

Management and Conservation of Migratory Landbirds Overwintering in the Neotropics

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Abstract — Loss of tropical broadleaved forests and concurrent population declines of long-distance migratory birds in temperate breeding areas have been closely linked in both scientific and popular literature; however, little evidence of a causal association currently exists. We review the current land use situation in the neotropics, the projected outcome of deforestation early in the 21st century, and the extent of knowledge of migratory bird habitat use on the wintering grounds. From that information, we assess the likely current and future impact of deforestation on migratory birds, and examine land use practices that may be compatible with the concept of conservation of those species.

At least 40% of the original tropical forests have been converted to other land uses. Most remaining tropical forests lie in the vast Amazon Basin, where few neotropical migrants spend winter. Permanent pasture and agriculture each presently comprise 10-30% of land area in many countries. Reasons for the rapid pace of deforestation are deeply rooted in socioeconomic problems of developing nations; solutions to those issues must be realized and implemented before forest conversion will slow. Early in the 21st century, once-forested landscapes will most likely be a mosaic of agricultural lands, cattle pastures, and secondary forests in various stages of

regeneration. Large tracts of mature forest will probably be restricted mainly to national parks and reserves. Thus, tropical landscapes will be changing increasingly toward "agroscares". Migratory birds as a group are most abundant in tropical habitats that are: (1) disturbed; (2) of medium stature (5-20 m); found at (3) low (m) elevations, and (4) high latitudes (15° N); and located (5) on the mainland. Slight to moderate levels of disturbance enhance numbers of migrants occupying broadleaved forest sites. However, species vary considerably in their preferences for winter habitats, such that broad generalizations may have limited use for actual on-site management and conservation plans. We examined habitat use by 123 species of migratory landbirds through an extensive literature review. Based upon the apparent reliance of species on undisturbed, broadleaved habitats, we identified 23 species that may be highly vulnerable to alteration of tropical forests.

Use or conversion of natural vegetation associations in the tropics as it relates to impacts on native flora and fauna can be placed under three broad categories: "conservative", "sustainable", and "destructive". "Conservative" land uses, such as protected parks and reserves, will play a major role in maintaining biodiversity. However, future economic growth and retention of natural resources in Latin America rest upon the concept of "sustainable" development. Several examples of sustainable forestry, such as strip clearcutting, appear highly compatible with goals of management of neotropical migratory

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