

Overwinter Survival of Northern Bobwhites on Non-hunted Areas in Texas

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Abstract: As part of an ongoing investigation of sustainable harvest strategies for northern bobwhite (*Colinus virginianus*) populations, we are estimating overwinter survival in two Texas ecoregions that have stable bobwhite population trends, the Rolling Plains and the Rio Grande Plains. Estimating overwinter survival in the absence of hunting is an important variable in developing a sustained-yield harvest strategy for bobwhites. Overwinter bobwhite survival was estimated using radio-marked bobwhites from 16 November 2007 to 29 February 2008. Overwinter survival estimates were calculated using Kaplan–Meier staggered–entry approach. A seven-day censoring period was used to minimize bias associated with capture, handling, and radio-collaring of bobwhites. We found survival rates with the Rolling Plains ($n = 61$) having overwinter survival of $(0.293 \pm 0.101 [95\%CI])$ and the Rio Grande Plains ($n = 91$) with (0.145 ± 0.055) . These estimates are relatively lower than what would be expected of a sustainable population. We will discuss possible reasons for the low survival estimates which include radio telemetry induced mortality and environmental conditions.

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