

PhD studentship: University of Saskatchewan

Comparing measures of waterfowl reproductive success for conservation planning

Description: A PhD studentship is available with Dr. Mitch Weegman in the Department of Biology at the University of Saskatchewan (<https://www.ducks.ca/our-work/science/saskatchewan-endowed-chair/>), co-supervised by Dr. Matt Dyson (Institute for Wetland and Waterfowl Research, Ducks Unlimited Canada), in collaboration with Dr. Jim Devries (Institute for Wetland and Waterfowl Research, Ducks Unlimited Canada).

The student will lead a project comparing measures of waterfowl reproductive success at the local and population scales to determine representativeness of data sets relative to other parameters commonly estimated to manage North American waterfowl populations. We anticipate the student will expand Devries et al. (2023, Wildlife Monographs) to update estimates of nest success for all dabbling ducks across the Canadian prairies, leveraging nesting data collected over two decades by Ducks Unlimited Canada (>25,000 nests) for a local measure of reproductive success. The student will use breeding population survey, banding and harvest data collected over the same time period for population-level measures of reproductive success. We anticipate the student will compare these measures to learn the extent to which they generally track each other, and test hypotheses about similarities and differences in estimates in space and time. Using this information, we will conduct scenario-playing to determine potential sources of bias in hopes of contextualizing and linking scales for more robust inferences. We will use this information to inform current habitat delivery decision support tools to identify opportunities for conservation that deliver the greatest benefit to duck populations.

Prerequisites: Ideal candidates will have a master's degree in ecology, statistics or a closely related field, and interpersonal skills to lead discussions among collaborators. Students with an undergraduate degree and research experience will also be considered. Preference will be given to those with a strong quantitative background (e.g., experience with Program R, Bayesian methods), knowledge of migratory bird ecology and management, and spatial programming skills (e.g., in Program R or ArcGIS). The successful applicant will be expected to publish manuscripts in peer-reviewed journals and present papers at scientific meetings.

Salary and benefits: \$35,000 Canadian per year plus compensation for tuition and fees

Start date: 1 May or 1 Sept 2024

Last date to apply: 1 Dec 2023

To be considered for this position, please send the following (preferably as a single PDF) to Dr. Mitch Weegman ([mitch.weegman@usask.ca](mailto:mitch.weegman@usask.ca)):

(1) Letter of interest summarizing your experience, (2) Curriculum vitae or resume, (3) University transcripts (unofficial are OK), (4) Contact information for three references.