Week 8 General Ecology

Learning Goal: Understand the scope and societal relevance of ecology, and how processes at organismal and population scales influence each other.

After this week's pre-class assignments, students will be able to…

- Compare and contrast long-term versus short-term carbon cycling
- Define the term population
- Differentiate between logistic and exponential population growth
- Relate carrying capacity to logistic population growth
- describe changes in per capita growth rate in exponential and logistic growth curves
- Explain what information is exhibited in a survivorship curve
- Differentiate between r- and K-strategists
- Define metapopulation

After this week's class meeting students will be able to:

- Define ecology, and understand how abiotic and biotic interactions drive pattern and process at different organizational levels (individuals to ecosystems).
- Evaluate the relationship between life-history strategies and population growth, and how resource limitations force life-history tradeoffs.
- Identify factors influencing population growth, carrying capacity determinants, and explain why exponential population growth is unsustainable.
- Evaluate the role of density dependence in regulating population growth.
- Recognize how animal behavior influences ecological processes at all scales, from individuals to ecosystems.
- Describe characteristics of a metapopulation
- Predict colonization and extinction rates, and species number on an "island"