

Study Guide for Quiz 2

This exam covers secondary productivity (starting in the middle of Lecture 6 on 9/23) and covers through the end of the global climate discussion (end of Lecture 12 on 10/16). The format will be similar to last time.

Assigned readings:

Krebs: Chapter 26. Ecosystem Metabolism II: Secondary Production
Chapter 23. pages 463-469. Food Chains and Trophic Levels
Chapter 27. Ecosystem Metabolism III: Nutrient Cycles
Chapter 28. pages 590-607

Articles: Pauly and Christensen 1995

There is a lot of information in the textbook that we did not cover in lecture. While the test is most likely to focus on material we discussed in class, any of the material from the assigned text is fair game.

Concepts:

Secondary productivity

Trophic levels and food webs

Efficiencies: Assimilation
Ingestion (or Consumption)
Production
Ecological (or Trophic Level)

Mean residence times and turnover rates

Biogeochemical cycles: N, P, S, C. For each, you should generally know:

- the largest reservoirs
- reservoirs with shortest and longest residence times
- the major natural fluxes
- the major ways in which humans alter the natural fluxes

Changes in atmospheric CO₂ and biological responses to increased CO₂

Stable isotopes – how they can be used to determine relative importance of different sources and how they are used to study food webs (page 466 in Krebs)