

Jason Fischer

Jason Fischer is a fourth year PhD student in the Program of Ecology, Evolution, and Conservation Biology at the University of Illinois. His project explores the relationships between urbanization, avian condition, survival, and foraging behavior.

Urbanization is rapidly and drastically altering the face of the earth, with profound consequences for wildlife. While scientists know that many species are extirpated by development, they have limited understanding of how species that survive in human-modified environments are impacted by different levels of urbanization.

Fischer uses mist nets to capture birds near feeders across the urbanization gradient present in Champaign County, Illinois.

Avian condition is assessed by measuring mass, fat, and muscle size. Identification bands are then applied to the legs of the birds. Attached to these bands are radio frequency identification (RFID) tags (also called pit tags).



When a tagged bird visits a bird feeder outfitted with an RFID reader, the identity of the individual and the time and duration of its visit is recorded.

This information will allow estimates of survival rates for populations at different levels of urbanization. It will also document changes in use of food resources.

Fischer has marked more than 500 birds with RFID tags. A pilot study conducted in the summer of 2010 suggested that condition does not change with urbanization, but at this time there is insufficient data to calculate survival estimates or compare foraging behavior at different levels of urbanization.

A continuance of this study will obtain a better grasp of the impacts of development and could lead to recommendations that mitigate the negative consequences of urbanization and improve conservation potential of birds that live in cities.



Bethany Krebs

Bethany Krebs is a graduate student in the Program in Ecology, Evolution, and Conservation Biology at the University of Illinois. Her project studies how movements and roosting behaviors of American Robins may impact the transmission of West Nile virus in the Chicago area.

Twenty five birds from seven nests were fitted with radio transmitters and tracked for three months. Mosquitoes, amassing over 200,000, have been collected within and outside of communal roosts for West Nile virus testing.

Radio tagged birds were found using previously unknown small communal roosts of two to five birds. Data also suggest that juvenile robins remain near where they were hatched for approximately three weeks, and then join flocks with other juvenile birds. There is some evidence of brood division between male and female birds, and survival of an adult's allocated fledglings appears to impact where the adult roosts and whether or not it joins a communal roost.

Due to high post-fledging mortality of juvenile birds, it was difficult to determine how parental roosting behaviors impacted the roosting practices of juveniles, however at least two surviving juveniles were found using large communal roosts. Currently the mosquito infection rate data are unavailable, pending testing of collected samples which will likely be finished in 2012.