

## Core High-Elevation Summer Range for the Pine River Caribou Population Unit

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The Peace Northern Caribou Plan (PNCP) (<http://www.env.gov.bc.ca/wld/speciesconservation/nc/>) 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."

The purpose of this report is to identify the core high-elevation summer range (HESR) for the Pine River caribou population unit within the PNCP area. The Pine River population unit includes the Moberly (Klinse-Za), Scott, Kennedy Siding and Burnt Pine caribou herds. The Federal "Recovery Strategy for Woodland Caribou, Southern Mountain Population (*Rangifer tarandus caribou*) in Canada" combines these herds into a population unit because there is a significant amount of range overlap among these herds.

The available information on summer habitat varied for each herd, so we used a variety of sources to create the final product. Williamson-Ehlers (2012) produced a summer habitat model for the Moberly and Burnt Pine caribou range. Jones et al. (2007) produced a summer habitat model for the Moberly (including Burnt Pine) and Kennedy Siding caribou range. In the Scott range, most of the area was captured by the Moberly summer range models, but the remaining areas were delineated using the elevation cut-off that was used to define the Scott herd high-elevation winter range. Radio-telemetry data from all 4 herds was available to evaluate and refine the mapping.

For the Moberly and Burnt Pine herds we included areas that were classified as "high" and "very high" selection by the Williamson-Ehlers (2012) model, and "very high" selection by the Jones et al. (2007) model.

For the Scott herd, much of the HESR was also used by the Moberly caribou in summer. For those areas, we included the areas classified as "high" and "very high" selection by the Williamson-Ehlers (2012) model, and "very high" selection by the Jones et al. (2007) model for Moberly caribou. For areas of the Scott range that were outside of the Moberly model boundary, we identified HESR based on the same elevation cut-off used to identify winter range for the Scott herd.

For the Kennedy Siding herd, we included areas classified as "very high" selection by the Jones et al. (2007) model. That selection class corresponded well to caribou use over most of the range, but telemetry data indicated that in the vicinity of Old Friend Mountain, there was a large amount of use in areas peripheral to the "very high" selection zone. Therefore, in the Old Friend Mountain area we also included habitats that were categorized as "high"

selection by the Jones et al. (2007) model. Including this selection category captured the highly used areas in the Old Friend Mountain complex.

In areas where herd summer range overlapped (Burnt Pine and Kennedy Siding, Kennedy Siding and Moberly) we merged the previously delineated core HESR from both herds. Radio-telemetry locations were then used to evaluate the resultant maps, and some minor isolated areas that had no caribou use were deleted.

The final HESR totaled 327,630 hectares for the 4 different herd areas:

Herd	High-Elevation Summer Range (Hectares)
Kennedy Siding	77,027
Moberly	137,361
Scott	65,976
Burnt Pine	47,266
Totals	327,630

The values for each herd are somewhat misleading, however, because there is a significant amount of summer range overlap among the herds.

Summer telemetry data were then used to evaluate caribou use of the HESR for all 4 herds. We did not include Kennedy Siding locations that were within the range of the Hart Ranges mountain caribou herd to the south because that high-elevation habitat is already protected. Also, we did not include fall locations that occurred on the low-elevation early winter range of the Kennedy Siding herd.

Overall, the area mapped as HESR incorporated 92% of summer telemetry locations.

Herd	Total Locations	Locations in High-Elevation Summer Range	Percent Locations in High-Elevation Summer Range
Kennedy Siding	17,885	16,498	92%
Moberly	14,546	13,146	90%
Scott	3,878	3,751	97%
Burnt Pine	5,302	4,742	89%
Totals	41,611	38,137	92%

Literature Cited:

Jones, Elena S., Michael P. Gillingham, Dale R. Seip, and Douglas C. Heard. 2007. Comparison of seasonal habitat selection between threatened caribou ecotypes in central British Columbia. *Rangifer Special Issue No. 17*: 111.128.

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.

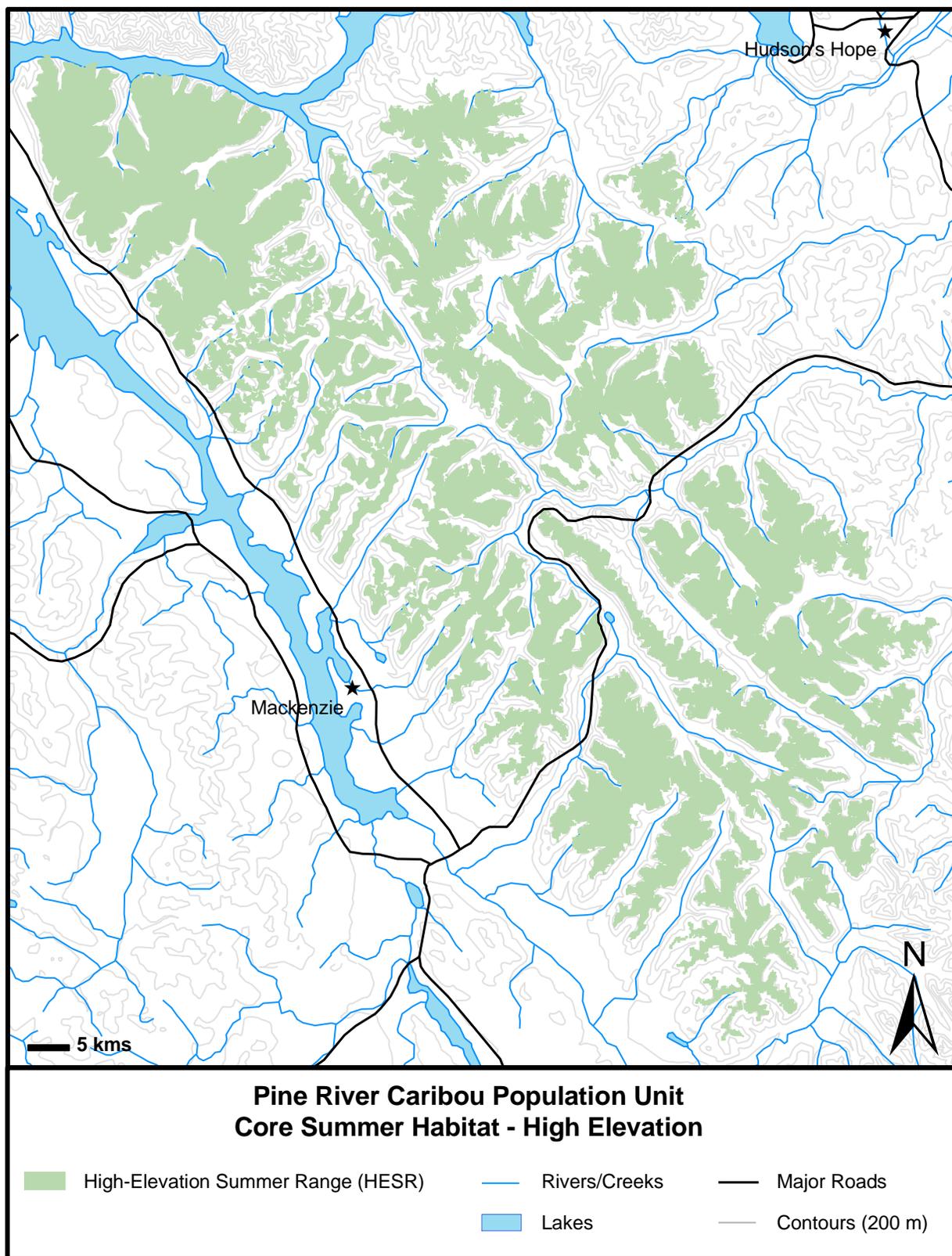


Figure 1. Core High-Elevation Summer habitat for the Pine River Population Unit.

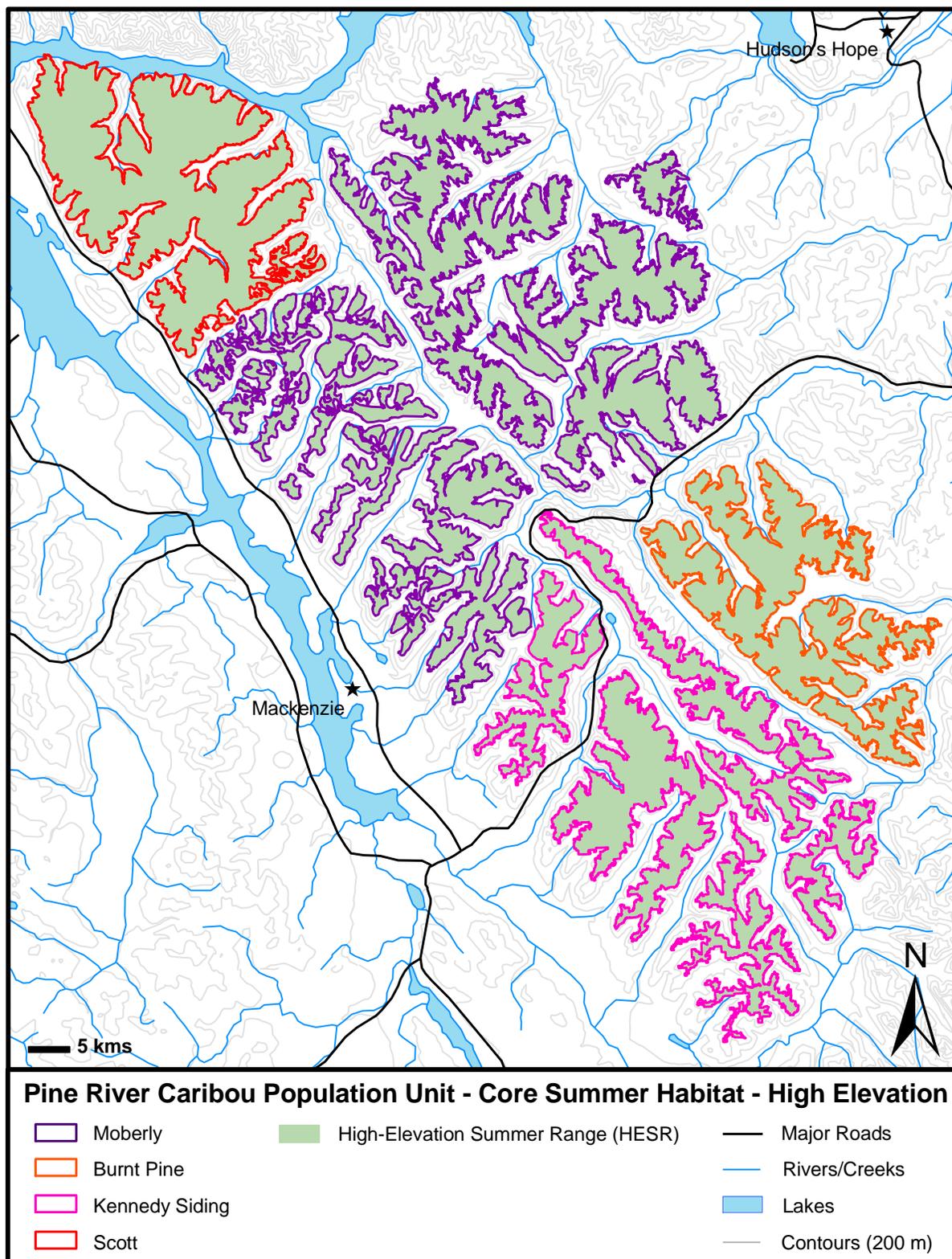


Figure 2. Core High-Elevation Summer habitat and herd ranges for the Pine River Population Unit.

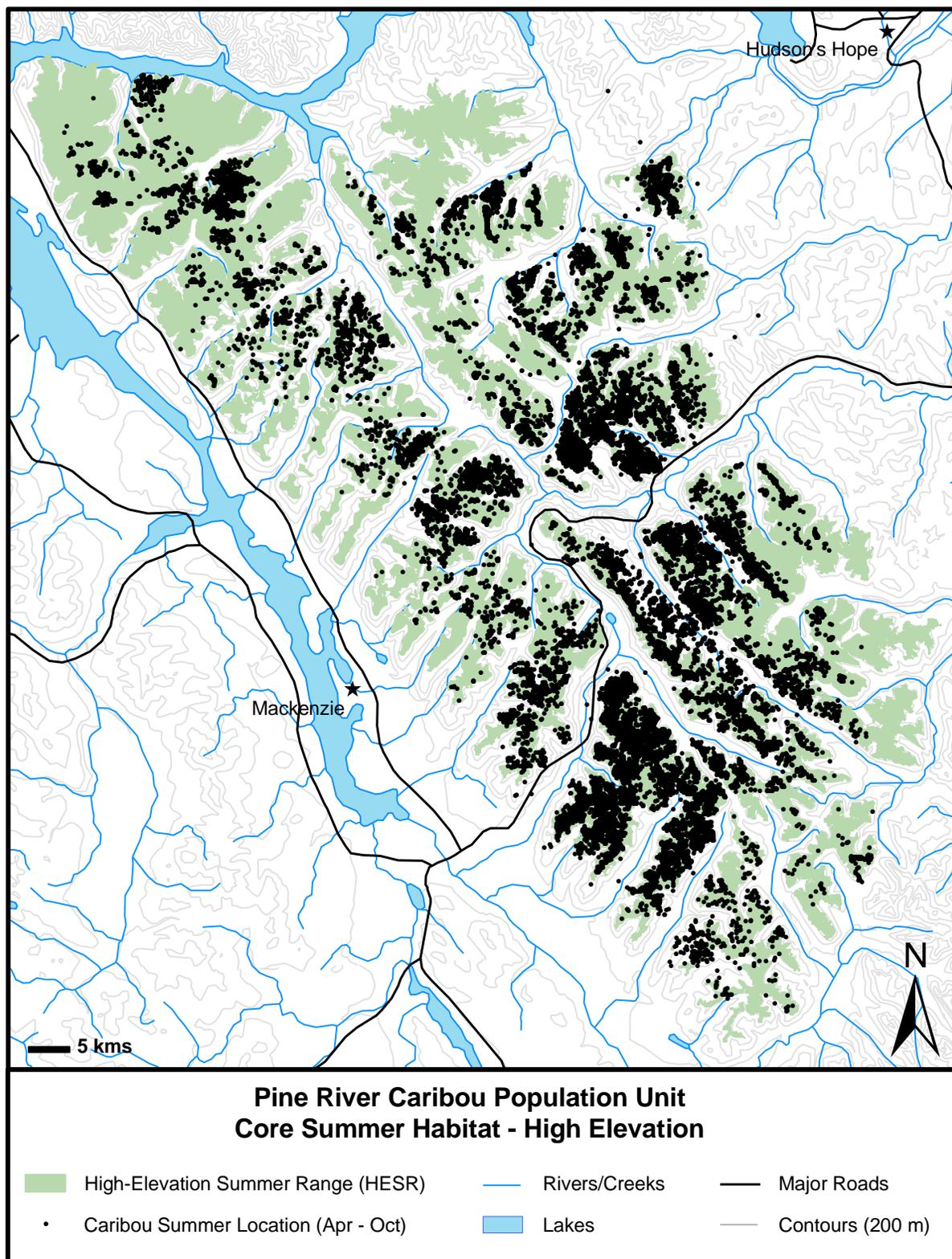


Figure 3. High-elevation summer locations for the Pine River Population Unit from 2002 to 2014.