36.1 - Population Ecology - How & why pops change

- Population Structure plays a key role in _____ to identify and save _____
- Population ecologists study interaction between _____ and _____ factors
  - Study change in population size and _____

36.2 - Density & dispersion patterns

- Samples are used to estimate _____
  - or counted by indirect indicators (ex: bird nests / rodent burrows)
- _____ often result from unequal distribution of resources
- These population estimates allow researchers to monitor _____ & compare _____ and _____ with other populations
- Dispersion patterns also indicate _____

★ Types of dispersion patterns

- _____ = indv. grouped in patches (common in nature)
- _____ = even dispersion or

indiv.

- _____ = Spaced unpredictably (rare bc of varying habitat conditions)

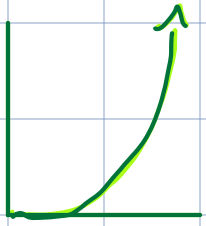
36.3 - Life tables track Survivorship of pops.

- _____ allow us to identify more vulnerable ages = ability to create effective measures to _____
  - Used by life insurance industry to predict _____, similar use by population ecologists
- Life tables are used to create _____ (3 types)
  - % Scale on X of max life span, % of _____
- Type I: Humans / large _____ produce few offspring but care for them (_____ likelihood of survival until maturity)
- Type II: Constant _____ over _____
- Type III: High numbers of offspring with little care with a _____ of survivorship until a certain age of maturity in which Survivorship _____

36.4 - Idealized models Predict patterns of Population Growth

Exponential Growth Model - rate of pop. increase under _____

$G = rN$ ← pop. Size



↑ Growth rate of population

Per capita rate of increase - Avg. contribution of each individuous to _____ -> Max capacity of members of pop. to _____

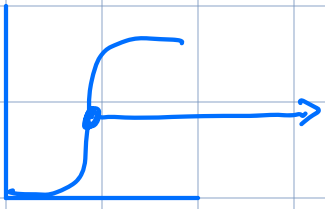
Logistics Model:

$G = rN \frac{(K-N)}{K}$

_____ : Max pop Size that an environment can Sustain.

-> Varies by _____

-> Affected by _____, _____, _____



→ Max growth

36.5 - Multiple factors limit population Growth

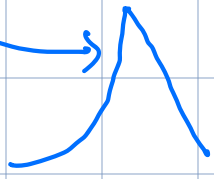
- Density dependent factors - _____ factors whose intensity is related to pop. _____
  - Intraspecific competition: competition between

_____ of the _____ species for _____ limited resources

- Density dependent factors _____ population growth by _____ the death rate, so survivorship ___ when pop. density ___
- Factors other than food: _____, _____ (like stress due to overcrowding)

_____ is unrelated to pop. _____

- _____ factors such as _____

Exp. growth →  ← Sudden decline

36.6 - Some populations have "boom-bust" cycles

- Some insects, mammals, and birds undergo dramatic density _____ regularly
- _____ are rapid exponential _____, followed by _____ where population _____ back to minimal levels
- This can be because of seasonal limited _____ and _____