J. Field Ornithol., 72(2):228–235

USING POINT COUNTS TO ESTABLISH CONSERVATION PRIORITIES: HOW MANY VISITS ARE OPTIMAL?

RODNEY B. SIEGEL, DAVID F. DESANTE AND M. PHILIP NOTT
The Institute for Bird Populations
P.O. Box 1346
Point Reyes Station, California 94956-1346 USA

Abstract.—We conducted point counts three times during the 1994 breeding season at 48 stations across the northwestern United States, and used cumulative totals from the three visits to rank the sites by two potential indices of conservation value: species richness and overall abundance of birds. We then recalculated each of the indices (1) using data from only a single visit to each site and (2) using data from only two visits. Rankings based on only one or two visits revealed that eliminating one, and even two of the visits had relatively minor effects on species richness rankings but affected rankings based on overall abundance more substantially. We also evaluated how effectively one or two visits to each site detected particular species of management concern. We conclude that when resources are limited, species richness based on point counts conducted during just one or two visits to potential conservation sites may provide a reliable index for prioritizing conservation efforts. When the primary objective is to determine the presence or absence of a particular species, however, at least two visits may be warranted. Finally, we conclude that, in general, researchers must be careful when using overall abundance as an index for establishing conservation priorities, as values may fluctuate substantially throughout the season.

UTILIZACIÓN DE CONTEOS DE PUNTO PARA ESTABLECER PRIORIDADES DE CONSERVACIÓN: CUAL ES EL NÚMERO ÓPTIMO DE VISITAS?

Sinopsis.—Durante la época de reproducción del 1994 llevamos a cabo, en tres ocasiones, conteos de punto en 48 estaciones del noroeste de los Estados Unidos. Utilizamos los totales de los datos para colocar en categorías a las localidades, a base de dos índices de valor potencial para la conservación: riqueza de especies y abundancia total de aves. Luego recalculamos cada uno de los indices (1) utilizando los datos de una sola visita a una localidad y (2) utilizando los datos de dos visitas. El jerarquizar basándose solamente en una o dos visitas reveló que el eliminar una y hasta dos visitas tenía un efecto mínimo en categorizar la riqueza de especies, pero afectaba, de forma más sustancial, el jerarquizar la abundancia. Tambiér evaluamos que tan efectivo eran una o dos visitas para detectar especies en particular. Concluímos que cuando los recursos están limitados, el uso de conteo de puntos con una o dos visitas, puede proveer un índice confiable para determinar la riqueza de especies y priorizar los esfuerzos de conservación. Cuando el objetivo principal es determinar la presencia o ausencia de una especie en particular, al menos dos visitas suelen ser necesarias. Finalmente concluímos, que los investigadores deben ser cuidadosos al utilizar la abundancia total como índice para establecer prioridades de conservación, ya que los valores pueden fluctuar a través de la temporada.

In recent years researchers have made efforts to standardize point count protocols across studies and locales (Manley et al. 1993; Ralph et al. 1995; Hamel et al. 1996; Martin et al. 1997). Despite a growing literature debating the optimal duration of point counts (Dawson and Bull 1975; Svensson 1977; Fuller and Langslow 1984; Smith et al. 1993; Lynch 1995; Smith et al. 1998), few studies have explored the costs and benefits of intra-season repeated visits to point count sites (which encompass arrays of individual points), or how those costs and benefits may change, depending on study objectives. Just as the allocation of sampling effort