H2Ohio

H2Ohio Accomplishments for Fiscal Year

2022

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"H2Ohio is making an impact on Ohioans across our great state, but now is not the time to stop and celebrate. Now is the time to continue pushing forward, dedicating our efforts, and investing in our greatest resource to provide a better, healthier, and safer future for all."

– Mike DeWine, Governor

MIKE DEWINE
GOVERNOR OF OHIO

Ohio | Department of Agriculture

Ohio Department of Natural Resources

Ohio Environmental Protection Agency

Ohio | Lake Erie Commission

H2Ohio Accomplishments
for Fiscal Year 2022

Contents

Letter from the Governor

▲ *ABOVE: Governor Mike DeWine participates in a H2Ohio water quality test demonstration at Bowling Green State University.*

Dear Fellow Ohioans,

It has been an exciting year for H2Ohio! We have taken unprecedented steps to preserve Ohio's water and make it accessible to all Ohioans, and I am pleased with the progress made to address the water quality concerns that have been building in our state for decades. This third annual report outlines H2Ohio's progress and continued commitment to providing clean and safe water statewide.

I thank the members of the Ohio General Assembly and our many partners for their continued support to make these important efforts possible.

Farmers across the Western Lake Erie Basin (WLEB) are answering the call to improve water quality, and I applaud their voluntary conservation efforts. Through the expansion of H2Ohio into all 24 counties of the WLEB, the Ohio Department of Agriculture (ODA) has enrolled 1.2 million acres of cropland into agricultural best management practices. We will now begin to assess the impact these best management practices have on the landscape through an agreement between ODA, the Ohio Farm Bureau Federation, and the Blanchard River Demonstration Farms. This assessment will guide us into the future and allow H2Ohio to continue these important conservation efforts to reduce the harmful algal blooms in Lake Erie. We will also soon be able to assess, based on updated modeling, what additional conservation measures will be needed.

ODA and the Ohio Department of Natural Resources (ODNR) have been working hand in hand to reduce phosphorus runoff. ODNR's efforts include the creation or restoration of nearly 90 wetlands. These wetlands filter thousands of acres of watershed. Thanks to H2Ohio and ODNR's efforts, wetlands are being constructed now in the Ohio River Basin, expanding our important work statewide.

H2Ohio has changed the lives of Ohioans who were living in communities without access to reliable, clean, and safe drinking water. Through Ohio EPA's efforts, almost 25,000 Ohioans now have new water and sewer infrastructure to ensure clean and safe water.

H2Ohio is making an impact on Ohioans across our great state, but now is not the time to stop and celebrate. Now is the time to continue pushing forward, dedicating our efforts, and investing in our greatest resource to provide a better, healthier, and safer future for all.

Very respectfully yours,

Mike DeWine
Governor of Ohio

Executive Summary

▲ *ABOVE: Governor Mike DeWine discusses farming best practices with local farmers at an H2Ohio press conference in Toledo.*

Through strong collaboration led by Governor Mike DeWine and among state agencies, H2Ohio has focused resources to provide clean and safe drinking water for all Ohioans. Now, three years into the H2Ohio initiative, communities across the state are benefiting from Ohio's concerted efforts to provide this basic necessity. This report details the work completed through H2Ohio's third year and how the initiative aims to progress into the future.

H2Ohio continues to see tremendous support from farmers in northwest Ohio. The Ohio Department of Agriculture (ODA) worked with local Soil and Water Conservation Districts in the 24 counties in the WLEB to continue enrolling producers into proven best management practices to reduce nutrient runoff that contributes to harmful algal blooms. Nearly 1.5 million acres of farmland across the WLEB are enrolled in voluntary nutrient management plans, which are the cornerstone best management practice for all H2Ohio producers.

Building on these nutrient reduction efforts, the Ohio Department of Natural Resources (ODNR) continued creating and restoring wetlands statewide. Not only are wetland projects breaking ground in areas across Ohio, including the Ohio River Basin, ODNR celebrated the completion of 23 wetlands this year. In all, 88 wetlands have been created or restored, filtering 100,000 acres of watershed in Ohio.

Ohio EPA continued to concentrate on focus areas that improve water quality, protect public health, and provide positive change to the lives of Ohioans. Through Ohio EPA's efforts, $3.9 million in H2Ohio funds was dedicated to economically disadvantaged communities across the state to improve wastewater treatment infrastructure and drinking water access. Additionally, Ohio EPA continued to reduce exposure to lead service lines through the mapping and elimination of lead service lines to households.

With $4.9 million in H2Ohio funding, nearly 500 lead service lines will be removed, and 48 public water systems received grants to identify and map lead service lines.

The Ohio Lake Erie Commission (OLEC) leads collaboration and coordination of H2Ohio among ODA, ODNR, and Ohio EPA. In H2Ohio's third year, the biennium budget included funding for OLEC for the first time. The Commission is using these funds to develop an H2Ohio watershed model analysis of the WLEB. This model will provide insight into important questions that face the H2Ohio initiative, such as the effectiveness of conservation practices on the landscape, and how long will it take to achieve nutrient reduction goals.

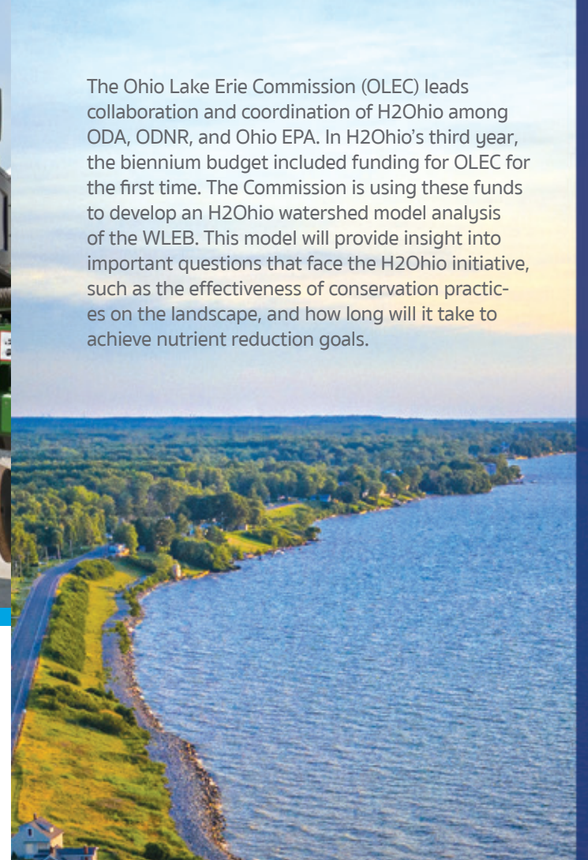


PHOTO: Lake Erie Coastline Newph's Landing Ohio

The following pages provide a more detailed breakdown of the H2Ohio work undertaken by the Ohio Department of Agriculture, the Ohio Department of Natural Resources, the Ohio Environmental Protection Agency and the Ohio Lake Erie Commission.

By the Numbers

1.5 Million Acres in voluntary nutrient management plans

705 lead service lines to be replaced

100,000+ acres of watershed filtered by wetland projects

11,940 acres of wetland and ecosystem restoration

13,740 number of people to be served by 16 wastewater projects

14,500 people to be served by 12 new drinking water projects

480 home sewage treatment systems to be repaired or replaced

3,000 Square Miles of additional watershed to be monitored for nutrient content

20 new rain gages installed

Nearly 35% of the Western Lake Erie Basin cropland enrolled

1.2 Million Acres enrolled in best management practices

2,400 Producers have entered into agreements

Ohio Department of **Agriculture**

Governor DeWine's H2Ohio Initiative, now in its third year, continues to see tremendous participation from agricultural producers. The program incentivizes producers for implementing proven, science-based Best Management Practices (BMPs) on their cropland to help reduce nutrient runoff into Ohio's waterways.

Producers have taken part in two growing seasons. With the second season's harvest about to begin, 86% of producers who initially signed up are still enrolled in the program and have signed contracts to continue through the 2023 growing season in the original 14 counties of the Maumee River Watershed - Allen, Auglaize, Defiance, Fulton, Hancock, Hardin, Henry, Lucas, Paulding, Putnam, Mercer, Van Wert, Williams, and Wood.

Ohio Department of Agriculture

In 2022, ODA's H2Ohio producer incentive program expanded to 10 additional counties – Seneca, Huron, Erie, Wyandot, Richland, Shelby, Sandusky, Marion, Ottawa, and Crawford – to encompass all of the WLEB. Producer participation remained strong. In the 24 counties combined, there are approximately 2,400 contracts with 1.5 million acres enrolled. That is nearly 35% of the total cropland in those 24 counties. Each of those enrolled acres now has a nutrient management plan with current soil tests and fertilizer recommendations.

By the Numbers

2,400 Agreements
signed by producers to implement practices on the farm

1.5 Million Acres
enrolled in Voluntary Nutrient Management Plans

Nearly 35%
cropland enrolled throughout the Western Lake Erie Basin

1.2 Million Acres
enrolled in other proven, cost-effective Best Management Practices

what they are saying...

"Water quality is an important thing, especially within the Western Lake Erie Basin. We've been tasked with a 40% reduction of phosphate going into the water. H2Ohio is the best vehicle we've had to accomplish that so far."

Kris Swartz, *H2Ohio Producer and OACI Chairman*

Program Successes

H2Ohio's success is evident by the strong commitment from producers. From its inception, H2Ohio has garnered high interest from the agricultural community. Producers have shown they are committed to improving water quality through voluntarily implementing BMPs.

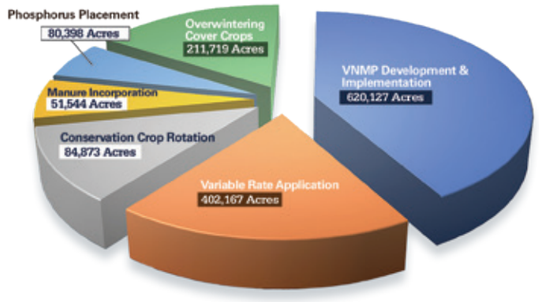
As H2Ohio expanded to 10 more counties in 2022, an additional 620,000 acres were enrolled through 809 contracts. Contracts in the WLEB Expansion include practices for the 2023, 2024, and 2025 crop years.

The expansion allowed ODA to refine its process and further develop H2Ohio into a truly lasting effort. Each growing season is an opportunity to employ conservation practices, with benefits recognized long after the year-long venture. They can then be built upon in the next growing season, working toward long-term positive effects on Ohio's water quality.

At the start of H2Ohio, all seven BMPs were offered to producers initially, and producers could choose which practices to implement on their land. Through experience gained from the first year of H2Ohio practice implementation, ODA has adapted and amended its process for enrollment for the expansion area and moving forward. Producers will now start with the Voluntary Nutrient Management practice, initially. The VNMP assesses the soil, determining the amount of nutrients in the land and where and how much fertilizer should be added. Completing the VNMP first allows a producer to more accurately pick the other BMPs which will work best on their land.

Of the 1,122,950 million acres enrolled in the VNMP in the original project area, 83% have a completed or nearly completed VNMP. Approximately 10% of the cropland acres have been cancelled by the program participant and removed from the program. This attrition rate was expected at the onset of the program, and the cancelation numbers did not exceed original expectations. Enrollment was reopened in the Maumee River Watershed which added approximately 25,000 acres and compensated for some of the acres removed from the program. Enrollment retention is expected to increase moving forward as producers better understand ODA's H2Ohio Program.

Completed Best Management Practices, Maumee River Basin – 2021



The statistics are up to date as of July 1, 2022. Practices in each county will continue to be verified through 2022 so the numbers are expected to grow by the end of the year.

Much has been learned through implementing H2Ohio over the past three years, allowing for refinement in several areas. Working with the Soil and Water Conservation Districts (SWCD), enrolled producers in the original 14 county project area have determined the appropriate BMPs for their cropland and have successfully implemented the practices for two growing seasons. In the expansion area, the sign up was opened for all seven BMPs after the completion of the VNMPs. Those BMPs will be implemented in the next growing season.

The expansion of H2Ohio allows for a greater number of BMPs now implemented across a larger area of the state. Here is the breakdown of contracts and acres enrolled per county:

By the Numbers, WLEB Expansion Area

County	Contracts/ Producers	2023 VNMP Implementation Acres	Contract Funds
Crawford	115	109836.35	$10,165,718.50
Erie	51	49490.22	$4,689,931.05
Huron	85	85876.22	$9,239,507.20
Marion	38	55506.29	$7,209,810.15
Ottawa	83	41826.40	$4,478,624.00
Richland	33	24636.71	$2,258,307.40
Sandusky	139	89923.36	$12,142,376.40
Seneca	127	70786.10	$9,963,130.00
Shelby	84	34220.30	$3,636,892.00
Wyandot	54	58025.46	$5,429,493.95

As new methods evolve in the agriculture industry, the H2Ohio team strives to be a leader in conservation efforts. An exciting advancement in 2022 is the announcement of funding for the construction of two-stage ditches across 24 counties in the H2Ohio project area. Two-stage ditches help reduce sediment and nutrient loads, significantly reduce bank erosion, and provide additional water storage during runoff events. ODA hopes to achieve additional reductions of phosphorus and sediment loading to Lake Erie with this effort.

ODA will be accepting applications for two-stage ditch projects from county engineers and SWCDs later in the summer of 2022 and will notify successful applicants by the end of the calendar year. Design and construction of the two-stage ditches will be completed in the following 24 months.

Budget

ODA is appreciative of the continued support from the Ohio General Assembly. In the last biennium budget, $120 million was allocated for ODA's H2Ohio producer incentive program, $60 million each for FY 2022 and FY 2023. That is broken down into $49.3 million from GRF and $10.7 million in Soil & Water Phosphorus Program Funds from GRF (SB 299). The funds are distributed to producers through the SWCDs once the BMPs are completed and verified. H2Ohio participants continue to document the final practices completed for 2021, and for the current 2022 crop year.

With high producer participation in the H2Ohio Program, extra SWCD staff has been necessary to carry out the Program. $7.2 million of the SB 299 funds will pay for 24 SWCD staff positions and seven multi-county nutrient management specialists.

ODA has sought out grant funding to leverage additional H2Ohio efforts. Great Lakes Restoration Initiative (GLRI) funding of $2 million has been secured to help cover program staffing costs. A WLEB Expansion Regional Conservation Partnership Program Grant for $8 million will be utilized for the installation of manure management structures. An application has also been submitted for a $15 million Climate Smart Commodities Grant to support water quality improvement efforts.

Partnerships

ODA has been fortunate to build many valued partnerships and to collaborate with important agricultural, environmental, and educational organizations through H2Ohio.

Blanchard River DEMONSTRATION FARMS NETWORK

In May 2022, ODA entered into an agreement with the Ohio Farm Bureau Federation (OFBF) and Blanchard River Demonstration Farms to assess the agronomic and economic impacts of H2Ohio BMPs. The goal of the project is to evaluate the H2Ohio BMPs to allow for more informed farmer and policy-making decisions. As part of this evaluation, important agronomic information will be collected and analyzed including crop yield, crop health, soil health, soil test trends, practice profitability, and nutrient budgeting. Fact sheets will be developed to better inform producers on the long-term incorporation of BMPs. Economic evaluation tools will also be created to determine the profitability of each BMP for policymakers, conservation planners, and producers.

OACI
Ohio Agriculture Conservation Initiative

In FY 22, ODA continued a strong relationship with the Ohio Agricultural Conservation Initiative (OACI), which is made up of agricultural, research and environmental entities. In February 2022, OACI released an Assessment Survey Report on practices being used by farmers in the Lower Maumee River Watershed to manage water and nutrients. This survey looked at conservation practices being used prior to implementing H2Ohio practices and will serve as a benchmark for assessing the success of the H2Ohio BMPs. Additionally, all producers enrolled in H2Ohio will be required to be certified through OACI's Farmer Certification Program. The OACI certification program will help increase the adoption of BMPs and recognize farmers who demonstrate a commitment to continuous improvement.

Finally, ODA is collaborating with federal partners to better understand the environmental impacts of H2Ohio practices, as well as economic and agronomic impacts on producers. Dr. Kevin King of USDA Agricultural Research Service is partnering with ODA to evaluate the impact of several H2Ohio BMPs through side-by-side comparisons and edge-of-field water quality monitoring stations that are already in place. This will provide valuable information to guide ODA decisions for future H2Ohio programming.

Vision for the Future

ODA has a clear vision for the future of the H2Ohio water quality incentive. ODA's H2Ohio Program will continue to focus on reducing both nutrient and sediment loads to Ohio's lakes, rivers, and streams from Ohio's agricultural lands. As the program grows and expands further, the foundation will continue to be the development and implementation of a VNMP, or similar assessment suited to grazing land when appropriate. The exact practices employed by ODA will depend on the specific water quality concerns, land uses, and region of the state.

Efforts to reduce workload for program delivery will also continue. The program has been refined year after year since its inception and has developed into a streamlined process to be implemented across Ohio. ODA is currently studying other regions as potential expansion areas.

ODA is also looking to develop management software for producers, consultants, and SWCDs to improve program delivery and consistency.

Developing program offerings and practices for grazing and pastureland is being considered to take H2Ohio beyond cropland.

Conclusion

The continued success of H2Ohio is possible through the support of the General Assembly. With current producer enrollment, ODA has expended all funding available through the biennium. To expand across the state and further grow the program, more funding will need to be secured.

Through House Bill 7 in the 133rd General Assembly, ODA was tasked with developing a statewide program to improve Ohio's watersheds. This is an important initiative that will create regional watershed planning and inspire more conservation efforts. To accomplish this, ODA hired seven regional watershed coordinators to oversee efforts in each area. ODA is hopeful this effort will garner continued support from the General Assembly, including funding to allow for the project to be fully executed.

ODA is fully committed to the success of the H2Ohio water quality incentive. The collaboration between agencies, partners and producers has grown H2Ohio into a strong and lasting initiative. With continued support, ODA is confident H2Ohio will expand further and have a long-term, positive effect on Ohio's water quality.

House Bill 7
Annual Report

Vision for the Future

House Bill 7, which was passed by the General Assembly in April 2021, created a statewide watershed planning and management program to be administered by ODA to improve and protect the state's watersheds. ODA's Division of Soil and Water Conservation oversees the Watershed Program which provides watershed planning across the entire state, with a dedicated manager for each of seven regions.

The program provides regional scale watershed planning, supports local watershed activities, and provides the groundwork for new conservation efforts. The program considers all water quality issues within each region, with special attention given to nutrient loss from both agricultural and non-agricultural activities. This program offers long-term collaborative support and focuses on water quality for the future.

ODA hired seven watershed managers, one for each region. They are a diverse group of individuals with a breadth of knowledge and expertise. Watershed managers engage in watershed planning and management through a collaborative network of stakeholders, supporting local efforts, and developing a watershed planning framework for implementation of regional-scale conservation programs.

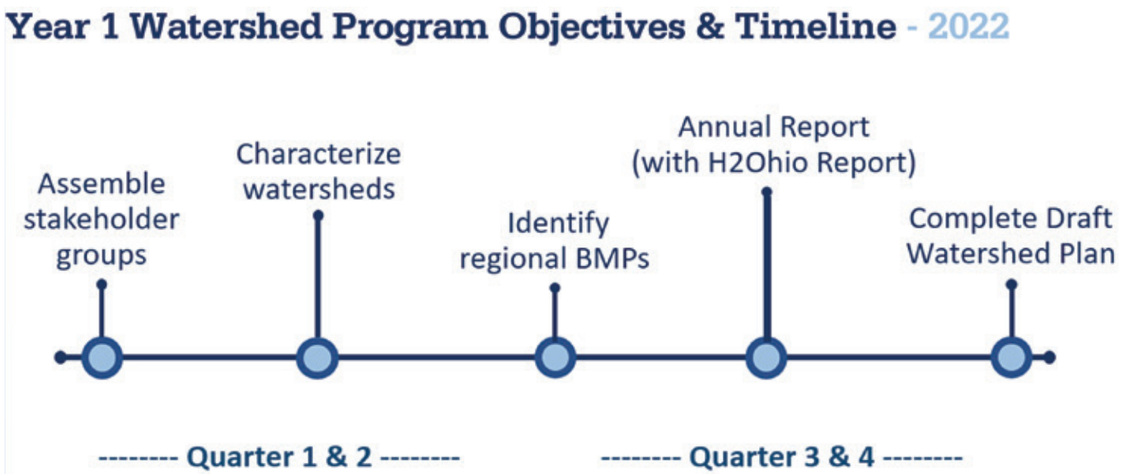
Objectives and Timeline

ODA Watershed Program objectives developed directly from House Bill 7 are as follows:

- Appoint a watershed manager for each of the seven regions.
- Identify sources and areas of water quality impairment, with attention to nutrients.
- Engage in watershed planning restoration, protection, and management activities.
- Support a certification program for producers.
- Collaborate and engage with all stakeholders involved in water quality work.
- Produce an annual water quality report for theODA Director.

Within these program objectives, ODA developed goals and a timeline for the first year of the program. Regional watershed plans are needed to guide watershed planning and management activities, so the first-year goals are steps to develop these plans:

- Assemble stakeholder groups.
- Characterize watersheds.
- Identify appropriate BMPs.
- Explore potential funding opportunities.
- Annual report to ODA Director.
- Complete watershed draft.



Watershed Planning

Effective watershed management requires systematic planning. For this program, regional watershed plans are the foundation, and characterizing each region is a vital step in developing the watershed plan. To characterize the regions, watershed managers compiled information to summarize the physical characteristics, land-use, agricultural activity, and primary sources of water quality impairment. This information will be part of a regional watershed plan which, in conjunction with local and regional planning goals and projects, will be used to develop priorities for conservation efforts, targeting each region's unique water quality needs.

Progress to Date

Developing the Watershed Program has progressed smoothly, with several notable milestones achieved since the start of the year. ODA has hired seven watershed managers, developed the framework, established stakeholder groups, and and is in the process of characterizing the watersheds.

Once the watershed managers were in place after the first of the year, they immediately started developing and coordinating watershed management in each of the watershed regions. The first several months focused on networking with regional stakeholders and developing the framework for a regional watershed plan. After establishing the watershed plan framework, the team began compiling water quality data to characterize each watershed.

Since each region has many stakeholders, groups were created to facilitate effective interaction. Three stakeholder groups were identified:

SWCD Core

This group consists of district personnel involved in watershed or water quality focused efforts.

Technical Assistance Teams (TAT)

Each region has a TAT made up of experts representing state, federal, local, and non-government organizations involved in water quality work.

General Stakeholders

This group includes those in the region whose work relates to or has interest in water quality.

In April, ODA initiated formal stakeholder outreach through a meeting that brought all regional TAT members together. Since then, each watershed manager has met with their regional TAT group and held several meetings with their SWCD core group. General stakeholder outreach is being planned.

At the same time, watershed managers gathered data to characterize their region. Each developed a draft characterization which was reviewed with each TAT. The draft will receive further internal review and revision, then it will go before a broader group of stakeholders for input. As watershed characterization is finalized, the team will work with their stakeholder groups to identify BMPs that would be appropriate for the needs of the region. Assessing these BMPs and making recommendations will be the next step in developing the regional watershed plan.

In addition to the regional watershed planning efforts, watershed managers have helped in many ways toward the overall efforts of conservation and water quality. This has included aiding in the H2Ohio verification process in the WLEB expansion area. Watershed managers are also assisting SWCDs and Ohio EPA with local watershed modeling implementation activity, local watershed planning, participating in partner-led regional watershed planning efforts and grant program proposal review and evaluation, and discussing ongoing development of OACI certification.

Conclusion

Ohio water resources face a variety of challenges across the state. Geography, land use, and economic activity vary widely, bringing unique concerns and priorities to the forefront in different regions. The ODA Watershed Program has a unique opportunity to provide regional-scale watershed planning and leadership and support, while collaborating with local efforts and filling gaps in areas that need additional focus. ODA's team of watershed managers has begun to build a vision for long-term water quality stewardship, by strengthening stakeholder networks, understanding the water quality needs of each region, and systematically developing regional watershed plans. This will provide a foundation for expansion of existing conservation efforts and will lead to developing new conservation programs to address water quality concerns.

Ohio Department of **Natural Resources**

ODNR's role within H2Ohio focuses on improving water quality through natural infrastructure by creating, restoring, and enhancing wetlands across the state.

Wetland Creation, Restoration, and Enhancement

Wetlands naturally improve water quality by trapping, filtering, or removing excess nutrients and other pollutants in surface water on a long-term basis. Wetland and floodplain restoration also can help mitigate high flow events in rivers or streams to minimize property damage and pollution caused by downstream erosion and flooding. At the same time, wetlands are among the most productive ecosystems from a wildlife habitat perspective. Because of this, wetlands provide priceless recreational opportunities for outdoor enthusiasts of all kinds.

ODNR's H2Ohio Program Structure

The ODNR team, which includes staff from a variety of divisions with different areas of expertise, collectively identified high-impact wetland creation, restoration, and enhancement project opportunities.

The projects are focused on waterways that have experienced increased frequency and intensity of Harmful Algal Blooms (HABs) in recent years.

The highest priority H2Ohio wetland projects are:

1. located in watersheds that contribute high levels of nutrient runoff,
2. situated to filter the drainage from a large area of high nutrient landscape,
3. sized to have a wetland area that is efficient, relative to the contributing watershed, and
4. offer intangible benefits, such as public access for recreation or the assurance of long-term support from project partners.

OHIO DEPARTMENT OF NATURAL RESOURCES

ODNR's Year 3 H2Ohio Program by the Numbers

- **33** new H2Ohio projects launched
- **1,550** new acres of total wetland and ecosystem restoration projects in progress
- Approximately **31,000** acres filtered by wetland projects
- **28** nonprofit conservation partners engaged
- **20,000** trees planted in wetland buffers
- **90** Ohio threatened or endangered species depend on wetlands for survival
- **$25M** to support wetland project implementation

Program Successes

ODNR hit the ground running in 2019, identifying and beginning projects that would have the greatest impact on water quality for Ohioans. Now, three years after its implementation, ODNR is not only breaking ground on new projects; our teams are celebrating their completion. As of July 2022, 23 wetlands have been completed through the H2Ohio program.

Year 3 Totals:

- **88** wetland projects
- **$4.3 million** allocated to establish independent project monitoring program
- **45** nonprofit conservation partners engaged
- **100,000** acres of watershed filtered by wetland projects
- **11,940** acres of wetland and ecosystem restoration
- **$91.7 million** to support wetland project implementation
- **180** landowners incentivized to establish wetlands and wooded riparian buffers through Lake Erie CREP (Conservation Reserve Enhancement Program)
- **90** threatened or endangered species dependent on wetlands; many will benefit from this additional habitat
- **60,000+** trees have been planted in wetland buffers

what they are saying...

"I cannot overstate just how meaningful the H2Ohio initiative has been to conservation in northwest Ohio and how significantly it has accelerated the pace of on-the-ground stream and wetland restoration work in our communities."

Rob Krain, *Black Swamp Conservancy*

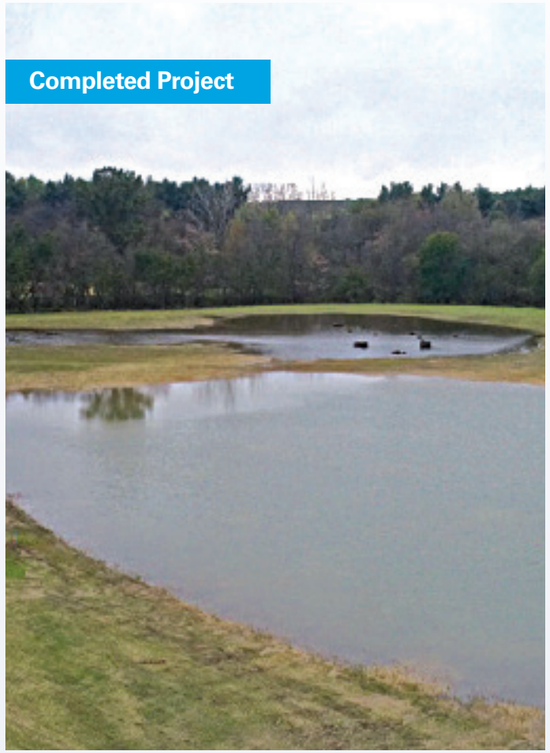
ODNR celebrated one such wetland with an Earth Day dedication. Director Mertz joined Directors Pelanda, Stevenson, Joy Mulinex from the Lake Erie Commission, and other local officials to cut the ribbon on the fully functional Oak Openings Preserve. The day was a celebration of water quality improvement and a successful partnership between agencies.

Earth Day celebration and ribbon cutting at Oak Openings Preserve

The project, built in partnership with Metroparks Toledo, converted 48 acres of farmland to wetland habitat. The land acquisition makes Oak Openings Preserve Metropark the largest protected natural area in inland northwest Ohio.

Before Construction

Completed Project



ODNR successfully expanded beyond the Lake Erie Basin with two rounds of grants awarded to projects in the Ohio River Basin. The program provides up to 100% project funding for high quality natural infrastructure, nutrient reduction, and water quality improvement projects.

Applicants applied for up to **$500,000** in H2Ohio funding per project.

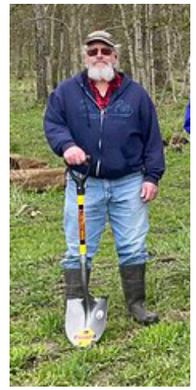
Twenty projects have been funded through the grants.

Groundbreaking at Indian Creek-Hoffmann Wetland and Stream Restoration

what they are saying...

"I do not own the land. I am just the steward."

Lew Hoffmann,
Landowner Ohio River Basin Grant Awardee



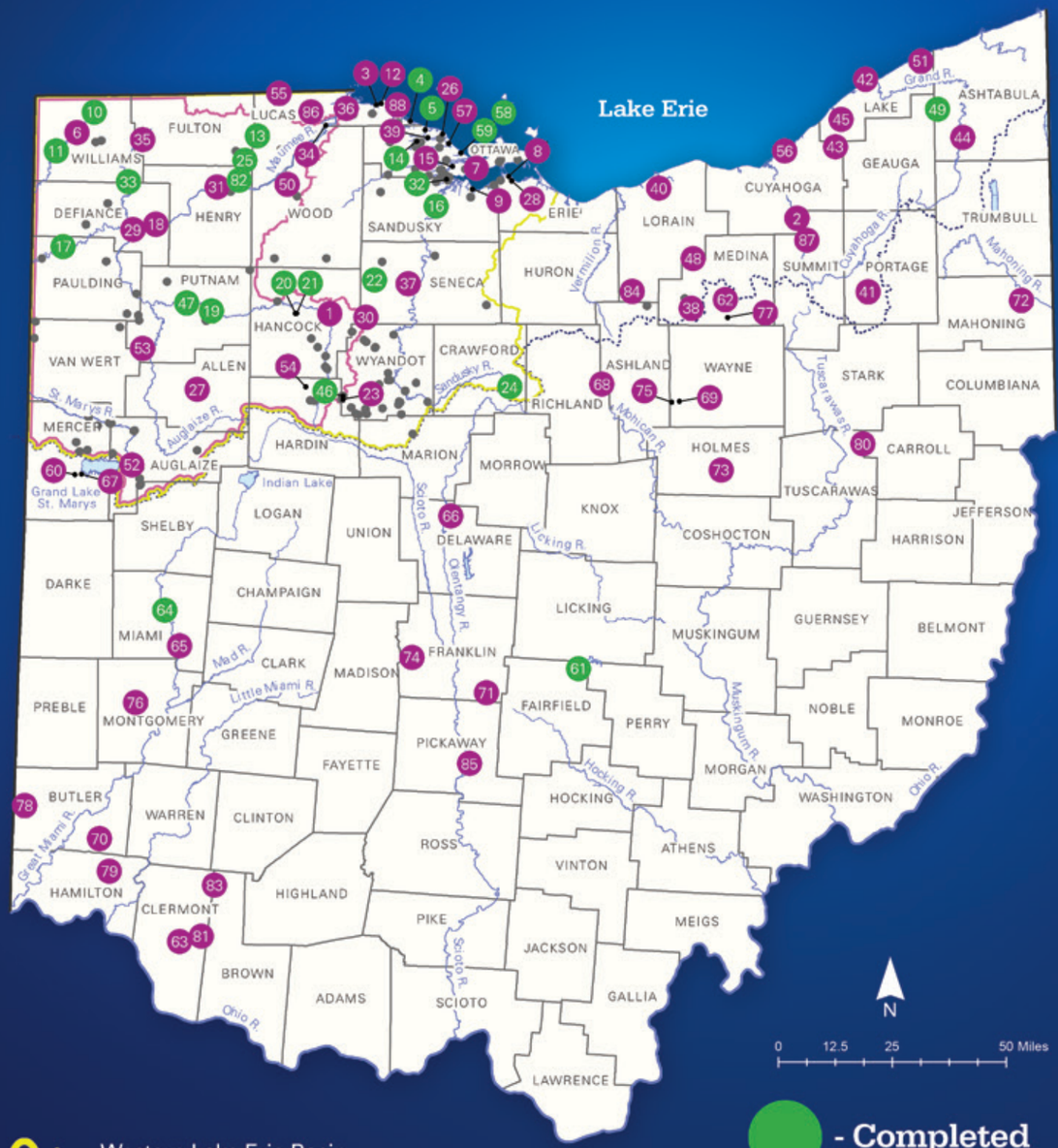
what they are saying...

"We are excited to see the Indian Creek-Hoffmann Wetland and Stream Restoration Project begin and honored to partner with the dedicated H2Ohio team. The H2Ohio initiative will make significant progress toward increasing water quality locally and for everyone served by the Ohio River Basin watershed."

Randy Evans,
Three Valley Conservation Trust Executive Director

H2Ohio Statewide Wetland Projects (Status)

and Water Quality Incentive Program Projects



Project Key

1 Bright Conservation Area Wetland Restoration Initiative
2 Old Station Road
3 Maumee Bay State Park Wetland Reconnection
4 Ottawa National Wildlife Refuge Wetland Reconnection Projects
5 Magee Marsh Turtle Creek Bay Wetland Reconnection
6 Montpelier Wetland Restoration
7 Raccoon Creek Nature-Based Barrier Wetland
8 Moxley Wildlife Area Wetland Reconnection Project
9 Pickerel Creek Floodplain Restoration
10 St. Joseph Confluence Wetland Reconnection
11 St. Joseph River Restoration Project
12 Mallard Club Nutrient Reduction and Orchid Restoration
13 Oak Openings Preserve Wetland Restoration
14 North Ridge Hunt Club Wetland Restoration
15 Little Portage Nutrient Reduction & Coastal Wetland
16 Redhorse Bend Preserve Wetland Restoration
17 Forder Bridge Floodplain Reconnection
18 Independence Dam Canal Reconnection & Wetland Creation
19 Blanchard River Floodplain Restoration
20 Oakwoods Nature Preserve Wetland Restoration
21 Oakwoods Nature Preserve Wetland Restoration
22 Fruth Outdoor Center Wetland Restoration
23 Andreoff Wetland Restoration
24 Sandusky River Headwaters Preserve Wetland & Habitat Restoration
25 Van Order Wetland & Forest Restoration
26 Navarre Marsh Wetland Restoration & Reconnection
27 Baughman Petition Ditch
28 Sanford Agricultural Drainage Treatment Train Project
29 Defiance East River
30 Springville Marsh Wetland Extension
31 Maumee River Floodplain
32 Buehler Farms Treatment Wetland
33 The Weisgerber-Pohlman Nature Preserve
34 Clark Island Restoration, Design Phase
35 Goll Woods Wetland Extension
36 Duck and Otter Creek Wetland and Stream Restoration
37 Clary-Boulee-McDonald Nature Preserve
38 Bluebell Preserve Restoration Project
39 Rust Tract Wetland Restoration
40 Martin's Run Wetland and Stream Restoration Project
41 The Bird Family Bog Rehabilitation Project
42 Headlands Dunes Coastal Wetland Restoration Project
43 Fosters Run Restoration
44 Ashcroft Woods Scali Preserve
45 Chagrin River & East Branch Corridor Restoration & Protection Project
46 Upper Blanchard River Watershed Project
47 Sugarcamp 7 Blanchard Habitat Project
48 Litchfield Wetland Restoration
49 Trumbull Creek H2Ohio
50 Otsego Schools, Wood County
51 Madison Village Park Wetlands
52 City of St. Marys Treatment Train
53 Targeted Phosporous Load Reduction in WLEB
54 Pilot Watershed Regional Conservation Partnership Program Support'
55 Lucas County, Ford Two Stage Ditch
56 CHEERS Project: floating wetlands
57 Toussaint Shooting Club Reconnections: Bob's Bay & Main Marsh
58 Bohling Marsh Wetland Reconnection
59 Darby Refuge Wetland Reconnection
60 Burntwood-Langenkamp Wetland Conservation Area
61 Buckeye Lake – Brooks Park Wetland Creation & Water Quality Initiative
62 Chippewa Lake Wetland Restoration
63 Harsha Lake – Williamsburg Wetland Treatment System
64 Springcreek Confluence Off-Channel Wetlands
65 Tipp City Off-Channel Wetland
66 O'Donnell Wetland Restoration and Treatment Train
67 Mercer Wetland Complex Restoration
68 Black Fork Forest Preserve Wetland Restoration Project
69 Funk Bottoms Wetland Restoration
70 Westchester Wetland Restoration
71 Walnut Creek Treatment Wetland Restoration
72 Forest Lawn Stormwater Park
73 Reconnecting to Killbuck Creek
74 Hellbranch Meadows West Wetland Restoration Project
75 East Funk Bottoms
76 Spring Run Conservation Area Wetland Restoration Project
77 Chippewa Creek Floodplain and Wetland Restoration Project
78 Indian Creek- Hoffmann Wetland and Stream Restoration
79 Gorman Heritage Farm Treatment Wetland System
80 'Taggarts Wetland Enhancement & Acid Mine Drainage Abatement
81 Lake Harsha: Wetland Treatment Train Feasibility Study
82 East Fork Riparian Reserve Wetland Treatment System
83 East Fork LMR Wetland Treatment Train
84 Woodpecker Ditch- Babcock Wetland Restoration
85 Fleming Bend Protection and Restoration
86 UT CADE Wetland and Stream Restoration
87 Cuyahoga River Riparian Forest and Wetland Restoration
88 Cedar Point National Wildlife Refuge Pool 2 Coastal Reconnection

H2Ohio Statewide Projects

1. **Bright Conservation Area Wetland Restoration Initiative**
Hancock County | Maumee River Watershed | Inland WLEB
Project size: 11 Acres
Partner: Hancock Parks

2. **Old Station Road**
Cuyahoga County | Cuyahoga Watershed | Inland CLEB
Project size: 18 Acres
Partner: Cleveland Metroparks

3. **Maumee Bay State Park Wetland Reconnection**
Lucas County | Lake Erie Watershed | Coastal
Project size: 137 Acres
Partner: The Nature Conservancy

4. **Ottawa National Wildlife Refuge Wetland Reconnection Projects**
Lucas County | Cedar-Portage Watershed | Coastal
Project size: 578 Acres
Partner: Ottawa Soil & Water Conservation District

5. **Magee Marsh Turtle Creek Bay Wetland Reconnection**
Ottawa County | Little Miami Watershed | Coastal
Project size: 173 Acres
Partner: Erie Soil & Water Conservation District

6. **Montpelier Wetland Restoration**
Williams County | Maumee River Watershed | Inland
Project size: 98 Acres
Partner: The Ohio State University

7. **Raccoon Creek Nature-Based Barrier Wetland**
Sandusky County | Sandusky Bay Watershed | Coastal
Project size: 7 Acres
Partner: The Nature Conservancy

8. **Moxley Wildlife Area Wetland Reconnection Project**
Erie County | Sandusky Bay Watershed | Coastal
Project size: 52 Acres
Partner: Erie Soil and Water Conservation District

9. **Pickerel Creek Floodplain Restoration**
Sandusky County | Sandusky Bay Watershed | Coastal
Project size: 15 Acres
Partner: The Nature Conservancy

10. **St. Joseph Confluence Wetland Reconnection**
Williams County | Maumee River Watershed | Inland WLEB
Project size: 140 Acres
Partner: Black Swamp Conservancy

11. **St. Joseph River Restoration Project**
Williams County | Maumee River Watershed | Inland WLEB
Project size: 94 Acres
Partner: Black Swamp Conservancy

12. **Mallard Club Nutrient Reduction and Orchid Restoration**
Lucas County | Maumee River Watershed| Inland
Project size: 80 Acres
Partner: Ducks Unlimited

13. **Oak Openings Preserve Wetland Restoration**
Lucas County | Maumee River Watershed | Inland WLEB
Project size: 48 Acres
Partner: Metroparks Toledo

14. **North Ridge Hunt Club Wetland Restoration**
Ottawa County | Western Lake Erie Basin| Coastal
Project size: 30 Acres
Partner: Ducks Unlimited

15. **Little Portage Nutrient Reduction & Coastal Wetland Restoration**
Ottawa County | Portage River Watershed | Inland WLEB
Project size: 98 Acres
Partner: : Ducks Unlimited

16. **Redhorse Bend Preserve Wetland Restoration**
Sandusky County | Sandusky River Watershed | Inland WLEB
Project size: 55 Acres
Partner: Black Swamp Conservancy

17. **Forder Bridge Floodplain Reconnection**
Paulding County | Maumee River Watershed | Inland WLEB
Project size: 54 Acres
Partner: Black Swamp Conservancy

18. **Independence Dam Canal Reconnection & Wetland Creation**
Defiance County | Maumee River Watershed| Inland
Project size: 29 Acres
Partner: Ohio Department of Natural Resources, Division of Parks and Watercraft

19. **Blanchard River Floodplain Restoration**
Putnam County | Maumee River Watershed| Inland
Project size: 50 Acres
Partner: Maumee Watershed Conservancy District

20. **Oakwoods Nature Preserve Wetland Restoration**
Hancock County | Blanchard River Watershed | Inland WLEB
Project size: 77 Acres
Partner: Hancock Park District

21. **Oakwoods Nature Preserve Wetland Restoration**
Hancock County | Blanchard River Watershed | Inland WLEB
Project size: 65 Acres
Partner: Hancock Park District

22. **Fruth Outdoor Center Wetland Restoration**
Seneca County | Sandusky River Watershed | Inland WLEB
Project size: 18 Acres
Partner: Black Swamp Conservancy

23. **Andreoff Wetland Restoration**
Wyandot County | Outlet of the Blanchard River Watershed | Inland WLEB
Project size: 278 Acres
Partners: Ducks Unlimited

24. **Sandusky River Headwaters Preserve Wetland & Habitat Restoration**
Crawford County | Sandusky River Watershed | Inland WLEB
Project size: 38 Acres
Partner: Crawford Park District

25. **Van Order Wetland & Forest Restoration**
Henry County | Maumee River Watershed | Inland WLEB
Project size: 31 Acres
Partner: ODNR Division of Forestry

26. **Navarre Marsh Wetland Restoration & Reconnection**
Ottawa County | Toussaint River Watershed | Coastal
Project size: 628 Acres (of total 779-acre project)
Partner: Ducks Unlimited, U.S. Fish & Wildlife Service

27. **Baughman Petition Ditch**
Allen County | Maumee River Watershed | Inland
Project size: 20 Acres
Partners: Allen County Engineer

28. **Sanford Agricultural Drainage Treatment Train Project**
Erie County | Sandusky Bay Watershed | Coastal
Project size: 3 Acres
Partner: Erie Soil and Water Conservation District

29. **Defiance East River**
Defiance County | Maumee River Watershed | Inland
Project size: 44 Acres
Partner: City of Defiance

30. **Springville Marsh Wetland Extension**
Defiance County | Maumee River Watershed | Inland
Project size: 65 Acres
Partner: Ohio Department of Natural Resources, Division of Natural Areas and Preserves

31. **Maumee River Floodplain**
Defiance County | Maumee River Watershed | Inland
Project size: 57 Acres
Partner: Black Swamp Conservancy

32. **Buehler Farms Treatment Wetland**
Ottawa County | Sandusky Bay Watershed | Coastal
Project size: 45 Acres
Partner: Ottawa Soil and Water Conservation District

33. **The Weisgerber-Pohlman Nature Preserve**
Defiance & Williams Counties | Maumee River Watershed | Inland
Project size: 75 Acres
Partner: Black Swamp Conservancy

34. **Clark Island Restoration, Design Phase**
Lucas County | Maumee River Watershed | Inland
Project size: 40 Acres
Partner: Toledo- Lucas County Port Authority

35. **Goll Woods Wetland Extension**
Fulton County | Maumee River Watershed | Inland
Project size: 15 Acres
Partner: Ohio Department of Natural Resources, Division of Natural Areas and Preserves

36. **Duck and Otter Creek Wetland and Stream Restoration**
Lucas County | Western Lake Erie Basin | Inland
Project size: 69 Acres
Partner: Toledo- Lucas County Port Authority

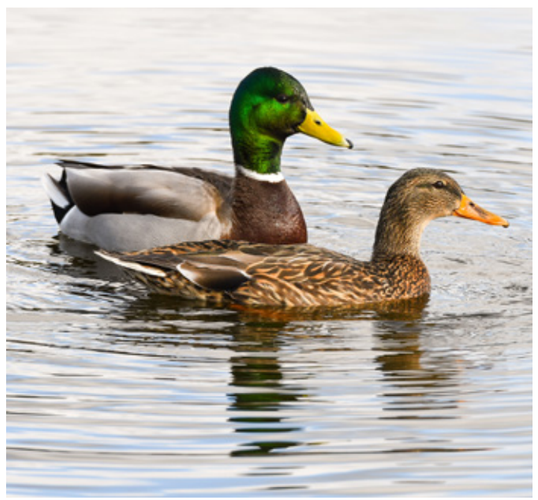
37. **Clary-Boulee-McDonald Nature Preserve**
Seneca County | Sandusky River Watershed| Inland
Project size: 162 Acres
Partner: Black Swamp Conservancy

38. **Bluebell Preserve Restoration Project**
Medina County | Central Lake Erie Basin | Inland
Project size: 21 Acres
Partner: West Creek Conservancy

39. **Rust Tract Wetland Restoration**
Ottawa County |Sandusky Bay Watershed| Coastal
Project size: 216 Acres
Partner: Ducks Unlimited

40. **Martin's Run Wetland and Stream Restoration Project**
Lorain County |Central Lake Erie Basin | Inland
Project size: 19 Acres
Partner: City of Lorain

41. **The Bird Family Bog Rehabilitation Project**
Portage County |Cuyahoga River Basin | Inland
Project size: 170 Acres
Partner: West Creek Conservancy



42. **Headlands Dunes Coastal Wetland Restoration Project**
Lake County |Central Lake Erie Basin | Coastal
Project size: 16 Acres
Partner: : Ohio Division of Natural Resources, Division of Parks and Watercraft

43. **Fosters Run Restoration**
Cuyahoga County |Central Lake Erie Basin | Inland
Project size: 37 Acres
Partner: Cleveland Metroparks

44. **Ashcroft Woods Scali Preserve**
Ashtabula County |Grand River Watershed| Inland
Project size: 50 Acres
Partner: Western Reserve Land Conservancy

45. **Chagrin River & East Branch Corridor Restoration & Protection Project**
Lake County |Ashtabula-Chagrin Watershed| Inland
Project size: 78 Acres
Partner: Chagrin River Watershed Partners

46. **Upper Blanchard River Watershed Project**
Wyandot County |Maumee River Watershed | Inland
Project size: 30 Acres
Partner: Wyandot Soil and Water Conservation District

47. **Sugarcamp 7 Blanchard Habitat Project**
Putnam County |Maumee River Watershed |Inland
Project size: 20 Acres
Partner: Private Land Owner

48. **Litchfield Wetland Restoration**
Medina County | Black- Rocky Watershed |Inland
Project size: 145 Acres
Partner: Medina County Park District

49. **Trumbull Creek H2Ohio**
Ashtabula County | Cuyahoga Watershed |Inland
Project size: 30 Acres
Partner: Stream + Wetlands Foundation

50. **Otsego Schools, Wood County**
Wood County | Lower Maumee Watershed |Inland
Project size: 16 Acres
Partner: Black Swamp Conservancy

51. **Madison Village Park Wetlands**
Lake County | Ashtabula-Chagrin Watershed |Inland
Project size: 19 Acres
Partner: Village of Madison

52. **City of St. Marys Treatment Train**
Auglaize County | St. Marys Watershed |Inland
Project size: 63 Acres
Partner: City of St Marys

53. **Targeted Phosporous Load Reduction in WLEB**
Multiple Counties |Inland
Project size: TBD
Partner: Rural Action

54. **Pilot Watershed Regional Conservation Partnership Program Support**
Hardin County | Blanchard Watershed |Inland
Project size: TBD
Partner: OSU

55. **Lucas County, Ford Two Stage Ditch**
Lucas County | Ottawa-Stony Watershed |Inland
Project size: 3 Acres
Partners: Lucas County Engineers

56. **CHEERS Project: floating wetlands**
Cuyahoga County | Ashtabula-Chagrin Watershed |Inland
Project size: 0.5 Acres
Partner: Cleveland Metroparks

57. **Toussaint Shooting Club Reconnections: Bob's Bay & Main Marsh**
Ottawa County |Western Lake Erie Basin | Coastal
Project size: 995 Acres
Partner: Ottawa Soil and Water Conservation District

58. **Bohling Marsh Wetland Reconnection**
Ottawa County | Cedar- Portage Watershed | Coastal
Project size: 55 Acres
Partner: Ottawa Soil & Water Conservation District

59. **Darby Refuge Wetland Reconnection**
Ottawa County | Cedar- Portage Watershed | Coastal
Project size: 352 Acres
Partner: Ottawa Soil & Water Conservation District

60. **Burntwood-Langenkamp Wetland Conservation Area**
Mercer County | Upper Wabash Watershed | Inland Western Ohio
Project size: 90 Acres
Partner: Lake Facilities Authority

61. **Buckeye Lake – Brooks Park Wetland Creation & Water Quality Initiative**
Fairfield County | Licking River Watershed | Inland Eastern Ohio
Project size: 5 Acres
Partners: ODNR Division of Parks & Watercraft

62. **Chippewa Lake Wetland Restoration**
Medina County | Muskingum River Watershed | Inland
Project size: 50 Acres
Partner: Medina County Parks

63. **Harsha Lake – Williamsburg Wetland Treatment System**
Clermont County | Little Miami River Watershed | Inland Southwestern Ohio
Project size: 3 Acres
Partner: Clermont Soil & Water Conservation District, Village of Williamsburg

64. **Springcreek Confluence Off-Channel Wetlands**
Miami County | Great Miami River Watershed| Inland
Project size: 55 Acres
Partner: Miami County Parks

65. **Tipp City Off-Channel Wetland**
Miami County | Great Miami River Watershed| Inland
Project size: 20 Acres
Partner: Miami County Parks

66. **O'Donnell Wetland Restoration and Treatment Train**
Delaware County | Upper Scioto Watershed| Inland
Project size: 210 Acres
Partner: Ducks Unlimited

67. **Mercer Wetland Complex Restoration**
Mercer County |Upper Wabash Watershed| Inland
Project size: 60 Acres
Partner: Ohio Department of Natural Resources, Division of Wildlife

68. **Black Fork Forest Preserve Wetland Restoration Project**
Richland County | Mohican River Watershed| Inland
Project size: 60 Acres
Partner: Western Reserve Land Conservancy

69. **Funk Bottoms Wetland Restoration**
Wayne County | Mohican Watershed| Inland
Project size: 135 Acres
Partner: DOW

70. **Westchester Wetland Restoration**
Butler County | Middle Ohio-Laughery Watershed| Inland
Project size: 16 Acres
Partner: Mill Creek Alliance

71. **Walnut Creek Treatment Wetland Restoration**
Franklin County | Upper Scioto Watershed | Inland
Project size: 18 Acres
Partner: Columbus and Franklin County Metro Parks

72. **Forest Lawn Stormwater Park**
Mahoning County | Mahoning Watershed | Inland
Project size: 15 Acres
Partner: ABC District

73. **Reconnecting to Killbuck Creek**
Holmes County | Walhonding Watershed | Inland
Project size: 33 Acres
Partner: Homes County Park District

74. **Hellbranch Meadows West Wetland Restoration Project**
Franklin County | Upper Scioto Watershed | Inland
Project size: 29 Acres
Partner: Franklin County SWCD

75. **East Funk Bottoms**
Wayne County | Mohican Watershed | Inland
Project size: 27 Acres
Partner: The Wilderness Center

76. **Spring Run Conservation Area Wetland Restoration Project**
Montgomery County | Lower Great Miami Watershed | Inland
Project size: 57 Acres
Partners: Five Rivers MetroParks

77. **Chippewa Creek Floodplain and Wetland Restoration Project**
Tuscarawas County | Lower Great Miami Watershed | Inland
Project size: 49 Acres
Partner: West Creek Conservancy

78. **Indian Creek- Hoffmann Wetland and Stream Restoration**
Butler County | Lower Great Miami Watershed | Inland
Project size: 22 Acres
Partner: Three Valley Conservation Trust

79. **Gorman Heritage Farm Treatment Wetland System**
Hamilton County | Middle Ohio-Laughery Watershed | Inland
Project size: 23 Acres
Partner: Gorman Heritage Farm

80. **Taggarts Wetland Enhancement & Acid Mine Drainage Abatement**
Tuscarawas County | Tuscarawas Watershed | Inland
Project size: 5 Acres
Partner: Internal: DMRM

81. **Lake Harsha: Wetland Treatment Train Feasibility Study**
Clermont County | Little Miami Watershed | Inland
Project size: N/A
Partner: Ohio Department of Natural Resources, Parks and Watercraft

82. **Dry Creek Wetland**
Henry County | Lower Maumee Watershed | Inland
Project size: 86 Acres
Partner: Ohio Department of Transportation

83. **East Fork Riparian Reserve Wetland Treatment System**
Brown County | Little Miami Watershed | Inland
Project size: 2 Acres
Partner: Clermont, Clinton and Highland Soil and Water Conservation Districts

84. **Woodpecker Ditch- Babcock Wetland Restoration**
Lorain County | Black-Rocky Watershed | Inland
Project size: 21 Acres
Partners: Lorain SWCD

85. **Fleming Bend Protection and Restoration**
Pickaway County | Lower Scioto Watershed | Inland
Project size: 315 Acres
Partner: Appalachia Ohio Alliance

86. **UT CADE Wetland and Stream Restoration**
Lucas County | Ottawa-Stony Watershed| Inland
Project size: 49 Acres
Partner: University of Toledo Foundation

87. **Cuyahoga River Riparian Forest and Wetland Restoration**
Summit County | Cuyahoga Watershed | Inland
Project size: 32 Acres
Partner: TNC

88. **Cedar Point National Wildlife Refuge Pool 2 Coastal Reconnection**
Lucas County | Cedar- Portage Watershed | Coastal
Project size: 155 Acres
Partner: Friends of Ottawa National Wildlife Refuge

Budget

Previously, the Ohio General Assembly awarded ODNR $77.8 million in funding for a wetland-focused H2Ohio program that reduces surface water nutrient loading. In 2022, ODNR was given $25 million to continue its work in nutrient reduction through wetlands.

In addition to an already generous state budget, ODNR partnered with the Ohio Water Development Authority, Great Lakes Restoration Initiative, and Clean Ohio to fund projects. H2Ohio is continuously seeking to find new ways to fund these science-based solutions to Ohio's water quality issues. ODNR is currently seeking dollars from the U.S. Fish and Wildlife Service, the National Fish and Wildlife Foundation, and the Great Lakes Commission.

While funding has been substantial, further monetary support is needed to H2Ohio's water quality goals. With a continued emphasis on the Maumee River and Western Lake Erie Basin Watershed, ODNR aspires to secure funding to address water quality issues in inland lakes, the Central Lake Erie Basin, and waterways throughout all of Ohio. Future budgetary needs also include money to continue ODNR's Wetland Monitoring Program with the Lake Erie and Aquatic Research Network (LEARN). With this advanced research program, ODNR will be able to better understand the impact these natural infrastructure investments have and how to sharpen its approach to this work in the future.

Partnerships

ODNR works closely with conservation organizations, park districts, high schools, colleges, and nonprofit partners. Current H2Ohio projects rely on 45 nonprofit conservation partners. Working side by side with H2Ohio program staff, these partners are developing a customized scope of work and timeline and managing environmental permitting, contracting, and implementing progress.

ODNR enlisted the Lake Erie and Aquatic Research Network (LEARN) to help monitor and record the impact wetlands have on water quality. The group is made up of field stations, scientific laboratories, and researchers. The program has been two-fold, helping ODNR measure the success of wetlands and educate young scientists on the importance of this approach.

To date, students in LEARN have made 189 field visits and collected 720 water and soil samples this year at routinely monitored sites. The groups have also captured statewide and nationwide attention by conducting a public webinar, several independent presentations, and two multi-day conference sessions to spread the word about H2Ohio, this advanced wetlands research, and the importance of water quality.

LEARN researchers come from Bowling Green State University, Heidelberg University, Kent State University, The Ohio State University, The University of Toledo, and Wright State University.

what they are saying...

"For years, humans have taken advantage of nature, so it is nice to see the government restoring the environment to what it once was. Humans have to learn to live with nature, and restoring the wetlands is a big step towards the future."

Caitlin Gittrich, *Undergraduate*

ODNR also launched the H2Ohio Students Take Action program. The program has reached 1,800 students, connecting them with real-world learning opportunities, access to wetland sites, career exploration opportunities, and more. Projects in this program urge students to "take action" with their ideas and use what they learn to positively impact their watershed. ODNR will continue working as part of H2Ohio to identify future opportunities for strategic, targeted nutrient reduction wetlands to improve Ohio's water quality.

ODNR is focused on youth involvement, taking wetland science into the classroom and taking students into wetlands. Securing a naturalist specifically dedicated to this initiative has put education at the forefront and shows efforts to inspire the next generation to continue the initiative's work.

what they are saying...

"The H2Ohio project was a great way to get kids out in nature and interacting with the environment around them. When kids experience their environment, it makes them more likely to want to conserve it and preserve it for future generations. This project helps to bridge the gap between caring about clean water to understanding why it is important and how they can make a difference!"

Shari Anderson,
Agriculture teacher from Marysville High School

Vision for the Future

Each region of Ohio is dealing with different and unique water quality issues. ODNR is working to find ways to ensure clean water for families throughout the state. H2Ohio is spreading awareness to young and old about those issues and what is ultimately being done to fix them. Through outreach, education, and proof that wetlands work, we are making steady progress toward a state with high water quality.

To lessen the extent of harmful algae blooms, Ohio has committed to reducing phosphorus loading into the Western Basin of Lake Erie by 40%. ODNR's H2Ohio work is focused on using expanded natural infrastructure, like wetland restoration, to play a significant role in this mission. This approach will not only ensure the health of Lake Erie but contribute to the health and beauty of all of Ohio's waterways. This is a big goal, and staying on this path is getting us closer to achieving it.

Conclusion

ODNR has seen great success since the launch of H2Ohio . Thanks to support from Governor DeWine and the General Assembly, ODNR has forged ahead with dozens of projects, seeing them through from concept to completion.

ODNR is constantly learning of new opportunities to invest in Ohio's water quality. Working with a team of scientists and community partners has given the agency the opportunity to implement solutions that have led to cleaner water, fewer algal blooms, and better places for people to enjoy the outdoors.

The work done in the past few years has put Ohio on the right path toward cleaner water in the future, but there is more work to be done. This initiative is and will be a continuing effort for all agencies and partners involved. With that collaboration and support, H2Ohio will expand across Ohio and share even more success stories in the future.

what they are saying...

"H2Ohio is literally transforming our landscape by working with partners statewide to restore lost wetland functions and values. This investment will result not only in improved water quality, but also an improved quality of life for our citizens."

Mark Dilley, *MAD Scientist Associates LLC*

what they are saying...

As a visionary project, H2Ohio leads to both qualitative and quantitative assessments of wetland functions in nutrient filtering. This interdisciplinary study (LEARN) will broadly and extensively assess and improve the wetland's effectiveness in the filtering process in ensure the highest quality water and environment for Ohio.

Chathuranga Senevirathne, *Former LEARN student*

Ohio Environmental **Protection Agency**

Ohio EPA has many responsibilities for ensuring clean and safe water for the people of Ohio. The agency develops and supports innovative, practical, and effective solutions for clean streams and lakes as well as drinking water.

Ohio EPA received $10 million in H2Ohio spending authority for fiscal year 2022 in HB 110 as part of the biennial budget passed by the 134th General Assembly. Ohio EPA's H2Ohio approach has been to concentrate on focus areas which will improve water quality, protect public health, and provide positive change to the lives of Ohioans. These focus areas are: improving Ohio's water and wastewater infrastructure, replacing failed home sewage treatment systems, reducing lead exposure in communities, and researching promising technologies for water quality improvements. The following sections summarize the achievements to date, which set a strong foundation for continued improvements in Ohio's water quality.

what they are saying...

"It's something that's hard to relate to if you already have a public water utility. The ones that don't have a public utility will buy a big flatbed truck or similar truck, put a 500-gallon tank in the back, drive down to the county seat in Caldwell, fill it up however many times a week or a month that they need to, and then they come and dump that tank into a holding tank at their house. Constantly budgeting showers and laundry, and that kind of thing, you know, it's hard to put a price tag on. It's life changing when someone goes from, 'we don't have water, to thank you for the water.'"

***Brad Peoples**, Noble County Commissioner*

Ohio Environmental Protection Agency

Year Three By The Numbers

$3,900,000
for nine critical water and sewer projects.

$2,200,000
to lead service line replacement in six communities.

$2,700,000
to lead service line mapping in 70 communities.

$575,000
to replace failing household sewage treatment systems in five local health districts.

Program Successes

Water and Wastewater Infrastructure

All Ohioans should have access to clean and safe drinking water. Still, many parts of Ohio lack some of the basic necessities of proper wastewater treatment and good, clean drinking water. This challenge is particularly difficult for communities that are economically disadvantaged and cannot afford to take on significant debt associated with conventional infrastructure loan programs.

Ohio EPA directed $3.9 million in H2Ohio funds toward this focus area. Grants ranging from $135,000 to $750,000 were awarded to nine entities throughout Ohio for drinking and wastewater infrastructure assistance that supplemented other assistance programs. With these funds, projects will be constructed which will:

1. **extend water and sewer lines to pick up households that desperately needed to be served,**
2. **provide capacity for additional growth and economic development, and**
3. **consolidate utilities in neighboring communities for greater efficiency.**

In addition, reports were developed for 10 emerging technologies that could play an important role in the reduction of harmful algal blooms (HABs) in Lake Erie. The technologies were chosen for evaluation through the H2Ohio Technology Assessment Program (TAP) which was created at the Sept. 2020 Ohio Lake Erie Commission meeting to guide the State in addressing HABs in Lake Erie.

H2Ohio Drinking Water Infrastructure Grants

Manchester (Adams County), $500,000

The water distribution system servicing the village of Manchester suffers from damaged pipes and regular waterline breaks. H2Ohio funding awarded to Manchester will support the near-total replacement of the village's water distribution system to significantly reduce the health threats associated with waterline breaks and provide a more reliable water source to the village's approximately 2,120 residents.

Lawrence County, $250,000

H2Ohio funding will cover the planning and engineering design for a project that will provide safe drinking water to approximately 50 residences in the Macedonia Hill area of Lawrence County who currently do not have a safe and reliable supply.

Noble County Water Authority, $135,000

H2Ohio funding awarded to the Noble County Water Authority will support the extension of approximately 97,000 feet of water lines to connect an estimated 130 residences and businesses to the existing water main located along Sarahsville Road. This project will provide safe drinking water to residents who currently do not have a safe and reliable supply.

Nelsonville (Athens County), $171,000

H2Ohio funding will cover the purchase of new equipment that will support the long-term functionality of its drinking water system and help prevent the system from going offline for significant periods of time.

H2Ohio Wastewater Infrastructure Grants

Washington County, $750,000

The community of Devola is currently unsewered, and the failure of an abundance of household sewage treatment systems are causing threats to public health. H2Ohio funding awarded to Washington County will connect Devola's approximately 500 homes and businesses to the county sewer system and eliminate the need for home septic systems.

Findlay (Hancock County), $600,000

Residents in more than 100 homes in Findlay's Eagle Creek subdivision were being served by a failing wastewater treatment plant. H2Ohio funding awarded to Findlay was used to extend the city's sewer system to include the Eagle Creek subdivision and allow for the old plant to be retired.

Bainbridge (Ross County), $500,000

The village of Bainbridge is currently unsewered with many residents using inadequate household sewage treatment systems. H2Ohio funding awarded to Bainbridge will support the development of a new sanitary sewer system and wastewater treatment plant to serve citizens in the village's approximately 500 homes.

Harrison County, $500,000

H2Ohio funding awarded to Harrison County will support the construction of a new sewer system for the village of Freeport, which is currently unsewered. The project will include a 75,000-gallon aeration treatment plant and will serve approximately 229 residences and businesses.

Wayne Lakes (Darke County), $500,000

Many household sewage treatment systems are failing and causing threats to public health in the unsewered Village of Wayne Lakes. H2Ohio funding awarded to the Village will be used to support the installation of a new sanitary sewer collection system to serve approximately 338 residences and other structures.

Home Sewage

Ohio has nearly one million homes served by household sewage treatment systems (HSTS). When working properly, these can be a viable form of sewage treatment in rural areas that lack centralized sanitary sewers. However, when malfunctioning, HSTS can contribute to poor water quality and threaten public health. H2Ohio is funding several HSTS infrastructure improvement projects targeting lower income households.

Ohio EPA awarded a total of $575,000 to five health districts for this focus area. The health departments of Hocking, Jackson, Portage, Ross, and Seneca counties each received $115,000 to improve HSTS. These counties were chosen because of the prevalence of HSTS and the local health districts' proven ability to work with homeowners to correct problems. Funds will be directed to disadvantaged homeowners, and depending on the household income and the number of residents, homeowners may qualify for grants of 50% to 100% of the total costs for HSTS repair or replacement. These funds will be used in conjunction with an additional $11 million available from the state's Water Pollution Control Loan Fund to get even more HSTS work done in these counties. Together, these funds will repair or replace an estimated 1,100 HSTS, which will improve water quality and protect public health.

Reducing Lead Exposure

In recent years, there has been a growing concern about the effects of lead in drinking water. Ohio EPA has been working diligently with public water systems to reduce this risk through the mapping and elimination of lead service lines to households. Ohio EPA directed $4.9 million for grant awards through the H2Ohio Lead Service Line Replacement Grant Program, with $2.2 million going to six communities whose lead pipes are mapped and ready for replacement. The removal and replacement projects in these communities will eliminate a total of nearly 500 lead service lines:

Delphos (Allen, Van Wert counties)	$500,000
Lockland (Hamilton County)	$500,000
Sebring (Mahoning County)	$500,000
Norwood (Hamilton County)	$348,000
Hubbard (Trumbull County)	$180,000
Scio (Harrison County)	$150,000

The remaining $2.7 million went to help identify, inventory, and map lead service lines in public water systems so they can properly assess where their lead service lines are located. This funding includes $2.1 million for grants of up to $50,000 for individual public water systems and $600,000 for the Rural Community Assistance Program (RCAP) and the Ohio Rural Water Association (ORWA) to provide direct identification and mapping assistance to small public water systems.

Forty-eight public water systems received grants to identify and map lead service lines:

City of Lima (Allen County)	$44,047
Aqua Ohio – Village of Jefferson (Ashtabula County)	$50,000
Aqua Ohio - Ashtabula (Ashtabula County)	$50,000
Village of Bridgeport (Belmont County)	$40,000
City of Hamilton (Butler County),	$50,000
City of Oxford (Butler County),	$47,300
Southwest Regional Water District (Butler County),	$50,000
City of Wilmington (Clinton County),	$1,600
Village of Leetonia (Columbiana County),	$37,750
City of Greenville (Darke County),	$50,000
Erie County Public Water System (Erie County),	$15,561
City of Lancaster (Fairfield County),	$50,000
Village of Swanton (Fulton and Lucas counties),	$43,367
Village of Lockland (Hamilton County,	$50,000
Village of Ada (Hardin County),	$13,000
Village of Liberty Center (Henry County),	$50,000
City of Willard (Huron County),	$18,000
City of Steubenville (Jefferson County),	$50,000
City of Toronto (Jefferson County),	$50,000

Jefferson County Water and Sewer District (Jefferson County)	$48,750
City of Pataskala (Licking County)	$50,000
City of Avon Lake (Lorain County)	$50,000
City of Elyria (Lorain County)	$50,000
City of Toledo (Lucas County)	$50,000
Aqua Ohio – Struthers (Mahoning County)	$50,000
City of Canfield (Mahoning County)	$50,000
Aqua Ohio – Marion (Marion County)	$50,000
City of Piqua (Miami County)	$50,000
Village of West Milton (Miami County)	$35,500
Village of New Concord (Muskingum County)	$50,000
Village of Oak Harbor (Ottawa County)	$18,325
Village of Put-In-Bay (Ottawa County)	$50,000
Village of Payne (Paulding County)	$33,022
City of Circleville (Pickaway County)	$50,000
Village of Shelby (Richland County	$50,000
Aqua Ohio – Tiffin (Seneca County)	$50,000
Aqua Ohio – Massillon (Stark County)	$50,000
Bazetta/Champion (Trumbull County)	$50,000
Braceville Township (Trumbull County)	$50,000
Howland Township (Trumbull County)	$50,000
Mineral Ridge (Trumbull County)	$50,000
Mosquito Creek (Trumbull County)	$50,000
City of Newton Falls (Trumbull County)	$50,000
Warren Township (Trumbull County)	$50,000
Southeast (Trumbull County), Wilkshire Hills Public Water System (Tuscarawas County)	$50,000
Village of North Baltimore (Wood County)	$50,000
Northwestern Water and Sewer District (Wood County)	$50,000

Budget

Focus Area	Amount
Infrastructure Projects	$3,906,000
■ 9 Total Projects (*5 wastewater/4 drinking water*)	
Lead Initiatives	$4,900,000
■ Technical Assistance Grant for lead mapping and distribution system inventory ($600,000)	
■ Direct Support Grants for lead mapping and distribution system inventory ($2,700,000??)	
■ LSL Replacement Grants to targeted communities ($2,200,00??) system inventory ($2,700,000??)	
Home Sewage Treatment System Replacements	$575,000
USGS Monitoring	$450,000
Total	$10,000,000

Partnerships

As part of H2Ohio, Ohio EPA partners with local health districts to assist homeowners with repairing or replacing household sewage treatment systems, and communities that receive infrastructure grants. Ohio EPA partners with the Ohio Water Development Authority to administer and disburse funds to infrastructure projects and lead service line projects. In addition, Ohio EPA partnered with RCAP and Ohio Rural Water to ensure the smallest communities can receive lead service line mapping assistance. With these partnerships, Ohio EPA is able to expand its ability to provide assistance to more communities.

Vision for Future

Ohio EPA intends to continue funding water and wastewater infrastructure projects and household sewage treatment system repair and replacement. H2Ohio funds will continue to be used to supplement other funding programs, which in many cases are the final dollars that allow a project to move forward. As part of Governor DeWine's comprehensive strategy to address lead hazards and prevent lead poisoning in Ohio, Ohio EPA will continue to fund lead service line identification, mapping, and replacement projects.

Conclusion

Ohio EPA is committed to using H2Ohio funds to focus on improving water quality, protecting public health, and providing positive change to the lives of Ohioans. Ohio EPA is a proud partner in Governor DeWine's H2Ohio water quality initiative.

Ohio Lake Erie Commission

Executive Summary

The Ohio Lake Erie Commission is primarily tasked with coordinating H2Ohio. This year, for the first time, the Commission received H2Ohio funding. The Commission is using these funds to develop an H2Ohio-specific watershed model analysis of the western basin of Lake Erie. The Commission and state agencies are working with researchers at The Ohio State University and the University of Toledo as well as other academic partners to develop scenarios to model. The researchers have worked with state agency staff to identify various scenarios to describe the expected effectiveness of the selected "top ten" agricultural best management practices and the overall spatial and temporal effectiveness of H2Ohio. Within the next year, the model will be able to calculate the range of possibilities for H2Ohio success at nutrient reduction in the western basin of Lake Erie.

About the Agency

The Ohio Lake Erie Commission's mission is to preserve Lake Erie's natural resources, to protect the quality of its waters and ecosystem, and to promote economic development of the region by ensuring the coordination of policies and programs of state government pertaining to water quality, toxic substances, and coastal resource management. Under this initiative, the Commission is primarily tasked with coordinating H2Ohio. The Commission convenes regular meetings of the agencies participating in H2Ohio. The Commission supports communication between agencies and the academic community to understand the latest science and serves as a liaison with regional Great Lakes partners participating in forums through the Great Lakes Water Quality Agreement.

Ohio | Lake Erie Commission

Program Successes

This year, for the first time, the Commission has funding under H2Ohio. The Commission is using these funds to develop an H2Ohio watershed model analysis of the western basin of Lake Erie. This model will explore spatially specific issues such as: the projections of conservation practice effectiveness in the Maumee River watershed when considering the number installed and their distribution across the landscape, and how long will it take to achieve the Lake Erie western basin specific nutrient reductions given this pattern.

In this first year of a two-year project, the researchers at the University of Toledo completed mapping existing conservation and management practices in the Maumee River watershed using high-resolution data sources. Using supplemental funding through the Ohio Department of Higher Education's Harmful Algal Bloom Research Initiative (HABRI), researchers at the Ohio State University and their partners have worked to improve the field-scale watershed model of the Maumee River watershed with emerging data sources. The full team of researchers have worked with state agency staff to identify various scenarios to be modeled that will provide additional information about the expected effectiveness of the selected "top ten" agricultural best management practices, how many are needed, approximately how they should be distributed, and how long it might take H2Ohio to achieve the goals of the Ohio Domestic Action Plan and the Maumee River Nutrient TMDL.

what they are saying...

"This OLEC and HABRI project has given graduate students at the University of Toledo an opportunity to expand their remote sensing and GIS skills beyond the classroom and to work on a critical research project for Lake Erie and learn from research professionals at The Ohio State University."

Dr. Kevin P. Czajkowski, *University of Toledo*

what they are saying...

"While we know H2Ohio practices work at a field scale, support from OLEC and HABRI for watershed modeling efforts is critical to determine impacts at larger scales, and the amount of practices needed to reach Lake Erie water quality targets."

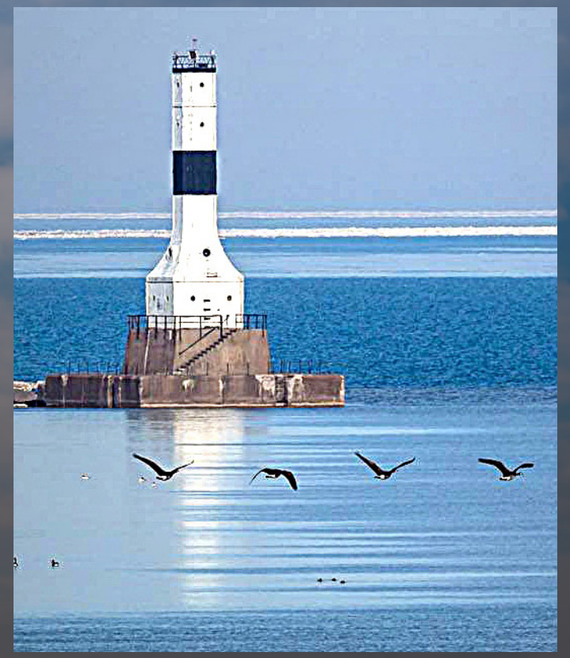
Dr. Jay Martin, *The Ohio State University*

Budget

The Commission received a total of $250,000 in the biennium budget which is being used for one project. For SFY 2022: $125,000. For SFY 2023: $125,000. These dollars leveraged an additional $299,903 for two years of funding from the Ohio Department of Higher Education's HABRI and additional matching funds from the universities for that project of another $304,319.

Partnerships

For the modeling project, the Commission is working with The Ohio State University and the University of Toledo and their academic partners, and ODHE HABRI which is supporting additional work on the watershed model being used for this project.



Vision for Future

Having a better understanding of the level of conservation practices needed will provide important information for future management decisions. During the coming year, the research teams will run the different scenarios in the model. For the next reporting period, this project will provide the Commission with data to calculate the range of possibilities for H2Ohio success at nutrient reduction in the western basin of Lake Erie using this method. This information will supplement and enhance the existing methods being used to estimate the return on investment for site-specific practice installations. The Commission will continue efforts to build tools to collect better data for adaptive management and to provide better accountability for all future H2Ohio decisions.

Conclusion

The H2Ohio program was designed around the principles of cost effectiveness and return on investment. The Commission's role in coordination and oversight of the program includes continued evaluation of cost effectiveness not just at the project and field scale but also overall. By leveraging existing research to address H2Ohio-specific questions, the Commission will be able to provide supporting information to the Governor, the legislature, and all Ohioans on the continued cost effectiveness of the program.

H2Ohio
Conclusions

In the three years since the launch of H2Ohio, Ohio continues to follow the path toward cleaner and safer water for residents. Because Ohio's water quality issues took years to develop, many of the benefits of these investments will take several years before they are realized.

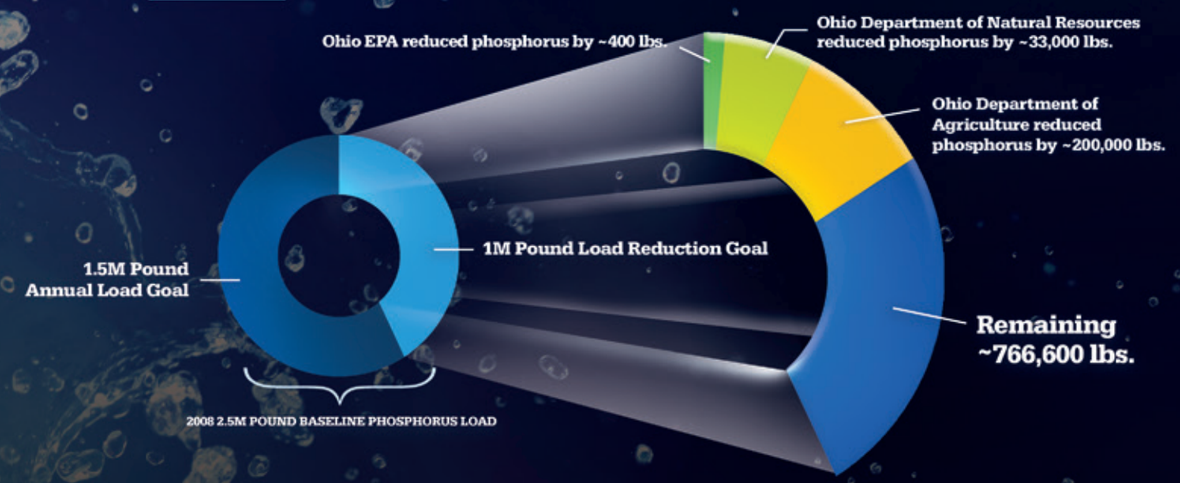
H2Ohio again focused resources on the problem of nutrient reduction and harmful algal blooms, especially in Lake Erie. From past work, Ohio recognizes excess nutrients from farm fields as the source of Lake Erie HABs which is why H2Ohio, through the ODA, has pursued agricultural best management practices to reduce nutrient runoff and why ODNR is working to capture nutrient runoff before it can enter into water bodies. Furthermore, the work of Ohio EPA captures the water infrastructure needs of both urban and rural communities and has funded gaps that exist in other water infrastructure programs.

Since its launch in 2019, H2Ohio's goal to show phosphorus reduction progress and transparency has been very important. In collaboration with the InnovateOhio Platform (IOP), a comprehensive H2Ohio dashboard is being developed. The H2Ohio dashboard will show phosphorus reduction data and information about H2Ohio projects that will be accessible to the public through the H2Ohio website. As H2Ohio continues to grow and progress, updated data will be uploaded to the dashboard on a regular basis.

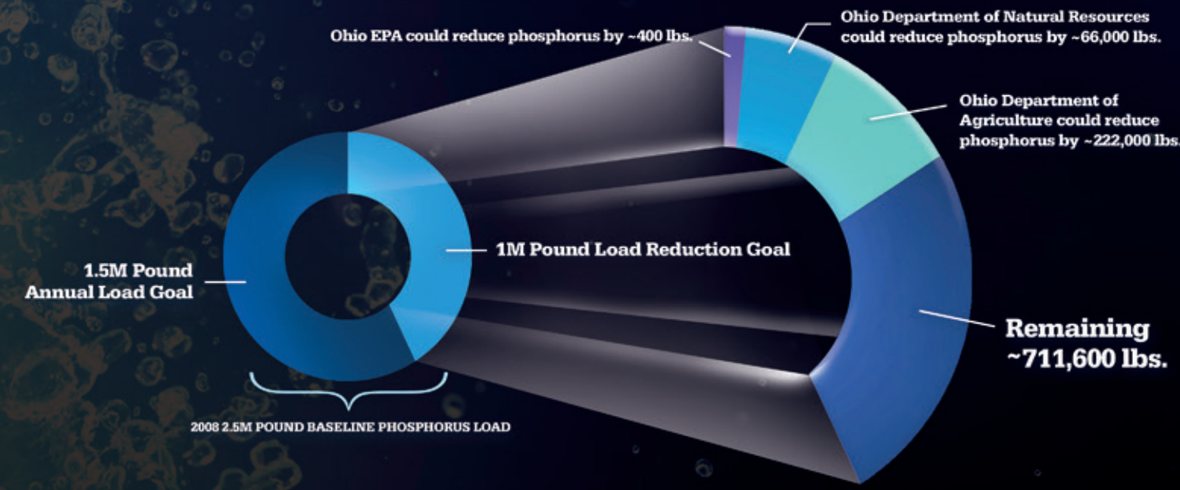
H2Ohio

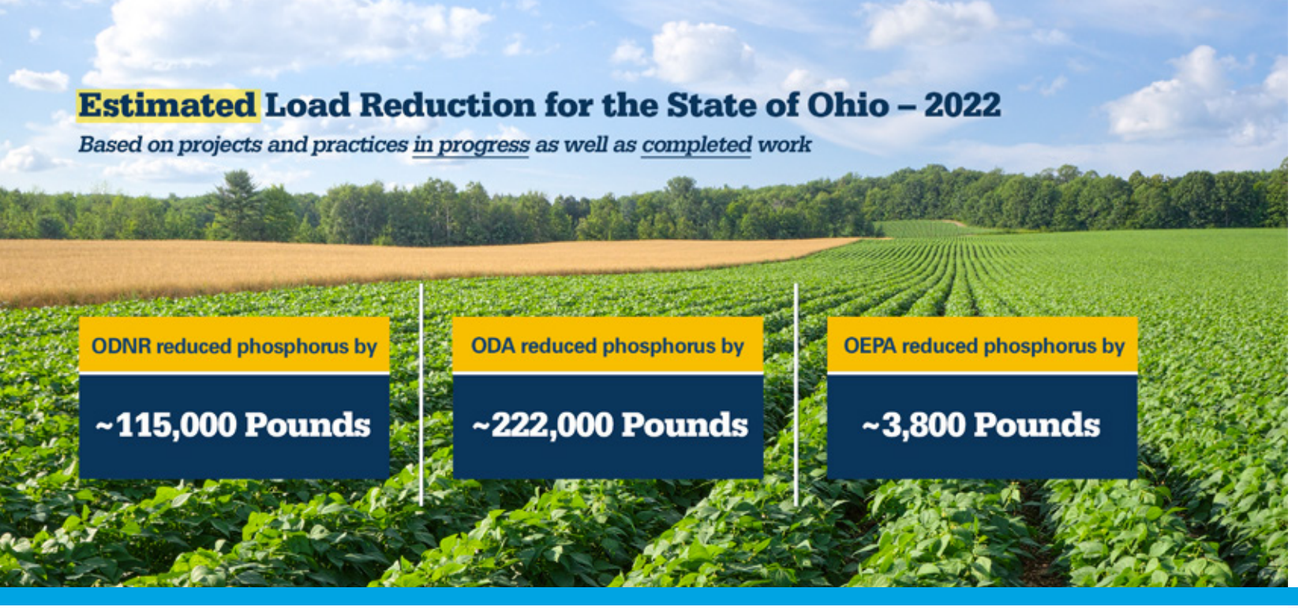
Ensuring clean and safe water is critical for the environment and health of Ohio. The benefits to communities that have received Ohio EPA H2Ohio funding for drinking and wastewater projects can be seen across Ohio in the impacted communities. Both the infrastructure projects along with the farmland best management practices and wetlands projects reduce phosphorus and other nutrients from entering Ohio's waters and providing the fuel for HABs. In an effort to quantify the benefits from H2Ohio, the agencies have tried to quantify the phosphorus reduction benefits from work both in the Western Lake Erie Basin and statewide. Whether the project or practice has been completed, these numbers should be considered as estimates using a variety of factors that can vary at project sites and farm fields.

Load Reduction for the Western Lake Erie Basin in Ohio – 2022
Based on completed work



Estimated Load Reduction for the Western Lake Erie Basin in Ohio – 2022
Based on projects and practices in progress as well as completed work





We have seen great success with H2Ohio through each agency's unique approach to improving water quality. One measurement of that success is the realized phosphorus reduction in Lake Erie and beyond.

In order to assess the impact that ODA's H2Ohio program has had on the phosphorus load in Northwest Ohio, ODA has developed an estimate of the phosphorus reduction based on practices enrolled in the 24 counties. Estimates were developed based on information available in Ohio's Domestic Action Plan 2020 to assess BMPs and related implementation costs.

ODA estimated an annual phosphorus load reduction of approximately:

200,000 pounds through the H2Ohio program in 2021, more than 200,000 pounds in 2022, and more than 300,000 pounds for 2023.

The load reduction estimates are based only on the BMP acres, and do not reflect site-specific or field-level data needed to model load reductions and program impacts.

ODA is collaborating with academic partners and working to develop more Ohio-specific BMP data, including strategies to calculate reductions from multiple BMPs, with field level information from edge of field studies in order to accurately assess program impact in the future.

ODNR focuses on a natural infrastructure approach to water quality improvement, emphasizing the beneficial nutrient capture and water storage 'ecosystem services' that are inherent to wetlands and related habitat restoration. By the end of FY22, ODNR had funded the creation, restoration, or enhancement of nearly 90 wetlands across the state of Ohio. Approximately 20 of these restoration projects were complete and beginning to deliver a nutrient reduction benefit by the end of FY22. Measuring the total benefit that these wetlands have on water quality can be partially quantified by modeling and then documenting the phosphorus reduction impact they deliver in Lake Erie and in other Ohio waterways.

ODNR modeling estimates that the restoration projects completed by the end of FY22 can capture approximately 33,000 pounds of phosphorus annually and when combined with projects that are currently underway, could account for 115,000 pounds of sequestered phosphorus per year. These estimates are based on existing scientific research of nutrient reduction efficiency for wetlands, projections of the amount of phosphorus that comes into each restored system per year, and taking the contributing watershed and hydrology of the system into account. Each of these factors have a level of uncertainty, which is one reason why ODNR is investing in a robust, large scale monitoring effort to reduce the uncertainty in these projections.

ODNR has enlisted the Lake Erie and Aquatic Research Network (LEARN) Wetland Monitoring Program as a partner to develop and implement a plan to help better understand the performance of H2Ohio's wetland restoration work. LEARN is a consortium of field stations, scientific laboratories, and diverse researchers within Ohio working together to promote collaborative research, education, and networking to address the challenges and opportunities facing Ohio's freshwater resources. The group will assess the effectiveness and future role of implemented and planned wetland restoration projects under H2Ohio.

This collaboration will study different types of funded wetland restoration projects to determine which are the most cost-effective for mitigating nutrient runoff to Ohio waters.

Ohio EPA has focused H2Ohio investments on improving human health throughout the state. A priority area is managing unsanitary conditions from failing household sewage treatment systems. These failing systems also contribute phosphorus to Ohio's waters.

Through system repair and connection to centralized treatment facilities, unsanitary conditions have been remedied for 110 households in the Western Lake Erie Basin, and 3,050 households throughout the rest of the state. These infrastructure improvements account for reducing phosphorus in the Western Lake Erie Basin by 137 pounds, and by 3,372 pounds of phosphorus across the state.

Ohio EPA calculated the amount of phosphorus reduction by applying the amount of phosphorus discharged per residence with the number failing household sewage treatment systems that were addressed with H2Ohio funds. When failing household sewage systems are repaired or connected to centralized sewer treatment plants, less phosphorus is released to waterways. These reductions determine the pounds of phosphorus removed from waterways resulting from the H2Ohio investments.

The agencies implementing H2Ohio appreciate the financial support provided by the General Assembly in the current operating budget and have worked hard to spend these funds efficiently and effectively.

Agency	Appropriation	Expended	Encumbered	Remaining at year-end
Agriculture	$49,308,518	$27,753,161	$21,548,832	$6,526
Environmental Protection	$10,150,000	$6,538,217	$3,611,783	$0
Natural Resources	$25,004,262	$210,128	$22,869,727	$31,407
Lake Erie Commission	$125,000	$125,000	$0	$0
Total	**$84,587,780**	**$36,519,506**	**$48,030,342**	**$37,932**


H2Ohio

H2Ohio

H2Ohio Accomplishments for Fiscal Year 2022

MIKE DEWINE
GOVERNOR OF OHIO

www.Governor.Ohio.gov

Ohio Department of Agriculture

Ohio Department of Natural Resources

Ohio Environmental Protection Agency

Ohio Lake Erie Commission