



UNIVERSITY OF
SASKATCHEWAN



Ph.D. position(s) on conservation biology of endangered bats on the prairies.

We are currently advertising one (potentially two) Ph.D. student opening(s) in the Department of Biology, at the University of Saskatchewan. Start dates of May or September, 2022 are possible, with an earlier start being preferred. There is also the potential for students completing a field season as part of the field crew before enrolling in their Ph.D. Full funding (\$22,500k CAD/yr for 4 years) is guaranteed, but the successful student will be expected to apply for stipend supports for which they may be eligible (e.g., NSERC post-graduate scholarships for Canadian citizens).

The Project: Conservation biology of endangered bats on the prairies.

In 2021, the fungus (*Pseudogymnoascus destructans*) responsible for the emerging disease of bats, white-nose syndrome (WNS), was first identified in Saskatchewan. Introduced to New York in 2006, it has since spread across much of the eastern and central parts of North America. The catastrophic population declines of bats affected by WNS have led to three species in Canada being emergency listed as endangered (two of which are found in Saskatchewan). As WNS spreads across the prairies, conservation efforts for bat populations are likely to encounter new challenges. Agricultural intensification and landscape simplification can both affect the food resources (insects) and habitat quality (e.g., maternity roost sites) for bats. Pesticide exposure is also a looming threat, and has had well documented detrimental effects in ecologically similar birds (i.e., aerial insectivores). Our understanding of the ecology of bats in prairie landscapes also lags behind that for forested environments. This project will directly address these challenges and research needs. Specifically, we are interested in meeting three core objectives:

1. Determine how agricultural intensification in the northern Great Plains affects foraging activity by, and body condition of, little brown bats; identify landscape features most likely to benefit bats through habitat enhancements and conservation initiatives.
2. Determine how variation in pesticide exposure influences body fat dynamics of little brown bats.
3. Evaluate the influence of post-hibernation body condition on the likelihood of reproduction in female little brown bats, and whether habitat

augmentation can ameliorate the predicted detrimental consequences for poor-condition survivors.

To support this project, the student(s) will have access to dedicated research infrastructure, including a mobile laboratory trailer (housing a quantitative magnetic resonance body composition analyzer and other energetic physiology equipment), autonomous bat detectors, necessary field equipment (e.g., mist nets and handling equipment) and lab equipment/access for pesticide analyses. Preliminary acoustic data is also available from the previous two years. The students will be co-supervised by Drs. Christy Morrissey (<https://christymorrissey.driftchamber.com/>) and Jeffrey Lane (www.lanelab.ca), and be an active participant in both wildlife biology research labs.

The successful applicant will have a GPA > 80 % (converted to the UofS' 1-100% scale) over the past two years of schooling and a degree in a relevant discipline (e.g., ecology, conservation biology, environmental science). In addition, a passion for fieldwork, bats and wildlife conservation, as well as excellent scientific communication skills (both written and oral) and statistical proficiency (or a willingness to gain it) is necessary. Evidence of scientific productivity (manuscripts published or in preparation, conference attendance and presentations) is also expected. This position is open to both Canadian and international students. We believe equity, diversity, and inclusion strengthen the community and enhance excellence, innovation and creativity. We, therefore, encourage members of the underrepresented groups in STEM (e.g., women, Indigenous Peoples, persons with disabilities, members of visible minorities, and diverse sexual orientation and gender identities) to apply.

If you are interested in applying, please submit a cv (including names and contact details of references), a short (< 1 pg) description of research interests and a copy of your transcripts to (unofficial or official) to jeffrey.lane@usask.ca. Applications will be evaluated as they're received. To ensure full consideration of your application, therefore, please submit ASAP. Any questions can also be directed to the same email address.

Thank you in advance for your interest in this position, however, only those selected for an interview will be contacted.