

The Ohio Water Table

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The North American Lake Management Society Is Coming to Ohio with Theatrical Flourish

Submitted by **Eugene Braig**, Symposium Co-Chair, Ohio State University



If paying attention, you may have noticed that the 38th International Symposium of the North American Lake Management Society (NALMS) is coming to Cincinnati 30 October–2 November 2018. You’ve probably also noted that the Water Management Association of Ohio (WMAO) will be holding their 47th annual Conference and Symposium on 31 October in

conjunction with the larger NALMS conference. You probably aren’t aware that my personal sense of self-worth is intimately connected to the success of this conference.

I serve both the local-host committee for the coming international symposium and as a NALMS regional director (representing the lake-management interests of Ohio and states to the west and north along the upper Great Lakes region). The local-host committee has assembled a fantastic program of presentations, special sessions, workshops, and field trips around the theme “Now Trending: Innovations in Lake Management.” Many of the featured innovations translate to other aspects of water management as well: eDNA, dealing with cyanotoxins, etc. You can find details here: <https://www.nalms.org/nalms2018/>. Registering (walk-ins after October 23) for the NALMS conference also gives you full access to WMAO sessions on site.

The Ohio Lake Management Society (OLMS) is both a division of WMAO and an affiliate of NALMS. I serve WMAO as both Vice President and an at-large Manager on OLMS’s governing board. This year’s conference will

Inside this issue:

<i>President’s Column</i>	2
<i>The North American Lake Management Society is Coming to Ohio with Theatrical Flourish (continued)</i>	3
<i>Research Highlights from State of Ohio Water Resources Center</i>	4
<i>ASFPM Annual National Conference</i>	5
<i>Project WET Coordinator Conference in Mystic, Connecticut</i>	6
<i>Up the Crick... Using Resources Today, Conserving for Tomorrow</i>	7
<i>Ohio Stormwater Association - Upcoming Community Events</i>	8
<i>You Can Help Recycle Cigarette Butts</i>	9
<i>WMAO 47th Annual Conference in Cincinnati, October 31st</i>	10
<i>WMAO Board of Directors</i>	12

Continued on Page 3



President's Column

Craig Smith, WMAO 2018-2019 President

My kids think I'm nuts. If you're a parent reading this, you've already thought to yourself "So what? Mine think I'm nuts, too." It's the reason I'm nuts, at least to them, that may be a little different. I still get excited when I see a hawk.

My kids grew up at the turn of the century. They saw hawks all the time when they were growing up. We saw them on telephone poles and in trees when we traveled, even had hawks in the backyard hunting the birds at the feeders. They grew up seeing red tail and Cooper's

hawks, even bald eagles. What's the big deal? Raptors are everywhere.

I grew up on a small farm in central Ohio in the 1970s. I didn't see hawks when I was growing up. The only birds of prey we ever saw were vultures and an occasional kestrel. I never saw the bigger birds of prey. I thought I'd never see a bald eagle outside of a zoo. I never saw egrets or great blue herons either. For those of us old enough to remember the evening news in the 1970s everything was bad news when it came to wildlife, especially birds. Bald eagles were highly endangered. The last wild California condor was killed, and the species was extinct in the wild. Sand hill cranes were expected to go extinct.

There were a lot of causes. DDT. Overhunting. Poisoning. Loss of habitat. Neglect.

I'm not too worried about it if my kids think I'm nuts when I stop and take a few minutes just to watch a red tail hawk soar overhead. Or marvel at a great blue heron hunting in the shallows. Let alone when I see a bald eagle when I'm driving home and the first thing I say is "You'll never guess what I saw on my way home." My kids don't understand how close we were to losing so many marvelous creatures forever.

Things did change. My generation has seen whales repopulate our oceans, wolves return to Yellowstone and otters return to Ohio. My 1978 self would have thought the human race had learned something. We didn't. We have collapsed fisheries, wrecked coral reefs, and one rhinoceros species hunted to extinction.

Something changed. Instead of the news covering the discovery of a hundred elephants killed for their ivory, I get to learn about the latest in the feud between two musicians I've never heard of.

I hope I never stop being excited to see a hawk. I'll never stop trying to explain that I never got to see them when I was growing up. I'll try to get them to understand that they, we all, need to pay attention to what's happening to the world's wildlife, water resources, and weather. Or that we only have one planet Earth.

So let my kids continue to think I'm nuts.

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke.

"...need to pay attention to what's happening to the worlds' wildlife, water resources, and weather. Or that we only have one planet Earth."

The North American Lake Management Society Is Coming to Ohio with Theatrical Flourish

Continued from Page 1

provide all the diversity and quality of water-related programming you've come to expect of WMAO... condensed into two fabulous one-day concurrent sessions. You can find details here: <http://wmao.org/2018/10/47th-annual-wmao-conference-and-symposium/>. Registering for the WMAO conference also gives you full access to NALMS sessions on 31 October.

Certainly less known is that I moonlight as Artistic Director of a small (very small) classical concert series. Making use of that background, we have been successful at getting a classical oratorio about lake management (Really?! Yes!), *Voice of the Lake* (<http://www.margaretbrouwer.com/voice-of-the-lake/>), by award-winning composer Margaret Brouwer staged in association with the NALMS/WMAO conference. *Voice of the Lake* premiered in Cleveland last year to much acclaim by the press, especially NPR. *Voice of the Lake* will be performed on the concert series of Cincinnati's 21c Museum Hotel (<https://www.21cmuseumhotels.com/cincinnati/event/voice-of-the-lake/>) at 8:00 pm on the 31st within easy walking distance to the conference venues. Admission to *Voice of the Lake* is free and open to the public.

SAVE THE DATE

WMAO / EPN Spring Meeting March 5, 2019

Nationwide and Ohio Farm Bureau 4-H Center
Ohio State University, Columbus Ohio

Theme: Emergent Contaminants

*Hosted by the Water Management Association of Ohio in
collaboration with the Environmental Professionals Network*

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. Daryl Dwyer, Associate Professor in the Department of Environmental Sciences at University of Toledo and funded via Ohio Water Development Authority subaward.

The project, “**Determining Components for a Phosphorus Interceptor to Reduce Harmful Algal Blooms in the Western Lake Erie Basin**”, investigates a way to capture phosphorous from agricultural tile drainage prior to entering ditches and tributaries.

Harmful Algal Blooms in Lake Erie appear closely linked to agricultural nutrients, specifically nitrogen (N) and soluble phosphorus (SP) within agricultural tile drainage. Dr. Dwyer’s students investigated local and cheaply sourced materials that may be used in a simple nutrient interceptor for tile drainage, including zebra mussel shells, quarry-derived limestone and water treatment plant residuals. Water treatment plant residuals showed the fastest sorption capacity in batch experiments and therefore were chosen for flow through trials. In 300-minute trials, water treatment plant residuals allowed for continuous removal of phosphorous (Figure 1) and a 10 – 15% reduction in phosphorous levels (Figure 2).



Figure 1 Austin Bartos, student intern at the Lake Erie Center, the University of Toledo, setting up his nutrient interceptor.

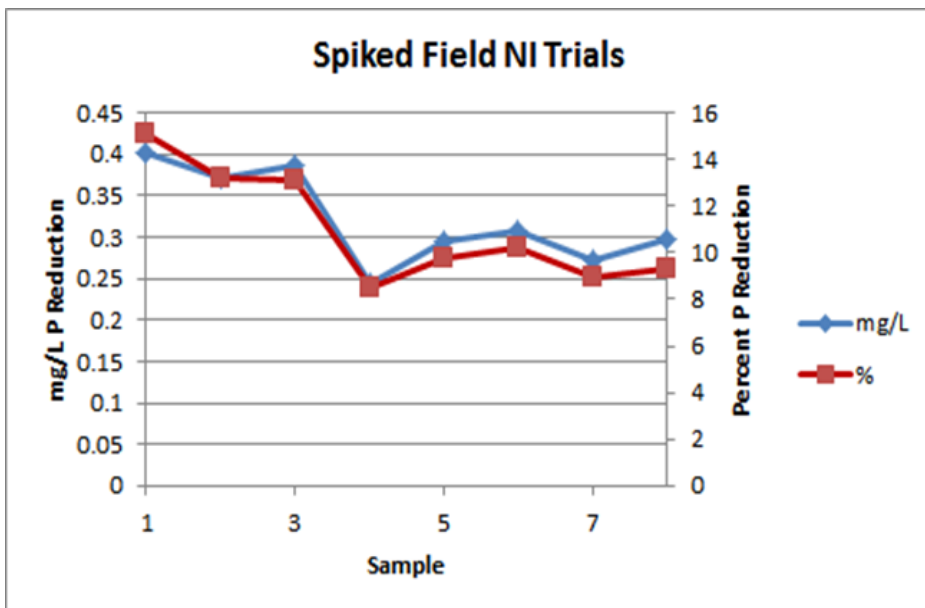


Figure 2 Average reduction of phosphorus (mg/L; red line) and average percent reduction of phosphorus (%) (blue line) of spiked tile drainage water (2.5 mg P/L) calculated for each effluent sample for the nutrient interceptor trials.

Researcher Profile: Dr. Daryl Dwyer’s research objectives encompass modeling and understanding the interactions of soil, water, and plants and restoring converted or degraded sites to native habitat with sustainable design as a remediation goal.



ASFPM Annual National Conference Flood Fest 2019: The Mitigation & Resilience Tour

Call for Abstracts Closes Oct. 31!

ASFPM Annual National Conference

May 19-23, 2019

Huntington Convention Center

Cleveland, OH

www.asfpmconference.org

Project WET Coordinator Conference in Mystic, Connecticut

Submitted by **Dennis Clement**, Ohio EPA, Ohio WET Coordinator



Why do we go to conferences? It is different for everyone, but our annual meeting has always provided me with ideas, updates on national program components and expanded my understanding of water science or education methodology. I recently attended this conference in Mystic, Connecticut and brought back enthusiasm and new ideas to make Ohio's Project WET grow even more.

This conference provided a lot of program extensions and speakers to build your tool box when addressing Climate Change. A new Climate Resiliency brochure was presented/ discussed with coordinators and will help extend lessons to climate concepts that will be helpful for facilitators and educators in Ohio and beyond. Dennis Clement said "I look forward using this new education tool and providing it to his facilitators and educator involved with WET in Ohio.

Featured speakers at the conference included: CT WET Facilitators and organizers Juliana Barrett, Tessa Getchis and Diana Payne from UCONN Sea Grant, Jen West from NOAA, Mystic Aquarium Education Team, Project O Long Island Sound Experience Staff and Anoushka Conception. Of course, Sue Quincey, Ct Department of Energy and

Environmental Protection was our local host along with help from Megan Regnerus, John Etgen and Nicole Ritter from Project WET - USA.

Coordinators shared updates, applications and ideas on how to make connections with WET for citizen science, climate connections, STEM, network expansions and more. State coordinators Brian Brown from California, Holly Thomas-Hilburn from Arizona, Mike Jabot from New York, Candice Miller from Oklahoma, Erica Cox from Missouri, and Megan Regnerus from the Project WET Foundation provided information/activities we can all include in local water education outreach. Dennis Clement facilitated the activity Life and Death Situation from the Healthy Water Healthy People Curriculum. Next Year's conference is already being planned and will be hosted by the Arizona Project WET Team in Tucson. For more information and how to become involved with Project WET – Ohio contact Dennis at 614-644-2048 or dennis.clement@epa.ohio.gov.



Up the Crick....Using Resources Today, Conserving for Tomorrow

Submitted by **Aaron Smith**, Urban Technician, Union County SWCD

What is a Hydrologic Unit Code? A Hydrologic Unit Code (H.U.C. for short), are essentially an address for a certain watershed. Similar to how your house and property have an address number associated with it to help determine its location and keep it from being confused with another one, watersheds also have an address. How do H.U.C.s work

In the U.S., the land is divided into successively smaller “hydrologic units” which are assigned numbers that tell you how large they are, and where they are located. Each H.U.C. consists of two to twelve digits based on the six levels of classification. Starting with the largest, the numbers are assigned to regions, sub-regions, accounting units, cataloguing units, watersheds, and sub watersheds. What are the numbers that are assigned? The largest H.U.C. are assigned small numbers made up of two digits. For example, Ohio is located in “05” which is the Ohio River Basin (excluding the Tennessee River Basin). This is considered a 2- digit H.U.C. Then there is the Scioto River Basin within that, which is assigned a 4-digit H.U.C. “0506”.

Next is an “accounting unit” 6-digit H.U.C. which specifies the Scioto River, 050600. The 8 Digit H.U.C. which would split the Scioto River Basin into three sections, with Union County residing in 05060001. A 10-digit H.U.C. that is well known in Ohio is the Mill Creek Watershed, being 0506000106.

Then finally, at the smallest level is the 12-digit H.U.C. Mill Creek is divided up into smaller sections, and for example, Lower Mill Creek is assigned 050600010604.

Who assigns these numbers? Hydrologic Unit Codes were created by the U.S. Geological Survey (USGS) as a simple numerical way to catalog and categorize drainage basins in the U.S. in 1972.

Originally, there were only 4 levels, 2-digit, 4–digit, 6 digit, and 8-digit. But the Natural Resources Conservation Service (NRCS) has worked with the USGS to expand that to the existing system that officially has 10-digit, and 12- digit H.U.C.s.

Hydrologic Unit Codes were created by the U.S. Geological Survey (USGS) as a simple numerical way to catalog and categorize drainage basins in the U.S. in 1972.



Upcoming Community Events

2018 Watershed Workshop

This training event is being held in collaboration with the Ohio Water Environmental Association on Tuesday, **October 30, 2018** at The Fawcett Center at The Ohio State University. Six contact hours for PDH certification will be offered. Cost is \$95 for WMAO/OSWA and OWEA members, or \$125 for non-members. For additional information and to register, visit www.oheowea.org.

WOW! Wonders of Water Journey Workshop—Teacher Workshop

Complete three of the nine required session of the WOW! Wonders of Water Journey in 2 1/2 hours on **January 26, 2019** from 9:30 a.m. to Noon. Hamilton County Soil and Water Conservation District is hosting the event. All activities are fun, interactive and hands-on. Session 1: Loving Water, Session 2: “Green” Tea for a Blue Planet, Session 3: Water for All.

Registration is limited to the first 30 participants. To register, please call Sara Fehring at 513-772-7645 ext. 25 or email sara.fehring@hamilton-co.org.

Make a Splash in Your Class with Project WET!

This workshop is not just for science teachers. Join us on Saturday, **February 23, 2019** from 9:00 a.m. - 3:30 p.m. at the Fernald Preserve, 7400 Willey Road, Hamilton, OH 45103. Focused on Grades 1 - 8.

These multidisciplinary programs place special focus on incorporating reading, writing, math and social studies while teaching about water resources through hands-on, investigative and easy-to-use activities.

The interdisciplinary activities are effective tools for integrating student knowledge of water resources through the study of real-life scenarios, simple models and simulations that provide strong foundations for STEAM and Service-Learning programs.

Cost: \$25. Attendees will receive a nationally recognized curriculum and other resources for their classrooms. Registration Deadline: Friday, February 8, 2019.

Sara Fehring 513-772-7645, Sara.Fehring@hamilton-co.org. Register online at: www.hcswcd.org/WET.



2019 OHIO STORMWATER CONFERENCE

We are now accepting abstracts for the 2019 Conference to be held **May 8-10, 2019** at the **Sharonville Convention Center** in Sharonville, Ohio. Come and be a part of the 12th annual **Ohio Stormwater Conference**.

The 2019 Conference offers a unique opportunity to directly interact with over 950 representatives from many organizations, all of whom have a direct interest in storm-water and watershed management issues and technologies.

Submit Your Abstract Today!

Abstract submission ends November 1, 2018. Submit Now! Questions - contact Harry Stark at harry@tinkerscreekwatershed.org or 216-385-5248.

You Can Help Recycle Cigarette Butts

Submitted by **Holly Utrata-Halcomb** , Hamilton County SWCD

Ohio's state-wide smoking ban went into effect on December 7, 2006. This law banned smoking in all public indoor spaces and near entrances of buildings. The number of adults who smoked declined 21% from 2006 – 2016. Interestingly enough, cigarette butt litter has increased. One of the primary causes is that the majority of the ash trays were removed from building entrances when the ban went into effect. A 2010 Keep America Beautiful survey revealed that of smokers who work, 41.8% report that they do not have receptacles for cigarette butts at their work location. This survey also determined that for every additional ash receptacle, the littering rate for cigarette butts decreases by 9%. Today, Cigarettes make up more than one-third— nearly 38 percent—of all collected litter. A nonfiltered cigarette takes a few weeks to a month to decompose; it takes the filter 18 months - 10 YOU CAN HELP RECYCLE CIGARETTE BUTTS years. The filters contain plastics that, just like other plastics, cause a real problem to the environment. Nationwide, cities spend between \$3 million and \$16 million on cigarette clean-up. There is now a viable option to collect cigarette butts and recycle them into new items such as park benches, plastic lumber and other plastic and fiber items! Zero Waste Boxes cost under \$100 each and offer free recycling of the butts. This is ideal for outside buildings, parks and sporting facilities. Please pass on this new information and help keep our land and waterways clean. <https://zerowasteboxes.terracycle.com/pages/how-it-works>

Innovation in Water Resource Management



47th Annual WMAO Conference

Wednesday, October 31, 2018

Hilton Netherland Plaza and Duke Energy Convention Center

525 Elm St., Cincinnati, OH



Cost for this one-day WMAO event is \$215. Register online at: www.wmao.org.
Conference attendees will earn 0.6 CEU credits.

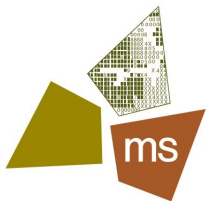
The WMAO 2018 Annual Conference will be held in conjunction with the [North American Lake Management Society's](#) international conference. Pre-conference NALMS [local tours](#) and [workshops](#) on October 30th are available to the WMAO audience.

Two concurrent sessions and an evening reception with poster presentations will comprise the WMAO conference on October 31st held at the same venue as NALMS. WMAO attendees will also have full access to all NALMS concurrent sessions, as well as their exhibit hall and poster displays.



Questions? Feel free to contact the WMAO office at 330-466-5631 or admin@wmao.org.

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Water Management Association of Ohio

Wednesday, October 31, 2018

Innovations in Water Resource Management

7:00 - 8:30	Registration, Coffee, and Continental Breakfast - Grand Ballroom B	
8:30 - 10:00	Opening Plenary hosted by NALMS and Ohio Lake Management Society - Grand Ballroom A	
	Beyond the Holy Grail: Adding Browning to the Lake Management Paradigm - Craig Williamson, Miami University	
	Potential Uses of Population-Scale Information from the US National Lakes Assessment - Amina Pollard, Office of Water, US Environmental Protection Agency	
10:00 - 10:30	Refreshment Break - Grand Ballroom B	
	Concurrent Sessions - South Room 233	Concurrent Sessions - South Room 236
10:30 - 12:00	A6 - Data and Water Quality	A7 - Waterways and Infrastructure
	a Degradation and Recovery of the Scioto River (Ohio-USA) Related to Reduction in Sewage Pollution Via Improved Wastewater Treatment 1979-2015- Chris Yoder, Midwest Biodiversity Institute	Two Birds with One Stone: Funding Flood Mitigation and Infrastructure Repair with FEMA HMGP - David Hayson, Stantec Consulting Services, Inc.
	b Leveraging DNA to Enhance Water Quality - Mauricio Larenas, Source Molecular Corporation	Indian Lake Labyrinth Spillway - Improving the Efficiency of a Historic Spillway - Rob Kirkbride, Stantec Consulting Services, Inc.
	c Keeping an Eye on Water Quality in the Great Miami River Watershed- Sarah Hippensteel Hall, Miami Conservancy District and Scott Bell, LimnoTech	The Green Monster: A Case Study on Earth Dam Landslides, Hidden Valley Lake Dam, Dearborn County, Indiana - Peter Soltys, Fishbeck, Thompson, Carr, & Huber, Inc.
	d Nutrient Mass Balance Study for Ohio's Major Rivers- Josh Griffin, Ohio EPA	Ice Jam Awareness - Thomas Harris, USGS
12:00 - 1:30	Awards Luncheon and WMAO Annual Business Meeting- Grand Ballroom A	
	or NALMS Student Luncheon - Grand Ballroom Foyer	
1:30 - 3:00	B6 - Innovative Modeling	B7 - Contaminants
	a The Role of Water Management and Climate Change Uncertainty: a Case Study in the Maumee River Watershed- Haley Kujawa, The Ohio State University	Decentralized Treatment of Sewage Flows - Rakesh Govind, University of Cincinnati
	b Assessing uncertainty in hydrological models within the Maumee River Watershed: the role of parameters and farm management assumptions - Anna Apostel, The Ohio State University	Toxicity Impact Assessment of PFOS and PFOA- Joshua Glass, Air Force Institute of Technology
	c Multiple Models Assess Options for Reaching Lake Erie's Phosphorus Reduction Targets- Margaret Kaldic, The Ohio State University	PFOS Fate and Transport Modeling Using Numeric and Analytic Models- Ramoane Jordan, Air Force Institute of Technology
	d Power of Volunteer Water Quality Data in Examining Regional Water Quality in SW Ohio, 2017- Michael Miller, Rivers Unlimited- Green Umbrella Watershed Group	The Impact, Fate, and Viability of Bacillus globigii Spores and MS2 Bacteriophage Injected into Activated Sludge - Willie Harper, Air Force Institute of Technology
3:00 - 3:30	Refreshment Break - Grand Ballroom B	
3:30 - 4:40	C6 - Innovative Watershed Planning	C7 - Nutrient Loading
	a The Art of Building Nonpoint Source Implementation Strategic (NPS-IS) Plans for Successful Project Funding- Deanna Bobak, Civil & Environmental Consultants, Inc.	Water Quality Impacts from Stacked Agricultural Conservation Practices - Elizabeth Callow, The Ohio State University
	b Big Data's Impact on Water Resources Management - John Menninger, Stantec Consulting Services, Inc.	Agricultural Best Management Practices Impact Soil Health and Phosphorus Loadings in Lake Erie's Maumee River Watershed - Grey Evenson, The Ohio State University
	c Using Web Based Interactive Tools for Better Watershed Management and Resource Protection- David Rutter, Ohio Kentucky Indiana Regional Council of Governments	Within-River Phosphorus Retention in Western Lake Erie Tributaries: 1900 - 2018- Christopher Spiese, Ohio Northern University
4:45 - 5:15	Innovative Participation in Water Resource Management - Susan James, OLMS - Grand Ballroom A	
5:15 - 5:45	OLMS Annual Business Meeting - Closing Session - Door Prize Drawing - Grand Ballroom A	
5:45 - 7:00	Student Poster Session - Exhibitor Reception - Networking Event - Grand Ballroom B	

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Dana Oleskiewicz, Administrative Director

www.wmao.org

The Water Management Association of Ohio (WMAO) is the one organization dedicated to all of Ohio's water resources.

VISION: To be recognized statewide as the go-to community for people who manage and safeguard Ohio's water resources.

MISSION: To support Ohio's water resource professionals with essential information, education, and networking opportunities

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