**ECOLOGICAL RELATIONSHIPS**

**Ecological Relationships:** When the populations share an ecosystem, they interact and form a **feedback loop** on each other that leads to a population change over time.

**Feedback loop**: When part of the output of a situation is used for new input.

**Example**: Fox preying on Rabbit

**Relationships between species**

* **Competition**: When two or more organisms rely on the same environmental resources - sunlight, water, soil nutrients. It can be represented as -/-

**Example:** Leopards and lions depend on same prey

* **Predation / Herbivory**: The behavior of one animal feeding on another. More predators mean less prey and vice versa. It can be represented as +/-

**Predation Example**: Lion preying on deer

**Herbivory Example**: Panda eating bamboo

 **Symbiosis**: The close relationship of two dissimilar organisms. It has long term intimate relationships. It is an overarching term for Mutualism, Commensalism and Parasitism.

* **Parasitism**: A symbiotic relationship where one organism **benefits** and one is **harmed**. It is expressed like predation +/-

**Example**: Hair lice

* **Commensalism**: A symbiotic relationship where one organism **benefits** and one does not **benefit or is not harmed** +/.

**Example**: Barnacles on a whale

* **Mutualism**: A symbiotic relationship where **both** organisms **benefit** from the relationship. +/+

**Example**: Bees pollinating flowers

**Carrying Capacity**: The number of living organisms that can be supported in an area, stably OR the environment has certain amount of carrying capacity that restricts population from exploding.

**Carrying Capacity of populations depends on following factors**

* **Competition** for resources like food, water, sunlight, shelter
* **Predation** for their food on prey
* **Waste Accumulation** toxicity in the habitat
* **Natural Disasters!** Forest fires harming populations