

PUBLICATION:

Wilson, K. R, Nichols, J. D and Hines, J. E. 1989.  
'A Computer Program for Sample Size Computations for  
Banding Studies'. United States Department of the  
Interior, Fish and Wildlife Service Technical Report  
23. Washington, D.C. United States of America. pp 19.

The report addresses questions such as: How many birds need to be ringed, and for how many years, in order to estimate survival rates to specified precisions? It provides all the formulae for doing the calculations, and contains a user manual to the PC computer program BAND2, which implements the methods in a user-friendly way.

The program is built around the recovery models of Brownie et al. (1985) and the report uses the same notation. The user of the program specifies the precision with which the survival rate is to be estimated, expressed in terms of the desired coefficient of variation.

From the viewpoint of the southern African ringer, perhaps the most illuminating aspect of the report is the examples. To achieve a coefficient of variation of 3% in estimating a species' average survival rate (i.e. to have a relative error of less than 3% of the survival rate), it is necessary to ring 1 134 birds per year for seven years! These calculations assume that 7,5% of rings will be returned, and that the survival rate will be of the order of 60%. If the return rate is smaller (as it generally is in southern Africa) the number of birds to be ringed increases. There is a message in this for us in southern Africa: if we are, through ringing, going to provide reliable estimates of survival rates for conservation managers, a lot more bird-ringing is going to be needed!

Copies of the program (including FORTRAN 77 source code) can be obtained from:

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Laurel, Maryland 20708  
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REFERENCE:

Brownie, C., Anderson, D. R, Burnham, K. P. and Robson, D. S. 1985. Statistical inference from Band Recovery Data - a Handbook. 2nd edition. U.S. Fish and Wildlife Service Resource Publication 156. pp 305.

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