

DOI: 10.1080/02664769524720

David F. Desante, Kenneth M. Burton, James F. Saracco & Brett L. Walker
pages 935-948

Publishing models and article dates explained

Published online: 02 Aug 2010

 Preview
 PDF
Access options

[Alert me](#)

The Monitoring Avian Productivity and Survivorship (MAPS) programme is a cooperative effort to provide annual regional indices of adult population size and post-fledging productivity and estimates of adult survival rates from data pooled from a network of constant-effort mist-netting stations across North America. This paper provides an overview of the field and analytical methods currently employed by MAPS, a discussion of the assumptions underlying the use of these techniques, and a discussion of the validity of some of these assumptions based on data gathered during the first 5 years (1989-1993) of the programme, during which time it grew from 17 to 227 stations. Age and species-specific differences in dispersal characteristics are important factors affecting the usefulness of the indices of adult population size and productivity derived from MAPS data. The presence of transients, heterogeneous capture probabilities among stations, and the large sample sizes required by models to deal effectively with these two considerations are important factors affecting the accuracy and precision of survival rate estimates derived from MAPS data. Important results from the first 5 years of MAPS are: (1) indices of adult population size derived from MAPS mist-netting data correlated well with analogous indices derived from point-count data collected at MAPS stations; (2) annual changes in productivity indices generated by MAPS were similar to analogous changes documented by direct nest monitoring and were generally as expected when compared to annual changes in weather during the breeding season; and (3) a model using between-year recaptures in Cormack-Jolly-Seber (CJS) mark-recapture analyses to estimate the proportion of residents among unmarked birds was found, for most tropical-wintering species sampled, to provide a better fit with the available data and more realistic and precise estimates of annual survival rates of resident birds than did standard CJS mark-recapture analyses. A detailed review of the statistical characteristics of MAPS data and a thorough evaluation of the field and analytical methods used in the MAPS programme are currently under way.