Briefing Paper
U.S. Forest Service, Policy Analysis

Migratory Birds and Coffee

Familiar birds of all kinds—orioles, swallows, sparrows, warblers, hawks, and more—overwinter in the lush forests of Central America. Without winter habitat there, they will disappear, no matter how good their summer habitat in North America. Unfortunately, the forests they depend on are under assault. From 1990 to 2005, as new land was cleared and demand for fuelwood soared, Central America lost 19 percent of its forests, including critical habitat for such species of concern as the golden-winged warbler.

The challenge is tied to coffee, one of Central America's most important cash crops. Traditional shade-grown coffee techniques have widely given way to more input-intensive rowcrop production, contributing to deforestation and habitat loss for migratory birds. Equally important, facilities for drying coffee beans consume vast quantities of fuelwood each year—all taken from local forests. In fact, Central America loses 3 cm^2 of forest for every cup of its coffee brewed.

Open-grown coffee plantation in Costa Rica

Fuelwood used to dry coffee

The Forest Service's Northern Research Station helped launch an effort to conserve habitat for neotropical migratory birds by modifying coffee-growing and -drying techniques, in partnership with the University of Massachusetts, the Mesoamerican Development Institute, and the Montes de Oro coffee cooperative in Costa Rica. The cooperative adopted shade-grown coffee techniques, cultivating coffee on small lightly shaded plantations and protecting an equivalent amount of adjacent native forest. The partners also devised a way of using solar energy and biomass rather than fuelwood and electricity to dry coffee beans.

The benefits go all around. The new coffee-drying facility slashes energy costs by more than 800 percent, an enormous savings for the cooperative. The integrated canopy cover lets farmers regulate shade levels for maximum coffee production and disease control while reducing erosion and wind damage. Pollination services from the adjacent native forest translate into higher yields, and the protected forestlands qualify for forestry offsets under the Kyoto Protocol. Perhaps best of all, shade-grown coffee provides ideal habitat for many migratory birds, with the rest finding suitable habitat in the adjacent closed forests. If widely adopted, the new coffee-producing techniques promise to reduce the rate of deforestation in Central America.

In recognition of their accomplishment, the partners received the Forest Service's Wings Across the Americas International Cooperation Award for 2009. They are currently working to encourage adoption of alternative coffee production techniques, partly by creating corresponding specialty markets in the United States.

Harvesting shade-grown coffee in Costa Rica

Golden-winged warbler, a migratory songbird that overwinters in Central America