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Red-shouldered Hawks, Adaptable Denizens of the Suburbs: Reproduction, Survival, and Behavior

Red-shouldered hawks (*Buteo lineatus*) inhabit the suburban areas surrounding the city of Cincinnati, Ohio. As part of a larger investigation on the adaptation of this species to urban areas, we are studying factors that influence its demography, including reproduction, survival, and nesting behavior. We monitored reproduction and used banding to study survival of this population for more than 20 years. In 2011–2012, we also used video cameras to record nesting behavior and nest survival. We found that reproductive rate of the suburban birds was relatively high, 1.5 ± 0.2 young per active nest, not significantly different from a population of red-shouldered hawks in a typical, forested rural habitat near Cincinnati. Adult incubation behavior and egg-laying intervals influenced the asynchrony of the nestlings' hatching, which determined

nestling hatch-rank. Nestlings established their dominance in the first and second week after hatching, and nestling behaviors differed by hatch-rank. First-hatched young were significantly more aggressive and consumed more food than their younger siblings. No nestlings



were directly killed by their older siblings, but several last-hatched young starved in part because of sibling aggression. Predators including Great Horned Owls (*Bubo virginianus*) and raccoons (*Procyon lotor*) reduced reproductive success at other nests. All available evidence suggests that red-shouldered hawks of the Cincinnati region are well-adapted to suburban life and faring as well there as their counterparts in typical forested habitats.