

Stoichiometric food web models
How food quality affects population structures

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Public Information:

During this short term visit, we began investigation of stoichiometric food web models of three trophic levels. Research goals included addressing the following question: How does producer nutrient content (food quality) affect population growth and the flow of energy and nutrients up the food chain and across trophic levels? This meeting provided initial discussions and brain storming for this stoichiometric modeling project. Discussions included the importance of ecological stoichiometry theory and its application to multiple species food web models. Topics and potential future directions discussed include researching modeling efforts made in the field of ecological toxicity, whether to incorporate a delay into the models, whether to incorporate demographic and/or environmental stochasticity into the models. This research will continue beyond this initial short-term visit at NIMBioS beginning in August. Collaborations between Angela Peace (Arizona State University, School of Mathematical and Statistical Sciences) and Lou Gross (NIMBioS and University of Tennessee Knoxville, Ecology & Evolutionary Biology) were made in order to begin discussing ideas for this research project.