

HUMAN-ENVIRONMENT INTERACTION

Facing Extinction

Human environment interaction or H.E.I. is how people effect the environment and how the environment affects us. A prime example of this is the plight of endangered animals on our planet.

I. Worldwide mass extinctions

The word extinction means to disappear forever. Mass extinction is when much of the life on the planet earth is wiped out usually by some catastrophic event. Mass extinctions are not new to our earth. In fact, scientists have identified six great mass extinctions of life in our earth's history.

The first three extinctions, for the most part, involved very small sea creatures and simple organisms so we'll skip them to talk briefly about the fourth extinction.

4th extinction: End of the Dinosaurs

This occurred about 65 million years ago. 80% of the life that lived on earth was suddenly gone. There are still questions as to why, but most scientists believe the culprit was a comet that smashed into the Yucatan peninsula in Mexico. The force was so great that sunlight was blocked from the earth for many years resulting in the deaths of most of the earth's plants, animals and dinosaurs.

5th extinction: End of the Ice Age

More recent, but not as well known, is the dramatic extinction of life at the end of the last Ice Age. Ice Ages are periods of time when much of the earth is covered in ice. For two million years this was the case on earth and in Titusville. This was an age of giant mammals; the woolly mammoth, saber-tooth tigers, woolly rhinoceroses, giant sloths, giant elk and deer and the list goes on and on. For some reason, however, the ice age suddenly ended about 10,000 years ago. We aren't sure why! As it ended, the great mammals disappeared, and we aren't sure why.

6th extinction: Man

This mass extinction is more recent. In fact, it's happening right now. The human population on earth is exploding and it's pushing many species of plants and animals into extinction. Scientists estimate that there are anywhere from 7 to 30 million different species of plants and animals on earth. Sadly, scientists also estimate that over 50,000 of these species go extinct every single year. Most extinctions happen because of a horrific event like a comet or meteor. Well in this case that horrific event is human beings and their activities.

II. So what animals are going extinct?

Let's talk about a few major species that perhaps will be nothing but a fairy tale story to your grand children.



Blue Whale: Largest animal to ever live on the planet earth period. It measures up to 100 ft. and weighs 200 tons. Shockingly the world's largest creature feeds on tiny, tiny sea creatures called plankton or krill. Like humans blue whales are mammals that give birth to calves that are up to 23 feet long and weight up to 8 tons. Baby blues drink more than 160 gallons of milk a day. A child can fit inside an adult blue whale's heart and crawl through the blood vessels leading to and from its heart. Blues were hunted mercilessly in the 1800's and earth 1900's for oil. Whale oil lit the street lamps of this country until the commercial drilling of oil. One blue whale contains 20 tons of oil.

In the year 1930, 28,325 blue whales were killed by whaling ships.

Today – Blue whales are protected and it is difficult to know their numbers but there are surely less than 10,000 and possibly under 2,000.

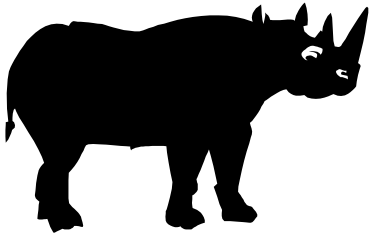


Elephant: There are two species of elephant the African and the Asian elephant. The African is the larger of the two and can grow to 13 ft. in height and weigh 8 tons, eat 500 lbs of vegetation a day, and can drink up to 40 gallons of water at a time. They are very intelligent creatures that communicate through body language and a deep rumbling below the range of human hearing. This rumbling can travel for many, many miles over the flat lands of Africa enabling groups of elephants to communicate at great distances. Scientists estimate they can learn a vocabulary of about 150 words or phrases. They are endangered because of their ivory tusks which may be carved into precious ornaments and jewelry. The 1980's were horrific years for this gentle giant.

1980 – 1.2 million elephants in the world

1990 – 700,000 elephants

Since 1990 the elephants numbers have stabilized. However they still need protection from poachers.



Rhinoceros: 5 different species living in Africa and Asia. They grow up to 7 ft. tall and weigh 5 tons. It is territorial but yet a generally peaceful animal. Rhinos have extremely poor eye sight which makes them fairly easy to approach. The rhino is in extreme trouble because of heavy poaching for its horn. The horn is actually made of hair, so densely compacted that it is harder than stone. Superstition in the Far East attributes magical powers to the rhino horn claiming it to be a cure for many ailments. In ancient Chinese medicine the hooves, blood, hide and even the urine of this animals has magical abilities. For one rhino horn a poacher can receive up to \$200,000 dollars.

1970 – 70,000 rhinos left in the world

Today – There are under 10,000 rhinos left on earth.



Tigers: 8 different subspecies of tiger once existed. 3 of those are now extinct and the remaining 5 are endangered. The largest of the tigers is the Siberian tiger which may grow to 12 feet long and weigh up to 850 lbs. Tigers can eat up to 100 lbs of meat in one feeding. They are poached for their beautiful coats and for foolish medicinal superstition in the Far East.

Beginning of the 1900's estimated 100,000 tigers in the world

Today – Less than 5,000 left

One tiger is poached every day in India.



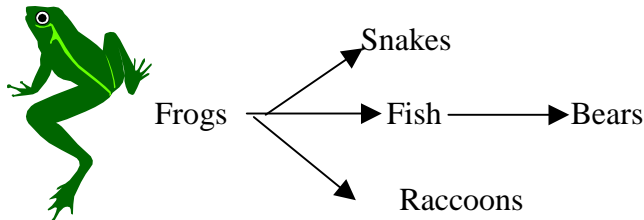
Gorillas: Two main species, the lowland gorilla and the massive mountain gorilla. Mountain gorilla males can be up to 6 ft. and 650 lbs. It is an incredibly strong but gentle creature. If threatened or agitated a male gorilla will shriek, pound his chest, break branches and finally run wildly at an opponent. The charge stops short of contact however. So if you are charged by a wildly, crazed mountain gorilla – DO NOT MOVE. Hunted for sport, medicines, and for food.

Overall there are about 100,000 gorillas left in the world
However, there are only 320 mountain gorillas left.

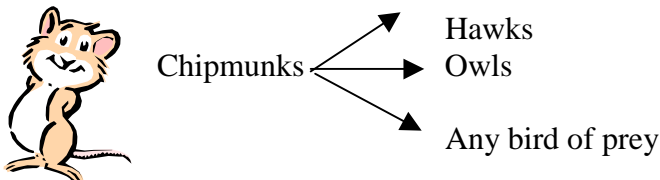
III. So why should I care, Mr. Herman? After all there's still gas in my four-wheeler! Or why should I get off the couch and stop eating twinkies.

1) The World Food Web

Let's take for example frogs. I remember watching small children down at Oil Creek delightedly smashing and killing tadpoles. Giggling hilariously at their brave act, they were astonished when I approached them and nicely told them to stop because tadpoles were very important to us. I then had to explain the food chain to them.



You see frogs are a main food source for many, many larger creatures. Without those frogs other animals don't survive. Now let's look at another example!



There is a law in Pennsylvania making it illegal to shoot and kill chipmunks. Many people do not understand the law because they aren't thinking via the food web. Owls are endangered in Pennsylvania and their main food supply is small rodents such as the

chipmunk. Well if all the chipmunks, which by the way provide no nutritional value to humans, then what will the owls eat? Thus chipmunks are protected.

Now look at it another way. Let's look at two of the most misunderstood creatures on our planet – snakes and bats.



Snakes eat mice, chipmunks, frogs, other snakes, rats, weasels and even baby racoons. Snakes in our area do not eat humans, yet humans in our area kill snakes. They kill lots of them because they are frightened of an animal that doesn't have a backbone. So therefore by killing them they increase the rat and mouse population in their houses, and they can't understand where they are all coming from.



Now take another example the bat. Bats are endangered in our area. Bats eat insects by the ton. One bat will eat hundreds of them every night. People kill bats because they are afraid of them getting into their hair, which doesn't happen. They kill them and then they notice the mosquito population is sucking them dry of blood. Then they can't understand why the mosquito population is so much worse then twenty years ago. Duh!

2) Genetic diversity and cures for human disease.

Genetic diversity simply refers to the vast numbers of different plant and animal species that call our earth home. Earlier in the notes we mentioned that scientists estimate that there are anywhere from 7 to 30 million species of plants and animals on earth. Well each different species of plant and animal produces its own unique chemicals, neurotransmitters and hormones.

It is from these unique chemicals from which we get our new medicines. Many life saving drugs are not created in a lab. We get them from nature. Well as we lose species to extinction we are also losing these unique chemicals which could provide cures for terrible diseases such as cancer, AIDS, and heart disease. Right now scientists don't know if they are in a race against time to find these cures before the keys to them are gone forever.