

Kitikmeot wolverine non-invasive and community-based monitoring

How many wolverines are in the Kitikmeot region?

Key messages

- Wolverines in the Kitikmeot region exist at low densities and are being exposed to increasing levels of human activity.
- Knowing the density of the wolverine population in the region can inform future sustainable harvest limits and could support input to impact review processes. This information can also help inform predator research for caribou management.
- This collaborative research project between the Government of Nunavut and the Kugluktuk HTO provided training and employment to HTO members. It also demonstrates the efficiency of joint research projects to inform wildlife management.



Project summary

In 2018 and 2019, Government of Nunavut biologists collaborated with the Kugluktuk Angoniatit Association (Kugluktuk HTO), to estimate the density of the region's wolverine population. This project supports long-term regional monitoring by establishing **baseline information** on the number and density of wolverines in the region.

This research informs predator research for caribou management and could also be used to establish future sustainable harvest limits and support input to Nunavut Impact Review Board review processes.

The research team used non-invasive methods to collect wolverine fur samples northwest of Napaktulik Lake. They placed 154 hair-snag posts, baited with caribou, muskox legs, and scent lures, in a grid across the tundra.

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Wolverine

The wolverine is one of the larger species in the weasel family. Females usually weigh about 10.5 kilograms (kg) (23 pounds (lb)) while males generally weigh 15 kg (33 lb).

The wolverine is omnivorous and primarily a scavenger. Although it has the strength to kill large game animals, such as deer, caribou, and moose, it only does this occasionally.

In addition to scavenging and preying on big game animals in the winter, wolverines eat eggs from ground-nesting birds, as well as edible roots and berries during the summer months. Wolverines in the study region exist at low densities and are being exposed to increasing levels of human activity.

Baseline data

Baseline data is information that provides a snapshot of what the conditions or situation is now. Data in the future can be compared against this information to detect changes.

The posts were covered with barbed wire, which snagged fur samples from the animals attracted by the lures. Sampling took place over three 10-day sessions from early March through late April 2018 and again in 2019. This is a practical and cost-effective method for monitoring wolverine populations on the tundra.

Project results

The research team studied DNA from the collected hair samples to identify individual wolverines and their sex. The research team identified similar numbers of male and female wolverines. They identified 22 wolverines in 2018, of which 11 were females and 11 were males. In 2019, they identified 27 wolverines, of which 13 were females and 14 were males. Ten wolverines identified in 2018 were recaptured in 2019.

The results showed that there are about three to four wolverines per 1,000 square kilometres (km²). These estimates apply only to wolverines whose home ranges are centered within the 4,000 km² study area near Napaktulik Lake, where the hair-snag posts were set up. Wolverines use the study area in varied ways, which can explain the differences in population density estimates between years.

Wolverines have a large range considering their small size. In 2018, the research team observed a range of approximately 25 km for both males and females. In 2019, the research team observed a consistently larger range for males.

This study demonstrates the importance of joint research projects to inform wildlife management. It also highlights existing opportunities to provide valued training and employment to HTO members through collaborative research projects.

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