Watershed Nutrient Legacies and their Impact on Current and Future Water Quality in the Lake Erie Basin

Lake Futures Webinar Summary | August 2020

About the Speaker

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About the Series

The Lake Futures Webinar Series showcases research on adaptive lake and watershed solutions that minimize trade offs between ecosystem health, water use and economic growth. The series promotes sharing and discussion about how these solutions can be used to improve water management outcomes.

KEY MESSAGES

- Nutrient (nitrogen and phosphorus) legacies have built up in intensively managed watersheds due to decades of fertilizer application. These legacy nutrients contribute to time lags between implementation of management practices and water quality improvements.
- To manage algal blooms and water quality we need to quantify lag times between implementing management practices and observing water quality improvements, and adjust our expectations.
- We need to diversify monitoring efforts to measure effectiveness of best management practices at different scales to understand how water quality improves throughout a watershed.
- Understanding where legacy nutrients are stored can help us spatially and temporally target conservation measures to manage these pools
- There is a need to consider downstream controls, like wetlands and reservoirs, for managing legacy nutrients already existing in the landscape.

NEXT STEPS

- Continuing to improve models to quantify how much and in what form legacy nutrients exist, and where they are stored. Continue to investigate how such nutrient legacies are mobilized. Use this enhanced knowledge to further refine our predictions of future lag times.
- What is the influence of climate change on mobilizing legacy stores in the future? Will shifts in temperature and rainfall patterns change how
- Nutrients are building up in our soils and watersheds. Can we effectively harvest it to be used as a resource?

RESOURCES

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