



PROTECTING ENVIRONMENT

Life depends on life. Fresh air, clean water, natural habitats, vegetation and agriculture are essential to healthy ecosystems. When nature's balance is disrupted, life can be snuffed out. The Industrial Revolution, a burgeoning human population, and the widespread use of fossil fuels tipped nature's balance in the last century. The success or failure of efforts to restore that balance will define the next century.

Big environmental issues start at the ground level—in our homes, at our businesses and farms, on our streets, among our families, and within our native wildlife. Individuals can spark change, starting positive trends and letting them grow to improve quality of life for every person, plant and animal.

Around the world, the ecosystems that recharge and cleanse the earth are in jeopardy. While people have taken pains to identify and protect individually threatened species, each component of an ecosystem is connected. When an invader species is introduced, or a native species eliminated, a destructive chain reaction takes place. Damage to any part of the environment threatens the entire system.

Preserving habitats—and the resources we harvest from those habitats—requires a holistic approach. Everyone can help.

“In the long and tortuous evolution of the human race on this planet a stage has been reached when, through the rapid acceleration of science and technology, man has acquired the power to transform his environment in countless ways and on an unprecedented scale.”

United Nations
Conference on the Human
Environment
Stockholm 1972

Michigan
community foundationsSM

For **good.** For **ever.**[™]

FAST FACTS ON THE ENVIRONMENT

Energy use Americans represent less than 5 percent of the world's population but consume nearly 25 percent of the world's energy.¹ Much of this energy comes from non-renewable, toxin-emitting fossil fuels. The U.S. Energy Information Agency estimates that energy from renewable sources makes up just 6.4 percent of that consumed in the United States.²

Water use Only 1 percent of the earth's water is available for drinking. Another 2 percent of fresh water is frozen. The rest is salt water, polluted, or otherwise unfit for drinking. In 1990 alone, industries released 197 million pounds of toxic chemicals into waterways.³ Experts say the pollution can remain in groundwater for several thousand years.⁴

Deforestation Close to 50 percent of the world's forest area has vanished in the last century. Each year, a cumulative forested area the size of New England disappears.⁵

Habitat destruction Many habitats that help the earth cleanse itself are being destroyed. Riparian habitat, for example, is the vegetation and other life at a river's edge that help purify water, reduce erosion, and hold off floods. The U.S. Fish and Wildlife service estimates 70 percent of this habitat in the U.S. has been lost or altered. American wetlands are also disappearing. Wetlands the combined size of California, Nevada and Oregon have been filled, dredged or converted into channels. A third of the world's freshwater fish are endangered, vulnerable or extinct.⁶ Habitats are also charged with pollution. Toxins intensify as they move through the food chain, preventing animal reproduction, hindering embryo development and causing stillbirths. They make bird eggs brittle and less likely to hatch. Every animal or plant that disappears from an ecosystem means a loss of food source or predator for other members of the system.

Waste and recycling The United States leads in this area, recycling 24 percent of its waste in 1995. Switzerland and Japan follow at 23 percent and 20 percent.⁷ The U.S., however, also leads the industrialized world in generating waste. Each day in 2003, Americans produced 4.5 pounds of waste per person, up from 3.7 pounds in 1980 and 2.7 pounds in 1960. Canadians produce 3.75 pounds per person per day, and people in the Netherlands produce 3 pounds each per day. Though the number of landfills in the U.S. is decreasing, these dumping sites are growing larger than ever.⁸

Emissions The U.S. is responsible for 23 percent of the world's emissions of carbon dioxide, the primary greenhouse gas that contributes to global warming.⁹ In 2003, U.S. greenhouse gas emissions were 13.4 percent higher than in 1990.¹⁰ Global warming has implications beyond rising temperatures. Scientists say it alters traditional weather patterns, increasing the number and severity of droughts and floods. Rising sea levels may seep into near-coastal water sources, contaminating the drinking supplies of major metropolitan centers. Global warming may alter the delicate balance of plant and animal habitats, starting a domino effect of extinction and impact on human lives.¹¹

Human health Air pollution, absorbed through the skin or intestines or inhaled into the lungs, has been linked to human health risks. According to the Environmental Protection Agency, over half of the U.S. population live in areas exceeding national ambient air quality standards for ozone, nitrogen dioxide, sulfur dioxide, and particulates. In recent years, the number of people with asthma—now accounting for 5 percent to 10 percent of the U.S. population—has increased greatly, as has the number of asthma-related deaths. In the last 20 years, the number of people hospitalized for asthma has increased by half, and asthma deaths number 5,000 per year.¹² Pollution is strongly linked to lung cancer and heart disease, according to a 16-year study of 500,000 people from a cross-section of cities across the U.S. and Puerto Rico.¹³ Depletion of the ozone layer by greenhouse gas emissions has also led to increased cases of skin cancer. Each year, more than 9,000 people in the U.S. die of skin cancer, and an estimated one million new cases are diagnosed.¹⁴

In everyday behaviors and choices, each person has an opportunity to improve the natural environment. Philanthropists, like policymakers and thought-leaders, have a special role to play—employing science to uncover environmental threats, spread awareness, and mobilize communities toward sustainable lifestyles and ways of doing business.

¹United Nations Statistical Office, 1995. ²Feder, Barnaby J. "A Different Era for the Alternative Energy Business," *The New York Times*, May 29, 2004. ³American Water Works Association. *25 Facts About Water*, 2005. ⁴The Fresh Water Society. *Water facts*, 2003. http://www.freshwater.org/water_facts.html. ⁵World Resources Institute, 1997. ⁶National Wild and Scenic Rivers System. ⁷Environmental Protection Agency. ⁸U.S. Environmental Protection Agency. ⁹WorldWatch Institute, 1998. ¹⁰U.S. Department of Energy, 2003.

¹¹Pacific Institute, 2003. ¹²National Center for Health Statistics, 1998. ¹³C. Arden Pope III, et al. "Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution," *The Journal of the American Medical Association*, 2002.

¹⁴American Journal of Nursing, 2000.