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UofA Wolverine Project

The University of Alberta wolverine project was initiated by members of the Alberta Trappers Association and intended to provide biological information on wolverine populations residing in Alberta. Wolverines in Alberta *May be at Risk*, with the uncertainty in population status a result of wolverines being *Data Deficient* in the province. Trappers wanted good science to be conducted on wolverines so that stakeholders (e.g., government, hunters, trappers, conservation groups, industry) could make important management decisions pertaining to wolverines with adequate information. The University of Alberta was tasked with designing a study that included trappers and collected robust scientific data. Because industry is widespread in Alberta and there is concern by stakeholders on the impacts of industry on wolverine populations, our project aimed to investigate the effects of industry on wolverine movement, distribution, density, food habits, and denning. Trappers were tasked with helping the biologist collect much of the data in the field.

Our study design relied on radiocollaring and tracking wolverines living with varying levels of industrial development. We established field sites in Rainbow Lake and the Birch Mountains of northern Alberta, with Rainbow Lake heavily developed and the Birch Mountains lightly developed by industry. We captured wolverines using log live-traps that were baited with beaver. When wolverines were captured, we attached radiocollars that took GPS fixes at two-hour intervals. These GPS data allowed us to track wolverines on foot so we could investigate their foraging and den site selection. The GPS data also provided information on movement rates and habitat selection of wolverines in an industrial landscape. Lastly, we built a system of run-poles on the landscape. Wolverines climb onto these contraptions and reach for a hanging beaver. When they do this, they expose their chest pattern, which serves as a unique identifier of an individual wolverine, to a camera on an adjacent tree. These run-pole data, combined with data from our live-traps, allowed us to estimate the density of wolverines at our field sites.

We have had great success over 3-winter field seasons in Rainbow Lake and 2-winter field seasons in the Birch Mountains. We captured 40 unique wolverines in live-traps in Rainbow Lake (18 males and 22 female) and have acquired over 40,000 GPS points from 30 animals. An additional 10 unique wolverines have been identified at run-poles. In the Birch Mountains, we have captured and radiocollared 3 wolverines (2 females and 1 male) and 8 wolverines have been identified at run-poles. These data point to a healthy population of wolverines residing in the oil patch. We are finding that wolverines spend much of their time near streams and open water, hunting for beaver in both summer and winter. Besides beaver, wolverines also feed on snowshoe hare, grouse, and wolf killed moose carcasses. We suspect that industry borrow pits increase the number of beavers on the landscape, which ultimately makes for high-quality wolverine habitat. Wolverines tend to avoid areas with lots human activity (e.g., all season roads, active well sites) but seem to tolerate development with minimal human use. Lastly, wolverines are denning in large protected structures such as timber slash piles, tree root wads, and beaver lodges.

Our field research will be winding down at the end of this winter. Then we continue the task of communicating our research to stakeholders and the scientific community. We have

greatly appreciated the support of Safari Club over the last few years. We hope that our project highlights the benefits of melding both sportsmen and academic knowledge in the management and research of wildlife species.