Selection Pressures

Selection pressures are external agents which affect an organism's ability to survive in a given environment

- Selection pressures can be negative (decreases the occurrence of a trait) or positive (increases the proportion of a trait)
- Selection pressures may not remain constant, leading to changes in what constitutes a beneficial adaptation

Types of selection pressures include:

- *Resource availability* – Presence of sufficient food, habitat (shelter / territory) and mates
- *Environmental conditions* – Temperature, weather conditions or geographical access
- *Biological factors* – Predators and pathogens (diseases)

Selection pressures can be density-dependent (affected by population size) or density-independent (unaffected by population)

Examples of Selection Pressures

Density Dependent Factors
Predators
Availability of resources (e.g. shelter, water)
Nutrient supply (i.e. food source)
Disease / pathogenic spread
Accumulation of wastes

Density Independent Factors
Phenomena (e.g. natural disasters)
Abiotic factors (e.g. temperature, CO_2 levels)
Weather conditions (e.g. floods, storms, etc.)

Mnemonic: PANDA PAW