

INTERNATIONAL THREATS

Logging, agriculture, grazing, mining, urban and road development, and the alteration of natural flood and fire regimes are major factors that cause reduction of bird habitat in the Neotropics, much as they do in the U.S. Continually decreasing available habitat is affecting 85% of the globally Threatened birds in the Neotropics. Here we briefly discuss how the drivers of habitat loss in Latin American and the Caribbean differ from those in the U.S.

LOGGING AND DEFORESTATION

Latin America and the Caribbean accounts for 22% of the world's forest cover in just 14% of its land area. The region lost seven percent of its forest between 1990 and 2005, and accounted for more than one third of annual global forest loss from 2000 to 2005.

The logging of frontier forests occurred on a large scale when colonists first settled in North America, but has since reduced dramatically. Because a much greater area of old-growth forest exists in

Latin America, frontier logging is still widely pursued in the Neotropics, and often facilitates other human activities such as agriculture. Although logging occurs legally in designated logging concessions, many legal harvests are not managed sustainably and illegal logging is widespread, especially along newly constructed or improved roads. In fact, in cloud forest regions, commercial logging is relatively minimal in comparison to small-scale clearance for pasture and agriculture.

In contrast to many clear-cutting practices in North America, logging operations in tropical forests often take only the high value timber trees, leaving behind damage along logging roads and tree-fall gaps, but much of the forest is left intact. The secondary impacts of opening up forests for high-grade timber extraction are perhaps more damaging because this also provides access for hunters to kill birds, monkeys, peccaries, and deer for food. It also offers access for settlers to clear remaining forests for agriculture. Where primary forests are cleared, forestry operations often plant trees as crops for timber harvesting. Plantations typically use non-native species such as pines and eucalyptus. In the Andes, however, native alders have been widely planted. Some tree plantations replace non-forest habitats. For example, pine plantations have been established on former grasslands in Brazil and other southern cone countries. Pines and eucalyptus are often planted in open habitats such as páramo and puna at high elevations. As in the U.S. forestry industry, certification of neotropical forestry operations can help producers manage healthier forests and help consumers purchase lumber and other forest products that have been produced sustainably.

In the U.S. and Canada, harvested wood is mostly used to produce paper products and lumber for construction and furniture. Timber harvested in Latin America is also used for construction and furniture, although a much higher percentage of wood is burned for energy compared to the U.S.,



Logging roads open up areas for settlement, providing access to the forest for bush meat extraction and small-scale agriculture.

PHOTO: ©ISTOCKPHOTO.COM



PHOTO: MIKE PARR

Unlike current systems, the Incas concentrated crops on terraces, and planted trees to protect watersheds (Pisac, Peru, pictured).

where other energy sources (electricity, gas, oil) are more widely available and affordable. Firewood is consumed or made into charcoal for daily heating and cooking, or to fire brick kilns. The Royal Cinclodes and Ash-breasted Tit-tyrant lose critical habitat when local communities harvest *Polylepis* in high-altitude Andean forests in southern Peru and northern Bolivia. Fortunately, providing improved wood-burning stoves to communities can significantly reduce their impact on these forests.

who can then ship their produce and meat via these roads to distant markets. Except on volcanic slopes and floodplains, many tropical soils are poor for agriculture. Therefore, farmers might be able to grow crops on newly cleared land for only a few years. After the soils are depleted, farmers convert their lands to pasture or sell them to cattle ranchers, before moving on to the next forest patch to clear and repeat the cycle of "slash and burn" agriculture.

AGRICULTURE AND PASTURE

The vast expansion of the agricultural frontier witnessed over one-hundred years ago in the U.S. is now occurring in much of the Neotropics. Many forested areas are selectively harvested for timber, and the rest then felled, burned, and cleared for crops or pasture. New road projects open up previously inaccessible areas to farmers and ranchers

High global demand for palm oil, soy, and corn to feed people and cattle combined with growing numbers of people searching for farmland is driving the expansion of croplands and pastures in the Neotropics. In many countries, government policies encourage people to migrate from crowded areas to settle frontier regions, by providing land rights as incentives to people who clear and occupy lands. Unfortunately, these policies cause the destruction of habitat, sometimes in areas that are