

Assessing the relationship between spring wild turkey hunting season dates and wild turkey productivity

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Abstract

Ten state wildlife management agencies in the United States, including six within the Southeast, have delayed their spring wild turkey (*Meleagris gallopavo*) hunting season since 2017 by five or more days to address concerns related to the potential effects of hunting on wild turkey seasonal productivity. One hypothesis posits that if the spring hunting season is too early, there may be insufficient time for males to breed hens before being harvested, thus leading to reduced seasonal productivity. We conducted an experiment to determine if delaying the wild turkey hunting season by two weeks in south-middle Tennessee would affect various reproductive rates. In 2021 and 2022, the Tennessee Fish and Wildlife Commission experimentally delayed the spring hunting season to open 14 days later than the traditional date (the Saturday closest to 1 April) in Giles, Lawrence, and Wayne counties. We monitored reproductive rates from 2017 to 2022 in these three counties as well as two adjacent counties, Bedford and Maury, that were not delayed. We used a Before-After-Control-Impact design to analyze the proportion of hens nesting, clutch size, hatchability, nest success, poult survival, and hen survival with linear mixed-effect models and AIC model selection to detect relationships between the 14-day delay and reproductive parameters. We detected no relationship ($P > 0.05$) between the 14-day delay and any individual reproductive parameter. The traditional Tennessee start date had been in place since 1986 while the turkey harvest increased exponentially and more recently stabilized. Our data indicate that moving the start of the hunting season from a period prior to peak nest initiation to two weeks later to coincide with peak nest initiation and the onset of incubation resulted in similar levels of productivity in wild turkey flocks in south-middle Tennessee.

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