

## Red Lake Wolverine Project 2020/2021

### Highlights

- Built 29 live traps and 10 run poles across a 5,470 km<sup>2</sup> study area in Red Lake, ON
- Identified 59 unique wolverines and monitored 45 (14 F and 31 M) with GPS collars
- The average female wolverine weighed 9.7 kg and the average male weighed 13.6 kg
- 54,000 GPS locations from collared wolverines
- The median (min, max) home-range size of females was 916 km<sup>2</sup> (129, 3,049 km<sup>2</sup>) and for males was 1,298 km<sup>2</sup> (83, 3,040 km<sup>2</sup>)
- Extensive dispersal movements by males - M31 left Red Lake for Lake Winnipeg on March 31, traveling 351 km in 32 days
- Documented 10 known wolverine mortalities: 8 human-caused and 2 from predation
- Found 5 reproductive dens: 1 in a slash pile, 1 in a rock crack, and 3 in root balls
- Wolverine foraging activity: 56% moose, 20% beavers, and 9% snowshoe hare
- Collected 292 wolverine biological samples for physiological and genetic research: 147 scat samples, 75 hair samples, 26 blood samples, and 44 tissue samples
- Working with Red Lake High School students and the trapping community to study wolverines



### Background

Wolverines (*Gulo gulo*) are a low density and wide-ranging species that resides in cold and snowy Arctic tundra, mountain, and lowland boreal forest areas. Their rarity, combined with their low reproductive potential, leaves them susceptible to human disturbances that increase their mortality or alter their habitat. In Canada, wolverines are considered a *Species of Special Concern* and in Ontario wolverines are listed as Threatened under the *Endangered Species Act (ESA), 2007*. The Ontario government listed high-priority research and monitoring actions to aid in the recovery of wolverines. Many of these actions were related to understanding wolverine distribution and abundance relative to commercial forestry and mining. We designed a field project in Red Lake, Ontario that addressed these actions and includes the following objectives:

1. Producing data that quantifies wolverine abundance in Red Lake and across the Ontario shield (Action #1).
2. Determining wolverine habitat use and den-site selection in response to industrial disturbance (Actions #2 and #4).
3. Developing best-management practices for human activities in wolverine habitats (Actions #7 and #13).
4. Promoting public awareness of wolverines through targeted communication products (Action #14).

Our field work began in Red Lake in the spring of 2018 and centers around documenting wolverine movement, distribution, and abundance with the use of live traps, GPS collars, and run poles. We chose Red Lake because of our history of working in the area and because of the extensive commercial forestry and mining activity. We are planning for another field season in winter 2022.

Photo: Liam Cowan

