

Unknown Heroes

Tennessee's Endangered and Threatened Species

Few of us realize the valuable roles that wild plants and animals play in our lives every day and the benefits we gain from them. Yet many wild species are in trouble. Read on to learn how endangered and threatened species help us and how you can help them!



The tiny royal snail (E) lives in the dark cool "ooze" found on leaves and twigs in cool springs. The decline of the royal snail is a warning that water sources need our protection.



The disappearance of the peregrine falcon (delisted) was an early warning of the damage caused to food chains by persistent pesticides like DDT. Banning DDT in 1972 led to the recovery and the removal of the peregrine falcon from the endangered and threatened species list in 1999.

The oyster mussel (E) and other freshwater mussels help remove silt and pollutants from water and serve as food source for otters and muskrats. Where mussels thrive, the water quality is good.



The bog turtle (T) is threatened by the loss of its mountain bog habitat. These mountain wetlands are important for filtering pollutants from our water and helping absorb flood waters.

There are 101 endangered (E), threatened (T), and extirpated* species in Tennessee. * Species that no longer exist in Tennessee but are still surviving elsewhere. All photos credit: USFWS



The secretive smoky madtom (E) lives in only one stream in the Cherokee National Forest. The presence of such a fragile fish is an indicator of good water quality.



The Carolina northern flying squirrel (E) is adapted to the cold, harsh conditions of forests in the high mountains of east Tennessee. Its decline was one of the first warnings that the health of high-elevation forests is in jeopardy.



Each Indiana bat (E) can eat up to 1,200 insects each hour! Bats are the only major predators of night-flying insects, such as cucumber beetles and corn ear worm moths that feed on our food crops and mosquitos that feed on us!



The spruce-fir moss spider (E) is the smallest tarantula in the world. Venom from tarantulas is being researched as a possible treatment for Alzheimer's and Parkinson's diseases.



The rock gnome lichen (E) is extremely sensitive to air pollution. Where the lichen thrives, the air is good for people to breathe.



The Tennessee purple coneflower (E) is a member of the group of flowers widely known as "Echinacea." Today, Echinacea is relied upon worldwide to help ward off illnesses like the common cold.

Myths and Realities of the Endangered Species Act

You Can Help Protect Endangered and Threatened Species!

- Reduce what you use: reuse what you can; and recycle everything else.
- Support local, state, and national laws for clean air and clean water.
- Reduce the amount of chemicals that you use on your lawn, garden, and crops.
- Report illegal dumping.
- Plant native plants to benefit native wildlife and pollinators.
- Maintain plants along streams to prevent erosion and filter pollutants.
- Protect and conserve the environment for your kids and grandkids.

Remember, we drink the same water and breathe the same air as these species. We are connected!

The mission of the U.S. Fish & Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.



Myth:

Extinction is a “natural” process and we should not worry about it.

Reality:

Extinction is a normal process, but the current extinction rate is not. We are altering the air, water, and land faster than species can adapt. Since the Pilgrims landed at Plymouth Rock in 1620, more than 500 North American species have become extinct. That’s more than one species lost per year. Scientists estimate that the natural extinction rate is one species lost every 100 years. Each time we lose a species we lose part of the intricate web of life that sustains us. When a species is lost, the benefits it might have provided are gone forever.

Myth:

The Endangered Species Act is causing the loss of jobs and economic devastation in many areas of the country.

Reality:

Economists from the Massachusetts Institute of Technology analyzed the economic impact of endangered species. They found that states with many listed species have economies that are at least as healthy as those with very few endangered species. Even in the Pacific Northwest, where logging restrictions were imposed, in part, because of the northern spotted owl, the regional economy is booming. Three years after the curtailment of logging in Federal forests, Oregon posted its lowest unemployment rate in a generation.

Myth:

Thousands of private citizens have been prosecuted for harming or killing endangered species, even when it occurred accidentally.

Reality:

Most of the people prosecuted under the Endangered Species Act are illegal wildlife traffickers who illegally and knowingly collect rare wildlife and plants to sell for personal profit.

Myth:

Many irresolvable conflicts with endangered species occur every year, stopping many valuable projects and hindering progress.

Reality:

Of the 225,403 development projects that were reviewed from 1979 to 1996, only 37 were halted. That is one project stopped for 6,092 projects reviewed. In most cases, projects that were halted did proceed once the project design was modified to avoid endangering a species.

Myth:

Billions of tax dollars are being spent on endangered species.

Reality:

In FY 1996 the annual nationwide budget for the endangered species program was approximately \$0.06 billion. This amounts to an average of 23 cents per person in the United States. By comparison, Americans spent more than \$8.2 billion in 1992 on pets, pet food, and pet supplies, and the amount has grown since then (U.S. Bureau of the Census, Statistical Abstract of the U.S., 1997).

Myth:

Most endangered species are lower forms of life that have no value to humanity.

Reality:

Size and emotional appeal have no bearing on a species’ importance. Aldo Leopold, the father of wildlife management, said it well in his book, *The Sand County Almanac*:

“The last word in ignorance is the man who says of an animal or plant: ‘What good is it?’ If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.”

Remember, penicillin was discovered from a mold!