Environmental Case Study
Where Have All The Songbirds Gone?

Every June, some 2200 amateur ornithologists and bird watchers across the United States and Canada join in an annual bird count called the Breeding Bird Survey. Organized in 1966 by the U.S. Fish and Wildlife Service to follow bird population changes, this survey has discovered some shocking trends. While birds such as robins, starlings, and blackbirds that prosper around humans have increased their number and distribution over the past thirty years, many of our most colorful and melodious forest birds have declined severely. The greatest decreases have been among the true songbirds such as thrushes, orioles, tanagers, catbirds, vireos, buntings, and warblers. These long-distance migrants nest in northern forests but spend the winters in South or Central America or in the Caribbean Islands. Scientists call them neotropical migrants.

In many areas of the eastern United States and Canada, three-quarters or more of the neotropical migrants have declined significantly since the survey was started. Some that once were common have become locally extinct. Grover Archbold Park and Rock Creek Park in Washington, DC, for instance, lost 75 percent of their songbird population and 90 percent of their long-distance migrant species in just twenty years. Nationwide, cerulean warblers, American redstarts, and ovenbirds declined about 50 percent in the single decade of the 1970s. Studies of radar images from National Weather Service stations in Texas and Louisiana suggest that only about half as many birds fly across the Gulf of Mexico each spring now compared to the 1960s. This could mean a loss of about half a billion birds in total.

What causes these devastating losses? Destruction of critical winter habitat is clearly a major issue. Birds often are much more densely crowded in the limited areas available to them during the winter than they are on their summer range. Unfortunately, forests throughout Latin America are being felled at an appalling rate. Central America, for instance, is losing about 1.4 million hectares (2 percent of its forests or an area about the size of Yellowstone National Park) each year. If this trend continues, there will be essentially no intact forest left in much of the region in fifty years.

But loss of tropical forests is not the only threat. Recent studies show that fragmentation of breeding habitat and nesting failures in the United States and Canada may be just as big a problem for woodland songbirds. Many of the most threatened species are adapted to deep woods and need an area of 10 hectares (24.7 acres) or more per pair to breed and raise their young. As our woodlands are broken up by roads, housing developments, and shopping centers, it becomes more and more difficult for these highly specialized birds to find enough contiguous woods to nest successfully.

Predation and nest parasitism also present a growing threat to many bird species. While birds have probably always lost eggs and nestlings to predators, there has been a startling increase in predation in the past thirty years. Raccoons, opossums, crows, bluejays, squirrels, and house cats thrive in human-dominated landscapes. They are protected from larger predators like wolves or owls and find abundant supplies of food and places to hide. Their numbers have increased dramatically, as have their raids on bird nests. A comparison of predation rates in the Great Smoky Mountain National Park and in small rural and suburban woodlands shows how devastating predators can be. In a 1000-hectare study area of mature, unbroken forest in the national park, only one songbird nest in fifty was raided by predators. By contrast, in plots of 10 hectares or less near cities, up to 90 percent of the nests were raided.

Nest parasitism by brown-headed cowbirds is one of the worst threats for woodland songbirds. Originally called buffalo birds, these small blackbirds were adapted to follow migratory bison herds picking up seeds and insects from the droppings. Because they didn't stay in one place long enough to raise a family, they developed the habit of depositing their eggs in the nests of other species, leaving their young to be raised by surrogate parents. The young cowbirds are generally larger and more aggressive than the
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resident chicks, which generally starve to death because they don't get enough food. Adult cowbirds also find a welcome source of food and shelter around humans. Once fairly uncommon in the United States, there are now about 150 million of these parasites.

A study in southern Wisconsin found that 80 percent of the nests of woodland species were raided by predators and that three-quarters of those that survived were invaded by cowbirds. Another study in the Shawnee National Forest in southern Illinois found that 80 percent of the scarlet tanager nests contained cowbird eggs and that 90 percent of the wood thrush nests were taken over by these parasites. The sobering conclusion of this latter study is that there probably is no longer any place in Illinois where scarlet tanagers and wood thrushes can breed successfully.

What can we do about this situation? First, we can support sustainable development in Third World countries so that people there can enjoy a better standard of living without destroying their forests and natural areas. A number of such projects are discussed elsewhere in this book. Next, we should identify and protect critical habitat at home and abroad on which especially endangered species depend. Buying up inholdings that fragment the forest and preserving corridors that tie together important areas will help. In areas where people already live, we could encourage clustering of houses to protect as much woods as possible. We also might discourage clearing underbrush and trees from yards and parks to leave shelter for the birds.

Could we reduce the number of predators or limit their access to critical breeding areas? Human residents might not like the idea of reintroducing wolves and bears, but they might accept fencing or trapping of small predators. A campaign to keep house cats inside during the breeding season would certainly help.