Bio IC Final Exam Study guide: Population Biology and Conservation biology

What formula best describes actual population growth rate in a population? Add some numbers here:

\[ N = \]
\[ B = \]
\[ b = \]
\[ D (M) = \]
\[ d (m) = \]
\[ r = \]
\[ K = \]

What is the formula for the fraction of carrying capacity left (K)?

- Work some simple problems for \( \Delta N/\Delta T \) through, taking into account K, N, b and d (m)
- If K were not taken into account, \( \Delta N/\Delta T \) would be ?: know what \( r_{\text{max}} \) is
- Know that \( r \) is a rate (b-d). \( r \) is multiplied by N (population) to get to a number of individuals added to a population in a given time. \( rN \) is also multiplied by the formula for fraction of carrying capacity (know that) to get a realistic number taking into account how close to carrying capacity the population is.
- Know the graphs and curves for logistic and geometric (exponential) growth. What are the major differences between these types of population growth (focus mostly on logistic and geometric)
- What is the lag, log and saturation phases of the logistic curve
- Know age structure diagrams, and be able to look at one and predict a future trend in population growth
- Know survivorship curves (eg. For K and r selected species)
- Know what fertility means and what fecundity means
- Know the information on the powerpoint slides I posted (eg. Density dependent and density independent factors, factors affecting populations etc.)
- What is conservation biology?
- What is a population approach to conservation biology. What is an ESU as a population approach (eg. Steelhead). A species approach? An ecosystem approach? Be able to give some examples
- What is habitat fragmentation?
- What implications (effects) can habitat fragmentation have?
- What is population viability analysis and what does it take into account?
- What is a migration corridor? Why are they important to the management of some organisms?
- What is the real meaning of life anyway? (Answer: Plants. Because they make it all happen)
- Why am I doing all this, staying up late and stressing out? Answer: you are on your way to achieving greatness, and you get to make up what that means to you!