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Empowering Communities...*

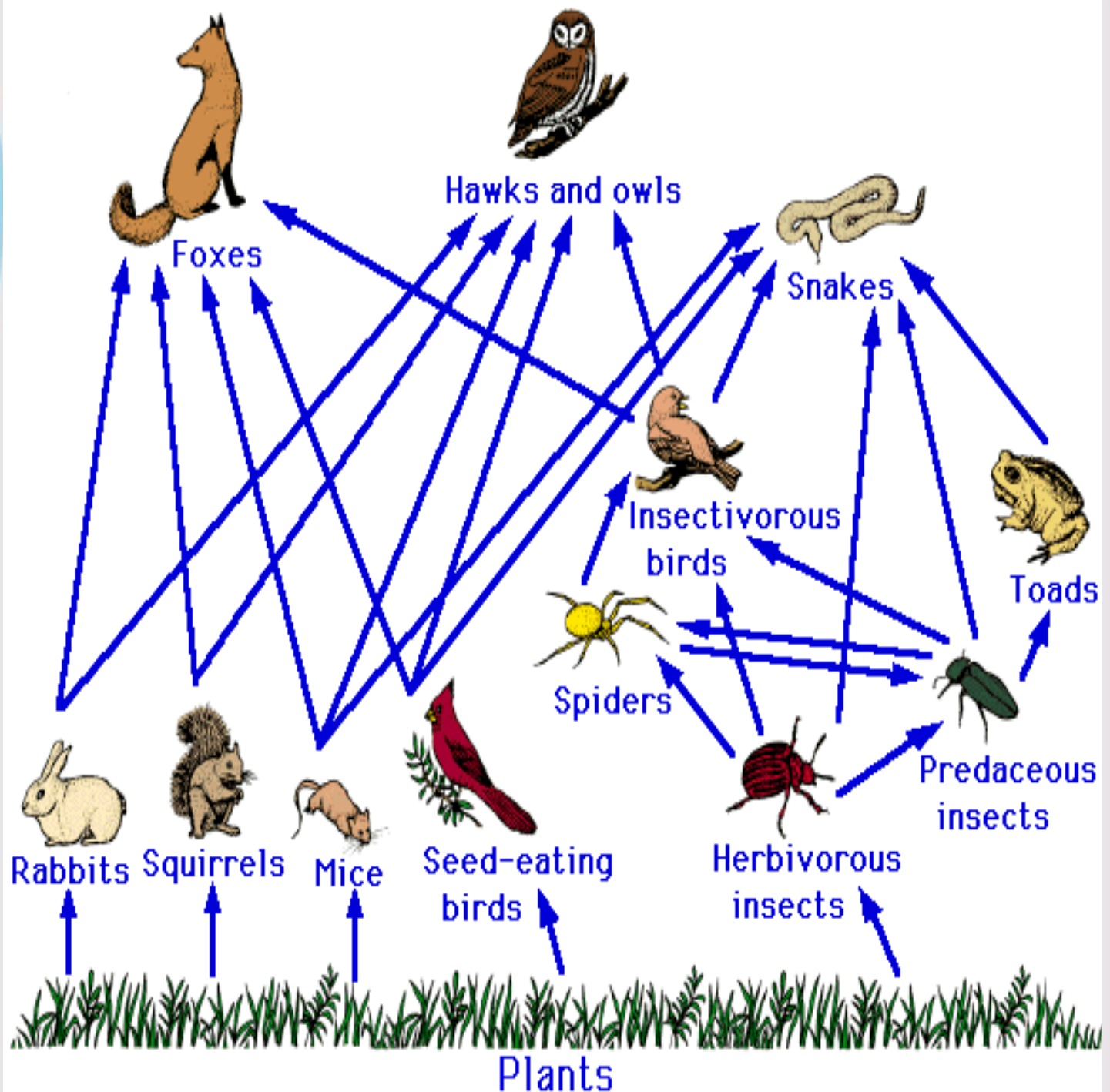
Food Web

- ❖ Under natural conditions, the linear arrangement of food chains hardly occurs & these remains connected interconnected with each other through different types of organisms.
- ❖ Interlocking pattern of several interlinked food chains is termed as FOOD WEB.
- ❖ A food web is a network of food chains where different types of organisms are connected at different trophic levels, so that there are a number of options of eating and being eaten at each trophic level.



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Significance of food chains and Food webs

- FC & FB play a very significant role in the ecosystem because the two most important functions of energy flow and nutrient cycling takes place through them.
- The fC also help in maintaining and regulating the population size of animals and thus, he maintain the ecological balance.



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Trophic level

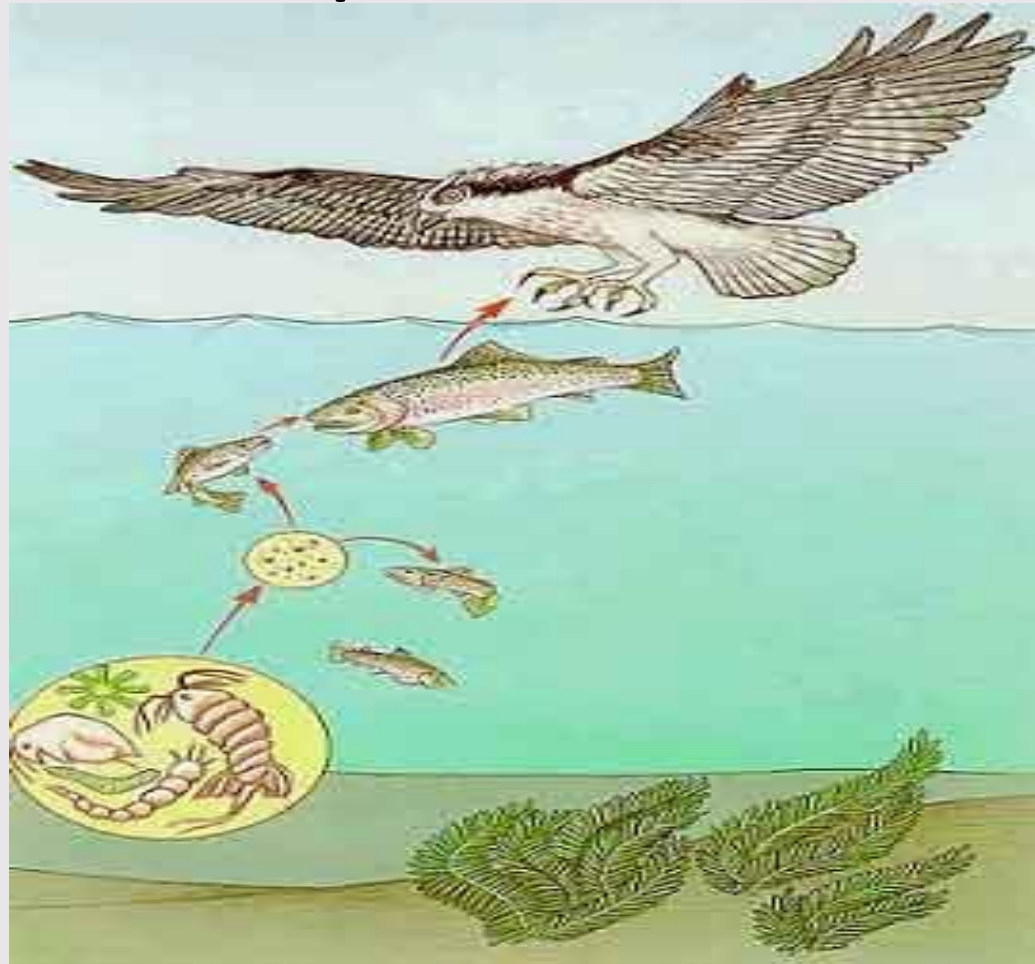
- The producers and consumers are arranged in the ecosystem in a definite manner and their interaction along with population size are expressed together as trophic level.



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Trophic level





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Carnivore



Carnivore



Carnivore



Herbivore



Plant

Quaternary consumers

Tertiary consumers

Secondary consumers

Primary consumers

Primary producers



Carnivore



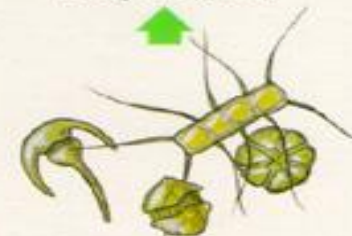
Carnivore



Carnivore



Zooplankton



Phytoplankton



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Ecological Pyramids:

- ❖ An "*Ecological pyramid*" is a graphical representation that shows the relative amounts of energy or matter contained within each trophic level in a food chain or food web.
- ❖ An ecological pyramid shows the relationship between consumers and producers at different trophic levels in an ecosystem
- ❖ There are **three ecological pyramids** recognized by ecologists:



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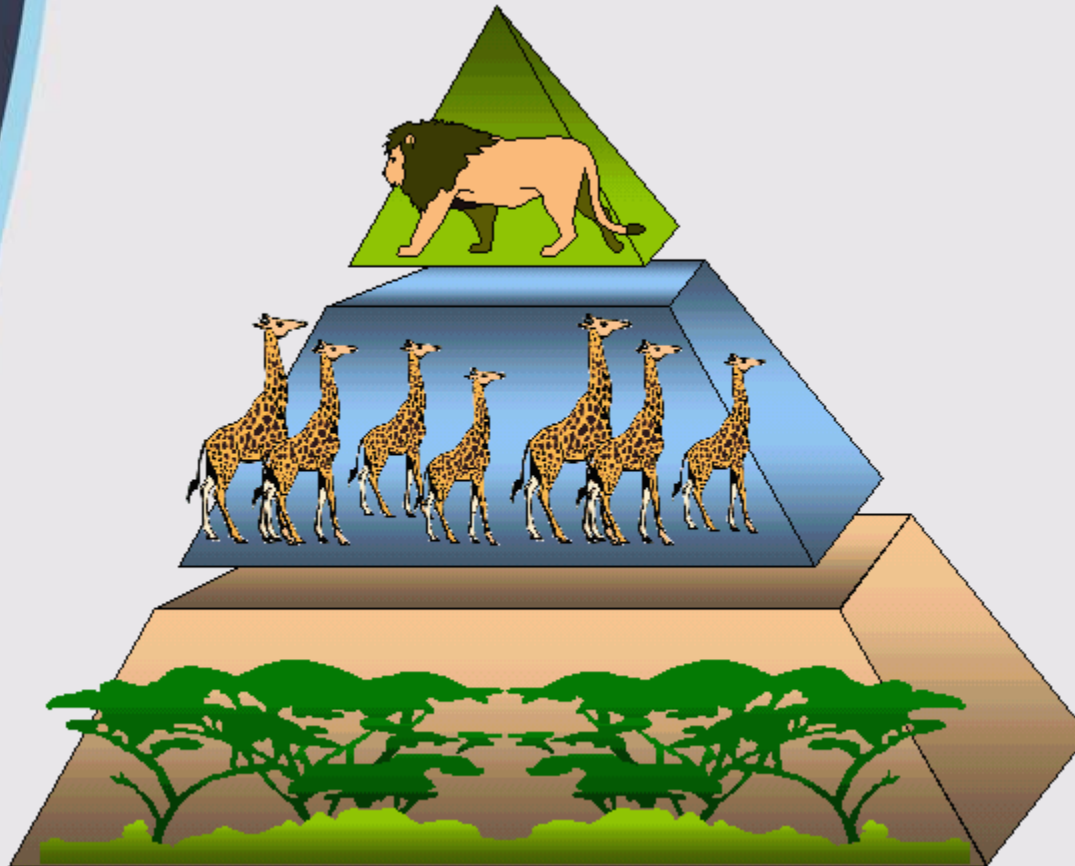
ECOLOGICAL PYRAMID

- Graphic representation of trophic structure and function of an ecosystem, starting with producers at the base and successive trophic levels forming the apex is known as an ecological pyramid.



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ECOLOGICAL PYRAMID

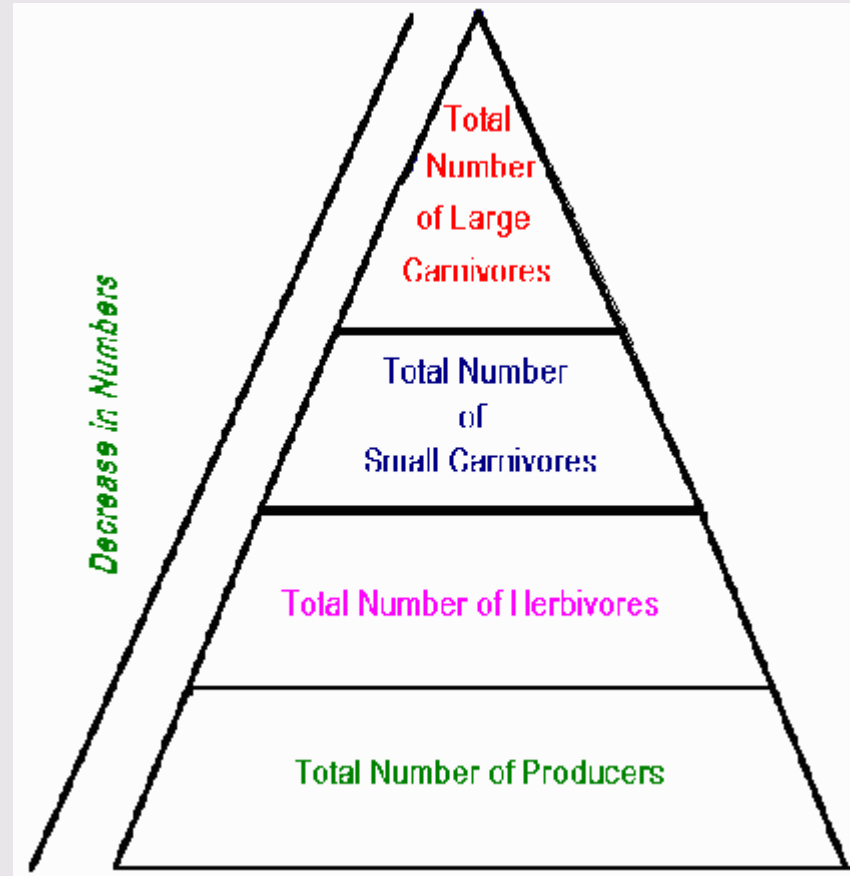




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Number pyramid





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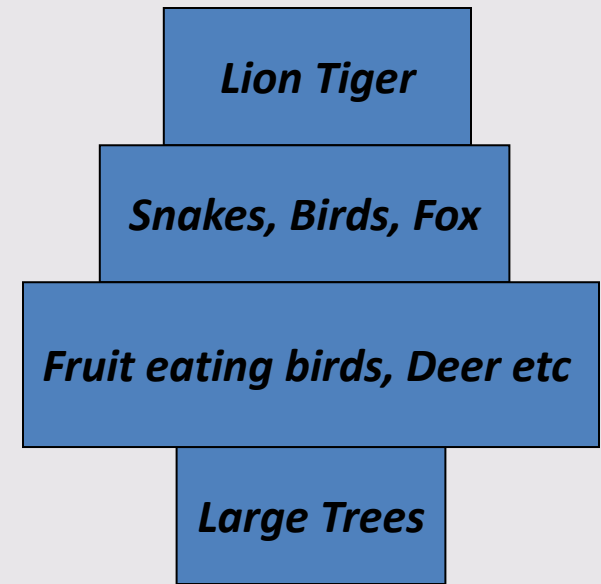
1) Pyramid of Numbers:

Shows the relative number of individual organisms at each trophic level.

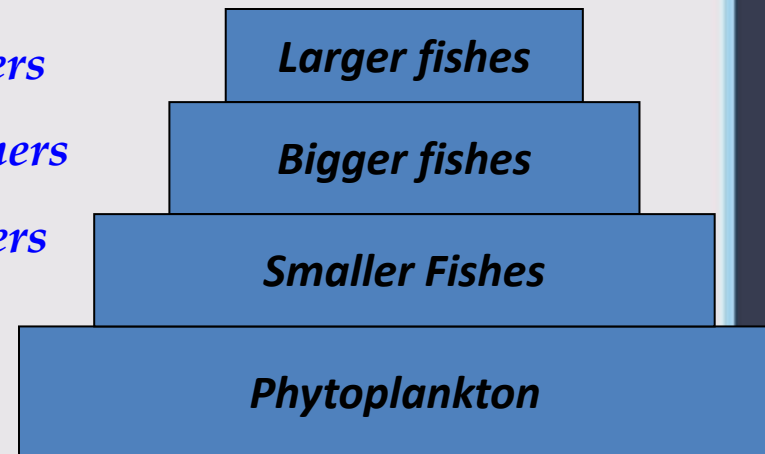


Grassland Ecosystem

Tertiary Consumers
Secondary Consumers
Primary Consumers
Producers



Forest Ecosystem



Pond Ecosystem

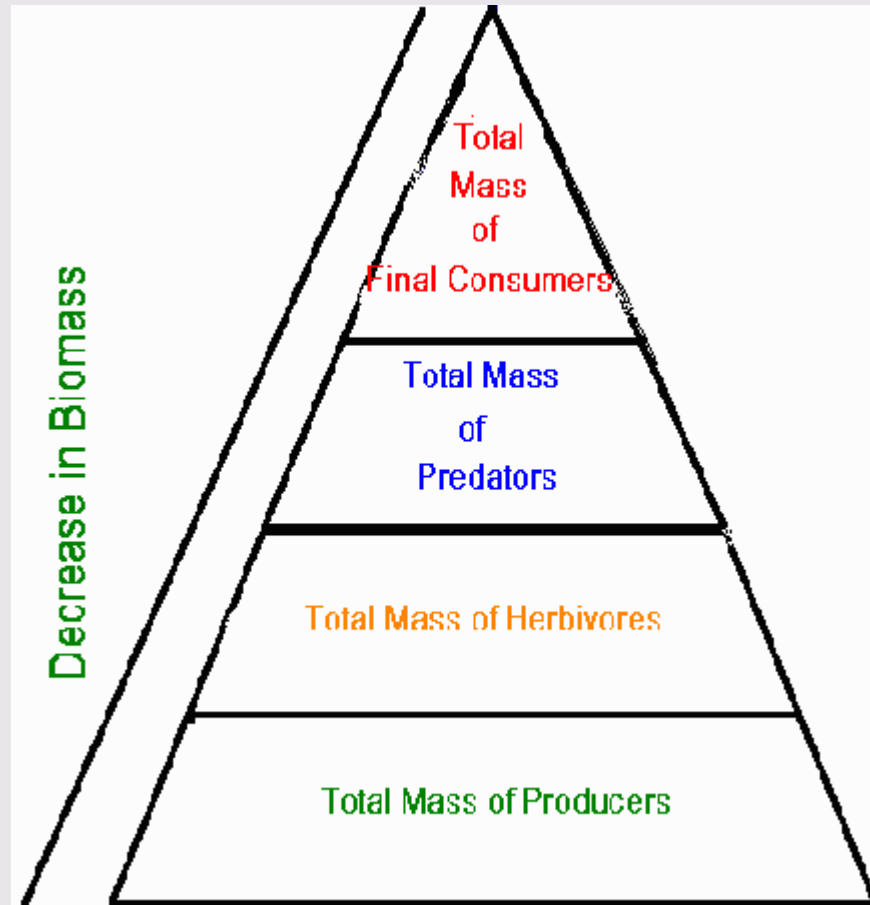


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2) Pyramid of Biomass:

❖ A pyramid of biomass represents the total dry mass (in grams per square metre of area) of all the organisms in each trophic level at a particular time.





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**Snakes, Frogs,
Birds etc.**

**Cows Sheep,
Deer, Rabbit**

Grasses

Grassland Ecosystem

Carnivores

Herbivores

Producers

**Lion, Tiger,
etc.**

Elephant, Deer etc.

Trees

Forest Ecosystem

Fish, Water beetles etc.

Zooplanktons

Phytoplankton's

Pond Ecosystem

Carnivores

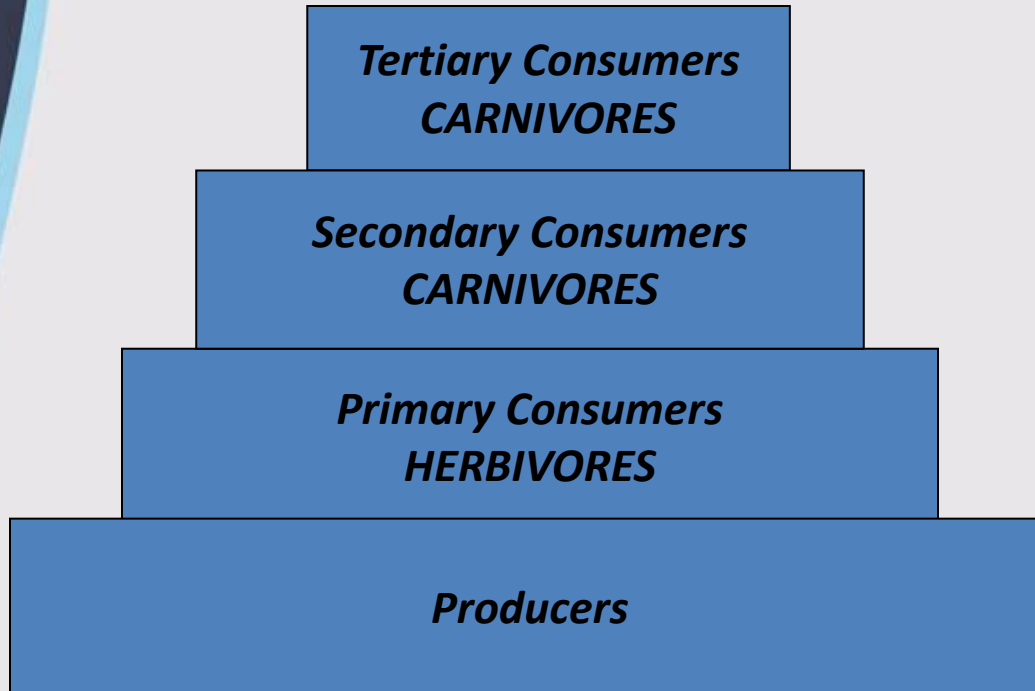
Herbivores

Producers



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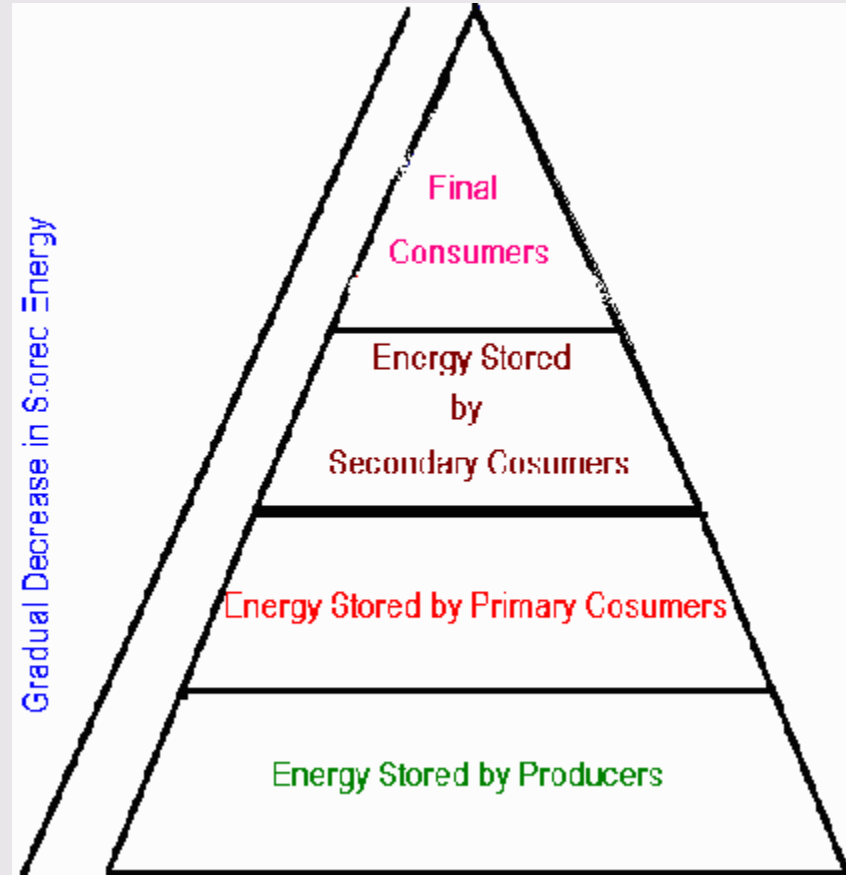




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Energy pyramid





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Autotrophs

Heterotrophs

