

SPATIAL ANALYSIS OF PREDATOR ABUNDANCE AND NORTHERN BOBWHITE NEST SUCCESS IN SOUTHERN TEXAS

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ABSTRACT

Northern bobwhites (*Colinus virginianus*) have low nest success across their geographic range, and predation is the primary cause of failure. We evaluated the influence of relative abundance of predators on northern bobwhite nest success. We used data from a long-term radiotelemetry study conducted on 3 sites (800 ha each) in Brooks County, Texas during 2000–2007. We located bobwhite nests ($n = 456$) using radiotelemetry and estimated Mayfield nest success each year. We also estimated relative abundance of nest predators using scent stations (400 × 400 m grid/site) during the nesting season (May–Aug). We developed a gradient map of predator relative abundance and correlated this variable with location-specific bobwhite nest success. Mayfield nest success during the incubation period (23 days) varied between 0.43 and 0.60 during the study. Scent-station visitation rates (% stations visited/night) ranged from 0 to 67%.

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