

FEATURE ARTICLES

ENVIRONMENTAL CORRELATES OF NESTING SUCCESS IN RED-SHOULDERED HAWKS

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Abstract. We evaluated the influence of weather on reproduction of the Red-shouldered Hawk (*Buteo lineatus*) in an agricultural landscape in south-central Florida where we found relatively high densities of successfully nesting hawks. We used a generalized linear modeling approach within an information-theoretic framework to examine the influence of total rainfall, rainfall frequency, and temperature on the timing of nesting, nesting success, and productivity of hawks during 1995–2000. The best models indicated an influence of rainfall frequency and laying period on hawk reproduction. During years with less frequent rainfall in the summer and fall months prior to the beginning of the breeding season, fewer pairs attempted to nest, and hawks nested later and had smaller clutch sizes and lower productivity. Hawks that nested later in the breeding season had lower hatching success and lower overall nest success. Although Red-shouldered Hawks are generally reported to inhabit forested landscapes throughout their range, a common feature seems to be a dependence on wetlands and riparian habitat for foraging. We propose that the proportion of wetlands throughout the landscape is a unique aspect of south-central Florida that may allow for persistence of unusually high numbers of hawks.

Key words: agriculture, Florida, nest success, productivity, rainfall, raptor, Red-shouldered Hawk.