

Lesson C1–2

Describing Species Endangerment

Unit C. Animal Wildlife Management

Problem Area I. Introduction to Wildlife

Lesson 2. Describing Species Endangerment

New Mexico Content Standard:

Pathway Strand: Natural Resources and Environmental Systems

Standard: I: Recognize importance of resource and human interrelations to conduct management activities in natural habitats.

Benchmark: I-D: Employ environmental and wildlife knowledge to demonstrate natural resource enhancement techniques.

Performance Standard: 3. Demonstrate wildlife habitat enhancement techniques.

Student Learning Objectives. Instruction in this lesson should result in students achieving the following objectives:

1. Define endangerment and extinction.
2. Describe how wildlife becomes endangered and list examples of endangered wildlife.
3. Explain how endangered wildlife species are managed.
4. Describe the Endangered Species Act.

List of Resources. The following resources may be useful in teaching this lesson:

Recommended Resources. One of the following resources should be selected to accompany the lesson:

Stutzenbaker, Charles D. et al. *Wildlife Management Science and Technology*. 2nd ed. Upper Saddle River, New Jersey: Prentice Hall Interstate, 2003. (Textbook, Chapter Four)

Other Resources. The following resources will be useful to students and teachers:

Porter, Lynn, et al. *Environmental Science and Technology*. 2nd ed. Upper Saddle River, New Jersey: Prentice Hall Interstate, 2003. (Textbook and Activity Manual)

Lee, Jasper S. *Natural Resources and Environmental Technology*. Danville, Illinois: Interstate Publishers, Inc., 2000. (Textbook)

List of Equipment, Tools, Supplies, and Facilities

Writing surface
Overhead projector
Transparencies from attached masters
Copies of student lab sheets
Pictures of old hair and clothing styles
A cassette tape, record, or eight-track tape

Terms. The following terms are presented in this lesson (shown in bold italics):

Endangered species
Endangered Species Act
Endangerment
Extinct
Rare species
Threatened species

Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Bring to class pictures of old hair and clothing styles and bring in a music cassette, record, or eight-track tape. Have the students look at and listen to these items for the first few minutes of class. Ask them what they think of these items. Are any of them still popular or around today? Why or why not? Now pass around pictures of animals that are endangered. Ask them to think about what they are looking at. Why are they looking at pictures of animals? Explain that just like some fashions and forms of music recording

are no longer made, some species of animals no longer exist. But unlike big hair and eight-tracks, these animals cannot be replaced when they are gone. Prompt the class to come up with ideas for ways that we can keep these animals from becoming extinct. Then ask them to think about current fads and fashions that they think, or hope, will become extinct.

Summary of Content and Teaching Strategies

Objective 1: Define endangerment and extinction.

Anticipated Problem: What are endangerment and extinction?

- I. When a living thing can no longer adapt to the world it lives in it ceases to exist. A species that has disappeared from the earth is said to be **extinct**. Food shortages, pollution, destruction of habitat, and failure to reproduce are examples of how a species can become endangered and eventually extinct. **Endangerment** is any threat to a wildlife species that would cause its numbers to decrease. Both extinction and endangerment are natural processes caused by a number of factors.
 - A. A species of wildlife that is in immediate danger of extinction is called an **endangered species**. Many endangered species can be seen in zoos or wildlife preserves because they are no longer safe in the wild.
 - B. A species of wildlife that is likely to become endangered is called a **threatened species**. Populations of these wildlife species are low but are not in immediate danger of becoming extinct. Examples of threatened species of wildlife include the star cactus and the red wolf.
 - C. A species of wildlife that exists only in small numbers is called a **rare species**. The numbers of these species decline for many reasons. If a rare species is not managed well, it may eventually become threatened or extinct.

Use TM: C1–2A and TM: C1–2B to review the terms covered in this objective. To reinforce the understanding of these concepts, have the students make a flow chart listing these species from bad to worse. Explain that it is our responsibility as humans to help prevent these animals from becoming extinct.

Objective 2: Describe how wildlife becomes endangered and list examples of endangered wildlife.

Anticipated Problem: How does wildlife become endangered and what are some examples of endangered wildlife species?

- II. Wildlife can become endangered in a number of ways. The way humans treat the environment including polluting and urban sprawl can reduce the quality of life for many species of wildlife. The introduction of new species to an area and poaching are also examples of ways that wildlife populations can become dangerously low.

- A. An example of an extinct wildlife species is the passenger pigeon. Once flocking in large numbers, these birds no longer exist. They are extinct because their natural habitat, the eastern hardwood forests, were destroyed for human consumption. The loss of habitat meant there was no where for the birds to live, find food, or reproduce.
- B. An example of a rare species is the red wolf. True purebred red wolves only exist in captivity. Originally from the southern U.S., red wolves have become rare because of hunting, disease, and death due to being hit by cars.

Use the Internet or resource books to look up other species of wildlife that are rare or endangered. Have the students write one to two paragraph essays using the information they have found.

Objective 3: Explain how endangered wildlife species are managed.

Anticipated Problem: How are endangered wildlife species managed?

- III. Not all endangered species become extinct. Through good management, many threatened species can be repopulated and reintroduced to their natural habitats. Examples of ways that wildlife species can be repopulated include planting additional food sources, constructing safe environments where the animals can breed and give birth, reduce the use of chemicals in the environment, and move the species to other areas that are less polluted or less populated. Examples of animals that have gone from threatened to safe are the whooping crane and the brown pelican.

Have the students look up additional information about the animals discussed in this objective. Use this information in a class discussion regarding endangered animals and how to manage them more effectively.

Objective 4: Describe the Endangered Species Act.

Anticipated Problem: What is the Endangered Species Act?

- IV. The **Endangered Species Act** was a federal law established in 1966 that sets regulations regarding endangered and threatened wildlife species. In order to enact this law, the Congress provides money to the U.S. Fish and Wildlife Service to help support the care and management of these wildlife species. Examples of ways this money is used include purchasing land for wildlife habitats and studying wildlife populations. The Endangered Species Act also makes it illegal to harm any endangered species.

Begin a class discussion using this scenario: a farmer is being plagued by an endangered species of birds. These birds eat the crop and are costing the farmer a lot of money. He cannot kill the birds because this would be illegal. However, the local fish and wildlife agency has not been able to get to the farm and are too busy to help the farmer for a couple weeks. What can this farmer do? Why would this be frustrating? How can the farmer handle the situation so that the birds will go away? Have the class come up with meaningful ideas during this discussion. Write them on the board or have the students make lists to turn in.

Review/Summary. Following the lesson, review the anticipated questions and terms with the class. Use local resource people to discuss how this information impacts the local area.

Application. Use LS: C1–2A Endangered Wildlife Species Report to apply the information reviewed in this lesson.

Evaluation. Use the following sample test to evaluate the students' comprehension of the material covered in this lesson.

Answers to Sample Test:

Part One: Matching

1. a
2. c
3. b

Part Two: Completion

1. extinction
2. Endangered Species Act

Part Three: Short Answer

Any threat to a wildlife species that would cause its numbers to decrease.

Test

Lesson C1–2: Describing Species Endangerment

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

- a. endangered species
- b. rare species
- c. threatened species

- _____ 1. A species of wildlife that is in immediate danger of extinction.
- _____ 2. A species of wildlife that is likely to become endangered.
- _____ 3. A species of wildlife that only exists in small numbers.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

- 1. A species that has disappeared from the earth is said to be _____.
- 2. The _____ is a federal law established in 1966 that sets regulations regarding endangered and threatened wildlife species.

Part Three: Short Answer

Instructions. Provide information to answer the following questions.

Define endangerment:

- ◆ **Extinct: a species that has disappeared from the earth**
- ◆ **Endangerment: any threat to a wildlife species that would cause its numbers to decrease**
- ◆ **Endangered species: a species of wildlife that is in immediate danger of extinction**
- ◆ **Threatened species: a species of wildlife that is likely to become endangered**
- ◆ **Rare species: a species of wildlife that only exists in small numbers**

ENDANGERED WILDLIFE SPECIES



West Indian Florida Manatee



Indian Elephant



Gray Wolf



Humpback Whale



Greater Panda

Lab Sheet

Endangered Wildlife Species Report

Instructions:

1. Identify one species of wildlife plant and wildlife animal that are endangered. List them here:

plant _____ animal _____

2. Choose one of these species to write a one-page report about. Choice _____

3. Provide the following information in your report:

1. Scientific name of the species
2. Where the species originated
3. How the species reproduces
4. The source of food for the species
5. The environment the species lives in
6. How the species became endangered
7. What is being done to better manage the species
8. What I can do to help keep this species from becoming extinct