

# THE NOBLE MISSION

## Saving the Diversity of Life on Earth

Today, amidst the bustle and noise of everyday life, we are quietly losing our most precious heritage, the diversity of species that inhabit the Earth. Between one-fifth and one-half of all species on the planet are threatened with extinction in the course of one generation. We have not seen such a funeral march for the animals in sixty-five million years, when the dinosaurs died out. Yet this time the animals are not dying because of an act of nature. This time it is humans who are driving massive numbers of species off the face of the Earth.

By early in the next century, we may have lost a million or more species. This extinction crisis is a threat to civilization second only to the threat of thermonuclear war. If living strand after living strand of the web of life is cut, at some point, the whole web will suddenly collapse. We continue to cut, even though we do not know what that point may be. We are playing Russian roulette with the survival of our own species.

Once a species is lost, it is lost forever. The unique nature and potential of each lost species will be lost for all the ages to come. Its evolutionary secrets will never be known. Its kind will never give birth again. This horror beyond description must be stopped.

It is time to set forth on a new mission, as noble as has ever been undertaken since the dawn of civilization: to save the stuff of life itself. Profound issues are at stake. The loss of species is irreversible, alarmingly high, and rapidly accelerating. The issue is hotly debated in the United States, but its impact is global. The scientific, educational, governmental, corporate, and spiritual com-

munities have a stake in stopping this rush toward the awesome finality of species extinction.

It cannot be clearer: to save species, people must save the environment. When the Earth is stripped, degraded, poisoned, and destroyed, the animals perish. The question is not whether society will respond, but whether it will respond in time. For the animals, the hour is already late. Urgency is the order of the day. This is the decade of decision. This is the time to act.

Recently, Earth Day 1990 saw hundreds of millions of people from around the world proclaim their love for the Earth. They hoped that their tidal wave of human concern for the Earth and its creatures would transform the old order and begin the transition to a sustainable and humane society. They have wondered, as I have wondered, what it will take to inject a sense of urgency into the leadership of this nation and the world.

Must the last mountain gorillas, which Dian Fossey gave her life to save, become extinct?

Must the wild chimpanzees, which Jane Goodall is devoting her life to save, disappear forever from the trees?

Must the great whales be hunted down one by one until they no longer swim the seas?

Must the grizzly bears vanish from the mountains?

Must the great herds of elephants be machine-gunned and killed with absolute ruthlessness until they exist no more?



**Right:** Coral reefs contain a vast diversity of life. **Above:** Coral displayed for sale has been taken from a vulnerable ecosystem.

When will we have had enough? What will it take to awaken the leadership of our nation in order that these animals will be given the consideration and resources they need to survive?

### Habitat Loss and Fragmentation

Some 67 percent of all endangered, vulnerable, and rare species of vertebrates (including fish) are threatened by habitat degradation or loss. These factors pose the greatest threat to invertebrates and plants, as well.

However, the loss of habitat is not just a function of the numbers of acres destroyed. The fragmentation of wild lands also takes a heavy toll. When it decided to protect the spotted owl, for example, the U.S. Forest Service had to upwardly revise what con-

stituted a minimum viable population because the owl's habitat was so fragmented that inbreeding and the lack of genetic variation threatened its survival. In the United States, we are discovering that setting aside certain lands may create land areas isolating individuals from the larger pool of their own kind. Animals that live on islands have been particularly hard hit by extinction. That is why wildlife corridors become so critical.

Although newspaper headlines have often focused on Brazil and the rate of its tropical forest destruction, the pace of timber harvesting in our own country is proceeding even faster than market forces would dictate. Taxpayers are paying to cut down trees that were here long before this country was founded. I am convinced that the madness of this policy will be realized. The question

is: how much will be left by the time the policy shift is made?

### Rain Forests

More than 50 percent of the world's species live in tropical forests, and yet each new study reveals that the rate of deforestation is accelerating. In fact, tropical rain forests are being destroyed faster than any other natural community. The rain forest belt once covered five billion acres—14 percent of the land surface of the Earth. Humans have destroyed half of that amount. Of the remaining rain forest, Latin America has 57 percent, Southeast Asia and the Pacific Islands have 25 percent, and West Africa has 18 percent.

The rain forests are imperiled for a variety of reasons. These beautiful, wild places

are destroyed and degraded to provide for human wants and needs. The demand for beef, particularly for the export market, has led cattlemen to burn the forests down to provide pasture. The demand for wood products, especially by the wealthier nations, has propelled timber companies to cut the trees rapaciously, without concern for the future. The demand for iron, gold, and other minerals beneath the rain forests has incited the miners and extractive industries to get the jungle out of their way. The demand for energy to generate the power for an industrial society has triggered the building of huge dams, which are submerging thousands of square miles of one of the oldest and most complex ecosystems on Earth. The demand for new areas to settle destitute peoples, rather than provide for an equitable distribution of land and wealth, has forced slash-and-burn agriculture to become a way of life.

### Coral Reefs

Covering 15 percent of the world's coastline, coral reefs contain a vast diversity of life. They are the marine equivalent of the tropical forests, impressive in beauty and in the wild exuberance of life they support. Unfortunately, pollution from sewage and industry, sediment from deforested areas, run-off from agricultural and mining operations, damage from boats and tourists, and even dynamite for fishing are threatening the future viability of this fascinating ecosystem and its animals. In areas such as the Caribbean, spilled oil is the most widespread pollution problem. Interestingly, tank cleaning, ballasting, and other routine tanker operations are responsible for more oil pollution than are accidents.

### Wetlands and Mangroves

Wetlands, including the mangrove forests, are disappearing quickly. The United States has lost 54 percent of its wetlands. In Latin America, almost 20 percent of internationally important wetlands are threatened by drainage related to development activities. Often, the mangrove estuaries are being disturbed for aquaculture, rice fields, coconut plantations, and overharvesting for timber and fuel wood. Mangrove destruction has received little attention, yet mangroves provide habitat for terrestrial species as well as breeding places for many commercial species of prawns and fish.

The grand endeavor to save habitat is crucial for the large and beautiful animals, but it is also, perhaps, the only way we can really give protection to the huge number of species that are small, arguably ugly, un-cuddly, and uncharismatic. Biologists have

found that one tropical tree, for instance, may support 1,500 species of insects. Saving habitat works to save endangered species of plants. One out of ten tropical plant species has anticancer properties, yet most have not even been identified. So the mission to save the habitat of animals will have benefits we cannot even imagine, but we can be assured that they will be multidimensional, real, and extraordinarily significant.

### Exploitation and Poaching

Often acting synergistically with habitat loss and fragmentation, exploitation is threatening some 37 percent of all endangered, vulnerable, and rare species of vertebrates. Many species of cats, giant otters, and monkeys are being decimated for their pelts. Elephants, sea turtles, and rhinoceros are being attacked with a vengeance. The last five white rhinos in Kenya's National Parks were killed after heavily armed poachers overwhelmed armed rangers guarding the animals.

### Introduced Species

Another cause of extinction often underestimated is the introduction of alien or exotic species, which threatens 19 percent of all endangered, vulnerable, and rare species of vertebrates. Sometimes, the introduction of nonindigenous species is done intentionally, hoping to solve one problem but ending up creating a biological fiasco. The record on this front should give us serious pause before we unleash the new, patented organisms brought to us by biotechnology.

### Other Factors

Other factors contributing to the decline and potential extinction of species is captures for the pet, zoo, and research trades, incidental kills associated with highways, and entanglements in nets and plastics.

### Global Warming

Apart from these threats, a new one looms: global warming, which, by the middle of the next century, may team up with other environmental pollutants to rival habitat loss as the chief cause of extinction. Droughts, rising seas, disrupted rain patterns, changing vegetative cover, super hurricanes, and other vast global disturbances are some of the deleterious impacts that can be expected. Abnormally high seawater temperatures, for instance, may have contributed to coral "bleaching," which threatens the life of coral reefs.

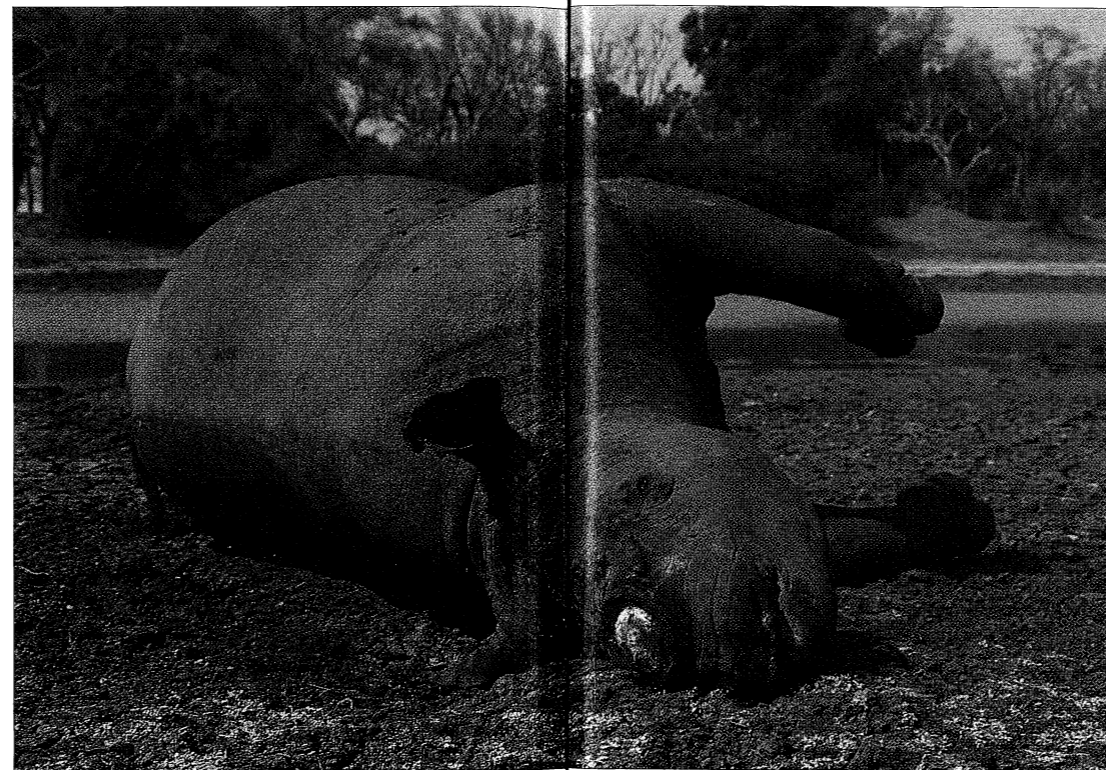
### Deeper Connections

While recognizing the immediate causes

of extinction, we must also pay attention to the deeper causes. As the population of the world rapidly increases and the consumptive appetite of people grows, the threat to wildlife becomes more alarming. In fact, if we cannot stabilize our world population and learn to live more gently on the Earth, all other plans to save species will be doomed.

Poverty and the unequal distribution of land ownership are driving people to use resources without regard to the long-term consequences.

These patterns of destruction are part of an old mentality that perceives the jungle as an obstacle to overcome, nature as a thing



to conquer, and uncontrolled development as a sign of progress. The old frontier mentality—that wilderness is so vast it has no limits—still holds sway.

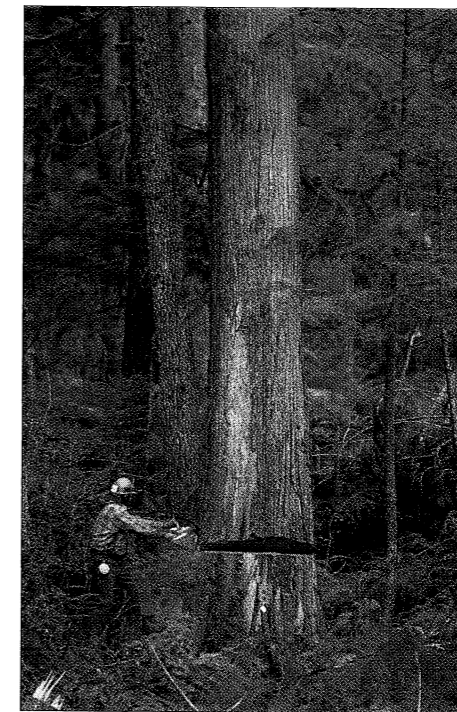
Instead of reducing, reusing, and recycling, industrialized societies are habituated to a throwaway mentality. The claim on resources made by these wealthier nations strains the world's ability to accommodate all who now exist in it.

Since these causes of extinction are not only additive, but also synergistic, we must approach the issues with a deep ecological understanding of their connectedness.

### Needed: A New Global Convention

We need to create and shine a spotlight on a new global convention on the conservation of biological diversity.

*Right: The destruction of old-growth forests threatens a myriad of species in the United States and abroad. Lower right: Habitat fragmentation can be particularly damaging to populations of large, wide-ranging animals such as bears. Below: Poachers attack with a vengeance extremely rare animals such as the black rhinoceros. Exploitation threatens many endangered, vulnerable, and rare species.*



This new convention should set forth an overall strategy that necessarily will involve each nation taking responsibility for the species within its territories. Governments must commit to realistic funding levels and mechanisms must be set forth that will transfer resources to poorer countries that hold much of the endangered wildlife. The scientific commitment must be greatly strengthened to provide inventories of animals, increased data for decision-making, and workable action plans.

As a part of this global convention, we need to expand greatly the use of "debt for nature" swaps. A major commitment to exchange the foreign debt of a country for an agreement to protect habitat could save millions of acres of land and the species that depend on this land.

Federal legislation, aimed at preserving biological diversity, can make the United States a world leader on this issue. The Endangered Species Act needs to be strengthened, not weakened. However, as powerful as this law has been in protecting species, much more needs to be done.

Programs to protect endangered species at the state level have grown since 1977, when the first federal funds were allocated. In some states, the attorneys general have taken action to protect species.

The global imperative to stop the increase in greenhouse gases is important to people, animals, and plants. We need to heed the warnings and reduce the use of fossil fuels. We need a new national energy plan that emphasizes efficiency, conservation, recycling, and renewable, safe, and inexhausti-

ble energy sources.

Science teachers should ensure that students are literate about the interdependence of all things. Even the youngest child should learn about the web of life. We need a real renaissance, a flowering of scholarship in the fields of biology, botany, and the other natural systems that support life. Some say that we are coming to the end of the postmodern age with its emphasis on industrialization. Perhaps it is time to shift to a new environmental paradigm, where life is studied, appreciated, and revered.

The military needs to convert to a broader concept of national security, where all life is protected from environmental assault whether from land, air, or sea. We need fewer military contractors and more environmental contractors.

Corporate behavior should be evaluated. The recent decision regarding "Dolphin Safe" tuna demonstrates that consumer power does make a difference.

This crusade is not just about the utility of animals to humans; it is about the spiritual challenge of recognizing that we are the environment and we are the animals. In the destruction of animals, we see our own.

During this environmental decade, the fate of millions of species will be determined. We are at the crossroads. Our own survival hangs in the balance. If the noblest instinct of them all is the reverence for life, then our nobility is being tested. If the greatness of a people can be measured in how it treats animals, then our greatness is being tested. If the greatest virtue of them all is compassion, then our virtue is being tested. This is, indeed, a profound test for our generation.

Failure would mean irreplaceable beauty irreversibly lost—a haunting hole in the fabric of Creation, a sadness stretching as far as the mind can imagine, as deep as the heart can endure. If we are to dream the new dream of a sustainable and humane society, we must prevent the apocalypse of the animals. So let us rise to the challenge and leave a legacy of love. We have sacred work before us. ■

*Jan A. Hartke is The HSUS's recently appointed vice president for environment.*

This article has been drawn particularly from *Keeping Options Alive: The Scientific Basis for Conserving Biodiversity*, and from *Conserving the World's Biological Diversity*, both published by World Resources Institute, IUCN, Conservation International, World Wildlife Fund-U.S., and The World Bank.