

Conservation Lesson Plan

Vocabulary:

| | | | |
|-------------------|---------------------|-----------------------|--------------------|
| Habitat loss | Habitat degradation | Habitat fragmentation | Introduced species |
| Over-exploitation | Climate change | UV-B radiation | Pollution |
| Disease | Urban development | Data | Purpose |
| Procedure | Conclusion | | |

Why are amphibians and reptiles declining??

- 7 Main Causes: Can you think of any?
- Habitat loss
- Introduced species
- Over-exploitation
- Climate change
- UV-B radiation
- pollution
- disease

Today we are going to focus on:

- Habitat Loss (say it with me)
 - ...Is One of the most important causes of declines
 - Wide variety of habitats
 - causes
 - Urban development: Accommodating growing world population
 - Agriculture
 - Example: stream salamanders decreasing in numbers
 - Habitat degradation: decrease in habitat quality (say it with me)
 - What are some factors that effect this?
 - (most of the other causes for declines)
 - development: is it better for a frog to live in a backyard or a real forest?
 - Habitat Fragmentation: habitat divided up into smaller pieces
 - Loss of dispersal ability: Can't move
 - Box turtles can't cross railroads
 - Any animals that cross roads
 - What can we do:
 - Greenway's by streams
 - Leave bigger patches of forest and wetland

- Some development is better than others: houses close together with big green space
- Pollution
 - Permeable skin of amphibians acts like a sponge
 - Makes some reptile shells too soft or softens embryo (baby in side)
 - Chemicals that get into water or change soil
 - Trash
 - can get caught around them in streams
 - could cut themselves on sharp metal or glass
 - Introduced Species
 - What is an introduced/invasive species?
 - Out-compete with native species- they need the same shelters, food or other resources
 - Eat other species (adults or larvae-babies)
 - Examples include but are not limited to:
 - Reticulated Pythons in Everglades
- Over-Exploitation
 - Food/Collection
 - Frog Legs
 - Snake, Alligator
 - Pets
 - Dendrobates: Poison Dart Frogs
- Climate Change
 - What is climate change?
 - Overall temperature of the world is increasing
 - there will be more weather extremes
 - Breed earlier because its warmer (Animals think it is later in the season)
 - Some diseases spread faster in hotter temperatures
 - Golden Toads – Montaine forests
 - Need cool mountain habitat, will be stuck at the top of mountains as temperatures rise
- UV-B radiation
 - Can't wear sun screen.
 - Especially effects young amphibians
- Disease (Talk about 1) damages them just like the flu hurts us
 - Chytrid: fungus on skin

- Makes layer on skin that is hard to breathe through
 - Secretes a toxin/poison on their skin
- Research helps us know how to help
- Which of these are caused by humans?
- Important to note that none of these factors act alone
 - These factors acting together hurt the animals even more
 - Example: a little bit of trash in a small habitat can make the whole thing impossible to live in.

What can humans do to help? *what does our project do?

- Habitat Protection
- Less pollution
- Don't release pets
- Education: for you and anyone else you tell
- More research

What do you guys think should be done?

Project:

Four major steps

Data: information gathered during for a scientific experiment

Purpose: what is our goal? Hypothesis: a question that our experiment attempts to answer.

- What species of amphibians and reptiles are in the woods behind the school?
- How many of each species can we find?
- What natural and human factors influence what kind and how many animals we find?
Ex. weather (cloudy, rainy), season, temperature, more buildings, pollution

Procedure: steps we will take to answer our hypothesis

- Decide where to put the coverboards and pipes and mark with flags
- Gather materials:
 - flags
 - coverboards
 - PVC pipes
 - Maps
- Install the coverboards and pipes
- Collect data: observe with your eyes (but not for a while)
- Analyze data: look at all the data and decide what it means, probably make charts and graphs to help us know what it means

Conclusions: what did we find? Did we answer our questions? Do we have new questions we want to answer? sometimes make a poster of what we have discovered and how we did it so other people can use this information as well