

Effects of Growing-season Prescribed Fire on Eastern Wild Turkey Nest Survival, Nest Success, and Poult Survival in Southwestern Georgia

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Abstract: We investigated effects of growing-season prescribed fire on daily nest survival, nest success, and poult survival of eastern wild turkeys (*Meleagris gallopavo silvestris*) on two similar research sites in southwestern Georgia: the Joseph W. Jones Ecological Research Center and Silver Lake Wildlife Management Area. We collected daily locations for radio-tagged females throughout the 2011–2012 nesting seasons. Females with nests or poults near or within an active growing-season fire were located hourly. We estimated poult survival using flush counts and incidental sightings until poults were lost or indistinguishable in size from females. We investigated nest survival of 51 nests at the microhabitat and landscape-level using an information theoretic approach, but found no important predictors, most likely from an insufficient sample size. The probability of nest survival for a 29-day incubation period in the absence of growing-season fire was fairly high at 56%; this was calculated from the Mayfield daily nest survival estimate of 98%. The largest impact on nest success was from depredation (32.7%), followed by growing-season fire (11.5%). I found nest success was not independent of growing-season fire ($P=0.019$), and six of seven nests exposed to fire were unsuccessful post-burn, indicating that growing-season fires conducted on a large-scale could be detrimental to wild turkey reproduction and should be applied judiciously. We found poult survival of 23 broods to be 35% during the first two weeks post-hatch, which is comparable to other studies. One brood was lost to growing-season fire, indicating that fire impacts are minimal for poult survival.

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