Saturday, September 27, 08:30, Max Bell Auditorium

Estimating wolf densities in central Ontario using the Sampling Unit Probability Estimator

PATTERSON, BRENT R., Norman W. S. Quinn, and Earl F. Becker

Ontario Ministry of Natural Resources, Wildlife Research and Development Section,
300 Water Street, 3rd Floor N., Peterborough, ON Canada K9J 8M5 brent.patterson@mnr.gov.on.ca (BRP);
Algonquin Provincial Park, PO Box 219 Whitney, Ontario K0J 2M0 (NWSQ);
Alaska Department of Fish and Game, Division of Wildlife Conservation,
333 Raspberry Road, Anchorage, AK 99518 (EFB)

Few reliable methods exist for estimating population size of large terrestrial carnivores. This is particularly true for forested areas where sightablilty is low, and when radio-collared individuals are unavailable. We used stratified network sampling to sample wolf tracks in the snow and estimate density in western Algonquin Park, Ontario in February 2002. We partitioned our 3425 km2 study area into 137 5 * 5 km blocks and a priori assigned 61 and 76, respectively, as having a high or low probability of containing detectable wolf tracks. Stratification was based on the relative amount of watercourses and conifer cover, and the number of road/trails, within each block. We used a Bell

206B helicopter to sample 28 high (46%) and 17 low (22%) blocks. When fresh tracks were found in a block we followed them forward to the wolves themselves and backwards until the tracks were no longer "fresh". We averaged 46 minutes per block (range 23 – 132 minutes). We observed 17 "fresh" track networks within the 45 blocks. The average pack size in the area we surveyed was 4.2 ± 0.4 (SE). These observations result in an estimate of 87 ± 11.4 wolves in the 3425 km2 study area for a density of 2.5 ± 0.3 wolves/ 100 km2. Although we detected no obvious violations of the assumptions of this survey design, several key assumptions (e.g., all fresh tracks in each surveyed block were detected, no double counting of packs) will require the presence of radio-collared wolves within the study area for adequate testing.

World Wolf Congress 2003
Bridging Science and Community

September 25 - 28, 2003
The Banff Centre
Banff, Alberta, Canada

hosted by

The Central Rockies
Wolf Project