Ohio Water Environment Association
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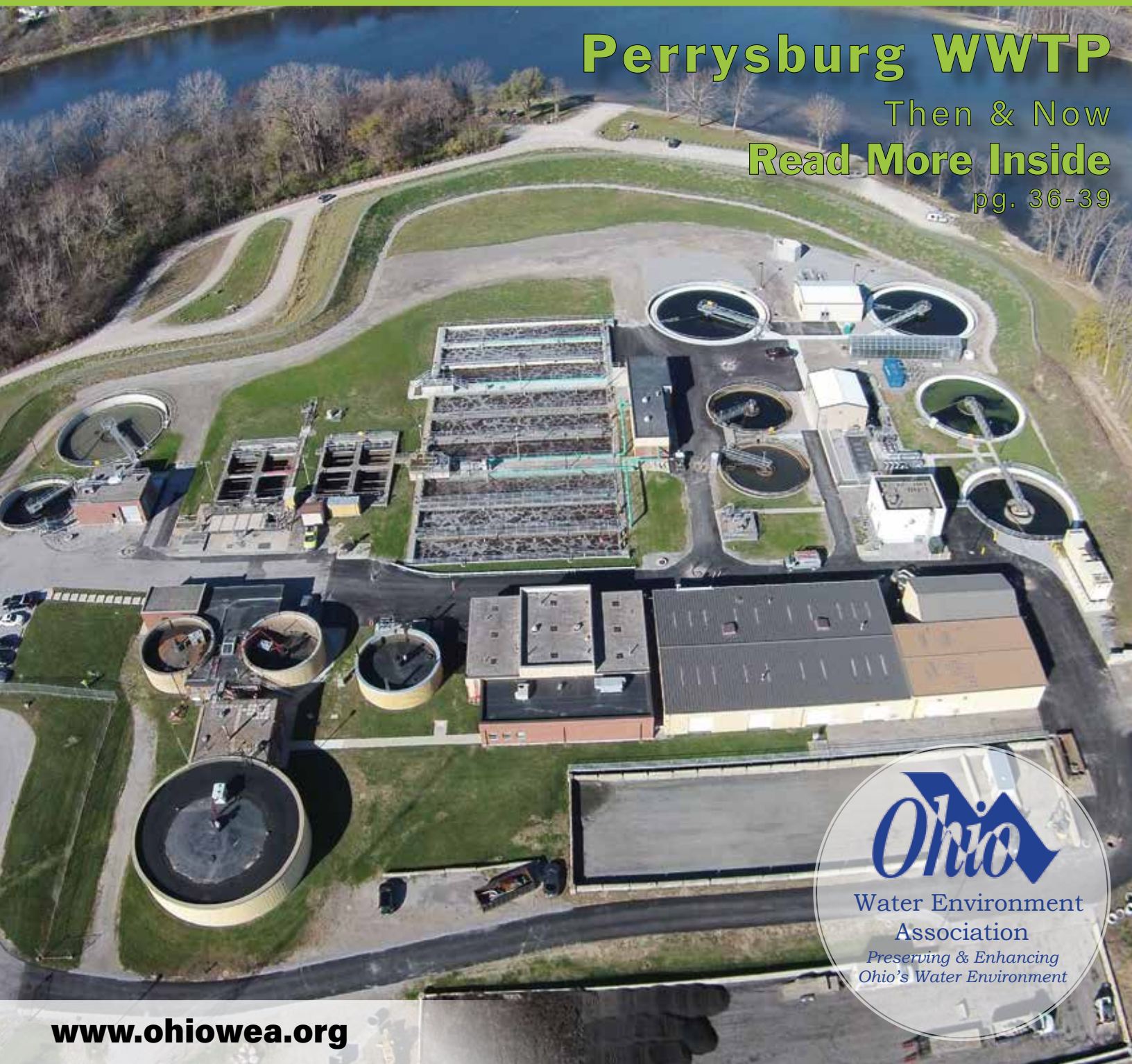
Buckeye Bulletin



Perrysburg WWTP

Then & Now

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Preserving & Enhancing Ohio's Water Environment

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Get Involved - Join a Committee Today

The Ohio Water Environment Association has 25 committees which focus on various aspects of the water quality field and association operations.

Contact OWEA at ***info@ohiowea.org*** or the chair of a committee that interests you for more information.

OWEA NEWS

This year is the Buckeye Bulletin's 90th volume! During the year we will share a little Buckeye Bulletin history in each Issue. If you have any Buckeye Bulletin history in mind that you would like to see, please email Megan Borror at *meganborror@ohiowea.org* with ideas or suggestions.

Career Opportunities

No charge for job seekers.

No charge to post a position if you or a fellow employee are an OWEA/WEF member.

$167 for a 30 day posting if not a member.

$167 for a Professional Membership

We encourage you to join OWEA and reap all the benefits of membership. Same price as a posting!

OWEA Calendar

March

8	Executive Committee Meeting
9	One Water Government Affairs Workshop
22	NW Section Meeting

May

	Collection Systems Workshop
10	Executive Committee Meeting

June

25	Executive Committee Meeting
26-29	OWEA Technical Conference

Find OWEA on your favorite social network

Are you a social media guru? Find out how you can become part of OWEA's social media team. Email us at *info@ohiowea.org*

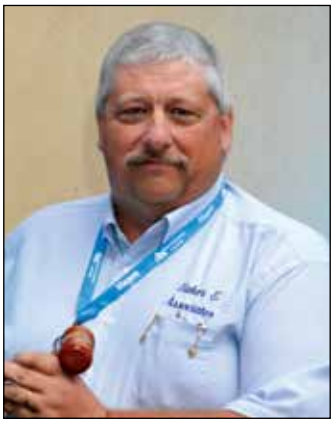
Welcome New Members

October 2016 - December 2016

Keith Baker	Jeff Hawks	Dan Sanchez
Holly Boyer	Christopher Huhnke	Katherine Schaad
Chris Bruegge	David Jenkins	Charles Schaffer
Jeremy Carico	Alan Johnson	Jennifer Scott-Wasilk
Rosita Cruz	Andrew Knowles	Collin R. Smith
Nicholas Cunningham	Hana Litwin	Marco Stammegna
Kenneth Day	Todd Logan	Jim Straehan
Maria Donisi	Diane McConnell	Dave Striffler
Daniel Eruich	Jamie Mills	Ron Swinko
Mark Fashian	Mitchell Myers	Nadia Swit
Daniel Figola	Peter Neumann	Rod Vautier
Roberta Gellner	Shawn Nixon	Stacy White
Robert Greytak	William T. Randals	Weizhong Xiao

Thank you for joining the Ohio Water Environment Association and the Water Environment Federation.
We welcome your contribution to preserving and enhancing Ohio's water quality environment.

Visit http://www.ohiowea.org/memberships.php for OWEA membership information



Ted Baker
OWEA President

As I sit down to write this message to you, the members of OWEA, I could not help but be inspired by the current events. On Friday January 20th the United States demonstrated to the world what makes our democracy a beacon to all. The peaceful transfer of power from one freely elected president to another is unlike any other in the world.

Then on January 21st what was supposed to be the woman's march on Washington turned into a national movement. Millions and millions of women (and a few men) marched peacefully in almost every city in America. Mothers and daughters, Grandmothers and granddaughters marched to remind those in Washington that this country belongs to, We the People. And no other message could be stronger.

As your president I am here to tell you that OWEA is no different. We, the Executive Committee, are here for you the members. We are excited to celebrate this issue of the Buckeye Bulletin, the start of our 90th year with you. And we are excited for 2017 and all the new educational opportunities we are working on, starting with our first joint Government Affairs Workshop in March. I would like to personally thank Kim Riddell for all the hard work she is putting into bringing these new training sessions to reality.

We would also like to remind every member that the Public Education Committee has money to give away!!! There is nothing more important in our communities then the image we represent to the residents. The education committee wants to help you, it could be money for a trip by local school kids to the WWTP, or money to support a beach or river cleanup project. As an example check out the article in this issue about a whole bunch of kids visiting the Dayton WWTP. A huge thank you to Jason Tincu for all the hard work he put into making this happen.

Dale Kocarek will once again lead an Ohio contingent on a fly in to Washington D.C. Dale and his crew will zig zag back and forth across Capitol Hill to bring our message to House and Senate members from Ohio. We want to be the voice of real unbiased information to those elected officials. A voice that represents every city, town, and village in every corner of the state.

Every year WEF in partnership with four MA's host annual WEFMAX meetings. This year I am proud to say that Ohio is one of those host MA's. We will gather in Cincinnati with members from 20-30 other MA's and WEF executive officers to exchange ideas. I have attended six WEFMAX meetings since I joined the EC in 2010 and always return energized to make OWEA better. I have no doubt that this year will be even more exciting as we host members from all over the United States.

Finally don't forget my call to action from my first message, we want to see new faces at our workshops and state conference. Each new face is the chance for a conversation to learn something new. Each new face offers the hope that our history will pass on to the next generation of engineers and operators. And most importantly each new face helps our membership become stronger, larger and more relevant.

Thank you
Ted Baker
President, Ohio Water Environment Association

Ted Baker is currently the owner of Baker & Associates, a manufacturers' rep firm in the state of Ohio, where he has worked for the past 26 years. He is a member of the Select Society of Sanitary Sludge Shovelers (5S) and a recipient of the Keith Riley Outstanding Supporter award. He has a Bachelor of Science degree in Economics from The University of North Carolina, Greensboro.

Ted resides in Munroe Falls, Ohio with his wife Mary. They have two children, one daughter, age 22, a recent graduate of American University and one son, age 20, a Junior at Xavier University. Ted is an avid golfer and geocacher and he and his wife love to travel, especially to Walt Disney World in Orlando, Florida.

2017
Executive Committee Meeting Dates

March 8, 2017	OWEA Office
May 10, 2017	OWEA Office
June 25, 2017	Hyatt Regency – Cincinnati, OH

New & Improved
Logo Design Contest

OWEA is looking for a new visual identity and needs your help. We are seeking ideas for a modern, creative, innovative and professional logo design that will help identify and define our organization for the next decade.

The logo should be recognizable and be consistent with OWEA's mission, "To Educate our members through sharing information and networking, educate the public on preserving and enhancing our water quality, be proactive on water environment issues and build a positive professional image within and outside the Association."

Please go to:
http://ohiowea.org/owea_logo_design_contest.php
to cast your vote. Voting is limited to members.

Option 1

Option 2

Option 3

Option 4

Option 5
retain current logo

Tinkers to Evers to Chance

by Dale E. Kocarek, P.E., BCEE, Past President 2010-2011

Citizen Soldiers

Few of our readers likely know the challenge of writing for a publication like the *Buckeye Bulletin*, which is published only four times each year - February, May, August, and November. Such a schedule makes it challenging to provide timely newsworthy information to our readers. When the next issue comes around, it is often old news. This is one of those times.

A second challenge of writing for the *Buckeye Bulletin* is that few contributors to this magazine are not professional writers in the sense that we do this for a living. For example, I am a sanitary engineer by trade, and like most engineers my area of comfort is reports, manuals, and specifications.

Journalist Anderson Cooper

However, I do like writing and if I had the chance to do something else in life, I may have liked to pursue an opportunity to be a journalist like Anderson Cooper (1967 -) and the TV show *60 Minutes* journalists or a speech writer like the late Ted Sorensen (1928 – 2010), who wrote for US Presidents John Kennedy and Lyndon Johnson. A historical footnote: Ted Sorensen is largely credited for preparing much of President Kennedy's 1960 Inaugural Address, which is also called the "First Thousand Days" speech.

Tinker to Evers to Chance

Retro Images for the Chicago Cubs and Cleveland Indians.

In 2016, the Baseball World Series matched the Cleveland Indians with the Chicago Cubs. There was widespread sentiment that this was a good match as neither had won the Series in a long time. The Indians last won in 1948, and the Cubs in 1908.

In 1908, the Cubs were known as a great ball team and particularly known for three infielders: Joe Tinker, Johnny Evers, and Frank Chance. The three began playing together in 1902 and quickly formed a highly efficient double play combination, which lasted into 1912. Frank Chance played First Base. Johnny Evers played Second Base, and Joe Tinker played Short Stop.

The Cubs won the National League Pennant four times between 1906 and 1910, including the 1908 World Series. It was reported that this success was due to the abilities of Tinker, Evers, and Chance whose execution was perfect. This was done at a time when infielders' gloves were little more than large padded mittens.

Several times each game as a double play began to unfold, the radio announcers coined the tag line, which has hence become famous: *TINKER TO EVERS TO CHANCE!!!* The interplay of this trio became a synonym for teamwork itself. Each time the phrase was uttered, the crowd would erupt into thunderous applause. The three were later immortalized in a 1946 poem and afterward enshrined into the Hall of Fame.

We Are Better Together

1908 Cubs with Mascot.

We all understand the benefits of teamwork. However, in a nation and culture that values and rewards individual accomplishment; teamwork, like the 1908 Cubs, has proven again and again that truly great accomplishment is done through teamwork. From the Manhattan Project in 1945 to the heroic effort to rescue the astronauts on the Apollo 13 in 1970, history is replete with good examples of teamwork and great accomplishment. My company - Stantec – has a phrase, which I really like: "We are better together." This is simply stated and to the point.

Teamwork at OWEA

There are a lot of things that OWEA does well, and I believe that teamwork is among those. There are few truly individual efforts in our organization, which is one reason why we enjoy unity.

In moving into 2017 I would like to highlight several:

As a Section and State Board Member for 20 years, I can attest that OWEA values and encourages teamwork – not just in word but in actual deed. Younger members can learn from the organization's *good example*. While we may not always be good at saying it: *We have a place for you!*

A frequent discussion is how WEF and Member Associations of WEF including OWEA can attract younger members from both the operations and engineering fields. In being associated with Young Professionals, I have come to learn that we do offer training in "leadership development," by participating on committees. This by

itself is worth the price of dues. Younger people can learn life and career skills of leadership through us. These are life lasting skills that can advance reputation and career.

This final point is my favorite. We are NOT lobbyists! We are educators, advocates, engineers, operators, utility managers, and not paid to represent our opinions by OWEA or WEF on behalf of our profession. As such, we are becoming more recognized as having a purer message without an *angle*, which has credibility with elected officials and others to whom we are telling our message and sharing our values. We remain dedicated to the advancement of Clean Water initiatives, common sense regulation, infrastructure funding and the advancement and betterment of the wastewater professionals' community, of which I am proud to be a part.

Ted Sorenson with President John Kennedy.

In Closing

When I became OWEA President on June 15, 2010, nearly seven years ago, my wife who is a professional in her own field attended the Annual Banquet with me to offer me moral support in becoming President. Of course, she knew and understood the organization pretty well. She had the opportunity to meet a number of my friends and colleagues, and mentioned that she enjoyed the banquet. Later on, she paid OWEA a compliment by saying "*Your organization actually stands for something worthwhile; many others do not.*"

In reflecting back on Ted Sorenson's speech for John F. Kennedy, we have come far in the last decade but have much work left to do. Like my fellow Past Presidents Clark, Angelo, and Sullivan attest, becoming and staying relevant in our profession and our world community continues to take effort and at times can be challenging. But in moving into 2017, we need to pause – take a moment – and see OWEA as outsiders see us – as an organization with an attractive and vital message, and well positioned to be a major voice in our industry in the future.

I wish you all a HAPPY, HEALTHY AND PROPEROUS NEW YEAR!

WEF Delegates' Report

Tom Angelo

Tom Fishbaugh

Dale Kocarek

Happy New Year! This is my inaugural report as your senior WEF Delegate for Ohio. My name is Tom Angelo and I have been serving as Ohio's Delegate to WEF for the last two years. Dale Kocarek's three year term expired in October of 2016, however, Dale has reenlisted for another three year term and continues as our Freshman Delegate. He and I are joined by our esteemed colleague Tom Fishbaugh who is beginning his second year as Delegate. To help identify the Delegates and the place in years of their term I will refer to Mr. Fishbaugh as our Sophomore Delegate.

The Delegates role is to act as the representative from a Member Association (MA) to the Water Environment Federation's (WEF) House of Delegates (HOD). OWEA is a Member Association of WEF. Most of Ohio's OWEA members are WEF members and they are also members of their respective sections. So OWEA is a pie of four slices that are our sections. Each section has its own leadership committee comprised of officers elected by the section's members. The elected officers nominate an individual who will represent the section and serve on the State's Board. That individual is a Section Delegate and serves a two year renewable term on the State's Executive Committee.

Ohio is 1 of 75 MA's of WEF. 45 are North America associations (which comprise the HOD) and 30 are international. Each MA has at least one Delegate. More Delegates are assigned to a MA based on the size of the MA. The majority of the MA's have only one Delegate. 20 MA's have two Delegates and only four MA's have three Delegates. As an OWEA member, you can be proud that Ohio is one of the four MA's that has three Delegates serving in WEF's HOD.

So what does the HOD do? To quote from the HOD "Policies & Procedures", "The House of Delegates is the deliberative and representational body of the Federation. It advises the Board on matters of strategic direction and public policy development and has authority to elect and remove Trustees only to the extent provided for in the Constitution and Bylaws." Basically we act on OWEA's behalf to help steer the direction of policy and programming for WEF. This is accomplished through Committee and Work Group participation.

The HOD Committees are:

Budget
Nominating
Outreach
Steering
WEFMAX

The Workgroups are:

Strategic Planning
Membership
Public Communication
Outreach

I serve on the WEFMAX Committee, Tom serves on the Outreach Committee and Dale serves on the Steering Committee. I have served on the Outreach Committee and participated on other committees and can say that the WEFMAX committee is the most active one I have participated on. WEFMAX means WEF Member Association Exchange. It is an annual program offering MA leaders an opportunity to attend one of four meeting each year that provides a forum to learn what is new from WEF and provides sessions to learn what other MA's are doing good and what areas they have had challenges. Ohio will be hosting one of the four meetings this year in Cincinnati on April 26-28, 2017.

This year could prove to be a very interesting one for our organization due to the current momentum out of Washington for Infrastructure funding which WEF and all MA's have been supporting for many years. We will keep our membership updated as this progresses.

In closing, please help your community stay informed, educated and involved. Do this by participating in OWEA and WEF opportunities and by encouraging a coworker, friend or student to join and get involved.

Thank you,

Thomas A. Angelo

Interested in joining a WEF Committee? Does travel make you hesitant to join?
Goodbye hesitation as many meetings are held over the phone.
Go to *http://wef.org/committees* for more information.

SWOWEA

Jason Tincu, President

Wow, what a year it's been… so much spinning around in all of our worlds! I am grateful for both the achievements and the lessons that 2016 has brought. SWOWEA had an amazing year: tons of events, lots of traction, new opportunities, much gratitude and appreciation. That being said, I still feel that each and every OWEA member has MORE in the tank: one MORE rep, one MORE offering, one MORE connection, one MORE opportunity to give to the organization and better our industry. ***So I'm challenging all OWEA members to dig deeper and make 2017 the year of MORE***. As you are well aware, OWEA is a volunteer organization… and we can only thrive when people get active, involved and engaged. So I ask, what MORE do you have to give in 2017?

Over the past few months, SWOWEA has been very active while hosting a number of events including the SWOWEA Fall LAC Meeting at YSI Inc., the SWOWEA Operator Education Day at Montgomery County, the SWOWEA Collection Systems Hands-On WS at Cincinnati MSD, as well as the SWOWEA Plant Ops Seminar and SW Section Meeting at the Manor House in Mason. We would like to acknowledge all our committees and chairs for their efforts in executing these events. Our recent SWOWEA Plant Ops Seminar is one of our highlight events and, this year as always, does not disappoint. This session is always loaded with an amazing technical track, excellent exhibitors, and networking at a stellar venue. Pictured is the Ohio EPA's Walter Ariss giving an update on Senate Bill 1 and the state's nutrient related initiatives.

Another one of the SWOWEA's highlight events is the annual Past Presidents luncheon. This year, the event was held on December 2nd at the Manor House in Mason. It is always a great feeling to give back to the folks who have helped make the SWOWEA section what it is today. Many great stories were told and tons of laughs were had. The SWOWEA Industrial Waste Seminar and Section Meeting (1/26) was also a success.

We are super excited about our upcoming offerings including the Winter LAC meeting in Dayton (2/9), and the joint Section Meeting with the SE Section in London (4/13). See the OWEA website for more details. In addition to this lineup, the SW is very excited about hosting this year's OWEA state conference in Cincinnati, ***Rollin Down the River***. Planning is well underway for what will, no doubt, be an awesome event! Thanks to Conference Chairs, Sharon Vaughn of the City of Dayton and Marty Davidson of BL Anderson, for spearheading this charge!

SW Plant Operations Seminar on November 11, 2016.

As we plan to close out 2016 in a strong fashion and vault into 2017, I will continue to draw upon the talents around me to deliver quality services to our membership and also look to grow the future of SWOWEA. We are continually in search of support and new volunteers. So if you are interested in participating or happen to see a gap within our organization that you may be able to fill, please get ahold of us and we will "dish you the ball". Feel free to contact me directly with any comments, questions, gripes, or suggestions at *jtincu@brwncald.com*. ***And once again I ask, what MORE do you have to give in 2017?***

Past Presidents' Luncheon Left to Right: Lynn Marshall, Bob Beyer, Ernie Stickler, Tom Brankamp, Debbie Schafer, Carl Gatton, Dan Sullivan, Roger Rairdan, Barb Wagner, Don Cuthbert, Dan Levitt, Steve Durell, Daryl Blanchard, Dave Reimer, Gary Haubner and Chuck Lenhart (missing Gary Johnson).

NWOWEA

Jeff Thompson, President

Greeting fellow OWEA members,

I would like to thank everyone who attended the NW section Fall Meeting. All of the presenters did a great job, and shared valuable information. The meeting was held in St. Marys, at the Eagles 767 lodge, with tours held at the treatment plant, and also at a treatment train on Grand Lake St. Marys. The staff at St. Marys did a great job of having the facility ready and giving tours. Along with the meeting, the annual pancake breakfast was held with funds going to Water for People.

On December 8, 2016 the Northwest Collections Hands-on Workshop was held and was well attended. Discussion has been taking place to possibly make the workshop a two day event. Stay tuned in for updates. A big "Thank You" goes out to Matt Witter and all others that make this event successful.

While at the Collections Hands-on Workshop, Dan Wickard received the 5S award. 2015 5S award winner Mike Maringer was in attendance to present the award. (I had intended to include a picture of the presentation, but due to technical difficulties, it was not possible. Sorry Dan and Mike).

In November, the NW section Executive Committee attended the State EC meeting. It was very useful to see how the "big hitters" operated, and everyone left the meeting with more of an understanding on how meetings operate at that level. The dialogue was productive and the members of the State EC were receptive of the ideas that the NW Section presented. With that being said, I encourage anyone to attend and volunteer to be involved.

Some of the items that the NW Section are working on include, working on developing a plan to have localized meetings for small communities. A couple of areas in the section will be targeted for trial runs to see how well the events are attended. If there is a postive response, then we will expand to different areas. A final plan of action will be discussed at the April EC meeting.

Section meetings for March and May are being organized, as well as the spouses and friends meeting. Feel free to attend.

Preparations are being made for the State Conference.

Past president Roberta Streiffert is working on a gathering for past presidents in the NW Section.

The NW section is asking for articles from "Ingenious Operators" that is the section's version of WEF's "Operator Ingenuity" award. We know that there are members out there that have used their skills to overcome a problem. We just want to give you the recognition you deserve. As incentive the NW section will be paying for, four (4) individual section meeting fees, and one (1) Ops Workshop fee to include a one night hotel stay. We plan on having the article(s) published in the Buckeye Bulletin, as well as submit the articles to WEF "Operator Ingenuity" contest. Any and all ideas accepted. Need help with the article? Just contact any NW Section Officer. Email or snail mail them by June 15th . Information on the next page.

Hope to see you at a meeting, and think safety!

Jeff Thompson

NWOWEA, President

NWOWEA EC with the State EC at a joint meeting on November 16, 2016. From left to right: BACK: Mark Lehnert, Doug Borkosky, Mike Welke, Jeff Thompson, Ted Baker, Roberta Streiffert, Gary Bauer, Jamie Gellner. FRONT: Tom Angelo, Jane Winkler, Walter Ariss, Kim Riddell, Elizabeth Wick, Fred Smith, Jason Tincu.

NWOWEA Ingenious Operators Contest

The NWOWEA Section is presenting the First Annual Ingenious Operators Contest

We at the NWOWEA Section know there are members and non-members out there that have used their ingenuity to resolve an issue. We want to give you the credit you deserve. Send us a description of your invention.

What we Need - Clever ideas related to:

- Treatment Processes
- Maintenance Practices
- Safety Measures
- Collection Systems
- Laboratory Practices
- Anything related to the Water Environment Sector

Win & Publish:

- (4) Individual Section Meeting Fees Paid
- (1) Ops Workshop Fee Paid, Including (1) Night Hotel Stay

How to Enter:

Submit articles by June 15, 2017 to:
jthompson@cityofstmarys.net OR
Ingenious Operator
Attn: Jeff Thompson
101 E. Spring St.
St. Marys, OH 45885

EVEN IF YOU DON'T THINK YOUR INNOVATION QUALIFIES, SUBMIT IT!

SEOWEA

John Owen, President

Greeting Southeast Section members and welcome to 2017! I hope the start of 2017 is treating you well. I would like to take this opportunity to thank every who attended our February 9th Section Meeting in Newark! For those who were unable to attend, this Section Meeting was our annual Industrial/ Pretreatment meeting. At this event we offered over three contact hours for the low price of $30. Ultimately, providing inexpensive options for our members is what we strive for. We are planning our annual Collections and Small Systems Section Meeting, tentatively scheduled for April 13th and the Biosolids/Regulatory/Awards/ Officer Elections Section Meeting, as well as our Past Presidents Luncheon is tentatively scheduled for May 11th. We are still looking for presenters. If interested in presenting at either meeting please contact Kris Ruggles at *kris.ruggles@strand.com.*

NESOWEA

Paul Solanics, President

Happy New Year to all, I hope everyone had a wonderful holiday season. I thought the duties of the President were going to be considerably easier than the Vice President. Wrong! I guess it boils down to how much you want to put into it. I can attest that the Executive Committee and Chairs of the Northeast Section are "all in." The OWEA has so many great people that dedicate their heart and souls to supporting the mission and goals of our organization and to preserving our water environment. I am truly humbled by the outstanding individuals involved in this organization. That being said, my past six months as President have been a whirlwind of plans, updates, ideas and long discussions related to the betterment of, not only the section, but the OWEA as a whole.

The first item on our task list was to update the Rules and Regulations for the section. This must be done periodically to make sure the section rules align with the current mission and principles of the OWEA. We submitted the proposed revisions and they were accepted by the State. The proposed revisions must now be approved by the membership at the business meeting in May before they can be officially adopted by the section. Please review the proposed revisions to the Rules and Regulations currently posted on the section's website so the Executive Committee can address any questions or concerns you may have before the May meeting. Thanks to Jim Cooper and the Executive Committee for getting this goal completed.

Next on the list is to update the Policies and Procedures for the section. We are currently in the process of reviewing 50+ policies and procedures. Doug Harris has taken the lead on this task with hopes to have the proposed revisions completed before the end of the year.

I am excited to announce the section was asked to develop a student design competition that would promote "real world" design experience for students interested in pursuing a career in the wastewater or environmental fields. Muralilkrishna Chelupati has volunteered to lead the charge on this project and has developed a draft of the competition guidelines. We are currently in the process of sending this draft to OWEA and various universities for comments and suggestions. It is our goal to have an approved program in place by next fall.

This past fall was full of events and kept us busy through the end of the year. On October 26th, Mike Welke and the Biosolids Committee held a workshop at the Packard Shelter House in Warren. Topics included, Double Disc Sludge Pumping Technology, Consideration of Processes around Anaerobic Digestion and Sludge Dewatering with the Rotary Press to name a few. This provided 4.25 contact hours.

On November 15th, Ashley Williston and the YP Committee hosted a resume review at Cleveland State University. Students enjoyed the experience of a resume review by professionals in our organization. Please see Ashley's YP article for further details.

On November 17th, Bev Hoffman and the Lab Analyst Committee hosted a workshop at the Norwalk Wastewater Treatment Plant. This included a tour of the water and wastewater plants and a discussion on lab safety. This provided 3.0 contact hours.

On December 1st, Don Gallimore and the Collections Committee hosted a workshop at the Packard Shelter House in Warren. Topics included, Asset Management for Collection Systems in Small Communities, Casting Design and Innovative Solutions, Small Pump Maintenance and Water Tight lateral Connections with Inserta-Tee. This provided 4.0 contact hours.

On December 2nd, the Executive Committee hosted the annual Past Presidents Luncheon at the Winking

Lab Analyst Workshop November 17, 2016 at the Norwalk WWTP.

NE Collection Systems Workshop on December 1st put on by the State Collection Systems Committee.

Lizard in Peninsula. We had an awesome turnout with good food, great company and plenty of cheer to get us primed for the holidays.

January 19th and February 16th we held the Operations and Industrial Wastes seminars at the Days Inn, Richfield. We had a great line up of presentations for these two popular events.

Bill Zawiski, Watershed Chair is working on the details for the spring Watershed Seminar in April. Stay tuned for details.

May 18th is the date for the spring section and Annual Business Meeting and will be hosted by Carrieanne Rosemark and the staff at the Rocky River Wastewater Treatment Plant. This meeting is when we present the section awards and announce the winners of the scholarship competition. If you know someone who deserves recognition for their contributions to our field, please visit the section website to download and submit a nomination form. In addition, the section awards scholarship money for qualifying students that submit a paper on topics related to the water environment. If you know a student that meets the qualifications, please inform them of this wonderful opportunity.

The Section is also planning to participate in several public outreach events this year. Volunteers are being recruited to participate at the Goodyear STEM Career Days at the University of Akron on April 28th and May 6th. Please contact Muralikrishna Chelupati at *Muralikrishna@mwhglobal.com* or Steve Baytos at *sbaytos@avonlakewater.org*, respectively, if you would like to volunteer.

Hope to see you soon.

Paul J. Solanics

psolanics@solonohio.org

Section Awesome Operator Awards

Do you know an "Awesome Operator"?

You know... someone who goes above and beyond at their job every day! Each section of OWEA is sponsoring an "Awesome Operator" award. Award will vary by section but each will offer at least one One Day Free Admission to the Annual Conference!

Please watch for announcements via your section emails and on the OWEA website.

Nominations should be made by a supervisor or someone who works with the nominee routinely in the field. Feel free to nominate anyone in your organization that you feel is deserving of recognition.

The Awesome Operator nomination form can be found here:

http://www.ohiowea.org/owea_awesome_operator_awards.php

Feel free to contact Kim Riddell at *kim.riddell@alloway.com* with any questions.

Northeast ***Northwest*** ***Southeast*** ***Southwest***

Government & Regulatory Affairs Committee Update

by Dale Kocarek, P.E., Government and Regulatory Affairs Chair

2017 One Water Workshop Update

As many of know, we will be combining efforts with the Ohio AWWA this year for our annual workshop, which will be held on March 9, 2017 under our "One Water" umbrella. As in previous years, the purpose of this workshop is to present timely information on technology, trends and water policy as it pertains to the future direction of our industry.

I believe that combining forces is the right move for both of our organizations. The line between drinking water and treated wastewater is becoming more blurred over time. The interests of both organizations need to be considered to give appropriate focus, balance and complete understanding.

For those that have liked the workshop in the past, this one will be similar. We will be back at Nationwide Hotel and Conference Center which people have enjoyed. The morning will feature a large combined session with speakers of common appeal to both drinking water and wastewater. The afternoon will be split between drinking water topics and traditional OWEA focused topics. Attendees will have the flexibility to move back and forth between sessions.

Registration is open.

Fly In Update

We are in the initial stages of advance planning work for the upcoming Fly In to Washington DC, which will occur on the week of March 20, 2017. Traditionally, our planning includes developing talking points to reflect our own concerns unique to Ohio, but also infusing these with focused messages from the Water Environment Federation (WEF).

The challenge this year as we interact with the new 115th Congress is that we will have a Congress and President with a majority from one party unlike the past when we have a Republican Congress and Democratic President. We already know that the initial focus will be on health care and the tax code, but what remains unclear is the commitment of support for rebuilding infrastructure. During the campaign both candidates presented ideas on ambitious plans for infrastructure investment. I think that the focus of organizations like WEF is to maintain focus on infrastructure investment

Water Reuse and WERF Study

One interesting thing on the national level, announced at WEFTEC 2016 was the merger of the Water Environment Research Foundation (WERF) and the Water Reuse Federation. Now it will be called WE&RF. The US Water Alliance and WE&RF launched a national commission for onsite non potable water systems. This is part of a research project in response to Climate Change and to promote resiliency of water infrastructure in rapidly growing areas of the United States that are experiencing water supply challenges.

OWEA GARA Seeks Volunteers for the Technical Review Group

The Government and Regulatory Affairs Committee wishes to reinstitute the Technical Review Group (TRG). This group was created in 2008 and was successful for a long period of time. However over recent years many of our volunteers have moved to other positions and can no longer participate as they did before. Our Committee is now at the point where we need to rebuild our core team.

We are looking for OWEA/WEF members with the ability, interest and experience in our industry and rule making process to review proposed rules, regulations, and white papers. The work effort required for the TRG may be at times demanding and require fast response. Work requires the interest and ability to write and prepare letters and position statements. Please know that our contributions are important to make sure that our rules and laws are reasonable, implementable, science based and will contribute in a positive and measureable way to the betterment of water quality. If you are interested please contact Dale Kocarek, Chair at *dale.kocarek@stantec.com*.

One Water

GOVERNMENT AFFAIRS WORKSHOP

THURSDAY, MARCH 9, 2017

Nationwide Hotel and Conference Center - Lewis Center

6 CONTACT HOURS

Exhibitor Opportunities

Morning Agenda - One Track

7:30 - 8:00 Registration and Continental Breakfast

8:00 - 8:15 Welcome/Introductions/Opening Remarks

8:15 - 9:00 Ohio EPA Update
Craig Butler, Director, Ohio EPA

9:00 - 9:45 Ohio EPA Chiefs Update
Mike Baker, DDAGW Chief,
Brian Hall, DSW Assistant Chief

9:45 - 10:00 Break in Exhibit Area

10:00 - 10:45 Ohio EPA Nutrient Mass Balance Study Report Summary
Guy Jamesson, Columbus DPU

10:45 - 11:30 OWDA Update
Steve Grossman, OWDA

11:30 - 12:45 Lunch

OWEA Workshop Chairs:

Dale Kocarek, P.E., BCEE
Government and Regulatory Affairs Committee Chair
Stantec, *dale.kocarek@stantec.com*

John Owen, P.E., BCEE
Government and Regulatory Affairs Workshop Vice Chair
Ohio EPA, *john.owen@epa.ohio.gov*

OAWWA Technical Chair:

Robin Rupe, P.E.
Government Affairs Committee Chair
NEORSD, *ruper@neorsd.org*

Afternoon Agenda - Wastewater Track

12:45 - 1:30 WEF Update
Claudio Ternieden, WEF

1:30 - 2:15 Integrated Planning
Deborah Nagle, USEPA

2:15 - 2:30 Break in Exhibit Area

2:30 - 3:15 Shifting the Norm – Ohio's grain farmer's and water quality
Elizabeth Toot-Levy,
Geosyntec Consultants, Inc.

3:15 - 4:00 Meeting Columbus's Treatment Limits – Even When the Weather Changes Them
Chad Dunn, Arcadis
Stacia Eckenwiler, Columbus DPU

Afternoon Agenda - Water Track

12:45 - 1:30 OAWWA Technology Committee Update
Tim Wolfe, MWH
Susan Schell, Ohio EPA

1:30 - 2:15 The PVC Pipe Industry's Attempt on Controlling Your Specs
Geoff Guss, McWane Ductile

2:15 - 2:30 Break in Exhibit Area

2:30 - 3:15 OAWWA, Water Utility Council Update: Working Toward Lead Free
Tyler Converse, City of Canton and Jeff Swertfeger, Greater Cincinnati Water Works

3:15 - 4:00 Integrating Asset Management and Contingency Planning into One Plan
Kevin Slaven, Arcadis

One Water · Ohio Water Environment Association · Ohio Section American Water Works Association

Sponsored by Stantec

Certification Committee

by Kathy Richards, Certification Chair

Greetings!

I want to take this opportunity to offer my most sincere congratulations to those Laboratory Analysts that passed the Voluntary Certification Examination given this past October! A recent tally indicates we have well over 500 Ohio Wastewater Laboratory Analysts and Industrial Pretreatment Inspectors/Operators that are reaping the many benefits associated with certification.

Exams for Class I, Class II, Class III, and Class IV are offered twice a year. The next opportunity to sit for the examination is Friday, April 21, 2017. Application deadline is Friday, March 24, 2017. Applications and information can be found at:

http://www.ohiowea.org/lab_analysts.php

Also, 2017 is a renewal year for ***all*** Laboratory Analysts. We will begin accepting renewals after we get results from the October examination. Anyone who passes an exam in 2017 will not be required to pay for this renewal cycle.

Due to increasing costs and delivery difficulties for mailed notices, I am hoping to send the vast majority of notifications via email. Please take a moment to consider if you moved, or had a change in your email address so we can update our records. It would also be a good idea to add the email address below to your contact list so your computer recognizes that any communication from me is not spam, and I do promise not to send anything I don't believe to be pertinent.

As always, should you have any questions or concerns don't hesitate to contact me.

Kathy Richards – Director, Certification Board

certification@ohiowea.org

Laboratory Analysts

Class I

Debmalya Bhattacharyya
John Chmielewski
Michael Hinnegan
Jacob Hooks
Mary Lauber
Deborah Martin
Jesse Meier
Rebecca Parry
Sergey Portyanko
Robin Shafer
Cavan Smith
Dean Zeigler
Thomas Zocolo

Class II

Robby Glovinsky
Heather Mathews

Class III

Carolann Sterkenburg

OWEA's 2016 Safety Recognition Program

In order to increase the level of safety in the wastewater industry, the Safety Committee of the OWEA conducts a safety recognition program to reward systems with good safety programs. There are three (3) possible levels of recognition: OWEA Safety Certificate, OWEA Safety Award, and the WEF Burke Award.

Awards will be selected from the following categories:

1 - 9	Person Collections
1 - 9	Person Wastewater Treatment Facility
10 - 20	Person Collections
10 - 20	Person Wastewater Treatment Facility
Over 20	Person Collections
Over 20	Person Wastewater Treatment Facility

In documenting your award package, do not try to dazzle the Safety Committee with quantity. Do not include countless pages of SOP's, written programs, and other materials that can be derived from countless sources and consultants. Instead, provide proof that your program is actually complied with. Course sign-in sheets, tests, certificates, inspection sheets, and receipts are examples of solid documentation. In addition, a member of the OWEA Safety Committee will visit potential winners so that submitted information can be clarified and verified.

Applications and supporting documents must be submitted to your section Safety Committee representative by **March 10, 2017.** Application available at:

http://www.ohiowea.org/safety.php.

Students & Young Professionals Update

by Alicia Adams, Chair

In this 90th Throwback Issue, it's been delightful to see the progression of the organization over the last 90 years, but as YP Chair I'm calling on **ALL** members to help the organization move us into the next 90 years.

As with **Every** lovingly named generation from the Traditionalist to Millennials, Baby Boomers to Gen X'ers and everyone in-between there are about a zillion articles out there, labeling generations for their various good and bad character traits. Our industry is no different, but one thing that I am proud to say our organization does is it recognizes that the proverbial "Changing of The Guard" **IS INEVITABLE**!

So, it's best for everyone if we all embrace it, and do our best to get on the same page moving forward. How do we do that you ask… well, I've been scratching my head along with each of you for years now trying to figure that out. That's why I'm coming to you with this article to ask upon you – traditionalists to millennials alike – let's come up with a Plan for Progression (so for you Baby Boomers the P_iP, or for you Millennials the PP… LOL). My initial thought is to conduct two surveys – #1) for members age 35 and up, and #2) - for members Teenage to 35. Sorry to all those 35'ers *(including myself)*, the industry apparently had to have a dividing line and we're it. If you're 35, feel free to contribute to both since we're technically straddling this sand-drawn line. *Also, in reading further, if you don't remember from my past articles, YP=Young Professional, IP=Intermediate Professional, OP=Older Professional.*

Let's start by collecting the survey questions from the members. **Yes, that means YOU!** Group #2 – write questions for Group #1, and Group #1 write questions for Group #2. I'll collect the questions and prepare an online survey to distribute to everyone and we'll see what each has to say. Let's try to identify common threads, and bring into light those things that are frowned upon to discuss (Just spit balling here - the quintessential billable hour, and how activities outside of work means non-billable hours; but might also mean character development, newfound skill sets in employees, or a better work environment via happier and more well-rounded employees… ball drops and record scratches).

Some examples might be:

Group #1 Survey (to be answered by age 35-OP) (written by students/YPs):

Are there particular activities you would encourage YPs to get involved in through OWEA?

As an employer, are you willing to provide hours in the month for YPs to participate in OWEA activities? If so, what activities. If not, what would have to be done to have approval?

Are there particular skills that you are hopeful for students/YPs to learn through OWEA?

Are you looking for future leaders who are interested in helping develop common sense regulations and advancing Clean Water initiatives?

Group #2 Survey (to be answered by students/YPs) (written by age 35-OP)

Are there particular activities or committees you are interested in being involved in through OWEA?

Are there particular skills you are interested in developing more through OWEA? If so, what?

Are you familiar with opportunities available through OWEA?

Are you aware that OWEA is an environmentally focused non-profit organization that offers opportunities for civic and governmental relevancy and leadership building?

The surveys will be entirely anonymous and the answers will be generalized. So for example – YP Tom, if you said you wanted to learn X, and the IP's and OP's said they wanted more employees to learn X, that in no way means Tom can anticipate getting billable hours to develop X skills. But, the questions and answers should help us to identify ways that OWEA may offer opportunities for both employers and employees to jointly benefit from as we move onto year 2017. Or at the very least, can offer an opportunity for YPs, IPs, and OPs within the industry to have some discussions on good survey questions and thereby begin some dialog on the topic.

Please submit questions to me:

AAdams@munitreat.com and in the subject put the Survey to which the questions are to be applied.

Or if you prefer, you can mail me the questions:

Alicia Adams | 699 North Road SE | Warren, OH 44484

I love to get mail that isn't bills, so I will gladly accept either method. If you prefer to have the survey sent

to you to complete via mail instead of email, please indicate that on your question submittal and provide your mailling address.

Let's plan to cut off submissions about a month after you receive this Buckeye Bulletin. I'll aim to have the survey sent to you within a month after that (depending on how many questions we get), and hopefully provide some results by the second or third Issue of the Buckeye Bulletin. After that and based on the responses, we can go from there into a good next step together in the P_fP or PP.

So while I'm busy doing that, if you have suggestions on next steps for the plan, please feel free to let me or any one of the Section YP chairs know. As always, please feel free to contact me with any questions or concerns . Thanks in advance, and we look forward to hearing from you!

Note: By simply responding to this request, you are actively engaging in helping this non-profit, environmentally focused, organization develop more relevancy now and in the future.

2016 Northeast Section Young Professionals Update

by Ashley Williston, NE YP Chair, Burgess & Niple

Our NEO YP group had a lot of successful events in 2016. We started the year with helping Cleveland State as they sponsored the NE Section Watershed Seminar. In July, we had a beach cleanup and cookout with Cleveland State's Student Environmental Movement. In August, we toured NEORSD Westerly's facility and listened to a great presentation on High Rate Treatment from one of our YP members Doug Dietzel. In October, we hopped on a bus to tour the Akron Waterways Renewed Collection System projects with Brian Gresser as our tour guide. Then in November, we went to Cleveland State for a resume review event.

The resume review event was held at Cleveland State in their Urban Affairs Building. We invited Cleveland State and Case Western Reserve students. During the event, we provided one-on-one resume reviews and then we also had some great discussions regarding opinions on what should be in a resume, what the format should look like, and general resume advice. Our YP group is already planning on having another resume review event during spring 2017!

In 2017, we are working with OWEA on starting a new WEF sponsored Student Design Competition in our local NEO section. Krishna Chelupati is leading this effort. We will be contacting universities in NEO to hopefully engage interest for this competition soon!

To receive the NE YP emails to hear about our upcoming events and other YP information send me an email: *ashley.williston@burgessniple.com*.

TOP: Jordyn Stoll, Ashley Williston and Joe Sicurezza at the Resume Review. MIDDLE: Krishna Chelupati and Paul Solanics presenting at the Resume Review. BOTTOM: Paul Solanics presenting at the Resume Review.

Lab Analysts Committee Update

by Denise Seman and Melodi Clark, Committee Co-Chairs

Happy 2017!

Hope everyone had a great 2016….wow, did it go fast! Did anyone make any New Years' resolutions? I did, and even made a few for the lab/ job ☺

We've been thinking about a state email database for the lab techs. If you would like to be part of it to get an email blast on upcoming state events, be asked for input on training topics you'd like to see, be made aware of info concerning updates from the EPA…please contact Denise with your email to be added to the list.

If anyone would like to join the state committee, please let us know. We're always open to new members. There is no limit to the number that can be part of the state committee, and please don't feel that only "more experienced" techs are the only ones allowed to join us.

SW LAC – Karen Tenore and Jim Davis

SW LAC Meeting News!!

Upcoming meetings for 2017 need to be determined. Check the OWEA and WAVE for dates.

To inquire about being added to our e-mail list or to get information about attending, hosting, sponsoring or presenting at a future LAC meeting, please contact:

Karen Tenore or Jim Davis (Contact Information Below)

Committee Members:

Lynette Hodnicki, City of Fairfield

Lori Kyle, Greene County

Teresa Shinkle, Greene County

Gregg Mitchell, City of Sidney

Roger Rardain, City of Fairborn

Darrin Honious, YSI

NE LAC –Beverly Hoffman

We finished 2016 with a joint lab analyst meeting with the Northwest Section. The meeting was on November 17th in Norwalk. We had a tour of the wastewater treatment plant and water plant followed by a technical session on Plant and Lab Safety. Norwalk WWTP and WTP hosted the session with 44 people in attendance.

I'm looking forward to 2017, we have some new members

COMMITTEE CONTACT INFORMATION

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DSeman@YoungstownOhio.gov

Co-State Chair & SE Chair
Melodi Clark
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SW Co-Chair
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karen.tenore@cityofdayton.org

SW Co-Chair
Jim Davis
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DavisJi@mcohio.org

NW Co-Chair
Anthony Hintze
(419) 334-3876
tjhintze@gmail.com

NW Co-Chair
Terri Brenner
(419) 872-8041
tbrenner@ci.perrysburg.oh.us

NE Chair
Bev Hoffman
NESOWEALAC@gmail.com

Join Your Section's Lab Analysis Committee

Certified wastewater analysts are a valuable resource to the industry. Network with and learn from other certified wastewater analysts in your area. Learn how to become certified by contacting the LAC Chair in your section.

and new ideas for our meetings. A few topics that were suggested for future meetings are: understanding the Microbial Community in activated sludge, downstream impact of nutrient release, methods of algal control and Proper disposal of hazardous waste produced in the lab, just to name a few.

Watch your email for information on the first meeting. To be added to the NES LAC membership directory to receive automatic emails for these training events, please email *nesowealac@gmail.com*.

Bev Hoffman - NE Chair

LAC NE section committee members:

Marie Simon / *marie@northcoastlabs.com*

Lisa Feigle / *lisaf@gacdwr.org*

Amy Starkey / *ajstarkey@co.stark.oh.us*

SE LAC – Melodi Clark

Happy New Year! I hope everyone had a wonderful holiday. 2017 is looking very promising for our LAC meetings. I am planning on holding four meetings this year and once again my goal is to make them free and offer at least three contact hours per meeting. If you have any suggestions on topics or would like to host a meeting please feel free to reach out to me so we can get it scheduled. I am looking forward to having a great turn out again this year at our meetings.

NW LAC- Tony Hintze and Terri Brenner

Hope everyone is having a great New Year so far. Terri and I had a great first year as Co-Chairs and enjoyed meeting many of you. If you ever see us at a meeting be sure to say hi and introduce yourself.

Thank you to everyone that made our last meeting a success. We had 45 people attend the joint meeting with the Northeast LAC. The meeting was held on November 17th and was hosted by the City of Norwalk. The guys at Norwalk did a great job giving the tours and getting the "Club House" ready for the meeting. Michael Bechtold did an excellent presentation on Wastewater Plant Safety. The attendees that took advantage of our free meeting received a total of three contact hours and also enjoyed a lunch compliments of the Northeast and Northwest Sections.

Please come join us in our Facebook Group **NWOWEA Lab Analysis Committee.** Just search for us on Facebook or send one of us an email letting us know that you are interested and we will send you a link (*tjhintze@gmail.com*) or to (*tbrenner@ci.perrysburg.oh.us*).

Terri and I are looking forward to the coming year and hope to see you at our upcoming meetings. If you have a suggestion for a topic or would like to host a meeting please let Terri or I know. And of course, always remember, working in the lab is just like cooking in your kitchen, just don't lick the spoon!

Committee mission statement:

The OWEA, Laboratory Analysis Committee (LAC) strives to provide relevant and timely information on laboratory regulation and policy for the collection and analysis of wastewater and surface water samples. We strive to provide training in a relaxed, stress-free manner, to ensure the ability for participants to gain knowledge and skills to benefit them in their professional environment.

Charitable Outreach Committee Update

by Alicia Adams and Afaf Musa

A big THANK YOU from the Ohio Charitable Outreach Committee!!

Please check out a fantastic video from the Water For People team in their nine global offices to ALL of you for your generous support and contributions: *https://vimeo.com/197922187*

Please save these 2017 Dates

End of April/ Early May 2017 - 5th Annual Water For People Social

The Columbus DPU Band will again be joining forces with DJ Tom Angelo to provide live entertainment while guests from the water & wastewater communities, state & local government, and many others enjoy an evening of fellowship with the common goal of benefitting Water For People in their mission to provide water & sanitation for Everyone Forever!

June 26-29, 2017 - OWEA Annual Conference

Each year Charitable Outreach Committee Volunteers work with OWEA management to provide opportunities for the members to work together to benefit water charities in their mission to provide water & sanitation for everyone! Golf Outing events, auctions, and raffles are a few of the ways that we've worked together in past years and look forward to planning similar events at the conference in Cincinnati.

October 2017 - 3rd Annual Water For People Race for Global Water

1.8 billion people around the world don't have access to safe water and 2.4 billion lack access to adequate sanitation. Women and children spend more than four hours walking for water each day, and more than 840,000 people die each year from water-related diseases. Each year Columbus Department of Public Utilities teams with the City of Westerville to organize a 5K event joining passionate people who want to #ChangeThat and instead bring water & sanitation to Everyone Forever!

As always, please feel free to contact Alicia Adams or Afaf Musa if you are interested in joining our committee and helping to plan and/or volunteer at any of these upcoming events. We will work with you to find ways in which you can help that are flexible to your time and level of effort you can provide. We typically try to hold our meetings around lunch and after-work hours.

Also, we are excited to announce that Water For People has earned a 13th consecutive 4-star rating with Charity Navigator. This is the highest possible rating given and indicates that an organization adheres to sector best practices and executes its mission in a financially efficient way. Attaining a 4-star rating verifies that Water For People continues to exceed industry standards. **Less than 1%** of the charities evaluated by Charity Navigator have received at least 13 consecutive 4-star evaluations, indicating that Water For People outperforms most other charities in America. This exceptional designation from Charity Navigator sets them apart from their peers and demonstrates to the public their trustworthiness. See the yellow dot below in the chart for the overall score and check out the complete breakdown available at the following:

https://www.charitynavigator.org/index.cfm?bay=search.summary&orgid=6391

NW Collection Systems Committee Update

by Matt Witter, NW Collection Systems Chair

The Collection Systems Committee wrapped up their annual Operator Hands-On Workshop series in the Northwest Section on December 8th in Bowling Green at the Northwestern Water and Sewer District. Nearly 50 people attended the Workshop, ranging from Collection Systems Operators to City Engineers. The main objective of these annual Workshops, which are held at each of the four sections, is to bring people in the collection system industry together to learn about common issues experienced in the field. This year's topics included the following:

- **Asset Management for Collection Systems in Small Communities** - Asset Management is a buzzword that is often met by small communities with a laugh and a nod followed by rapid memory loss. The purpose of this discussion was to detail the big picture goals of asset management and how even small communities can implement and benefit from asset management, most notably by implementing a program that is "right sized" for their community and implemented at a speed that the community is comfortable with.

- **Casting Design and Innovative Solutions** - The castings industry has made great strides in making castings that are both lighter and stronger, easing the strains on both the backs and the wallets of municipalities. This discussion outlined how this has been made possible and also outlined other innovative casting designs including self-leveling, hinged and lift-assist castings.

- **Small Pump Maintenance** - When looking at a submersible pump that is not working properly, the task of troubleshooting and repairing the pump can be daunting. However, this presentation provided step-by-step instructions on how to properly identify common issues with pump failures and how to remedy the issue. The hands-on presentation also outlined preventative maintenance procedures that will hopefully keep those pumps from breaking down in the first place.

- **Water Tight Lateral Connections** - This presentation outlined the multitude of applications that an Inserta-Tee style lateral connection can be utilized with. The presentation then turned into a hands-on demonstration for actually installing this style of connection.

Thank you once again to all of this year's presenters and a special thank you to the great folks at the Northwestern Water & Sewer District for providing a wonderful location for the workshop.

TOP: Todd Switzer and John Miller from Buckeye Pumps presenting. MIDDLE: Joe Simunich from ADS performing a demonstration. BOTTOM: Attendees of the workshop listening to a presentation.

Plant Operations Update

by Kim Riddell and Joe Tillison, Co-Chairs

The Plant Operations Committee met on February 2, 2017 at the OWEA office in Columbus to start planning for Ops Challenge 2017 and our 2017 Plant Operations and Laboratory Two-Day Workshop. Planning is in full swing for the 2017 Operations Challenge which will be held during our annual conference at the Cincinnati Hyatt Downtown on Monday, June 26, 2017. The event will run all day Monday with the Safety, Maintenance and Collections events being held in the evening during the Monday Welcome Social! Awards will be Tuesday during the Exhibitor Reception. Registration will be open soon and contest rules will be available on the website so keep an eye out or contact Kim or Joe to be put on a mailing list for all pertinent information.

We are extremely excited to announce that our 2017 workshop will be held once again at the Nationwide Conference Center (formerly North Point Conference Center) on October 11th and 12th, 2017. We are working on a great line-up again this year and of course, the return of our much anticipated cocktail hour round table forum! The committee met on February 2nd to go over the topics which will be announced in the next Buckeye Bulletin. So save some money in the training budget and be sure not to miss this great opportunity to learn from some nationally recognized leaders in the industry as well as some Ohio "home-grown" bests! We look forward to seeing you there!

In addition, we have some other very exciting things planned on the operator training side of things. OWEA will be hosting a **Troubleshooting Activated Sludge – An Advanced Course for the Experienced Operator** at the Delaware County Alum Creek facility on May 9-11, 2017. This is an advanced three day, hands-on course being instructed by Lynn Marshall, Rich Weigand and Jon van Dommelen! Three days with these gentlemen and you'll be *Smarter than a 5th Grader*!

In addition, the committee is working on developing an activated sludge course for the newer, less seasoned operator. Bob Brown is leading this effort with the assistance of Marc Morgan and Frank D' Ambrosia. We hope to have this course ready to be taught at the section level by Summer 2017! And finally, we hope to start working on some additional courses like Math for Operations and Maintenance for Operators later this year.

Lots of interesting stuff coming your way soon and lots of new things to get involved with on the operator training side of things. So if you are interested in putting a team together for Operations Challenge, becoming a member of the committee or assisting as a judge / volunteer for Operations Challenge, please contact Kim Riddell at 419-234-4507 or *kim.riddell@alloway.com* or Joe Tillison at *JTillison@bgohio.org* or 419-354-6274.

Kim Riddell, *kim.riddell@alloway.com*

Joe Tillison, *JTillison@bgohio.org*

Test Your Knowledge – Take the Operations Quiz

1. Which of the following is used for water level measurement in a wet well?

a. Parshall flume
b. Magmeter
c. Venturi Meter
d. Bubbler Tube

2. According to 10 State Standards, where shall the influent monitoring sampling equipment be placed?

a. After grit removal
b. Prior to screening
c. Prior to any process return flows
d. Where the RAS enters the aeration basin

3. To ensure accurate results for BOD analysis, you should

a. Preserve with HCL
b. Test immediately in the field
c. Preserve with H2SO4
d. Store at 6°C and analyze within 48 hours

4. When working in a confined space where flammable gases may be present, use only tools made of _____.

a. Lead
b. A non-sparking alloy
c. Stainless steel
d. Iron

5. What is a clear visual indication of a high F:M ration (excessive loading/low biomass)?

a. Greasy dark tan foam
b. Stiff white foam
c. Black foam
d. Thick scummy dark grey foam

Answers noted below. Questions, comments, or submit a suggested question? Email OWEA at *info@ohiowea.org.*

Answers: 1-D; 2-C; 3-D; 4-C; 5-B

Upcoming Training - Save the Date!

9:00 AM - 4:00 PM May 9-11, 2017 at Alum Creek WRC

Limited to first 24 attendees

Troubleshooting Activated Sludge

An advanced course for experienced wastewater treatment professionals

This course has proven helpful to advanced wastewater treatment operators, managers and engineers.

- You can't control what you don't measure
- The class is arbitrarily divided into 3 groups for 3 separate plant "trips"
- Each group experiences extensive hands-on activities in the performance of assigned measurements in plant

18 CONTACT HOURS*

$350 / PER PERSON

*Thursday, May 11th is a half-day making a total of 18 hours for the three day course.

Data Collection Trips

Trip 1- Influent

- Pretreatment/Primary Treatment
- Industrial waste/Tank dimensions
- Raw waste characterization: COD. TSS meter, Test kits for ammonia, pH, alkalinity
- Flow meter(s) accuracy

Trip 2- Aeration Tanks

- Flow Splitting & Mixing
- DO Profiling
- Process Measurements: ORP, alkalinity, pH, ammonia, nitrate, MLSS meter, Centrifuge spins, Settleometer test
- Microbiology: floc, protozoa, metazoa, filaments

Trip 3- Clarifiers

- Flow splitting
- Baffling
- Short circuiting & currents
- RAS/WAS solids concentrations
- Sludge Blankets

Class Participation

- As the course proceeds, the entire class is encouraged by the instructors to provide findings and information discovered during the field trip. These findings are discussed in the classroom after each field trip.
- The amount of data accumulated in the short period of the course allows for class recommendations for operational improvement at the facility that the attendee can then "take home" and apply to their facility
- Often the findings during this course allows the student to better control the activated sludge process at his/her own facility which often results in a substantial operational cost savings

PLEASE NOTE: Attendance at all three days is mandatory to obtain contact hours

Sponsored by:

Ohio Water Environment Association

Preserving & Enhancing Ohio's Water Environment

Location

Alum Creek WRC
7767 Walker Woods Blvd
Lewis Center, OH 43035
Phone: 740-549-1906

Instructors

Richard Weigand, *WV WEA*
Lynn Marshall, *TWC Enterprises*
Jon van Dommelen, *OEPA*

Managing and Overcoming Testing Anxiety: Your Path to Success

by Tom Healy – Program Manager, Association of Boards of Certification

We have all experienced it, that feeling of dread and foreboding before taking an exam; a myriad of scenarios running through your head outlining the worst possible outcomes. You worry about passing the exam; what might happen if you fail? You know how to do your job, so why do you need to take a test to prove it?

These feelings of testing anxiety are very real and can have detrimental effects on your exam performance. In fact, a recent survey of operators conducted by the Ohio Water Environment Association found that nearly thirty percent of respondents cited testing anxiety as a main cause for not passing the exam.

"We have all experienced it, that feeling of dread and foreboding before taking an exam."

To examine why testing anxiety is such a prevalent phenomenon, especially in high stakes vocational testing such as an operator certification exam, I spoke with Dr. Ian MacFarlane of Austin College. Dr. MacFarlane is an assistant professor of psychology as well as a clinical psychologist. With more than 1000 hours of therapy work with college students and adults, he has helped countless individuals recognize and overcome testing anxiety. During our discussion, he offered an articulate and comprehensive analysis on how testing anxiety affects adults and outlined some proven methods to help alleviate it.

Why am I worried?

Taking a certification exam is different from your high school biology or chemistry final: the stakes are exponentially higher. Psychologically, you may feel that taking an exam related to your everyday job duties raises a question about your professional competence. This spark of anxiety will be fanned further if a passing score on the exam is mandated for your current job or required for promotion potential. Because of these high stakes, it is human nature to place a high level of importance upon the exam, which only exacerbates the anxiety you feel.

There are many reasons this natural test taking anxiety has such a detrimental effect upon exam performance. When asked how test anxiety manifests, Dr. MacFarlane pointed to both cognitive and physical (or somatic) symptoms stating, "The most detrimental effects of anxiety are cognitive. The human brain is limited to a certain amount of processing power at one time. The more your brain is occupied with the anxiety of the exam, the less ability it has to process the exam content. It would be akin to going into a wrestling match with one hand tied behind your back. Anxiety is a 'mental suck' or leech draining your brain power and limiting your ability to recall information or facts that might be as familiar to you as the names of your parents."

One particularly common manifestation of testing anxiety Dr. MacFarlane cited is detachment–simply ignoring or not thinking about the exam. Just as your body will pass out instead of coping with a lack of oxygen, you are likely to avoid the discomfort of test anxiety by simply not thinking about the exam. He noted, "This can be quite detrimental as this avoidance loop can cause you to disengage from exam preparatory practices which can seriously hinder performance on the exam."

Other effects of anxiety can be seen as physiological symptoms such as nausea, stomach cramps, or lightheadedness. To explain this, Dr. MacFarlane offered, "Our bodies lack the ability to differentiate between real life and mental simulations. So if we are extremely worried or anxious about something, our minds can create physiological manifestations that are directly associated with the negative mental simulations."

I'm good at my job. Why do I perform poorly on the exam?

Even though the exam is measuring the knowledge and application of tasks that you perform daily, while in the testing environment you lose the contextual cues that assist you in everyday operations. Without those additional sources of information, you must work harder to draw parallels between the tasks on the exam and the tasks you perform in your job. In other words, because you are not being tested in the environment in which you normally perform a task (a water or wastewater system), it can be difficult to recognize and solve the same problem in a test environment.

What can I do to help with testing anxiety?

Practice, Practice, Practice

There is no better way of reducing test anxiety than to spend an adequate amount of time preparing and practicing. Test-taking is a skill—one that must be practiced and honed. Dr. MacFarlane noted that in many cases, due to inefficient study techniques, people have a tendency to work on areas in which they are already proficient and to avoid areas that could use improvement.

Make better use of your study time by taking periodic practice tests to help you gauge the areas you need to work on. As an added benefit, the practice tests will train you to work under the pressure of a time constraint. Because the time limit on most certification exams can create a state of panic, it is important that you learn to perform under these stressors and to control the feelings of unease.

Don't "cram"...

Countless studies have been done over the years on the ineffectiveness of "cramming," or waiting until the last available opportunity to study for an exam. Say you spend the last six hours before the exam reviewing material. It is easy to think that you have everything committed to memory; the material is "fresh" in your mind. The reality is that nothing could be further from the truth. Reviewing this way gives you a familiarity with the material, meaning you will be able to recognize it when you see it on paper. Unfortunately the ability to recognize concepts is not the same as being able to recall it. The ability to recall or reconstruct information accurately when you need it requires exposure to the information over a long period of time.

The best course of action is to build a study plan that spans the course of several weeks prior to the exam. The more time you spend reorganizing the material so it has a structure, the more likely you are to commit the information to long term memory. Aim for 45-60 minutes per day with your study material for at least six weeks prior to the exam.

Coping with your anxiety on test day

Even the most prepared test takers can feel anxiety on test day, but there are proven methods to counteract the effects. Start with getting adequate sleep the night before. Studies have shown that people perform better on memory tasks when they are well rested. It is important also to be in tune with yourself. Some people will suffer from interrupted sleep when particularly worried about something. To help with this, try exercising for 30 minutes before bed. Doing so will help your body release excess cortisol (stress hormone) in your system caused by anxiety and will allow you to sleep better.

"Even the most prepared test takers can feel anxiety on test day but there are proven methods to counteract the effects."

Ensure your body is well nourished the day of the exam. This means: do not skip breakfast. Try to eat healthy foods such as grains or fruit and avoid foods with high fat content. The goal here is to eliminate as many distractors as possible so you can dedicate all of your attention to the exam. If you are tired or your body does not have enough fuel, it can drastically hinder your performance.

Even if you are extremely prepared, when you sit down to write the exam and are flooded with information, you may begin to feel overwhelmed. Dr. MacFarlane offered two methods to help cope with those feelings during the exam.

Breathing – The 5-5-7 Method

It can be extremely beneficial to stop at regular intervals (perhaps every five questions) and take deep breaths. The 5-5-7 is a breathing exercise performed by inhaling for five seconds, holding your breath for another five seconds, then exhaling for seven seconds. Dr. MacFarlane suggested that completing this exercise at regular intervals during a test session can physiologically stimulate the central nervous system, which can heighten your awareness and push anxiety from your mind. He also stressed the importance of practicing this technique for several weeks prior to the exam during your preparation, saying "The more practiced you are in this technique, the more effective it will be during exam time. Your body and mind will have a Pavlovian response to the exercise which increases its effectiveness."

Muscle Relaxation

Another proven technique outlined during our discussion was progressive muscle relaxation, or PMR. This is done by deliberately applying tension (by clenching) to certain muscle groups and then releasing the induced tension. During this process, all of your attention should be focused on how your muscles feel as the tension is released. As you learn to distinguish the feelings of a tense muscle as compared to a completely relaxed one, you are able to recognize the physical effects anxiety has on your body and you can quickly alleviate it with this technique. You should practice PMR both when preparing for your exam and on the day of testing. Spend 15-20 minutes at a time performing this technique on your major muscle groups (feet, legs, hands, arms, neck, and shoulders) and it will help mitigate anxiety.

The Bottom Line

While these methods have been shown to help with anxiety, they may not work for everyone. There are many more techniques that may offer relief, and you can use these tips as a starting point to find what works best for you. Above all, make sure you spend adequate time studying and reviewing the material. The better command you have of the content, the less anxious you will be about the exam, and the better you will perform. Happy testing!

What I Learned at a Water Reclamation Facility

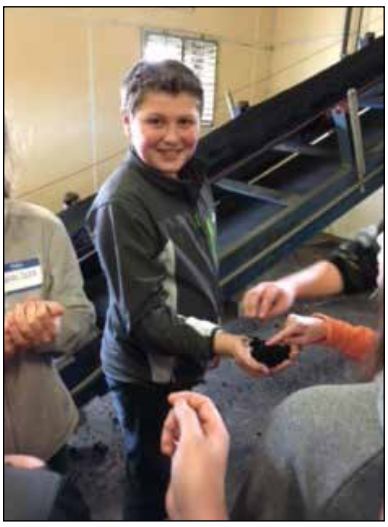
OWEA's Public Education Grant

by Cooper Tincu, Lori Cox, Chris Clark, and Jason Tincu

Jason

On November 21, 22, 28 and 29, around 350 Beavercreek School 7th grade students (@ 90 per day) had the opportunity to tour the City of Dayton's Water Reclamation Facility as part of OWEA's Public Education efforts and consistent with Beavercreek Schools water quality curriculum. This partnership between OWEA, Beavercreek Schools and the City of Dayton was spearheaded by Cooper Tincu (7th grader), Lori Cox (Science teacher), City of Dayton staff including Chris Clark, Eric Meyers, Tom Dempsey, Karen Tenroe, Jerry Wright, Paul McCallum, and Craig Marshall, OWEA reps Jason Tincu, Kevin Stillwell, Nakita Lancaster, and Sharon Vaughn. OWEA's grant offering offset about half of the transportation costs and offered the opportunity to touch and impact a large quantity of youngsters. The session, part classroom and part tour, focused on the impact of water quality on our lives, how water utilities and water reclamation facilities function, and what type of careers are available in the water industry. This was, no doubt, a group coordination effort and couldn't be pulled off without any of the partners. Please enjoy the event overview below from a number of perspectives.

Cooper



My name is Cooper Tincu. I attend school at Coy Middle School in Beavercreek, Ohio. I am a 7th grader who is studying water quality in Science Class. I enjoy outdoor activities, I play football and lacrosse, and I have always liked visiting and hanging out at wastewater plants. While studying water quality and hearing my dad speak about OWEA Public Education grant funds, I came up with the idea of taking my classmates through Dayton's Water Reclamation Facility and we made it happen!

Top 5 takeaways from this event:

Without water reclamation facilities, our communities would be in bad, bad shape. Treating wastewater is one of the most important things in order for our world to work. Our rivers would be polluted and people would be sick.

We learned about how water reclamation facilities work including mechanical, biological and chemical processes and also details on how long it takes water to move through the process, how much waste each person contributes each day, and how these facilities are funded. Wastewater plants are very cool to see how they work, what the people do, and how much fun it can be to work there.

My classmates and I learned that water reclamation facilities are recycling centers for many, many different resources. Things like clean water, biosolids (fertilizer), nutrients, and bio-gas are all recycled here.

The water industry offers many jobs and opportunities for my classmates and I and it takes a ton of different skills and positions to operate a facility like Dayton's. Jobs like Operators, Engineers, Lab Techs, Mechanics, etc., all give great opportunities to have a career in the water industry and make good money.

We learned how connected that watersheds are and that what we do upstream affects people and communities downstream. Beavercreek is part of the Little Miami River watershed and what we do here affects people all the way down to the Gulf of Mexico.

Being a part of this event gave me the chance to understand how things like this get coordinated and executed. We all worked very closely together to evaluate options, coordinate details, and make the logistics work. My fellow students were very respectful and appreciative of the opportunity. Many said that it smelled, but I would expect that from 7th graders who have never been to a plant before. I look to take this experience, learn from it, and consider using the things I learned to coordinate future events. I also plan to consider a future career opportunity in the water industry. Thank you!
~Cooper Tincu

Lori

Our field trip to the Dayton Water Treatment Plant proved to be an exceptional learning experience. The information obtained during the classroom presentation and the tour followed our curriculum and allowed our students a real life view of the material. The presenters and guides did an amazing job and kept the students interested. The students gained so much by this experience. They are still talking about the information they learned and refer to the information they learned.

I believe many students will be much more aware of the importance of water conservation after this trip.

I appreciate all the efforts of so many that made this valuable learning experience possible. The funding provided by OWEA helped us pay for transportation to and from the site. The time that so many contributed is priceless. Thank you for such an amazing event!
~Lori Cox, Beavercreek Schools

Chris

We at the City of Dayton Water Reclamation Facility always consider it an honor to show people around our plant, especially students. We introduced them to a very important part of the ecosystem that most of them never knew existed. They spent about 45 minutes learning about our plant, how it works, and what jobs are involved to keep it operating. Another 45 minutes was a walking tour of the plant so they could actually see what plant personnel had talked about. We are a large plant so they were able to see our influent, clarifiers, trickling filters, cogeneration, aeration basins, anaerobic digesters, and effluent.

Some students had very good questions. We attribute that to their teachers who briefed them before arriving.

We are very proud of our facility and the people working here. Our personnel enjoy passing on information about their jobs.

We were also able to introduce them to a whole new world of jobs that they never knew about or considered. We showed them that this was a good, and secure, place to work, whether as an engineer, laboratory chemist, maintenance worker, or plant operator. These are jobs that are not going away. The water industry is here to stay and becoming more important all the time. Hopefully some of them will consider a job in the water industry as their career.

The City of Dayton Water Reclamation Facility encourages school tours and educating our youth on environmental programs. Thanks to Jason Tincu for coordinating the event(s).
~Chris Clark, City of Dayton

Is Your Membership Profile Up to Date?

Are you receiving your copy of the Buckeye Bulletin and timely email updates from the Ohio Water Environment Association? Has your job or position changed?

You can update your information online at:

http://www.ohiowea.org/memberships.php

After all, YOU chose the wastewater field to work. **Not everybody in their right mind would choose it.**

by Barbara Ann Browne

Another year comes and another year goes! I can't help but to think about the career that was so good to me. I retired from wastewater treatment February 2015 after a wonderful 30 years of ups and downs. I learned a lot about just how important leadership is and how important it is to a company. I learned so much that I chose to go for a PhD in Business Administration/Organizational Leadership. My semi-retirement position is adjunct instructor at a nearby local community college so I figured that my PhD might help me as an instructor as well as becoming a better leader within my place of employment.

The very first thing I learned about leadership is that you choose your style of leadership normally by picking and choosing attributes from leaders you had. I had some very awesome leaders in my career as well as some *not* so very awesome leaders. I had one that I liked especially so I used him as my role model. This leader was incredibly positive, extremely knowledgeable, very patient, incredibly humorous, and always willing to help you by lending a hand to teach you about whatever you wanted to learn.

The key words here are humorous, patient, educator (mentor), positive, helpful and knowledgeable. You must remember these attributes. After all, **YOU** chose the wastewater field to work. Not everybody in their right mind would choose to work in the field of wastewater. With this said, it takes a sense of humor to deal with the in's and out's of dealing with the public, the dirt, the "unforeseeable" day in/out, and the shift work. If you worked in the field of wastewater for any amount of time, I am sure that you have had your initiating "bath of wastewater" known by another name. *WHO* in their right mind would come to work in wastewater unless you had a sense of humor?

We, as leaders, should be mentors for those employees we lead. We should be willing to share our knowledge with our employees so they can grow and eventually take our positions when we retire. We should empower these employees to become the best leaders that they can become. We need to give them everything they need to become the future leaders of the company. If not, they will go elsewhere to fulfill their needs. Empowerment is the best attribute we can give to our employees to help them become their best in their position of power. After all, we know what it takes to become a good leader but how many of us are willing to let our guards down to become that good leader?

If we as leaders were to really sit and listen to our employees, we would hear as the biggest gripe that they are unhappy with their supervisors. Common sense would then tell us that if our employees were happier with their supervisor, more work would come out of them with better results. It is so easy in today's society to become negative and we know the saying, "negativity breeds negativity". Once one person becomes negative, it spreads throughout the workforce very easily. It is much more conducive for the work environment to be positive. After all, YOU are allowed to have fun at work, as long as the job gets done! There is that old belief that

The People Place

OWEA's leadership has opted to begin a new Buckeye Bulletin article series focusing on the people side of our industry, hence the title: The People Place. Traditionally, the Buckeye Bulletin comes loaded with mountains of technical pieces: plant profiles, industry trends, regulatory insight, project overviews, etc., which, without proper 'people-care', would not be possible! After all, your organization can only be as successful as the health, wellness, and productivity of your people and culture. Focus areas planned for this series are topics such as leadership, management, health and wellness, succession planning, work/life balance, recruiting/retaining, change management, knowledge transfer, career laddering/branding, etc. We hope you enjoy this series as much as we are excited to bring it to you! If you are interested in submitting an article or specific focus area, please contact Jason Tincu. Thank you!

Jason Tincu, SW OWEA Delegate, *jtincu@brwncald.com*

one cannot have fun at work but studies have proven quite the opposite.

Once I left the actual daily operation of the plant, I learned that as time passed, I was losing some of my actual knowledge of the plants, the technical day-to-day process of operation. I think this is normal for all supervisors to lose a little of this because we no longer deal with it daily. We are kept busier with the budgeting, scheduling, strategic planning, and juggling of the meetings. We must learn to trust (another key word that should be an attribute for us) our team that while we are away from the plant, the job is getting completed and the employees are quite capable without us telling them how to do everything step by step. There are supervisors who have that "Knowledge is Power" attitude. We are doing our employees no good by not allowing them the knowledge that we accumulated over the years. Maslow's Hierarchy of needs tells us that when we meet all of the needs in his pyramid of higher needs, we become mentors on the top step. The whole purpose of becoming a mentor is to give back to our employees, to help groom them for the leadership position, most of the time, the position we are in. So many of us fail in this aspect, which ends up being a great loss for your company. After all, studies have also proven that happy employees are productive employees.

Patience truly is a virtue that not many people in today's society have. We have become such a "hurry up and go" society that if something is not there when we ask for it, we get angry. All people learn in different manners and as the supervisor, it is your job to teach in that manner. Are your employees "hands on" learners or can they learn by reading the "Operation and Maintenance (O&M)" manuals? I know for a fact that I learn by visual means, the "show me" method. You can stand there and talk until you are blue in the face but I will learn it much faster if you would just be patient and show me how. Please take the time, take a deep breath, and be more patient with your employees.

The very last attribute is knowledge. Knowledge is something you should never keep to yourself. Knowledge is something you should share with everyone, especially your employees. This old mentality of keeping your knowledge is just a fear that someone might actually become sharper and smarter than you and take your position. HOGWASH! Share your knowledge and watch your employees become awesome operators. Trust me, your operators will appreciate the time you took with them and the patience you showed them. They will become more positive in their day-to-day duties. All it takes is one little change in you and the "desire" to become a better leader for your company as well as for your private life at home. After all, we do know that who we are at work is more than likely who we are at home as well. Teach your children and employees to become the best in everything they strive for and leave your legacy as a better leader/parent.

Passings

OWEA members may complete the Roll Call form at http://www.ohiowea.org/memberships.php

Information regarding members who have passed away may be emailed to info@ohiowea.org

Tony Catanzarite, Past President, Passed Away

Anthony "Tony" Catanzarite, 87, of Wooster passed away on Saturday, January 28, 2017 at LifeCare Hospice in Wooster.

He was born November 3, 1929 in Lowellville, Ohio, the son of Dominic and Elizabeth Cusenza Catanzarite. He married Shirley Dowell on November 14, 1953. She survives.

He was a graduate of Lowellville High School and retired from the City of Wooster as Superintendent of the Waste Water Treatment Plant. He had also worked at the Riceland Golf Course.

He was a member of the Elks, the American Legion, Past President of the Ohio Water Environment Association, member of the Water Environment Federation, member of the American Water Works Association and was very instrumental in teaching in the water and waste water industry.

Tony served as NESOWEA President in 1975 and as OWEA President in 1980-1981. He was a recipient of the Dean Stewart Award, Quarter Century Operator Award, and NESOWEA Merril Riehl award. He also recieved a President's Commendation from the NE Section. He was a member of 5S and taught classes with OTCO and local classes for operators.

Tony enjoyed golfing, bowling and spending time with his grandchildren. He had coached youth football, basketball and baseball and enjoyed playing softball. He had also played Santa Claus at Ida Sue School for many years.

He proudly served his country with the US Navy.

In addition to his wife, Shirley, he is survived by his children, Antoinette "Toni" (Chuck) Sprosty, Andy Catanzarite and Tom (Laura) Catanzarite all of Wooster and Chuck (Janis) Catanzarite of Brecksville; grandchildren, Christopher Sprosty, Elizabeth (Kelly) Roberts, Carli (Mike) Garrard, Joseph Catanzarite, Clayton Catanzarite, Sarah (Kenneth) Rogers and Anthony (Korrina Morris) Catanzarite; great-grandchildren, Colton Garrard, Mila Garrard, Carter Garrard, Mirus Rogers, Amare Rogers, Marlee Catanzarite and Maverick Adkins and a brother Frank Catanzarite of Youngstown.

He was preceded in death by his parents, grandchildren, T.J. Catanzarite and Jennifer Sprosty, brothers, Joseph Catanzarite and Dominic Catanzarite, Jr. and a sister Rose Oslin.

Tony Catanzarite receiving the President's Gavel at the 1980 Annual Conference from outgoing Chairman (President) Ed Mohler. Photos originally published in the Winter, 1980 Buckeye Buylletin.

State Officers during Tony's presidency 1980-1981. Left to right: Tony Catanzarite, Chairman; Robert Cottrill, 2nd Vice Chairman; Ed Mohler, Past Chairman; Michael Foley, 1st Vice Chairman; and Larry Moon, Secretary-Treasurer.

Roll Call

COLUMBUS, Ohio – Burgess & Niple (B&N) is pleased to announce the election of three new Owners who are leaders in the water, wastewater and stormwater industry across Ohio. These appointments were effective January 3, 2017 which will expand our leadership team and reflect the firm's continued growth.

The newly elected Owners are:

Vui Chung, PE

Vui is the Director of the Treatment Plant Design Section in Columbus, Ohio. During her 29-year tenure with B&N, Vui has led the design of a wide range of water and wastewater treatment plant improvements. She excels at diagnosing and solving treatment plant problems using her assessment, planning and rehab expertise. Vui earned a Bachelor of Science in Civil Engineering from The Ohio State University.

Mark Hutson, PE

Mark is the Great Lakes Division Director based in B&N's Painesville, Ohio office. He joined B&N in 1998 and has led numerous wastewater treatment, wastewater collection, water distribution, and water treatment projects on behalf of the firm. Mark attended the University of Akron where he earned a Bachelor of Science in Civil Engineering. He serves as the Membership Chair for NESOWEA.

Brian Tornes, PE

As the Environmental Services Group Director in the Columbus, Ohio office, Brian is an environmental health and safety expert who specializes in the design of wastewater and stormwater treatment facilities for industrial clients. He leads initiatives that assist our clients with achieving overall environmental compliance. Brian earned a Bachelor of Science in Civil Engineering from The Ohio State University and joined B&N in 1990.

Brandon Fox

Brandon is now the Jackson Pike WWTP Manager for the City of Columbus. He was recently promoted from the WWTP Residuals Manager position where he managed the City's Compost Facility and biosolids beneficial reuse outlets. Brandon has been working in the Wastewater industry for 13 years and has been an active member of OWEA for the same time. He is the Past President for SEOWEA and currently serving his first year as the SE Section Delegate.

Membership Services

If you need assistance with membership details, event registration, or coursework reports, contact us at 614.488.5800 or:
Amy Davis, Executive Administrator
amydavis@ohiowea.org
Megan Borror, Office Assistant
meganborror@ohiowea.org

Perrysburg Wastewater Treatment Plant

by Ernest Shafer, Assistant Plant Manager

The City of Perrysburg was platted in 1816 by Amos Spafford, acting on the authority of the United States Congress. Earlier settlements on the Maumee River flood plain had been wiped out by ice floes and Spafford concluded that a new settlement should be placed on higher ground. Spafford was encouraged to name this new settlement after Commodore Oliver Hazard Perry to commemorate Perry's victory over the British on Lake Erie during the War of 1812. "Perrysburgh" became one of the leading ship building ports on the Great Lakes and the Wood County seat until the mid-1870s. In 1854, a Cholera epidemic nearly wiped out the city, killing over 100 of the approximately 250 residents.

"Perrysburg is now a thriving community of over 21,000 inhabitants."

Perrysburg is now a thriving community of over 21,000 inhabitants. Home to Fortune 500 Company Owens-Illinois, the City embraces its past while looking boldly towards the future. Fort Meigs - built by future President William Henry Harrison in 1813 - still commands the Maumee River rapids on the western side of town, while the historic estate of Virginia Secor Stranahan is preserved through the 577 Foundation as a nature conservancy, public treasure, and the city's gateway to the east. A historic downtown district attracts visitors to a variety of restaurants, boutiques and outdoor events while the popular Levis Commons shopping center offers a state-of-the-art blend of commercial and residential districts in the city's rapidly developing southwest corner.

The Perrysburg WWTP was built in 1958 and initially featured primary settling, grit and screenings removal, sludge digestion and drying. An initial plant expansion in 1972 added secondary treatment. The late 1980s saw another round of expansion that added additional clarifiers and digesters, replacement of vacuum-assisted drying beds with a belt filter press, and enlargement of the chlorine contact tank. A second belt filter press, an additional bar screen, and a chlorine building to house 1-ton cylinders were added in 1994. A final round of expansion began in 2005 and was completed in 2015. Jones & Henry Engineers, Ltd. designed the latest expansion from start to finish and oversaw construction of the first two phases. Peterson Construction Company of Wapakoneta was awarded contracts to build the first and final phases, with third phase oversight provided by AECOM Engineering Company. The second phase was constructed in two parts, with R.G. Zachrich Construction of Defiance awarded the contract for the first and Industrial Power Systems of Rossford completing the second. The first of the three phases added a new primary clarifier, gravity thickener and septage receiving station. Phase two included replacement of the chlorine system with UV disinfection, installation of a SCADA system, new grit chambers and bar screens, additional dewatered sludge storage, locker rooms, and kitchen facilities. The final – and largest phase – increased aeration capacity, added two additional final clarifiers, and a raw influent lift station.

The WWTP serves all of the City of Perrysburg, as well as parts of Perrysburg and Middleton Townships. There are 13 lift stations within the plant's service area

Aerial view of the plant in 2012.

Aerial view of the plant in 2015.

that convey an average daily flow of 5.7 MG. The City is nearing the end of a decade-long sewer separation project, scheduled for completion in 2018. The upgraded plant is now capable of handling an average daily flow of 8 MG and peak flows of 24 MGD. Located on a flood plain along the Maumee River, the plant is protected by an earthen dike and is capable of pumping 100% of treated effluent volume when river levels rise. Plant Manager Keith Bledsoe oversees a staff of six, including the Assistant Plant Manager, Chemist, Maintenance Coordinator, and three Plant Operators. The regular weekly work day – 7:00 AM to 3:30 PM – is supplemented by two hour shifts on weekends and holidays and 24 hour/day staffing during high flows or river flooding.

Flow is conveyed to the plant by a 42" trunk line. A new influent lift station capable of pumping peak flows of 24 MGD was constructed at the beginning of the third phase of the expansion project. Three side-by-side screw pumps – each capable of delivering up to 12 MGD – were installed to eliminate issues created when elevation changes necessitated by the new headworks building caused the trunk line to "back up." Two parallel grit tanks, aerated by Kaeser Kompressor CB130 Tri-Lobe blowers, empty into a channel which can convey flow to the "new" screen building constructed in 2011 or to the old building - upgraded during the 1994 expansion. Both buildings feature parallel Parkson Aqua-Guard screens. The new building washes and dewaters collected screenings with a Parkson Hycor press. Both screen buildings direct flow through a Parshall flume where influent flow is measured and sampled.

After the Parshall flume, recycle flows from the belt filter press, storm water, and overflow from the gravity thickener are combined with the influent and are gravity-fed to a primary splitter structure. Flow can be directed to a 66' diameter primary clarifier built in 2007, or to the four old rectangular primary clarifiers – the oldest of which date back to the original plant built in 1958. The rectangular clarifiers can be used to collect recycle flows when out of service, allowing ammonia-laden belt press underflow to be fed into the plant during low flow periods. Primary sludge can be pumped directly to the anaerobic digesters or to the gravity thickener. Primary effluent flows to a common chamber where it is directed to two splitter boxes that feed the aeration basins and mixed with RAS flow from the final clarifiers.One splitter box feeds the two original aeration trains – the other feeds the newest aeration train built in 2014. The older, original splitter box has a WAS chamber with flows controlled by a motorized weir gate. WAS flows from this chamber can be pumped directly to the thickener or comingled with the raw influent and recycle flows and settled in the primary clarifiers. Ferrous chloride for Phosphorus removal is fed to the mixing chamber of each splitter box. A separate feed point at the effluent end of the aeration tanks can be used for feeding Ferric or other chemicals that don't require oxidation. Each aeration train consists of three tanks (22' x 102' x 13.5') that operate in series. With every train in operation, aeration capacity is approximately 2.07 MG. The existing tanks were retrofitted – and the new tanks designed with – motorized gates that can be programmed to automatically shift the plant to step-feed or contact stabilization mode.

Air is provided by six blowers. Four existing Hoffman centrifugal blowers are supplemented by two new Siemens KA5SF-GK200 blowers installed with the 2014 expansion. The Siemens blowers are programmable and can be controlled to meet set points for air flow or dissolved oxygen. Variable drives allow the Siemens blowers to ramp up and down to meet demand. The Siemens control system also modulates flow between each aeration pass by opening and closing valves in the air piping. Hach in-line DO probes give feedback to the control system, which makes blower and valve adjustments accordingly. While the Hoffman blowers are not variable and cannot be controlled by the Siemens system, the valves in the air system can still be automatically controlled and adjusted to deliver air where needed when the old blowers are in use. As part of the 2014 project, the existing aeration tanks were cleaned and diffusers replaced. Existing

View from the lab roof in 1986.

View from the lab roof today.

fiberglass and aluminum stop plates were also removed and replaced with stainless steel.

Mixed liquor flows from the aeration basins to two final settling splitter boxes. The existing final splitter was retrofitted with new, motorized gates and directs flow to the four old final clarifiers. A new splitter box feeds two new Evoqua perimeter flow clarifiers. The two oldest final clarifiers - 50' in diameter and less than 10' deep – are typically not used, but are maintained and available when the other clarifiers are being serviced. Two Eimco clarifiers built in the late 1980s are 70' in diameter and 12' deep. They were retrofitted with effluent channel covers to inhibit algae growth. RAS flow from these clarifiers can only be sent to the splitter box that feeds the two older, original aeration basins. The two new Evoqua perimeter feed clarifiers are 66' in diameter and are also 12' deep. The new RAS building contains four Flo-Serve RAS pumps and Flo-Serve pumps for WAS, scum, and treated effluent for the gravity thickener. WAS can be pumped directly to the gravity thickener, or fed to the splitter box immediately ahead of the primary settling tanks. RAS can be pumped to both aeration tank splitter boxes, with a programmable valve controlling ratios based on operator input. Pumping treated effluent to the gravity thickener maintains a constant overflow and helps alleviate septic conditions.

Treated effluent is disinfected by a Trojan UV system installed in 2011. Two banks of 12 modules operate in series, with both banks activated during high flows. The system is enclosed in a heated building, making off-season maintenance relatively easy. The final effluent sampler is also located in the UV building and protected from the elements. After disinfection, flow leaves the plant under gravity during normal conditions. At high flows, or when river levels are elevated, effluent pumping becomes necessary. Two variable-drive, Cascade effluent pumps are controlled by a level indicator immediately downstream from the UV system. When flows exceed their capacity, the four original effluent pumps – each capable of pumping 4.7 MGD – are available to assist. The four older pumps were removed, overhauled, and reinstalled as part of the 2014 expansion. Combined, the six pumps are capable of pumping over 28 MGD – enough capacity to handle peak flows of 24 MGD. Effluent pumping is typically necessary during high flows and periods of river flooding. Ice jams in the Maumee River downstream from the plant often create localized flooding during the spring thaw and can necessitate effluent pumping even when flows wouldn't otherwise dictate.

"Through diligent planning and the financial commitment of our citizens, we are well-equipped to preserve water quality for current and future generations."

Like the city it serves, the Perrysburg WWTP is poised for future growth and dedicated to protecting the environment and providing value to residents. The scenic, historic Maumee River is both a beautiful backdrop and an invaluable public resource. From spring Walleye fishermen to summer kayakers and canoers, reaching from the foot of Orleans Park to the western Lake Erie basin, our water is the lifeblood of the Great Lakes region. Through diligent planning and the financial commitment of our citizens, we are well-equipped to preserve water quality for current and future generations.

The Perrysburg Wastewater Treatment Plant was first mentioned in the Buckeye Bulletin upon its construction in 1958. Please enjoy the excerpt on the next page.

RAS Pump Room

Siemens Blowers

Buckeye Bulletin History

Stay tuned through 2017 as we share a little Buckeye Bulletin history in each issue.

Enjoy the evolution of covers we have used and compare Perrysburg WWTP in 2017 to the first Plant Profile from 1958.

• • • •

VILLAGE OF PERRYSBURG, OHIO

The Village of Perrysburg placed its new sewage treatment plant in operation during the month of March, 1959.

The plant is located on the lowlands adjacent to the Maumee River northwest of the Village.

Typical of most suburban communities adjacent to metropolitan centers, the Village has experienced a substantial population growth since World War II. The 1950 census indicated a population of 3,989, but a local census taken in 1956 counted 5,197 persons in the Village.

The sewage treatment plant is designed for a population of 10,000 persons, estimated to be tributary to the plant in 1980. The sludge digestion facilities are designed for a tributary population of 11,250. The plant is designed for an average flow of 1 mgd.

Primary treatment facilities are included, with provisions for the addition of chemicals with air agitation during periods of low flow in the Maumee River. The sewage treatment plant units include comminuting facilities, an aerated grit chamber, air mixing facilities, two primary settling tanks, a parshall flume, two sludge digestion tanks and sludge drying beds. Facilities for chlorination are also provided.

The sewage treatment plant is unusual, particularly for northwestern Ohio, because no sewage pumping is required on the entire sewerage system. Gravity flow is provided for all portions of the Village into the sewerage system, through the sewage treatment plant and into the Maumee River. This is possible because the Village is located on relatively high land overlooking the Maumee River.

The northern portion of the Village is served by combined sewers which formerly discharged into the Maumee River. The southern portion of the Village is partially served by inadequate combined sewers which formerly flowed into Grassy Creek, a tributary of the Maumee River. A new sanitary sewer system is presently planned for the southern portion of the Village.

In addition to the sewage treatment plant, the project included the construction of intercepting sewers paralleling both the Maumee River and Grassy Creek, a sewer serving to connect the two interceptors and an outfall sewer from the sewage treatment plant to the Maumee River.

The complete cost of the entire project is approximately $763,000, including a federal grant of approximately 30%.

George Kuszmaul has been engaged by the Village as Superintendent of Water and Sewerage. Finkbeiner, Pettis and Strout, Consulting Engineers, of Toledo, Ohio, were responsible for the design and supervision of construction of the project, and have presented the information through Mr. H. W. Hauenstein.

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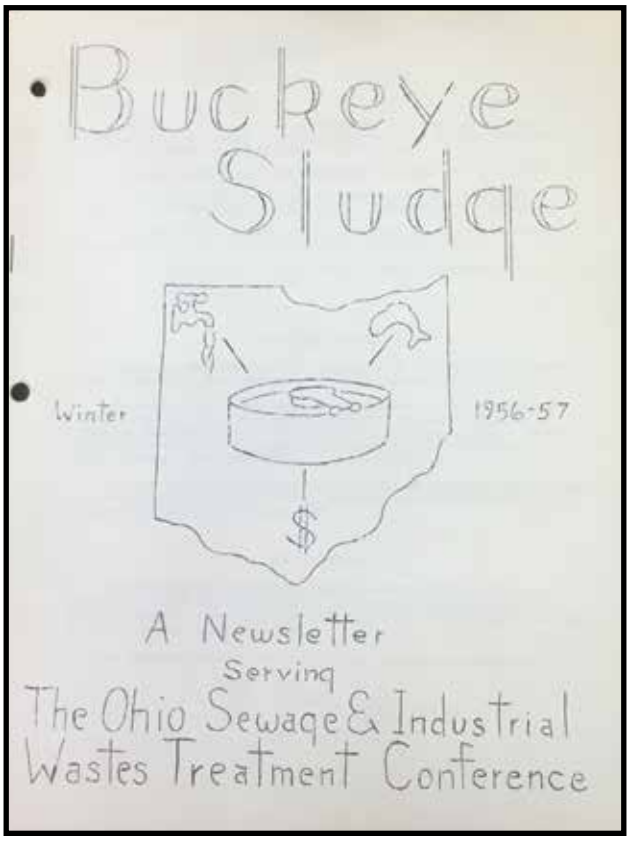
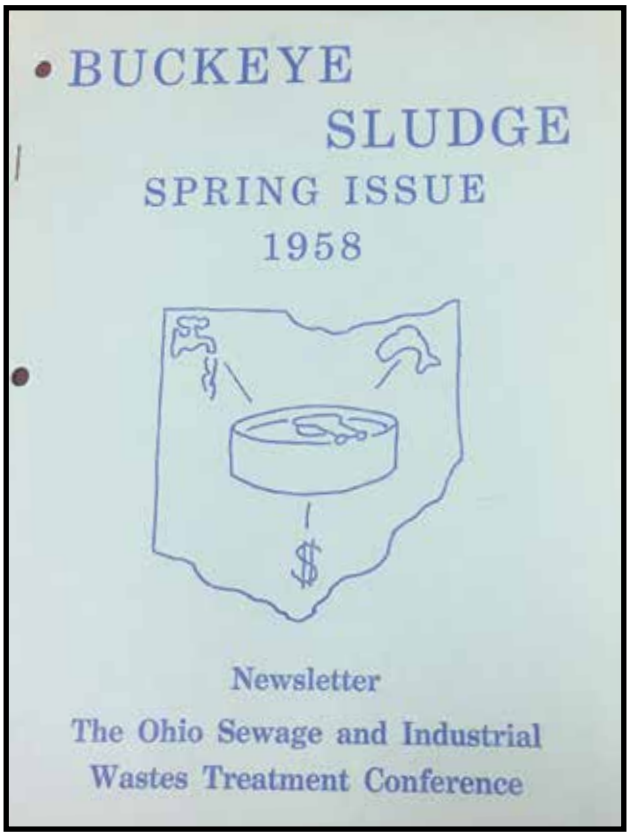


Cover thru 1957. Oldest issue in OWEA archives.



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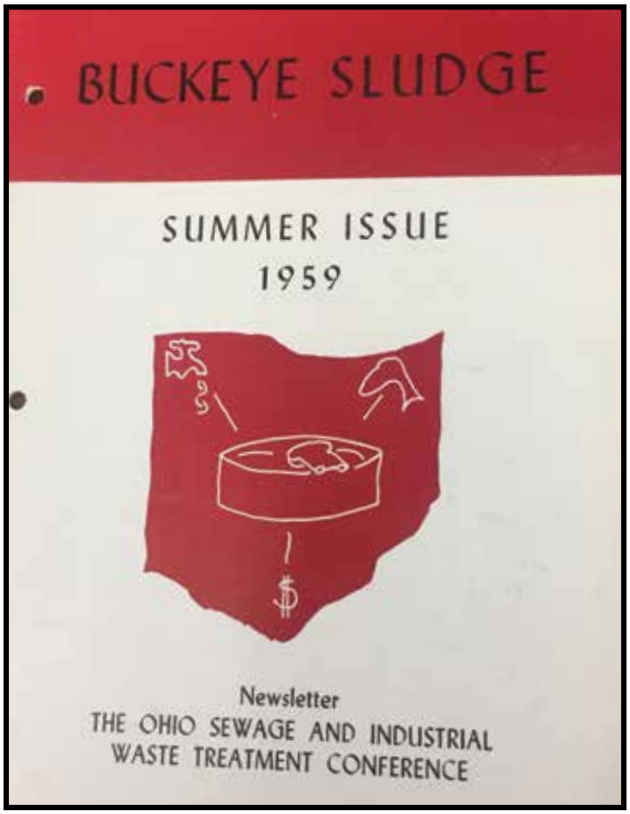

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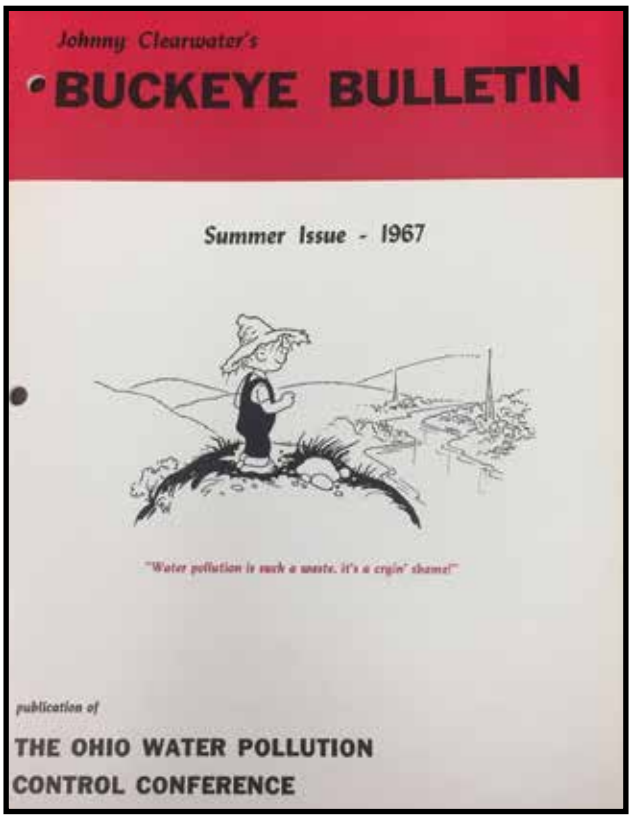

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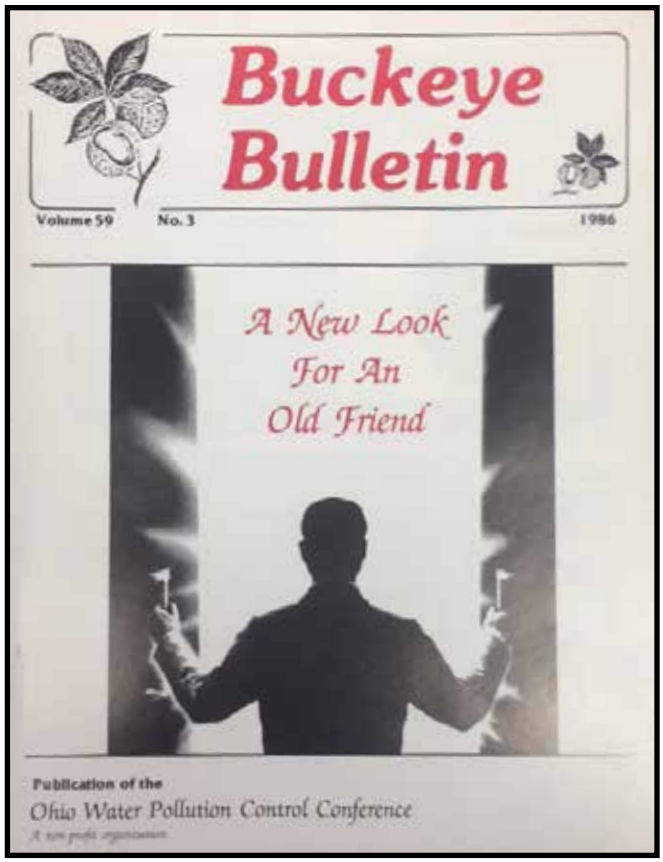

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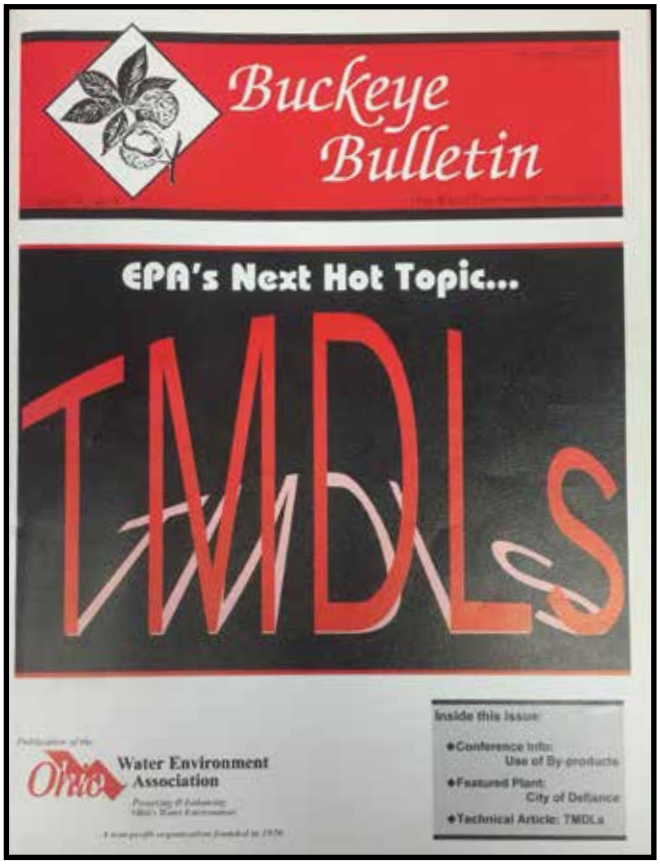
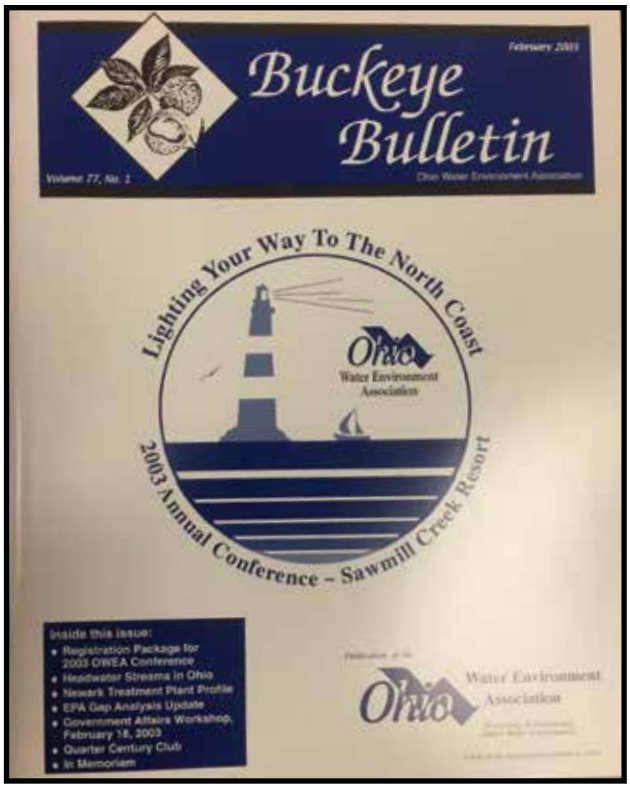
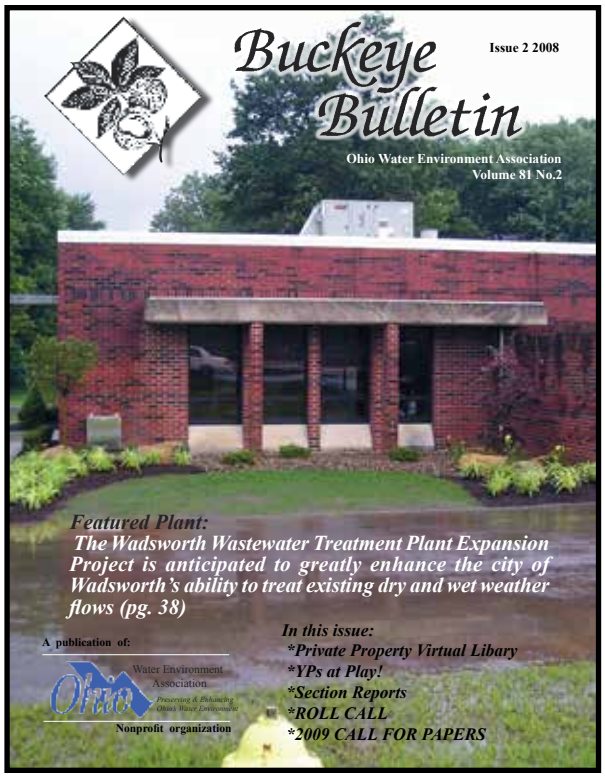


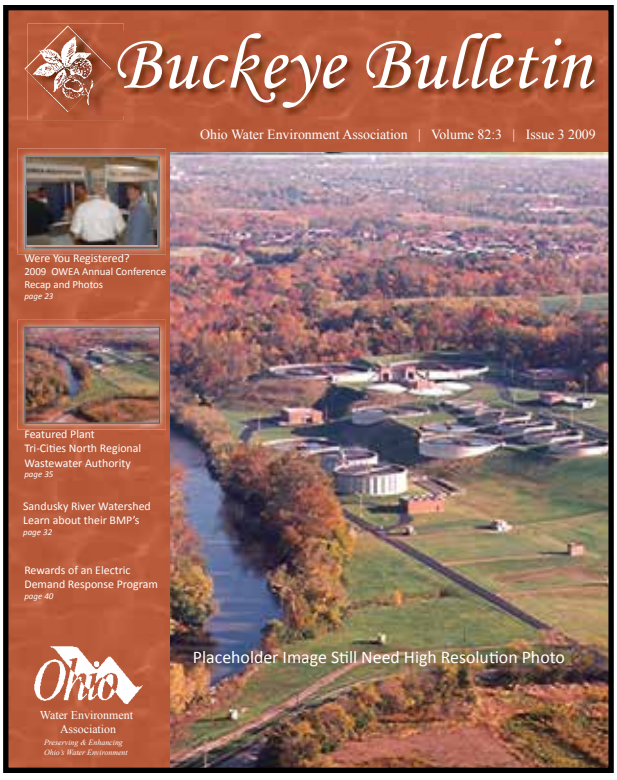
Cover 2000 - 2002.



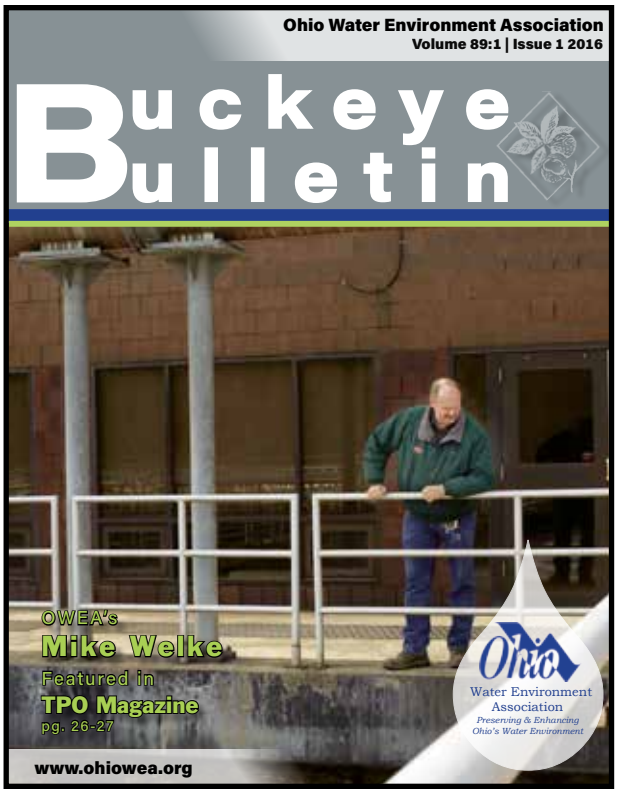
Cover 2003.



Cover 2004 - 2008.



Cover 2009 - 2015.



Cover 2016 - present.

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Ted Baker, OWEA Sponsorship Committee Chair
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Points	Description
Speciality Workshop Registration	
3	Government Affairs Attendance
3	Collections Attendance
6	Plant Operations/ Laboratory Analysis Attendance
3	Biosolids Attendance
Golf Outing	
1	Golf Hole Sign
2	Golf Event Sponsor (i.e. Long Putt, Pin shot, Long Drive)
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7	Golf Foursome
9	Premier Golf Sponsor (1 Foursome, 1 Sign, 1 event)
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7	Full Booth Registration 2017 Conference for 1/2 Price
8	Full Registration 2017 Conference
12	Full Booth Registration 2017 Conference
4	Tuesday Only Registration 2017 Conference
4	Wednesday Only Registration 2017 Conference
3	Thursday Only Registration 2017 Conference
5	Extra Meet & Greet Ticket - Tues
2	Extra Banquet Ticket - Wed
Buckeye Bulletin Advertising	
5	1/8 Page ad in 1 issue of the 2017 Buckeye Bulletin
9	1/4 Page ad in 1 issue of the 2017 Buckeye Bulletin
13	1/2 Page ad in 1 issue of the 2017 Buckeye Bulletin
17	1 Page ad in 1 issue of the 2017 Buckeye Bulletin

ROLLIN' DOWN THE RIVER

OWEA2017 Technical Conference & Expo

Save the Dates!

June 26-29, 2017

The Hyatt Regency, Downtown Cincinnati, Ohio

The 2017 OWEA Annual Conference is **Rollin' Down the Ohio River!** You are invited to join us for valuable education and networking opportunities with others in the water quality and environmental fields.

- Multiple Technical Tracks and Sessions
- 80+ Exhibitors and Educational Tours
- 2017 Operations Challenge Invitational
- Facility Tours
- OWEA Awards Brunch, Annual Meeting and Banquet
- Meet and Greet Event with Entertainment
- Contact hours for sessions and tours
- And so much more!

Topics for 2017

- Protecting our Waterways
- Nutrients
- Storm Water
- Energy Sustainability
- Green Technology
- Improving Maintenance
- Innovative Operations
- Biosolids / Solids Recovery
- Innovative Regulatory Approaches
- Laboratory and Safety
- Wastewater Collections

Hosted by the Southwest Section
For information, contact:

Marty Davidson
Conference Co-Chair
513.889.4746
marty@blanderson.com

Sharon Vaughn
Conference Co-Chair
937.333.1860
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Sponsors committed as of 2/27/17.

Schedule | Monday, June 26 - Thursday, June 29

Monday, June 26

8:00 a - 9:00 p	Registration
9:00 a - 5:00 p	Ops Challenge Events
8:00 a - 5:00 p	Golf Outing
5:00 p - 9:00 p	Exhibitor Setup
6:00 p - 10:00 p	Welcome Social

Tuesday, June 27

7:00 a - 5:00 p	Registration
7:00 a - 10:00 a	Exhibitor Setup
8:00 a – 9:30 a	Exhibitor Breakfast
10:00 a - 5:00 p	Exhibit Hall Open
8:30 a - 10:30 a	Awards Breakfast
10:30 a – 11:30 a	OWEA Annual Business Meeting
11:15 a - 4:00 p	Spouse/Guest Program
11:00 a - 12:00 p	Exhibit Hall Tour (earn one contact hour)
12:00 p – 1:00 p	Lunch in Exhibit Hall
1:00 p - 2:30 p	Round Table Seminar
1:30 p - 2:30 p	Exhibit Hall Tour (earn one contact hour)
1:30 p - 3:30 p	Mill Creek WWTP Tour (earn one contact hour)
4:00 p - 5:00 p	Exhibitor Reception – Including Ops Challenge Awards
5:00 p - 6:00 p	Exhibit Tear Down
6:00 p - 10:00 p	Meet & Greet – The Freedom Center

Wednesday, June 28

7:00 a - 5:00 p	Registration
7:00 a - 8:00 a	Crystal Crucible Breakfast (by invitation)
7:00 a - 9:00 a	Breakfast
8:00 a - 11:30 a	Technical Sessions (4 Concurrent Sessions)
9:15 a - 4:00 p	Spouse/Guest Program
11:30 a - 1:00 p	Lunch
11:30 a - 1:00 p	President's Luncheon (by invitation)
1:00 p - 4:45 p	Technical Sessions (4 Concurrent Sessions)
6:00 p - 7:00 p	Reception – 5S Induction
7:00 p - 9:30 p	Annual Banquet & Awards
9:30 p – 11:00 p	After Banquet - Drinks, Desserts, and Music

Thursday, June 29

7:00 a - 11:00 a	Registration
7:00 a - 9:00 a	Breakfast
7:00 a - 8:00 a	5S Breakfast (by invitation)
8:00 a - 11:30 a	Technical Sessions (4 Concurrent Sessions)
11:30 a - 1:30 p	Conference Committee Lunch (by invitation)

Registration Options

Early Registration - by May 31st:

Full Conference Member	$295
Full Conference Nonmember	$425
Retired Member Full Conference	$175
One Day Only Member	$165
One Day Only Nonmember	$225
Student	$50
Spouse/Guest Program	$160

Late Registration - June 1 and after:

Full Conference Member	$350
Full Conference Nonmember	$475
Retired Member Full Conference	$225
One Day Only Member	$195
One Day Only Nonmember	$265
Student	$75
Spouse/Guest Program	$210

Budget Options*

Tues Tech Sessions & Exhibition	$50
Wed Tech Sessions & Lunch	$75
Thur Tech Sessions - 1/2 Day	$50

*This option for attendees who only want to attend Technical Sessions on Tues, Wed, or Thur, or walk the Exhibit Exposition on Tuesday. Except for lunch on Wed, which is included, food/beverages/networking events are not included in this price.

Multiple Day Combo Available

Exhibitor Registration:

Includes Full Conference Registration for Primary Exhibitor

Member Exhibitor	$700
Nonmember Exhibitor	$875
Extra Booth Attendant (2 max)	$50

Golf Registration:

Foursome	$360
Individual Golfer	$90
Hole Sponsorship Sign	$250 each

OWEA 2017 Sponsorship Levels:

Titanium	$7500
Platinum	$6000
Gold	$4500
Silver	$3000
Bronze	$1500
Copper	$1000
Nickle	$500
Golf	$250
Sustaining	$250

Register online ***www.ohiowea.org***

2017 Operations Challenge Invitational | Monday, June 26

The Ohio Water Environment Association is proud to announce they will host an Operations Challenge Competition and National Invitational as part of the 2017 Technical Conference and Exhibition.

$50 Team Registration (up to 5 people) includes:

Monday Morning - Continental Breakfast
Monday Lunch
Monday Night - Welcome Social at Hyatt Regency
Tuesday's Awards Breakfast
Tuesday's Meet & Greet at The Freedom Center

Registration and details at *ohiowea.org*

Process Control Event

This event consists of a written test and computerized process simulator meant to evaluate an operator's knowledge of WRRF process control. The written test is made up of four main sections: short math, multiple choice, extended multiple choice and longer process scenario questions. Point values range from 10 for multiple choice to 200 for the process control scenarios in the written portion. The process simulator will be run by each team on a laptop that will be provided. The process simulation software is provided by Hydromantis and will be the same for each team. Each scenario lists a set of goals and points are awarded for the number of goals achieved.

Laboratory Event

All week long your ammonia levels have been creeping up at the plant effluent... the laboratory tech is on vacation and you have to get to the bottom of this before the boss gets involved. The purpose of this event is to familiarize teams with the definition and concept of alkalinity and how it impacts plant operations. Team members will be required to run straight and diluted samples of influent ammonia and alkalinity to determine basic alkalinity needs of the treatment plant based on these values. Calculations will be performed to determine if there is adequate alkalinity to complete nitrification or if supplemental alkalinity would be needed. Bench sheets will need to be completed properly in addition to proper performance of such techniques as measuring with graduated cylinders, pipetting and analysis of pH, alkalinity and ammonia using instruments provided.

Some Ops Challenge events will take place during the Monday Welcome Social

Safety Event

While your WRRF facility crew is working, one of the workers collapses in the bottom of a confined space lift station. It is suspected that he/she has been overcome with an unknown gas or lack of oxygen due to a warn 4" check valve gasket in the station. The in-plant rescue / repair team is immediately called to the scene. Two members of the team will enter the confined space, rescue the downed worker and repair the check valve. Two gate valves will be closed and locked out/ tagged out by the entrants, the check valve flapper and gasket will be replaced and the line put back into service. Tools and equipment will be lowered to them by the attendants and all proper confined space entry protocols will be followed during the rescue and repair completing just another day in the life of a WRRF operator!

Collection Systems Event

How long do you think it would take you to cut through an 8" SDR-35 pipe with a hand saw? No battery powered Sawzall® here. 30 seconds…how about 45 seconds? Unless you can be around 20, don't even try. The object of the Collections Event is to cut out a 1' – 2' section of broken sewer line from a six foot long pipe, replace it with another unbroken section using two Ferncos®, and install a new saddle connection on the fresh pipe. You have four team members: who cuts what, and when? Choreographed chaos is the best way to describe the event. Complete the whole thing in less than two minutes and you might just be fast enough to be the winners.

Maintenance Event

Weather in Ohio is always changing, wait an hour it will go from winter to summer. Imagine a summer thunderstorm. A lightning strike has knocked out the power and fried the control panel at a remote lift station. It is time to mobilize your trailer mounted engine and pump set. Before you can take the trailer out, you have to be sure it will work. Your team must perform maintenance on the trailer, engine, and pump. Check the tires, change the filters, vacuum test the pump – just a sample of the tasks to be completed. Wheel the trailer over to the model wet well, then attach the suction and discharge hoses, program the engine and pump control unit, and away it goes. Remember move quickly…the Mayor's house is the first lateral up from the lift station!

Ops Challenge Awards will be presented on Tuesday at the Exhibitor Reception.

2017 Golf Outing | Monday, June 26

City of Mason Golf Center

6042 Fairway Dr, Mason, OH 45040

CITY OF MASON OHIO
THE GOLF CENTER

The foursome includes: 18-holes of golf, cart, driving range & practice facility, light breakfast, lunch, dinner, beverages and prizes.

Golf Hole Sponsor Signs available.

Welcome Social | Monday, June 26, 6:00 pm to 10:00 pm

Eric Jeradi will be performing to start off Rollin' Down the River!

Eric Jerardi, of the Eric Jerardi Band, is considered a true blues rocker.

It's his relentless commitment to touring that has resonated so deeply with audiences. His live shows are legendary across markets in the United States. This commitment has picked up sponsorships with Fender Guitars, Budweiser, and S.I.T. strings. Jerardi has released 7 CD's since 1995 and has worked with some of the industry's best, from producer David Z (Prince, Fine Young Cannibals, Johnny Lang, Etta James), to recording with Chuck Leavell (Rolling Stones, Allman Bros., Black Crowes). Jerardi is musically having the time of his life with the release of The Eric Jerardi Band's new cd "Everybody's Waiting On Me". Jerardi began his musical career with winning a battle of the bands contest in 1989 at Ohio University. Two years later, Jerardi won another contest at OU, which secured a spot on MTV as the Midwest's Best Unsigned College Band. Over the years, he has shared the stage with Little Feat, Robin Trower, and Jim Belushi at the House of Blues, Chicago and LA; played with Eric Johnson on Cape Cod; jammed with Keith Urban, Wynonna, and Kenny Chesney in Nashville; and headlined B.B. Kings in Memphis, Nashville, LA, and Manhattan. He has played in countless blues festivals, major concerts, and a myriad of other shows around the country for the last 25 years.

Exhibition | Tuesday, June 27

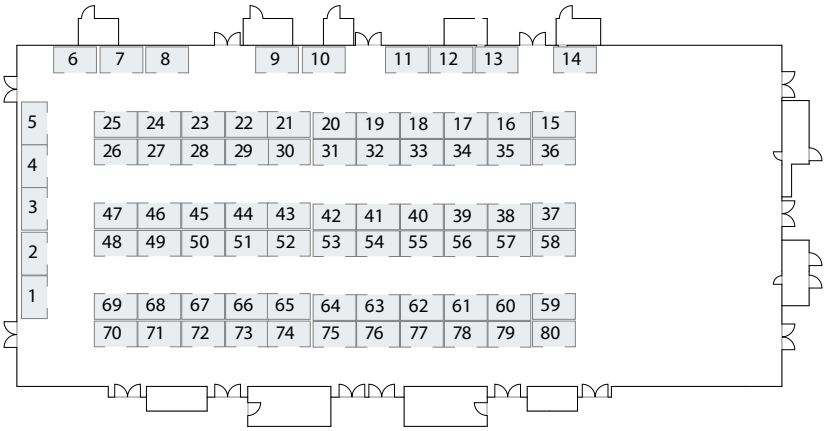
Exhibitor spaces are limited so reserve your booth now!

The Exhibition will be held at Hyatt Regency in Cincinnati, Ohio. The Exhibit Hall will be open Tuesday from 10:00 am - 5:00 pm, with two Exhibit Hall Tours for one contact hour each from 11:00 am - 12:00 pm and 1:30 pm - 2:30 pm. The exhibition will conclude with a reception from 4:00 pm - 5:00 pm in the exhibit hall.

Register online at **www.ohiowea.org.** or contact OWEA at 614.488.5800/*info@ohiowea.org*.

Registration includes one full conference registration for primary exhibitor:

$700 for OWEA members
$875 for Nonmembers
Additional Booth Attendants:
$50 includes Exhibition access and Tuesday brunch



Mill Creek WWTP Plant Tour | Tuesday, June 27, 1:30 pm to 3:30 pm

METROPOLITAN SEWER DISTRICT of greater CINCINNATI

The Mill Creek Wastewater Treatment Plant (WWTP), which began operations in 1959, is MSD's largest wastewater treatment plant, treating about 100 million gallons of wastewater a day. The plant serves our customers in central Hamilton County, from the northern county border to the Ohio River. MSD's Watershed Operations division is also housed at the treatment plant. **Bus leaves at 1:00 pm from Hyatt Downtown Cincinnati to Mill Creek WWTP.**

1600 Gest Street, Cincinnati, OH 45204, (513) 244-5522.

Round Table Technical Session | Tuesday, June 27 (1.5 contact hours)

TUESDAY ROUND TABLE	
1:00 - 2:30 pm	
Nutrient Load Reductions: Policies for Diverse Perspectives ***Adrienne Nemura, Geosyntec Consultants and Jeff Rexhausen, University of Cincinnati***	Ohio's statewide nutrient reduction strategy and collaborative implementation strategy for Lake Erie rely on reductions from the municipal wastewater/stormwater and agricultural sectors. This panel presentation will explore the scientific and economic challenges facing these sources. It will also provide unique perspectives on commonalities and differences between the two sectors.

Awards Breakfast | Tuesday, June 27, 8:30 am to 10:30 am

Kickoff the conference by getting together with your peers to honor the best in our industry. The Awards Breakfast will be held on Tuesday, June 27 at 8:30 a.m. After a hot breakfast the OWEA awards will be presented to those individuals that have shown exemplary service and dedication to our industry. Be there not only to congratulate those award winners but also the Crystal Crucible and Golden Manhole winners. The 5S inductees will be announced with their induction to take place at the cocktail hour before the banquet. Eileen O'Neill, WEF Executive Director, will also be there to address us and let us know what is going on at the Water Environment Federation.

Ohio AWARDS

OWEA Annual Business Meeting | Tuesday, June 27, 10:30 am to 11:30 am

Do you know what happens during the year in OWEA? Do you know who represents your Section or who are committee chairs? This is the time to find out about YOUR Ohio Water Environment Association. The Annual Business Meeting gives the membership a chance to see and hear how and what the Association has been doing. Information shared includes financial reports, organizational news, committee news, ongoings of the Sections and a little from WEF. Join us after the Awards Breakfast before you engage with the exhibitors.

Exhibit Hall Tours | Tuesday, June 27, 11:00 am to 12:00 pm and 1:30 pm to 2:30 pm (1 contact hour per tour)

Each tour will include four 15 minute sessions in the exhibit hall, educating attendees about new technology, systems, and BMP's in various aspects of water reclamation and treatment.

OWEA's exhibitors typically include representatives from collections, treatment, stormwater, instrumentation/SCADA, laboratory services, and consulting engineers. Exhibit tours are a great way to get updates on trends and innovations nationwide as exhibitors include both local and national companies. Sign up for exhibit tours the day of the Exhibits!

OWEA Needs Your Help

A Successful Conference is absolutely dependent on the contributions of time and effort from volunteers. From planning to executing, there are so many tasks to be completed. If interested in helping out, contact:

Megan Borror, *meganborror@ohiowea.org*, 614-488-5800.

You can also sign up using the online form at *www.ohiowea.org.*

Registration: Monday - Thursday
Golf Volunteers: Monday
Exhibit Tour Monitors: Tuesday
Exhibit Hall Assistants: Tuesday
Sign Wranglers: Tuesday - Thursday
Ticket Takers: Tuesday and Wednesday
Moderators: Tuesday - Thursday
Monitors: Tuesday - Thursday

Meet and Greet | Tuesday, June 27, 6:00 pm to 10:00 pm at The Freedom Center

Opened on the banks of the Ohio River in Cincinnati in 2004, the mission of the National Underground Railroad Freedom Center is to reveal stories of freedom's heroes, from the era of the Underground Railroad to contemporary times, challenging and inspiring everyone to take courageous steps of freedom today. The Freedom Center overlooks the Ohio River and will provide an excellent venue for the much anticipated Meet & Greet. with live performance by My Sister Sarah.

My Sister Sarah has been considered to be one of Cincinnati's most successful and popular "Dance/ Party/Show" bands. The band is composed of four truly ridiculously talented and hilarious guys from diverse backgrounds. They have built a reputation for having very high energy performances, stage props, costumes, and unique adaptations and medleys of popular songs. A state-of-the-art sound system and light show complements our high-impact performances. Each show is a memorable experience as they draw the audience into their world, and make them feel like they are part of the show. This is a definite "crowd participation" band. All this combined makes My Sister Sara Cincinnati, Ohio's premier "show" band.

Reception & Annual Banquet | Wednesday, June 28, 7:00 pm to 9:30 pm

After a long day of technical sessions, unwind at the reception before the Annual Banquet. Watch and listen to the induction of this year's 5S class. Following that ceremony, join your fellow attendees at the annual banquet. Sit with those you already know, met during the conference or make new friends!

After a wonderful dinner, the WEF Awards will be presented to our prestigious award winners by WEF Executive Director, Eileen O'Neill. OWEA President, Ted Baker, will have outgoing remarks before he hands over the gavel to incoming OWEA president, Jamie Gellner. The conference couldn't be successful without our sponsors. All of our sponsors will be recognized for the support they give OWEA throughout the year.

Ted Baker
OWEA President

Jamie Gellner
OWEA President-Elect

Eileen O'Neill
WEF BOT Representative

wef member association

Enjoy the live performance of the The Rusty Griswolds at the 2017 Annual Banquet. The Rusty Griswolds have been performing; bringing energy as only they can to the best music of the 80's. A local favorite, they were voted Best Party / Cover Band in 2004, 2005, 2006, 2007, 2010, 2011 and 2012 by the readers of Cincinnati's City Beat Magazine. The Rusty Griswolds have performed close to a thousand times since forming in 1999. When they're not here, they're playing everywhere from local bars to Reds games, Party in the Park, Live at the Levee in Newport, and a rigorous church festival circuit in summers. And just about everywhere they go, they're greeted by equally enthusiastic throngs of mostly 30-to-50-somethings, singing and dancing along like star-struck teens. How did an '80s cover band comprised of middle-aged men in parachute pants achieve rock star status in Cincinnati? The story starts with a handful of band geeks from Oak Hills High School who played Green Township's Harvest Home Fair on a whim in 1980. A group of friends, really—some of whom have known each other for upwards of 40 years—who just like playing music together.

WEDNESDAY MORNING TRACKS				
Time	**Energy**	**Operations**	**Collections**	**Maintenance**
8:00 - 8:30	**Small Wastewater Plants Can Save Money Too** *Ryan Brauen, Wessler Engineering*	**Filters or Settling? Cost Savings by Addressing the Cause - Not the Problem (And Other Benefits)** *Scott Phipps, Hazen and Sawyer*	**Large Diameter Sewer Assessment – When to Take It to the Next Level?** *V. Firat Sever, American Structurepoint, Inc.*	**Digging Deeper to Save the City of Dayton Over Half a Million Dollars on Their RAS and WAS Upgrades.** *Chris Weber, RA Consultants*
8:30-9:00	**Harvesting Operational Inefficiency: Strategies to Succeed in Energy Savings Performance Contracting** *Pete Thomson, Black & Veatch*	**Easterly WWTP - Dry and Wet Weather Treatment Strategies** *Robert Bonnett, NEORSD*	**Miamisburg Ohio, CMOM and Sewer Inspection and Rehabilitation Program** *Sean O'Rourke, Hazen and Sawyer*	**A Comparison of Low-Pressure Membrane Module Performance in a Difficult Secondary Effluent Application** *Jamie Bain, WesTech Engineering*
9:00 - 9:15 Break				
9:15 - 9:45	**High Speed Blower Installation Cuts Electrical Costs and Improves Operations** *Tom Schaffer, Hazen and Sawyer*	**Master Planning Ohio's Fastest Growing County** *Joe Crea, Raftelis Financial Consultants*	**Putting First Things First: NEORSD's Prioritization Process for Gathering Local SSES Data In Support of Member Community Infrastructure Program – Heights Hilltop Interceptor Area** *Andy Lukas, Brown and Caldwell*	**Clarifier Tests Reveal Greater Capacity for Mill Creek WWTP** *Chad Cecrle, Black & Veatch*
9:45-10:15	**Comparing Aeration Blower Technologies on a Wire to Air Basis** *Andrew Balberg, Lone Star Blower*	**Implementing SRT Control at the NEORSD Southerly WWTC Stabilizes Operations and Reduces Costs.** *Don Esping, Brown and Caldwell*	**Cost-Effectively Upgrading an Old, Combined Sewer Pump Station** *Alison Schreiber, NEORSD*	**Case Studies on Recognizing and Replacing Aged Trickling Filter Media** *Larry Li, Brentwood Industries, Inc.*
10:15 - 10:30 Break				
10:30-11:00	**Stirling Engine for Biogas: Gas Scrubbing Not Required** *Brian Mitchell, WesTech Engineering, Inc.*	**Maximizing Pumping Capacity Using Screw Centrifugal Pumps** *Jason Lee, ARCADIS*	**Tunneling Through Time** *Nicholas Sheffield, Stantec*	**Innovative Improvements To Muddy Creek WWTP Grit Removal System - No Space -No Problem.** *Dinesh Kumar Palaniswamy, JACOBS*
11:00 - 11:30	**How to double your biogas dollars** *David Wrightsman, Energy Systems Group*	**Upgrades for a Critical Wastewater Pump Station** *Robin Rupe, NEORSD*	**A Step Towards CSO Elimination: Sunset Ave. Sewer Separation** *Michelle Iannicca, HDR*	**NEORSD Southerly WWTC – Grease Removal System O&M Benefits** *Jeff Ifft, Brown and Caldwell*

WEDNESDAY AFTERNOON TRACKS				
Time	**Regulatory**	**Operations**	**Biosolids/Green Infrastructure**	**Collections**
1:00-1:30	**Capturing Community Collaboration for Innovative Stormwater Strategy** *DJ Wells, Permacultur Engineering*	**Failure Analysis Helps Improve Continuous Sewer Assessment Program** *Bo Copeland, Hazen and Sawyer*	**The Reality of Biosolids Land Application** *Bob O'Bryan, Black & Veatch*	**Next Generation of Sewer Modeling - Isolating RDII Sources** *Hazem Gheith, ARCADIS*
1:30-2:00	**Using Natural Systems to Accomplish Stormwater Separation and Water Quality Goals** *Jason Abbott, Arcadis*	**Managing the Useful Life of Segmented Block Sewers** *Dianne Sumego, Black & Veatch*	**Following up after ten years... an updated long term Residuals Plan** *Andrew Bennett, Hazen and Sawyer*	**Sanitary Lateral Issues, Repair Methods and Costs, Ordinances, and Financing** *Brent Siebenthal, Wessler Engineering*
2:00 - 2:15 Break				
2:15-2:45	**SSO 700 IWAP: Development of an Integrated Water Quality Modeling Framework** *Katie Bollmer, CH2M*	**Overflow Control Using Chemically Enhance High Rate Treatment** *Doug Dietzel, NEORSD*	**Bulk Food Waste as a Viable Revenue Source: Market Assessment** *Mark Strahota, Hazen and Sawyer*	**The Westerly Storage Tunnel and Dewatering Pump Station: How to Hit a Moving Target** *David Gleason, Stantec*
2:45-3:15	**Collaboration Across Boundaries to Achieve Integrated Watershed Management** *Brandon Vatter, Mott McDonald*	**Resolving Operational Issues at the Newark WWTP Using a Collaborative Approach Involving an Industrial Discharger** *Sam Jeyanayagam, CH2M*	**Case Studies Using Rare Earth Technology to Achieve Low Level Phosphorus Limits** *Pam Cornish, Neo Performance Materials*	**OEPA CSO Overflow Reporting – Regional Sewer District Reviews & Updates Process** *Lita Laven, NEORSD*
3:15 - 3:30 Break				
3:30-4:00	**Continuous Calibration of a Model Using a Robust Set of Data** *Victoria Berry, CH2M*	**My journey to create the work culture I always wanted.** *Christen Wood, NEORSD*	**Living Assets: MSDGC's Green Infrastructure Maintenance Program and Use of Performance Indicators** *Leslie Schehl, MSDGC*	**Flow Monitoring Pays for Itself Many Times Over: Case Studies Where Pro-Active Flow Monitoring Resulted in Potential for $100s of Millions in Savings** *Shannon Conway, Stantec*
4:00-4:30	**Interceptors and FEMA and the Corps! Oh My!** *Ryan Brauen, Wessler Engineering*	**#embracingdisruption** *Jason Tincu, Brown and Caldwell*	**A Systematic and Connected Approach for Siting Green Infrastructure to Deliver Optimum Watershed Solutions** *Brandon Vatter, Mott McDonald*	**Evaluating River-influenced Groundwater Infiltration and Sewer Rehabilitation Effectiveness** *Seth Bradley, Hazen and Sawyer*

THURSDAY TRACKS				
Time	**Regulatory**	**Maintenance**	**Wet Weather**	**Nutrients**
8:00 - 8:30	**A Pilot Demonstration: Online Analysis for Wastewater Chlorination and De-chlorination Dosing Control at City of Guelph, Ontario** *Wei Zhang, ASA Analytics*	**Methods of Algae Control in Clarifier Effluent Channels** *Gary Ruston, Wessler Engineering*	**Innovative Approach for Capacity Increase at the North Olmsted WWTP** *Anthony Farina, Hazen and Sawyer*	**More Affordable, Reliable and Recoverable Nutrient Removal** *Jim Fitzpatrick, Black & Veatch*
8:30-9:00	**Will Your Green Infrastructure Program Help You Comply with Your Consent Order?** *Andrew Birmingham, JMT*	**The Effect of Screen Design on Capture Rate and Plant Maintenance** *Matt Bodwell, Enviro-Care*	**Evaluation of Peracetic Acid (PAA) as Wastewater Disinfectant** *Achal Garg, MSDGC*	**Nutrient Removal Optimization at the Fairview WWTP** *Alyssa Mayer, Hazen and Sawyer*
9:00 - 9:15 Break				
9:15 - 9:45	**Separation can be a Good Thing** *Scott Ankrom, Hazen and Sawyer*	**From Pressurized Chlorine Gas to Peace of Mind** *Derek Lubie, Electrolytic Technologies, LLC*	**Pilot Testing to Design Reality: Implementing a Cost-Effective Wet Weather Treatment Solution** *Nicholas Bucurel, Brown and Caldwell*	**An Innovative Approach to Retrofitting for Nitrogen Removal** *Robert Smith, YSI/Xylem*
9:45-10:15	**Bioassay Testing and the TRE/TIE Evaluation Process** *John Hoffman, Alloway*	**Corrosion Control for Water & Wastewater Systems** *James Lary, Corrpro Companies, LLC*	**The State of Enhanced High-Rate Treatment in Ohio** *Jared Hutchins, Black & Veatch*	**Efficient Nutrient Removal at Low DO Concentrations** *Don Esping, Brown and Caldwell*
10:15 - 10:30 Break				
10:30-11:00	**Ohio's SSIs Keep Burning with New Air Emissions Technology** *Shane Carlson, MSDGC*	**Vertical Route or Under Pressure: Aeration Analysis for EBNR** *Lindsey Hassenauer, Hazen and Sawyer*	**Integrated Approach to Managing Wet Weather Flows at the NEORSD Southerly Wastewater Treatment Center to Safeguard Waterways and Protect Plant Operations** *Douglas Reichlin, Stantec*	**Preliminary Assessment of Nutrient Dependency of a Mixed Cyanobacteria Culture** *Elizabeth Crafton, University of Akron*
11:00 - 11:30	**Ammonia Water Quality Criteria: The past, the present, the future** *Elizabeth Toot-Levy, Geosyntec Consultants*	**Disinfection Control Improvements Produce BIG Savings** *Dan Hanthorn*	**MSDGC CSO Challenge: Evaluating Innovative CSO Treatment Strategies** *Will Martin, Hazen and Sawyer*	**A Look Forward - How to Handle Low Level Phosphorus Limits with Creative Solutions** *Jamie Mills, Strand Associates, Inc.*

Hyatt Regency Cincinnati

Join OWEA members and colleagues for a stay at the Hyatt Regency Cincinnati for OWEA's 2017 Technical Conference and Expo. With a direct connection to the Duke Energy Convention Center and a downtown location that places you minutes from the central business district, our luxury hotel in Cincinnati, Ohio is a haven for business travelers. Stay connected throughout your visit and take advantage of a full range of productive services in our business center. Keep up with your fitness routine in our 24-hour StayFit™ Gym, or take a dip in our indoor pool. Dine at Red Roost Tavern, our chic farm-to-table restaurant, showcasing some of our chef's most signature culinary creations from locally sourced, fresh ingredients.

- Standard room rate is $159 per night for up to four persons.
- Complimentary Wi-Fi and high speed Internet is also included in the rooms, public areas, and meeting rooms.
- Valet parking $30 per night with in and out privileges

OWEA room rates available Sunday June 25 - Thursday June 29, 2017.
Make your reservations via the link at *www.ohiowea.org* or call The Hyatt: **(513) 579-1234**
Please ask for Ohio Water Environment Association 2017 Conference
Cutoff date for special rate is Tuesday, May 31, 2017

2017 Spouse/Guest Program | Tuesday, June 27 to Wednesday, June 28

Tuesday: Carriage Tour of Over-the-Rhine

The Over-the-Rhine district – or "OTR" is located on the north edge of downtown Cincinnati and boasts some of the hottest restaurants and shops in the region. The neighborhood, listed in the National Register of Historic Places, is easily traversed on foot...or enjoy the scenes on the Carriage Tour. Washington Park is near the 137-year old Music Hall, a National Historic Landmark and treasured local venue. Findlay Market is a year-round market with plenty of food vendors with an on-site beer garden. The Maverick Chocolate Company is the city's first bean-to-bar chocolate maker; and the Macaron Bar is the only local bakery dedicated solely to French macarons. Stop by one of OTR's several historic breweries, many originally founded in the early 19th century.

Wednesday: Cincinnati Premium Outlets

Find an exciting collection of 100 outlet stores from top designers and name brands at Cincinnati Premium Outlets®. Conveniently located in Monroe, the mall offers a beautiful outdoor, single-level shopping experience. FEATURED STORES are Coach Outlet, Cole Haan Outlet, Converse, J.Crew Factory, Michael Kors, Polo Ralph Lauren Factory Store, Saks Fifth Avenue OFF 5TH, Tommy Hilfiger, Under Armour

Attendee Registration

First Name *(for name badge)*	Last Name	
Company Name		Title
Address		
City	State	Zip
Email:	Tel #:	
OWEA/WEF # *(req for member rate)*	Spouse/Guest Name *(if attending)*	

Conference Registration	Registration Type	by May 31	June 1 and after	Row Total
Full Conference includes: All Technical Sessions, Exhibition, Awards Brunch, Meet & Greet, Wed Lunch, Annual Banquet	Full Conference Member	$295 ☐	$350 ☐	
	Full Conference Nonmember	$425 ☐	$475 ☐	
	Full Conference Retired *(not working)*	$175 ☐	$225 ☐	
	Full Conference Student *(ID Req'd)*	$50 ☐	$75 ☐	
Tue Only includes: Exhibition, Awards Brunch, Meet & Greet	Tuesday Only Member	$165 ☐	$195 ☐	
	Tuesday Only Nonmember	$225 ☐	$265 ☐	
Wed Only includes: Technical Sessions, Box Lunch, Annual Banquet	Wed Only Member	$165 ☐	$195 ☐	
	Wed Only Nonmember	$225 ☐	$265 ☐	
Includes: Awards Brunch, Meet & Greet, Annual Banquet, Spouse Event	Spouse/Guest Program	$160 ☐	$210 ☐	
Plant Tour ☐ $0 Tues, June 27, 2:15 - 3:45 pm Avail to Full/Tues Registration Options	Extra Awards Brunch Ticket(s)	___ x $35 each		
	Extra Meet & Greet Ticket(s)	___ x $60 each		
	Extra Annual Banquet Ticket(s)	___ x $75 each		
OWEA Golf Outing Monday, June 26				
Includes: Golf Cart, Range, Lunch, Beverages, Prizes and Dinner. 8:30 am Registration, 9:30 am Shotgun Start, 4 person Scramble. Proximity Prizes and Course Winners.	# Team(s) of four golfers	___ x $360 each		
	# Individual Golfers	___ x $90 each		
	Hole Sponsorship Sign	___ x $250 each		
	Print names of golfers:			
			TOTAL AMOUNT DUE	

Register Online at *ohiowea.org*

For Reduced Rate Technical Session/Exhibition Registration Only Options - Visit *www.ohiowea.org*

Tickets will be taken for the events below. Please check which events you plan to attend.	
Included in Full and Tues Registration	Included in Full and Wed Registration
☐ Awards Brunch	☐ Wednesday Lunch
☐ Meet & Greet	☐ Annual Banquet

FORM OF PAYMENT
☐ Check # or P. O. #
☐ Credit Card - you will be emailed a secure link to enter your credit card payment. Or you may call the OWEA office with your credit card number.
☐ **I have read & agree to the OWEA refund policy**
OWEA 1890 Northwest Blvd, Suite 210 Columbus, OH 43212 T: 614.488.5800 F: 614.488.5801 E: info@ohiowea.org

OWEA Refund Policy

Cancellations within 72 hours of the conference or no-shows the day of the conference will be billed in full and will not receive a refund.
Any Cancellation 72 or more hours prior to the conference will receive a 65% refund minus any credit card processing fees.
Any Cancellation 7 days or more prior to the conference will receive a full refund minus any credit card processing fees.

Company Name		
Address		
City	State	Zip
Primary Exhibitor Responsible for Exhibit:		
Email:	Tel #:	
OWEA/WEF # *(req for member rate)*	Fax #:	

Signature _____Date: _____
(by signing you agree to the Exhibitor Terms & Conditions posted at *www.ohiowea.org)*

Exhibitor Registration	Registration Type	Cost		Row Total
Includes One Full Conference Registration: All Technical Sessions, Exhibition, Awards Brunch, Meet & Greet, Wed Lunch, Annual Banquet for primary exhibitor.	Exhibit Booth Member	$700 ☐		
	Exhibit Booth Nonmember	$875 ☐		
Add a Professional Membership:	OWEA/WEF Membership	$160 ☐		
Additional Booth Attendant includes: Exhibit Exposition access and Tuesday Brunch in Exhibit Area	Booth Attendant (max 4)	____ x $50 each		
	Print Names:			
Includes: Awards Brunch, Meet & Greet, Annual Banquet, Spouse Program	Spouse/Guest Program	$160 ☐ Early Bird Rate	$210 ☐ After May 31	
Note Special Requests *(subject to avail)*				
Exhibitor Tour: If you would be interested in giving a 15 minute booth presentation, check here: ☐				
	Extra Awards Brunch Ticket(s)	___ x $35 each		
	Extra Meet & Greet Ticket(s)	___ x $60 each		
	Extra Annual Banquet Ticket(s)	___ x $75 each		
OWEA Golf Outing Monday, June 26				
Includes: Golf Cart, Range, Lunch, Beverages, Prizes, and Dinner. 8:30 am Registration, 9:30 am Shotgun Start, 4 person Scramble. Proximity Prizes and Course Winners.	# Team(s) of four golfers	___ x $360 each		
	# Individual Golfers	___ x $90 each		
	Hole Sponsorship Sign	___ x $250 each		
	Print names of golfers:			
			TOTAL AMOUNT DUE	

Register Online at *ohiowea.org*

Tickets will be taken for the events below. Please check which events you plan to attend.	
Included in Full and Tues Registration	Included in Full and Wed Registration
☐ Awards Brunch	☐ Wednesday Lunch
☐ Meet & Greet	☐ Annual Banquet

FORM OF PAYMENT

☐ Check # or P. O. #

☐ Credit Card - you will be emailed a secure link to enter your credit card payment. Or you may call the OWEA office with your credit card number.

☐ **I have read & agree to the OWEA refund policy**

OWEA
1890 Northwest Blvd, Suite 210
Columbus, OH 43212

T: 614.488.5800 F: 614.488.5801

E: info@ohiowea.org

OWEA Exhibitor Refund Policy

Booth Cancellations received after May 31, 2017 or no-shows the day of the Exhibition will not receive a refund.

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Nutrient enrichment in the Lower Great Miami River - Municipal coalition seeking clarity

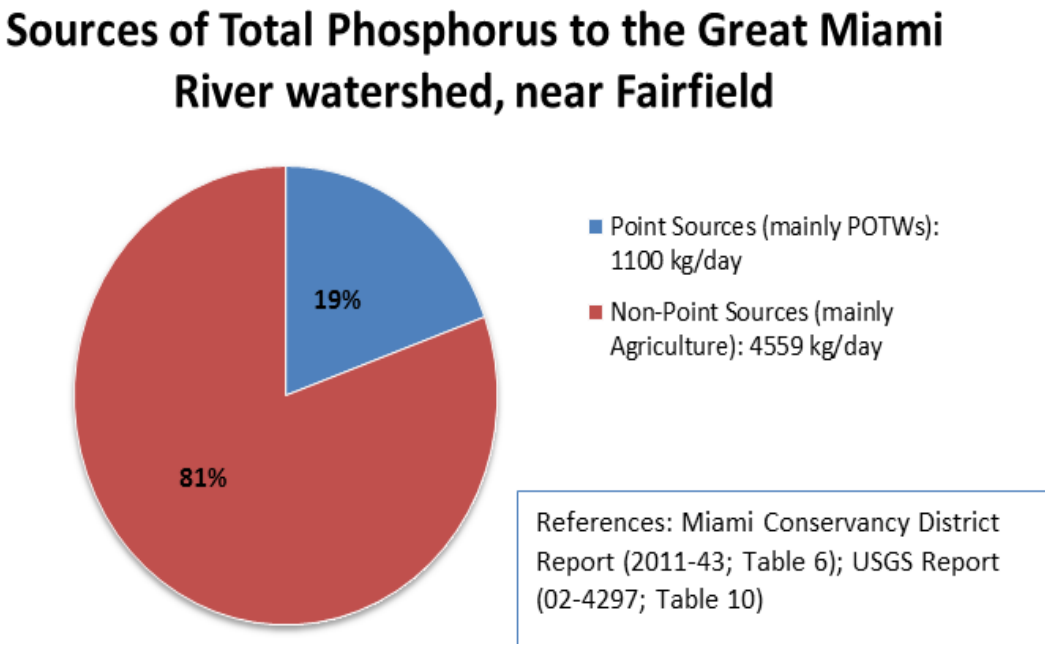
by Adam M. Sackenheim, Public Utilities Director, City of Fairfield, Ohio

The Lower Great Miami River (LGMR) watershed in Southwest Ohio is a beautiful place to live and work. The Great Miami River, which drains the watershed, is enjoyed by thousands of people each year – from fishermen to rowers to bird watchers. The underlying Great Miami River Buried Valley Aquifer, which provides drinking water to close to 2 million people, is a natural asset without equal in the area. To say the region is blessed with water resources may be an understatement. However, despite great improvements in river water quality and wildlife over the past fifty years, concerns remain over the health of the river. Most notably, nutrient enrichment of the river is now arguably the biggest challenge to the long-term wellness of this vital resource.

Nutrient enrichment, which is caused by too much nitrogen and phosphorus in the water, can lead to harmful algal blooms, oxygen depletion, degraded biological communities, non-attainment of State water quality standards, and other environmental problems. While nutrient enrichment is often associated with lakes, it is also a problem for free-flowing rivers. As such, from 2010 through 2012 the Ohio Environmental Protection Agency (Ohio EPA) performed monitoring on the LGMR and its tributaries in an attempt to quantify the impact of nutrient enrichment on water quality. As predicted, Ohio EPA found that nutrients do threaten the river system, and that nutrient reduction efforts are necessary to ensure the integrity of the resource.

In light of these findings, Ohio EPA in 2013 began informing Publicly Owned Treatment Works (POTWs) discharging into the LGMR that upcoming NPDES permits – set to expire in 2014 – would likely contain effluent limits for phosphorus. Ohio EPA concluded that reducing phosphorus discharges from local wastewater treatment plants would help reduce nutrient enrichment impacts on the river. In an effort to share information and discuss ramifications of new phosphorus limits, including cost and rate implications, of new phosphorous limits, a diverse group of over 15 impacted wastewater treatment plant operators from north of Dayton to the Ohio River began to meet regularly – thus the unofficial birth of the "LGMR POTW Coalition". These meetings were initially spearheaded by Montgomery County and the City of Dayton – de facto leaders within the group as the largest POTWs operating in the LGMR. Dayton in particular was well-versed on nutrient concerns as a 'Founding Member' in the Great Miami River Nutrient Trading Pilot Program – a voluntary and State-endorsed program that for over a decade had helped to fund and implement agricultural best management practices to reduce nutrient pollution within the watershed as an alternate to end-of-pipe treatment upgrades at wastewater plants. Dave Wilson, former Water Reclamation Manager for the City of Dayton, recalls: "There was a lot going on at the time – the State's Nutrient Reduction Strategy was just released, the Technical Advisory Group (TAG) was working with Ohio EPA on new Ohio standards for nutrients, the TMDL for our River was under development, and Ohio EPA was telling many of us local plants to expect phosphorus limits. We got everyone together so we could all be updated on the status of these things. We needed to be educated so that we could act in the best interest of both our rate payers and the local water environment."

One of the main concerns of the Coalition from the start was that Ohio EPA was suggesting the inclusion of phosphorus limits in NPDES permits prior to the completion and release of the Total Maximum Daily Load (TMDL) study and associated "pollution diet" for the LGMR. Ohio EPA was having problems getting the TMDL water quality model to calibrate, resulting



in the postponement of the study's release. In an effort to address this and other concerns, the Coalition invited Ohio EPA to a round-table meeting in October 2013. At the meeting Ohio EPA presented evidence from recent monitoring efforts indicating that nutrient enrichment in the River during dry-weather / low-flow conditions was caused and sustained primarily by phosphorus loads from POTWs. Ohio EPA also discussed the sources of wet-weather nutrient loadings – namely non-point sources from agricultural activities – and their associated impacts downstream including contributions to the "dead zone" in the Gulf of Mexico (also known as Gulf Hypoxia). Ohio EPA suggested that it would focus first on the dry-weather issues and local nutrient enrichment impacts, and address wet-weather issues at a future time. Accordingly, the Agency stated that it would concentrate initially on local wastewater treatment plants. Ohio EPA verbally indicated that upcoming NPDES permits would be issued in advance of the TMDL, and would include:

- Year-round concentration-based phosphorus limits (1 mg/l) with a 3 year schedule for compliance, with the potential for more stringent limits in subsequent permits; and
- No allowance to use point to non-point nutrient trading to secure compliance.

In April 2014 a follow up meeting was held between Ohio EPA and the LGMR POTW Coalition. At that meeting representatives from the Coalition made the following points to Ohio EPA:

- Despite concerns of nutrient enrichment threatening the health of the River, the LGMR has shown steady improvement over the past 25 years in terms of attainment of state water quality standards, especially biological criteria;
- In light of the improving conditions in the River, the Coalition desired completion of the TMDL and the study's prescribed allocations of pollutants before new phosphorus limits were incorporated into NPDES permits;
- If the final and approved TMDL ultimately supported effluent phosphorus limits, the Coalition desired seasonal and mass-based limits (versus year round concentration-based limits) to address impairment under dry-weather conditions; and
- The Coalition supported the use of all compliance tools, including nutrient trading, to meet terms and conditions of NPDES permits.

The Coalition also suggested that Ohio EPA's proposed approach to focus primarily on point sources of nutrients in the watershed was short-sighted, as over 80% of the annual total phosphorus load to the watershed originates from non-point sources – namely farming activities. (See figure 1 for breakdown of nutrient sources to the Great Miami River) The Coalition suggested that the impacts of non-point source phosphorus loads – and especially the dynamics of nutrient transport into and out of sediment during low-flow conditions – should be better understood before regulatory decisions were made forcing point sources like POTWs to invest in multi-million dollar plant upgrades to reduce phosphorus levels. Kevin Krejny, Assistant Water Reclamation Manager for Montgomery County, recalls: "It was important to the group to have the TMDL completed first – before new permit limits. We wanted the science and data validated. Once validated, the science would drive the policy and regulatory decisions – including necessary permit changes. The group was not opposed to upgrading its treatment plants to better control phosphorus, but wanted assurances that any required upgrades would in fact lead to improvements in water quality."

Throughout the summer and fall of 2014, Coalition members and Ohio EPA representatives continued to discuss the issues. Ohio EPA continued to make a case for year-round, concentration-based phosphorus limits for all LGMR dischargers as a means of reducing the negative effects of nutrient enrichment during low-flow conditions, while the Coalition continued to push for more scientific analysis of the watershed and examination of the impacts of non-point sources of nutrients on water quality before permit modifications. Despite the fact that all the NPDES permits had expired at this point and there were still major disagreements between both groups relative to a best path forward, all those involved continued to engage in meaningful dialogue on the issues.

One of the ideas proposed through this dialogue was an offer by the Coalition to fund an independent, Ohio EPA-endorsed water quality study of the LGMR and an associated nutrient management plan. The objectives of the effort were to develop a refined and calibrated water quality model to augment Ohio EPA's data and help Ohio EPA finalize the TMDL, and develop a sequenced adaptive management approach looking at all watershed-based solutions to reduce nutrient impairment in the River. The Coalition offered to fund this effort – at a cost of up to $500,000 – in exchange for Ohio EPA's agreement to delay any new phosphorus limits in permits until the study and the TMDL were completed. The Coalition suggested the water quality study and nutrient management plan could be completed in 18-24 months, once a consultant was selected.

Through the end of 2014 and into the spring of 2015, Ohio EPA and the Coalition collaborated on the details of the proposed study and ultimately came to agreement on the study's scope and deliverables. Although Ohio EPA declined to delay all phosphorus limits until study completion – and in fact issued draft permits in July 2015 containing seasonal, mass-based phosphorus limits to the City of Dayton and Montgomery County – the Coalition decided to proceed with the project nonetheless. While Dayton and Montgomery County, owners of the two largest wastewater treatment plants in the watershed, received phosphorus limits, the permits issued by Ohio EPA to the other smaller LGMR dischargers did not include phosphorus limits. Ohio EPA did acknowledge the water quality study in all the draft permits by including provisions to allow POTWs to potentially propose alternate phosphorus reduction strategies for compliance with future limits, if such

strategies are technically supported by the study. "Long term, the water quality model and the nutrient management plan benefit all parties involved – from State regulators to sewer customers to the fish and organisms that live in the River," Says Jason Hunold, Wastewater Superintendent for the City of Fairfield. "With an improved understanding of the existing conditions, we'll be better equipped to craft a master plan to reduce nutrient impairment in the future. These are complex problems and there is only so much money to put towards solutions, so we need to get it right from the start. We are stewards of the environment, but also stewards of our rate-payers dollars. We don't want to invest in major capital improvements if they don't help solve the problem – especially if other major causes of impairment are left unchecked."

In October 2015, a Request for Proposals for the 'Lower Great Miami River Nutrient Management Project" was released by the Miami Conservancy District (MCD) – the partner agency managing the project on behalf of the Coalition. The major deliverables of the project include compilation and synthesis of existing water quality data; model development and calibration; and analysis of watershed-based compliance options necessary to achieve the required phosphorus reductions to ensure attainment of state water quality standards. Seven proposals were submitted to MCD on November 30, 2015. Following review by MCD and Coalition representatives, the Coalition selected LimnoTech – based out of Ann Arbor, Michigan – to complete the project. LimnoTech was selected in part as a result of the firm's vast experience in developing water quality models and performing TMDL determinations – many in collaboration with state environmental regulatory agencies.

LimnoTech "hit the ground running" in early 2016 with a focus on model development and calibration. In conjunction with modeling work, additional Coalition-funded targeted sampling efforts were conducted, including sediment studies, with the goal of filling existing data gaps to enable model completion. Throughout the summer of 2016 Limnotech staff worked with Coalition members and Ohio EPA staff to refine model inputs, baseline conditions, and model "endpoints". Ultimately it was agreed upon to focus on dissolved oxygen levels, instream phosphorus concentrations, and chlorophyll levels as the primary parameters of interest within the model framework.

After several months of hard work, Limnotech presented a final calibrated model to the Coalition and Ohio EPA in the Fall of 2016. While a few technical issues are still being addressed, the model is basically complete and the Coalition is satisfied with its quality and accuracy. Moving forward Limnotech will be running a series of up to eight (8) model "scenarios", effectively looking at the modeled impact of various nutrient input changes on such things as instream dissolved oxygens levels (average and diurnal), total and dissolved phosphorus levels, and sestonic and benthic algae (chlorophyll) levels.

Scenarios likely to be evaluated include:

- Dayton and Montgomery County POTWs discharging effluent at 0.75 mg/l Total Phosphorus (53% Ortho-P), July through October;
- Dayton and Montgomery County POTWs discharging effluent at 0.0 mg/l Total Phosphorus, July through October;
- All major POTWs in Lower Great Miami River Watershed discharging effluent at 0.75 mg/l Total Phosphorus (53% Ortho-P), July through October;
- All major POTWs in Lower Great Miami River Watershed discharging effluent at 0.0 mg/l Total Phosphorus, July through October;
- Nonpoint source (agricultural) Total Phosphorus annual load reduction of 15%;
- Nonpoint source (agricultural) Total Phosphorus annual load reduction of 15%, AND all major POTWs in Lower Great Miami River Watershed discharging effluent at 0.75 mg/l Total Phosphorus (53% Ortho-P), July through October;
- Nonpoint source (agricultural) Total Phosphorus annual load reduction of 15%, AND all major POTWs in Lower Great Miami River Watershed discharging effluent at 0.75 mg/l Total Phosphorus (53% Ortho-P), July through October, AND removal of two low-head dams (Tait Station at River Mile 76.6 and Hutchings Station at River Mile 63.5).

Ultimately the final water quality model, scenario results, and technical report will be provided to Coalition members and Ohio EPA by early-summer 2017. The final report will include recommendations on environmentally-viable, cost effective, and achievable watershed-based nutrient reduction options aimed at attainment of water quality standards and improved river health. The hope of the Coalition is that the model will be used as a resource and a scientific "check and balance" validation tool to help guide future regulatory decisions aimed at improving water quality conditions in the area.

Partners supporting the "Lower Great Miami River Nutrient Management Project"

- Dayton
- Englewood
- Fairfield
- Franklin
- Hamilton
- Miamisburg
- Middletown
- Springboro
- Troy
- Union
- West Carrollton
- Tri-Cities Wastewater Authority (Huber Heights, Vandalia, Tipp City)
- Montgomery County

WEF Utility Partnership Program Member Utilities

The WEF Utility Partnership Program (UPP) is designed to allow Ohio utilities to join WEF and **OWEA** while creating a comprehensive membership package for designated employees. Utilities can consolidate all members within their organization onto one account and have the flexibility to tailor the appropriate value packages based on the designated employees' needs. Key Benefits Include:

UPP is fully customizable, based on the needs of each utility, and a WEF team member will be on-hand to walk each utility through the enrollment process.

ALL members at the utility will be enrolled, with synchronized begin and end dates, on ONE invoice, for an easy one-time per year payment.

All members, who were already WEF members, retain original membership number, credit for all years of membership, and remain a full-voting WEF member.

ALL employees at the UPP utility will be eligible for membership registration rates at WEFTEC, as well as the early-bird rate for Premium and Standard WEFTEC registration at any-time throughout the registration period. **ALL employees at the UPP utility will also be eligible for member rates for the OWEA Technical Conference and Exposition, OWEA Workshops, and events.**

All employees at the utility will be eligible to register for a WEFTEC Exhibition-only pass at NO-Charge.

WEFTEC registrations can be included in the UPP Membership transaction, at the time of enrollment or can be grouped and submitted closer to WEFTEC.

UPP also includes a special, NO-Charge membership for Public Officials designated by the Utility, at their discretion.

Up to five new WEF/**OWEA** members can be added by the utility each year, at no charge for the first year of membership.

UPP utility will be eligible for distributor pricing on all WEF products and services – that's 40% off list pricing. In addition to traditional items this discount also extends to online learning in the new WEF Knowledge Center.

UPP members will be eligible for special discounted registration for other WEF Conferences and events.

OWEA currently has 20 municipalities signed up for the Utility Partnership Program.

To learn about the benefits for your utility visit ***http://www.wef.org/UtilityPartnership/***

Or contact Amy Davis, *amydavis@ohiowea.org*, 614.488.5800

Avon Lake Municipal Utilities
City of Canton WRF
City of Celina
City of Columbus DPU
City of Fairborn
City of Harrison
City of Mansfield
City of Marietta WWTP
City of Newark Wastewater Treatment Plant
City of Oberlin
City of Solon
City of Toledo Water Reclamation
City of Troy Ohio
City of Twinsburg
City of Warren WWTP
Clermont County Sewer District
Fairfield County
MSD of Greater Cincinnati
Northeast Ohio Regional Sewer District
Sanitation District No 1

An Integrated Approach to Reducing Agricultural Nutrient Loads in the Harsha Lake Watershed

by: Jacob Hahn, Technician, Clermont Soil & Water Conservation District
Hannah Lubbers, Project Manager, Clermont County Office of Environmental Quality
John McManus, Administrator, Clermont Soil & Water Conservation District

For nearly 10 years, members of the East Fork Watershed Cooperative have been working together to monitor and assess the East Fork Little Miami River watershed, including Harsha Lake, a 2,160 acre reservoir that serves as a drinking water source for about half of Clermont County's residents. Partners in the Cooperative include the US EPA Office of Research and Development (USEPA-ORD), the U.S. Army Corps of Engineers, USDA Natural Resources Conservation Service (NRCS), Clermont County's Office of Environmental Quality (OEQ), the Clermont Soil and Water Conservation District (SWCD), and several other organizations. Data collected by the Cooperative suggest that pollutant loads from the watershed are affecting lake water quality in terms of low dissolved oxygen, the prevalence of toxin producing cyanobacteria and the potential for increased disinfection byproduct formation during drinking water treatment.

To minimize cyanobacteria blooms and other issues at the lake, Clermont SWCD, NRCS and other members of the Cooperative work closely with landowners in the watershed, encouraging them to adopt management practices designed to reduce nutrient runoff. In 2011, Clermont SWCD received a Conservation Innovation Grant through the USDA Natural Resources Conservation Service (NRCS) for a project that aimed to demonstrate an integrated agricultural best management practice approach called "cover and capture" in a subwatershed of Grassy Fork, a tributary to the East Fork of the Little Miami River (EFLMR). The "cover" portion of the project involved utilizing cover crops to minimize loss of nutrients from bare fields during the winter months, while the construction of an innovative treatment system based on urban best management practices served as the "capture" component.

As limited funds were available for cover crop incentives, the project team wanted to focus these efforts on fields that contributed the highest nitrogen and phosphorus loads. To accomplish this, the project team utilized the Soil and Water Assessment Tool (SWAT) model developed and calibrated by US EPA-ORD. The SWAT model has been proven to be effective in predicting the impact of point and non point pollution, and various management scenarios on the hydrology, sediment and nutrient loads in watersheds. Model inputs include a digital elevation model (2.5 foot resolution), soils data, land use data and weather data. The Grassy Run watershed was divided into 65 subbasins, which were further divided into hydrological response units (HRUs) based on the soil type, land use and slope derived from the DEM. The management scenario for all agricultural fields was set to a corn-soybean-soybean rotation, with conventional till before planting corn. Fertilizer and herbicide application rates for corn and bean were set based on the recommendation of NRCS personnel. Model runs provided average annual sediment yields for all HRUs was obtained. Yields were plotted in ArcGIS and from this, agricultural parcels with high sediment loadings were located. Clermont SWCD and the NRCS District Conservationist then worked with producers who farmed these fields to secure a commitment to plant winter cover crops for a period of three years. In total,

Clermont SWCD staff collect samples from one of four autosamplers at the capture BMP.

Excavation of AgBMP detention structure.

producers planted over 260 acres in 10 fields located in a small subbasin of the Grassy Fork watershed.

The second component of the grant project involved the construction of an innovative treatment system to "capture" fine sediments and bound phosphorus, while integrating hydraulic retention and biofiltration to add nitrogen removal. The treatment system, completed in 2014, used a combination of management practices more typically found in urban settings, including detention basins and bioretention facilities. To minimize the loss of productive cropland, the treatment system was constructed within the footprint of an existing grassed waterway that drains 180 acres of farmland, bisected by a driveway with twin 30-inch culverts. Above the driveway, the waterway was converted into a linear detention basin. The design consists of a 700-foot trapezoidal waterway with 0.2% minimum slope along an 18-foot wide bottom and side slopes of 3:1. The basin has a storage area of 0.49 acres and holds runoff from a less than 1-inch, 1.4 month storm for up to 24 hours.

Installation of submerged vegetated bed outlet structure.

Just upstream of the detention basin dam, a six-inch Hickenbottom riser collects water into a six inch PVC pipe that conveys it under the driveway into an off-line "submerged vegetated bed." Flows exceeding the capacity of the basin and the riser overtop the dam, move through the culverts and into the downstream portion of the old waterway which now serves as a bypass channel. The submerged vegetated bed, or SVB, was based on an urban management practice that the University of New Hampshire has been studying called a Submerged Gravel Wetland. This system functions by filtering storm water through a gravel bed that has varieties of wetland plants growing on top to uptake nutrients from the water, much like a hydroponic system. Anoxic conditions in the standing water within the gravel allow for denitrification and the release of nitrogen gas into the atmosphere, thereby increasing nitrogen removal.

Placement of gravel in submerged vegetated bed.

The SVB, designed by Clermont SWCD with guidance from East Fork Cooperative partners, is a 10-foot wide, 400-foot long bed that is two feet deep, layered with

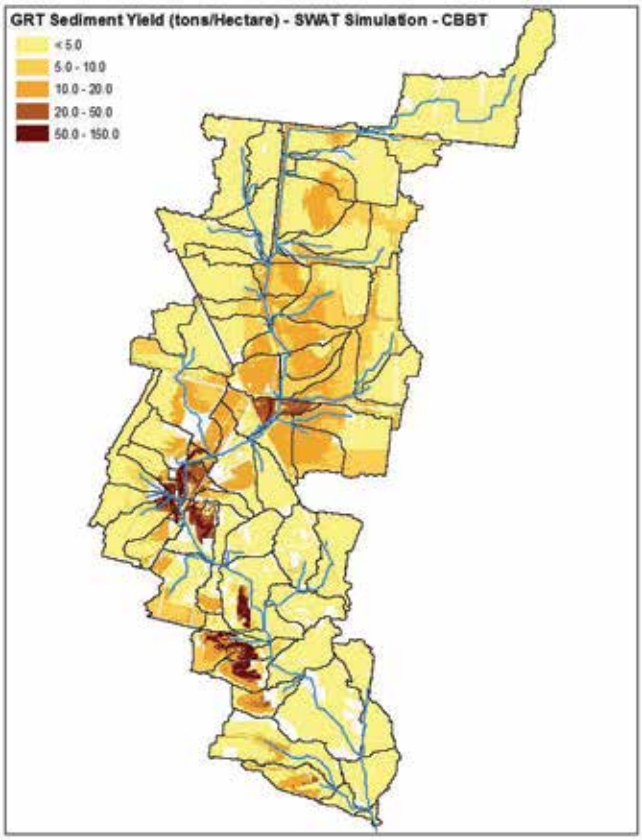
AgBMP detention structure after a summer storm.

Clermont SWCD leads Ohio EPA staff on a tour of the submerged vegetated bed (bypass channel is seen at right).

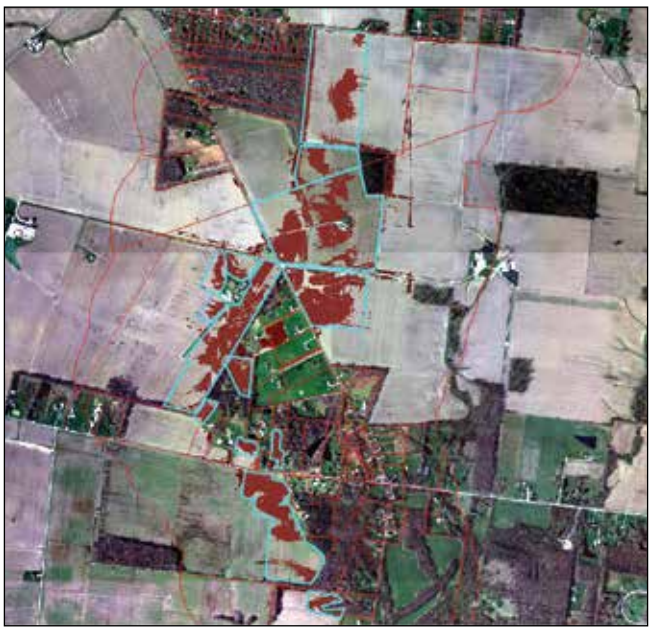
three inches of AASHTO # 4 limestone, eighteen inches of AASHTO #8 limestone, and capped with another 3 inches of AASHTO #4 limestone. In total, the bed contains 350 tons of limestone. A thin layer of soil was placed on top of the limestone, and then planted with wetland species of plants, including four species of sedge (Carex), four species of rushes (Scirpus), a species of rush (Juncus), along with Blue Flag Iris for a splash of color in late spring. Water from the detention basin enters the SVB at the bottom through a perforated pipe that spans the width of the bed, allowing for the water to be dispersed evenly. At the far end of the bed, the outlet is positioned on top of the rock within the SVB to provide retention time allowing for the creation of anoxic conditions.

Monitoring of the SVB began in December 2014; however, it wasn't until September 2015 that all monitoring stations were completely operational. Monitoring stations with flow meters and automatic samplers and have been installed at four critical locations, including the point of inflow into the detention basin, the inflow point into the SVB, the SVB effluent, and at the end of the bypass channel. The four monitoring stations record stage and rainfall (at one site) every five minutes. Discharge measurements have been used to develop rating curves for the two open channel sites (inflow to the detention basin and the bypass effluent), while area-velocity meters are used to calculate discharge in the piped locations (SVB influent and effluent). Discharge data will be used to calculate pollutant loads entering and leaving the system. Flow or time paced wet weather sampling and ambient sampling occurs at all four locations. Samples are collected using four ISCO autosamplers. Samples are analyzed for orthophosphate, total phosphorus, ammonia, nitrate-nitrite, TKN, suspended solids and a suite of pesticides including atrazine, simazine, alachlor and glyphosate.

Because the project team has collected less than two years of monitoring data, we have not determined the effectiveness of the capture system in reducing nutrient loads; however, initial data show that there has been a significant reduction in phosphorus in the detention basin and that the SVB has been effective in removing nitrogen. Sampling efforts will continue over coming years to more completely determine the success of the project.



SWAT model simulation shows predicted annual sediment yield for Grassy Fork watershed.



SWAT model simulation shows areas of high sediment yields. The highlighted fields were targeted for cover crops.

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ABSTRACT SUBMITTAL DEADLINE IS MARCH 31, 2017

Sessions are 25 minutes in length with 5 minutes of discussion. Topics must be developed/presented by staff members of the participating cities/utilities. Consultants are also invited to co-present with participating City staff members. Selected presenters will be notified by May 15, 2017. Abstracts should be one page in length. Please visit **www.fivecitiesplus.org** for more information or to submit your abstract.

When Will The Environment Be Clean Enough?

by Stuart F. Bruny, P.E., OWEA Past President

We are pleased to publish this perspective on the environment written by Stuart Bruny. Stuart was president of OWEA in 1986/87 and president of the Southeast Section in 1980/81. He retired from Ohio EPA in 2003 and was appointed by President George W. Bush as a Federal Commissioner to the Ohio River Valley Water Sanitation Commission (ORSANCO). He served in that role until 2012 when he was appointed by Governor John Kasich as a Commissioner from Ohio. He is a life member of WEF and OWEA. This article, in no way, intends to reflect the position of either the Ohio EPA or ORSANCO.

As we near the 50th anniversary of Earth Day and the ensuing environmental movement in America, perhaps it's a good time to take stock of where we are, where we came from, what we have achieved, and then undertake an objective evaluation and prioritization of our remaining environmental goals, all undertaken within the context of modern realities and competing demands upon our resources. Federal, state and local governments are under increasing budgetary strain, and our nation struggles with numerous social and economic needs that compete with environmental initiatives for limited resources. Ever increasing requirements upon our industrial base affect its ability to deliver the products, services and employment numbers our citizens rely upon for their well being. Environmental programs need to co-exist with all other needs and activities that serve America's citizenry. It is critical that environmental professionals pursue prudent and measured program responses to real environmental threats. In a world where all environmental news appears to focus upon negatives, there is a need to inventory accomplishments. If we cannot accurately do that, perhaps nearly 50 years of environmental policy and the countless billions of dollars spent in the name of environmental protection have been for naught. It is in that context that this paper will attempt to raise pressing questions that may help guide such analysis.

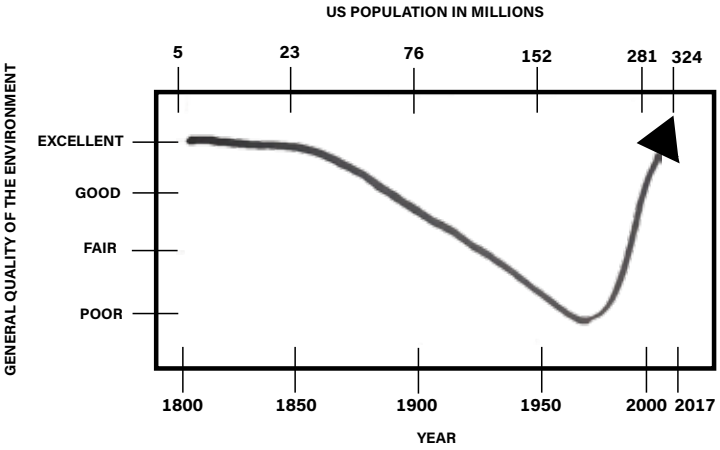
Have you ever thought about environmental quality in the United States today? How would you grade environmental quality in the US today: Excellent, good, fair, or poor? Is it clean enough? If not, when will it be clean enough? Avid environmentalists might say we have a long way to go, while some business and industry representatives might say we have already gone too far. Environmental quality is like motherhood, apple pie and Chevrolet.....sure, everyone wants a clean environment! We all want clean air to breath, clean water to drink and clean rivers, lakes and streams with lots of fish. But along with these benefits, it is important to think about the costs of making these accomplishments happen. With environmental protection comes public health protection that must also be considered. Are we paying enough for environmental protection today? Are you willing to pay more, and if so, how much more? How do these costs rank with other costs that society is expected to pay? These are some of the questions our elected officials, environmental regulators and think tank policy makers should be analyzing and debating.

Let's take sort of a "grade school" look at environmental quality from a historical perspective. Most of us recognize the industrial revolution in the US began in the early to mid-1800s. Prior to that, there were no smoke stacks spewing contaminants into the air and no discharges of industrial wastes into our rivers and streams.

Manufacturing facilities, as we know them today, didn't exist. We didn't have electricity, so power plants didn't exist. Millions of cars and trucks weren't traveling the US emitting tons of air pollutants everyday. Public water supplies and centralized sewer and wastewater treatment systems didn't exist. For the most part the 23 million people in the US had some type of well, cistern or spring for their water supply and some type of crude sewage disposal. In general the environment, particularly outside of cities, was pretty clean. Our rivers and streams, and the air were of good quality. Fast forward 100 years, and we are now in the early to mid-20th century. We have thousands of diverse manufacturing facilities, power plants, railroads, cars and trucks, airplanes and the list can go on and on. Further, we now have 152 million people in the US contributing to our environmental woes.

Environmental controls, if any, were crude at best. Air pollution control equipment was an unknown. Some cities and towns installed sewers that were piped directly to rivers and streams without the benefit of any treatment. Our garbage was placed in the nearest ravine, and when decomposed contributed to already contaminated waters. Industrial and hazardous wastes were buried without concern for protection of our groundwaters. By the mid to late sixties, clouds of dark smoke hovered over most of our industrialized cities, our rivers and streams were polluted, some even catching on fire, and our groundwaters were becoming

contaminated. In short, all facets of our environment were in terrible condition. If we were to consider a simple graph of environmental quality versus time, it might look like this:



Necessity is the mother of invention: these deplorable environmental conditions resulted in the beginnings of an environmental movement. As the public became more aware of environmental issues, concern about air pollution, water pollution, solid waste disposal, radiation, pesticides, noise pollution engaged a broadening number of sympathizers. Public support for environmental concerns was widespread and resulted in the Earth Day demonstrations of 1970. Prior to the 1970s environmental protection (if any) was left mainly to the states. During the 1970s, primary responsibility for clean air and water shifted to the federal government.

Growing concerns, both environmental and economic, from cities and towns, as well as sportsmen and other groups led to passage of the Clean Air Act of 1970 and the Water Pollution Control Act Amendments of 1972. Other legislation included the National Environmental Policy Act(NEPA), signed into law in 1970, which established the United States Environmental Protection Agency and a Council on Environmental Quality; the Marine Protection, Research, and Sanctuaries Act of 1972; the Endangered Species Act of 1973, the Safe Drinking Water Act(1974), the Resource Conservation and Recovery Act(1976), the Water Pollution Control Act Amendments of 1977(Clean Water Act), and the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as the Superfund Act(1980). These laws regulated air pollution, water pollution, public drinking water systems, toxic substances, pesticides and ocean dumping; and protected wildlife, wilderness, and wild and scenic rivers. Moreover, the new laws provided for pollution research, standard setting, contaminated site cleanup, monitoring and enforcement.

Because of these laws, the establishment of environmental regulatory agencies, and the expenditure of billions of dollars, our environment has improved by leaps and bounds in the last 40 plus years. Environmental regulators would say "in the 1970s we got the big chunks out", and as the years passed, the figurative "pollutant sieve" got finer and finer. As we remove pollutants to lower and lower levels, costs increase dramatically, in some cases exponentially. It wasn't nearly as expensive to get the big chunks out as it is to remove pollutants in the parts per billion or trillion range today. In the early years many pollutants were measured in parts per million. Over the years it became parts per billion, parts per trillion and today some are measured in parts per quadrillion. Let's add some perspective to those measurements. If a pollutant is regulated at 10 parts per billion, that's like 10 inches in 16,000 miles, or 10 seconds in 32 years. If it is regulated at 10 parts per trillion, that's like 10 seconds in 320 centuries, or 1 square inch in 250 square miles. Many pollutants are regulated to these levels because research has shown detrimental affects to public health and the environment when present above these levels. Analytical technology has improved immensely over the years where today we can measure pollutants in the parts per quadrillion range. At these extremely low levels, we don't even have the treatment technology to remove the pollutant in some cases. Another entirely different, but related debate is, just because we can measure it, does it means it's bad for public health or the environment? Or just because we can measure it, does it have to be removed from the air, water or soil? Is it even environmentally relevant? We'll avoid that debate in this reading.

Getting back to the great progress we've made in the last 45 years, most public water supplies have built new treatment plants or upgraded to meet new Maximum Contaminant Levels(MCLs) required by the Safe Drinking Water Act. Our drinking water has never been better. Business and industry have spent billions on pollution control equipment to treat air emissions and wastewater discharges. Landfills have been constructed or upgraded to protect groundwater and meet strict present day engineering and operational standards. Thousands of open dumps and hazardous waste dump sites have been secured or cleaned up. Billions of dollars in federal grants and loans have allowed our publicly owned wastewater treatment plants to be reconstructed or upgraded to meet water quality standards and protect designated uses. Sewer systems have been replaced or upgraded and we are now working, at great expense, to eliminate combined sewers and their associated untreated overflows into rivers and streams. In short, we have cleaned up the environment in the last 45 plus years, a problem that was created in the previous 120 years (1850-1970) since the beginning of the industrial revolution. Overall, environmental quality in the US is as good as it has been since before the industrial revolution, notwithstanding 300 million more people and all the modern day amenities we seem to demand today.

I'm not suggesting we still don't have some issues to work on, but I am suggesting we seriously need to consider the cost/benefit implications of tighter and tighter environmental standards. Do we add more and more layers of environmental requirements, at great expense, with minimal benefit? Examples of new

sweeping environmental requirements include USEPA's Clean Power Plan and the Clean Water Rule. These requirements, if implemented, will cost all of us billions of dollars over the next several years, with perhaps minimal benefit to public health and the environment. Are we ever going to reach a "maintenance level" environmental program in the US? Are our public policy leaders debating these issues?

Let's also consider the "cost factor". Most of us think of two or three things when it comes to environmental costs: our water bill, our sewer bill and our garbage bill. All of these have increased dramatically over recent years. Ohio's 2014 Sewer and Water Rate Survey indicates the annual average sewer rate to be $626.00(over $52.00 per month), up 218 percent in the last 20 years. The annual average water rate in 2014 was $573.00(nearly $48.00 per month), up 226 percent in the last 20 years. It's safe to say those rates are even higher in 2017. For those not benefiting from central water and sewer, costs are incurred for installation, operation and maintenance of your private wells and sewage treatment systems. Trash pick-up rates have also increased significantly. It's not uncommon to see annual rates of $300.00-$400.00 per year. These are just the obvious costs we incur as part of environmental protection. Hidden environmental costs are a component of everything we buy. From automobiles to gasoline, oil, natural gas, electricity, groceries, lumber, clothing.....you name it, there is a sizable environmental cost component associated with all consumer goods.

So let's summarize. We have a much improved, pretty decent (not perfect) environmental quality in the US.....quite likely the best in 160 plus years. We are paying a lot for it, and we don't know how much more we want to pay for minimal benefit.

"Environmental issues seem to have taken a back seat to the many other issues society faces today. In fact, public health and the environment were rarely brought up during the last 18 months of presidential campaigns, providing perhaps some confirmation that the American public has bigger issues to battle today."

Broadening the discussion, if we assume these costs to be a burden on society, where do they(or should they) rank with the many other financial burdens society must pay for? Let's also keep in mind the US national debt is nearly 20 trillion dollars today.

Many of us do not consider environmental costs to be a burden, because we gladly want to pay for a clean environment and first rate public health. None-the-less, other financial costs society must bear are also for very important issues. You can watch the evening news any day and see what some of these issues are.

Environmental issues seem to have taken a back seat to the many other issues society faces today. In fact, public health and the environment were rarely brought up during the last 18 months of presidential campaigns, providing perhaps some confirmation that the American public has bigger issues to battle today.

What are some of these issues and how do they rank compared with environmental quality today? In no order of importance, the war on terror (both home and abroad), the war on drugs, national defense, unemployment, health care, energy costs, failing highway and bridge infrastructure, education, affordable housing, and an untold number of different federal, state and local taxes and fees we are all subject to, quickly come to mind. I'm sure there are many more important issues that demand our attention and financial resources, but the point is, are we comparing and ranking these issues(and their associated costs) with additional stricter environmental requirements? Perhaps we should adopt a "maintenance level" environmental program in the US until some of these other important issues get resolved, and the necessity for stricter environmental controls becomes more evident?

Fireside Chats - Looking for Recommendations!

OWEA has started a new article series for the Buckeye Bulletin focusing on leaders in the industry. The Question and Answer Feature will dig into their leadership role and how it has had an impact on the industry. We will be focusing on leaders from OWEA to Plant Superintendents and every leader in between. Please nominate your boss, coworker, or someone you admire for a future article by emailing Megan Borror at: *meganborror@ohiowea.org.*

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Grit King® Cuts Maintenance and Operating Costs at Pennsylvania WWTP by over 80%

by Hydro International

Poor headworks grit removal at the Mon Valley Sewage Authority Wastewater Treatment Plant (WWTP) was costing the plant nearly $20,000 in annual maintenance and repair bills. By replacing the original grit system with Hydro International's Grit King® advanced hydrodynamic separator, annual maintenance and repairs have been almost eliminated.

The Authority's WWTP serves the Borough of Donora in Washington County, Pennsylvania and the City of Monessen in Westmoreland County, Pennsylvania. Both communities are in the historic 'Mon Valley' steel and coal industrial area close to the Appalachian Mountains. All domestic and industrial water supplies are extracted from and returned to the Monongahela River.

"The presence of water for steel and coal extraction and processing was a key factor in establishing the area in the late 19th century," relates Thomas A. Salak, General Manager at the WWTP. "In the early days, water was being re-used without much regard for sanitation or health, but then a series of initiatives for treating industrial and domestic sewage was undertaken during the 20th century."

Legacy of heavy industry

Now part of the so-called 'Rust Belt' region of the United States, Donora and Monessen have seen the demise of heavy steel, wire-making and coal industries. Still, relics of the regions proud industrial heritage are evident all around and this legacy is also evident in the sewage and drainage collection network serving the treatment plant.

"As a result of the long history of incremental development of the sewer network in the area, the sewage entering the plant is fed by combined sewers that carry surface water runoff as well as domestic sewage," explains Salak.

"Because we often have heavy snowfall in the winters, roads are treated extensively with grit for traction control. After the snow melts, or especially after heavy rainfall, a lot of grit ends up in the treatment plant."

Maintenance cost problems

Before the new system was installed, headworks grit removal consisted of grit sedimentation channels with scrapers and chains to regularly pull the piles of settled grit aside for disposal. A twin channel arrangement allowed the WWTP to divert all flow through one channel at low flow periods in the summer, to allow for the other to be cleaned out.

"The grit build up was approximately 3 cu.ft. per day," recalls Salak. "It was removed once a year, as part of annual downtime for maintenance. I estimate it cost us approximately $20,000 in terms of maintenance every year, in labor and hiring vacuum trucks, to extract the settled grit for disposal. The chains and scrapers also needed frequent replacement as they wore out; new parts cost around $40,000."

Downstream wear costs

In addition to this costly maintenance regime, the inefficient grit removal system allowed a large quantity of grit to pass into downstream processes, particularly during times of high flow.

Efficient sludge collection in particular was negatively affected. Grit accumulated in the settled sludge before being pumped for dewatering and disposal. Despite using twin lobe rotary pumps with anti-abrasion rubber linings, the pumps suffered extensive wear and had to be replaced every two to three years, adding to operating or maintenance costs. In other areas, equipment also had

to be replaced frequently as a result of excessive wear, for example in the aeration system.

Solution pays back on investment

To reduce the excessive cost burden at a time when budgets were tight, the Authority recognized the payback it would gain from a new grit management system as part of headworks upgrade and the return on investment from savings in maintenance and operating costs.

Completed in 2013, the new headworks includes a 15 mgd Grit King® grit removal system from Hydro International. The Authority's Consulting Engineer, Mr. Jason McBride, P.E. worked with Mr. Salak to develop a system which would fit neatly into the headworks space, incorporating a ½ inch screen to remove trash and floatables before the grit system.

"Hydro International's engineers worked very closely with us to ensure the Grit King® was configured to our requirements which were to remove 95% of grit above 150 micron and larger during peak flow, and wash and classify it for landfill disposal," states Salak. "The Grit King® process operates on a regular basis throughout the year and we have retained a grit channel as a bypass for when the Grit King® is being serviced for annual maintenance.

"Due to service requirements now being much quicker and easier, with less need for outside contractors with vacuum trucks and labor, our annual maintenance costs are negligible. We haven't yet quantified any reduction in other costs such as wear on other downstream facilities, as we haven't had to replace much yet. But even based on annual maintenance, we are looking at a favorable payback period."

Advanced separation

The Grit King® solution from Hydro International is an advanced hydrodynamic separator, together with a grit washing / classification unit. Flow is introduced into the Grit King® via a tangentially positioned inlet causing a rotational flow path around a dip plate. The flow spirals down the wall of the chamber as solids settle out by gravitational and rotational forces.

The grit collects in the grit pot as the center cone directs flow away from the base, up and around the center shaft into the inside of the dip plate. The upward flow rotates at a slower velocity than the outer downward flow. The resulting "shear" zone scrubs out the finer particles. The concentrated grit underflow is pumped or gravity fed from the bottom of the Grit King® to a grit classifier for dewatering.

100% satisfaction

"We are totally content with the Grit King® set up and we are 100% satisfied after two years of operation," concludes Salak. "It does everything it claimed, so it exceeds my expectations - normally it's good if you are within 80% of claimed performance!"

For further information email *wastewaterinquiry@hydro-int.com*, visit *www.advancedgritmanagement.com* or *www.hydro-int.com* or call (503) 615 8130.

Notes to editor

Hydro International, with offices in the UK, USA, Singapore, China and Ireland is a global leader in sustainable technologies for the control and treatment of stormwater and wastewater. For more than 30 years, Hydro has been at the forefront of water industry innovation and product development. From housing developments and municipal sewage works to paper mills and public highways, thousands of Hydro products are operating in countries all over the world. With strong bases in both the United States and the United Kingdom, and a network of partners and agents, Hydro is strategically placed to deliver winning technological solutions to customers wherever they are in the world.

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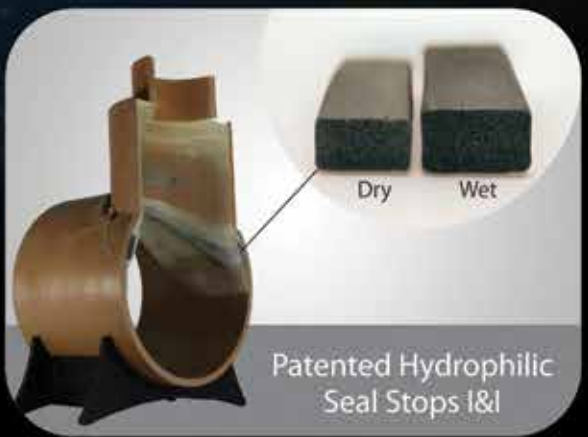

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Do You Operate a Seasonal Class A or Class 1 Facility?

by Elizabeth Wick, P.E., Ohio EPA, NWDO

If you answered yes to the above question, Ohio EPA has a deal for you — Ohio Administrative Code Section 3745-7-04(C)(2)(f) (the Operator Certification Rules) allows staffing reductions in the off season for seasonal operations. In the rule, seasonal operations is defined as the temporary ceasing of wastewater generating sources for a period of no less than 60 consecutive days.

If seasonal operations are approved, the following staffing requirements apply **only** during the shutdown period:

System Classification	Minimum Staffing During Shutdown
Class A	One visit every month
Class 1	One visit every two weeks

There are a few steps you must complete before Ohio EPA can grant the staffing reduction. The details of the program can be found at *epa.ohio.gov/dsw/opcert/opcert.aspx*.

First and foremost, the facility must have a valid and up-to-date Operator of Record (ORC) form on file with Ohio EPA. Next, the permittee must submit a form acceptable to the director documenting the system shut-down date and the proposed reopening date. Both MS Word and .pdf versions of the acceptable form can be found at the above website. The application must include documentation that enough wastewater has been removed from the system and properly disposed to prevent discharge to waters of the state during the off season. However, care must be taken to ensure enough wastewater is left in the tanks to prevent the tanks from shifting. The application must also include a contingency plan outlining the steps the permittee will take in the event of an emergency. The approval is a one-season approval. A facility must submit a request for approval every off season.

Seasonal operations like campgrounds can benefit from reduced staffing requirements in the off season.

The contingency plan can be a simple one-page document that explains how the tank levels will be monitored in the off season and what the facility will do in case the water levels are rising. It is a good idea to have a hauler on call in case any tanks need to be pumped down to prevent a discharge.

During the off season, the operator of record shall visually confirm via flow monitoring, if applicable, that the treatment works is not discharging and does not have the potential to discharge wastewater. The verification shall be documented during the visits in the operator log book (required by OAC 3745-7-09). In addition, DMRs must still be submitted during the off season. After making the required minimum visit and verifying that there is no discharge, the ORC can simply check the "no discharge" box on the DMR and submit.

No discharges are allowed during the off season. If a discharge does occur, the permittee and/or the operator of record shall notify the appropriate Ohio EPA district office upon discovering the discharge. A discharge will result in immediate denial of the seasonal operations approval. The facility will be required to return to normal minimum staffing requirements and be prohibited from further approval for a period of five years.

Once regular operations resume, the ORC must return to minimum staffing visits as required in the Operator Certification Rules.

If you have any questions, please contact Aleksandr Yakhnitskiy Division of Surface Water, Central Office at (614) 644-1987 or via email at *Aleksandr.Yakhnitskiy@epa.ohio.gov*. You can also contact your district office representative.

Great Lakes Basin CSO Public Notification - NPRM

Section 425 of the Consolidated Appropriations Act of 2016 required implementation of public notification measures for CSO discharges to the Great Lakes basin by December 18, 2017. On December 16, 2016, EPA Administrator McCarthy signed a notice of proposed rulemaking (NPRM) for implementing those requirements through 40 CFR 122. The proposed regulation would directly apply the requirements to CSO communities until the reissuance of their NPDES permits, at which point the states would incorporate those requirements as a permit condition. EPA has posted a pre-publication version of the signed NPRM on their website: *https://www.epa.gov/npdes/combined-sewer-overflows-public-notification-requirements-great-lakes*.

The NPRM should be published in the federal register by the end of 2016, which will trigger a 60-day public comment period. EPA has requested that the states notify affected permittees and stakeholders of the proposal as well as the opportunity to comment. Please note that comments should be made on the official version published on the federal register rather than the pre-publication version linked above. Comments on the published NPRM should be submitted to Docket ID # EPA-HQ-OW-2016-0376 on the Federal eRulemaking Portal: *http://www.regulations.gov*.

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Modern Marvels

by Major Chad Roby, P.E., BCEE
322nd Forward Engineering Support Team (FEST) / CH2M

"This is like being on an episode of History Channel's Modern Marvels!" This is a quote from Captain Jason Carney during a tour of a water treatment plant. This very comment spurred me to write this article. It is easy for professionals in our industry to forget the small feats accomplished every day that results in delivery of safe drinking water and reliable wastewater treatment that protects public health and safety. Our engineering team leveraged those very modern marvels and professionals to train for our unit's mission.

So, what does a Forward Engineering Support Team (FEST) do? The FEST is an asset of the US Army Corps of Engineers (USACE) and consists of eight uniformed Soldiers. There are also civilian USACE FESTs but that's a story for another day. The mission of the FEST is to provide mobile, rapid response to Department of Defense assets to solve technical engineering problems within the United States and abroad. Our mission includes infrastructure assessment, planning, and design.

The team is always looking for quality training with real world applications. The team is based out of Columbus, Ohio and did not have to go far to get value training. Our FEST conducted a tour of the Parson Water Treatment Plant and Southerly Wastewater Treatment Plant. To say the team was impressed is an understatement. Adding to the events, each plant was under construction that allowed another layer of development and training to the team. You could write a full story each of the marvels of the two plants. We stood in the empty 60' diameter clarifiers of Parsons and walked the tunnels of Southerly. The team was divided on which was more impressive. Captain Carney elaborated on his statement mentioned above during an after action review of our training. "The scale of the treatment plants is profound. It's simply not something the public thinks about. We turn on the tap and flush the toilet and trust that it all works. The knowledge of the operators of the plants and their ability to operate the complex systems is impressive."

You might be wondering how the team will use this knowledge. Our team deploys in support of contingency operations to support an array of engineering missions. A key component is to evaluate and provide recommendations to the commander as to what it will take to restore and improve vital infrastructure. This is critical to winning the hearts and minds of our allies.

The team is fortunate to have participated in this unique training opportunity and brought to light, at least to my small team, that our water professionals rise to meet the challenge every day. The modern marvels that stood before us were built by an army of professionals and this Army team is better prepared because of it.

Southerly Wastewater Treatment Plant

L-R: Captain Carney, Captain Harris, Rick Kent, Captain Hepworth, Captain Fleminster, and Chief Warrant Officer Three

Parson Water Treatment Plant

L-R: Captain Harris, Major Roby, Captain Fleminster, and Captain Carney

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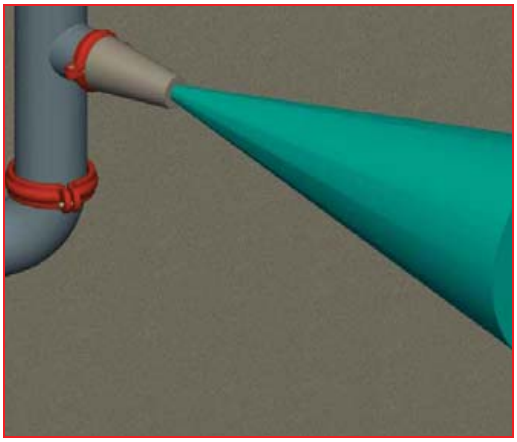

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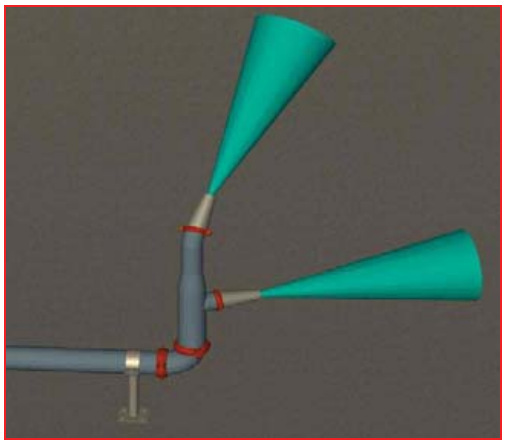

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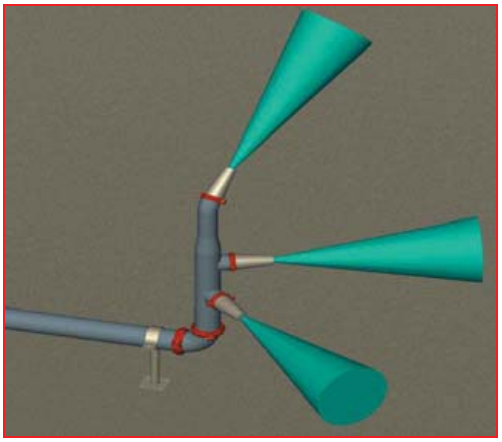

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