

## **A Survey of Microcystin in Florida Lakes**

Bigham, D.L., D.E. Canfield, Jr., and M.V. Hoyer. Department of Fisheries and Aquatic Sciences, University of Florida. 7922 N.W. 71<sup>st</sup> Ave. Gainesville, FL 32653, ph. 352.392.4817, fax 352.392.4902, dlbigham@ufl.edu.

Total microcystin concentrations were examined using an Enzyme Linked Immunosorbent Assay (ELISA) in 186 Florida lakes encompassing a wide range of geographic locations and trophic states. Of 863 water samples analyzed only three samples from two different lakes had measured microcystin concentrations above the World Health Organizations (WHO) recommended recreational standard of 20 µg/ L. These values were measured in October and November of 2006. Most lake samples (95%) were below the WHO recommended drinking water standard of 1.0 µg/ L. An analysis of variance demonstrates that lake trophic state, using chlorophyll-a as the trophic state measure, is the primary determinant of which lakes will have elevated microcystin concentrations. Additionally, the microcystin concentration/ chlorophyll relationship is similar to algal biomass/ blue- green algal relationship for Florida lakes (Canfield, et al. 1985). Consequently, microcystin does not pose a consistent threat to recreation unless lakes are highly eutrophic and dominated by blue-green algae. Furthermore, the fact that highly eutrophic waters are not used as a primary drinking water source in Florida suggests that microcystin is not a major human health concern at this time.