Parasites infect all living things and, by definition, are capable of harming their hosts. Thus, it is important to know what makes parasites more or less abundant in particular communities. Many environmental factors determine the infection rates of parasite species. These include “abiotic,” non-living, factors like water temperature, which may affect the survival of the aquatic stages of parasite species. “Biotic” factors are living, such as hosts, whose population density can affect parasite transmission rates. In my project, I will attempt to discover the major determinants of infection by “white grub” (*Posthodiplostomum minimum*), a common parasite of bluegills (*Macrochirus lepomis*). I will compare white grub abundance in bluegills with a series of environmental factors in six lakes near Canton, IL, in order to determine which factors affect levels of white grub infection. At each lake, I will measure these abiotic factors: depth, temperature, turbidity, and oxygen concentration. The biotic factors at each lake will be the densities of white grub’s three hosts (bluegills, Herons, and snails), collected or observed during standardized times. White grub infection rates will be determined from a subset of bluegills from each lake. I will perform multivariate statistical procedures to determine which abiotic and/or biotic factors, if any, affect the proportion of hosts infected or the mean infection levels in the six lakes. These results will be important because they may suggest potential control strategies for this parasite.