COMPETITIVE IMPACT OF CHORUS FROG TADPOLES ON CRUSTACEAN ZOOPLANKTON. K. Geedey, A. Jaeger, and S. B. Hager, Augustana College, Rock Island, Illinois, 61201. In spite of potential competition for algal resources between anuran larvae and zooplankton, there is little literature on the subject. Most studies report only anecdotal evidence against competition from experiments that were not designed to directly assess tadpole-plankton interactions. We report the results of a manipulative field experiment we designed to measure the competitive impact of Western chorus frog tadpoles (*Pseudacris triseriata*) on a natural assemblage of crustacean zooplankton. We randomly assigned a series of 12 floating mesocosms (bags) to one of three experimental treatments: no tadpoles, three tadpoles, or nine tadpoles. Each bag also received an aliquot from a mixture of plankton tows that contained natural densities of zooplankton. The bags were filled with screened pond water to block colonization by additional zooplankton, but permit algae to start at ambient concentrations in all bags. The experiment ran for 16 days, at which time we released the tadpoles and harvested the zooplankton for analysis. The presence of tadpoles had a significant negative effect both on the density and physiology (lipid content) of *Daphnia* species, and had a strong negative effect on the density of *Ceriodaphnia*. Other crustaceans such as *Simocephalus* and cyclopoid copepods did not respond to the treatment. The results of this experiment suggest that the competitive impacts of tadpoles on plankton communities are species specific rather than community wide. Tadpoles may therefore cause important indirect effects in plankton communities by suppressing the densities of particular species.