

## RTD13 Ecology: birds and forestry

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### 1 Introduction

This RTD canvassed ways in which ornithologists can contribute to knowledge about how various forms of forest management affect the quality of forests as habitat for birds. The same topic was addressed in symposium S39 and in an oral session (O05); it has become part of a new field of ecology called “sustainability science” (Kates et al., 2001).

### 2 Issues

The U.N. Food and Agricultural Organization (FAO, 2001) estimates that the global net loss of forest cover in the last decade of the 20th century was 94 million ha. That estimate comprises a loss of 130 million ha. in developing countries and a gain of 36 million ha. in the industrialized world, where abandoned agricultural fields are returning to forest. The estimate for the loss of natural forest itself, at 160 million ha., is larger than the loss of forest cover, being the sum of the loss to deforestation and the loss of converting natural forest to tree plantations. In addition to this alarming decline, most of the remaining natural forests have been changed in their composition by the activities of man and especially by forestry (Noble and Dirzo, 1997; Brown, 2001, pp. 169–186; Larson, 2002). Surely, then, it is a responsibility for ornithologists to study the effects of forestry practices on bird populations, and to estimate the consequences of the various options available to land managers.

Despite the conventional reasons of local population growth and shifting cultivation, the underlying forces driving deforestation and unsustainable use of forests are actually the policies of national governments and multinational institutions such as the World Bank and International Monetary Fund, as well as economic factors remote from local scenes (Geist and Lambin, 2002). National forest policies in various countries were described, many of which have conservational and sustainable resource use goals. In China, for example, where one fourth of the forests are plantations, the National Forest Conservation Program, initiated in 1998, lists as one of its objectives the increasing of areas of natural forest. In India, a program called Joint Forest Management emphasizes collaboration between government and local communities and focuses on sustainable

harvesting of non-timber forest products. In some regions of North America, a triad approach is used, which assigns explicit goals for landscape management to encompass extensive forestry, plantations, and protected areas. Forest landscapes in different countries are, according to circumstance, subjected to different patterns and intensities of use. Patterns, commonly mixed in varying proportions, range from fully protected areas to unlogged areas with grazing or harvesting of firewood to areas with extensive large-scale forestry operations that may themselves range from clear-cutting with natural regeneration to intensive agro-forestry and plantation development.

### 3 Outcomes

Although most ornithologists are not trained to participate in policy matters, attendees at the RTD agreed that ornithologists should try to become more engaged in dialogue with policy makers, to inform them at governmental and even multinational institution levels of the environmental effects of their policies. Participants were also concerned about the possibly unintended consequences of “balanced” forestry operations that are skewed toward intensive forestry at the expense of other uses and values. Some thought that the ecological utility of birds (dispersing seeds, pollinating flowers) should be enough to justify emphasis on fully protected areas. Others argued that, if forest policy were guided by a combination of biological, social, cultural, and ethical values, adequate protection of birds should follow. Even so, specific goals (e.g. that no forest bird species should be lost or allowed to decline in population size by more than a certain percentage) could provide measurable indicators against which policy objectives could be set clearly and objectively.

Two particular types of required research were identified: retrospective research that provides estimates of the impact of past forest policies on bird populations, and prospective research that assesses and predicts the responses of birds to the various silvicultural options that managers are facing now. Experimentation is the most powerful way to conduct the second type of research. Ongoing examples that combine ecological forestry with such ornithological research are the Calling Lake Project in Alberta, Canada (Schmiegelow and Hannon, 1999), and a project in

the Apalachicola National Forest in Florida, USA (Stephenson and Ritchie, 2003).

The RTD concluded that ornithologists and the IOC should raise the effort in addressing the issue of the unintended consequences of forest policies on the conservation of birds. In many if not most cases, timber companies and land managers would welcome clear advice based on sound research on the effects of their practices.

## References

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