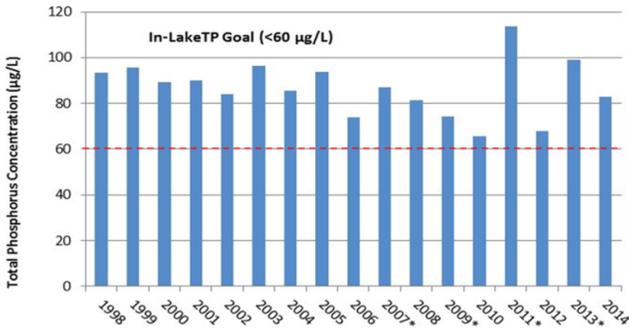


WATER QUALITY MONITORING, LAKE ALLEGAN ALLEGAN COUNTY, MICHIGAN

Kieser & Associates, LLC (K&A) wrote a 2013 Clean Michigan Initiative (CMI) grant that was successfully awarded to the Kalamazoo River Watershed Council (KRWC) by the Michigan Department of Environmental Quality (MDEQ). The grant focused on a comprehensive year-round assessment of current water quality and sediment conditions in Lake Allegan. Lake Allegan is a 1,587-acre impoundment on the Kalamazoo River near Allegan, MI situated approximately 30 miles upstream of the river’s confluence with Lake Michigan. The lake is on the State of Michigan’s Impaired Waters List and has been under a Total Maximum Daily Load (TMDL) requirement for total phosphorus (TP) since 2001.

- A lack of lake stratification during 2014
- Bottom waters remained oxic (oxygenated)
- Sediment TP and Fe detected at lower concentrations in September vs. May sampling, suggesting release into water column
- Inlet water concentration goals that were met 4 of 6 months during TMDL “growing” season
- Secchi depths and water clarity have demonstrated improvement
- Dissolved oxygen levels were always above the 5 mg/L goal
- Internal P recycling is dampening achievement of in-lake goals.

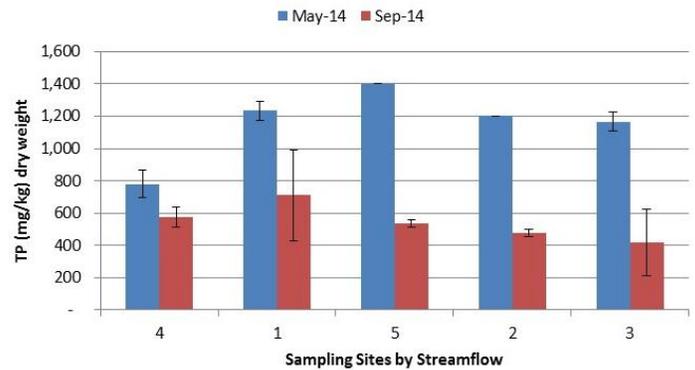


The purpose of this grant project was two-fold: 1) collect a robust dataset to build upon previous, historic TMDL water quality monitoring using the same sampling locations at the inlet, outlet, and within the reservoir as done in the original 1998 study and subsequently by MDEQ, and 2) gain a better understanding of potential internal phosphorus recycling by sediments and rough fish related TMDL implications for long-term recovery of Lake Allegan water quality.

A synopsis of the monitoring results revealed:

- Internal loading in select summer months due to bioturbation

2014 Lake Allegan Sediment TP



A comprehensive report on these efforts was prepared by K&A in 2015. Michigan State University is now cooperating with K&A on publishing findings.

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Project Costs:

\$54,000 (K&A)
 \$96,285 (Total)

Project Duration:

Apr 2013 - Sep 2015