

Chairman Schaffer, Vice Chair Koehler, Ranking Member Hicks-Hudson, and members of the Senate Agriculture & Natural Resources Committee, I am Dr. Lauren Kinsman-Costello, Associate Professor in the Department of Biological Sciences at Kent State University and a member of the Lake Erie and Aquatic Research Network, or LEARN. I lead the H2Ohio Wetlands Monitoring Program, which is funded by the Ohio Department of Natural Resources (ODNR) and led by a team of university scientists.

As part of the H2Ohio Program, the ODNR has now supported more than 200 wetland projects. The Wetland Monitoring Program that I lead determines how effective these wetlands are in reducing the phosphorus and nitrogen that drive the formation of Harmful Algal Blooms (HABs) in Lake Erie and other inland water bodies, thus ensuring a positive return on statewide investment in wetlands.

The ODNR restores wetlands using the best available information, but there are still gaps in our scientific understanding. Wetland ecosystems have been called “the kidneys of the landscape” because of their ability to filter pollutants and improve water quality. But, no two wetlands are identical, and newly restored and constructed wetlands are especially variable. To maximize the effectiveness of coordinated restoration efforts, the managers need ways of predicting which restoration techniques will be most effective and how specific kinds of projects in certain places will process nutrients. Previous wetland monitoring efforts assessed the quality of wetland habitat for plants and animals, but not their as-built capacity for the mostly invisible water filtration and nutrient removal processes. The H2Ohio Wetland Monitoring Program meets this need.

The H2Ohio Wetland Monitoring Program is led by university scientists. Since the Monitoring Program’s inception in July of 2020, I have led this team of researchers, staff, and students from six Ohio universities. Our mission is to independently assess the function of the diverse wetland restoration projects implemented by the ODNR. This information not only allows Ohio to ensure that wetland restoration efforts are a sound investment but also improves the selection, design, and management of new wetland project investments.

Some of the most influential and early wetland restoration science came from Ohio. Through the H2Ohio Initiative Wetland Restoration and Monitoring Programs, Ohio continues to be a leader in wetland science and practice. Our coordinated Monitoring Program studies dozens of diverse and unique wetland projects under a single, unified framework. No other program like this exists, and it is the envy of other states, particularly in the Great Lakes.

Our Monitoring Program is successful, robust, and meets a critical ongoing need to improve and maintain water quality for Ohioans. A recent scientific review revealed that a bare minimum of three years of monitoring data is necessary to adequately assess the nutrient removal impact of wetlands.

We have begun monitoring over 40 H2Ohio wetland projects, many of which were so recently completed that they haven't been in place for over three years. Our soon to be released update finds because conditions were so dry in 2023 and 2024, our monitoring data don't yet provide a complete picture of how H2Ohio wetlands are working. This is not unsurprising. I don't need to tell you how much the weather can change from one year to the next, and any ecosystem scientist like me will point to centuries of observations and decades of research showing that to fully assess and understand an ecosystem like a wetland, multiple years of monitoring is required.

Although our results are preliminary, ODNR managers will attest that we've already provided useful guidance. For example, we've helped them to prioritize wetlands that are well connected to nutrient sources and thus will have the largest "bang for their buck" in regards to meeting nutrient load reduction goals. We've cultivated partnerships with landowners, state agencies, non-profits, and other conservation partners implementing and managing wetland projects, and we've engaged with interested community members and stakeholders as we collect data to better understand the wetlands being built in their backyards. We've built workforce capacity in natural resource management and science by training students and early career professionals. In addition, we've leveraged the state's investment in wetland monitoring by obtaining additional federal and state grants to expand our capacity to collect and synthesize data and inform practice.

Through H2Ohio, the state has made an unprecedented investment in science-based water resource management. But this investment will only pay off with sustained effort, which experts knew from the start. The fundamental biological processes that I study dictate this. The algae cells in Lake Erie that proliferate and produce toxins when supplied with ample nutrients don't pay attention to budget cycles. Taking vital resources away from efforts to implement and monitor interventions for water health, like wetlands, now will undermine and potentially negate all the hard-won progress that has been made to ensure long-term supplies of clean water and reliably healthy ecosystems, which support vital Ohio industries and the health and well-being of Ohio communities. I urge this committee to support the H2Ohio investment initially requested in Governor DeWine's budget proposal for the good of all Ohioans.