

PhD Graduate Student Position – Impacts of foraging by hyperabundant Arctic-nesting geese on vegetation of Arctic and subarctic coastal lowlands

Supervisors: Dr. Glen Brown & Dr. Peter Kotanen



Herbivores strongly influence plant communities. Changes in abundance of herbivores can cause rapid changes in plant biomass, species composition and ecosystem processes. The mid-continent population of lesser snow geese expanded dramatically in North America during the past 50 years. The increased abundance of geese in combination with their destructive feeding habits has caused the degradation of large tracts of coastal wetlands on their arctic and subarctic breeding range. Long term studies by the Hudson Bay Project (<http://research.amnh.org/users/rfr/hbp/>) have demonstrated processes of habitat degradation and rapid ecological change that adversely impacts species sharing the coastal habitat.

We seek a PhD student to investigate the drivers of recovery or continued degradation of breeding range habitat, and the outcomes to ecosystems. The student will make use of existing historical ground collected data (e.g. plant biomass), remote sensing, and new field studies to address their questions.

The student will have the opportunity to directly support wildlife conservation and management and gain experience on a collaborative project with government agencies and partners (Mississippi Flyway Council, Environment and Climate Change Canada, Ontario Ministry of Natural Resources and Forestry). Field work will be based at one or more sites near Churchill, Manitoba (Cape Churchill and La Perouse Bay), Akimiski Island, and the Burntpoint Research Station in Polar Bear Provincial Park, Ontario.

The student will be enrolled in the Environmental and Life Sciences Graduate Program, Trent University, and under the supervision of Dr. Glen Brown (Trent University) and Dr. Peter Kotanen (University of Toronto).

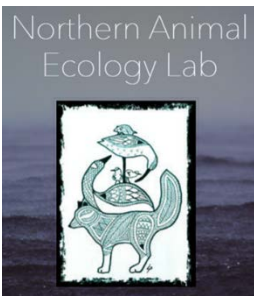
Start dates are flexible, January or May 2024.

Salary: A minimum stipend consistent with Trent University policies for PhD will be provided (includes a Teaching Assistantship).



Qualifications: Candidates should have an interest in plant-animal interactions and a solid background in ecology and remote sensing, and an aptitude for statistical and spatial analysis (including geographic information systems and imagery processing), as well as the ability to conduct laborious field work in remote areas for extended periods of time. A willingness to become licensed in firearm use is also required due to the presence of polar bears.

Prospective students should send a letter of interest, a CV, unofficial transcripts, and the names of two references to Dr. Glen Brown (glen.brown@ontario.ca) and Dr. Peter Kotanen (peter.kotanen@utoronto.ca).



The Northern Animal Ecology Lab @ Trent (<https://brownecologylab.weebly.com/>) investigates the mechanisms driving change in the subarctic, involving interactions among climate, habitat, and wildlife communities. Wildlife adapted to the cold northern climate may be particularly vulnerable at the edge of range near the arctic-boreal ecotone. We study a range of species, including shorebirds, waterfowl, predators (eg. arctic fox), and small mammals. Students will gain experience in field-based research, use of diverse technologies, including remote sensing and drones, and quantitative methods.