

CHAPTER 10

WHAT INDIVIDUALS CAN DO TO HELP CONSERVE BIODIVERSITY

Jeffrey A. McNeely, Eleanor Sterling, and Kalemani Jo Mulongoy

Be the change you want to see in the world.

—MOHANDAS K. GANDHI

WHAT ARE WE DOING TO OUR PLANET?

The Millennium Ecosystem Assessment, the most comprehensive inventory of the status of Earth's natural resources, documented early in 2005 that the "ecological footprint" of human beings is becoming ever larger: Our increasing population and consumption of resources are altering and destroying ecosystems at an unprecedented rate.¹ The assessment concluded that human activity has disrupted natural ecosystems more extensively in the past fifty years than in the entire course of human history, as large areas on all continents have been converted to farmland, forests have been felled for timber and to make way for pasture and the growing of crops, and the seas have been plundered for fish and other marine products.

The concept of one's ecological footprint is a useful metaphor that may help people understand the necessity of living their lives sustainably. It seeks to quantify how much biologically productive land area a particular human population, whether it is an individual, a city, a region, or a nation, uses to produce all the resources it consumes and to absorb all its wastes, taking current technologies into account.² The Global Footprint Network estimates that humanity's ecological footprint is now more than 20 percent larger than the planet can support at any one time, so we are,

(left)

Photo of Man in Haikou, China, with Plastic Bottles for Recycling. (Courtesy of Reuters/China Photo.)

in essence, living on 1.2 Earths. Another way to conceptualize our footprint is to consider it in terms of the time necessary for Earth to regenerate what we use. By this framework, it now takes fourteen months for Earth to produce the goods and services that we use up in a single year. Recent estimates have found that North America's ecological footprint is just more than 9 hectares (slightly more than 22 acres) per person; for Western Europe it is about 5 hectares (12.4 acres) per person, and for Asia-Pacific and Africa it is around 1 hectare (almost 2.5 acres) per person. In other words, the average North American has an ecological footprint almost ten times as large as the average African, and more than 4.5 times the footprint that each person on Earth would have to average for human activity to be sustainable.

More than 1.7 billion people are now members of the "consumer class," nearly half of them living in developing countries.³ Much of their consumption is geared toward goods that are enjoyable but that are not essential for survival. For example, as of 2003, the United States had more private cars than licensed drivers. A comparison of the funding necessary to provide sufficient food, water, and education for the world's poorest people versus what we spend on luxury goods, such as perfume, makeup, cruise vacations, and cosmetic surgeries, is humbling. For example, according to the Society for Aesthetic Plastic Surgery, 1.8 million cosmetic operations were performed in 2003 in the United States alone (and there were an additional 6.4 million nonsurgical cosmetic procedures, e.g., Botox injections), while tens of millions of people in Africa received no health care at all.⁴⁻⁶

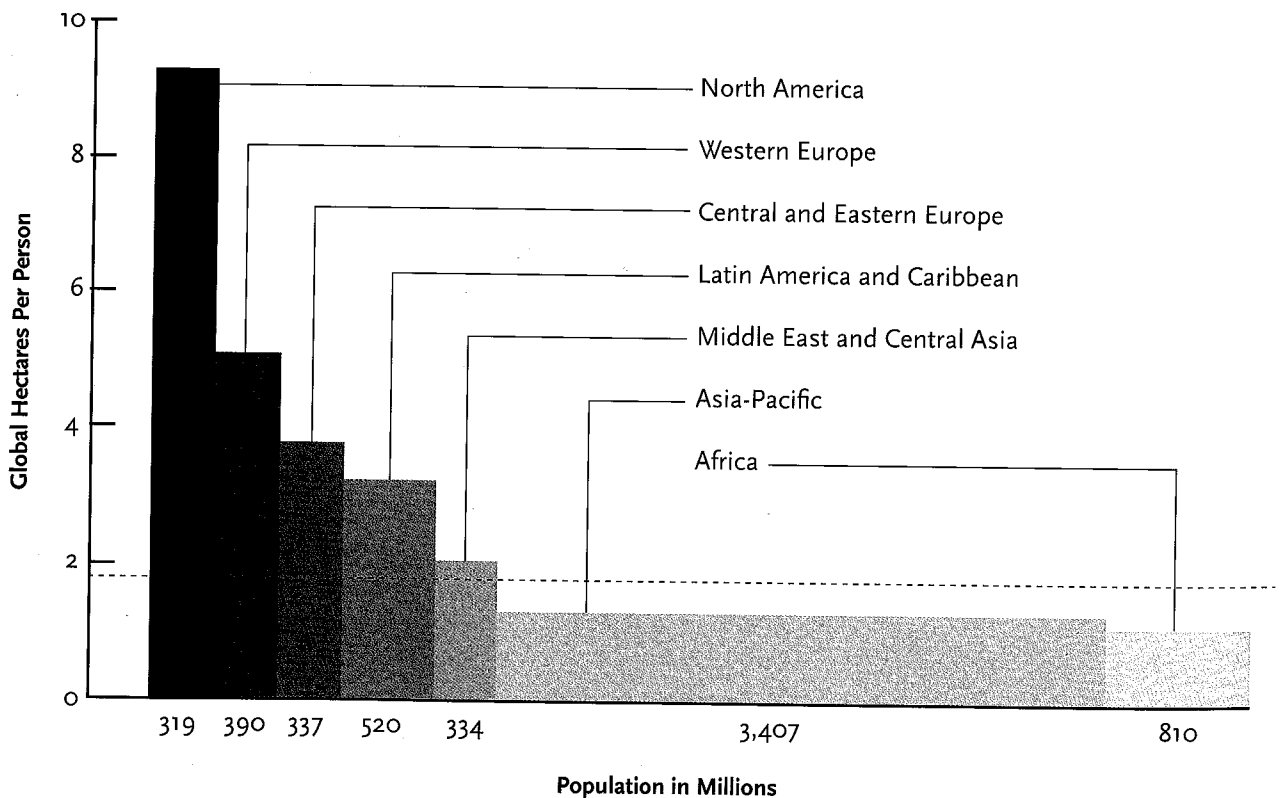


Figure 10.1. "Ecological Footprint," by Region (2001). The dashed line at about 1.8 hectares (almost 4.5 acres) indicates the individual footprint, expressed as the amount of biologically productive land that each person on Earth would have had to average for the total footprint of the world's population to be sustainable. This figure is based on 2001 world population numbers. Today, with greater population, this area would be less. (From Global Footprint Network, National Footprint Accounts, 2004 edition, www.footprintnetwork.org.)

As described in chapter 1, the loss of habitat on land, in lakes and streams, and in the oceans; the release of pollutants into the air, soils, and water; the depletion of the stratospheric ozone layer; invasive species; global climate change; and overfishing, overhunting, and, in general, overexploitation of natural resources all ultimately disrupt the healthy functioning of both natural and domestic ecosystems and threaten the survival of other species. But these alterations to the global environment are the result of human decisions and human behavior, and just as human actions have damaged the global environment, so, too, can they work to preserve and restore it. Many people may feel that they cannot do anything to help solve environmental problems, that the problems are too large, too complicated, and too well entrenched. The authors of this chapter and the editors of this book believe that individuals can make enormous and critically important contributions to protecting the global environment, and that it is never too late to do so. In this chapter we detail some of the things that individuals can do.

WHY DO WE CONSUME SO MUCH?

All of us aspire to achieve a good quality of life for ourselves and for our children. The problem lies in defining what “good” is and in identifying how to get there. What seems the right decision for us individually in the short term may not be the best one for others, including our children, in the long term. We must begin to recognize that almost every action we undertake has some direct or indirect effect on the environment in general, and on biodiversity in particular. This is difficult for many of us to do, given how increasingly removed we have become from the ecosystems that sustain our lives, especially those of us in urban centers in industrialized countries. And, with the global human population estimated by the United Nations to reach nine billion before leveling off by the middle of the twenty-first century,⁷ the cumulative effects of human activity on the environment are potentially catastrophic—as the trends highlighted by the Millennium Ecosystem Assessment have so clearly indicated.

Consumption in and of itself is not the problem. Humans need to consume to survive, and in fact, the 2.8 billion people in the world who live on less than \$2 per day need to be able to consume more than they do now. Trouble arises when we, individuals and whole populations alike, so overconsume and waste resources, especially those that are nonrenewable such as fossil fuels, that we end up outstripping the ability of Earth to support us. Several factors underlie this drive to consume more than we need. Cultural norms and social influences compel us to dress as our peers do, or drive cars and live in houses that are similar to theirs. Artificially cheap energy and technological advances have made possible an excess of all kinds of goods available to the consumer. Improved transportation brings to consumers in Boston, for example, apples from New Zealand, avocados from Chile, cocoa from Côte d’Ivoire, clothing made in Malaysia, and electronics from China. We find it hard to resist this cornucopia of goods, which seem to arrive effortlessly on our doorsteps, promising luxury and material comfort and which appeal so strongly to our innate desire for pleasure.^{3,5}

region's groundwater system. Mr. Rivas and Mr. Pena formed an organization called *Sobrevivencia* that mobilized these communities to assess the impacts of another project, the *Hidrovia* navigation project, that planned to develop a shipping channel using 3,400 kilometers (about 2112 miles) of the Paraguay and Paraná river systems. This project would have had an adverse effect on communities in Paraguay, Argentina, Bolivia, Brazil, and Uruguay and would have endangered the Pantanal, the world's largest wetland area. *Sobrevivencia* led a coalition of 300 groups of indigenous people, communities that would be affected, and environmentalists. They developed a traveling educational campaign about the impacts of the project and filed a claim with the World Bank and the Inter-American Development Bank asking them to investigate possible violations by *Hidrovia's* environmental and resettlement policies. This action led to the creation of a new model for evaluating development projects. Oscar Rivas and Elias Diaz Pena won the 2000 Goldman Prize in Rivers and Dams for their work.

TEN THINGS WE ALL CAN DO THAT CAN HELP CONSERVE BIODIVERSITY

1. Take public transportation, bike, walk, or carpool to work at least one day a week, and if you do drive by yourself, drive the most energy-efficient vehicle you can afford.
2. Buy food, preferably organic food—vegetables, fruits, dairy, eggs, and meat—from a farmers market at least one day a week.
3. Eat sustainably harvested seafood and farmed fish that is herbivorous, such as catfish, tilapia, and shellfish. Avoid farmed carnivorous fish such as salmon and shrimp.
4. Install at least one compact fluorescent light bulb in your home—it will save roughly \$40 in electricity and replacement bulb costs and reduce carbon emissions by 700 pounds (about 318 kilograms) each year.
5. Turn off lights in empty rooms.
6. Lower the thermostat by at least 1 degree Fahrenheit (about 0.6 degrees Celsius) in winter.
7. Stop using herbicides and pesticides on your lawn.
8. Learn the environmental positions of all those who represent you in government, and support those candidates who have the best records and the best platforms.
9. Tell everyone at home, school, place of worship, and work about what you are doing to conserve biodiversity and ask them to join you.
10. Above all, do not waste—reduce your consumption, buy only what you really need, and reuse and recycle whatever and whenever you can.

NEVER DOUBT THAT A SMALL GROUP OF
THOUGHTFUL, COMMITTED CITIZENS
CAN CHANGE THE WORLD; INDEED, IT'S
THE ONLY THING THAT EVER HAS.

—Margaret Mead

