**The Ecology of an Invasive Species: From Eggs to Ecosystems**

North American aquatic ecosystems are increasingly threatened by the arrival and proliferation of non-native, invasive species. In the Great Lakes region, the spiny water flea (Arthropoda: Crustacea) is a prominent example of an invader whose establishment in lakes has been linked to numerous changes in native food web structure and energy flow. In Minnesota, 35-40 of the state’s lakes, including some of the largest and most recreationally prominent, now support spiny water flea, and there is no known means of eradication. Our laboratory has worked to address a broad range of basic and applied questions surrounding its ecology and management including: What makes it a successful invader, What types of lakes are susceptible to invasion, What are its impacts and their timelines, and How can humans prevent its spread. To answer these questions, our approaches have spanned a scale of inquiry from individual eggs to whole ecosystems. In this seminar I will review past highlights and current directions.