

FEATURE ARTICLES

FOREST EDGES NEGATIVELY AFFECT GOLDEN-CHEEKED WARBLER NEST SURVIVAL

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Abstract. I used an information-theoretic approach to determine support for hypotheses concerning the effects of edge and temporal factors on Golden-cheeked Warbler (*Dendroica chrysoparia*) nest survival on Fort Hood Military Reservation, Texas, during 2003–2006. I predicted that nest survival would be greater earlier in the breeding season than later in the breeding season, in areas with less forest edge than in areas with more forest edge, and during the laying and incubation stages than during the nestling stage. I used the logistic-exposure method to model nest survival as a function of the explanatory variables and to produce model-based estimates of daily and period survival. The overall daily survival rate was 0.96 (95% CI: 0.94, 0.97) and overall period survival was 0.34 (95% CI: 0.23, 0.46). Forest edge density had the strongest effect on nest survival. Nest survival decreased as forest edge density increased. Period survival tended to decrease as the breeding season progressed, but the 95% confidence intervals of the model-averaged parameter estimates overlapped. These results demonstrate that effective conservation strategies designed to provide high-quality breeding habitat for this endangered species should include measures to reduce predation by edge-adapted predators.

Key words: *Dendroica chrysoparia, edge effects, endangered species, information-theoretic approach, logistic exposure method, nest survival, temporal factors.*