Public Abstract

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The postfledging period, between leaving the nest and the first migration, is a critical time for migrant songbirds, encompassing an interval of high mortality for the majority of species studied to date. Several species of mature forest nesting birds have been documented using very different habitat late in the summer, suggesting that habitat requirements may change after family groups leave the nest. If dangers and requirements shift significantly between nesting and postfledging, conservation plans may not be supporting species needs throughout the season. I monitored nests and used radio-telemetry to observe postfledging juveniles of two species that occupy similar nesting habitats but have different natural history, in central Missouri forest fragments in 2012-2015: Ovenbirds (Seiurus aurocapilla) and Acadian Flycatchers (Empidonax virescens). Nest survival was comparable between species while postfledging period survival was 43% lower for ground foraging Ovenbirds than for canopy foraging Acadian Flycatchers. Factors that affected Acadian Flycatcher survival or resource selection did not shift between life stages as greatly as factors affecting Ovenbird survival and resource use in our forest fragments. Resource selection models indicated that Acadian Flycatcher habitat selection requirements relaxed from nesting to postfledging, while Ovenbirds shifted selection preferences. Understory structure, a nonfactor or negative contributor during the nesting stage, contributed positively to fledgling Ovenbird resource selection and reduced daily postfledging movements. Our results illustrate the need to consider both the nesting and postfledging periods when managing habitat in North American breeding grounds and reinforce that we should not assume that species occupying similar nesting habitat will have similar changes in risk or habitat requirements after fledging.