

### A SAMPLING UNIT PROBABILITY ESTIMATOR (SUPE) SURVEY OF THE WOLF POPULATION OF ALGONQUIN PARK

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#### Abstract

*Few reliable methods exist for estimating population size of large terrestrial carnivores occurring at low densities. We used stratified network sampling to sample wolf (*Canis lupus lycaon*) tracks in the snow and to estimate wolf density in western Algonquin Park, Ontario in February 2002. We partitioned our 3,425 km<sup>2</sup> study area into 137 5 km x 5 km blocks and a priori assigned 61 and 76 respectively as having a high or low probability of containing detectable wolf tracks. This stratification was based on the relative amount of watercourses and hemlock cover within each block. We used a Bell 206B helicopter to sample 28 high (46%) and 17 low (22%) blocks. Seventeen "fresh" track networks were found within the 45 blocks and average pack size in the area we surveyed was 4.2 +/- 0.4 (S.E). These observations result in an estimate of 87 +/- 11.4 wolves in the study area for a density of 2.5 +/- 0.3 wolves/100 km<sup>2</sup>. We detected no obvious violations of the survey design but two key assumptions must be verified by radio telemetry (now underway). Extrapolated across the Park (area 7400 km<sup>2</sup>) the population estimate is 185 wolves, which is comparable to estimates achieved in the late 1990's. However, recent genetic evidence suggests that the Algonquin Park population is not isolated but part of a much larger population that extends from north-central Ontario well into Quebec.*

### A CITIZEN SCIENCE-BASED APPROACH TO MONITORING BIRD POPULATIONS

Debbie S. Badzinski  
Bird Studies Canada

#### Abstract

*Bird Studies Canada (BSC) is the leading Canadian not-for-profit organization dedicated to the study, understanding and conservation of wild birds and their habitats. Most of BSC's monitoring programs rely on a partnership of individual "citizen scientists," who collectively contribute the vast amount of data to the programs. All of BSC's programs use the five step Integrated Population*

*Approach (IPA) as a framework. The IPA is a feedback loop that is founded upon monitoring, research, conservation action, and evaluation. BSC monitoring programs focus on a wide variety of bird species, sample a wide variety of habitats, and cover a large geographic area. Monitoring focuses on several life cycle stages including breeding ground studies, migration monitoring, and winter bird monitoring. In this presentation, I will provide an overview of BSC's programs with a particular emphasis on the Ontario Nocturnal Owl Survey, Ontario Birds at Risk and the Canadian Migration Monitoring Network.*

## IMPACT OF A WETLAND RESTORATION ON GROUNDWATER IN THE NORFOLK SAND PLAIN

*Sarah Bod and Chris Smart  
University of Western Ontario*

### Abstract

*Efficient agricultural drains and intensive irrigation coupled with drought conditions have resulted in the depletion of water supplies and wetlands on the Norfolk Sand Plain. In response, the Ontario Ministry of Natural Resources is attempting to restore drained wetlands by damming agricultural ditches. A wetland research site has been established in Frogmore, Norfolk County, where groundwater conditions associated with a dammed ditch are compared to a nearby open ditch site. At both sites, rainfall, surface water levels and fluxes, soil moisture changes and groundwater levels are being measured over a one year period. The distribution of groundwater in both sites is being mapped and used to determine patterns of groundwater recharge and flows arising from drain and dams. The interim results from fall and winter ground and surface water monitoring will be presented.*

## Is "Is 12% ENOUGH?" THE RIGHT QUESTION?

*Yolanda F. Wiersma and Thomas D. Nudds  
University of Guelph*

### Abstract

*Protecting twelve percent of a given land area has been advocated as a conservation goal by various agencies and organizations, but it has been based on targets set for political, rather than ecological regions. Past analyses of minimum requirements for achieving conservation targets have emphasized representation, but not addressed whether what is represented in 12% of a landbase might persist. We test assumptions about targets for representation for the*