

UNIT 3 LECTURE 2

STRUCTURE AND FUNCTION OF ECOSYSTEM

An ecosystem is a more-or-less self-contained ecological entity, consisting of both organisms and their complete biotic (living) and abiotic (non-living) environment found in a particular place at a particular time.

Ecosystem structure can be listed under the headings "abiotic" and "biotic".

Abiotic Components

Sunlight
Temperature
Water or moisture
Atmospheric Gases
Wind
Soil

Biotic Components

Primary producers
Herbivores
Carnivores
Omnivores
Detritivores

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❑ Abiotic Components

Sunlight

Temperature

Water

Atmospheric gases

Wind

Soil

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❑ Biotic Components

- *Autotrophs (Producers)*
- *Heterotrophs*
- *Consumers*

Herbivores (Primary Consumers)

Carnivores (Secondary Consumers)

Tertiary or higher level consumers

Omnivores

Detritivores

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❑ Types of Species Found in Ecosystems:

Native species

Immigrant species

Indicator species

Keystone species

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❑ Principal Ways Species Interact

Interspecific competition

Predation

Parasitism

Mutualism

Commensalism

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❑ Functions Of Ecosystem

Energy flow

Nutrient cycling

The Carbon Cycle

Nitrogen cycle

Phosphorus Cycle

Water cycle

Succession

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❑ Ecological Succession is a real process. A barren area will be invaded by pioneer plants, which often do not persist; they are joined and their place is taken by other plants. The early years will likely show a rapid change of vegetation until a more stable ecosystem develops.

- It is an orderly process of community development
- It results from modification of the physical environment
- It culminates in a stabilized ecosystem

The whole sequence of communities that replaces one another in a given area is called the sere. The relatively transitory communities are variously called **seral stages** or **developmental stages** or **pioneer stages**, while the terminal stabilized system is known as the **climax**.

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All areas, even the ponds tended towards a terrestrial plant community dominated by trees

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On bare rock the first plants will be lichens. As soil builds up the surface can hold water so that mosses become established.