



# Endangered Species of the United States

## Teacher Lesson Plan Endangered Species Pre-Visit Lesson

**Duration:** 30-40 minutes

**Minnesota State  
Science Standard**

**Correlations:**

4.1.2.1.1, 5.3.4.1.3,  
5.3.4.1.3

**Wisconsin State  
Science Standard**

**Correlations:**

E 4.2, C.4.1, C.4.2

**Supplies:**

- 1) Map of the World
- 2) Copies of Endangered Species Cards (Appendix I) for each student
- 3) Copies of Map of the United States (Appendix II) for each student
- 4) Copies of Map Key (Appendix II) for each student
- 5) Scissors
- 6) Glue
- 7) Pencils

**Overview**

Students will learn the geographic location, population size, and status of 8 species of animals listed as endangered or threatened by the United States Fish and Wildlife Service.

**Objectives**

- 1) Students will be able to describe the different categories of endangered species.
- 2) Students will know the location of 8 threatened or endangered species found in the United States.

**Background**

When people imagine endangered species, they usually think of tigers and orangutans living in remote rainforests in Asia. What most people don't know is that endangered species can be found in every plant and animal group on the planet and in every ecosystem throughout the world. Most of the threats to endangered species come from habitat loss, poaching (illegal hunting), invasive species, and pollution. The country with the greatest number of endangered species is Ecuador with a total of 3,201 species of plants and animals being listed as endangered. The United States (1,278), Malaysia (1,226), Indonesia (1,206), and Mexico (1,074), make up the rest of the top 5 countries with the most endangered species.

| <b>Animal Class</b> | <b>Total Number of Species Evaluated</b> | <b>Number of Endangered Species</b> |
|---------------------|--|-------------------------------------|
| Mammals             | 5,487                                    | 1,219                               |
| Amphibians          | 6,260                                    | 2,030                               |
| Reptiles            | 2,829                                    | 594                                 |
| Birds               | 9,865                                    | 1,184                               |
| Fish                | 8,814                                    | 1,851                               |
| Invertebrates       | 9,526                                    | 2,858                               |
| Plants              | 12,914                                   | 7,748                               |

**Worldwide total of endangered species.**

# Endangered Species of the United States

## Procedure

- 1) Explain to students what an endangered species is and define the conservation categories (least concern, vulnerable, endangered, and extinct).
- 2) Show a map of the world and ask students where in the world they think the greatest number of endangered species can be found? Point to some of the countries where the highest number of endangered species can be found (minus the United States).
- 3) Give students some examples of endangered species. Ask them if they have ever seen a tiger? Tigers are an endangered species found in Asia. Have they ever seen an African elephant? Elephants are an endangered species found in Sub-Saharan Africa. Have they ever seen a jaguar? Jaguars are an endangered species from North, Central, and South America.
- 4) Tell them the United States has the second highest number (over 1,000) of endangered species in the world. Ask them if they have ever heard of a killer whale or a Canada lynx? They are both listed as endangered species in the United States.
- 5) Tell them they will each be getting a map of the United States along with cards for 8 endangered or threatened species. They will need to read the cards and figure out in what region of the United States the animal can be found. They then need to fill in the name of the animal on the correct line.
- 6) Next the students will make a map key by gluing the cards next to the correct number. This way they know which animal picture goes with the correct number and location on the map.
- 7) After they are finished, ask them why they think animals are endangered and what they think the biggest threats to wildlife are? Why do they think people put endangered labels on these animals? (*so they get special protections, funding, and conservation considerations*) Can they think of ways people can help recover endangered populations so they are no longer endangered? Why do they think it's important to learn about endangered species?
- 8) In 2012 a study was done by the Center for Biological Diversity called On Time, On Target (<http://www.esasuccess.org>) that showed 90% of the species on the United States endangered species list were recovering! There are species that have recovered enough to be removed from the endangered species list, such as the bald eagle and the peregrine falcon. The grey wolf is under consideration for delisting from the United States Fish and Wildlife Service (USFWS) with a population of 5,500 in the lower 48 states. Below are examples of animals that are listed as endangered by the USFWS, but whose populations are recovering.
  - a) In the Great Lakes region populations of piping plovers went from 17 breeding pairs in 1981 to 63 in 2007.
  - b) Thanks to efforts to preserve their habitat, the Kirtland's warbler went from 167 singing males in 1974 to 1,828 in 2011.
  - c) In 1967 the black-footed ferret was thought to be extinct, however in 1981 a small population was found living in Wyoming and all the individuals were taken in by zoos to breed the population as part of the species survival plan program (see important terms). Between 1991 and 1999, 1,200 ferrets were released back into the wild in Wyoming, South Dakota, and Montana. By 2012 there were 1,400 ferrets living in the wild.

# Endangered Species of the United States

## Assessment

- 1) How many endangered species are there in the United States? *Over 1,000.*
- 2) Name an endangered species found in Minnesota/Wisconsin? *Piping plover, Karner blue butterfly, Kirtland's warbler (WI).*
- 3) What are four categories of endangered species? *Least Concern, Vulnerable, Endangered, Extinct.*
- 4) What is one endangered species whose population is recovering? *Grey wolf, piping plover, Kirtland's Warbler, black-footed ferret.*

## Conservation Categories

The International Union for Conservation of Nature (IUCN) is a worldwide environmental organization that was founded in 1948. They encourage and assist societies throughout the world in their conservation efforts. They also maintain the IUCN Red List of Threatened Species which is the most widely accepted global listing of plant and animal species.



**Least Concern Categories** - No immediate threat of extinction. (lc=lower risk, nt=near threatened)

### Threatened Categories

**Vulnerable** - Faces a high rate of endangerment in the wild.

**Endangered** - Faces a high risk of extinction in the future.

**Critically Endangered** - Extremely high risk of extinction in the wild.

### Extinct Categories

**Extinct in the Wild** - Only survives in captivity, or as a wild population outside its historic range.

**Extinct** - A species that no longer has any living members.

## Important Terms

**Amphibian** - A cold-blooded (ectotherm), vertebrate animal that lays many soft, jelly-like eggs which allow for water and air to enter. Young are born with gills and metamorphose into adult animals that breathe through their skin. This group includes frogs, toads, salamanders and newts.

**Bird** - A warm-blooded (endotherm), vertebrate animal that lays hard-shelled eggs, is covered in feathers, has wings, and breathes through lungs. This group includes raptors, penguins, water fowl and songbirds.

**Ecosystem** - A community of living organisms who are connected by their environment (living and non-living components) and depend on each other for survival.

**Ectotherm (cold-blooded)** - Animals that rely on outside temperature for their body heat. They may raise their body temperature by moving to a sunny spot or lower their body temperature by moving to a cool spot.

**Endotherm (warm-blooded)** - Animals that generate their own body heat. They are able to raise their body temperature by shivering or eating to increase energy, or lower their body temperature by sweating or panting.

**Fish** - A cold-blooded (ectotherm), aquatic, vertebrate animal that lays many soft-sided, jelly-like eggs which allow water to enter. They are covered in scales, breathe through gills and have fins. This group includes sturgeon, lamprey, and carp.

**Insect** - An invertebrate animal with 6 legs and an exoskeleton. They breathe through holes in their exoskeleton and reproduce by laying eggs which then undergo either complete or incomplete metamorphosis until they reach adulthood.

**Invertebrate** - An animal without a backbone.

**Mammal** - A warm-blooded (endotherm), vertebrate animal with fur/hair that gives birth to live young, feeds its young milk, and breathes through lungs. This group includes dogs, cats, bears and cows.

**Population** - A group of plants or animals of the same species all living in the same area.

**Reptile** - A cold-blooded (ectotherm), vertebrate animal that is covered in scales, lays soft shelled eggs, and breathes through lungs. This group includes turtles, snakes, lizards and crocodilians.

**Species Survival Plan (SSP)** - The management of threatened or endangered species in zoos and aquariums to ensure their populations do not become extinct. (<http://www.aza.org/species-survival-plan-program/>)

**Vertebrate** - An animal with a backbone.