



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002MI2B

Title: Water quality trends of Michigan inland lakes and their relationship to ecoregions:1974-2001

Project Type: Research

Focus Categories: Water Quality

Keywords: Michigan, Lake, Water-quality trends, Secchi depth, Volunteer-monitoring

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Congressional District: 8

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Abstract

The 15,000 lakes of Michigan are each unique ecosystems, yet all are susceptible to lake degradation due to anthropogenic stresses. However, most data on water quality trends in Michigan have focused on the Great Lakes. We have very little understanding of how Michigan's inland lakes have changed through time. For our proposed research, we plan to conduct a historical water transparency trend analysis, using volunteer collected data from Michigan's Cooperative Lakes Monitoring Program (CLMP) from 1974 to present. Our results will provide baseline data for understanding whether the water quality of lakes in Michigan is improving, decreasing or staying the same. We will also conduct a Geographic Information System (GIS) analysis to correlate trends in water transparency to ecoregions, to help identify whether different biophysical factors are linked to water quality trends. Results of this study will not only help individual communities in Michigan to create watershed management plans for their lake or watershed, but will also help lake management agencies in Michigan set priorities for statewide lake monitoring.