

Public Abstract

First Name:William

Middle Name:Andrew

Last Name:Cox

Adviser's First Name:John

Adviser's Last Name:Faaborg

Co-Adviser's First Name:

Co-Adviser's Last Name:

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Title:CAUSE-SPECIFIC MORTALITY AND ANTI-PREDATOR BEHAVIOR IN MIDWESTERN SONGBIRDS

For many songbirds, most of the eggs and young that adults produce will be consumed by another animal before they leave the nest. The consequences of nest predation are far reaching profoundly shape the ecology, evolution, and populatin trends of birds. The frequency with which nests are lost to predation varies greatly, however. Some species are much less prone than others to lose nests to predation, while individuals within a species often demonstrate differences in rates of nest predation based on environmental variables such as the proximity of their nest to a forest edge or the density of vegetation in the immediate area surrounding the nest. We investigated whether particular predators were responsible for such variation in forest songbird nest survival. We also asked whether birds assess the risk of predation and modify their behavior to reduce the risk of predation. Finally, we reviewed the technology available to researchers who wish to identify the predators of songbird nests. Nest predators varied by both songbird species and nest stage, with differences in predator-specific predation rates driving variation in overall predation rates. Predator-specific patterns of predation were also apparent in relation to the amount of forest in a landscape and the density of vegetation surrounding a nest. Adult birds were able to assess an imminent risk of predation and reduced nest visitation rates to nests in an effort to conceal the location of their nest. Our review of camera use at bird nests demonstrated the variety of technology that is currently available to address a broad suite of study questions. Overall, our study shed light on why rates of nest predation vary and how nest predation influences the behavior of birds.