

Healthy Water Ohio:

A Strategy for Water Resources Management



Healthy Water Ohio

A STRATEGY FOR WATER RESOURCES MANAGEMENT





TABLE OF CONTENTS

Executive summary	4
Introduction	6
Healthy Water Ohio's structure	8
Healthy Water Ohio survey results	14
Working group findings	16
Healthy Water Ohio Recommendations	21
Implementation	28
Implementation schedule	29
Future of Healthy Water Ohio	30
Addendum: Ohio Water Trust	31
Healthy Water Ohio financial contributors	32
Healthy Water Ohio participants	33



EXECUTIVE SUMMARY

Water is one of Ohio's greatest natural treasures. Nearly two-thirds of Ohio's border consists of water, and hundreds of lakes, rivers and streams can be found in all regions of the state. Ohio's surface and groundwater supply is plentiful and generally clean, making it a major economic driver for the state, attracting and retaining businesses, visitors and residents. Maintaining a clean and abundant water source is crucial for the well-being of Ohio because water enhances the lives of those who rely on it daily for consumption, recreation and business.

Increasingly, Ohio's water resources have come under pressure and while the quality and abundance of water in Ohio remains high, this may not be the case in the future. Healthy Water Ohio (HwO) was convened in November 2013 to examine the state's water challenges and identify ways to optimize its water resources. More than 200 people provided input about the current state of Ohio's water resources and made suggestions on

how to maintain and improve them. That input was used by a steering committee representing conservation, business and industry, universities, water suppliers, agriculture and other groups to develop

a set of recommendations for maintaining and strengthening Ohio's water resources. The steering committee made a set of recommendations centered around six areas: research, policy & jurisdiction, infrastructure, funding, education & awareness and plan implementation. The hope is that the implementation of these recommendations will help Ohio continue to meet its comprehensive water needs and ensure access and use of water is balanced for all.



Summary of Healthy Water Ohio's Recommendations:

RESEARCH:

- Establish a formal water research group in Ohio.
- Improve coordination of research data.
- Conduct knowledge gap assessment.

POLICY & JURISDICTION:

- Leverage Ohio's established watershed districts.
- Employ voluntary water management practices.
- Encourage incentives and collaboration.
- Encourage equitable and reasonable regulatory practices.
- Provide indemnity for farmers and industries that voluntarily participate in research.
- Improve coordination among state agencies.

INFRASTRUCTURE:

- Conduct needs assessment of water-related infrastructure.

FUNDING:

- Develop an Ohio Water Trust.
- Pass state bond initiative to protect Ohio's water resources.

EDUCATION & AWARENESS:

- Boost efforts to educate policy and government leaders.
- Educate Ohio students on water-related issues.
- Educate the general public in Ohio about water-related issues.

Plan Implementation:

PHASE I

2015-2016: Create the Ohio Water Trust and pursue capitalization funds.

PHASE II

2017-2020: Implement priority initiatives.

PHASE III

2021 and beyond: Continue established processes and measure progress and ROI (return on investment).





“WE NEED A BUMPER STICKER THAT SAYS ‘OHIO — WE HAVE WATER.’ WE SOMETIMES TAKE IT FOR GRANTED AND WE SHOULD NEVER DO THAT.”

Don Hollister, Healthy Water Ohio steering committee member.

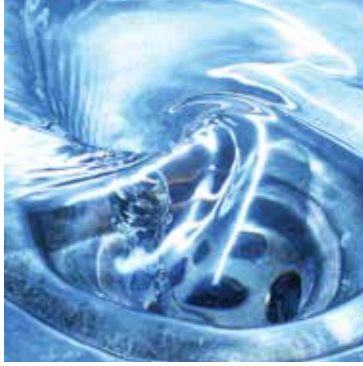
INTRODUCTION

Between Lake Erie, the Ohio River and numerous lakes and streams, Ohio is blessed with an abundant supply of water. Having ample water is what makes Ohio a great place to live and do business. Every day the state relies on its water resources whether it's used for households, energy, recreation, farming, industry or wildlife habitat.

The economic impact of the state's water is in the tens of billions of dollars for Ohio businesses, the state's tourism industry and other water users. This valuable resource is central to the well-being of families, businesses and communities and should never be taken for granted. Each day Ohioans consume more than 11 billion gallons of water for personal and business use and enjoy more than 60,000 miles of rivers and streams and more than 125,000 lakes, reservoirs and ponds. Ohio's water supply is abundant and clean, and the goal is to keep it that way.

The challenge is how to maintain the quality and quantity of the state's water for the long term. Increasingly Ohio's water resources are coming under pres-





sure because of an expanding population, growing water-dependent industries (including manufacturing, energy and food), increasing urban and rural development, new land uses and changing weather patterns that are leading to increased risks of flooding and drought. The challenges are many and diverse, making this a complex problem that stretches across the entire state.

Water is a basic need and how Ohio protects and manages it will have a far-reaching effect on residents, industries, agriculture, recreation and wildlife. The goal of Healthy Water Ohio was to identify those challenges and develop a long-term, actionable plan to sustainably meet current and future water needs while enhancing the state's economy and quality of life for all.

The importance of water to Ohio's economy*

MAJOR WATER CONSUMERS

- Electric power generation: 8,930,000,000 gallons/day; 77.6% of Ohio's total use
- Public and domestic consumption: 1,579,000,000 gallons/day; 13.7% of Ohio's total
- Industrial production: 703,000,000 gallons/day; 6.1% of Ohio's total
- Mining: 174,000,000 gallons/day; 1.5% of Ohio's total
- Irrigation (farm and recreational): 42,600,000 gallons/day; 0.37% of Ohio's total
- Livestock and aquaculture: 33,570,000 gallons/day; 0.29% of Ohio's total

WATER ENHANCES OHIOANS' QUALITY OF LIFE

- 3.1 million Ohioans (27%) live within 10 miles of Lake Erie or the Ohio River
- 450,018 registered watercraft, making Ohio a top 10 state
- More than 800,000 fishing licenses sold annually
- 466,890 privately owned swimming pools and hot tubs
- 778 miles of designated scenic rivers

*Source: U.S. Geological Survey





NON-CONSUMPTIVE USES

- Cargo shipping: Ohio ports handle 95.5 million short tons — 8th in the nation
- Fishing: \$2.9 billion in annual economic impact
- Tourism: One-third of the state's \$38 billion economic impact comes from the Lake Erie region

OHIO'S WATER RESOURCES

- 60,000 miles of rivers and streams
- 312 miles of Erie coastline
- 425 miles of Ohio River shoreline
- More than 125,000 lakes, reservoirs and ponds covering nearly 265,000 acres
- 942,000 acres of wetlands



HEALTHY WATER OHIO'S STRUCTURE

From the beginning, Healthy Water Ohio (HwO) has been a grassroots and collaborative effort. Recognizing the increasing pressure on the state's waterways and that it was a complex issue, Ohio Farm Bureau Federation asked a diverse group of water stakeholders in November 2013 to be part of an effort to develop a comprehensive water resource management plan. The stakeholders represented conservation, business and industry, universities, water suppliers, agriculture and other groups. The goal was to work cooperatively together to identify the strengths and weaknesses of Ohio's water resources and develop a 20- to 30-year water resource management strategy with action items. Such a broad coalition was needed to appropriately address how to maintain the quality and quantity of the state's water resources for the benefit of all sectors in Ohio, not just an individual group or interest. This collaborative approach had participants working together with groups they normally didn't talk to in order to identify the influences on water resources and explore economic, social and environmental opportunities.

At the November 2013 meeting, the 33 water stakeholders were divided up into smaller groups to discuss four questions:

1. What are the three most important issues facing Ohio's water resources?

2. Who is missing and needs to be engaged in this effort?
3. What is happening now? (work group, task force, partnerships, research, etc.)
4. What do we need to learn more about?

The information gathered at that meeting helped set up the framework for Healthy Water Ohio, identify more potential participants and single out the most important issues facing the state's water resources. Many of these stakeholders showed their commitment by making significant financial contributions to the launch of Healthy Water Ohio. As Healthy Water Ohio started gaining momentum, more groups and individuals made financial donations.

A 16-member steering committee led the activities of Healthy Water Ohio with the help of a professional facilitator. The group studied specific water-related issues in areas such as the economy, recreation, wildlife, public water supply, industry, agriculture and infrastructure. At meetings in central Ohio, Celina and Findlay, steering committee members learned about water quality and quantity issues in Ohio by sharing their expertise with each other and from experts who addressed the group several times.

Early on, the steering committee decided a statewide public opinion survey was needed to learn what the public's perception was of the state's water

resources and to help it identify what areas were of concern to Ohio residents and businesses (see survey results on pages 14-15). The steering committee then decided the structure of Healthy Water Ohio should include the establishment of working groups that would focus on specific subjects and provide input to the steering committee, which would make final recommendations.

On July 7, 2014, Healthy Water Ohio was officially launched via an hour-long media teleconference with steering committee members describing the initiative and answering questions from more than two dozen reporters. Healthy Water Ohio stories appeared around the state in newspapers such as the Toledo Blade and The Columbus Dispatch, radio networks such as Clear Channel Radio and Ohio Public Radio, an environmental reporting site, a national agribusiness newspaper and numerous other publications. Most of the media conference was on Ohio Farm Bureau's public affairs radio show, Town Hall Ohio, which is aired on 11 stations throughout the state.

Less than a month after the launch of Healthy Water Ohio, Ohio was thrust into the national spotlight when a harmful algal bloom on Lake Erie caused almost half a million people in the Toledo area to be without drinking water for more than two days. This heightened interest in the work being done by nonpartisan Healthy Water Ohio.





“WE KNOW THERE ARE (WATER RESOURCE) CHALLENGES, AND BROAD CHALLENGES REQUIRE A BROAD COALITION LIKE HEALTHY WATER OHIO. WE WANT TO TAKE A COMPREHENSIVE APPROACH TO TRY TO IMPROVE AND PROTECT THIS MOST VITAL RESOURCE FOR ALL OHIOANS.”

Ohio Farm Bureau President Steve Hirsch talking about the Healthy Water Ohio initiative on Town Hall Ohio, a public affairs radio show that airs on 11 stations throughout the state.

After more organizational meetings by the steering committee, five regional work group meetings were held in November and December 2014. The steering committee invited a wide range of water stakeholders to attend those regional meetings and share their opinions, ideas and recommendations about Ohio’s water issues. The meetings were held in different parts of Ohio to capture the water needs of the entire state.

At the regional meetings, participants were put in small discussion groups with facilitators guiding the conversation around these topics: what their vision was for Ohio’s water needs; the greatest challenges/threats to the state’s future water needs; possible water resource solutions; ideas for water education/outreach, and possible funding sources for implementing a long-term comprehensive

water management strategy. During the half-day meetings, the diverse group of participants had productive conversations about Ohio’s water resource needs and were cordial with each other. While there were regional differences in how the stakeholders experience water-related matters, there were few differences in results (see pages 17-19).

The regional working group meetings drew more than 150 participants, excluding Healthy Water Ohio support staff, and led to the identification of key water resource issues and possible solutions for the steering committee to examine. A half day meeting also was held with public officials who addressed the same topics as the regional work groups as well as an out-of-state expert conference call to better gauge water resource issues nationwide.

With the help of the Healthy Water Ohio facilitator, the steering committee sifted through dozens of pages of input from regional work group participants, public officials and out-of-state experts to identify six critical water resource themes:

- research
- policy & jurisdiction
- infrastructure
- funding
- education & awareness
- plan implementation.

After a day-long meeting in April 2015, the steering committee reached consensus on what recommendations and actions steps would be in the Healthy Water Ohio report with a panel of scientific experts later reviewing them to ensure they were evidence-based, sound and practical.

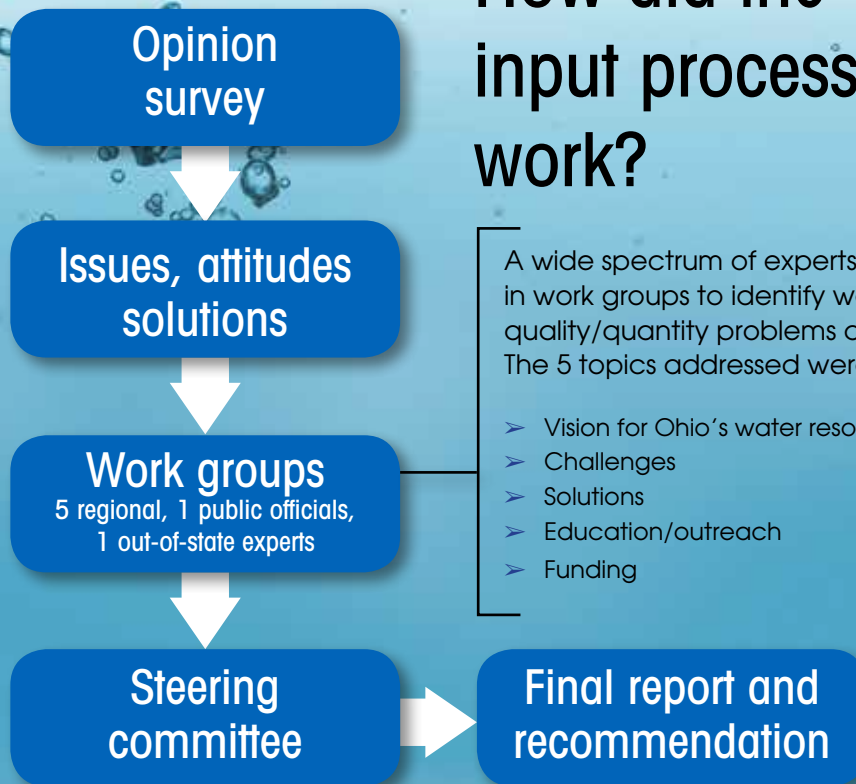
“THIS A FORUM WHERE PEOPLE WHO MIGHT NOT NORMALLY BE IN THE SAME ROOM ARE WORKING TOGETHER TO FIND WAYS TO PROTECT AND PRESERVE OHIO’S WATERWAYS.”

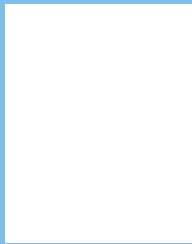
Dr. Bruce McPheron, steering committee member and dean of Ohio State University’s College of Food, Agriculture and Environmental Sciences and vice president for agricultural administration.

How did the input process work?



Healthy Water Ohio
A STRATEGY FOR WATER RESOURCES MANAGEMENT

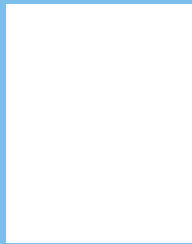




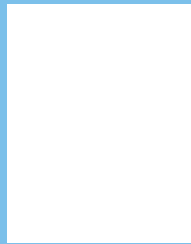
Corbitt



Henney



Bankey



Hollister



Stark



Osborn

Healthy Water Ohio steering committee

Business and Industry:

Scott Corbitt, *Anheuser-Busch-Columbus Brewery*

Chris Henney, *Ohio AgriBusiness Association*

Conservation and Environmental Advocacy:

Mindy Bankey, *Ohio Federation of Soil and Water Conservation Districts*

Don Hollister, *Ohio League of Conservation Voters*

John Stark, *The Nature Conservancy*

Finance:

Wendy Osborn, *Farm Credit Mid-America*

Food and Farming:

Frank Phelps, *Ohio Cattlemen's Association*

John Linder, *Ohio Corn Marketing Program*

Matt Andreas, *Ohio Dairy Producers Association*

Steve Hirsch, *Ohio Farm Bureau Federation*

Terry McClure, *Ohio Soybean Council*

Lawn, Horticultural, Turf:

Ann Aquillo, *Scotts Miracle-Gro*

HEALTHY WATER OHIO TIMELINE:



Nov. 19, 2013

Kickoff meeting of Healthy Water Ohio at the 4-H Center on OSU campus

March 19, 2014

Stakeholder meeting at Anheuser-Busch-Columbus plant



May 21, 2014

First steering committee meeting at Ohio Farm Bureau in Columbus



July 7, 2014

Healthy Water Ohio media rollout

Oct. 16, 2014

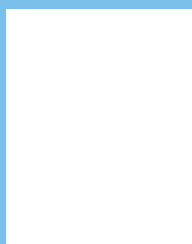
Steering committee meeting in Findlay, expert presentations



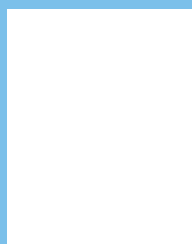
Aug. 14, 2014

Steering committee meeting at Wright State University, Grand Lake St. Marys tour

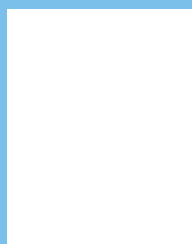




Phelps



Linder



Andreas



Hirsch



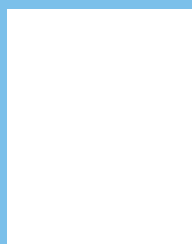
McClure



Aquillo

Municipal Water Systems:

Jack Williams, *Village of Ottawa*



Williams



Angel



Fletcher



McPheron

Public Health:

Timothy Angel, *Association of Ohio Health Commissioners*

Recreation and Tourism:

Larry Fletcher, *Lake Erie Shores & Islands*

Research, Education and Outreach:

Bruce McPheron, *The Ohio State University*

Project facilitator:

Annie Gallagher, *Gallagher Consulting Group, Inc.*

Technical adviser:

Larry Antosch, *Ohio Farm Bureau*

Nov. 6, 2014
Regional work group meeting in Port Clinton



Nov. 19, 2014
Regional work group meeting in Wooster

Nov. 25, 2014
Regional work group meeting in Cambridge

Dec. 1, 2014
Regional work group meeting in Marysville

Dec. 2, 2014
Regional work group meeting in Dayton



Jan. 22, 2015
Steering group meeting at Ohio Farm Bureau in Columbus

March 6, 2015
Expert call teleconference

March 3, 2015
Public officials meeting

April 21, 2015
Final steering committee meeting in Columbus

HEALTHY WATER OHIO SURVEY RESULTS



The Healthy Water Ohio steering committee decided a survey would help capture what the public's perception was about Ohio's water resources and identify what issues they cared the most about relative to the quality, quantity and health of the state's water.

Saperstein Associates, Inc. was hired to conduct a random telephone survey of 1,000 Ohio voters from around the state from July 15 to August 6, 2014. Interestingly, the last couple of days of the survey took place while Toledo was dealing with a drinking water crisis. A toxic Lake Erie algae

bloom got into the city's municipal water supply on August 2, 2014, causing almost half a million people to be without drinking water for more than two days. That crisis appeared to cause some survey participants to be more critical of the health of Ohio's water resources.

The survey asked participants to assess their level of concern about seven issues currently in the public discussion. The level of concern, ranked highest to lowest, was health care, the economy, education, crime, roads and bridges, water and public transportation. Only one out of three was very concerned about water and fewer than one in 20 considered water their top concern.

But among environmental challenges, safe drinking water was the top priority, ahead of air quality, waste disposal, quantity of water supplies, land use and dealing with weather extremes. When asked to rate the importance of several water issues, 88 percent said safe drinking water was very important, ranking it higher than protect-



ing fish and wildlife habitat, repairing aging water systems, providing adequate water for commerce and industry, dealing with natural disasters and preserving water for recreation and tourism.

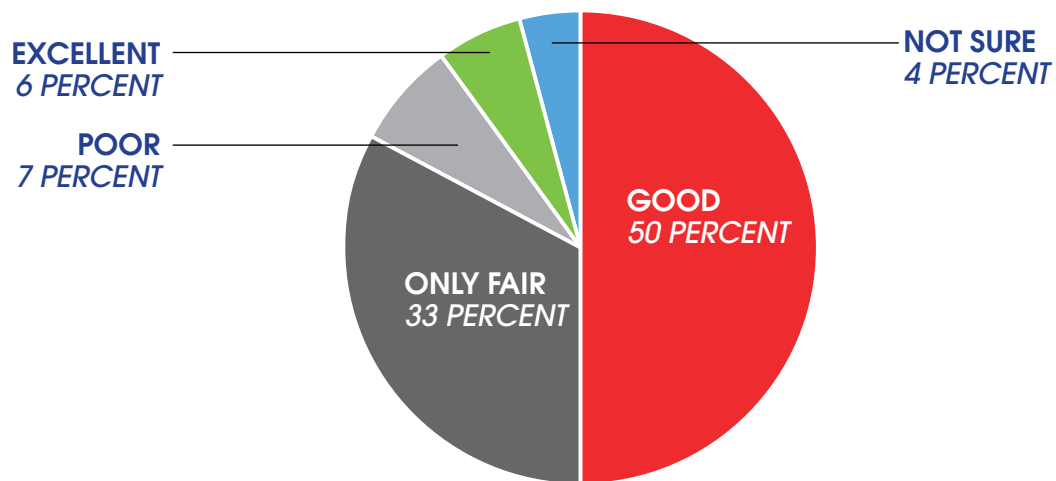
The majority of respondents said the most serious source of water pollution was discharge from factories and industrial plants, followed by trash and litter, discharge from sanitary sewers, hydraulic fracturing, discharge from septic systems, runoff from farms, residential runoff, construction site erosion and wildlife. A majority said state govern-

ment (54 percent) should take the lead on water quality regulation, followed by local (30 percent) and federal (13 percent).

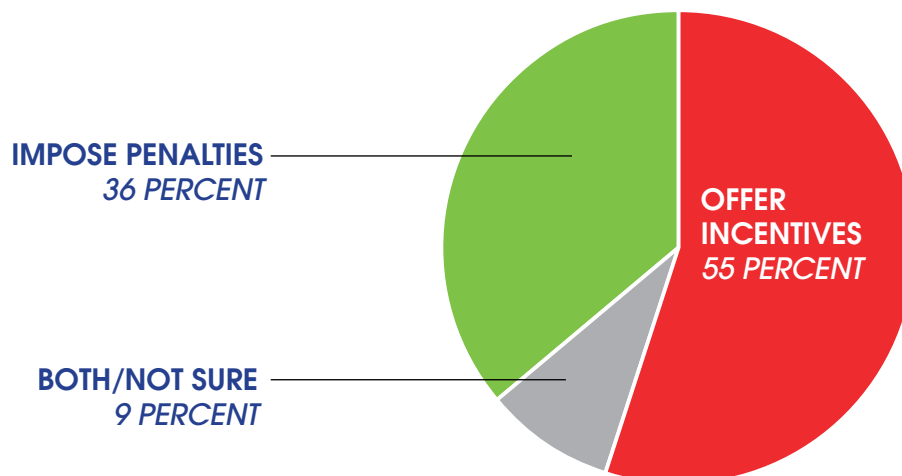
Six out of 10 respondents said they would be willing to pay an annual \$5 fee to protect Ohio's water resources.

More survey results
can be found at
healthywaterohio.org

WHAT IS THE OVERALL HEALTH OF OHIO'S WATER RESOURCES:



WHAT IS THE MOST EFFECTIVE WAY TO ENCOURAGE INDIVIDUALS AND BUSINESSES TO TAKE BETTER CARE OF OHIO'S WATER RESOURCES:





WORK GROUP FINDINGS

In November and December 2014, five Healthy Water Ohio meetings were held around the state to gather input from a diverse group of interested parties about the state's water issues. The steering committee relied on the information gathered at those meetings, as well as from a public officials work group meeting and an out-of-state expert conference call, for making final recommendations on how to meet current and future water needs while enhancing the economy and quality of life for all Ohioans.

Steering committee members invited a broad spectrum of groups and individuals interested in water resource issues to the regional work group

meetings. Those who attended included individuals representing:

- agriculture
- business
- conservation and environmental groups
- public sector
- universities/higher education

The meetings were held throughout the state to document the water needs of each section of the state. While each region tended to have a specific water concern, ultimately all five areas had the same type of results and similar recommendations.

REGIONAL WORK GROUP MEETING LOCATIONS

Nov. 6, 2014	Port Clinton, Lake Erie Shores & Islands
Nov. 19, 2014	Wooster, Ohio State University Agricultural Technical Institute
Nov. 25, 2014	Cambridge, Southgate Hotel
Dec. 1, 2014	Marysville, The Scotts Miracle-Gro Company
Dec. 2, 2014	Dayton, Miami Valley Regional Planning Commission Center for Cooperation

During the half-day meetings, individuals worked collaboratively in small groups to address Ohio's water challenges and come up with suggestions for a long-term water resource management plan. They also did a SWOT analysis to identify the state's strengths, weaknesses, opportunities and threats related to its water resources (see summary on page 20).

Participants were encouraged not to blame others for Ohio's water problems, and many said they learned a lot during the meetings from conversations with people they normally wouldn't be working with. Healthy Water Ohio's facilitator chaired the meetings and shared and summarized the findings for the steering committee in preparation for its final recommendations. The entire process was a true grassroots effort with more than 150 people providing input.

In March 2015, a public officials meeting was held with participants representing public sector entities: Association of Ohio Health Commissioners, Natural Resources Conservation Service, Ohio Department of Natural Resources, Ohio Department of Agriculture, Ohio Environmental Protection Agency, Ohio Water Development Authority, Public Utilities Commission of Ohio, U.S. Department of Agriculture and the U.S. Geological Survey. The meeting was set up the same way as the regional work group sessions.

In both the regional working group sessions and public officials meeting, participants discussed five major topics regarding Ohio's water resources: vision, challenges, solutions, education/outreach and funding.

Summary of topic questions and crossover findings from the regional work group meetings and public officials session.

TOPIC 1: VISION

What are some broad objectives you have, with regard to water in Ohio? Describe your hopes and goals for the state, in terms of water quantity, water quality and other water related issues.

- Ohio should have clean, safe and plentiful water for all Ohioans and leverage water as an economic asset for the state.
- The improvement or restoration of gray or green infrastructure is necessary for maintaining the quantity and quality of the state's water resources.
- A forward thinking, integrated approach is needed to address the state's water quality and quantity issues with the goal of having Ohio be a national/global model for water resource protection.
- Water is a public trust with everyone responsible for taking care of it and there should be no finger pointing.
- A better understanding of where nutrients are coming from is needed in order to develop an effective nutrient reduction plan.



TOPIC 2: CHALLENGES

What do you see as the greatest challenges/threats related to Ohio's future water needs?

- Ohio lacks the funding and enforcement of current regulations to effectively deal with its water resource issues.
- Existing infrastructure is aging and the cost to fix it is enormous.
- Nutrients and contaminants in water are a challenge and better science, data and research are needed to address these and other water challenges.
- There's conflicting information about best water practices and research.
- In general the public doesn't have a good understanding of the value of water and education about the value of water and what its stressors are is insufficient.
- Multiple jurisdictions are in charge of the state's water resources with no single entity in charge.
- Severe weather events and changing weather patterns are putting a greater strain on Ohio's water resources.

TOPIC 3: SOLUTIONS

Do you have water resource solutions (policies, programs, projects) that you would like to see as part of this integrated strategy?

- Management of the state's water resources should be organized by watershed district with water conservation districts helping implement strategies.
- The state should take advantage of the existing expertise in Ohio for dealing with water resource issues, including leveraging the Ohio Water Resource Council.
- Coordination of water efforts, at the local, state and national levels, is needed to avoid duplication, and groups, individuals and agencies should work collaboratively together for the greatest effect.
- There needs to be acknowledgement that there are challenges with the state's water resources, and education should be increased at all levels, especially with public officials, the general public and students.
- Ohio should study and learn from other models (e.g. Chesapeake Bay) that had similar water challenges.
- Reasonable, common sense policies and regulations are needed as well as science-based solutions.



“WATER IS A PUBLIC TRUST.
WE DAMAGE IT, WE DAMAGE
OURSELVES.”

Ken Alvey of the Lake Erie Marine Trades
Association.

TOPIC 4: EDUCATION & OUTREACH

How can we improve education and outreach activities related to water issues?

- Ohio should have a centralized clearinghouse of water quality-related information for all stakeholders.
- A public education campaign should be conducted on the value of water and how individuals can be good water stewards. That message should be consistent and compelling.
- Elected officials will need continual education.
- The value of water should be taught in schools, especially at the elementary and high school levels.
- Children should be leveraged to persuade adults to take responsible actions related to water.

TOPIC 5: FUNDING

With declining federal, state and local resources, what are some new and innovative funding opportunities to generate the revenue that will be needed to implement this long-term water resource strategy?

- Ohio should consider a ballot initiative like Clean Ohio for a dedicated revenue stream.
- The state should look into developing a non-profit water fund.
- If taxes are necessary, they should come from a new tax source and apply to all and not burden one segment.
- Incentives and creative taxation options should be considered.
- Reach out to foundations to secure program-related investment (PRI) for funding.
- Implement a user fee.
- Whoever controls the funding is critical.

“OUR URBAN POPULATION HAS ABSOLUTELY NO CLUE WHERE THEIR WATER COMES FROM. WE NEED TO CHANGE THAT.”

Jim Morris, U.S. Geological Survey's director of Michigan and Ohio water science centers.





WATER RESOURCE THEME RECOMMENDATIONS

During their discussion of Ohio's water issues in their small groups, the working group members, public officials and out-of-state experts made a series of broad recommendations to be incorporated and developed for a successful long-term water management plan.

FUNDING: How to fund a long-term water resource management plan for Ohio must be addressed. The funding goals and methods must be clear and sustainable and funding should be tied to incentives for desired behaviors.

RESEARCH: More research is needed to clarify inconsistent information.

EDUCATION: Long-term education of public and other key audiences is needed about the value and the true price of water.

INFRASTRUCTURE: Ohio needs to identify and address its water infrastructure needs, including funding.

BUY-IN: Ohio should continue to have a broad base of engaged water stakeholders who are working collaboratively together. Buy-in from the public sector is critical, and messages about the state's water resources need to be positive to better engage the public.

SUSTAINABILITY: In order to have sustainability, Ohio should find ways to continue buy-in and interest in a long-range water management plan with changing government administrations.

Identifying the strengths, weaknesses, opportunities and threats to Ohio's water resources

During the regional work group and public officials sessions, participants were asked identify the strengths, weaknesses, opportunities and threats to the state's water resources.

The majority of participants determined Ohio's rich water resources improve the quality of life for all Ohioans and are a major economic driver for the state, attracting both businesses and visitors. While major events such as the Toledo drinking water crisis and problems at Grand Lake St. Marys have heightened awareness of the state's water issues, the groups concluded that the biggest weakness is lack of awareness, education and appreciation of water issues, as well as adequate funding.

But they noted that many groups and experts are interested in working together to protect Ohio's water and that the state has the experts and resources necessary to work on possible solutions.

The majority also noted there is no comprehensive, coordinated approach to handling water issues in Ohio and that regulatory management is poor when it comes to water monitoring, enforcement and policy. They found pollutants, nutrients and runoff were the biggest water quality threats and that the state's overall water resource management was hampered by multiple jurisdictions with no one in charge and insufficient funding.



HEALTHY WATER OHIO RECOMMENDATIONS

From the beginning, the goal of Healthy Water Ohio has been to develop a set of recommendations that will sustainably meet current and future water needs while enhancing the state's economy and quality of life for Ohioans. Over the course of more than a year, Healthy Water Ohio's steering committee met to discuss and learn about the state's water resources from each other and various experts. They met at Anheuser-Busch in Columbus to learn about business water users, along the shores of Lake Erie and Grand Lake St. Marys to hear about water quality challenges and at other locations where they tried to come up with an

accurate assessment of the state's water needs and find ways to sustain them for the long term.

Committee members sorted through dozens of pages of input by regional work groups, public officials and out-of-state water experts to identify critical themes that should be included in the final report. The report's recommendations are centered around those key themes. It was a collaborative effort by a group of leaders who although they were from varying backgrounds and interests, they shared a desire to maintain one of the state's greatest natural treasures for all Ohioans.

RESEARCH

1. **Establish a formal water research group in Ohio.** Create a formal group of Ohio academic and private institutions to yield more consistent, high quality, well-coordinated research. The researchers will share information on current initiatives, discuss priorities, and explore potential opportunities for funding and collaboration. It should be governed by public/private co-leaders and an advisory board comprised of a diverse group of stakeholders.
2. **Improve coordination of research data.** Ohio should establish a mechanism to serve as central repository and collection point for water information, past and current studies, data and related resources. It should include a searchable database.
3. **Conduct knowledge gap assessment.** Ohio should complete a knowledge gap assessment to identify the specific areas of need for future water-related research.

Elaboration: Ohio doesn't have a single group to keep track of and coordinate the various water research projects going on around the state. Establishing a formal water research group would allow the state to better identify what its water research needs are, prioritize research projects based on those needs and help identify possible funding for those projects. The water research group would serve as a clearinghouse for water research information and having access to all that data would allow for a less fragmented approach to addressing Ohio's water issues. Making it a public-private endeavor with a diverse group of stakeholders would allow for more coordination and collaboration on research projects. Stakeholders could include academia representation from those institutions actively engaged in water related research as well as private industry and science-based non-profit organizations. The majority of steering committee members recommended looking at the Millennium Network coordinated by OSU Sea Grant as a possible example.



POLICY & JURISDICTION

1. **Leverage Ohio's established watershed districts.** Use the watershed Conservancy Districts as cooperators where possible to facilitate cross-jurisdictional collaboration and implement Ohio's water resource plan.

Elaboration: Created by the Ohio General Assembly in 1914, Ohio's conservancy districts are political subdivisions of the state of Ohio and are formed at the initiative of local landowners or political subdivisions to solve water management problems, usually flooding. A conservancy district has the right of eminent domain and may charge user fees, levy special assessments and issue bonds. Besides controlling floods, other authorized purposes include conserving and developing water supplies, treating wastewater, providing recreational opportunities and promoting watershed protection through accelerated land treatment measures. Currently, Ohio has 20 conservancy districts with some that are very small and others encompassing several counties.

Managing and implementing water resource programs on a watershed basis instead of a geopolitical basis may be more efficient and effective. The current structure of conservancy districts should be reviewed.

2. **Employ voluntary water management practices.** Voluntary water quantity and water quality management practices should be encouraged for agricultural lands, urban stormwater, industries and development. These voluntary management practices should include cost sharing or incentives funded through the appropriate federal and state agencies or a newly established dedicated funding source. Existing government programs that provide resources for water related activities should be reviewed for effectiveness.
3. **Encourage incentives and collaboration.** The state should encourage public water policy that enables informed decision-making through incentives and funding for planning

PHOTO CREDIT: MIKE SCHENK



and technical assistance, regional collaboration and education.

4. **Encourage equitable and reasonable regulatory practices.** The state should support reasonable water-related regulations to ensure all industries and constituent groups act responsibly and help protect Ohio's water resources. The state should strengthen its enforcement for the individuals who are not in compliance.

Elaboration: Better enforcement of existing regulations is needed to stop "bad actors." The emphasis should be on having every constituent group and individual do their part to protect and preserve Ohio's water resources and not target a single group or industry.

5. **Provide indemnity for farmers and industries that voluntarily participate in research.** The state should provide protection for farmers and other industries who voluntarily subject its operations to field studies related to healthy water. This will encourage participation in critical research and enhance its findings.

Elaboration: There is an advantage to having businesses and individuals open up their facilities and fields for on-site research and trying out and evaluating new conservation and other measures. In order to not stifle this type of research, some type of indemnity should be available for participants.

6. **Improve coordination among state agencies.** The state of Ohio established the Ohio Water Resources Council (OWRC) in 2001 to serve as an ongoing forum for policy and program development, collaboration and coordination among state agencies. Healthy Water

Ohio encourages the state of Ohio to refocus and strengthen these efforts so it can more effectively help advance a viable water-resource strategy for Ohio.

Elaboration: The Ohio Water Resources Council (OWRC) was formed on a temporary basis as an outgrowth of the 1993 Governor's Blue Ribbon Task Force on Water Resources and was permanently established as state law in 2001. It is meant to be a forum for policy development, collaboration and coordination among state agencies on state water resource programs. Membership is comprised of an executive assistant to the governor and the heads of the Ohio departments of Agriculture, Development, Health, Natural Resources and Transportation; the Ohio Environmental Protection Agency; the Ohio Public Works Commission; Ohio Water Development Authority, and the Public Utilities Commission of Ohio. Also assisting OWRC is the State Agency Coordinating Groups, consisting of staff from member agencies and the executive director of the Ohio Lake Erie Commission, and the 28-member Advisory Group, which represents a variety of stakeholder groups.

With representatives from the governor's office, state agencies and water stakeholders, this is the perfect group to continue to coordinate and enhance water resource efforts, including implementation of portions of Healthy Water Ohio's plan. The effectiveness of the OWRC could be enhanced even more if a mechanism was developed to direct funding and human resources to OWRC developed initiatives. OWRC developed initiatives should be invested with dedicated resources flowing from the cabinet level with oversight from the governor's environmental liaison.

INFRASTRUCTURE

Conduct needs assessment of water-related gray and green infrastructure. Work with the state of Ohio and watershed leaders throughout the state to develop an assessment tool with criteria to identify that status (including need) and condition of water-related infrastructure in the state. Based on the results of this assessment, prioritize and fund the most critical projects.

Elaboration: In 2008, a U.S. Environmental Protection Agency (U.S. EPA) state-by-state survey of

wastewater infrastructure needs found Ohio's wastewater infrastructure need was \$14.2 billion over 20 years. A 2009 U.S. EPA survey on drinking water infrastructure needs found Ohio's capital improvement need was \$12.6 billion over 20 years. The conclusion from both reports is that Ohio needs about \$1.3 billion a year over the next 20 years to meet drinking water and wastewater infrastructure needs. This doesn't take into account Ohio's other gray water infrastructure needs such as dams and bridges.

FUNDING

1. **Develop an Ohio Water Trust.** Create a public-private water trust with a minimum annual goal of \$250 million to fund a variety of water-related needs such as research and monitoring, improvement or restoration of gray and green infrastructure, and education.

The majority of the funds from the trust would flow toward implementation of on-the-ground projects that would improve water quality, moderate the impacts of climatic extremes, and otherwise improve the health and safety of human communities and natural systems.

Elaboration: During a steering committee meeting, The Nature Conservancy presented a concept for an Ohio Water Trust fund, which would be governed by a board comprised of diverse private and public stakeholders with funds managed by a trusted entity. The trust would use science and performance-based data target funding to receive the best return on investment (ROI) of various water projects around the state. The funding would come from a variety of sources (see chart on page 31) and be a dedicated revenue stream to address water research,



monitoring, traditional or “gray” infrastructure, education and other needs.

In addition selective, targeted restoration of natural or green infrastructure such as floodplain or wetland features are needed to provide ecosystem services such as flood attenuation and water quality treatment. Restoration of green infrastructure can provide cost effective benefits in the long-term and lessen the strain on aging gray infrastructure during extreme climatic events. Implementation of on-the-ground projects are seen as a priority.

- 2. Pass state bond initiative to protect Ohio’s water resources.** Pursue ballot initiative asking Ohio voters to protect the state’s valuable water resources and ensure every Ohioan has safe, clean water. The bond should yield \$100 million annually to fund a variety of water-related needs such as research and monitoring, infrastructure,

and education. Healthy Water Ohio encourages bipartisan support from the executive and legislative leadership to guarantee a successful effort. The funds will be allocated to and administered by the Ohio Water Trust placing an emphasis on the implementation of on-the-ground projects.

Elaboration: The Clean Ohio Fund is the state’s main funding source for open space conservation, farmland preservation, trail creation, brownfield restoration and protection of ecologically sensitive areas. Ohio voters approved its creation in 2000 as a \$400 million bond program and renewed it in 2008. Ohio could have a similar Clean Water Ohio model with the state legislature establishing a permanent dedicated source of funding that is administered through the Ohio Water Trust in combination with funds arising from dedicated user-fees from a variety of sources.





EDUCATION & AWARENESS

1. **Boost efforts to educate policy and government leaders.** Use the infrastructure and stakeholders of Healthy Water Ohio to develop an ongoing grassroots effort to educate and inform public officials and policymakers about the realities, consequences, opportunities and benefits related to water in Ohio.
2. **Educate Ohio students on water-related issues.** Leverage public-private efforts to ensure water-related education programs are part of Ohio's curriculum standards in the state's public and private school systems.
3. **Educate the general public in Ohio about water-related issues.** Coordinate a grassroots effort to educate Ohioans about water-related issues by leveraging existing organizations and their communications vehicles.

Elaboration: Healthy Water Ohio's survey showed that unless Ohioans or businesses are having trouble with their water, it's low on their list of concerns, ranking sixth out of seven issues of concern. Because Ohio has a long history of generally abundant and affordable water, many Ohioans don't know what the true cost is of having a safe and abundant supply of water. Many also don't know where their drinking water comes from or what they can do to help keep the state's water resources sustainable for everybody.

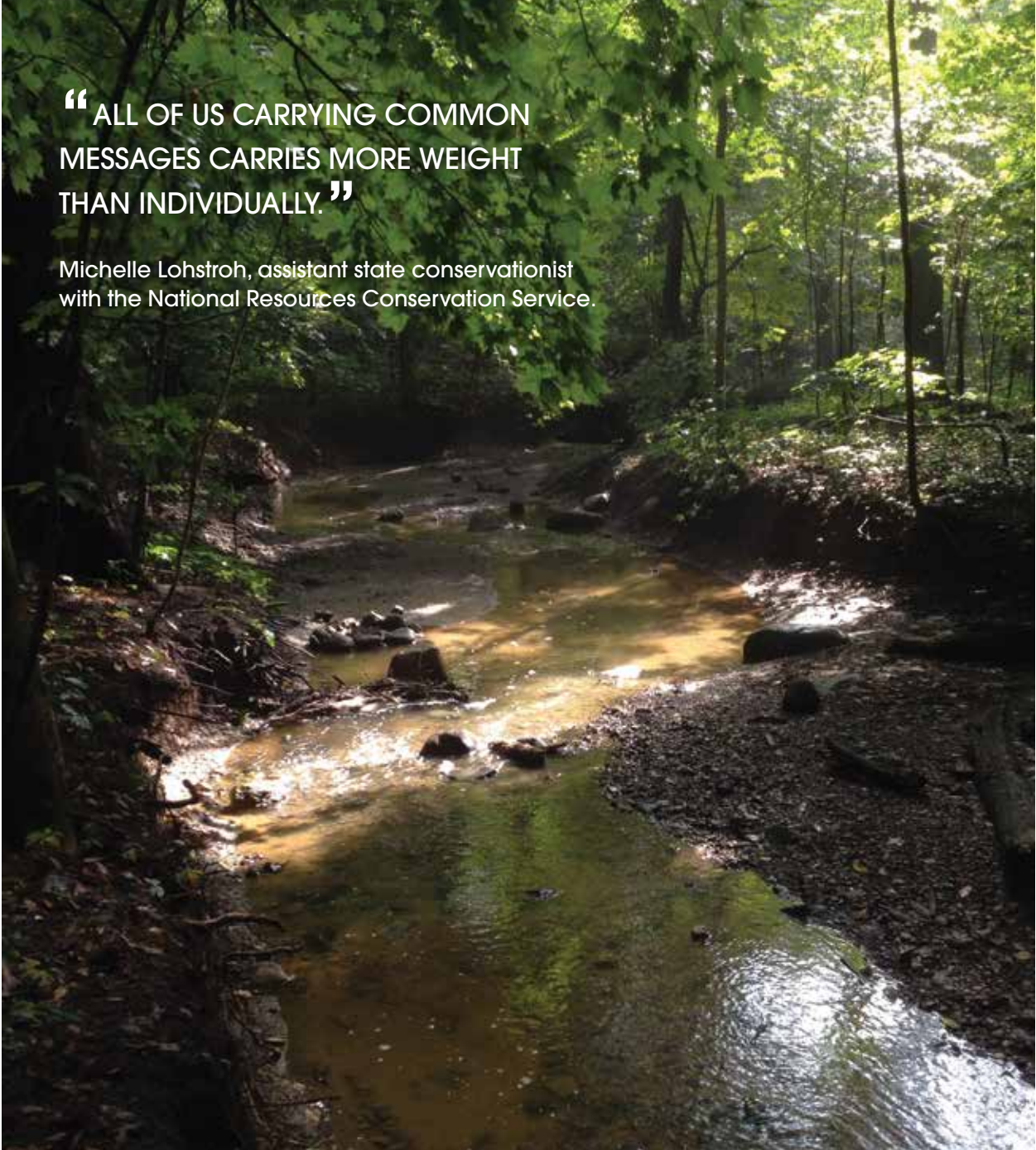
Both the public and government leaders need a better understanding of the complexity and cost of sustaining Ohio's water resources. Effective water-related education programs are vital, and the messages about the state's water needs should mainly focus on the positive. A recommendation is that Ohio develop a compelling message campaign such as the U.S. Forest Service's anti-littering motto "Give a hoot, don't pollute."



Healthy Water Ohio Plan Implementation

The steering committee agreed that the recommendations should include an implementation schedule. The timeline divides the recommendations into three phases of implementation. Because many of the recommendations are ongoing and cross all phases, it is difficult to assign specific dates

for each recommendation until a specific work plan is completed in the later stages. However, the following highlights the need to initially focus on creating the Ohio Water Trust and pursuing capitalization funds.



**“ALL OF US CARRYING COMMON
MESSAGES CARRIES MORE WEIGHT
THAN INDIVIDUALLY.”**

Michelle Lohstroh, assistant state conservationist
with the National Resources Conservation Service.

Implementation Schedule

PHASE I

2015-2016: Create the Ohio Water Trust and pursue capitalization funds.

New activities:

- Develop an Ohio Water Trust with minimum annual goal of \$250 million.
- Create a governance board and structure for the Ohio Water Trust.
- Pursue a state bond initiative to protect Ohio's water resources.
- Request additional state legislative funding for water-related matters.
- Establish a formal water research group in Ohio.
- Encourage incentives and collaboration for best management practices.
- Provide indemnity for farmers and industries who voluntarily participate in research.

Continual activities:

- Encourage incentives and collaboration.
- Employ voluntary best water management practices.
- Educate Ohio students on water-related issues.
- Educate the general public in Ohio about water-related issues.
- Improve coordination among state agencies.
- Leverage Ohio's established watershed districts.
- Boost efforts to educate policy and government leaders.

PHASE II

2017-2020: Implementing priority initiatives

New activities:

- Conduct a needs assessment of water-related infrastructure.
- Conduct knowledge gap assessment for research.
- Improve coordination of research data.

Continual activities:

- Encourage incentives and collaboration.
- Employ voluntary best water management practices.
- Educate Ohio students on water-related issues.
- Educate the general public in Ohio about water-related issues.
- Improve coordination among state agencies on water issues and needs.
- Leverage Ohio's established watershed districts.
- Boost efforts to educate policy and government leaders.

PHASE III

2021 and beyond: Ongoing established processes, measuring progress and ROI (return on investment)

Continual activities:

- Encourage incentives and collaboration.
- Employ voluntary best water management practices.
- Educate Ohio students on water-related issues.
- Educate the general public in Ohio about water-related issues.
- Improve coordination among state agencies.
- Leverage Ohio's established watershed districts.
- Boost efforts to educate policy and government leaders.

FUTURE OF HEALTHY WATER OHIO

For more than 1 1/2 years, a diverse group of water stakeholders representing conservation, business and industry, universities, water suppliers, agriculture and other groups has met to discuss the present state of Ohio's water resources management. The goal was to reach consensus on a set of recommendations to sustainably maintain Ohio's water resources for the long term and balance the various water needs, whether they were for consumption, businesses, farming, recreation or wildlife.

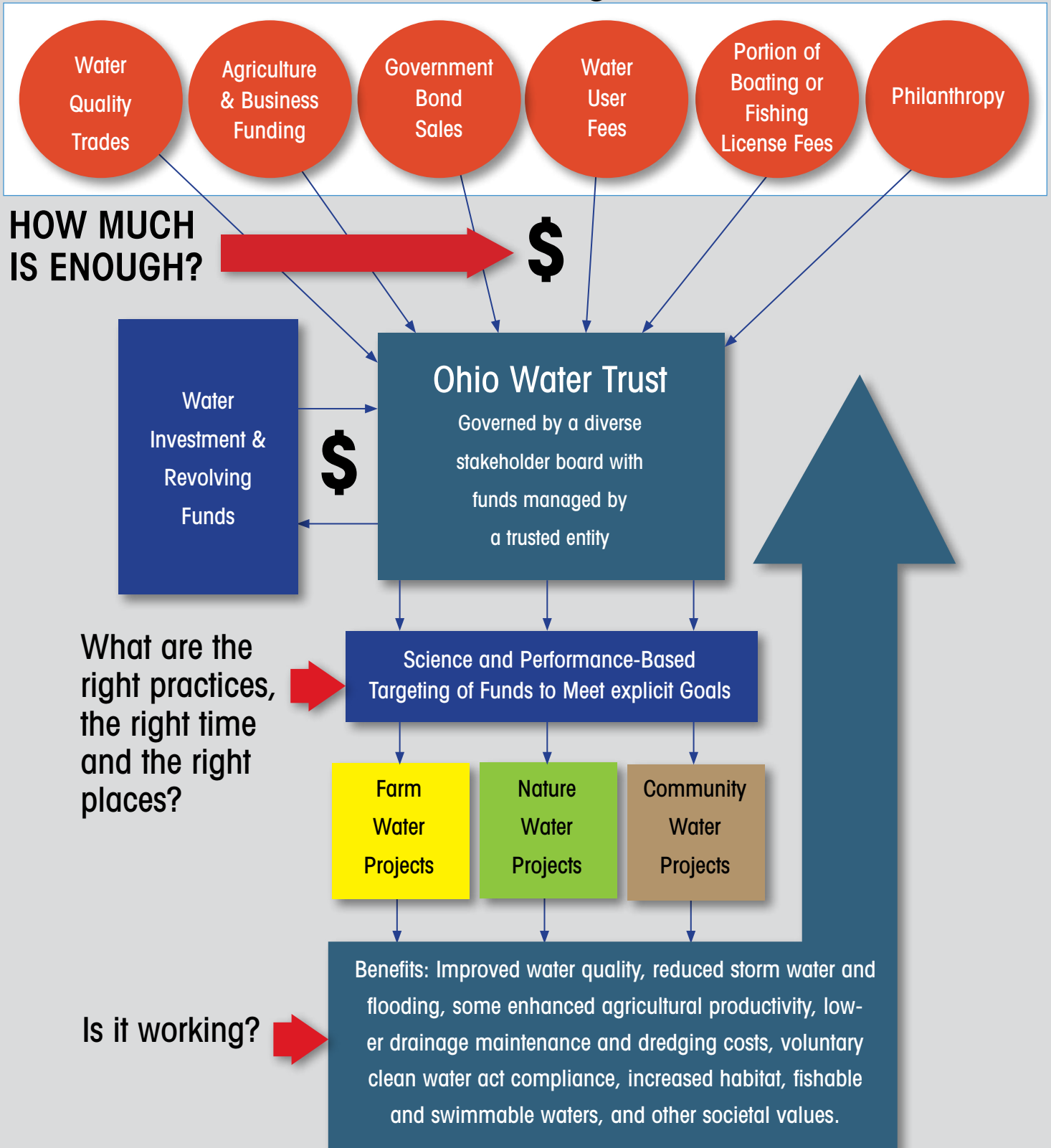
One of the recommendations by the Healthy Water Ohio steering committee was to have a public-private partnership implement this comprehensive plan to ensure the water needs are evenly met for everyone who relies on this basic necessity. Another suggestion was to have the Healthy Water Ohio steering committee continue to meet and help implement this plan, add representatives from different sectors and possibly morph into the governance organization for the Ohio Water Trust.



ADDENDUM

OHIO WATER TRUST

Potential Funding Sources



HEALTHY WATER OHIO FINANCIAL CONTRIBUTORS

ORGANIZATIONS

AgriBank
Anheuser-Busch
Boerger Farms
Coshocton County Farm Bureau
Cuyahoga County Farm Bureau
Farm Credit Mid-America
Hempy Water Conditioning
Knox County Farm Bureau
Licking County Farm Bureau
London Rotary Club
Morgan County Farm Bureau
Muskingum County Farm Bureau
Ohio Agribusiness Association
Ohio Cattlemen's Association
Ohio Corn Marketing Program
Ohio Dairy Producers Association/
ADA Mideast

Ohio Farm Bureau Federation
Ohio Small Grains Marketing Program
Ohio Soybean Council
Ohio State University, College of Food,
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The Healthy Water Ohio steering committee would like to thank the following individuals for their work on setting up and helping run meetings and putting together the final report:

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Photos courtesy of Ohio Farm Bureau Federation and Lake Erie Shores & Islands.

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Thanks to the more than 200 people who took the time to attend meetings, share their expertise and provide input for the Healthy Water Ohio report. Their participation is greatly appreciated.

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Karl Wedemeyer, White Diamond Farm
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Jack Williams, Village of Ottawa
Ken Williams, Catawba Island Marina
Charles Willoughby, Ohio Chamber of Commerce
David Wilson, City of Dayton
William Wolf, The Andersons, Inc.

