



FIELD TESTS OF THE ROSENBERG-BLANCHER METHOD FOR CONVERTING POINT COUNTS TO ABUNDANCE ESTIMATES

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ABSTRACT.—The North American Breeding Bird Survey (BBS) provides a widely used source of information on changes in bird population abundance based on data obtained for >50 years by 3-min point counts (Sauer et al. 2005). Rosenberg and Blancher (2005) provided a method that purports to convert BBS data into estimates of absolute abundance. To test this method, we compiled detection efficiencies using BBS protocol at five stations in southern New York where territories of most breeding birds were known. Following the Rosenberg–Blancher method, we assigned species to distance categories, within which it is assumed that the equivalent of 100% of a species will be detected. Field results show that individual detection efficiencies varied from 3% to 49% among 29 species. These values are similar to results from other field studies. Most males did not sing within a 3-min count during June, and the detection distances assumed by the method are much too high. We recommend that conservation priorities of the Landbird Conservation Plan by Partners in Flight should not be based on population estimates derived by such an erroneous method. *Received 12 December 2006, accepted 21 May 2008.*

Key words: Breeding Bird Survey, detection efficiency, landbird conservation plan, Partners in Flight, point count.

Pruebas de Campo del Método Rosenberg-Blancher para Convertir Conteos Puntuales en Estimados de Abundancia

RESUMEN.—El conteo de aves reproductivas de Norteamérica (BBS, por sus siglas en inglés) es una fuente de información ampliamente utilizada para estimar los cambios en la abundancia de las poblaciones de aves con base en datos obtenidos por más de 50 años mediante puntos de conteo de 3 minutos (Sauer et al. 2005). Rosenberg y Blancher (2005) desarrollaron un método que pretende convertir los datos del BBS en estimaciones de abundancia absoluta. Para probar este método, compilamos las eficiencias de detección utilizando el protocolo del BBS en cinco estaciones de conteo ubicadas en el sur de Nueva York, donde los territorios de la mayoría de las aves reproductivas eran conocidos. De acuerdo con el método de Rosenberg y Blancher, asignamos cada especie a una categoría de distancia, dentro de la cual se supone que el equivalente al 100% de los individuos de la especie será detectado. Los resultados de campo mostraron que las eficiencias de detección de individuos variaron desde un 3% a un 49% para las 29 especies. Estos valores son similares a los obtenidos en otros estudios de campo. La mayoría de los machos no cantaron durante un periodo de 3 minutos en el mes de junio, y las distancias de detección que supone el método son demasiado grandes. Recomendamos que las prioridades de conservación del plan de conservación de aves terrestres de Partners in Flight no se deberían basar en tendencias poblacionales estimadas utilizando este método tan erróneo.

THE NORTH AMERICAN Breeding Bird Survey (BBS) was initiated in 1966 to monitor long-term population trends and now obtains data from ~3,000 routes surveyed yearly across much of North America (Sauer et al. 2005). Each survey route consists of 50 stops at which an observer counts all birds seen or heard during a 3-min period out to a distance of 400 m. Conditions under which counts are conducted are standardized to control for the effects of season, time of day, and weather on detectability of birds, and analytical methods for estimating trends from these index counts include an explicit observer effect (Geissler and Sauer 1990, Link and Sauer 1994, Sauer et al. 1994). Population declines documented through

analysis of BBS data have stimulated both research and conservation action, particularly for landbirds, serving as an impetus for formation of Partners in Flight and subsequent development of the North American Conservation Plan (Rich et al. 2004).

Recently, Rosenberg and Blancher (2005) argued the merits of developing numerical population targets for landbirds and proposed a method to convert BBS index counts into absolute population estimates for landbirds of the continental United States and southern Canada. Partners in Flight accepted these estimates of population size and added them as a fifth criterion for a composite score that determines each species' conservation

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