

international center for emergency environmental assistance. All these measures will help in solving these important problems and prevent from dangerous illnesses and diseases.

Nowadays there are many different pressure and groups in many countries, which try to find solutions to the problems of pollution at the national and international level. They are groups of people with a common interest in trying to draw the public attention to environment problems, to influence the government decisions.

## **THE EXTINCTION OF SPECIES**

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Massive extinctions have occurred five times during the earth's history, the last one was the extinction of the dinosaurs, 65 million years ago. Scientists are calling what is occurring now, the sixth mass extinction. A species that is in danger of extinction throughout all or a significant portion of its range. The main factors that cause species to become endangered are habitat destruction, invasive species, pollution, and overexploitation.

Although they are uncertain of the numbers, most scientists believe the rate of loss is greater now than at any time in the history of the Earth. Within the next 30 years as many as half of the species on the earth could die in one of the fastest mass extinctions in the planet's 4.5 billion years history.

A species that is in danger of extinction throughout all or a significant portion of its range. "Threatened species" is a related term, referring to a species likely to become endangered within the foreseeable future.

Habitat destruction is the single greatest threat to species around the globe. Natural habitat includes the breeding sites, nutrients, physical features, and processes such as periodic flooding or periodic fires that species need to survive. Humans have altered, degraded, and destroyed habitat in many different ways. Logging around the world has destroyed forests that are habitat to many species. This has a great impact in tropical areas, where species diversity is highest.

Although cut forests often regrow, many species depend upon old-growth forests that are over 200 years old; these forests are destroyed much faster than they can regenerate. Agriculture has also resulted in habitat destruction. In the United States, tallgrass prairies that once were home to a variety of unique species have been almost entirely converted to agriculture. Housing development and human settlement have cleared large areas of natural habitat. Mining has destroyed habitat because the landscape often must be altered in order to access the minerals. Finally, water development, especially in arid regions, has fundamentally altered habitat for many species. Dams change the flow and temperature of rivers and block the movements of species up and down the river. Also, the depletion of water for human use (usually agriculture) has dried up vegetation along rivers and left many aquatic species with insufficient water.

The invasion of nonnative species is another major threat to species worldwide. Invasive species establish themselves and take over space and nutrients from native species; they are especially problematic for island species, which often do not have defensive mechanisms for the new predators or competitors. Habitat destruction and invasion of nonnative species can be connected in a positive feedback loop: when habitat is degraded or changed, the altered conditions which are no longer suitable for native species can be advantageous for invasive species. In the United States, approximately half of all endangered species are adversely affected by invasive species.

Pollution directly and indirectly causes species to become endangered. In some cases, pesticides and other harmful chemicals are ingested by animals low on the food chain. When these animals are eaten by others, the pollutants become more and more concentrated, until the concentration reaches dangerous levels in predators and omnivores. These high levels cause reproductive problems and sometimes death. In addition, direct harm often occurs when pollutants make water uninhabitable. Agriculture and industrial production cause chemicals such as fertilizers and pesticides to reach waterways. Lakes have become too acidic from acid rain. Other human activities such as logging, grazing, agriculture, and housing development cause siltation in waterways. Largely because of this

water pollution, two out of three fresh-water mussel species in the United States are at risk of extinction.

In particular, the loss of species is caused by as the growing size of human populations, and the rate at which humans consume resources and cause changing climate. Global warming is already affecting species: migration is accelerating, the timing of the seasons is changing, and animals are migrating, hatching eggs, and bearing young on average five days earlier than they did at the start of the 20th century. In addition, some butterflies have shifted northward in Europe by thirty to sixty miles or more, species' ranges are shifting toward the poles at some four miles a decade, amphibians were spawning earlier, and plants are flowering earlier.

For many endangered species, a significant captive population exists in zoos and other facilities around the world. By breeding individuals in captivity, genetic variation of a species can be more easily sustained, even when the species' natural habitat is being destroyed. Some species exist only in captivity because the wild population became extinct.

## **DEFORESTATION**

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Deforestation is the conversion of forested areas to non-forest land use such as arable land, urban use, logged area or wasteland. Generally this removal or destruction of significant areas of forest cover has resulted in a degraded environment with reduced biodiversity. In developing countries, massive deforestation is ongoing and is shaping climate and geography.

Deforestation results from removal of trees without sufficient reforestation; however, even with reforestation, significant biodiversity loss may occur. There are many causes, ranging from slow forest degradation to sudden and catastrophic wildfires. Deforestation can be the result of the deliberate removal of forest cover for agriculture or urban development, or it can be an unintentional consequence of uncontrolled grazing (which can