



The Biosphere

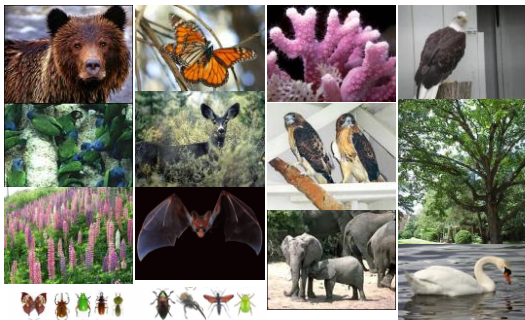
Section 3.1
What is Ecology?
Mrs. Michaelsen

Photo by <http://www.flickr.com/photos/itruclimb/56763994/in/photostream/>

We share the Earth...

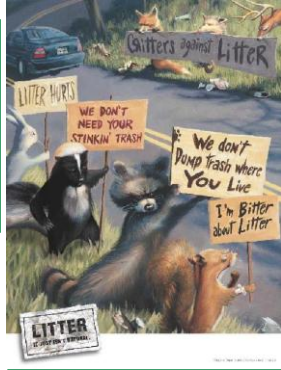


with a whole lot of other creatures...



We don't share very well...





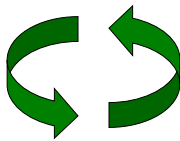
Biosphere - The part of the earth that supports life.

1. Extends from 8 km above earth to 11 km below the surface.



Ecology

- Putting it all together...
 - study of interactions between organisms & their physical environment, because...



Everything is connected to everything else

LEVELS OF ORGANIZATION

Species - individuals that can breed with one another.

Population - all the individuals of the same species (ducks) in an area.



A population is always composed of *same* species of organisms.



Community - all the populations that live together in an area.



What is in your backyard community?

Ecosystem - the community plus the physical factors in an area (rain, light, soil..)

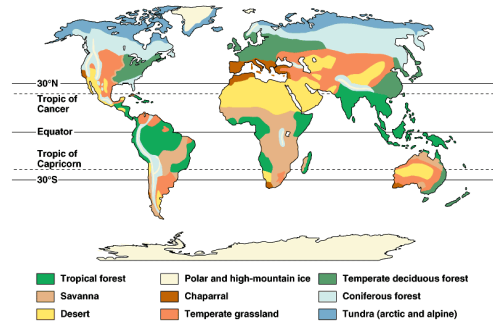
Examples:

- Rotting Log
- Koi Pond
- Lake
- Clump of Dirt
- A field
- An old maple tree



Biome - large area that has a particular climate, and particular species of plants and animals that live there (tundra)

Earth's Land Biomes



Ecosystem

- **Living (Biotic) factors**
- all plants & animals living in an area
- **Physical (Abiotic) factors**
- soil, rock, temperature, moisture, sunlight

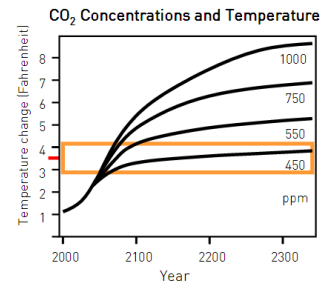


habitat = address (where you live)
niche = job (the role you play)

Ecological methods - how do we study it?

- Observing
- Experimenting
- Modeling

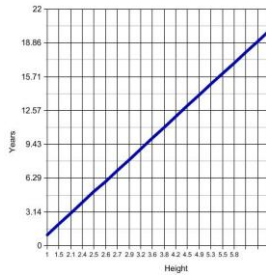
Models are created by humans to make predictions.



Sometimes, you must be cautious in how a model interprets data....

Imagine graphing a person's height as they age. One could predict that by the time they were age 30, they would be 22 feet tall.

However, the model would need to account for the slowing of growth after adolescence.



1. A group of animals that live in the same area and can interbreed is called a (n) _____
2. The study of organisms and their interactions with the environment is known as _____
3. A large area that has a particular climate and distinct plants and animals is called a _____
4. All of the different populations living in an area (plants, rabbits, coyotes...) is called the _____
5. An ecosystem includes all the living and _____ factors in an area.
6. The portion of the planet that can sustain life is the _____
7. Animals that can interbreed are called a(n) _____