

A Birding Interview

Paul Ehrlich, Birds, and the Environment

Ecologist Paul R. Ehrlich has been a pioneer in investigating the dynamic relationships among populations, resources, and the environment. He is Bing Professor of Population Studies, President of the Center for Conservation Biology, and Professor of Biological Sciences at Stanford University. Ehrlich has authored or coauthored hundreds of scientific papers and more than forty books about science and society, including *The Population Bomb*, *Birds in Jeopardy: Imperiled and Extinct Birds of the United States and Canada*, *The Birder's Handbook*, *Human Natures*, and *One With Nineveh: Population, Consumption, and the Human Future*. He and his wife Anne reside in Stanford, California.

Birding caught up with Ehrlich for a wide-ranging interview on the current status and future prospects of bird populations.

— Noah K. Strycker

Birding: How do human and bird population dynamics relate to one another?

Paul Ehrlich: The relationship is best described as a negative correlation. With some exceptions, as human numbers increase, bird numbers tend to decrease. Habitat destruction, as expanding human populations seek food, fiber, fresh water, shelter, and industrial goods, is the main cause. People pave over and plow under habitats utilized by birds, they modify habitats through diverse activities ranging from driving all-terrain vehicles over them to clear-cutting forests and sousing lakes with acid rain. Each person added to the human population, all else being equal, contributes significantly to climate change, which, in turn, adds to the threats to avian habitats. People also kill birds deliberately in large numbers for food or their feathers. Songbirds are still hunted in parts of Europe. On Pacific Islands, *Homo sapiens*, arriving a millennium or so ago, was responsible for nu-

merous extinctions of Moas, flightless rails, and other birds, as human populations invaded and expanded on island after island. In North America the Passenger Pigeon, hunted for meat and sport, quickly declined from populations of billions to extinction. Human beings are still exterminating populations in tropical forests, where growing numbers of skilled hunters with firearms rapidly decimate the guans, pigeons, and other birds in local areas. The exceptions are, of course, bird species that thrive in human-disturbed areas or that are introduced to novel and suitable habitats—starlings, many parrots, and so on. Birds that are deliberately fed, like Currawongs and Rainbow Lorikeets in Sydney, Australia, build huge populations in the presence of growing numbers of people. And some birds, such as many North American ducks, benefit from efforts of hunters to maintain habitat so that waterfowl populations will remain large.

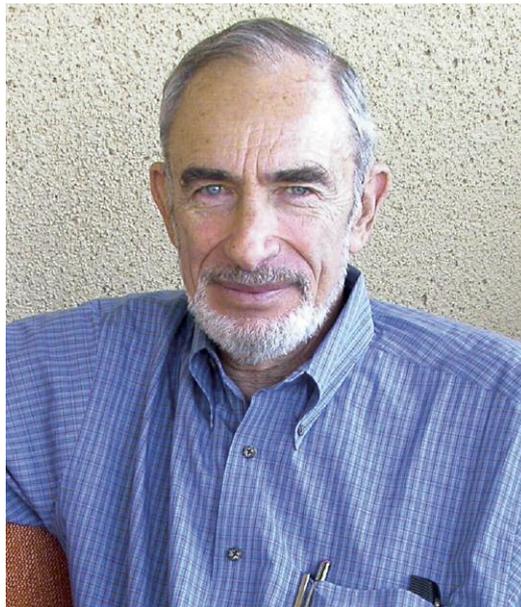
Birding: You are an outspoken advocate for environmental stewardship. What influenced you to develop these values? Do you consider yourself a pessimist?

PE: My mother encouraged me to enjoy nature as a butterfly collector and tropical fish breeder. I became aware of environmental problems after World War II when I was horrified by the effects of habitat destruction and overuse of pesticides on butterfly populations. My interest in birds started when I was a kid living with the Inuit in the Arctic, where I photographed nesting Long-tailed Jaegers and other tundra birds. It developed further as our Center for Conservation Biology began to do research on birds—it was actually Jared Diamond who persuaded me to pay more attention to them—and it was clear they are excellent tools for tracking the fate of biodiversity and encouraging public interest in that fate. I'm an optimist

when I think about what humanity *could* do about our environmental situation, and a pessimist about what we *will* do. My pessimism deepens daily. I recently read that American historians declared President George W. Bush to be the worst president in history—even though they are mostly ignorant of his administration’s large-scale and potentially lethal assault on our life-support systems.

Birding: As a professor at Stanford University, what do you try to instill in your students?

PE: The main thing is always to be in the “question and test” segment of society, not the “believe and obey”. I tell them not to trust me, but to check for themselves. I also try to inform students of key points in environmental science, for example that the multiplicative drivers of our ecological predicament are population growth, over-consumption among the rich, and the use of ecologically faulty technologies and dependence on socio-economic-political arrangements that are unsustainable. And I try to give them a broad overview of human evolutionary history and our interactions with the environment. I hope they all leave Stanford being able to explain the importance of ecosystem services—climate regulation, soil generation and maintenance, pollination, natural pest control, seed dispersal, aesthetic values, and so on—that support our lives.



Paul Ehrlich.

Birding: What is your forecast for bird species survival by the end of this century? What are the implications for human beings?

PE: Unless humanity changes course, a substantial proportion of bird species will be extinct by the year 2100. More important, an even greater proportion of coherent bird populations will be gone. It is bird populations that provide ecosystem services. A tropical tree dependent on a certain bird species to disperse its seeds will not get that benefit if all the populations of that bird within 50 miles have been exterminated—even if the species persists elsewhere. I would love to see an Ivory-billed Woodpecker, but population extinctions have reduced my odds of doing so dramatically, even if the species does still persist in some southeastern swamp or in Cuba. As bird populations disappear,

more and more places will find their springs increasingly silent.

Birding: What is the relationship between science and society?

PE: Science—along with technology—is at least half of human culture, which can be roughly defined as humanity’s store of non-genetic information. One of the tragedies of our society is that most people, and especially political leaders and business decision-makers, are largely ignorant of science. It is clear, for example, that no major figure in the current U.S. administration could give a coherent picture of how the climate system works or the importance of ecosystem services. At the same time, science is a social activity, and scientists in general do

not put enough time into explaining their techniques and results in terms accessible to laypersons. As an example, it is commonly heard that we should do nothing about climate change because science hasn’t “proven” it is dangerous and there is still uncertainty about what will happen. But science never proves anything, and there is always residual uncertainty in any scientific theory.

Birding: What do we still have to learn about birds? What do you most want to know?

PE: There are huge questions still to be answered about avian ecology and evolution. We know virtually

nothing of the ways populations of most species are arranged in space and change in size through time. I most want the answer to a question that I am exploring with my colleagues Cagan Sekercioglu and Gretchen Daily. We have shown that many tropical “forest” birds live in deforested mixed agricultural countryside areas. But we do not know whether countryside areas are population “sinks”—that is, places where the birds will persist only if they receive a constant flow of immigrants from remaining forested areas. This is a major question in countryside biogeography, a new discipline Daily invented. Reserves are inadequate to preserve the populations necessary to maintain our ecosystem services, and countryside biogeography focuses on ways to make areas already substantially disturbed by human activities more hospitable to birds and other elements of biodiversity.

Birding: To make a difference, how can birders think globally and act locally?

PE: Locally, a primary task is to do everything possible to preserve areas of natural and semi-natural habitat. But the single most important thing a birder can do today for both birds and his or her children and grandchildren is political. We must work furiously to get rid of the current U. S. government and its anti-environmental policies, and to make it clear to its replacement that environmental security (including epidemiological security) is at least as important as military security.

Birding: What has been your most significant environmental achievement? What do you want to accomplish in the next 15 years?

PE: To help bring environmental issues, and especially the causes of population growth and the ecological dangers of nuclear war (“nuclear winter”), to wide public attention. Over the next 15 years I hope to learn enough about cultural evolution to find ways to bridge the vast gap between what the scientific community knows needs to be done about the human predicament and what the public and policymakers are willing to do.

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