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## How Many Are There? Estimating the North American Northern Bobwhite Population Size for Conservation Planning Purposes

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# HOW MANY ARE THERE? ESTIMATING THE NORTH AMERICAN NORTHERN BOBWHITE POPULATION SIZE FOR CONSERVATION PLANNING PURPOSES

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## ABSTRACT

Three bird habitat Joint Ventures, Gulf Coast, Oaks & Prairies, and Rio Grande, developed a method to set spring population and habitat objectives for northern bobwhite (*Colinus virginianus*) populations in four Bird Conservation Regions (BCRs). The method requires an estimate of current population size that can be stepped down to the management unit of interest. Several methods have been designed to estimate range-wide populations over the past two decades for fall (post-breeding) and spring (pre-breeding). The 2002 Northern Bobwhite Conservation Initiative (NBCI) provided an estimate of 6,714,000 birds for the 1999 breeding population. The 2007 Partners in Flight (PIF) Population Estimates database provided a spring population estimate of 7,600,000 based on Breeding Bird Survey (BBS) densities. The NBCI 2011 revision population estimate, using BCR-specific Estimated Densities and habitat acreages, summed to greater than 26,000,000 individuals for fall population. The current PIF (2013) Population Estimates database includes 5,800,000 individuals as a global (spring) population estimate, and cites the NBCI. This estimate may result from application of the range-wide BBS trend estimate from 1982-1999 (3.8%) to the 2002 NBCI spring estimate. This produces a 2003 population estimate of ~5,800,000, which may have been substituted for the BBS-based estimate used in the 2004 PIF North American Landbird Conservation Plan. Finally, a recent unpublished estimate based upon the BBS-based PIF calculated estimate suggests a population of almost 18,000,000 in the U.S. and Canada. This value excludes birds in Mexico, estimated to comprise approximately 15.6% of the global population. We compared PIF estimates with the 2011 NBCI estimate. While there is some correlation regarding population density estimates at the BCR level, there is considerable disparity between overall population estimates between the two documents. The bird conservation community would benefit from an examination of northern bobwhite population estimates, to improve accuracy of spring population and habitat objectives.

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