

Symposium 39 Ecological forestry and avian communities

Introduction

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Although forest covers more than 35% of global land, and harbors more biodiversity than any other habitat, the increasing human demand for land and timber is accelerating deforestation in many countries. The rate of forest loss is particularly high in South America; and the proportion of forest birds that are endangered is equally high in South America and Asia. Sometimes forest clearing and conversion to monoculture plantations has been justified on the basis that younger forests, which grow faster, store carbon at higher rates than old-growth forests. They are said to be better at counteracting global warming. Many studies, however, show that young plantations have depauperate bird communities.

In forests that are not clear-cut but harvested silviculturally, the demand for timber and other forest products still can cause habitat degradation. Such forestry practices include various types of forest thinning, selective logging, and management for crops or for grazing in the understory. Ornithologists have been concerned about habitat loss through clear-cutting, but the effects of these other types of management also impact on bird communities, and have received less attention. Much of the literature focus too, so far, has been on forestry practices affecting bird communities in North America and Europe.

Considering the problems globally, there is clearly a great need for impact-finding research on other continents. Accordingly, the papers in this symposium report on work in Japan, India and Taiwan, in addition to research in the United States and Canada. Chin-kuo Lee and coauthors compare a bird community in an old-growth broadleaf forest in Taiwan with a second community in a forest subject to timber stand improvement (TSI) program and a third community in a cedar plantation. Teruaki Hino assesses the state of bird communities in 12 study areas in Japan that carry different densities of deer and thus undergo different impacts from browsing. Susan Hannon describes a large program in the boreal forest of Canada that is trying to provide managers with guidelines for ecologically sustainable forest management. That program evaluates the effects of forest fragmentation, the effects of prescribed burning, and of various methods of timber harvest. Lalitha Vijayan and Gokula V summarize an extensive study of the effects of human disturbance on bird communities in a variety of wooded habitats in India. Todd Engstrom and Richard Conner conclude the symposium with a discussion of the impact on bird communities of two types of timber harvesting in pine forests in the southeastern United States.