Matrix Habitat for Woodland Caribou in the South Peace

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The Peace Northern Caribou Plan was developed to promote the conservation and recovery of northern ecotype caribou herds that live in the Rocky Mountains within the Peace Region of British Columbia. One of those herds, the Graham, occurs north of the Peace River whereas six herds occur south of the Peace River. Those six herds include the Moberly, Scott, Kennedy Siding, Burnt Pine, Quintette and Narraway. This report addresses habitat mapping for the six herds south of the Peace River.

These caribou herds use a variety of different habitat types throughout the year including high-elevation winter range, low-elevation winter range and high-elevation summer range. Those habitat types constitute the core habitats that caribou depend on for survival. Those core habitat areas have been identified and mapped for all six herds.

It is also recognized, however, that the habitat condition of other areas within a caribou range can affect the viability of a caribou herd, even if the caribou rarely or never use those areas. This impact is primarily related to habitat conditions that affect the predator-prey system on the caribou range. Wolf predation is a major cause of mortality for caribou in the south Peace. Habitat changes that enhance wolf numbers on a caribou range will be deleterious to the caribou. Creation of increased amounts of early-seral habitat on a caribou range will favour early-seral ungulates such as moose, elk and deer which will sustain increased numbers of wolves. Moose are especially important in this process because they are the primary prey for wolf populations in the south Peace.

To be effective, management of the predator-prey system needs to occur over the entire caribou range, including both core habitat areas and the surrounding habitat areas. The habitat areas that contribute to the predator-prey system on a caribou range, but are not core caribou habitat areas, constitute the matrix habitat.

The purpose of this report is to identify the matrix habitat for caribou herds in the south Peace. We mapped the core habitat areas for all of the caribou herds within the south Peace, and then identified adjacent areas that contribute to the predator-prey system as matrix habitat (Figure 1).

On the west side of the management area, the Kennedy Siding herd range overlaps into some areas that are mapped as critical habitat for Hart Ranges Southern Mountain caribou. The high-
elevation areas between Colbourne Creek and the Anzac River are mapped as critical high-elevation winter and summer range for both herds. The valley bottoms adjacent to those areas are mapped as matrix habitat for the Hart Ranges herd. We delineated the matrix habitat boundary for the Kennedy Siding herd along the Anzac River, which overlaps matrix habitat for the Hart Ranges herd. At the mouth of the Anzac, the Parsnip River valley was used as the boundary. A similar boundary was used to identify the matrix habitat for the Hart Ranges mountain herd to the south, so we continued this boundary north along the Parsnip to the mouth of the river on the Williston Reservoir. The boundary is not the actual river, but the entire valley bottom to the top of the hills on the western side of the valley.

The matrix habitat boundary then follows the Parsnip Arm and the Peace Arm of Williston Reservoir. It is likely that the reservoir constitutes a significant barrier to moose and wolves moving into the Scott and Moberly caribou range from the other side. The matrix habitat boundary then follows a route down the east side of the Moberly, Burnt-Pine and Quintette caribou range until it intersects the low-elevation winter range of the Narraway caribou herd. That eastern boundary represents an area that is likely used by wolves that have home ranges that overlap the core habitat areas. Telemetry data for wolf use in that area are generally consistent with the location of that boundary. The matrix habitat boundary then follows the low-elevation winter range for the Narraway caribou herd until it intersects the B.C./Alberta border. We did not apply a matrix habitat buffer to low-elevation winter range because it already consists of a mix of core areas and matrix habitat between the cores. The boundary then follows the border until it intersects with the Prince George Forest District boundary, then follows the Peace Forest District boundary until it reaches the Anzac River. The caribou habitat in the Prince George Forest District is managed for the Hart Ranges herd.

The management objective for the matrix habitat is to manage it in concert with the core habitat areas to maintain a predator-prey system that sustains viable caribou populations within each herd range.
Figure 1. Matrix habitat boundary and high-elevation winter range, low-elevation winter range and high-elevation summer range for woodland caribou herds in the South Peace.