Ontario Boreal Wolverine Project

2005 Study Plan Summary

Participation by **The Wolverine Foundation, Inc.** in the **"Ontario Boreal Wolverine Project"**
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In 2003 and 2004, we conducted aerial track surveys for wolverine in a 24,000-km² area near Red Lake, Ontario. Wolverine tracks were most commonly encountered in Woodland Caribou Provincial Park in the northwest quadrant of the study area and in northeast quadrant of the study area where there is no logging activity. Tracks also occurred within logged areas that were adjacent to the unlogged habitat, but no tracks were detected in the southern portion of the study area where logging is more extensive. In 2005 we propose to extend the study area to the north (unlogged), south (intensively logged), and east (minimally logged) and carry out a more intensive track survey to investigate whether the pattern of wolverine track distribution is related to the distribution and disturbance levels of forest habitat produced by logging activities.

The study area will be divided into 100-km² hexagons, and transects that pass through the centers of the hexagons will determine the flight routes of the survey aircraft (PA-18 Supercub). The study area will be surveyed multiple times (6-8 depending on snow-tracking conditions) and each hexagon will be examined for tracks at least once; most hexagons will be surveyed 2-4 times with some surveyed 6-8 times. When necessary (e.g., hexagons with closed forest canopies), the survey aircraft will deviate short distances from the transect line to investigate areas along the flight route where wolverine tracks can be detected (e.g., beaver ponds, creek drainages, forest openings). We will record the GPS location for each wolverine track as well as for tracks of wolves and caribou and sightings of moose; size of wolf packs will be estimated from the number of tracks. The habitat type in which the track occurred will also be recorded as well as signs of human activity.

The distribution of wolverine tracks will be analyzed (software program WINBUGS) in relation to a number of independent variables in both logged and unlogged habitats (e.g., density and types of roads, forest cover types and ages, active logging operations and other human activity, distribution of caribou, distribution of wolves and wolf pack size, etc.). Independent habitat variables will be defined using GIS layers and Forest Resource Inventory data available through the Ontario Ministry of Natural

Resources and the Wildlife Conservation Society. Outputs will include a probability map for detecting wolverine tracks in areas with different intensity levels of habitat disturbance (relative to logging activity). A report on the survey results will include a discussion of factors that affect wolverine distribution and relative abundance in logged vs. unlogged habitats and recommendations for managing forestry activities to minimize negative impacts on wolverine distribution and abundance.

** Related publication:

Magoun, A. J., J. C. Ray, D. S. Johnson, P. Valkenburg, F. N. Dawson, and J. Bowman. 2007. Modeling Wolverine Occurrence Using Aerial Surveys of Tracks in Snow. Journal of Wildlife Management. 71(7):2221-2229.

Ontario Wolverine Habitat Consideration Action Plan - Jan., 2005
Ontario Wolverine Project Report - July, 2004
Ontario Wolverine Project Report Appendix - July, 2004
Capture Updates
MAY, 2003 PROGRESS REPORT
YEAR 1 STATUS REPORT
Original Project Abstract
Ontario Wolverines: A Model for Wolverine Conservation and Recovery in Eastern Canada
High School Students Fundraising Efforts Support Project

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