

Migratory Birds Provide Northerners with 'Tropical Connection'

By Richard L. Cunningham

About 150 species of birds that breed in the United States and Canada migrate southward to spend the winter in the tropics. Of these, about 50 species, primarily water and shore birds, fly as far south as Chile and Argentina. The majority winter in Mexico, Central America, northern South America, the Bahamas, and the Greater Antilles. Thus, many of "our" birds spend only a brief eight to ten weeks on their North American breeding grounds.

Breeding bird surveys in the United States have shown that most of the migrant species to the tropics are decreasing. These migrants should be of international concern, not only because they cross international boundaries, but because they are a representative part of the natural heritage of every country in which they occur. "Our" North American migrants become an integral part of the tropical ecosystems. They are just as much a part of the ecosystems of Central and South America as they are of North America. Their conservation depends upon the preservation of tropical ecosystems.

Worldwide, tropical forests are being cleared at an astounding rate. Estimates vary that somewhere between 25 and 100 acres of tropical forest are being destroyed each minute. Equivalent in size to Texas and Arkansas, Colombia contains almost 2,000 species of birds – about one-fourth of the world's total.

Primary Forests Disappearing

Colombia may also contain about 50,000 species of flowering plants. Yet Colombia is losing about two million acres per year of its primary forest. Throughout Latin America farmland, cattle pastures, and building developments are replacing the native tropical forests. Currently, less than one percent of lowland tropical forests are protected in Latin America.

The wintering range for migrant birds in the West Indies, Mexico, and Central America is greatly compressed when compared with the broad expanse of their breeding range in North America. This tends to concentrate migrants on their wintering grounds. For example, on Jamaica, the two species of resident wood warblers are joined by 18 other species during migration and winter. Perhaps more than one-half of

the natural vegetation of the Greater Antilles and Central America already has been converted to pasture and farmland. Since wintering migrants are concentrated in this small region, the effects of habitat loss is greater than in North America. Thus the survival of neotropical migrant birds depends upon preservation of both their breeding and their wintering grounds.

Continued tropical deforestation will result in the decrease of virtually all species of land birds, both migratory and resident. About half of the migratory species are territorial on their wintering grounds. Several migrant species join flocks of the mixed resident species as part of the territory in which they forage. Wintering migrants have evolved a variety of ecological adaptations for using food sources that are quite different from those of their North American breeding grounds. Some species change from insect eating to fruit, nectar, or more omnivorous habits. Fruit and nectar dependent birds require large areas that contain a high plant species diversity.

Tubular Tongue Evolves

The Cape May Warbler is a good example of adaptively changing its diet from its breeding grounds to its wintering area. The Cape May nests in spruce forests from Canada's southern Northwest Territories eastward to New Brunswick and southward to northern New Hampshire and southern Manitoba. From this breeding range of several thousand square miles, it winters almost exclusively in the Bahamas and Greater Antilles. Unique in the warblers, the Cape May has evolved a tubular tongue that enables it to feed on a fruit diet. Thus, on its concentrated wintering grounds, the Cape May Warbler changes from an insect diet to that of nectar and fruit juices. This then reduces competition with 19 other species of warblers that winter in the West Indies.

Representative of the migrant thrushes, the Swainson's Thrush breeds in the boreal forests of Canada and in the mountainous areas of the northeastern and western U.S. It has a widespread wintering range, occurring from central Mexico southward through Central America to Brazil, Bolivia, and northwest Argentina. In Costa Rica and Guatemala it occurs in heavy, humid forest between 2,000 to 4,000 feet. Swainson's Thrushes sometimes join mixed flocks of resident birds that follow army ants (they don't feed on the army ants but on other insects driven by the ants).

Continued tropical deforestation may well cause major population reductions in several forest-dwelling North American migrants. When these reductions occur, it is possible that North American permanent resident species and temperate migrants may expand their populations as the tropical migrants decline.

For the foreseeable future the likelihood of outright extinction of North American migrants due to habitat loss in the tropics seems remote. Two species, Bachman's Warbler and Kirtland's Warbler, would be the most threatened with extinction. However, several other migrant species will no doubt become rarer.

All is Not Well

There is growing evidence that all is not well on the "home front" either. The clearing of forests in the eastern United States and the resultant woodlots are fragmenting populations on their breeding grounds and contributing to the overall decline of several

forest species. It may well be that in the future the last major refuges for our migratory song birds will be the larger national parks, forests, and wildlife refuges.

The "Tropical Connection," the relationship between North America breeding grounds and neotropical wintering grounds, offers exceptional possibilities for NPS interpretive programs. It is a global conservation message that truly connects the Americas together by biological threads hundreds to thousands of miles in length.

The conservation message we need to communicate to our park public is that the preservation of ecosystems, and their component plants and animals, here in North America in our national parks, forests, and wildlife refuges is not by itself enough. Certainly the preservation of "our" migrant birds and their role in North American ecosystems is dependent upon their future existence as an integral part of Neotropical ecosystems far to the south of us – ecosystems whose future is in dire jeopardy.

Cunningham is Regional Chief of Interpretation, Western Region.