

Public Abstract

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Ph.D.

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Resource selection, movement patterns, and survival of post-fledging grasslands birds in Missouri.

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Graduation Term Winter 2005

Current grassland management paradigms focus on addressing nesting requirements for grassland birds, but ignore post-fledging requirements. I described resource selection, movement patterns, and survival of dickcissels (*Spiza americana*) and eastern meadowlarks (*Sturnella magna*) in southwestern Missouri, from 2002 to 2004 using radio telemetry.

Across species at the micro-scale, there was support for the predation hypothesis (both species) and the thermal refuge hypothesis (dickcissels only). Woody cover (both species) and vegetation height (meadowlarks) had the highest relative importance across years. At the landscape scale, uniformly shrubby prairies, longer distances to forests, roads, and grazing were negatively associated with juvenile dickcissels. Crops, pastures, increasing distances to ponds and streams were positively associated with juvenile meadowlarks. Core home range sizes (50%) were similar across species, but 95% home ranges were 25% larger for meadowlarks (80.9 ± 13.9 ha) than dickcissels (51.2 ± 8.8 ha). Home range patterns were mostly non-linear and categorized as central or exploratory. Across years, biological factors (number of siblings, order of fledging) were the best predictors of home range size. Survival was higher and the instantaneous probability of death declined faster for meadowlarks compared to dickcissels. My results indicate that our working concepts of suitable breeding habitat need to be modified to accommodate post-fledging requirements and maximize the effectiveness of conservation strategies.