

Spatial and Temporal Changes in Aquatic Ecosystem

Spatio-temporal Structure is the way in which species are distributed relative to each other.

- Some species provide a framework that creates habitats for other species.

These species, in turn create habitats for others, etc.

- Example: Trees in a rainforest are stratified into several different levels, including a canopy, several understories, a ground level, and roots. Each level is the habitat of a distinct collection of species. Some places, such as the pools of water that collect at the base of tree branches, may harbor entire communities of their own.

- Temporal structure is the timing of the appearance and activity of species.

Some communities, i.e., arctic tundra and the decay of a crop, have pronounced temporal species, other communities have less.

- Example: Many desert plants and animals are dormant most of the year.

They emerge, or germinate, in response to seasonal rains. Other plants stick around year round, having evolved adaptations to resist drought.

- Example of Amphibians:-

Frogs and toads undergo hibernation during winter for specific period of time but during hibernation, their activities are harbored and stopped during this period of time. Moreover, they can not remain in hibernation throughout the year.

Examples of Fish:- Fish breeding season is from April to July and most of the fish species become dormant and aestivate from Dec - Feb as a result of physico-chemical parameters.

Examples of Plants:- Flowering occurs only during spring season and fall

occurs only during autumn as a result of abiotic factors. So each step occurs during the specified course of time which is spatial and temporal change. So no one event occurs before the other.