

## Threats to Ecosystems

An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life. Ecosystems contain biotic or living, parts, as well as abiotic factors, or nonliving parts. Biotic factors include plants, animals, and other organisms. Abiotic factors include rocks, temperature, and humidity.

For thousands of years, people have interacted with ecosystems. Many cultures developed around nearby ecosystems. As human populations have grown, however, people have overtaken many ecosystems.

The tallgrass prairie of the Great Plains, for instance, became farmland. As the ecosystem shrunk, fewer bison could survive. Today, a few herds survive in protected ecosystems such as Yellowstone National Park.

In the tropical rain forest ecosystems surrounding the Amazon River in South America, a similar situation is taking place. The Amazon rain forest includes hundreds of ecosystems, including canopies, understories, and forest floors. These ecosystems support vast food webs.

Forest floor ecosystems support a wide variety of flowers, which are fed on by insects like butterflies. Butterflies, in turn, provide food for animals such as spiders in forest floor ecosystems.

Human activity threatens all these rain forest ecosystems in the Amazon. Thousands of acres of land are cleared for farmland, housing, and industry. Countries of the Amazon rain forest, such as Brazil, Venezuela, and Ecuador, are underdeveloped. Cutting down trees to make room for crops such as soy and corn benefits many poor farmers. These resources give them a reliable source of income and food. Children may be able to attend school, and families are able to afford better health care.

## Rebounding Ecosystems

Ecosystems can recover from destruction, however. The delicate coral reef ecosystems in the South Pacific are at risk due to rising ocean temperatures and decreased salinity.

Without the reef structure, the ecosystem collapses. Organisms such as algae, plants such as seagrass, and animals such as fish, snakes, and shrimp disappear.

Individual people, cultures, and governments are working to preserve ecosystems that are important to them. The government of Ecuador, for instance, recognizes ecosystem rights in the countrys constitution. The so-called Rights of Nature says Nature or *Pachamama* [Earth], where life is reproduced and exists, has the right to exist, persist, maintain and regenerate its vital cycles, structure, functions and its processes in evolution. Every person, people, community or nationality, will be able to demand the recognitions of rights for nature before the public bodies. Ecuador is home not only to rain forest ecosystems, but also river ecosystems and the remarkable ecosystems on the Galapagos Islands.

By Morgan Stanley