Die-Off Encyclopedia Article

Die-Off

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Die-Off

Die-offs are the massive, sometimes unexplained but always unexpected, disappearances of plants and animals. The most well-known is probably the die-off of dinosaurs, but dieoffs continue today in many regions of the world, including the United States.

Frogs and their kin are mysteriously vanishing in some areas, and scientists suspect that human alteration of ecosystems is partly responsible. On five continents, scientists in 19 countries have reported massive die-offs among amphibians. Frogs are good indicators of environmental change because of the permeability of their skin. They are extremely susceptible to toxic substances on land and in water. Decreasing rainfall in some areas may be a factor in the die-offs, as is **habitat** loss due to **wetlands drainage**. Other scientists are investigating whether increased **ultraviolet radiation** due to **ozone** depletion is killing toads in the Cascade Mountain Range.

Other multiple factors—such as **acid rain**, heavy metal and **pesticide** contamination of ponds and other surface water, and human predation in some areas—may be causing the amphibians to die off. In France, for example, thousands of tons of frog legs imported from Bangladesh and Indonesia are consumed each year.

Scientists also have recorded widespread declines in the numbers of migratory songbirds in the Western Hemisphere and of wild mushrooms in Europe. The decline in these so-called indicator organisms is a sign of declining health of the overall ecosystems.

The decline of songbirds is attributed to the loss or fragmentation of habitat, particularly forests, throughout the songbirds' range from Canada to Central America and northern South America. **Fungi** populations in Europe are dying off, and scientists think it is more than a problem of overharvesting. The health of forests in Europe is closely linked to the fungi populations, which point to the ecological decline of the forests. Some scientists believe that **air pollution** is also playing a role in their decline.

A massive die-off of millions of starfish in the White Sea has been attributed to radioactive military waste in the former Soviet Union. French scientists have recorded growing numbers of dead **dolphins** along the Riviera, probably due to **environmental stress** which left the animals too weak to fight off a **virus**.

Resources

Books

Gore, Al. *Earth in the Balance*. New York: Houghton Mifflin, 1992.

Periodicals

"Earth Almanac: Why Are Frogs and Toads Knee-Deep in Trouble?" *National Geographic* 183 (April 1993).