May 8th, 9:30 AM - 4:30 PM

The Effect of Water Quality on Macrophyte Biomass in Small, Northern Illinois Impoundments

Jeremy J. Kirchman
Illinois Wesleyan University

Given Harper, Faculty Advisor
Illinois Wesleyan University

THE EFFECT OF WATER QUALITY ON MACROPHYTE BIOMASS IN SMALL, NORTHERN ILLINOIS IMPOUNDMENTS

Jeremy J. Kirchman, Dept of Biology, IWU, Given Harper*

To further understand the relationship between rooted macrophyte plants and nutrient regulation in lentic ecosystems, four man-made lakes at Max McGraw Wildlife Foundation, Kane County, Illinois were sampled from May to August, 1992 for submersed macrophytes. The total estimated plant biomass of each lake was then compared with levels of nutrients (nitrate, alkalinity, ammonia, and orthophosphate), turbidity and pH measured in the water column. Linear regression analysis showed no significant relationship between macrophyte biomass and levels of nutrients or physical parameters. The most plausible explanation for the lack of relationship observed is that macrophytes obtain their nutrients from lake sediments and not from the water column. A possible relationship was observed between macrophyte biomass and turbidity, which may have been due to biomass cycling from macrophytes to suspended (light scattering) algae.