

Loss of Species and Ecological Integrity



River Network Collection

As of June 2005, there were 746 species of plants and 518 species of animals listed under the Endangered Species Act. Another 21 species of animals are proposed for listing. But the listing of species does not prevent extinction or even paint a full picture of the problem. A report by the Center for Biological Diversity found that 79 percent of all species that have gone extinct since the Endangered Species Act became law in 1973 were never listed as endangered. Scientists have identified almost 4,000 species in the U.S. that are sufficiently threatened to qualify for the list, according to Defenders of Wildlife. A recent report by the Nature Conservancy revealed that approximately one-third of U.S. plant and animal species are at risk of extinction.

The Natural Heritage Central Database lists 526 species as extinct or missing, never to be seen again in the United States. Alabama, with its species-rich waterways, tops the list of extinction-prone states, with 98

species already gone. Next is California, with 48 species presumed or possibly extinct.

Poor water quality is often a factor in decisions to list endangered species. Pollution is known to cause the accumulation of toxic substances that affect reproduction and growth in shorebirds, waterfowl and fish. The Nature Conservancy reports that freshwater species are five times more endangered than terrestrial species. Healthy freshwater ecosystems provide valuable habitat and natural services — such as water purification, plant and animal foods, nutrient cycling, and biodiversity maintenance — that are critical for overall ecological integrity. Improper water management decisions threaten all these values.



Using the Clean Water Act

- **Water Quality Standards** — Identify the threatened and endangered species in your watershed. Do the water quality standards properly designate uses that reflect the sensitivity of the threatened and endangered species? To protect the most sensitive species, identify water quality criteria for sediment (total suspended solids), temperature, heavy metals, petroleum byproducts (PAHs), bioaccumulative toxic pollutants, habitat, streamflow and biology. Are water quality criteria stringent enough to protect threatened and endangered species? (Chapter 1)
- **303(d)** — Do the streams in your watershed support threatened and endangered species and meet the water quality criteria? If not, or if they are threatened, make sure they are on the 303(d) list for the appropriate pollutants, problems and threats. (Chapter 3)
- **TMDL process** — Is there a TMDL scheduled or in progress in your watershed? Are the factors that have contributed to the species decline included as sources of the impairments? Have changes to permits and practices related to those factors been included in the TMDL implementation plan? If not, encourage your agency to include them. (Chapter 3)
- **NPDES** — NPDES permits and monitoring reports are the record of what is going into the water. To identify problems that affect threatened and endangered species, get a list of all discharges and compile a record of all the contaminants discharged into the water. This will help you to present the full picture to the agencies addressing the problems. (Chapter 2)
- **Antidegradation** — Before a state can issue any permits or allow any activity that will degrade water quality, an antidegradation analysis must be performed and subjected to public review. The antidegradation analysis can protect threatened and endangered species by enforcing the protection of existing uses. In addition, antidegradation review should lead to the protection and maintenance of high-quality and/or ecologically significant habitat. (Chapter 1)
- **Section 319** — This section of the Clean Water Act authorizes money to the states for projects that address nonpoint source pollution. Ask your state water quality agency how to apply for a 319 grant to protect habitat needed by threatened and endangered species in your watershed. (Chapter 6)

Using other laws (Chapter 10)

- **ESA** (p. 186) — Using the CWA and the Endangered Species Act (ESA) together can be extremely powerful. The ESA prohibits any activity that would result in harmful impacts to the species or its habitat.
- **Wild & Scenic Rivers Act** (p. 187) — Is any part of your watershed designated as a Wild and Scenic River? If so, use any protections associated with that designation that could require better land use practices and adequate streamflows to improve habitat quality for fish and wildlife.
- **Local land-use laws** — Local land use laws should conform to the protections granted all threatened and endangered species under the ESA. If land-use decisions are being made that will adversely affect any listed species, this should be brought to the attention of the federal management agency in charge (NOAA Fisheries or U.S. Fish and Wildlife Service).
- **CERCLA** (p. 186) — Are there Superfund sites in your watershed that may be affecting the health of the endangered species? If so, make sure the cleanup plans take the endangered species and the ESA process into consideration.
- **RCRA** (p. 185)— This law regulates hazardous and non-hazardous waste cleanup and disposal. Are there hazardous or non-hazardous landfills, abandoned facilities, or waste sources in your watershed? Check to make sure RCRA procedures are being followed and that risks to threatened and endangered populations are being recognized.