



This resource concept was originally developed by  
the Chapel Oaks "Explorers"

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*Endangered Species Honor*



# **INSTRUCTOR Book**

# 1. Define the following terms

## **Endangered:**

A species which is at risk of becoming extinct because it is either few in numbers, or threatened by changing environmental or predation parameters.



Giant Panda China

## **Extinct:**

A species that has died out completely. When the last specimen dies, that creature is said to have become extinct.



Gorilla Africa

## **Habitat:**

A specific place or the natural conditions in which a given species lives.



Humpback Whale Oceans

## **Biome:**

Any major regional biological community such as that of forest or desert.



Orangutan Borneo and Sumatra

## **Food chain:**

A food chain describes a single pathway that energy and nutrients may follow in an ecosystem. They usually start with a primary producer and end with a top predator.



Red Panda Himalayas (Nepal and China)

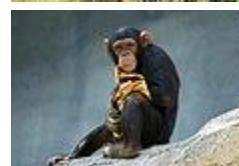
Here is an example of a food chain:

phytoplankton → copepod → fish → squid → seal → Orca



Red Wolf North America

This "chain" can be described as follows: Killer whales (Orca) feed upon seals, that feed upon squid, that eat small fish, that feed on copepods, that feed on microscopic algae.



Chimpanzee Africa

## **Poacher:**

A person who illegally hunts an animal in order to kill it.

## **8. List ten endangered animals. Tell where they live and why they have become endangered.**



African Elephant Africa



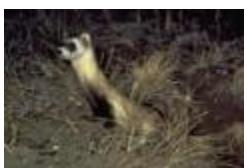
Asian Elephant Southern Asia



Black Rhinoceros Africa

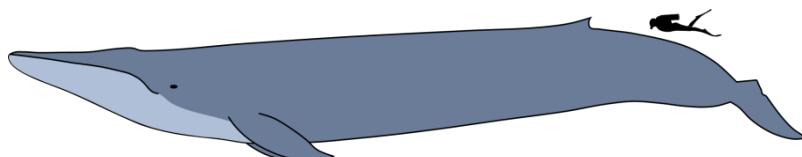


Bighorn Sheep Western US & Canada



Black-footed Ferret North America

Blue Whale Oceans (worldwide)



## **2. Write Genesis 1:28 in your own words.**

Genesis 1:28 is presented below in several translations. It might help to have your group read several versions of the text before they attempt to put the verse in their own words.

NIV

God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground."

NKJV

Then God blessed them, and God said to them, "Be fruitful and multiply; fill the earth and subdue it; have dominion over the fish of the sea, over the birds of the air, and over every living thing that moves on the earth."

CEV

God gave them his blessing and said: "Have a lot of children! Fill the earth with people and bring it under your control. Rule over the fish in the ocean, the birds in the sky, and every animal on the earth."

NASB

God blessed them; and God said to them, "Be fruitful and multiply, and fill the earth, and subdue it; and rule over the fish of the sea and over the birds of the sky and over every living thing that moves on the earth."

### **3. List four factors that have caused animals to become endangered.**

#### **Habitat loss**

The most common threat to endangered animals is the destruction of their natural habitat. Deforestation one way that habitat is destroyed. Rain forests are cut down for many reasons, including the sale of lumber, clearing for agriculture, or gathering wood for fuel. Human encroachment into wild areas for development of agriculture, industry, and housing is another common cause for species endangerment. Building dams can prevent many species of fish from swimming upstream to spawn, and this disrupts their lifecycle. The construction of pipelines has a similar effect on land animals, preventing predators from accessing areas containing their prey, or isolating animals from other members of their species, thus reducing the amount of genetic material available to the population as a whole.

#### **Invasive species**

An invasive species is a non-indigenous species (e.g. plants or animals) that adversely effect the habitats they invade. They can endanger indigenous populations by preying on them or by out-competing them for resources such as food. A good example is the Brown Tree Snake of Australia. The Brown tree snake was a stowaway on U.S. military transport at the end of World War II. The slightly venomous, but rather harmless, snake came north to Guam and killed almost the entire native bird population on the previously snake-free island. This snake has few predators on the island, although these do include pigs and monitor lizards; nowadays, Guam is one of the areas with the highest snake density in the world (an estimated 2,000 snakes/km<sup>2</sup>). Even so, this nocturnal tree snake is rarely seen by residents. They curl up and hide during the day, and move about on trees and fences at night.

### **7. Match the names of the following extinct Animals to the correct Photo.**

Thylacine "Zebra Wolf"  
1936



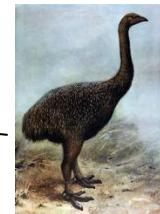
Great Auk  
1844



Quagga "plains zebra"  
1883



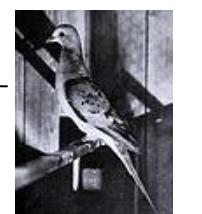
Atlantic Gray Whale  
1750



Passenger Pigeon  
1914



Dodo Bird  
1662



Moa  
1500



## **Exotic Animals**

Do not buy or keep exotic animals. The snakehead fish became infamous in the US because of their appearance in a pond in Crofton, Maryland in 2002. They are prohibited in several other countries like Australia because their introduction to new ecosystems may displace indigenous species. Humans have been introducing snakeheads to non-indigenous waters for over 100 years. In parts of Asia and Africa, the snakehead is considered a valuable food fish and is produced in aquacultures. Due to this fact it was introduced either on purpose (fisheries motivation) or by ignorance (as was the case in Crofton).

Sometimes exotic pets escape or are released into the wild when they are no longer wanted. This can have a negative impact on native species in the area. It is **illegal** to release exotic pets into the wild in most localities.

## **Habitat Restoration**

- Hold an Arbor Day tree-planting party.
- Restore a riverbank by replanting native species (under proper and knowledgeable supervision) and picking up litter.
- Plant a garden at your school, church, or home to attract wild birds and butterflies.

## **Data Gathering and Monitoring**

- Adopt a stream, wetland, or other waterway. Monitor which species use the area and try to get an idea of how many individual animals are involved. Distribute your findings.
- Participate in the Christmas bird count, a birdathon, or in a Feeder Watch

## **4. List four things that are being done to save endangered animals**

- Endangered Species Act for the USA.
- Environmental Preservation Laws.
- Recovery Plans.
- Control of Invasive Species.
- Breeding programs in zoos
- Reintroduction of species to an area.
- Treaties that ban the trade of products made from endangered species.

## **5. List what endangered animals you saw at the Zoo, where they normally live, and why they have become endangered.**

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## **6. List four activities you can do to help wild animals.**

### **Raise Awareness**

The more people are aware of the problems faced by endangered animals, the more they are likely to do something about it.

### **Sustainable Use of Resources**

One of the more obvious things to do is to refuse to purchase items made from endangered animals, such as ivory. Even though the trade in these items poses a significant threat, there are more subtle things that we do that has an even greater impact. We are not often faced with the option of purchasing a tiger skin or an ivory trinket, but we are often tempted to engage in other behaviors which are just as destructive.

Reduce your consumption levels. Today's rate of consumption of natural resources is unsustainable. Consumption of goods puts a stress on the environment, as ultimately, that is where all raw materials come from. Avoid purchasing disposable items, and buy reusable items instead.

### **Boat Inspections**

If you own a boat or a personal watercraft, it is important to inspect it before you transport it between different waterways. The zebra mussel is an invasive species that is currently spreading west in the United States and Canada. These creatures spread by "hitching a ride" on boats that are transported between non-interconnected waterways. Inspecting your boats and removing all wildlife (plants and animals) from them can help prevent the spread of invasive species.

### **Poaching**

Many animals are endangered because of poaching. Elephants are killed for their ivory. Rhinoceroses are killed for their horns. Bears are killed for their gallbladders. Tigers and other large cats are killed for their skins.

The dodo was an animal hunted to extinction by European hunters. It wasn't long after Dutch colonists settled on the island of Mauritius in the 17th century that the hapless dodo was driven extinct. Since then, dodo researchers haven't had much to work with other than a handful of composite skeletons in museums and anecdotal reports from early mariners. More has been written about this bird than practically any other, yet researchers practically know nothing about it.

### **Pollution**

Pollution can kill off a species very rapidly, by killing all living members through contamination or sterilizing them. It can also occur over longer periods at lower toxicity levels by affecting life span, reproductive capacity, or competitiveness. DDT played such a role in killing off bald eagles and other birds by thinning the egg shell walls of affected birds, thus lowering the survivability of offspring. Since this effect was discovered, DDT has been banned in many parts of the world and affected bird populations are recovering.