Biol 480: Insect Biomonitoring Across Agricultural Intensity Gradients

Across central Saskatchewan, the intensity of agricultural lands varies widely, ranging from low-intensity grazing habitats to high-intensity crop fields. Such variability in land use intensity affects biota, including insects and avian consumers. These impacts are of particular interest in the context of population declines of aerially insectivorous birds that breed in agroecosystems. In the summer of 2020, we used malaise traps to collect flying insects at six sites of different agricultural intensities to study insect abundance. Insect collection times coincided with key times during the breeding of Tree Swallows, which are a declining species of aerial insectivore. These insect collections are part of a continent-wide long-term insect monitoring project focused on understanding implications for prey availability to swallows and other aerial insectivore species.

We are looking for a student to conduct a study to investigate whether land use intensity affects insect biomass or other relevant measures like abundance or diversity. The student will work in the lab to identify insect collections to order or sub-order, obtain biomass and use this information to conduct statistical data analyses. This work will not only contribute to the long-term monitoring effort, but also will allow the student to execute a project addressing the highly conservation-relevant topic of relationships between changing land use, and declining insect and aerial insectivore populations across North America.

Students must be accepted in the Honours program, and currently in 4th year to enrol in BIOL 480. Contact Dr. Christy Morrissey Christy.morrissey@usask.ca to enquire.