

ECOLOGY

Derived from Greek oikos = house, logos = study, study of our home

ecology = study of organisms and their interactions with each other and with their environment.

Can look at organisms on several levels:

population - group of individuals of one species

community - all populations occupying a given habitat

ecosystem - community and the physical, non-living environment
(considered an independent, autonomous unit)

habitat - where an organism lives

niche - the role of the organism, what it does

(habitat = address, niche = job)

A given habitat may support a number of populations, each with their own niche. Usually partition the habitat to reduce competition for scarce resources.

Communities may alter their habitat in such a way that it can support new populations, and may become less suitable for some of the established populations. This may lead to changes in communities over time.

Succession = progressive changes in the composition of communities over time. This is different from evolution.

Primary succession - occurs where no life is present. Pioneering organisms move in and occupy an area such as rocky outcropping, newly deposited soil (landslide), lava flows, etc. Lichen, moss, tend to be pioneer species.

Secondary succession - changes in communities following disturbance of an ecosystem. May involve new species, or reintroductions of previous species.

Climax community - stable and self-maintaining. Here, climax community is the oak-hickory forest. Part of temperate deciduous forest biome.

Life depends on flow of energy through communities. Energy is captured by **producers** who use the energy to produce food compounds. Photosynthetic autotrophs - plants.

Primary consumers - eat the producers

Secondary consumers - eat the primary consumers, and so on.

Forms a chain of trophic levels. (trophos = food/feeding)

Food chain is formed.

In nature, more likely to see **food web**. DIVERSITY IS STABILITY!!!