

TYPES OF ECOLOGICAL SUCCESSION

- **Primary Succession:** When a terrestrial site is first colonised by the pioneer species.
- **Secondary Succession:** Sequential development of biotic communities after disturbance/destruction
- **Examples of succession:**
 - Terrestrial:** Bare rocks – Lichens -- Annual Plants -- Perennial Plants and Grasses – Shrubs – Softwood Trees, Pines – Hardwood trees
 - Hydrosere:** Phytoplankton – Submerged plant – Submerged free-floating plant – Reed swamp (Sedge) – Marsh meadow – Scrub - Forest

SERIAL COMMUNITY (SERE)

An intermediate stage found in ecological succession in an ecosystem advancing towards its climax community.

► GLOBAL BIOMASS CENSUS

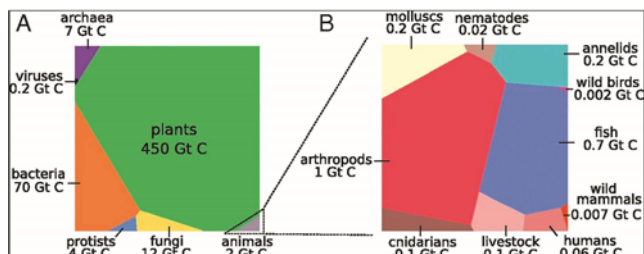
A global biomass found that there are ≈ 550 gigatons of carbon (Gt C) of biomass distributed among all of the kingdoms of life in the biosphere.

Plants are the dominant kingdom (≈ 450 Gt C) and are primarily terrestrial, whereas animals (≈ 2 Gt C) are mainly marine, and bacteria (≈ 70 Gt C) and archaea (≈ 7 Gt C) are predominantly located in deep subsurface environments.

Terrestrial biomass is about two orders of magnitude higher than marine biomass at approximately 6 Gt C of marine biota, although their NPP is roughly the same.

Human biomass (≈ 0.06 Gt C) and biomass of livestock (≈ 0.1 Gt C, dominated by cattle and pigs) is far greater than the biomass of wild mammals today (≈ 0.007 Gt C).

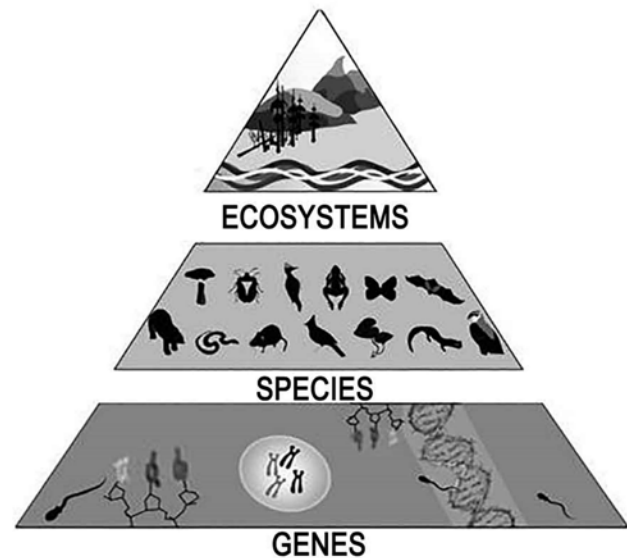
The same is true for wild and domesticated birds. The biomass of domesticated poultry (≈ 0.005 Gt C, dominated by chickens) is about threefold higher than that of wild birds (≈ 0.002 Gt C).

**► BIODIVERSITY**

- Biodiversity or Biological diversity is a term that describes the variety of living beings on earth. In short, it is described as degree of variation of life.

Biological diversity encompasses microorganism, plants, animals and ecosystems such as coral reefs, forests, rainforests, deserts etc.

- **Levels of Biodiversity:** There are generally three levels of biodiversity: genetic, species and ecosystem. These levels are all interrelated yet distinct enough that they can be studied as three separate components.

**► INVASIVE SPECIES**

An alien species is a species introduced by humans – either intentionally or accidentally - outside its natural past or present distribution, however not all alien species have negative impacts. It is these species that are termed '*Invasive alien species*' (IAS).

IMPACT

- Driver of biodiversity loss
- Leads to changes in structure & composition of ecosystems leading to detrimental impact on ecosystem services and humans.

COMMON INVASIVE SPECIES OF INDIA

FLORA	FAUNA
<ul style="list-style-type: none"> • Prosopis juliflora • Water Hyacinth • Snowflake Corals • Lantana 	<ul style="list-style-type: none"> • African apple snail • Papaya Mealy Bug • Amazon sailfin catfish

FLAGSHIP SPECIES	INDICATOR SPECIES	KEYSTONE SPECIES
Species chosen to represent an	Species whose presence	It is a species whose addition