Population Ecology
Final exam review sheet

The final exam is closed book. Do bring a calculator.

Coverage: All lecture material from the discussion of resource competition (Feb 21) onward is fair game. All of the assigned readings from spring break onward are fair game for the final. Optional readings (those posted at the bottom of the webpage) will not be included on the midterm. Gotelli chapters 6-9 are fair game, although portions of Gotelli that we did not emphasize in class will not be covered. You are expected to understand the main ideas in the readings, but you aren't expected to blindly recall the technical details.

Format: Most questions will be short answer. There may be a few true/false or multiple choice, and there may be a few calculation-based questions.

I expect you to be able to do the following types of calculations:

- Find the fixed points and/or isoclines of simple models
- Use matrix multiplication to project the succession of an ecological community
- Calculate the Chao1 species richness estimator

You will not be asked to conduct an invasion analysis, although you should understand the thinking that underlies it.

You should be familiar with the following equations, and the thinking behind them. You do not need to memorize these equations above and beyond the extent that you need to do so to answer the questions listed above, but you should be able to recognize them.

- Competition-colonization trade-off models
- Lotka-Volterra predation
- SIR models of infectious disease transmission
- Matrix models of ecological succession
- Turnover time
- Recurrence time