

Bulletin



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DEER, WOLVES AND POWER LINES *by William O. Pruitt, Jr.*

The following article concerns the resolution about putting Bipole III down the East Side of Lake Winnipeg, which was printed in the February Bulletin. Regardless of the withdrawal of the resolution, as explained in the President's Report on page 3, it is still of great interest to the Society.

In the taiga ("boreal forest") on the East Side of Lake Winnipeg there are three species of deer-like creatures: Moose, White-tailed Deer ("Jumpers") and Woodland Caribou. There are three major carnivore species: Wolves, Black Bears and Cougars. The ungulates are ecologically segregated and behaviourally different. The following article is concerned mainly with Woodland Caribou, Jumpers and Wolves, and how they are associated.

Jumpers are associated mainly with vegetation in the early and middle stages of recovery from cutting or fire. They are seldom found far from young stands of willow, aspen and birch. Moose are associated with these same plant species but are in older, taller stands. Woodland Caribou are restricted primarily to extensive stands of pine, spruce and birch that have been completely undisturbed for 50 or more years. Their important early winter range is in semi-treed bogs with very old ("unthrifty") black spruce, and pine with heavy growth of tree lichens. Their preferred winter foods are tree lichens and ground lichens (depending on the characteristics of the snow cover), plus an occasional bog willow shrub.

Wolves feed mainly on Jumpers, probably because they are small and relatively easy to catch. Wolves are therefore ecologically segregated from Woodland Caribou, who avoid Wolves by means of habitat selection. Research at Taiga Biological Station has found that only 1.5 – 2.0 percent of Wolf scats contained hair or bone from Woodland Caribou. During our Wolf study researchers found several piles of Woodland Caribou guts, legs, feet and skins on snow-covered lake ice, surrounded by aircraft ski tracks. That 1.5 – 2.0 percent of Caribou in Wolf scats could well have come from wolves scavenging the remains of poached Caribou. The researchers calculated that poaching took the annual population increase of Woodland Caribou.

Jumpers and Moose have evolved similar life strategies and abilities that tie their reproduction rates to immediate food levels. With average food amounts, they produce one fawn per year; better food supplies result in twins; excellent food supplies may result in triplets. Both Tundra and Woodland Caribou also evolved the ability to use lichens as food, which are very slow-growing and easily over-grazed. Consequently, Caribou have evolved one of two possible life-styles: large numbers that move long distances seasonally and erratically or small numbers that remain sedentary within restricted ranges. These are the Tundra and Woodland types, which have only one fawn per year. Their tendencies to adopt stray or lost fawns is well-known and ensures survival of all fawns.

In undisturbed taiga forest Wolves and Jumpers rarely encounter Woodland Caribou. Strips or swaths of cleared forest accompany a road or a power line, and vegetation re-growth results in a strip of young deciduous trees and shrubs slicing through the regional old-growth forest of pine and spruce. Such a strip of food for Jumpers is also a strip of potential Wolf food. Human efforts to maintain the cleared space for a power line or road keep the vegetation at the "pioneer" stage, which ensures that the Jumper and Wolf food supply is maintained.

This strip of Jumper habitat results in another danger to Woodland Caribou, and Moose. Jumpers carry an internal parasite called *Parelaphastrongylus* or *Brain Worm*. This parasite's life cycle includes a stage that lives in tiny land snails. The parasite causes no known harm to the Jumpers but is deadly to Moose and Caribou when consumed along with vegetation. One result of the interactions of these complicated life cycles and food chains is the realization that the beginning of the loss of Woodland Caribou populations results from the intrusions of power lines and roads through untouched taiga forest. Readers interested in accessing original material should visit the Taiga Biological Station web page at www.wilds.mb.ca/taiga. You can also see M. Anielski and S. Wilson's "*Counting Canada's Natural Capital*", published by the Pembina Institute in 2007.