

Biology
Ecology
2012 - 2013
#2

- I. Species = a group of organisms that can interbreed successfully
 - a new species can be created by isolation
 - a species can be lost by extinction
 - extinction can be the result of natural selection or man-made

- A. Population growth
 - 1. types
 - exponential growth = rapid growth due to lack of limiting factors
 - forms a "J" curve
 - logistic growth = slow growth when controlled by factors
 - forms an "S" curve

 - 2. size of populations
 - large = too large can create a shortage of resources
 - small = too small can lead to inbreeding

 - 3. Density = number of individuals in a given area

 - 4. Dispersion = how the individuals are arranged in an area
 - random = random distribution
 - evenly spaced
 - clumped = in groups

II. Growth models

A. Factors that control populations

1. density-dependent factors = dependent upon the number of individuals
 - food, water availability
 - disease, parasites
 - predator/prey balance
2. Density-independent = not influenced by population numbers
 - weather events (blizzards, hurricanes, drought, flood)
 - changes in the ecosystem (water diverted)

B. carrying capacity = maximum number of individuals an environment can support