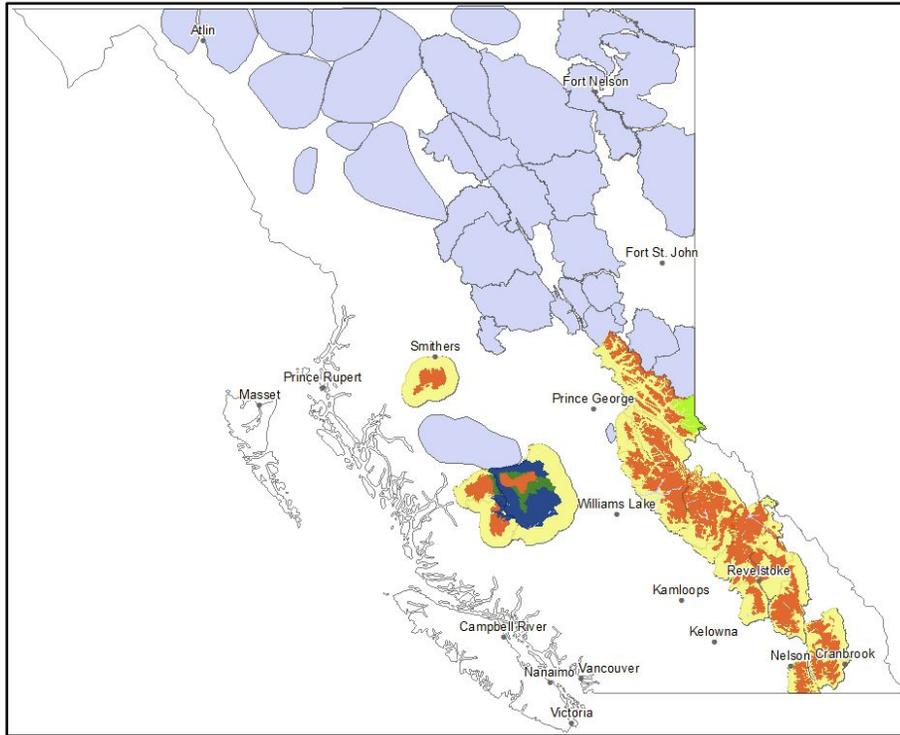


Caribou Core and Matrix Habitat in British Columbia

Mapping Methods



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Disclaimer

The best available data and information was used to inform the spatial linework of caribou core habitat, matrix habitat, and herd boundaries. As new science and knowledge becomes available, the linework and the mapping methods outlined in this document may be amended.

Version Table:

Version	Change Date (yyyymmdd)	Change Person	Change Reason	Initiator of Change	Comment
0.1	20190918	ND	Documentation to accompany release of core-matrix linework for all Southern Mountain Caribou-southern group, Itcha-Ilgachuz, Rainbow, Charlotte Alplands, and Telkwa herds.	ND	<ul style="list-style-type: none">• Summary of mapping procedure document released• Detailed methods being drafted for future release.

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1. Introduction

Caribou in British Columbia are classified into ecotype groupings: “boreal”, “northern mountain”, “southern mountain-northern group”, “southern mountain-central group”, and “southern mountain-southern group”. The Province is mapping caribou habitat to identify the geographic areas where core and matrix habitat for woodland caribou occurs in British Columbia. Core and matrix habitat mapping are derived from the best available science and expert knowledge and should be considered in conjunction with complementary information in provincial and regional caribou recovery documents. Recovery documents (and therefore core and matrix habitat) may be amended as new science and knowledge becomes available¹.

British Columbia’s core and matrix habitat mapping for caribou does not necessarily equate to critical habitat mapping as identified in the federal *Recovery Strategy for the Woodland Caribou, Southern Mountain population in Canada (Environment Canada 2014)* or the *Recovery Strategy for the Woodland Caribou, Boreal population in Canada (Environment Canada 2019)*². Federally identified critical habitat is also subject to change via an amended federal recovery strategy, or action plan. British Columbia and Canada are looking to reconcile the habitat mapping used by the Province and the types of critical habitats identified in the 2014 federal recovery strategy, recognizing the unique geographic features of caribou habitat in British Columbia and the current science and knowledge on habitat use.

This document summarizes the habitat definitions, mapping process, and the data and information used to inform and delineate the spatial extents of core habitat, matrix habitat, and herd boundaries for caribou in British Columbia.

2. Habitat Definitions

Caribou Subpopulation (Herd): A geographically connected population of caribou whose dynamics are primarily driven by local conditions and factors rather than immigration or emigration.

Caribou Subpopulation (Herd) Boundary: The area that encompasses the extent of both core and the surrounding matrix habitat for a subpopulation (herd). Based on current understanding this is the area required to be managed to achieve a self-sustaining population. Subpopulation boundaries do not overlap even though some caribou subpopulations share portions of their annual range.

Core Habitat: The area that encompasses the annual range for a subpopulation. Core habitat provides enough suitable range to support the life history requirements of the subpopulation across all seasons and to allow for movements on the landscape over time in response to anthropogenic and natural habitat disturbance. Seasonal core habitat has the ecological attributes associated with the different seasonal ranges and supports most of the caribou life history requirements during that season. Summer core habitat encompasses areas used in spring, calving, post-calving, summer and rut. Winter core habitat encompasses areas used in winter. Core habitat is generally mapped at a broad scale and may encompass areas of non-habitat such as high elevation rock and ice.

¹ Core and matrix habitat mapping for caribou in British Columbia is viewable via this record: <https://catalogue.data.gov.bc.ca/dataset/e76bacdf-2aef-4a8a-b409-b25a1f7251bc>

² Federal critical habitat for species at risk listed on Schedule 1 of the federal Species at Risk Act (SARA) for British Columbia is available via this record: <https://catalogue.data.gov.bc.ca/dataset/critical-habitat-for-federally-listed-species-at-risk-posted->

Critical Habitat: Habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species, as per the meaning given to it in the federal *Species at Risk Act (Environment Canada 2014)*.

Ecotype Group: An ecological grouping (e.g. a group of subpopulations) within a species or subspecies that has adapted to different landscapes or environments as expressed primarily by its movements and feeding behaviour. In British Columbia, caribou ecotype groupings include: "boreal", "northern mountain", "southern mountain-northern group", "southern mountain-central group", and "southern mountain-southern group".

Matrix Habitat: The area adjacent to core habitat that has periodic or low use by caribou but supports primary prey and associated predators that have the potential to affect the caribou subpopulation. Matrix habitat may include connectivity between suitable caribou core habitats. Matrix habitat includes areas up to 30 km from core habitat and is based on winter range of primary prey, local knowledge of predator distribution and barriers to predator movement. Logical boundaries such as landscape features (e.g., large water bodies, glaciers, human settlement) were utilized.

3. Habitat Mapping

Mapping of core and matrix habitat for caribou in British Columbia has been conducted in five phases with each phase described in Figure 1.

Data and information used to inform core and matrix mapping includes survey data, telemetry data, habitat models, forest type, and elevation criteria. For caribou subpopulations within the southern mountain caribou - southern group, core habitat has been mapped without differentiating between seasonal range or high and low elevation range. For subpopulations within the southern mountain caribou - northern group, core habitat has been mapped by season and elevation and may include: high and low elevation winter and/or summer range. The predator matrix buffer varies across caribou herd ranges and is informed by local science on wolf distribution and/or prey distribution, natural or topographic boundaries impeding predator movement, and expert knowledge.

Individual herd boundaries include the extent of core and matrix habitat and do not overlap even though some caribou subpopulations share portions of their annual range; areas of overlapping range have been made part of the subpopulation with greater known usage of the area. For caribou subpopulations that abut or cross jurisdictional boundaries, range mapping has been reviewed for consistency (i.e. the habitat type did not change due to a jurisdictional change).

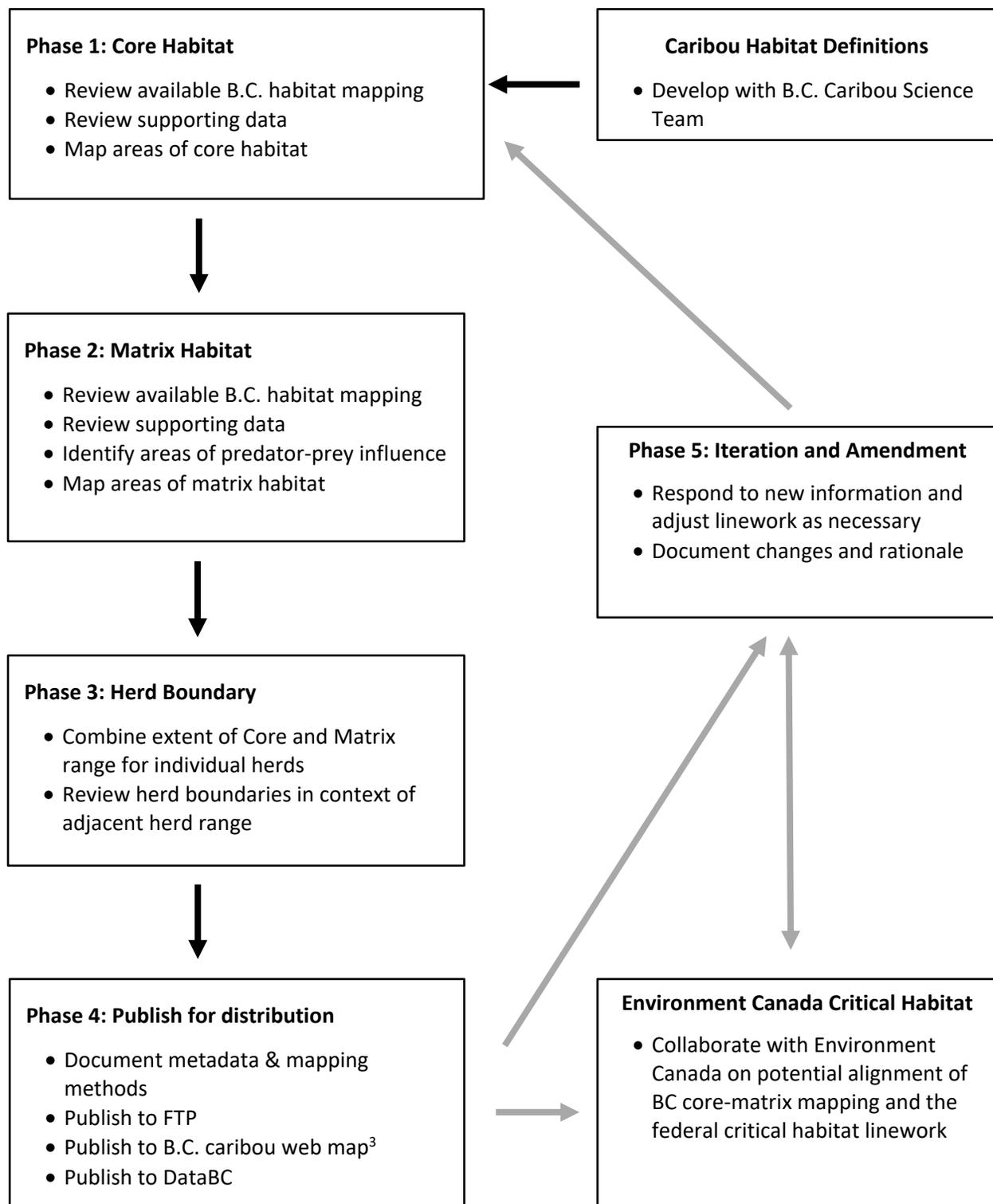


Figure 1. Phases of core and matrix habitat mapping and associated information flows for British Columbia caribou populations

³ British Columbia caribou web map: <https://catalogue.data.gov.bc.ca/dataset/e76bacdf-2aef-4a8a-b409-b25a1f7251bc>

4. References

Environment and Climate Change Canada. 2019. Amended Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal population, in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. xiii + 143pp.

Environment Canada. 2014. Recovery Strategy for the Woodland Caribou, Southern Mountain population (*Rangifer tarandus caribou*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. viii + 103 pp.