

Public Abstract

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Title:Natal dispersal and survival of red-bellied woodpeckers in a fragmented landscape.

Survival and dispersal during the juvenile life stage are critical to population connectivity and persistence, but the post-fledging period is the least studied stage of the avian life cycle. We intensively radio-tracked Red-bellied Woodpeckers (*Melanerpes carolinus*) from fledging to dispersal to identify how young birds search for their own territories, test for landscape effects on individual movement, and investigate factors with the potential to affect juvenile survival. Juveniles used a centrally-based foray prospecting strategy previously only associated with cooperatively breeding birds. Woodpeckers repeatedly forayed between returns to the natal home range to roost, and foray direction predicted eventual dispersal settlement direction. Prospecting individuals traveled along paths containing higher forest cover than was randomly available in the surrounding area. Juvenile mortality declined with age and no birds died during prospecting or dispersal stages, which suggests that dispersal is not costly in this species. We provide evidence of juvenile birds making repeated exploratory movements to inform decisions about dispersal prior to permanent departure from the natal area. In addition, we demonstrate the value of landscape habitat connectivity to a dispersing resident forest bird.