Endangered Species

Zoological Society of Milwaukee
4th-8th Grade Field Trip Packet

The Zoo is home to a large number of endangered animals. Help your students learn why animals become endangered and extinct, as well as what can be done to help species from extinction.

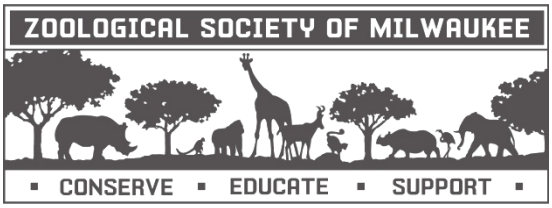
Objectives:

- Children will understand what it means when an animal is endangered.
- Children will be able to explain why animals become endangered.

WI Model Academic Standards - Science:

F.4.4 Using the science themes, develop explanations for the connections among living and non-living things in various environments

F.8.9 Explain how some of the changes on the earth are contributing to changes in the balance of life and affecting the survival or population growth of certain species.



This curriculum packet provided by the Zoological Society of Milwaukee County and the Ladish Company Foundation.

Teacher Background Information

Earth's rich variety of living things - its ***biodiversity*** - has been called its living treasure. Biodiversity includes all organisms, species, populations, genetic variations, communities and ecosystems. It also includes interactions within the environment.

The diversity of life on this planet is important to all creatures on earth. Each life is intertwined with many others. Each habitat is full of predators, prey and other organisms. Their interactions contribute to every detail of that habitat. Together they maintain its delicate balance. Every living thing contributes its own special strand to that web. If we lose one strand in this delicate web, everyone and everything is affected. Biodiversity is a strength and an indicator of a healthy environment.

Extinction is a natural process. Since life began on this planet countless plants and animals have gone extinct due to naturally changing conditions, natural disasters, and competition among species; 90% of the species that have ever lived are now extinct. The difference today is the **rate** of extinction. Scientists estimate that extinctions are occurring at 1,000-10,000 times the natural rate.

The world's leading scientific and environmental experts agree that the loss of biodiversity is one of the most urgent environmental problems we are facing. There are many human activities that result in the decline of species. If human activities are not conducted in a responsible, ecological manner, more species will become extinct. The main factors of endangerment and extinction are:

Habitat loss: Habitat loss is the primary reason species become endangered and extinct. It happens due to habitat destruction, fragmentation and degradation. If a habitat is altered too much it may not be able to provide the things animals and plants need to survive. Because most species have specific adaptations to help them survive in their habitat, they often cannot easily move to and survive in a new habitat.

Invasive species: Invasive species are those moved by humans to areas outside their native ranges. These transplanted species harm native species by competing with them for resources and often cause harm to the native species.

Pollution: Pollution is the introduction of a contaminant into the environment. It is created mostly by human actions but can also be a result of natural disasters. Pollution has a detrimental effect on living organisms in an environment. Land, air, and water are the primary kinds of pollution.

Population Growth: There are over 7.4 billion people living on earth. More people use more natural resources, thus available resources decrease.

Overexploitation: Overexploitation is the overuse of animal and plant species by people for food, clothing, pets, medicine, sport and many other purposes. People overuse plants and animals mainly through poaching (illegal hunting and killing) and pet trade (taking wild animals from their natural habitat to sell as pets). People have always depended on animals and plants, but now we are taking more than are available. If a plant or animal becomes extinct the ecosystem that organism lived in can be altered and food chains can be disrupted.

Classroom Activity: Endangered Species

What to do: Individually, or with a partner, complete the following table. Use books, magazines, and/or the Internet to find information.

	 **Ornate Box Turtle**	 **Amur Tiger**	 **Orangutan**	 **Black Rhino**
Native Habitat				
Why is it endangered?				
Efforts to save this animal				
What could happen if this animal becomes extinct?				

At Zoo Activity: Endangered Species Scavenger Hunt

1. **Rhinos are poached for their keratin horn. Where do people have keratin on their bodies?**

   _____

2. **What is the biggest threat to red pandas?** _____

3. **Amur tigers are critically endangered. What does "critically endangered" mean?**

   _____

4. **In the Aviary there is one bird that is almost extinct because of an invasive species to its island habitat. What is the bird, what island did it live on, and what was the invasive species?**

   Bird _____ *Island* _____

   Invasive species _____

5. **In the ARC find the endangered Wisconsin rattlesnake.** _____

6. **Lemurs are endangered. What island do they come from and why are they endangered?**

   _____

7. **How is climate change affecting polar bears?**

   _____

   _____

8. **List two reasons why many great apes are endangered.**

   i. _____

   ii. _____

9. **How is palm oil affecting orangutans?**

   _____

   _____

Endangered Species Extension Activities

Endangered Species of Wisconsin

Have students research endangered species in your region and/or state using resources like the Wisconsin DNR and other animal-related websites. To find out more about species survival efforts happening near you, contact your local Department of Environmental Protection, a local chapter of the U.S. Fish & Wildlife Service, and/or the zoos and aquariums in your region. Reports should include why the animal is endangered and what is being done to help protect it from extinction.

Endangered Species Poster

Choose an endangered or extinct species and create a series of diagrams showing species relationships in its ecosystem and what happens when one species is removed.

a) Draw a diagram showing what the animal eats, what other animals compete for the same food, and what animals eat the animal, its young, or its eggs. Other relationships you can portray in your diagram include **where the animal nests** (in a certain kind of tree, for example), **what other animals it competes for resources with**, and **what pollinators** (e.g., bees, bats) **are needed to pollinate its food plants**. Can you think of other relationships that are important?

b) Remove one of the species in the diagram and analyze what is likely to happen to the entire web of relationships. Draw a new diagram representing the new relationships.

Endangered Species Diorama

Create a diorama 3-D project using a box, and gluing objects on all sides of the box, of an endangered animal and its habitat. Write a description of the animal and its habitat.

Additional Resources

Eyewitness: Endangered Animals (DK Eyewitness Books) – Ben Hoare

National Geographic Investigates: Animals on the Edge: Science Races to Save Species Threatened With Extinction (National Geographic Investigates Science) – Sandra Pobst

Earth's Endangered Animals series – Bobbie Kalman et. al.

The Atlas of Endangered Animals: Wildlife Under Threat Around the World – Paula Hammond

At Zoo Activity: Endangered Species Scavenger Hunt Answers

1. Hair and fingernails
2. Habitat loss
3. So few left that they are almost extinct
4. Micronesian (Guam kingfisher), Guam, brown tree snake
5. Massasauga Rattlesnake
6. Madagascar
7. Polar bears are losing their habitat. Temperatures are increasing, causing there to be less pack ice for polar bears to hunt on.
8. Habitat loss, overexploitation (bush meat, pet trade)
9. Palm oil causes orangutans to lose their habitat. The orangutans' rainforest habitat it being cut down and replaced with palm oil plantations.