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RESTOCKING NORTHERN BOBWHITES IN EAST TEXAS: A GENETIC ASSESSMENT

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ABSTRACT

Habitat on a 610-ha study area in the Pineywoods Ecological Region of eastern Texas was enhanced for northern bobwhites (*Colinus virginianus*). In February and March 1990, 1991, and 1992, bobwhites from south Texas (*C. v. texanus*) and disjunct areas of east Texas (*C. v. mexicanus*) were captured, radio tagged, and relocated to the study area which had a small (<25 birds) resident population. Blood samples were collected from the birds relocated in 1991. Samples were also collected from birds in the resident population during 1991 and 1992; these birds were assumed to be offspring of the previous years' resident and relocated bobwhites. Restriction site variation of mitochondrial DNA (mtDNA) revealed geographic subdivision between the subspecies but not between resident and east Texas relocated birds. The observed frequency differences of mtDNA haplotypes were used to assess the relative reproductive success of the 2 subspecies. Among the birds examined for mtDNA variation, offspring produced on the study area during 1990 and 1991 were genetically more similar to the east Texas subspecies than to the south Texas subspecies. These results suggest that efforts to restock northern bobwhite should involve either local birds or birds from the same subspecies. Management implications of these findings are discussed.

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