A FEW GOOD TREES

For some tropical forest birds, a little habitat conservation can go a long way, according to Stanford University researchers. Working in an area in Costa Rica where most of the forests have been converted to coffee plantations or grazing land, the researchers found that some species that are sensitive to habitat degradation are able to survive if some tree cover remains intact. The team carried out the study at the Las Cruces Biological Station of the Organization for Tropical Studies and published their results in the April 2007 issue of *Conservation Biology*.

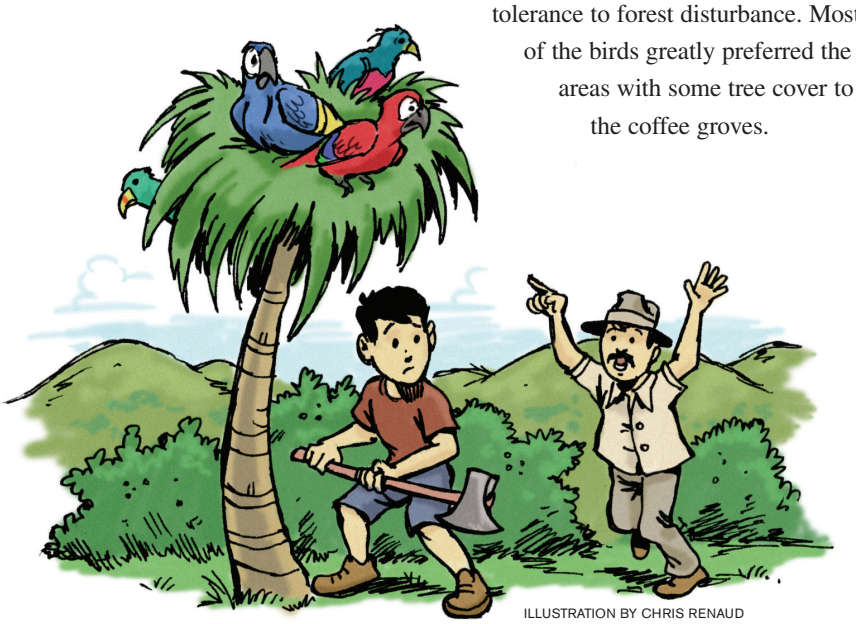

ILLUSTRATION BY CHRIS RENAUD

Using radiotelemetry devices, the scientists documented the activities of 156 individuals of three species over more than 8,000 GPS points. The sample size is the largest among tropical bird radio tracking projects. The study species—the orange-billed nightingale-thrush (*Catharus aurantiirostris*), the silver-throated tanager (*Tangara icterocephala*), and the white-throated thrush (*Turdus assimilis*)—are forest birds but are also seen in coffee plantations and were chosen to represent a range of tolerance to forest disturbance. Most of the birds greatly preferred the areas with some tree cover to the coffee groves.

Previous studies identified as many as 200 bird species in coffee plantations, but according to Cagan Sekercioglu, senior scientist at Stanford's Center for Conservation Biology and the lead author of the study, observing the birds in the plantations is not sufficient evidence that they are thriving there.

"When you radio-track birds, you realize many go through coffee because they have to," he says. "Most birds don't like to eat the coffee fruit. Caffeine evolved as a pesticide." Forest fragments, remnant trees (individual trees left intact around the coffee groves and pastures), and riparian corridors (vegetation growing along the rivers) are all crucial bits of habitat for the birds, he says.

The tanager and white-throated thrush, which are more sensitive to habitat degradation, spent between 69 and 85 percent of their time in the area's remaining trees although only 11 percent of the land still had tree cover. The nightingale-thrush, which tolerates disturbance and naturally prefers dense second growth and forest edges, was the exception. These birds spent most of their time in the coffee during the rainy season and in other shrublike plants in the dry season, although they spent as much as 20 percent of their time in areas with tree cover during the rainy season.

The implications of the research is that there may be hope for bird conservation in human-dominated agricultural areas in tropical countries. "Even though we would like to have big national parks with a lot of forest, . . . when you have to have agriculture, it's really important to have these reserves of native trees and native forests, which can support large numbers of native birds and other organisms," says Sekercioglu. In addition, his recommendations are helping to encourage locals around Las Cruces to plant native trees around their farms and villages.

—Stanford University press release, 21 May; and *Conservation Biology*, April. (D.H.)

ORGANIC FERTILIZERS BETTER FOR SOIL

Fields fertilized with compost from garden debris can produce as much broccoli, eggplant, cabbage, and capiscum