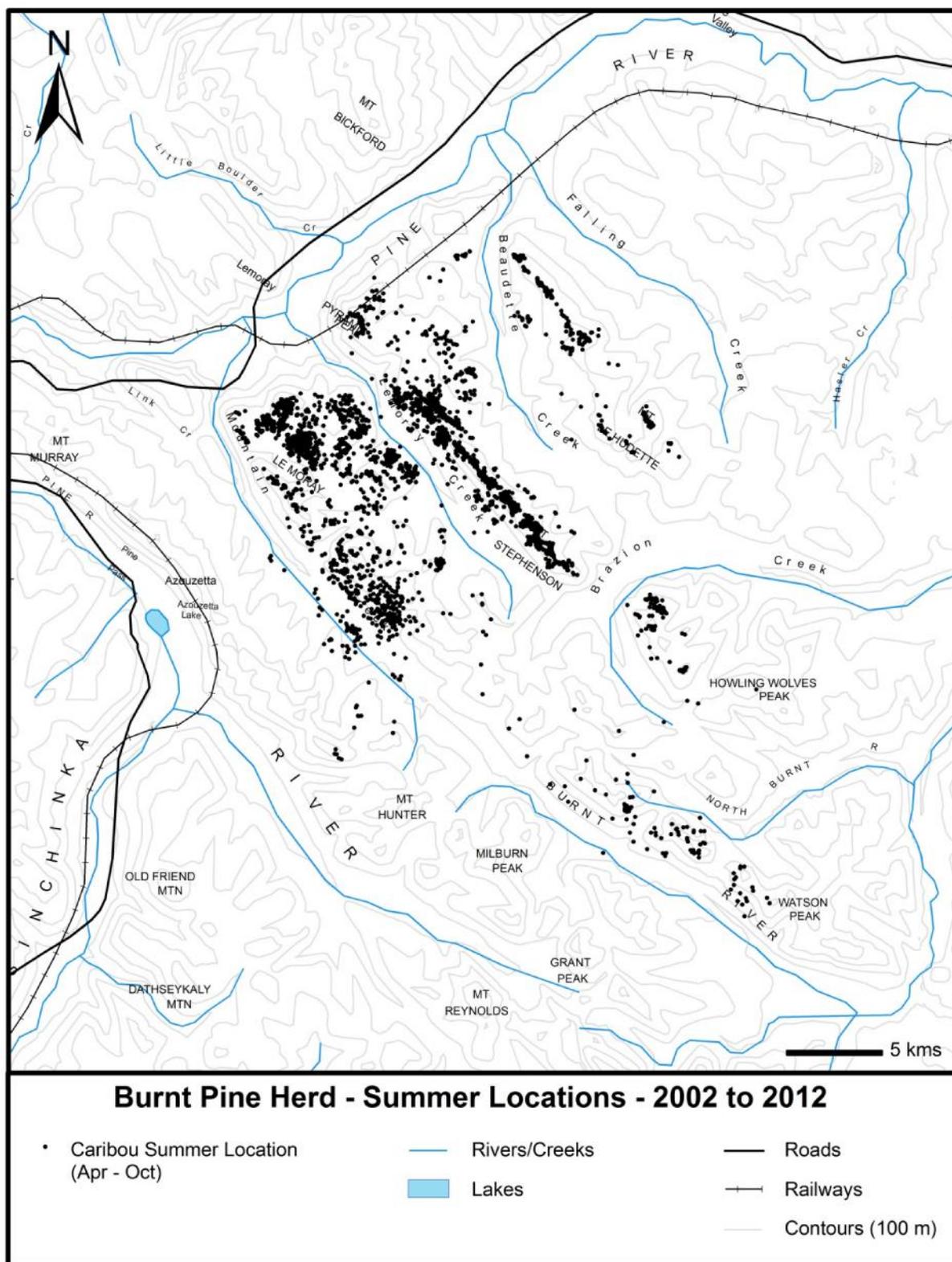


Figure 1. Summer locations (Apr to Oct) for the Burnt Pine caribou herd from 2002 to 2012.

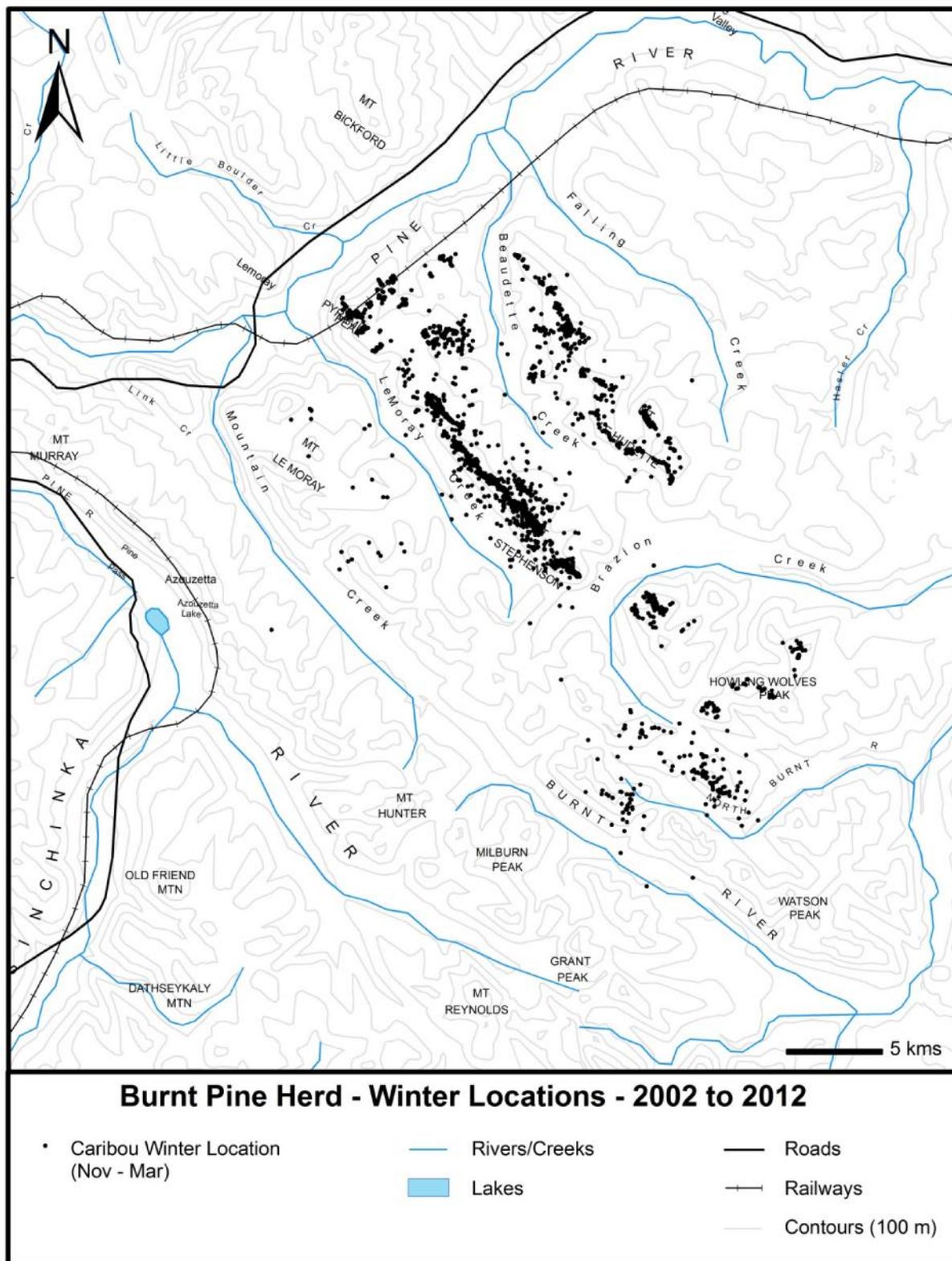


Figure 2. Winter locations (Nov to Mar) for the Burnt Pine caribou herd from 2002 to 2012.

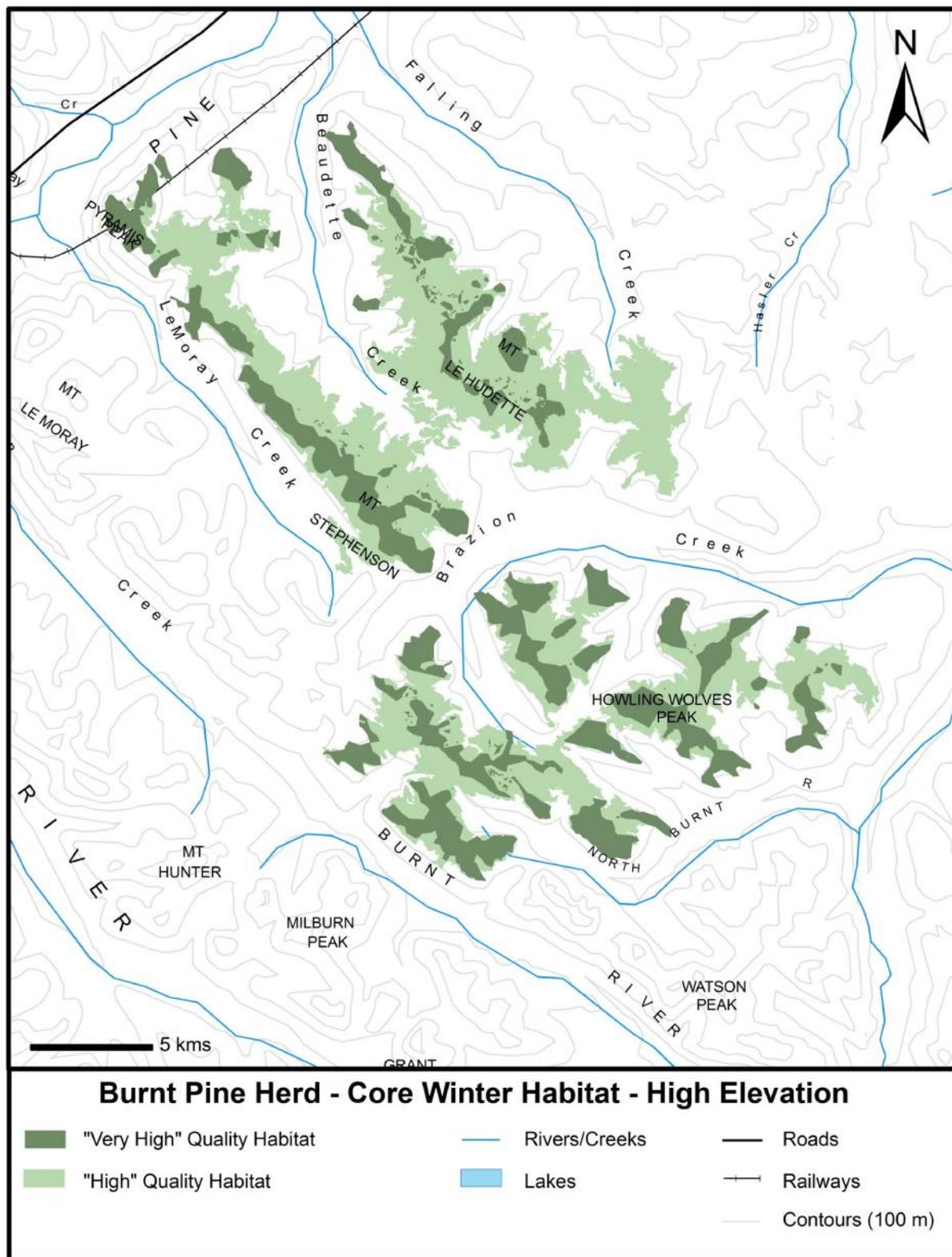


Figure 3. Core High-Elevation Winter habitat for the Burnt Pine caribou herd.

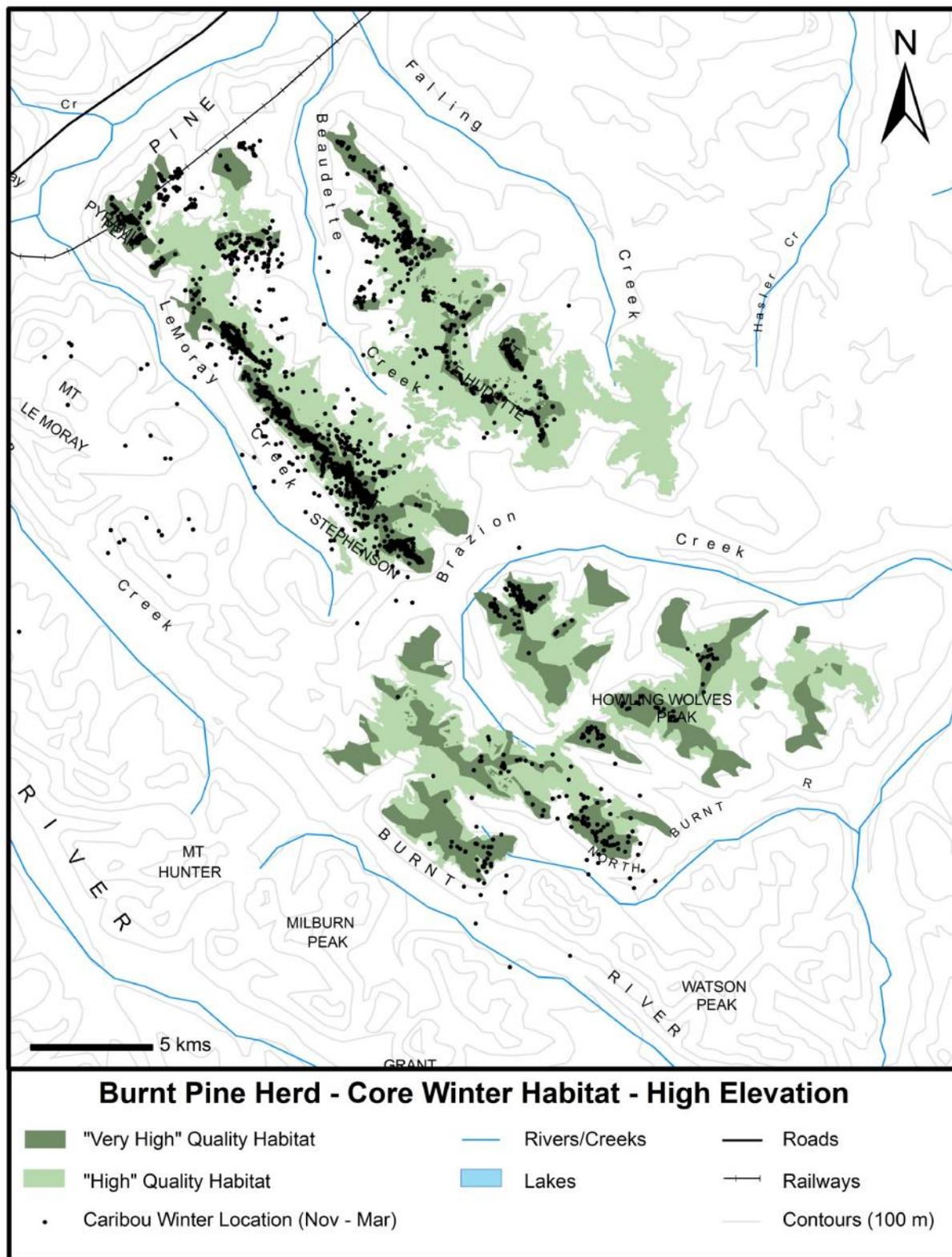


Figure 4. Winter locations and Core High-Elevation Winter habitat for the Burnt Pine caribou herd from 2002 to 2012.