Year-round movements & habitat use of warblers within urban greenspaces

McGill UNIVERSITY

Proposed research:

Urban greenspaces and forests have the potential to serve an important role in supporting biodiversity in the landscape, particularly to vagile species such as birds. These are novel ecosystems composed of a complex mix of native and non-native species, with tree planting often driven by factors such as aesthetic and cultural preferences, nursery availability, and ability to withstand urban stressors, rather than biodiversity conservation. Most research on birds within urban ecosystems have focused on the breeding season, creating a seasonal bias. An emerging and exciting topic within urban ornithology is identifying how birds use or move through urban areas during the migratory or non-breeding periods. Very little is known of bird movement in urban areas during the non-breeding season, especially within the context of synergies and tradeoffs between urban greenspaces for biodiversity conservation and ecosystem services (e.g., human recreation, carbon storage, etc.). Chestnut-sided and Yellow Warblers are urban-tolerant, migratory songbirds breeding in cities across eastern Canada and serve as an ideal study species to explore migratory movements by birds within an urban landscape.

Your role:

We are looking for an MSc or PhD student to join the dynamic group of researchers from Department of Natural Resource Sciences of McGill University and Environment and Climate Change Canada. The student would be part of the Neotropical Environment Option and so would take some coursework at the Smithsonian Tropical Research Institute in Panama and would complete some winter fieldwork in Central America. The student will lead a study to quantify Yellow and Chestnut-sided Warbler migratory movements using geolocators and Motus radio tags, and link timing of migration to reproductive success across urban greenspaces and adjacent greenspaces of Montreal, Quebec. They will also explore ecosystem services provided by urban greenspaces and natural elements, and evaluate these in the context of the multiple-goals of urban Nature-based Solutions for climate mitigation and biodiversity conservation. The results of this work have the potential to inform municipal and federal programs for urban greening and urban biodiversity conservation. The student will have the opportunity to learn to co-develop scientific research, conduct urban fieldwork, and improve conservation policy and practice. The potential start date is June 2024 (with enrollment into the graduate program in September 2024) and the student will be co-supervised by Dr. Kyle Elliott (McGill University) and Dr. Barbara Frei (Environment Climate Change Canada).

Selection Criteria:

Essential Skills and Qualifications

1. An undergraduate degree in ecology, conservation science, environmental science, geography, or related field. Relevant work related experience will also be considered.
2. Strong research, leadership, and communication skills.
3. Inter-personal skills.
4. Enthusiasm and kindness.
5. A desire to make the world a better place for people and nature.

Desirable Skills

1. Experience identifying birds.
2. Coding skills in Program R.
3. Scientific communication and/or working with the public

Application details - Note that we are only accepting Canadian students at this time. Applicants should send the following to Barbara Frei (barbara.frei@ec.gc.ca) by February 10th 2024: 1) Letter of interest summarizing your experience; 2) Curriculum Vitae; 3) Contact details for three references; and 4) University transcripts (unofficial are fine). **Please use the subject line Urban Bird application.**