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FEATURE ARTICLES

DIFFERENTIAL SURVIVAL OF YEARLING AND ADULT FEMALE MALLARDS AND ITS RELATION TO BREEDING HABITAT CONDITIONS

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Abstract. Information on age-specific survivorship is vital to understanding the dynamics of avian populations, but for many avian taxa, little is known about age-related variation in survival beyond the first year of life. We used capture-recapture data from a 16-year field study of female Mallards (*Anas platyrhynchos*) breeding in south-central Saskatchewan to evaluate survival-rate differences between females marked in their second year (yearlings) and those marked as adults (≥ 2 years old). Because the breeding season is a period of high mortality for female ducks, we further sought to determine whether age differences in annual survival might vary with wetland conditions on the breeding grounds. Capture-recapture analysis based on extensions of the Cormack-Jolly-Seber model suggested that survival was best modeled to include effects of female age, with yearling females surviving at a higher annual rate (0.58 ± 0.05 SE) than adult females (0.47 ± 0.03 SE). However, additional evidence suggested that age differences in survival were most pronounced in years of low wetland abundance. Recapture rate (indicative perhaps of breeding propensity) was best modeled to include interactive effects of female age and wetland abundance, such that yearling females were recaptured at lower rates than adults in years of low wetland numbers. Collectively, our findings support the hypothesis that reduced breeding by younger females results in elevated probabilities of survival. Whether this pattern reflects reproductive constraint or trade-off decisions on the part of young birds remains to be determined.

Key words: age-specificity, *Anas platyrhynchos*, breeding propensity, capture-recapture analysis, Mallard, spring habitat conditions, survival.