

Dr. John Hoornbeek, Director of the Center of Public Policy and Health (CPPH) and Associate Professor at Kent State University (KSU-CPPH), worked with staff and students at the KSU-CPPH to complete an Ohio Water Resources Center funded project via 104(b) USGS sub-award. This project titled “**Policy Tools for Reducing Harmful Algal Blooms**” is seeking to inform the policy conversation around addressing the nutrient enrichment issue in Lake Erie by conducting research that focuses on better understanding the policy tools currently being used to reduce nutrient runoff into the lake and what is being done elsewhere to address nutrient issues in major water bodies.



**Figure 1** John Hoornbeek and Dr. Joseph Ortiz discussing the project

We found that federal government agencies and the State of Ohio are making *substantial* efforts to reduce nutrient flows in the Ohio Lake Erie basin. They are requiring many hundreds of federal and/or state permittees to assess and/or develop nutrient treatment and management capacities. They are spending many millions of dollars on nutrient reduction efforts. They are also collecting and disseminating information on nutrient enrichment, HABs, and ways in which these problems can be addressed. And finally, both federal and state governing entities are organizing multiple efforts to address and/or manage flows of nutrients to the Lake Erie water basin.

However, based on information compiled and analyzed during the course of this project, we offer lessons and ideas for consideration by Ohio policymakers and natural resource practitioners. First, while the State of Ohio and federal government agencies are carrying out many activities to reduce nutrient flows, they appear fragmented. They do not appear to

be *implemented* in a way that adheres to a single coordinated and focused nutrient reduction strategy targeted to reduce nutrient flows in the Ohio Lake Erie basin. By contrast, at least several other water basin programs around the United States (US) appear to be focusing their nutrient reduction efforts in strategic and coordinated fashion, and these efforts also appear to be characterized by clearly articulated goals and publicly available tracking and accountability systems to measure progress. We found no similar tracking and accountability system in place for Ohio’s Lake Erie basin, and suggest that policymakers consider tasking a single organization to develop and implement such a system to track and report on progress in implementing nutrient reduction efforts (perhaps in coordination with other Lake Erie basin jurisdictions). Finally, our review of other basin-wide nutrient reduction programs -- including the Chesapeake Bay Program, the Long Island Sound Study program, and the Tampa Bay Estuary Program – identified additional policy tools targeting nutrient reductions that can be considered for use in Ohio’s Lake Erie basin. These include (but are not limited to): 1) more comprehensive nutrient management programs for animal feeding operations; 2) effluent trading programs applicable to nutrients; 3) efforts to work with the agricultural community to enable enhanced reporting on agricultural Best Management Practice (BMP) implementation for geographically specified watersheds, and; 4) additional revenue-raising programs to support state level nutrient reduction efforts.

Researcher Profile: Dr. John Hoornbeek studies environmental and public health policy, and his research spans issues of local and state concern to issues with national and international implications. He has served as a policy practitioner at the federal, state, and local levels of government in the US. His public service work has included appointments with the Milwaukee County Department of Health and Human Services, the Wisconsin State Legislature, the U.S. Environmental Protection Agency, the U.S. Congress, and the National Environmental Services Center at West Virginia University. Dr. Hoornbeek earned his Doctoral Degree from the University of Pittsburgh, his Master’s Degree from the University of Wisconsin – Madison, and his Bachelor’s Degree from Beloit College.