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Preface

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Preface

During 14-16 February 2000 more than 100 scientists, managers and policy-makers met at Hell outside Trondheim to a conference entitled 'Hunting as sustainable resource utilisation: experiences and challenges'.

The purpose of the conference was three-fold. First, it should provide an overview of the recent developments of theoretical principles for exploitation of renewable resources in general, and hunted species in particular. Second, the aim was to present detailed reviews of particularly well-studied systems where the consequences for population dynamics of hunting have been evaluated quantitatively. Third, the conference should help to produce some generalisations, if present, and suggest some implementation of these results into practical management and pinpoint avenues for further research.

The preparation for this conference was unusual because surprisingly few of the invited speakers rejected the invitation to participate. In fact, several persons contacted us themselves and provided suggestions for interesting talks. As a result, the conference grew larger than initially intended. One reason for this large interest may be that many ecologists now consider hunting as important large-scale experiments, useful in understanding several general ecological processes. Another reason may be that hunting as an activity itself receives increased public focus in an increasing number of countries. This often results in strongly polarised opinions about the effects of hunting on the conservation of exploited populations. As a consequence, research related to hunting as a process receives increased attention in the public as well as among environmental managers.

An interesting feature of most talks, both the empirical and theoretical ones, was that they included density dependence and environmental variability as central themes. Most speakers strongly addressed the need for obtaining quantitative estimates of density dependence and environmental stochasticity in hunted populations. Harvesting strategies that are not based on such estimates are not likely to be sustainable. The classical controversy, whether hunting mortality is additive or compensatory, then becomes trivial.

A general consensus that appeared, not surprisingly, is that long-term statistically sound monitoring of the basic demographic parameters is needed to develop sustainable harvesting strategies. The development of such strategies must also include the criteria which should be optimised (e.g. mean annual yield in terms of number or meat, minimising variance in yield or in population fluctuations). Integrating such monitoring programmes into some sort of adaptive management schemes, involving both scientists, managers and end-users, may be a useful tool for obtaining harvest tactics that respond rapidly to changes in the population fluctuations. A central problem for such exercises will be to identify which data are most urgently needed.

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Harvesting is a large ecological experiment. The empirical foundation still seems to be virtually lacking for the examination of several important questions raised by theorists. For instance, how does harvest affect trophic interactions? Furthermore, will differences in the seasonal timing or in the geographical location of the harvest affect the population dynamics? There is an urgent need for empirical evaluation of such effects to achieve a greater predictive ability of harvesting models.

The long-term evolutionary consequences of hunting was a theme that was almost completely absent in all the scientific talks, but often raised as questions or comments in the discussion parts of the conference. Recently, theoretical models have appeared suggesting that harvesting may induce large evolutionary changes in the population (Ratner & Lande in press). The presence of such changes may strongly affect the attitude of the public opinion towards hunting as well as the long-term yield from the hunt. Detailed statistical examinations of the presence of such effects should be conducted in hunted populations, and their potential evolutionary significance should be thoroughly examined.

I would like to use this opportunity to thank our funding agencies, the Research Council of Norway, the Norwegian Directorate for Nature Management, the Swedish Environmental Protection Agency, the Nordic Council for Wildlife Research, the Swedish Association for Hunting and Wildlife Management and the Norwegian University of Science and Technology for generous financial support. Both the organisers and the participants especially wish to thank John Odden for his excellent administration of the conference.

The proceeding articles published in this issue of WILDLIFE BIOLOGY have been reviewed in accordance with the regular procedures for WILDLIFE BIOLOGY, and I would like to thank all the referees for their contribution to these proceedings.

Bernt-Erik Sæther
Chairman of the Conference

Reference

Ratner, S. & Lande, R. in press: Demographic and evolutionary responses to selective harvesting in populations with discrete generations. - Ecology.

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