Discussion on
"Are Nutrient Policy Impacts on Recreation in Lake Erie as Murky as the Water?"

by Farzaneh Sabbagh and Stephanie Brockmann

Zhu Liang

Stony Brook University

December 29, 2024

Research Questions

Figure: HABs By James Proffitt, Great Lakes Now, 2020

- ▶ **Background:** Lake Erie has harmful algal blooms (HABs) from excess nutrients.
- ▶ **Problem:** HABs reduce water quality, impacting recreation and the economy.
- ▶ **Key Question:** How does a 40% nutrient reduction policy affect recreation and economic outcomes?

Contributions

Methodology:

- ▶ Integrated **economic** demand modeling (stated and revealed preferences) with **ecological** modeling outputs.
- ▶ Applied negative binomial regression to assess the sensitivity of recreational demand.

Contributions

Policy Implications:

- ▶ **Spatial Heterogeneity:** Demonstrated that water quality impacts vary significantly based on geographic location and specific ecological dynamics.
- ▶ **Trade-offs:** Provided insights into the trade-offs between recreational benefits and economic costs (e.g., agricultural and fishing industries) resulting from nutrient policies.

Potential Improvements

- **Sample Limitation:** The study may be limited by its geographical and demographic scope.
- **Endogeneity Concerns:** Address potential endogeneity issues in estimating recreational demand as a function of ecological variables.
- **Pending Data:** Critical data (angler surveys and comprehensive ecological model results) are still pending.

Conclusion

- ▶ This study offers essential insights into the impacts of nutrient policies on recreational activities in Lake Erie.
- ▶ The findings highlight the necessity for adaptive management strategies to balance recreational benefits with potential economic costs.