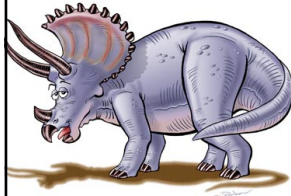


Chapter 8 - Biodiversity

8.1 - Biodiversity at risk

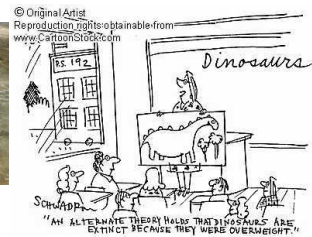
The last dinosaurs died out about 65 millions years ago.

We are still unsure why.



Dec 9-3:42 PM

It's likely that enough dust and ash were thrown into the atmosphere to block out much of the sunlight.

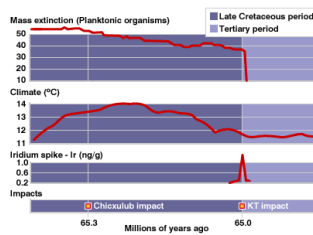


Dec 9-3:46 PM

Without enough sunlight, many plants would have died, leading to the deaths of many consumers.

It is estimated that about half the species on Earth became extinct during this time.

Mass extinctions are extinctions of many species that occur in a relatively short period of time.



Dec 9-3:47 PM

Many scientists fear that we are living during another mass extinction.

If so, this one will be caused not by a change in the climate but by human activity.



Dec 9-3:50 PM

Faceless ones.

<http://www.youtube.com/watch?v=C8R9Sis3tUM>

http://www.camulod.com/index.php?option=com_content&task=view&id=21&Itemid=20

What are some environmental disasters mentioned in this poem?

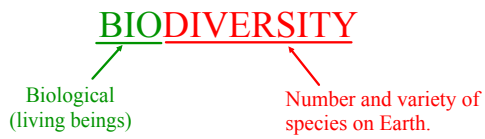
How did this poem make you feel?

Who are the faceless ones?

Dec 9-3:51 PM

Dec 13-4:45 PM

Biodiversity



This includes all forms of life from the smallest bacterium to the largest trees.

Dec 9-3:51 PM

Scientists have estimated that there are between 10 and 100 millions species on Earth.

To date, only about 1,5 million of these species have been named and classified.

The number of species *known* species does not come even close to the number of *actual* species on Earth.

<http://www.sciam.com/search/index.cfm?q=new+species&submit.x=26&submit.y=14>

Dec 9-3:55 PM

Why is biodiversity important?

1) 25% of all prescription drugs have ingredients derived from plants.

(We've only chemically analyzed 5% of all plants!)

2) It is important economically (ex: tourism)



3) Almost all foods that we eat are derived from wild plants and animals.



LUNCH AT BOB BOB'S	DINNER AT BOB BOB'S	CARRY OUT MEATS
SANDWICHES A Generous Portion of 70 mixed meat with cheese, Beef, Bacon, Pork, Chicken, Chicken Breast or Polish Sausage & Swiss Cheese \$4.75 SANDWICH COMBO Sandwich of your choice, Beef, Pork, Chicken or Polish Sausage 1 Drink & 20 oz Soda \$9.95 2 Sides & 20 oz Soda \$17.95 KID'S MEALS 1/2 Pound of Polish Sausage or Beef, Sandwich with Beef, Pork or Chicken, Chips and Soda Drink \$4.95 SINGLE SIDES Beans..... 1.49 Cole Slaw..... 1.49 Potato Salad..... 1.49 Oven Bread..... 1.00 Chips..... 1.49 Bun or Texas Toast..... .20	BOB'S PLATES Served with your choice of Beef, Bacon, Pork, Chicken, Chicken Breast or Polish Sausage & Swiss Cheese A Honey Butter One Main..... 6.99 Two Main..... 8.99 Three Main..... 10.99 BEV DRINKERS 1/2 Pint..... 3.99 1/2 Pint..... 3.99 1/2 Pint..... 3.99 1/2 Pint..... 3.99 1/2 Pint..... 3.99 DRINKS 1/2 Pint..... 3.99 1/2 Pint..... 3.99 DESSERT Desserts..... 1.29	CARRY OUT MEATS Beef Brisket, Pork Shoulder, Chicken Breast, Polish Sausage \$3.95 per pound (Sausage sold separately) 1/2 Sausage, Pork Spare Ribs \$10.95 per pound SIDES AND SAUCES Honey Cheddar Slaw, Cole Slaw, Potato Salad, Regular or Spicy Sauce, 1/2 Pint..... 3.99 1/2 Pint..... 3.99 1/2 Pint..... 3.99 1/2 Pint..... 3.99 CARRY OUT PACKAGE Serves 4 1 pound of meat, choice with Beef, Pork, Chicken or Polish Sausage, with 1/2 Pint of Honey-Cherry Sauce, Potato Salad or Cole Slaw, 1 pint of Sauce & Bread \$21.95

Dec 9-3:58 PM

Dec 9-4:02 PM

4) Natural ecosystems help maintain our planet's life systems. (ex: purifying water, stabilizing soil, etc...)



Major Threats to biodiversity

- Overpopulation and overconsumption
- Habitat loss
- Climate change
- Pollution
- Overfishing
- Introduction of exotic species
- Modern agricultural practices
- Unrestricted clear-cutting



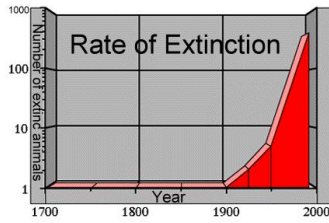
Dec 14-10:49 AM

Dec 9-4:05 PM

How are Humans causing Extinctions?

The human population of the world is increasing by about 260,000 people each year.

Because of this, we are causing other species to become extinct at an accelerated rate.



Dec 9-4:10 PM

As humans take up more and more space on the planet, we destroy the habitat of other species. Habitat destruction is the major cause of extinctions today.



Dec 9-4:13 PM

Unregulated hunting and the introduction of non-native species also contribute to extinctions.



DON'T DESTROY the things You Love

Thousands of birds
20 million Ash trees
100 million Elm trees

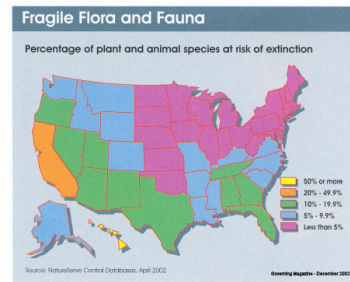
Moved by Oak Wilt
Killed by Oak Wilt
Killed by Dutch Elm Disease

Moving Firewood can spread insects and diseases that **KILL TREES.**

Please...
buy firewood where you camp.

Dec 9-4:14 PM

Plants and animals are disappearing at least 1000 times faster that at any other time in history.

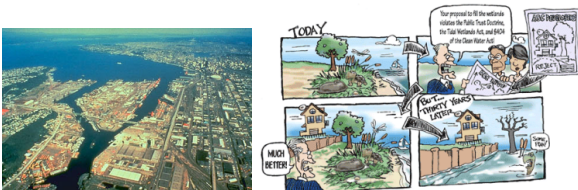


Dec 9-4:13 PM

Habitat destruction

As human populations grow, we use more land to build homes and harvest resources.

Taking over land destroys habitats for other species.



Dec 9-4:15 PM

It is estimated that habitat destruction causes almost 75% of extinctions today.

ex: Florida panther (a type of cougar)

These animals require a large range and protective cover. Today, much of the animal's forest has been destroyed or broken up into small patches by roads, canals and fences.



1994 - 50 wild panthers remained

Today - conservations efforts have raised that number between 50-70.

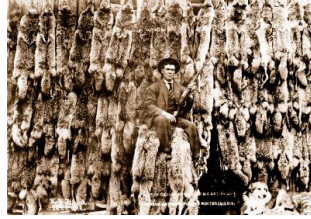
Dec 9-4:17 PM

owl debate

Dec 17-12:12 PM

Hunting

Unregulated hunting can also lead to species extinction.



Dec 9-4:21 PM

In the early 1900's, 2 billion American passenger pigeons were legally hunted to extinction in the U.S.



Dec 9-4:22 PM

The American Buffalo was nearly hunted to extinction in the 1800's.

When Europeans first arrived in North America, there were at least 60 million buffalo.

By 1906, only 300 remained.



<http://upload.wikimedia.org/wikipedia/en/c/cd/Bison.wav>
250,000 of the 350,000

Dec 9-4:24 PM

Legal hunting is not a major cause of extinction today in developed countries due to hunting organisations and government agencies.

In developing countries, hunting still threatens many species.

Poaching (illegal hunting) can threaten animals with extinctions;
ex: African elephants being killed for their tusks.



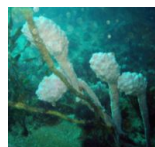
Dec 9-4:26 PM

Exotic Species

An exotic species is a species that is not native to a particular region.

Exotic species can threaten native species which have no natural defences against them.

ex: tunicates on mussels



Dec 9-4:30 PM

The value of biodiversity

Extinction is a natural process; throughout history species have appeared, flourished for a time, and then become extinct.

It is estimated that 99% of all species that have ever lived are now extinct.

Preventing extinction is expensive and difficult - so why should we work so hard?

Dec 9-4:30 PM

Saving Species Preserves Ecosystems

It is important to save and maintain healthy ecosystems because they ensure a healthy biosphere by regulating the flow of energy and the cycling of nutrients.

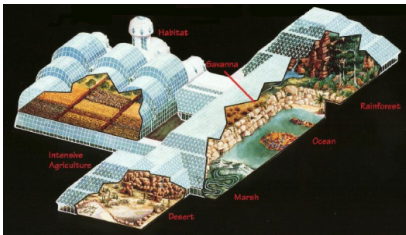


<http://www.abundantearth.com/store/ecosphere.html>

Dec 9-4:38 PM

Each species has its role to play in its ecosystem, and each is dependant upon other species for survival.

The ways in which species depend on one another may not be obvious. When any species disappears, the ecosystems changes.



Dec 9-4:40 PM

<http://www.abundantearth.com/store/ecosphere.html>

http://biology.kenyon.edu/slonec/bio3/2000projects/carroll_d_walker_e/biosphere.html

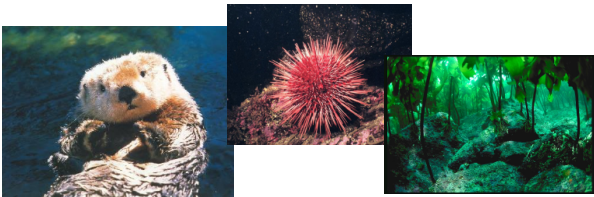
http://biology.kenyon.edu/slonec/bio3/2000projects/carroll_d_walker_e/whatwentwrong.html

Jan 8-3:30 PM

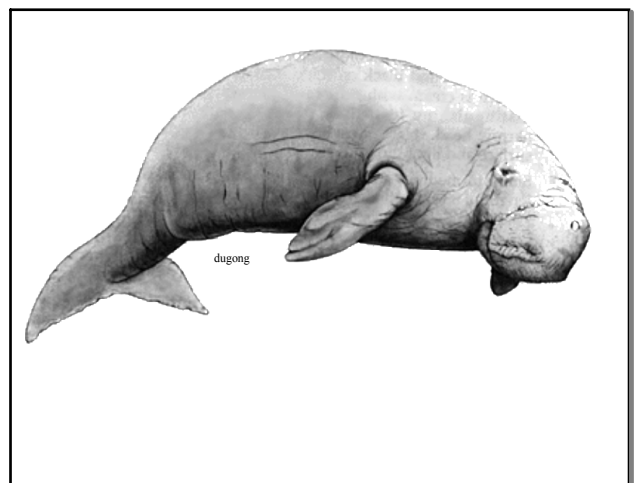
Keystone species are species that are extremely important to the functioning of the ecosystem.

ex: the sea otter -

Sea otter feed on sea urchins, but were hunted almost to extinction in the 1800's. Sea urchin populations grew dramatically, destroying kelp beds, greatly affecting fishing.



Dec 9-4:43 PM



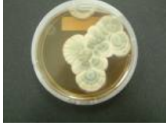
Jan 5-1:16 PM

Practical uses of species

About 40% of all prescription drugs were originally made from living things.

ex: Digitoxin (cardiac stimulant) - *common foxglove*

Penicillin (antibiotic) - *bread mold fungus*



Dec 9-4:45 PM

Scientists are concerned that the loss of biodiversity will limit the development of future medicines.

Unknown plants may also provide food for future generations: right now, humans rely on corn, wheat and rice for over half their food.

New plants may be discovered which can become new food crops, or be crossed with present food crops to increase resistance to disease or insects

Dec 9-4:48 PM

Aesthetic reasons

When species become extinct, we lose objects of fascination, wonder and beauty.

People enjoy contact with other living things

- pets, zoos, etc...

Dec 9-4:50 PM



Dec 16-12:24 PM