

Ohio Sea Grant Manages Collaborative State Research to Help Solve Lake Erie Water Issues

Impact Statement 2020

INVESTIGATORS

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SUMMARY

For the past five years, Ohio Sea Grant has been leading the grants management of several state research initiatives. Ohio's Harmful Algal Bloom Research Initiative (HABRI), managed by Ohio Sea Grant in partnership with The Ohio State University, The University of Toledo and the Ohio Department of Higher Education, is a statewide initiative that aims to address Lake Erie's harmful algal bloom problem. The Lake Erie Protection Fund finances on-the-ground projects aimed to restore Lake Erie and its watershed, while the Sandusky Bay Research Initiative focuses efforts to decrease HABs severity in the Sandusky Bay area. In 2020, Ohio Sea Grant and the Ohio Department of Natural Resources began a partnership to monitor wetland restoration projects under Governor Dewine's H2Ohio Initiative. Since 2015, Ohio Sea Grant has managed over \$14 million in grant funding related to harmful algal blooms and water quality.



SITUATION

Ohio's Harmful Algal Bloom Research Initiative is a statewide response to the threat of harmful algal blooms (HABs). The initiative arose out of the 2014 Toledo drinking water crisis, where elevated levels of the algal toxin microcystin in Lake Erie threatened drinking water for more than 500,000 people in northwest Ohio. This event also emphasized the need for collaboration between academia, government agencies and non-governmental organizations in addressing Lake Erie's harmful algal bloom problem. go.osu.edu/habrivideo

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RESPONSE

To better position the state to prevent and manage future algal water quality issues, Ohio Sea Grant helps coordinate and manage HABRI and has done so since 2015 through a partnership among The Ohio State University, The University of Toledo and the Ohio Department of Higher Education. The research initiative consists of more than 30 science teams across Ohio working on critical HABs knowledge gaps identified by front-line state agencies. Since 2015, Ohio Sea Grant has helped manage more than 70 HABRI research projects related to harmful algal blooms, including about \$10 million in direct funds and more than \$10 million in leveraged funds.



IMPACT

HABRI has already yielded results that have informed changes at the state level. Lake Erie now has multiple early warning systems that give water treatment plants a high-resolution picture of what could be affecting drinking water in real time. The Ohio Department of Natural Resources (ODNR) has changed the way it collects information on algal toxin concentrations in sportfish fillets, sampling more frequently during HAB season and from a wider range of Lake Erie locations. And the Ohio Environmental Protection Agency has modified its permit procedure to better safeguard Ohioans when HABRI projects showed that farm crops might take in microcystins from water treatment residuals. Overall, HABRI continues to drive information sharing and priority setting between universities and agencies, positioning Ohio to better prevent and manage future crises.



Ohio Sea Grant's effective work with HABRI has also led to similar smaller initiatives being led by the program. The Lake Erie Protection Fund, established by the Ohio Lake Erie Commission, has financed research and on-the-ground projects aimed at protecting, preserving and restoring Lake Erie and its watershed. Since 2017, Ohio Sea Grant has co-managed a portion of these funds and leveraged them with Ohio's NOAA Sea Grant research budget. Also since 2017, Ohio Sea Grant has managed research funds for the ODNR Office of Coastal Management as part of the Sandusky Bay Research Initiative, which aims to decrease the severity and duration of HABs in Sandusky Bay while also increasing the aesthetics of the region's shoreline. In 2020, Ohio Sea Grant and the Lake Erie and Aquatic Research Network (LEARN) partnered with the Ohio Department of Natural Resources on the state's H2Ohio Initiative's wetland monitoring plan. The group will assess the effectiveness and future role of implemented and planned wetland restoration projects.

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