PROGRESS TOWARDS INTERNATIONAL INTEGRATION OF MONITORING STUDIES ON BREEDING AND MIGRATORY BIRDS: KWAK & ANSELIN

PERSPECTIVES FOR CO-OPERATION IN BIRD CENSUS AND ATLAS WORK IN THE FUTURE

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INTRODUCTION

Reflecting upon the past decades since the first international conference on bird census work in 1968 in Oxford (UK), several conclusions can be drawn. The number of birdwatchers involved in census work has increased dramatically, whereas the knowledge on distributional aspects has become much more complete through atlas work. The information on population changes is piling up.

Without wanting to trivialize the enormous steps taken forward in bird census work, some critical remarks have to be made:

a. an internationally accepted standard for censusing has not yet been established (e.g. Tomiałojc 1987);
b. true international co-operation on monitoring work has not yet been realized;
c. integration of monitoring results from different schemes has, in general, hardly been done;
d. factual knowledge on factors causing population changes is still rather poor.

FUTURE GOALS

From these findings some main goals concerning the future of bird census and atlas work can be formulated:

a. development of an international scheme to monitor both changes in distribution and numbers;
b. development of a monitoring system capable of detecting causes of such changes;
c. further analysis and publication of knowledge gathered;
d. better use of this knowledge for bird conservation.

DEVELOPMENT OF AN INTERNATIONAL SCHEME TO MONITOR CHANGES IN DISTRIBUTION AND NUMBERS

Atlas work and censusing

Repeated atlas work provides and ideal opportunity for monitoring changes in distribution. In semi-quantitative atlas work rough numerical changes can be monitored as well. More refined quantitative results have to be obtained by standardised census work. A combination of both approaches should give the best possible answer to the question ‘how our birds are doing’.

Important questions in monitoring distribution changes that need to be clarified are the frequency with which atlas work has to be repeated and which grid size should be employed. In monitoring population numbers the distribution and number of census samples should be defined. Methodological problems should be tackled on a population rather than a species level. This demands, amongst others, a clear understanding of breeding distribution...
patterns in connection with migratory routes and wintering areas (consider the fly-way concept used in waterfowl studies as an ideal example).

A more or less representative sampling strategy should be achieved on the national scale (e.g. Verstrael et al. 1990). If this is impossible, indexes should be calculated, if possible, for separate habitats, as in the British Common Birds Census. Analysing existing data should enable a decision upon statistical problems.

Necessity of international standardized methods
A high standardisation of methods should be achieved on a species-specific and data-specific level. In general, when very reliable quantitative data are needed (numbers, densities) internationally highly standardized methods have to be employed. The same is true in atlas work. In using relative numbers, as is the case with national population indexes, results of different methods can, with some care, be compared and strengthen insight in the reliability of results (Järvinen 1984, Svensson 1981).

DEVELOPMENT OF A MONITORING SYSTEM ABLE TO DETECT POSSIBLE CAUSES

It is impossible to develop a monitoring system able to provide insight in all future causes for changes in bird distribution or numbers, as these can hardly all be predicted. Therefore it is not possible to develop a sampling device that takes all possible causes into account.

On the other hand has the impact of man on bird numbers, from a conservation point of view, priority over other factors. In this, information on land use is especially relevant. In atlas work land use data can be gathered on a gross scale simultaneously with fieldwork on bird distribution. In census plots a standardized habitat description should be made annually. In case studies paired samples can be carefully chosen to monitor effects of different kinds of land use right from the start. In general, however, this is difficult and it can often only be conducted in retrospect.

Relevant impacts on populations on a broad geographical scale can possibly be obtained by comparing monitoring results in breeding areas, during migration and in wintering areas. Ideally, it can be determined in which part of the annual cycle major regulating factors will have their strongest impact (Kwak 1990). A special challenge is the kind of population modelling that integrates knowledge on reproductive success, mortality and population trends (Baille 1990). This can also be very helpful in developing new efficient monitoring strategies.

Analysis and publication of knowledge gathered
Actually, data gathered on changes in distribution and numbers are generally analysed on a regional or national scale and only rarely on a population level. This makes it hard to understand what is happening to bird populations as a whole. The same is true for data analysis and integration of data from other disciplines in ornithology, e.g. bird ringing. We are convinced that much more can be learned from monitoring data than is the case at present.

The first step to be undertaken is a regular international exchange of all relevant knowledge. The second step, combining and integrating the data, should then follow in due time.

BETTER USE OF KNOWLEDGE FOR BIRD CONSERVATION

The use of existing data for bird conservation on a population level has been rather limited up till now, although examples of excellent use of such data are known. Much more effort should be put into this. Data gathered by an independent internationally operating body of ornithologists can provide a firm basis. Data should be easily
accessible and analysed without prejudice. They should be regularly published and submitted to organisations that use these data for conservation purposes, e.g. national and international organisations for bird protection. The challenge for the near future is to achieve an efficient international co-operation of organisations, institutes and individuals involved in monitoring, in its broadest sense, to guard the rapid changes in our environment.