

The Ohio Water Table

A Publication of the Water Management Association of Ohio

No. 138 / Quarterly

Breaking the Boundaries; Watershed-Scale Protection is Happening!

By Amy Cameron, Program Coordinator

Great things are happening in the Great Miami River Watershed! If you missed the Winter 2016 edition of The Ohio Water Table, a great partnership, known as the [Great Miami River Joint Board \(Joint Board\)](#), has been formed in the Great Miami River Watershed to serve as an instrument for watershed scale conservation planning and implementation. To accomplish this, the Joint Board is working to build an effective watershed protection program that fosters cooperative partnerships, strong communication and stakeholder involvement. Comprised of fourteen Ohio Soil and Water Conservation District Supervisors, working together with local communities, landowners and partners is not unexplored territory for this group of conservation champions. Since the vote in December of 2015 to expand upon the Joint Board's authorities in watershed improvements, the Joint Board has been diligently seeking funding for program sustainability and water quality projects in the Watershed. Among the recent proposals, the Joint Board has submitted two pre-proposals to the [Regional Conservation Partnership Program \(RCPP\)](#) through the Natural Resources Conservation Service (NRCS). The goal of the proposals is to increase the amount of financial and technical assistance available to agricultural producers in the Watershed for voluntary implementation of Best Management Practices that protect soil and water resources. If successful, the Joint Board will utilize specific NRCS practices in targeted areas through 2021 to increase the quality of the headwaters of the Great Miami River.

Wait, there's more! As the Joint Board and partners make strides to bring local attention to the Watershed, this beautiful resource is gaining national recognition. The Great Miami River water trail was recently named a [National Water Trail](#)



[System](#) by the Secretary of Interior. This designation could bring the Watershed into the spotlight when applying for grants and other funding. The water trail includes the Great Miami, Stillwater and Mad Rivers and is the only national water trail in Ohio and now one of only 22 designated trails in the country! (see map on page 3). This is great news for the future of the Joint Board and the Watershed!



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President's Column

Alex Covert, WMAO 2016-2017 President



members. And yet, still more (after they are said out loud) are decidedly off-target.

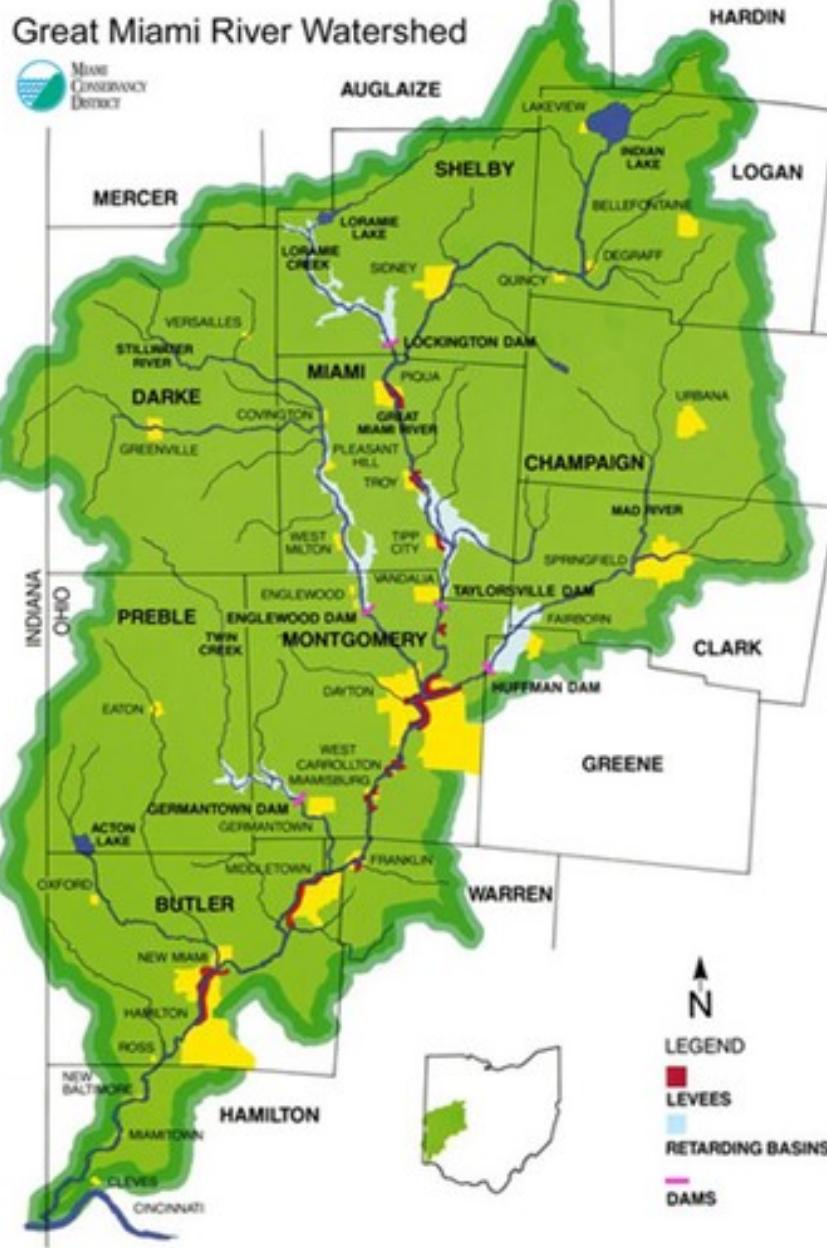
Then, something magical happens. A hush falls upon the group and a phrase appears out of nowhere. A jumbled set of words that kinda sorta resembles a conference theme begins to materialize. It's definitely not a working theme, yet, but it has the potential to be. With just another couple hours spent on rearranging the words, swapping this one for that one, and looking up adjectives, the group (most notably Joe Bonnell or before him, Larry Antosch) suddenly and unexpectedly discovers an eloquent way to summarize our group's ramblings. Consensus is reached and a conference theme is born. Or at least, that's how I remember it happening.

Nevertheless, this year's WMAO Conference theme is "*Voices for Water*". Reminiscent of Robin Williams whispering "*Carpe Diem*," the 2016 theme invokes in me a nostalgic sense of purpose and importance. How many before us have *spoken* about the water-related issues of their day? What did they say and was anyone listening? It prompted me to create a list of two decades' worth of WMAO Conference themes – twenty years of themes to conferences that most certainly *spoke* for water. And so, I encourage you to be a *voice for water* and become a presenter at this year's WMAO Conference.

"...twenty years of themes to conferences that most certainly spoke for water."

A handwritten signature in black ink that reads "S. Alex. Covert".

1994 - Total Watershed Management	2006 - Go with the Flow
1995 - Land Use Influences on Water Resources	2007 - Water is Trendy
1996 - ?	2008 - Water for a Changing Ohio
1997 - ?	2009 - Reinvesting in Ohio Water
1998 - ?	2010 - Weathering the Storm
1999 - Just Add Water	2011 - The Water Nexus
2000 - Water Resource Challenges for the New Millennium	2012 - 100 Years of Watershed Events
2001 - Thirty Years Later, Still Looking Ahead	2013 - Now Trending: Innovations in Water Resource Management
2002 - The Three-Dimensional Watershed	2014 - Valuing Water: Exploring the Interactions between People, Markets, and Water
2003 - Water... The Perpetual Resource...	
2004 - Charting New Waters	
2005 - Extreme Events	2015 - Moving the Needle



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Voices for Water; 45th Annual WMAO Meeting and Symposium

By **Craig Smith**, Ohio EPA, Conference Committee Chair

The people involved in water resources management are the Voices for Water. Our voices inform, teach, report and warn about the issues that confront Ohio's water resources and our continued access to it.

Please join us on November 9 and 10, 2016 at the Crowne Plaza Columbus North - Worthington, 6500 Doubletree Avenue, Columbus, for this year's fall conference. As always, this event provides the opportunity to share information about all aspects of water resources – stormwater management, water quality monitoring, resource protection or stream and wetland restoration to name just a few – with other members of Ohio's water resources community. The conference schedule is also designed to allow ample time for networking with presenters, conference sponsors, vendors and friends; both old and new.

In addition to the breakout sessions, which include the Ohio Lake Management Society's annual conference and our Annual Business Meeting, we will again be hosting a meeting of the Ohio Water Resources Council's State Advisory Group and a session for the next generation of water resources professionals to learn more about us. There will also be a poster session for students to share their research projects.

The event will also include presentation of WMAO awards. WMAO awards recognize individuals for distinguished service or demonstrating leadership in the management, use or enjoyment of Ohio's water resources. To nominate a coworker or colleague for a WMAO award visit our website: <http://wmao.org/awards/>.

Exhibiting and sponsorship are effective ways for a company or organization to participate in this important conference on water-related issues in Ohio. As the only statewide conference dedicated to all water resource systems and issues, this event provides an important tool to maintain or expand contacts in fields that your company or organization is involved with.

And it's not too late to submit an abstract for a presentation; space is still available. To submit an abstract for a poster or an oral presentation visit our website: <http://wmao.org/call-for-abstracts/>.

"Please join us on November 9 and 10, 2016 at the Crowne Plaza Columbus North"

Division of Soil and Water Conservation moves to Ohio Department of Agriculture

By **Emily Heppner ODA**

2016 has been an exciting year and has brought some significant changes to several state departments. As a result of HB 64, the Division of Soil and Water Conservation program was transferred from Ohio Department of Natural Resources (ODNR) to Ohio Department of Agriculture (ODA) in January. The transfer resulted in 27 employees moving to ODA along with all existing programs and rules related to soil and water conservation. ODA will have authority and responsibility over farm runoff and any impact on related soil and water issues, regardless of size. This move will help reduce redundancies and strengthen ODA's ability to work with all Ohio farmers to best serve their needs.



Ohio Department of Agriculture, Division of Soil and Water Conservation, Central and Field Staff.

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The remaining water resource related programs at ODNR was renamed the Division of Water Resources and will focus on dam safety, ground water and flood water management. Current Storm Water Management Program staff was consolidated into the Ohio Environmental Protection Agency's (Ohio EPA) current Storm Water Program. Now all storm water programs are under one agency, which will provide better coordination between storm water violations and enforcement issues and provide technical assistance to help avoid future compliance issues. All programs and staff related to silviculture programs have been moved to ODNR's Division of Forestry.

The Division of Soil and Water Conservation can now be reached at 614-25-6610 or through email at DSWC@agri.ohio.gov. Phone numbers for staff have not changed but emails have been updated. For a current list of employee emails check the new division website <http://agri.ohio.gov/divs/SWC/SWC.aspx>.

The Division's partnership with Ohio's SWCD, UDSA-NRCS, OFSWCD, and other state agency partners will continue to provide leadership for soil and water conservation in Ohio.

WMAO State Science Day Awards

By **Rick Weber**, Science Day Chair

The 2016 State Science Day was held at The Ohio State University in French Field House, on Saturday May 14, 2016. Twenty-seven students requested to be judged for the two WMAO awards: 20 were in the lower 7th-9th grade category, and 7 were in the upper 10th-12th grade category. The Peter G. Finke Water Management Award in each grade category includes: a \$250.00 check, a plaque, recognition in WMAO's "The Ohio Water Table" publication, and an invitation to the WMAO Annual Conference in November. Peter Soltys, Kurt Rinehart, Zach Smith, and Rick Weber did the judging this year for WMAO.

The WMAO 2016 State Science Day awardee in the lower grade category is **Madeleine Sanders**, an 8th grade student at St. Luke School in Beavercreek, Ohio. Madeleine's project was titled "Mitigating Nitrate Pollution." Madeleine researched the use of flocculants in the treatment of wastewater. She noted how effective some flocculants were in removing nitrates from the wastewater. Specifically she learned that one such flocculant Chitosan, was a quick, cheap, nontoxic, biodegradable polymer, abundant in the environment, which effectively

remove nitrates. Chitosan is the water soluble form of chitin, a substance that forms the outer covering of insects and crustaceans. She hypothesized that if nitrates could be removed by the use of chitosan in a wastewater treatment plant, maybe nitrates could be removed from water leached through an agricultural field by incorporating chitosan into the soil. Madeleine then tested her theory using 35 columns of soil of 200 grams each. To seven samples, the control, nothing was amended into the soil. To another seven samples 500mg of chitosan was mixed with the soil. To seven more samples, two grams of fertilizer was added to the soil. Seven samples received 500mg of chitosan and 2g of fertilizer. Finally the last seven soil samles received 1000mg of chitosan and 2g of fertilizer. To each of these 35 test columns, 100ml of water was poured through. After 24 hours, an additional 100ml of water was poured through. After another 24 hours the nitrogen was quantified in the leachate of the 35 samples. Unfortunately, Madeleine

did not record any substantial reduction of nitrogen in any of the soil samples mixed with fertilizer and chitosan, proving her hypothesis false. However, Madeleine demonstrated a thorough understanding of her project, composed an excellent report, and made effective use of the scientific method. Madeleine's science teacher at St. Luke School is Mrs. Kim Ritter.

The WMAO 2016 State Science Day awardee in the upper grade category is **Madison A. Aleshire**, an 11th grade student at Big Walnut High School in Sudbury, Ohio. Madison's project was titled "Water Quality in Aquaponic Systems." Madison extensively researched the theory of aquaponics, then applied her research to construct a successful aquaponic system. She learned the biogeochemical processes that occur between the plants, water and fish. She maintained the pH, dissolved oxygen, and temperature to keep her system within optimum conditions. Madison further tested her knowledge of aquaponics by altering her system to verify her understanding of the biogeochemical parameters interacting within the system. She monitored pH, ammonia, nitrite, nitrate, and

*Twenty-seven
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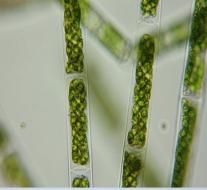


Madeleine Sanders, "Mitigating Nitrate Pollution"

temperature daily for twenty-five days in a system with no plants, in one with no fish, one with neither plants or fish, as well as the original successful system, then listed, grafted, and compared the results. The results verified her hypothesis that the systems with no fish have zero ammonium, nitrate, and nitrite levels to sustain plants. Conversely, in the system with only fish, the ammonia from the fish waste increased to a point which could not sustain the fish. Only in the original aquaponic tank was the system in balance, maintaining a viable source of food from the fish and plants. Madison's science fair advisor at Sudbury High School is Mr. Wally Wallschlaeger.



Madison Aleshire, "Water Quality in Aquaponic Systems"

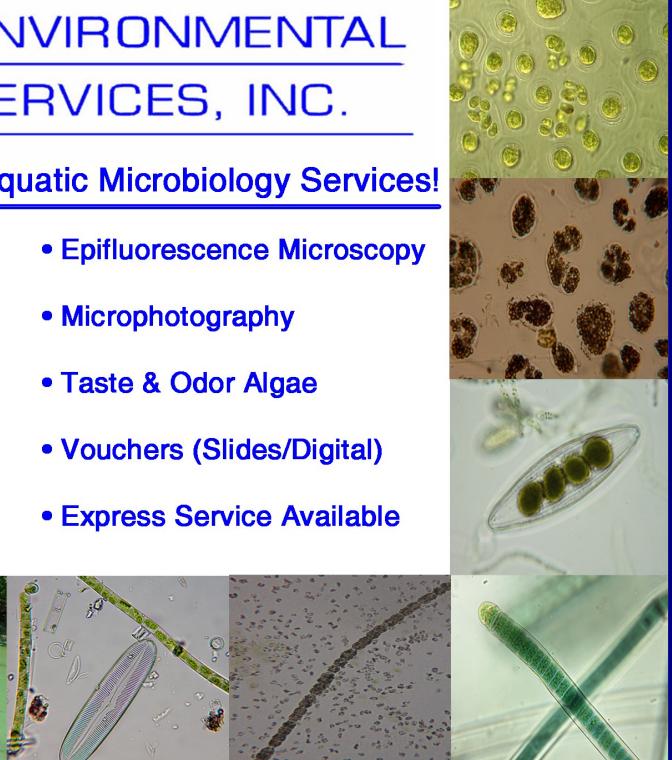





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Ohio Endorsed Watershed Action Plans

Effective January 1, 2016, and in accordance with Amended Substitute House Bill Number 64 of the 131st General Assembly, the following changes apply to ODNR's Division of Soil and Water Resources: All programs and staff related to soil and water conservation have been moved to the Ohio Department of Agriculture as the new Division of Soil and Water Conservation.

Ohio endorsed watershed action plans and watershed coordinator information can now be accessed through interactive maps available on the Ohio Department of Agriculture website: <http://www.agri.ohio.gov/divs/SWC/SWC.aspx#tog>

Research Highlights from State of Ohio Water Resources Center

The Ohio Water Resources Center is a federally authorized center situated at The Ohio State University. We fund State relevant water related research. Below are highlights from a recently completed project conducted by Dr. David Singer, Assistant Professor in the Department of Geology at the Kent State University, titled “**Soil Development on Coal Mine Tailings: Impact of Trace Metal Sources and Mobility to Acid Mine Drainage**”. If you are interested learning more about our research projects, see the Ohio Water Resources Center webpage at wrc.osu.edu

Soils from two locations within the Huff Run Watershed were examined - one impacted by AMD leaching from coal mine waste, and the other location at undisturbed shale....

Dr. Singer's project aimed to evaluate how soil development on coal mine tailings may potentially promote or limit the mobility of trace metals that further contribute to degradation of water quality via acid mine drainage (AMD). His results will help guide AMD reclamation projects regarding how to address metal and acid leaching from soils developing on historic mine waste, which often covers a significant amount of area at reclamation sites.

Restoration at sites such as Huff Run in Ohio target discharge from surface and below ground mines, but typically do not target leaching from historic mine tailings. Soils from two locations within the Huff Run Watershed were examined – one impacted by AMD leaching from coal mine waste, and the other location at an undisturbed shale which is part of a highwall as a control site.

Solid phase characterization of soils was performed on samples collected in 10 cm depth increments from the soil surface to 1.2 m depth (Figure 1) using bulk X-ray diffraction, sequential extraction procedure and ICP/OES for metals and loss on ignition for organic content. The analysis showed that metal solubility increased near the soil surface, but differed between sites and depths; Fe and Al were more mobile in the highwall; Mn was more mobile in mine tailings. Interestingly, sulfate was lower in the mine tailings pore water, which was not expected as it was hypothesized that greater AMD production would also result in increased sulfate concentrations. Results from the sequential extraction (Figure 2) suggest that a pool of Fe, Mn, and Al can continue to be mobilized during weathering and impact downgradient water. Finally, the mine tailings seem to be a potentially larger source of Mn to streams than previously understood.



Figure 1 Soil core samples being bagged and labeled by Laura Zemanek, MS Student at KSU. Photo by David Singer

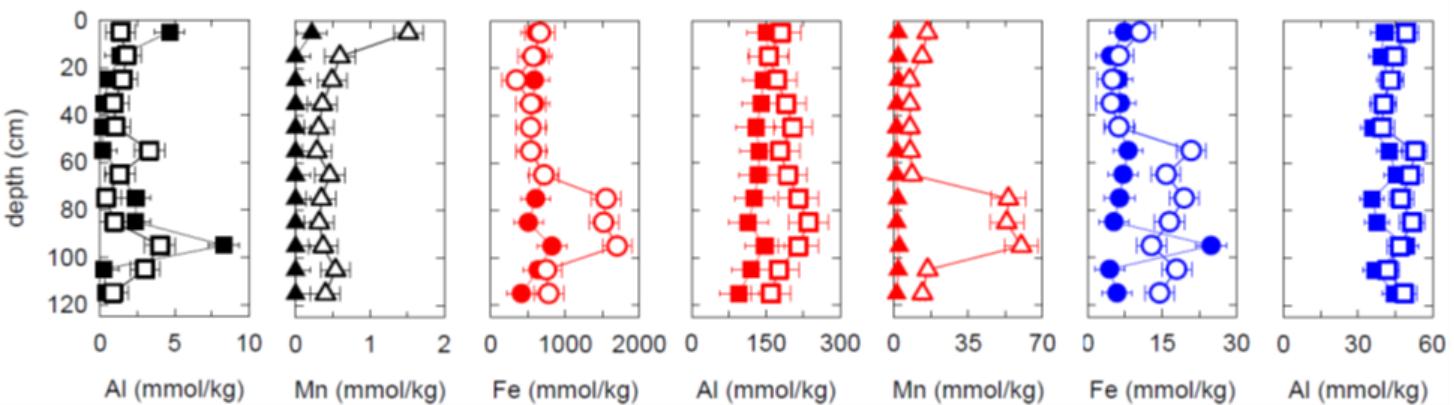


Figure 2 Sequential extraction data for Fe (circles), Al (squares), and Mn (triangles) from the highwall (closed symbols) and mine tailings (open symbols) soil cores. The three fractions are exchangeable (black), reducible (red), and oxidizable (blue).

Researcher Profile: Dr. David Singer an environmental mineralogist and geochemist, focusing on the fate and transport of metals and radionuclides in the environment. In particular, he is interested in the (bio)geochemical processes that occur at mineral surfaces which can limit or promote contaminant transport in a range of surface environments. His research has ranged from applied characterization studies of contaminated field sites to fundamental studies of the processes by which metals are sequestered at mineral surfaces. Recent work has aimed at determining the mechanisms by which heavy metals or radionuclides can interact with complex and porous mineral interfaces. Research opportunities and contact information are available at:
<https://sites.google.com/a/kent.edu/dsinger/>



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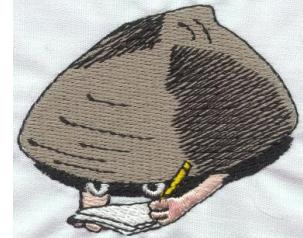
By Lynn Stamp, Portage Lakes Advisory Council

On Saturday, April 23, the Portage Lakes Advisory Council (PLAC) hosted two Earth Day events that enabled residents of Coventry, Green and New Franklin to become part of the solution to greener living in their communities. Over 75 people turned out to collect trash from the Portage Lakes State Park and adjacent lake. In spite of grey skies and temperatures in the 40s, PLAC Litter Pick-Up Organizer James Stewart remarked this was the largest number of volunteers he could remember in recent years. This is the 30th year for the annual Litter Pick-Up

Secchi Water Clarity Training Workshop was held by CLAM's Susan James

While dozens of people scoured the park and even ventured out in kayaks to clean the lake banks, other volunteers took a Secchi Water Clarity Testing Workshop at the Franklin Park Civic Center Tudor House. Led by Citizen Lake Awareness & Monitoring (CLAM) instructor Susan James, the Secchi Disk workshop taught volunteers how to measure water transparency, which is an early-warning sign of negative effects on the lakes ecosystem. CLAM is a program of the nonprofit Ohio Lake Management Society. After an hour of instruction indoors, participants went outside and practiced taking Secchi measurements on the Tudor House dock.

All the volunteers enjoyed a post-event complimentary pizza lunch at the Tudor House at the conclusion of the morning's activities.



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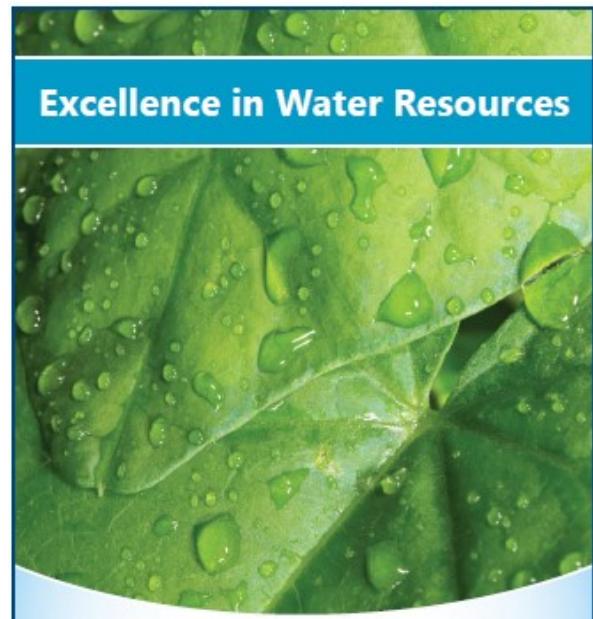
Sustainable Algal Management of Medium-Sized Lakes

A newly funded OSU CARES seed grant will facilitate a new partnership between the Ohio Water Resources Center in the College of Engineering and OSU Extension personnel in the School of Environment and Natural Resources to address sustainable algal management of Ohio's medium-sized lakes.

Medium-sized lakes are frequently managed by multiple private owners or homeowner associations and are currently underserved in Ohio. Managers of medium-sized lakes often act on limited information and in isolation from other lake managers. However, if informed and supported properly, these locations might be the optimal "testing beds" for new and sustainable lake management technologies. This funding will initiate a Lake Management Stewardship program in Medina County with potential to grow and develop in other counties.

Principal Investigators on the newly funded grant include: Zuzana Bohrerova, Research Specialist and Associate Director, Civil, Environmental and Geodetic Engineering, Ohio Water Resources Center, College of Engineering; Eugene Braig, Program Director, Aquatic Ecosystems, School of Environment and Natural Resources, FAES and OSU Extension; Joseph Bonnell, Program Director, Watershed Management, School of Environment and Natural Resources, FAES and OSU Extension Partner(s): Susan James, Leader of CLAM Program, Ohio Lake Management Society (OLMS)

The OSU CARES seed grants program recognized its 2016 awards at the annual Ohio State University Patterson Lecture and Outreach and Engagement Forum. The OSU CARES Seed Grants Program supports interdisciplinary teams for expanded outreach and engagement. OSU CARES Seed Grants provide up to \$25,000 per team to seed new or expanded partnerships. These grants are awarded in spring each year.



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Ohio Farm Bureau Awards \$200,000 for County Water Quality Projects

By **Larry Antosch**, Ohio Farm Bureau

For the second year in a row, the Ohio Farm Bureau Federation (OFBF) is providing matching funds for single and multi-county Farm Bureau-led projects that help improve water quality in local communities. Nineteen projects will be fully or partially supported with the \$200,000 in available OFBF funds. With additional matching funds from partnering organizations, the selected projects will provide more than \$498,000 in total resources.

The county water quality grants are part of OFBF's comprehensive Water Quality Action Plan launched in September 2014. Since that time, OFBF has dedicated more than \$2 million in member funds for projects and measures that help protect the environment and preserve farmers' ability to produce food. This is the second year OFBF has provided funding for county water quality projects.

The 2015 success of the County Water Quality Initiative - \$140,000 in OFBF funds matched with \$260,000 from dozens of cooperating partners – prompted the OFBF Board to not only provide funding for a second year but to increase the amount. The projects are spread out across the state with participation from dozens of partnering organizations that include conservation, government, university, health and private entities.

County Farm Bureaus receiving funding and their projects:

Butler County: A new 8-acre Agricultural Conservation Education & Demonstration area will showcase best management practices in agricultural conservation, including cover crops, field buffers and grassed waterways.

Clermont County: The "Cover Crops for Southwest Ohio" booklet will be updated for a second printing of 1,000 copies. The educational booklet shows how farmers can introduce cover crops into their row crop fields to improve soil permeability and reduce soil erosion.

Cuyahoga County: A demonstration heavy-use site and riparian area will be installed as part of educational workshops for horse and small livestock farm owners as well as the public. The site will protect the headwaters of Big Creek.

Darke County: Grant money will be used toward the design and building of a commercial 12-row dragline toolbar that would allow livestock producers to apply liquid manure to a crop instead of purchasing sidedress nitrogen.

Delaware County: Devices will be placed on county farms to determine the amount of phosphorus lost through subsurface drainage to illustrate how land management affects runoff from farmers' cropland. Billboards also are being placed throughout the county showcasing the conservation efforts of local Farm Bureau farmers.

Erie and Huron counties: Plans are for conducting several educational and hands-on conservation activities, including workshops at Old Woman Creek, equipment upgrades to monitor streams in the Firelands area and hold manure and soil health field days.

Fayette County: A canoe float down the Paint Creek Watershed will allow county residents to explore local rivers while learning about water quality through educational stops along the way.

Gallia County: Farm Bureau members will be able to rent a no-till drill at a discounted rate for the next three years to put in cover crops, which help keep nutrients in the ground and reduce runoff.

Jackson-Vinton counties: A multi-county pesticide application class will allow participants to be certified or recertified on the proper use and application of pesticides and how they impact water quality.

Jefferson County: The Upper Ohio River Watershed Community Outreach Campaign is a multi-faceted approach to educating the public and leaders about water quality challenges. It includes a legislative reception, media campaign, student essay contest, community survey on general water quality knowledge and an educational Ohio River cruise featuring speaker Chad Pregracke, founder of Living Lands & Waters and winner of the 2013 CNN Hero of the Year Award.

Knox County: Improvements will be made to the Ohio Nutrient Management Record Keeper (ONMRK) app, which helps farmers comply with state laws by recording their fertilizer or manure application as well as the current weather conditions and forecast for the next 24 hours.

Licking County: Funding will go toward a pilot program to help identify and replace faulty aerator motors in home septic systems in areas with potential water quality issues.

Lorain County: Data will be collected of runoff water at dozens of sites throughout the county, with an emphasis on agricultural areas. The data will be compared with different farming practices and help educate farmers and landowners based on findings.

Lucas County: The second phase of the Collaborative Look at Evaluating Available Nutrients (C.L.E.A.N) project will complete a detailed analysis of how nitrogen moves through the soil following varying agronomic practices and grower preferences in an effort to reduce nitrogen runoff.

Mahoning County: Workshops and a brochure will show how soil sampling is one of the simplest cost-effective measures landowners and farmers can perform to ensure they are protecting water quality and saving money before they begin applying fertilizer.

Putnam County: On an agricultural bus tour of the county, residents will see the different ways the agricultural community works together on water quality issues, including seeing how a two-stage ditch works, what a working hog farm does to manage its manure and how water quality affects a hops farm.

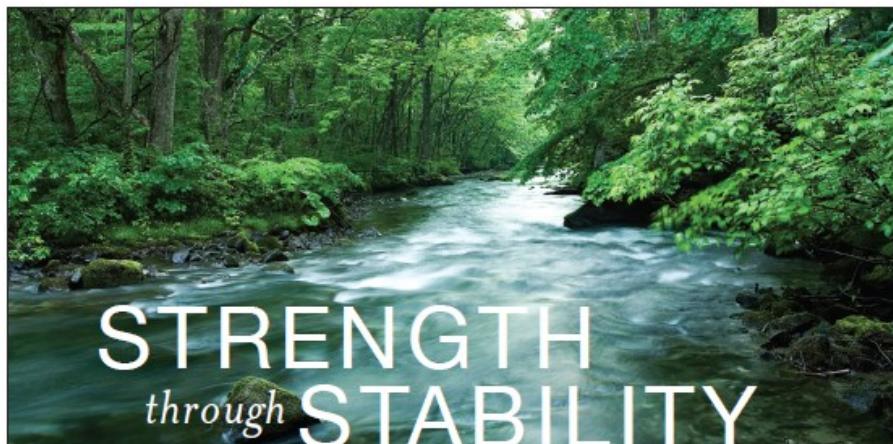
Scioto County: Area Farm Bureau members will be able to rent a lime spreader at a significantly discounted rate. The equipment is unavailable to rent anywhere in the county. All equipment renters will receive written information about the 4R Nutrient Program -- applying nutrients at the right source, right rate, right time and right place.

Seneca County: Water quality stakeholders and others will have a better understanding of where nutrients are entering the Western Lake Erie Basin through a series of events, including an educational bus tour, manure nutrient sampling and consultation, on-farm visits and quarterly scientific nutrient management mailers.

Tuscarawas, Carroll and Harrison counties: Funding will help support riparian landowner workshops, water quality signs for use at local conservation events and the Lake and Land Festival, a one-day conservation and environmental stewardship event at Atwood Lake Park.

Additional information about the OFBF Water Quality Action Plan and the County Water Quality Initiative can be found at

<http://www.farmersforwater.org/>



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Ohio Floodplain Management Association



2016 Ohio Statewide Floodplain Management Conference

August 24-25, 2016; Doubletree Hotel Columbus/Worthington, 175 Hutchinson Avenue, Columbus, OH 43235
Theme: "Educating Communities about Flood Risk"

The Ohio Statewide Floodplain Management Conference is an annual training event that focuses on various elements of floodplain management, such as regulations, insurance, mapping, engineering, and natural benefits. The conference is intended to develop and expand the capabilities of floodplain management professionals throughout Ohio. Conference sessions are designed to provide local floodplain managers with information and skills necessary to implement effective floodplain management programs within their respective communities.

The Ohio Statewide Floodplain Management Conference is a cooperative effort between the Federal Emergency Management Agency (FEMA), Ohio Department of Natural Resources (ODNR), and the Ohio Floodplain Management Association (OFMA).

This year's conference will include:

Keynote Speaker: Rachel Sears, Branch Chief, Floodplain Management, FEMA Mitigation Directorate

Floodplain Manager Bootcamp

3 Concurrent Presentation Tracks

Certified Floodplain Manager (CFM) Exam (8/23 & 8/25)

Approximate A Zone Workshop

Golf Outing (8/26)

Continuing Education: 12 Continuing Education Credits (CEC) toward CFM Certification – ASFPM, 12 Continuing Professional Development (CPD) Hours for Engineering Professionals, and BBS Credits (TBD...)

All conference information will be posted at www.ofma.org. For questions about this conference, please contact ODNR at 614-265-1006 or alicia.silverio@dnr.state.oh.us.

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Growing Green on Main Street

By Maurine Orndorff, Lake SWCD

Watershed planning has benefitted Madison Village in Lake County Ohio. Lake County Soil and Water Conservation District initiated watershed action planning in the Arcola Creek Watershed in 2011, after receiving a Watershed Coordinator grant from ODNR. As Watershed Coordinator with the District, I worked with stakeholders from the community to identify the issues of the watershed and developed actions to address those concerns. Some of those issues were flooding in the Madison Village center and impairment of water quality from stormwater runoff. The Watershed Action Plan (WAP) was endorsed by the Ohio EPA and ODNR in 2013, enabling communities in the Arcola Creek Watershed to qualify for funding to do projects.

"Growing Green on Main Street" is the first project to be constructed in the Arcola Creek Watershed as a result of the watershed planning. It was funded by the Ohio EPA Surface Water Improvement Fund (SWIF), with match provided by the Lake County Stormwater Management Department. The project transformed the business district of the Village with Bioinfiltration cells, trees planted in the cells and pervious pavers supported by structural soil in between the cells. The project is approximately 500 linear feet in length. It will show how Bioinfiltration, tree planting and other low technology, low cost methods can be used to address flooding and water quality in the watershed.

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The project was designed by CT Consultants, the Village Engineer. Brookside Construction Services, Inc. of Medina constructed the project. The project was completed in the end of June.

Madison Village Administrator Dwayne Bailey said the Growing Green project was a win, win situation. "The project will not only minimize flooding and improve water quality, but it will beautify the area with trees and greenery. It's sustainable and natural. Best of all, with the SWIF grant and matching Stormwater funds, we didn't have to take money from the general fund."



Before Growing Green on Main Street Project.



After Growing Green on Main Street Project.

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