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# WINTER SURVIVAL AND HABITAT SELECTION BY TRANSLOCATED NORTHERN BOBWHITE IN THE NEW JERSEY PINE BARRENS: PRELIMINARY RESULTS

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## ABSTRACT

Northern bobwhite (*Colinus virginianus*) populations have been experiencing precipitous range-wide declines for more than 50 years; some of the steepest declines occurring in the Mid-Atlantic states. These declines are largely attributed to habitat deterioration from urban sprawl, change in forest management, and intensive farming. This ongoing study aims to evaluate the efficacy of translocating wild bobwhites into the New Jersey Pine Barrens as a means to restore their historic populations. Translocation has proven relatively successful in augmenting bobwhite populations in other regions as well as restoring populations of gallinaceous species. This portion of the study aims to investigate what bobwhites require during winter months (October—March) in the Mid-Atlantic to survive until summer for reproduction. The study site, Pine Island Cranberry Company, is the largest privately owned tract of land (6,800 hectares) in New Jersey, with habitat comprised of pitch pine (*Pinus rigida*), shortleaf pine (*Pinus echinata*), scrub oak (*Quercus ilicifolia*), and early successional forbs and grasses. For three consecutive years (2015—2017) prior to breeding season, we will translocate 80 radio-collared bobwhites (40 male, 40 female) to Pine Island from wild populations in southwest Georgia. These bobwhites are radio-located 3—5 times per week throughout the year while this portion of the study focuses on the winter months. We are collecting microhabitat measurements (e.g., basal density, groundcover, understory, and canopy closure) from 30 random telemetry location points, per covey, per habitat type to characterize winter habitat use. Survival is estimated using staggered-entry Kaplan-Meier analyses and a Cox proportional hazard model in R to determine covariates of daily mortality. We are reporting on the first 2 years of results.

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**Key words:** *Colinus virginianus*, northern bobwhite, translocation, radio-telemetry, survival, habitat use, habitat management, pine ecosystem

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