

FEATURE ARTICLES

ANNUAL SURVIVAL AND RECRUITMENT IN A RUBY-THROATED HUMMINGBIRD POPULATION, EXCLUDING THE EFFECT OF TRANSIENT INDIVIDUALS

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Abstract. We estimated annual apparent survival, recruitment, and rate of population growth of breeding Ruby-throated Hummingbirds (*Archilochus colubris*), while controlling for transients, by using 18 years of capture-mark-recapture data collected during 1984–2001 at Hilton Pond Center for Piedmont Natural History near York, South Carolina. Resident males had lower apparent survival (0.30 ± 0.05 SE) than females (0.43 ± 0.04). Estimates of apparent survival did not differ by age. Point estimates suggested that newly banded males were less likely than females to be residents, but standard errors of these estimates overlapped (males: 0.60 ± 0.14 SE; females: 0.67 ± 0.09). Estimated female recruitment was 0.60 ± 0.06 SE, meaning that 60% of adult females present in any given year had entered the population during the previous year. Our estimate for rate of change indicated the population of female hummingbirds was stable during the study period (1.04 ± 0.02 SE). We suggest an annual goal of 64 adult females and 64 immature females released per banding area to enable rigorous future tests for effects of covariates on population dynamics. Development of a broader cooperating network of hummingbird banders in eastern North America could allow tests for regional or metapopulation dynamics in this species.

Key words: *Archilochus colubris*, *mark-recapture*, *population growth*, *recruitment*, *Ruby-throated Hummingbird*, *survival*, *transients*.