

## Wolverines in Alberta: A History of Data Deficiency

The elusive wolverine (*Gulo gulo*) is unlikely to be an animal that you've come across on your hikes or camping trips, unless you're very lucky. While its Albertan range spans the boreal, mountains, and foothills (and historically the entirety of the province), these carnivores of the weasel family live in extremely low densities and tend to avoid human encounters. Globally, wolverines are a circumboreal species, meaning that they are found around the globe in northern boreal and mountainous areas, though their range has decreased all over the world

therefore good habitat for wolverines. Research shows that wolverine populations decline with increasing linear disturbance (roads, trails, and seismic lines), and that wolverines are three times more likely to co-occur with coyotes when linear features are present in higher density. This important research by Chow-Fraser et al. (2021) indicates that linear features could be giving coyotes a competitive edge in these habitats. This doesn't mean that coyotes and wolverines are coming in direct conflict with one another (i.e., directly fighting), but rather that these species are forced into competing for the same resources across a limited

particularly because the climate warms in northern regions much faster than the global average. As such, wolverines may have a harder time finding suitable denning sites to raise their young as the global average temperatures continue to climb. Wolverines have a naturally low reproductive rate and high mortality rate early in life, meaning that they are particularly vulnerable even under ideal circumstances. The cumulative effects of landscape change, hunting, and climate change is tipping the odds of survival against wolverines.

As far back as 1996, wolverines were on Alberta's "Blue list" of species to consider for designation as threatened under the *Wildlife Act*. However, little has been done by the government to assess population status and trends and ensure the protection of this impressive species. Even though the most recent Alberta population estimate from over 20 years ago is estimated at below 1000 breeding individuals, wolverines are listed as "data deficient" under the *Wildlife Act*, and continue to be harvested outside of protected areas. The best available data indicates that overharvesting is a threat to wolverines in Canada, specifically in BC (this trend was not observed in Alberta, but much of the available data used in this study were from Alberta's national parks where trapping is not allowed; Mowat et al. 2019).

Although Alberta considers wolverines to be "data deficient", it would be wise to list wolverines as a threatened species under Alberta's *Wildlife Act* based on the precautionary principle. The best available research indicates that wolverine populations have declined and are likely to continue declining unless actions are taken to protect them. More effort should be put into monitoring our provincial wolverine population, and in the meantime, we should act based on the information that we do have, rather than allow the situation to get worse. Better to act now rather than wait until it is too late and watch another incredible species become extirpated due to the actions (or inaction) of people.

- By Devon Earl



Wolverines are shy and elusive creatures. They are the largest member in the weasel family.  
Photo © Y. Jyske (Wikimedia Commons)

since the 1900s. Fisher et al. (2022) identify landscape change, climate change, and overharvesting as major stressors to wolverine populations – another example of the massive impact that human activities are having on our shared natural environment. Despite this research, and the lack of detailed knowledge about wolverine numbers, wolverine trapping is still allowed, and is regulated under the *Wildlife Act*. Unfortunately, no government action is being taken to protect this species due to what the government describes as a "data deficiency".

Landscape change represents a major threat to many valued wildlife species and wolverines are no exception. Human development in the form of logging, roads, settlements, oil and gas, mining, and recreational trails have carved up the areas that used to be remote and

area. If coyotes consume the food that wolverines need to survive, this can reduce wolverines' survival and reproductive success, together referred to as their fitness. This is an example of how changes to the landscape by humans can have unexpected consequences for wildlife that we wouldn't even realize without conducting research.

Another human-caused consequence for our planet is climate change, which is also a concern for wolverine populations. Snow appears to be an important part of what makes an area good habitat for wolverines, particularly for denning females. Although there is still much more to learn about wolverine denning behaviour because of their elusive nature, they have been observed to den in snowbanks. As the climate warms, it follows that there will be less snow on the landscape,