

America's Wildlife — Yesterday, Today and Tomorrow

Informal Activity: Unexpected Threats

Overview

Students will tour a local zoo or museum to identify animals that are in danger of extinction. They will have the opportunity to analyze the reasons for extinction and compare to their prior knowledge.

AFWA Core Concepts

- Loss and degradation of habitat are the greatest problems facing fish and wildlife; therefore, enhancing and protecting habitat is crucial to managing and conserving them.
- Conserving biodiversity is important.
- Regulated hunting, fishing and trapping are important tools for managing some wildlife populations and habitats.

Quick Look

Key Concepts: Conservation science, role of hunting/fishing

Age Range: 9–12

Minimum Group Size: 1

Activity Time: 2–3 hours

Prep Time: 1–3 hours first time; 5–10 minutes all other times

Setting: Zoo or museum

Vocabulary: Endangered, extinction

Objectives

Students will:

- Explore a local zoo or museum.
- Identify at least three animals that are in danger of extinction.
- Explain the primary threats to wildlife.

Materials

- Large index cards
- Markers
- Tape
- Dry erase board or chalkboard
- Clipboards
- Pens or pencils
- Paper
- Copies of the Primary Threats to Wildlife graphs.

Preparation

- Take a trip to the zoo or museum prior to visiting with students. During the pre-visit, walk the grounds and become familiar with the animals on display. Review the educational information and signage available for these animals. Does it indicate the animal's status, range, greatest threats to survival, and actions being taken to protect the animal?
- If this information is not available, you will need to supplement with animal fact cards. To make the fact cards, visit www.iucnredlist.org. Use the website's search feature to identify animals at the zoo that are endangered, critically endangered or extinct in the wild. Create a small card that includes a picture of the animal as well as the relevant information listed above. Laminate the cards so they can be used for future activities.
- Make a poster-sized image of each of the Primary Threats to Wildlife graphs. If this is not possible, then make a few copies of the graphs that can be distributed to students.

Background

The history of wildlife conservation and management in the United States can be broken down into two distinct philosophies. During the 1700s and 1800s, wildlife was largely viewed as an infinite resource. Very few laws were in place to prevent people from overusing this resource. As a result, at the beginning of the 20th century North America saw the **extinction** of some notable species, including the passenger pigeon and Carolina parakeet. In addition, species such as elk, deer and turkey — all of which had populations in the many millions before Europeans arrived — were down to dangerously low levels. This ushered in a new era of conservation.

Wildlife was viewed as a vital public trust, a resource that belonged to everyone yet was entrusted to the government to be managed for current and future generations. Not only was land set aside for wildlife conservation, but states began creating and enforcing laws regulating the use of wildlife.

Today, every state has an agency responsible for wildlife management. These government agencies monitor wildlife populations to assess their long-term sustainability. Whether the populations are too low or too high, these agencies develop and implement management strategies and enforce policies to help bring these populations to sustainable levels. This may include improving habitat to increase the suitable space available or moving animals from an overpopulated area to re-establish a population in a portion of its historic range. These agencies sell hunting and fishing licenses. The money from the sale of these licenses, along with revenue collected from taxes on hunting and fishing equipment, is used to fund these wildlife conservation activities. Meanwhile, hunters and anglers help manage wildlife populations that may be too large for the available habitat.

Overall, the strategies implemented over the past century or so have been successful. Elk, deer and turkey numbers have increased, with a million or more of each roaming the wilds of North America. Even with these successes, loss of the world's animal and plant species remains a significant environmental challenge.

Founded in 1948, the International Union for Conservation of Nature (IUCN) has attempted to detail this problem. The IUCN was the world's first global environmental organization and continues its work to find practical solutions to some of the world's most pressing environmental problems. One of those problems is the large number of **endangered** species — those plants and animals that are in immediate threat of becoming extinct. For more than three decades, the IUCN has been developing the Red List, the most comprehensive inventory of the conservation status of the world's species. One component of the IUCN Red List is to identify the primary threats to the survival of all plant and animal species. It is hoped that this information can be used by governments and conservation groups to prioritize conservation actions.

In this activity, students will explore a local zoo or museum, looking for animals that are in danger of becoming extinct. In the process, they will be given the opportunity to analyze their preconceptions about wildlife conservation. Prior experiences with popular media may have painted a view that conservation in the United States has been unsuccessful. In addition, they may have a misunderstanding that hunting is a primary reason for animal extinctions. By studying the primary threats to wildlife, students may be forced to challenge these views.

Reference:

International Union for Conservation of Nature website: www.iucn.org

Suggested Procedures

1. Ask the students to define the phrase “endangered species.” They should be able to explain it is an animal that is close to extinction. If they don't know what extinction means, be sure to clarify.
2. Have the students call out the names of different animals they think are endangered.
3. Ask students to think of reasons why animals might become extinct. Write each answer on an index card.
4. If the students have not mentioned “hunting,” ask students if they think hunting might be a cause. If they agree, write it on one of the cards.
5. Tape the cards on the walls around the room.
6. Review each of the potential causes with the students.
7. Ask students to stand in a line in front of the cause they think has been the worst for animals. Select a few students to explain their choices.

Instructor Talking Points

- North America retains a large amount of its native, or original, animal species, and this is largely due to unique conservation practices that have developed over the past two hundred years or so.
- Regulated hunting – that is, hunting governed by ethics and rules – has not resulted in the extinction of any species. In fact, hunting is an important part of managing wildlife populations to prevent them from getting too large.

8. Record the results of this activity on the board, perhaps in the form of a bar graph.
9. Inform the students that they will now have the chance to explore this idea in more depth. They will be walking around the zoo or museum trying to find animals that are in danger of extinction. The exhibit should have some signs or other materials to help them.
10. Hand out the clipboards, paper, pens and fact cards.
11. Inform them that once they have found an animal that is endangered, they need to collect some information. Explain that you want them to write down where the animal is found, the reason why its population is in jeopardy, and what actions are being done to help the animal. Indicate that the exhibit signs and the animal fact cards will help them answer these questions.
12. Give the students the opportunity to explore the zoo. Be sure to review the rules and expectations.
13. Once the students have had enough time to explore the zoo and collect their information, return to the classroom area.
14. Ask students to report their findings. Have different groups share information about one of the animals.
15. As the groups report, capture some of the information on the board. Write down the primary threats and identify the location of the animals by continent. Place a checkmark if a threat or location is mentioned more than once.
16. Once all the animals have been reported, ask students to review the information on the board. Potential discussion questions include:
 - a. Based on the information we collected, which parts of the world seem to have the most species in trouble? Why?
 - b. How does North America rank on that list? Does this surprise you? Why or why not?
 - c. What seems to be the greatest threat to species survival? Why? How does that compare to our original thoughts?
 - d. Where does hunting rank on that list? Does this surprise you? Why or why not?
17. Point out that we have to be careful with this information. We were only looking at a portion of all of the animals that are endangered. However, the information is still important and gives us valuable insight as to the causes for extinction.
18. Have the students look at the data collected on the board one more time. Explain that our initial look appears to show two trends developing:
 - a. Many of the species are not found in North America.
 - b. Regulated hunting does not seem to be the major reason for animal extinctions.
19. Explain that these data correlate closely with what scientists have observed through history. Address each of these points in a little more detail. Review some of the material included in the Background, focusing on the history of wildlife management and the role of the government in helping to manage wildlife. Point out that while regulated hunting has not caused extinction, it is a tool that helps manage healthy and sustainable wildlife populations.
20. Display the Primary Threats to Wildlife graphs. Briefly introduce the IUCN and explain that these graphs identify the major threats to birds, mammals, amphibians and reptiles. Ask students to look at the graphs and compare them to the data they collected. In what ways are they similar and different? What might explain any differences?
21. Conclude the activity by reviewing the key talking points.

Primary Threats to Wildlife

The tables below show the primary threats to the world's amphibian, bird, mammal and reptile species, according to the International Union for Conservation of Nature.*

Table 1: Major threats to amphibians

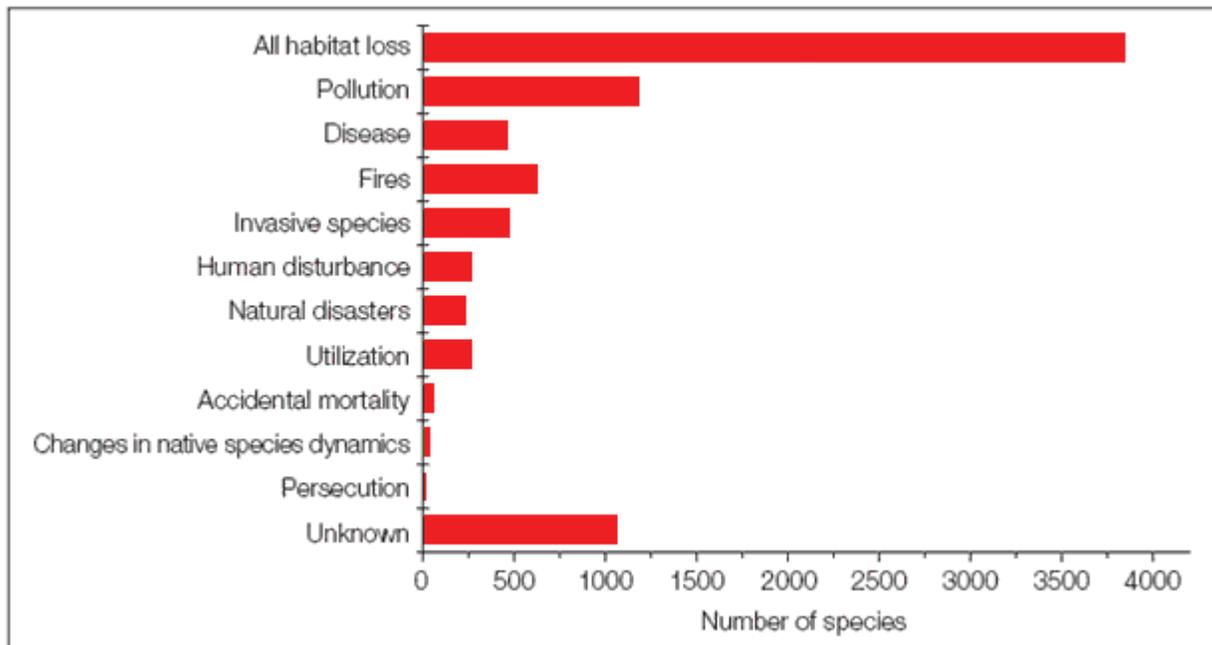


Table 2: Major threats to birds

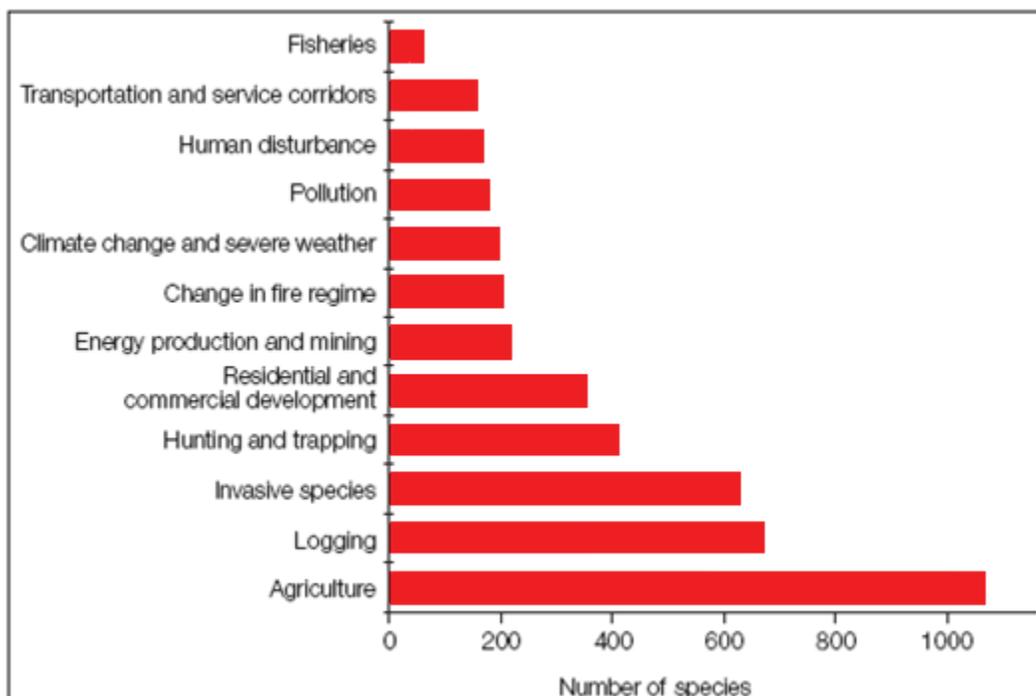


Table 3: Major threats to mammals

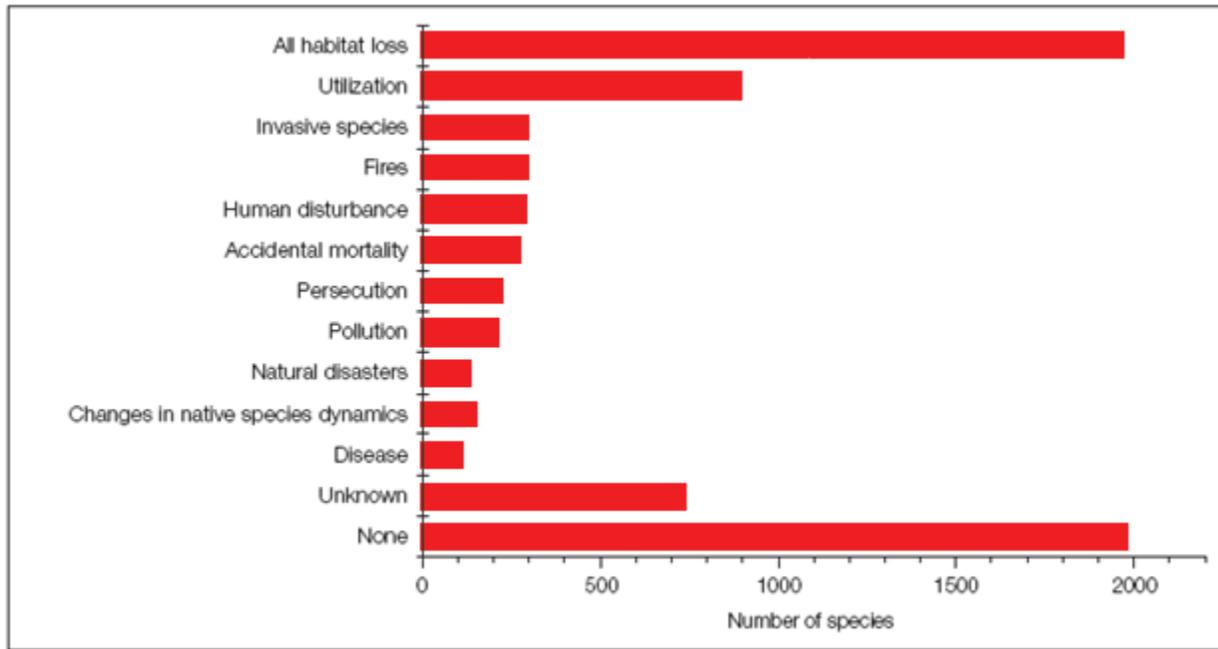
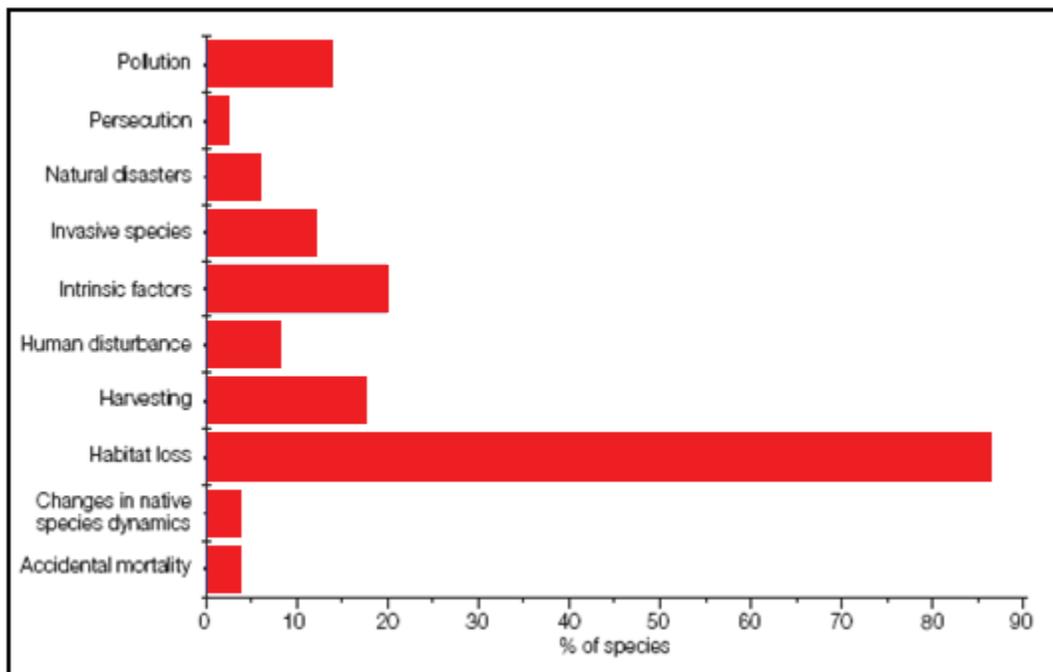


Table 4: Major threats to reptiles



* Vié, J.-C., Hilton-Taylor, C. and Stuart, S.N. (eds) (2009). *Wildlife in a Changing World — An Analysis of the 2008 IUCN Red List of Threatened Species*. Gland, Switzerland: IUCN. 180 pp.