

- Why is this unit important?
 - Scientific literacy
 - Protecting our environment



Silence of the Frogs

Ecosystems - term used to describe the relationship among the many species in an environment as well as the relationship they share with the non-living components present in the environment

Scientists are concerned about the health of amphibians (because they indicate the health of the ecosystem that they live in. they are considered to be excellent **BIOINDICATORS** due to the following reasons:

1. Frogs and toads have survived during times on earth when many other living things did not
2. They are extremely adaptable
3. They are found in many ecosystems that include water
4. They have two life-cycles which means they are part of 2 ecosystems and 2 food chains.

→ living

TEST
Question

Frogs are members of two food chains, as adults and as tadpoles.

What

Frogs eat - insects and small fish

What

Eats Frog - large fish, predatory birds, reptiles and small mammals

If there is a decrease in frogs there will be an increase in insects. This is happening in Bangladesh and there is an increase in malaria.

Detritus food chain - a special food chain that helps to recycle matter in ecosystems. Tadpoles consume dead material and recycle the minerals.

There are 4 reasons why the Frogs are disappearing:

1. Loss of Habitat - places where a species can live

- Need wetlands, ponds, and lakes with clean water
- As adults they need a forest field
- Growth with cities and farming takes this away as we build roads between woodlots and ponds and cut down trees used for camouflage

2. Air & Water Quality (pollution)

- Frog skin is thin and not protected
- Frogs breathe through their skin and acid rain can affect this
- Acidity affects frog's ability to reproduce

3. Ultraviolet Radiation

- Thin skin makes the frogs susceptible to UV radiation causing cell damage (ozone layer breaking down)

4. Climate Change

- Global warming trend (maybe because of the increase in fossil fuels)

Organisms Found in a Ecosystem

- All organisms need a source of energy (or food).
- Organisms are categorized into groups depending on how they obtain this energy (or food)

[Group Categories]

"ers"

Producer - make their own food (plants use photosynthesis to convert solar energy into their own food)

Consumer - eat other organisms for energy

Decomposers - break down dead material for nutrients

"trophs"

Autotrophs - producers

Heterotrophs - consumers

"vores"

herbivores - animals that eat plants

carnivores - animals that eat other animals

(two types: scavengers and predators)

omnivores - animals that eat both plants and other animals