

BIO 320

Project on Population Dynamics

1. *Due* Wednesday, **7 December 2011**, the last class meeting.
2. *Length*: 10 pages *plus* references.
3. *Objective*: gain deeper understanding of the conceptual basis of population biology.

Project should examine a quantitative question (or questions) about the growth, decline or interactions of ecological populations. Grading will reflect the extent to which this objective is achieved.

4. *Methods*: Most students investigate properties of an existing model via numerical evaluation of a hypothesis. One could develop a new model.

Populus: software offers opportunities for numerical investigation of single populations, and interacting species.

Project will report behavior of model(s), and interpret behavior.

5. Example (assume *Populus*)

Select topic: For example, discrete logistic, age-structured growth, infectious disease, or other population-dynamic process.

You may choose to write your own equations in *Populus*' "Interaction Engine."

Ask question of the model; be specific, effects of parameter(s)

Run model repeatedly, using different parameter values

Save plots (to *Populus* folder)

Analyze results; answer your question(s)

Write the paper; include plots saved to validate interpretation