

ECOLOGICAL PYRAMIDS

We must be familiar with the shape of a pyramid. The base of a pyramid is broad and it narrows down at the apex. One gets a similar shape, whether we express the food or energy relationships between organisms at different trophic level. Thus, relationship is expressed in terms of number, biomass or energy. The base of each pyramid represents the producers or the first trophic level while the apex represents tertiary or top level consumer. The three ecological pyramids that are usually studied are (a) Pyramid of number (b) Pyramid of biomass and (c) Pyramid of energy. For detail in fig:—

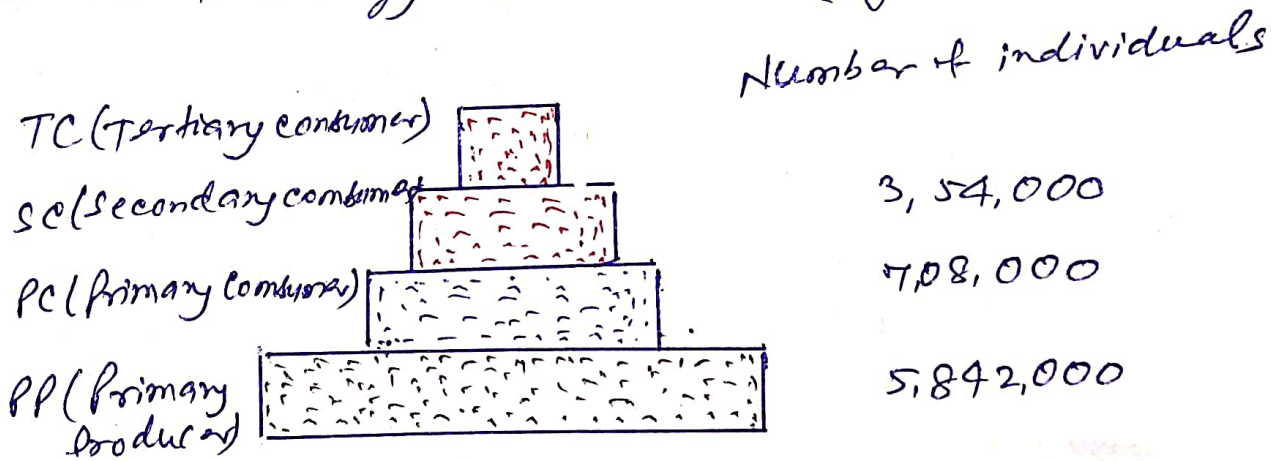


Fig (a) Pyramid of numbers in a grassland ecosystem. Only three-carnivores are supported in an ecosystem based on production of nearly 6 million plants.

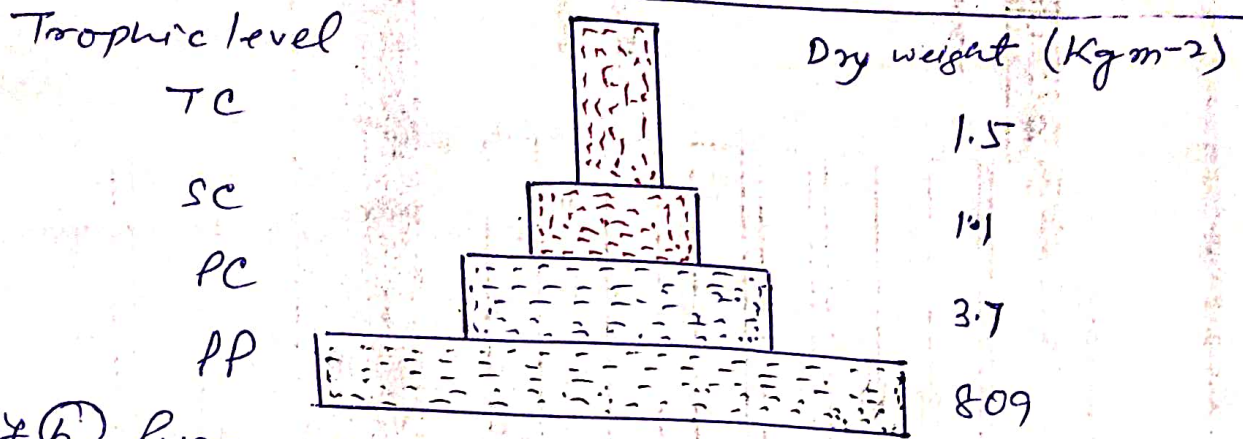


Fig (b) Pyramid of biomass shows a sharp decrease in biomass at higher trophic levels

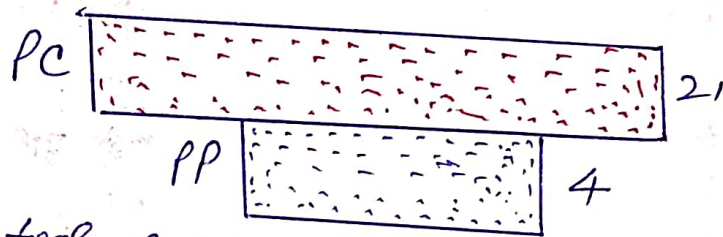


Fig (c) Inverted pyramid of biomass - small standing crop of phytoplankton supports large standing crop of zooplankton

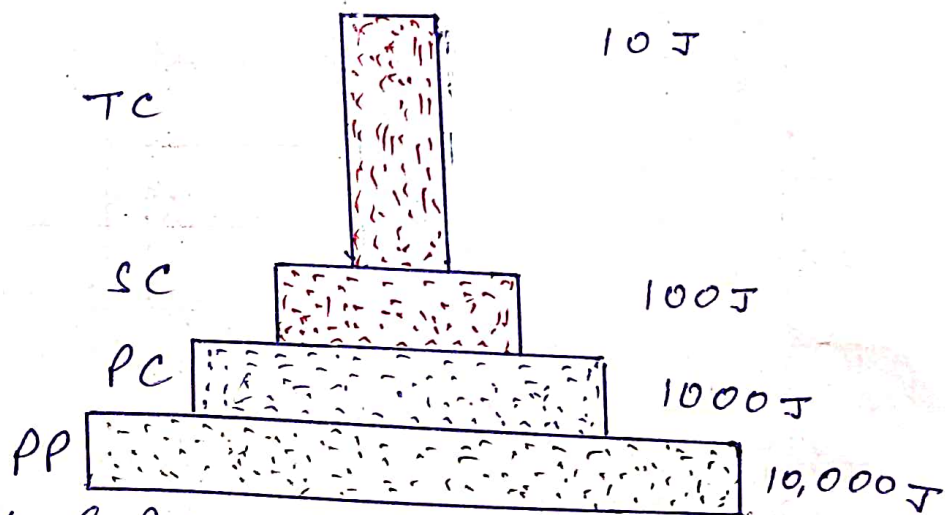


Fig (d) An ideal pyramid of energy. Observe that primary producers convert only 1% of the energy in the sunlight available to them into NPP