

# Buckeye Bulletin



OWEA's  
**Mike Welke**

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The ideas, opinions, concepts, and procedures expressed in this publication are those of the individual authors and not necessarily those of the Ohio Water Environment Association, its officers, general membership, or staff.

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## FEATURES

Kocarek Korner	7-8
Government Affairs	19-20
The People Place	23-24
Roll Call	25
Member Profile	27-28
Ohio EPA Update	29-30
2016 Sponsor Program	33-34
2016 Conference Information	37-53
Plant Profile - City of St. Mary's Watershed - Nutrient Enrichment in the Lower Great Miami River	54-56
WEF - Stormwater Management	56-57
Intermittent Operation	64-65
	70-71

## DEPARTMENTS

OWEA Officials	4
OWEA News	5
Calendar of Events	5
Welcome New OWEA Members	5
President's Message	6
WEF Delegates' Report	10
Section Reports	11-13
Committee Reports and Updates	14-21
Operations Quiz	21
Roll Call	25
Utility Partnership Program	31
Advertiser Index	78

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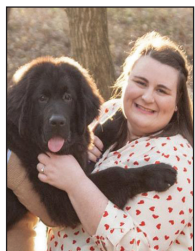
The Ohio Water Environment Association has 25 committees which focus on various aspects of the water quality field and association operations.

Contact OWEA at [info@ohiowea.org](mailto:info@ohiowea.org) or the chair of a committee that interests you for more information.



## OWEA NEWS

## Staff Changes



If you have called or emailed OWEA recently, you may have noticed Megan Borror née Sharp joined the staff November 30th and she is excited to start the new year as OWEA's Office Assistant. She graduated from The Ohio State University in May with a Bachelors of Communication and she has a passion for non profits and design. Flipping through this magazine, you may notice a few changes as Megan's goal is to bring a little more oomph to the magazine. She strives to be a humanitarian and have a career filled with non profit work. Outside of work, Megan is an animal lover, a vegetarian, and you probably will not get through the conversation without her gushing about her newfoundland puppy, Oliver.

## Find OWEA on your favorite social network



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Email us at [info@ohioweat.org](mailto:info@ohioweat.org)

## 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@ohioweat.org](mailto:amydavis@ohioweat.org)

## OWEA 2016 Calendar

## MARCH

- 2 OWEA Executive Committee Meeting
- 16 NW Section Meeting
- 17 OWEA Government & Regulatory Affairs Workshop
- 24 SW Section Meeting
- 25 NE LAC Training
- 30 NE Watershed Seminar

## APRIL

- 8 NW Executive Committee Meeting
- 14 SE Section and Plant Operations Meeting
- 23 NE Operator's Certification Review
- 29 NW Operator Education Day

## MAY

- 11 OWEA Executive Committee Meeting
- 18 OWEA Collection Systems Workshop
- 18 NW Section Meeting
- 19 SE Section/Awards/Biosolids/Small Systems Meeting

## JUNE

- 27-30 OWEA Technical Conference and Exhibition
- 26 OWEA Executive Committee Meeting

## WELCOME NEW MEMBERS

October 2015 - December 2015

Bradley Abner  
Kevin Allender  
Dan Barr  
Charles Borgeson  
Chris Bruegge  
Jim Burke  
Chase Clements  
Stephen Connor  
Achal Garg

Aaron Harter  
Kyle Johnson  
Steven Johnson  
John Krinks  
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David Rubin  
Rick Schaffer  
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Heather Spurlino  
Jim Warner  
Dan Whited  
Adam Wilford  
Bill Zawiski

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.ohioweat.org/memberships.php> for OWEA membership information



## PRESIDENT'S MESSAGE

By the time this message is printed, the holidays will be far behind us and 2016 will be under way. Statistically, many New Year's resolutions will already be broken. I hope your 2016 is off to a good start and you are still working on that New Year's resolution.

In the beginning of my presidency, you may recall that I talked about OWEA's year of transitions. We have a lot of exciting things going on in OWEA and the transitions have begun.

As many of you already know, in December we said farewell to Judi Henrich. Judi joined OWEA in 2008. I joined the Executive Committee in 2009. We "grew up" together in OWEA. Not only was Judi our Executive Administrator for seven years, she was (and still is) a good friend to many of us. While Judi worked for OWEA, she made a lot of improvements in customer service, the Buckeye Bulletin, and improved the professional image of our organization. We valued her contributions and will miss her. Over the years, she did a great job of preparing Amy Davis to take the lead role. There has been a smooth transition in personnel and customer service under Amy's leadership.

If you've called the office recently, you may have talked to our newest office assistant, Megan Sharp. Megan is a recent OSU graduate where she earned a degree in Communication. She brings skills in communications, computer programs like InDesign and Adobe, and great people skills. (Not to mention her passion for working for a non-profit with a great cause!) This is our first issue of the Buckeye Bulletin without Judi as the editor/layout



**Elizabeth Wick, P.E.**  
**OWEA President**

person. With Megan's and Amy's skills, you should see a smooth transition in the magazine and customer service.

We also welcomed three new members to the Executive Committee (EC) last June. Jason Tincu is the newest delegate representing the SW Section. Tom Fishbaugh is our "junior" WEF delegate. Fred Smith took over Tyler Linton's position on the EC as Southeast Delegate. All of these "newbies" have been great additions to the EC. In the last few months, we have taken on several challenges, had lively discussions, and been able to reach consensus on the issues. With new minds,

come new ideas and we are exploring options to make OWEA an even stronger organization. If you have an idea for improving OWEA, contact your section delegate or me.

Not to sound like a broken record, but the young professionals are the future of our organization. Young professionals are not only young by age; they are young in the wastewater treatment profession. If you have new operators at your plant that have been in the business less than five years, please send their names and contact information to Amy Davis so that we can be sure they get invited to events and get more involved in OWEA.

Watch your email for information on our future events. Not only do we have our usual workshops, we are in the early planning stages of the next OneWater joint conference which will be held in 2018. Other ideas for partnering with AWWA on workshops are also being discussed. If you have any suggestions, let someone on the EC know.

As we move into spring, and you head out to section events, remember to take a coworker or one of your staff along. We all had someone that got us involved with OWEA. Be that person for someone else. May we never lose our passion for clean water.

Elizabeth Wick, OWEA President  
[elizabeth.wick@epa.ohio.gov](mailto:elizabeth.wick@epa.ohio.gov)

**Elizabeth Wick, P.E., is currently the Manager of the Division of Surface Water in Ohio EPA's Northwest District Office, where she has worked for the past 28 years. In addition to being a Professional Engineer, Elizabeth holds a Class 3 wastewater operator license and is a member of the Select Society of Sanitary Sludge Shovelers (5S). She has a Bachelor of Science degree in Chemical Engineering from the University of Toledo.**

**Elizabeth resides in the Bowling Green area with her husband, Dave. They have four sons. Two are successful college graduates and two are currently attending the University of Toledo where they are majoring in engineering and recreational therapy. Elizabeth enjoys spending time with her family (especially her granddaughter), camping, hiking, and just hanging out around a bonfire.**

### 2015-2016 Executive Committee Meeting Schedule

Wednesday, March 2, 2016 OWEA Office

Wednesday, May 11, 2016 OWEA Office

Sunday, June 26, 2016 The Bertram/Aurora



# BIG CHRISTMAS—LITTLE CHRISTMAS

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

## My Christmas in Cleveland

Growing up in the Cleveland area, visits to Downtown the day after Thanksgiving - which we now call Black Friday - were part of my earliest memories of the Christmas season. In the time period before widespread opening of suburban malls, Cleveland was known for excellent shopping in one of seven major department stores. This was the Cleveland of my youth - a city transformed by the Second World War and still living in the afterglow of prosperity during my early life, before a gradual period of decline in the 1970s and a rebirth today.

The time period of which I am speaking is 1961 to 1969 when I was a child. On the day after Thanksgiving my family drove from Lake County to the Cleveland East Side at the Windermere Station on E. 130th Street (now the Stokes/Windermere Station) and then took the rapid transit to the Terminal Tower.

Upon arriving downtown, our first pilgrimage was to walk 12 blocks across Public Square East on Euclid Avenue to see the gigantic cut Christmas tree at the Sterling-Lindner Department Store. Most of the years I remember, the tree was about 70 feet tall and filled the middle center of the store, open many stories above where one could view the tree from different levels. Sterling Lindner was located at 1215 Euclid Avenue in a building constructed in 1909. The store remained at this location until its closing in 1969. The tradition for the Christmas tree began in 1927. I mourned the loss of this department store in 1969 and considered it a loss for Cleveland. The tree was part of the magic of Christmas. The store's closing coincided with the period when I was entering junior high school, a symbol that

youth was over.

The years 1969 and 1970 were part of the transformation of America, of which I bore witness. After the closing of Sterling Lindner the lower Cuyahoga River caught fire on June 22, 1969 - and was soon extinguished - unlike the fire in 1952 that lasted for days and caused significant damage. Following this in 1970 scientists proclaimed Lake Erie was "dead" - essentially due



The Sterling-Lindner Christmas tree, Cleveland Ohio, 1927-1968.

to hypoxia in the deeper Central Basin. This is part of a similar discussion being held today over the proliferation of Blue-Green Algae in the Western Basin due to Dissolved Reactive Phosphorus (DRP).

## The Passage of Time

As we grow older, most of us probably agree that the years pass faster and faster. One of the most memorable scenes I saw in a movie was 1960 *The Time Machine* set in the year 1899 starring the late Rod Taylor where the machine initially moves slowly through time. The rapid passage of days as light flickering is depicted through a window. This depiction of the passage of time mimic life closely.

Some of our perception of time is understandable. After all, each passing year becomes an increasingly smaller fraction of one's age - one year over an increasingly larger denominator (ones age). I have long felt this unfortunate. We spend our youth wishing time would speed up for the end of the school day, summer vacation, or Christmas. A year seemed like an eternity. Now, I feel that one year is equivalent to about ten months. I spend the winter season waiting for golf season to start, and then it is here. But as soon as it starts, summer is over and it is over again.

## Father Guido Sarducci of Saturday Night Live

Soon after I started attending The Ohio State University, the TV show Saturday Night Live came on the air. A hit sensation from the start, it featured a cast of characters that have become iconic in the entertainment industry.

One of the lesser known celebrities was the comedian Don Novello who played the role of fictional priest Father Guido Sarducci. Father Sarducci's role was writing for the National Enquirer "equivalent" of a newspaper for Vatican City. During each episode, Father Guido Sarducci appeared in the role of a priest giving an insiders perspective about activities in the Vatican, which occasionally bordered on gossip. He



The movie *The Time Machine*, 1960 after the famous H. G. Wells story of the same name.

also presented himself as an ad-hoc advisor to the Holy Father, giving him and his advisors advice from time to time on a variety of subjects. Mostly, he played the role of a reporter giving us “his scoop.” I found his character hilarious.

### **Big Christms–Little Christmas**

During one episode, Father Guido Sarducci reported on an idea that he had presented to the Holy Father and inner circle. It was called *Big Christmas – Little Christmas*. The premise was based on the idea that years pass quickly, and it can be stressful to face a hectic Christmas season every year. While many of us enjoy the season, the suggestion made sense to me with the overall impact coupled with the notion that years pass quickly.

### **Moving Forward with the Ohio AWWA**

I believe that I speak for many on the Ohio WEA board that we are pleased to be working to build a closer association with the Ohio AWWA. From the time in November 2010 when my Stantec colleague Clifford Shrive invited me as Ohio WEA President to the Annual Fly In, I developed a kinship for the Ohio AWWA. They are sisters and brothers to us, and the time I spend with the Ohio AWWA group on the Fly In during 2011, 2012, and 2013 were priceless. The representatives on the Water Utilities Council were awesome, and it was my honor to be in their company.



Comedian Don Novello as Father Guido Sarducci on, *Saturday Night Live*.

We have been having recent discussions on holding joint conferences again; this time in 2018. We have also been talking about the frequency of holding joint conferences. One suggestion was to hold the joint conference three years in a row in 2018, 2019, and 2020. At this time, I offer no formal opinion on this except that I want to work with this group for the betterment of the water environment any way I can.

One idea borrowing from the theme of *Big Christmas – Little Christmas* would be to hold joint conferences every other year or every several years. During years when we would not be holding a joint conference, we could have a more enhanced version of the Government Affairs Workshop, where Ohio WEA would partner with the Ohio AWWA. We would cover joint interest topics that impact both the clean and dirty water sides of our industry. This is akin to the concept of *Big Christmas – Little Christmas* where we would alternate joint conferences with an enhanced workshop. Drawing on the inspiration by Father Guido Sarducci, I believe that this idea may be a worthy consideration. I offer it as food for thought.

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Ohio AWWA- Ohio WEA Fly In Contingent 2011 (1st Row Left to Right: Dave Weihrauch, Dave Rager, Lunch Speaker Steve Roberts, Mike Gradoville, Dale Kocarek, and Doug Clark. 2nd Row: Clifford Shrive, Alan Vicory, Marlay Price, and Bob Davis).



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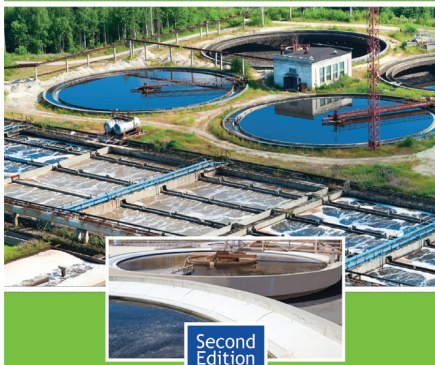
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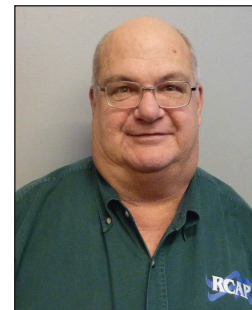
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Dale Kocarek



Tom Angelo



Tom Fishbaugh

## The Role of a WEF Delegate

There is a misconception within WEF's Member Associations (MAs) that being a WEF Delegate is easy. Like all volunteer positions, it can impose few responsibilities if one wishes to do the minimum. However, that has not been our tradition in Ohio. Virtually all of our past and present delegates actively maximize their opportunities to serve in work groups and committees, and many seek positions of leadership when the opportunities arise.

WEF is a complex organization and the table of organization between many of the leadership branches requires a special tutorial. Of course, we have the WEF President and Board of Trustees, which consists of 12 people (and is akin to our Ohio WEA Board). They oversee WEF staff and are responsible for the WEF operation including the *Strategic Plan* and *Budget*. The *lower chamber* as I call it, is the *House of Delegates*. There are 92 delegates from 75 MAs. They are a deliberative body that directs policy for WEF. They report to the HOD Speaker, which is Jamie Eichenberger. Last year, the HOD Speaker was Duyen Tran.

So far, this structure seems straight forward and understandable. However, this is where things get complicated. WEF has another committee called the CLC, which stands for the Central Leadership Committee. The CLC oversees the standing committees of WEF and special tasks groups as directed by the Board of Trustees (BOT). One of the historic challenges of WEF was overlapping duties between the HOD and CLC. One of Duyen Tran's accomplishments last year, which was encouraged and supported by the BOT, was to coordinate functions

and discussions between the two groups. As the Secretary of the Steering Committee, I witnessed this.

## Assignments Change Year to Year

Like our Ohio WEA board, the HOD changes each year. Members complete three year terms and drop off while others are appointed bringing in a fresh perspective. During the summer of each year, delegates are asked to select their committees of choice in order – one, two, and three. As noted, I was on the Steering Committee last year, which I thoroughly enjoyed. This year, I wanted to remain on the Steering Committee but ended up on the Nominating Committee – my second choice. By this time last year, I was in mid stride in my position in the Steering Committee – which included meetings with BOT member Jenny Hartfelder and WEF President Ed McCormack. In contrast, the Nominating Committee begins its primary responsibilities at the end of the year, with the objective to replenish WEF committees with candidates best suited for the position.

The newest committee is called the Outreach Committee, of which Tom Angelo is a member. The Outreach Committee is an outgrowth of the MA Leadership Workgroup, which helped assist MAs with managerial and leadership tasks, including member recruiting and retention. The Outreach Committee continues the core function of the MA Leadership Workgroup, but serves in an expanded function by serving in a communications role via webinars and other topics of general interest to WEF members, MAs, and the HOD. With the addition of the Outreach Committee, the HOD has

five committees:

- ◆ Budget Committee
- ◆ Steering Committee
- ◆ WEFMAX Committee
- ◆ Nominating Committee
- ◆ Outreach Committee

## WEF HOD Work Groups

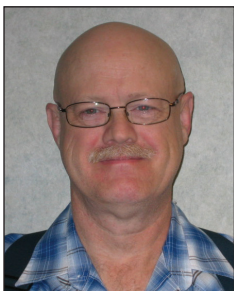
After a great amount of deliberation, of which I was part, Speaker of the House Jamie Eichenberger decided on the following work groups this year:

- ◆ Innovative Utility Management
- ◆ Membership
- ◆ Voice of Water (VOW)
- ◆ Stormwater

All of these work groups were selected on the basis of relevancy to our industry and to increase WEF membership. With the exception of the Voice of Water (VOW), all previous work groups were “sun-setted.” WEF determined that work was substantially complete, duplicated elsewhere, deferred for now, or promoted to a Committee (MA Leadership Work Group to the Outreach Committee).

Both Tom Fishbaugh and I belong to the VOW Work Group. One of functions of the VOW is to work with the National Water Coalition to formulate a provocative message about water. Unfortunately, unless one is faced with a water shortage such as California, many of us are not able to comprehend the importance of water into all facets of life. The VOW message via the Water Coalition will likely take the face of a national ad campaign and “traveling road show.” More locally at the MA level; the message could be found on billboards with thought provoking graphics. One of the ideas that the Water Coalition is leading is called “A Day without Water.”





## SWOWEA

Roger Rardain, President

Hello, my name is Roger Rardain and it is my honor to serve as the Southwest Section President for 2015-2016. I would like to thank my predecessor, Tom Brankamp, for his leadership and guidance during the past year and for his years of service for the Southwest Section members. Tom is a tough act to follow. Special thanks are also deserved for the rest of the Executive Committee, as they are the people who make things operate smoothly in the organization. I would also like to welcome Keith Heffner of MSDGC as our incoming 3rd Year Director.

I hope everyone had a peaceful and joyous time during the Christmas and New Year's holidays. After a warm El-Niño December, the weather now begins to turn to winter. Take heart, spring is just a few months away!

I am originally from the Hocking Hills region of Ohio and graduated from Rio Grande College (now the University of Rio Grande) in 1982 with a BS in Math and Chemistry. I currently live in Fairborn, Ohio with my wife of 30 years, Dolly. We have two adult daughters, Angelica and Clarissa.

I first entered the environmental field in 1988 with Howard Labs in Dayton, Ohio. In 1995, I was hired by the City of Fairborn at the Water Reclamation Center as a Lab Analyst. I am still in the position after 20 years. I hold a Class IV Wastewater Analyst Certificate and a Class III Wastewater Operator Certificate.

I became involved with the Laboratory Analysis Committee (LAC), eventually serving as co-chair (with Jim Davis, Montgomery County). With the LAC, Jim and I emphasized contact hour availability at no cost to the attendees. This continues to be successful, with excellent attendance at LAC events.

The Southwest Section continues to be active. Our September 2015 section meeting hosted by Butler County Environmental Services was wildly successful with 120 attendees. The October Operator Education was well-attended, as was the November Plant Operations Seminar. I wish to extend my thanks to the Plant Operations Committee for organizing these events, and for the exhibitors who participated. These people allow the SW Section to continue to provide educational events at reasonable prices. LAC held an event at MSDGC in Cincinnati last October. The LAC organizes four events each year, which provide educational events at no cost. I wish to express my thanks to the LAC, also.

In December, following our Executive Committee meeting, we held our annual Past Presidents' Luncheon. This is an annual event to recognize and thank the Southwest Section Past Presidents for their service to our section and state OWEA members.

The Southwest Section is quite active, with meetings and seminars coordinated by the Industrial Waste, Laboratory Analysis, and Plant Operations Committees throughout the year. During 2014-2015, a total of over 40 contact hours were made available at low or no cost by the dedicated individuals on all committees. I would like to extend my thanks to them.

This year, my goals include recruiting more members and to have more current members become active in the organization. I also believe it is important to give the Executive Committee and the Committee Chairs the support and guidance

to keep up the excellent service for the membership.

I look forward to having opportunities for environmental education, networking, low cost contact hours, and good food - beginning with our section meeting on September 17th at Butler County Environmental Services in LeSordessville. Please join us!

Finally, I wish to extend my congratulations to Ohio's 2015 Junior Water Prize Winner, Bluyé DeMessie of Mason, Ohio. The Stockholm Junior Prize is an international competition for water related research. Bluyé is a second time Ohio winner. We are proud that Bluyé is from the Southwest Section!



*Former SWOWEA Section Presidents' Luncheon*



### NWOWEA

Roberta Acosta, President

Happy New Year! Now that the whirlwind of activities surrounding the holidays is behind us, I would like to take this moment to thank our Section Members and Volunteers for their hard work and dedication to preserving Ohio's water environment, and also for the time and effort spent on behalf of OWEA and the Northwest Section. Without you, we would not have the great networking and training opportunities that we do!

In October, our Young Professionals Committee organized a tour of the Clearas Advanced Biological Nutrient Recovery system being piloted in the City of Perrysburg in conjunction with Baker and Associates and Jones and Henry Engineers. A social hour was held at the popular SWIG restaurant in Perrysburg with refreshments sponsored by Baker and Associates and Jones and Henry. Thank you both for your support of our YP's! Look for more YP events in the upcoming year.

The Northwest Collection System Hands-On Operators Training was held on November 5th. A total of 60 members attended the annual event held at the Northwestern Water and Sewer District in Bowling Green. The training is aimed at collection system operators, with topics this year focusing on chemical root and grease

removal, manhole rehabilitation techniques, air release valve maintenance, and soil stabilization around infrastructure utilizing HDP.

In December, the Section Executive Committee hosted our first Leadership Meeting with great success. The intent of the meeting was to engage our section chairs and members in a more active role in the organization and to solicit input to update our Committee Chair Policies and Procedures. I wanted to thank everyone who took the time to attend this important event! We still have committee positions available, if you are looking for an opportunity to volunteer, contact either myself or any other EC officer.

Mark your calendars! The March Section Meeting is currently being planned for the Allen County Wastewater Treatment Plant on March 16, 2016. A tour of the Shawnee 2 Water Pollution Control Facility and Ford Motor Lima Engine Plant (tentatively) will take place in the morning with lunch and technical sessions in the afternoon.

April 1st is the deadline to submit Safety Awards. Let everyone know about the great work that you do maintaining plant and customer safety. This is a self-nominating process and information regarding this award is available at: [www.ohiowea.org/safety](http://www.ohiowea.org/safety). You can send your nominations to: [nwsection@ohiowea.org](mailto:nwsection@ohiowea.org). Feel free to contact any EC Officer if you have questions.

Future events are currently being planned. Upcoming event information will be posted on the Section website at [www.ohiowea.org](http://www.ohiowea.org). Feel free to contact me or any of the Executive Committee Officers with your thoughts, questions, comments or suggestions.



### SEOWEA

Brandon Fox, President

Hello Southeast Section! I hope the new year is treating you well. I would like to take this opportunity to thank every who attended our February 18th event as you all aided in it's success!

For those who were unable to attend, this Section Meeting was our annual Industrial/Pretreatment meeting and we had an exciting lineup of speakers! At this event we offered three contact hours for the low price of \$25 for members.

Ultimately, providing inexpensive options for our members is what we strive for.

Coming up on the horizon, we have our annual Collections and Small Systems Section Meeting on 4/14. We have some excellent presenters scheduled so save the date and look out for the registration to open up online in the next month or so.

Oh, I heard at our April Section Meeting that there will be a raffle drawing for anyone who is in attendance at the meeting. One person will be awarded with a free registration for the State's Annual Conference in June, WaterBOOM! So for one lucky individual, this meeting will be the bargain of the year!

Collect some of your coworkers, get out of the office for the day, and come on down to our meeting! Or, if you would like to increase your chances with the raffle, don't tell them.





## NESOWEA

Tom Voldrich, President

So 2015 flew by and things don't look like they will slow any in 2016. I submit for your consideration it is hard work that makes time fly. So, I will blame my hard working Executive Committee and the many volunteers of our organization for this phenomena. The NE Section continues to put together a rich program chock full of interesting topics featuring a mix of recognized speakers both local and from across the country.

Last December we again honored our past Section presidents at our Annual December Luncheon at Max-Mc Q's in Akron, Ohio. Attendance, fellowship and a spirit of appreciation were in high gear as usual. Always a great way to end the year. So far this year we have already had two major section seminars, Our January 21st Operations Seminar and the February 18th Industrial Waste Seminar. These two seminars alone provided the membership 12.5 contact hours. Both were held at the Days Inn in Richfield which makes for a good central gathering spot for our section. These major events were coordinated by our Member Education Committee chair Terry Gellner and IWS/pretreatment chair Bill Cleary. Both events were packed to the facility's capacity. The presentations were out of the box and the dinner wasn't – can't beat that!

In keeping with my recommendation to build community within our Section through committee staff development we have new faces stepping in to offer some of their valuable time in the Public Outreach, Plant Operations, Young Professionals, Science Fair and Biosolids committees. In particular has been our focus on developing evermore Outreach opportunities. Since starting our Outreach Committee, we are beginning to get more organized. I see it as three parts, with three goals. Our focus is on 1)- Our all-important youth 2)-People in the trade that are not yet members 3)- General Public. The message is a rich mix of some very important verbs put into action: – “Encourage, Welcome, Educate”. It is worth noting our membership is embracing the message. Stepping forward to spearhead the Outreach committee is Steve Baytos. I would like to give Todd Taylor, our treasurer, kudos for going beyond his extensive duties to participate in activities from Science Fair judging to IT support.

The NE has been busy updating Policies and Procedures, Rules and Regs, Records Retention Policy, Website management, and never-ending registration

work. Jim Cooper and Doug Harris have been instrumental doing the heavy lifting.

Mark Hutson our membership chair reports the NESOWEA membership includes 722 state members and 209 section only members. Overall membership is up 21 members this year. Mark has made strides in E-mail communication of our publications and other notifications, and with membership renewals and record keeping. Thanks also to Chris Ryman our unsung Sparkling Water Publisher.

Looking ahead, Vice President Paul Solanics advises our spring Watershed seminar will be March 30th at Cleveland State University next year, featuring student involvement. I have been encouraging putting Outreach spins on Section activities and this event will take place at CSU's student center. Perfect. We look forward to this activity; and then rounding out the year, Paul has arranged to have our May 19th Section/Business meeting in Kent, Ohio; and Mike Cook is already planning the 10th Annual BioMassters golf outing! MaryAnn Driscoll and Art Kimpton are busy planning this years' State Conference, right here in the NE Section in Aurora at the Bertram Inn Conference Center. The NE Section will follow the NW Section lead to put on a Monday Utility Workshop. Kathy Richards and Jim Cooper are co-chairing and the theme is tentatively “Public Outreach and Education geared towards municipal leaders & administrators facing upcoming regulations”.

See you along the way!

Tom Voldrich, NESOWEA President – Reach me at [tvoldrich@ctconsultants.com](mailto:tvoldrich@ctconsultants.com)

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# LABORATORY ANALYSIS COMMITTEE

by Denise Seman and Melodi Clark, Co-Chairs

Happy 2016! Hoping everyone is off to a great start for the year. In the news: Ops Challenge will once again be held at state conference – if you would like to be a judge, please let us know. There have been several topical issues lately: how to write a proper SOP, using the new MDL procedure, performing laboratory math successfully... look for these to be included in future issues, as well as at upcoming events.

If you have a topic that you would like to have more information on, please let us know. If you have a topic you would like to share (and may not want to be a speaker), please write it up and submit to the Buckeye Bulletin for publication.

## SW LAC

We had a meeting on February 18th at Montgomery County Environmental Services. The rest of this year's meeting dates are not yet set. Keep looking in the Buckeye Bulletin, the WAVE, and your email for the dates and times.

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 the chairs listed below or these committee members:

Dr. Robert Smith, YSI  
Gregg Mitchell, City of Sidney  
Lori Kyle, Greene County  
Lynette Hodnicki, City of Fairfield  
Roger Rardain, City of Fairborn  
Teresa Shinkle, Greene County

## NE LAC

2015 was a successful year thanks to everyone who helped make the NE LAC meetings possible. The NE LAC held three meetings with a total of 6.5 contact hours.

We are looking to have our first meeting of 2016 in March, with a recap of the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. June 1, 2016 is the last date on the timeline for implementation of the GHS.

If anyone has a topic they would like to have presented or knows someone who would like to present a topic, please let me know. If you would like to be added to the NES LAC membership directory and receive automatic emails for training events, please email [nesowealac@gmail.com](mailto:nesowealac@gmail.com).

## SE LAC

I can't believe it's 2016. The Southeast LAC had three great meetings in 2015. 2016 is shaping up to be another year that we will have some really good meetings. My goal in 2016 is to have 4 meetings and offer a wide array of current topics that affect all of us especially with the new updates to many NPDES permits. I am always open to ideas and locations to hold meetings so if you have thoughts or suggestions please contact me so we can put together a great line up for our meetings. Hope everyone had a wonderful holiday season and I will be looking forward to seeing you all at our next meeting in March.

## NW LAC

Open

### COMMITTEE CONTACT INFORMATION

#### Co-STATE CHAIR

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#### Co-STATE CHAIR & SE CHAIR

Melodi Clark  
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#### NE Co-Chair

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#### SW Co-Chair

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#### SW Co-Chair

Jim Davis  
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[DavisJi@mcOhio.org](mailto:DavisJi@mcOhio.org)



### 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.





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# SAFETY COMMITTEE

## A NEW YEAR AND A RENEWED COMMITMENT TO SAFETY

by Nathan W. Coey, City of Pataskala Utility Director, Southeast Section OWEA Safety Rep

I hope this New Year finds you well and energized for your role in the daily mission of clean water. I hope 2015 was fruitful in your pursuit of “life, liberty, and pursuit of happiness.” The passing of the old year and transition to the new is a chance to set new goals in life.

This time of year, thoughts of sunny days at the ballpark get me through the cold and dark wintery mix here in Ohio. I look forward to pitchers and catchers reporting to spring training and April 4, the Cleveland Indians home opener against the Boston Red Sox. The late, great Bob Feller played 18 seasons for the Cleveland Indians. In the pinnacle of his career he joined the United States Navy in 1941 to serve his country in World War II. Even with the four year military service Feller posted historical pitching stats. Feller shared “Every day is a new opportunity. You can build on yesterday’s success or put its failures behind and start over again.” Every new day is a reminder of this gift of life and a chance to strive for greatness and pursue our goals.

2016 provides an opportunity and a renewed commitment to “Every Day Safety.” Commitment to safety begins with an understanding that there is no “off” switch when it comes to safety. We must always be on our game. The mission of “Every Day Safety” is to ensure we all go home at night without damage to our body and life. A poised and prepared safety conscientious mind provides vigilant performance in our daily duties. We are aware of the dangers and risks that come with our career path. We must be prepared and acknowledge known potential sources of harm in efforts to eliminate the likelihood of accidental harm or death.

During the course of 2015 I collected four news articles regarding deaths in our field:

### Minnesota

A 56 year old, 23 year veteran operator was found dead in an oxidation ditch. He was last seen at lunch and body was located around 5 pm that day.

### West Palm Beach

A 48 year old operator was found dead in a sewage pipe after an 18 hour search. He apparently fell in an open treatment tank.

### Knoxville

A 27 year old worker was fatally electrocuted when the ground stabilizing cable he was holding was energized

by overhead electricity. A 50 ton crane made contact with the overhead power lines during a plant upgrade project.

### Massachusetts

A construction worker was working in a trench box installing a new sewer main. A nearby water main break resulted in the trench quickly filling with water and entrapping the worker.

The tragedy of these situations are magnified knowing the families of these souls can no longer embrace their dearly departed.

These folks died serving their community and died as public servants. Imagine the pain and guilt of their coworkers thinking what they could have done to help. Unfortunately, accidents are a reality in this life. However, this is a reminder to always be vigilant in even the mundane. A vigilant safety attitude implores us to find solutions to prevent similar tragedies in the future.

Please use “Every Day Safety” (**EDS**) as a reminder of our goals in the work place.

**E**valuate the potential safety hazards for your work place. Account for the hazards and potential hazards.

**D**evelop a safety plan or program. The Ohio Bureau of Workers Compensation has provided a check list for recommended safety programs and policies. The check list can be located at:  
<https://www.bwc.ohio.gov/downloads/blankpdf/reviewchecklist.pdf>

**S**chedule weekly safety meetings. Safety meetings can provide educational value and will ensure the line of communication is open regarding safety. The Ohio Bureau of Workers Compensation provides free downloadable safety talks on a wide range of topics.  
<https://www.bwc.ohio.gov/employer/programs/safety/SafetyTalks.asp>

Please feel free to contact me if you have any questions starting a safety program at your work place.

Godspeed,

Nathan W. Coey  
City of Pataskala, Utility Director  
[ncoey@ci.pataskala.oh.us](mailto:ncoey@ci.pataskala.oh.us)  
740-927-4134

*Evaluate.  
Develop.  
Schedule.*



CAUTION CAUTION CAUTION CAUTION CAUTION

## OWEA'S 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.

### Award 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 **April 1, 2016**. Application available at <http://www.ohiowea.org/safety.php>.

CAUTION CAUTION CAUTION CAUTION CAUTION



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## Is Your Membership Profile Up to Date?

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



## WHAT'S THE VALUE OF WATER?

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#ValueWater



Presented in cooperation with the Value of Water coalition



# GOVERNMENT AFFAIRS COMMITTEE

by Dale Kocarek, P.E., BCEE, Chair

The Workshop Subgroup for the Government and Regulatory Affairs met on December 18, 2015 to discuss the presentations for the March 17, 2016 workshop at the Doubletree Plaza. This is something of an informal gathering that we have held this time of year for the last several years.

The workshop subgroup is led by John Owen, GARA Co-Chair. John and I have been working together for most of the last decade developing and improving this workshop. Most of the credit for past success of this workshop goes to John and others in the Ohio WEA family including the entire GARA committee, Ohio WEA Board, Judi Henrich, and now Amy Davis. This is a trend we want to continue and we are open to suggestions for improvement. Through the years, we have widened the circle of speakers to include members of WEF, WERF, and USEPA. One thing that I identified in our recent meeting as a means of improvement is to undertake workshop planning with the understanding that the March workshop and the regulatory forum at the annual conference in June are only three months apart.

Moving into 2016, I wish to embark on a mission to develop core position papers for Ohio WEA on a number of subjects. To do this, I need to enlist my entire committee for assistance. Part of my motivation is to follow WEF's lead, but in addition to fill a long unmet need of the organization since the time I was President of the Ohio WEA. Frankly the issues that we need to address as part of our movement towards enhanced relevancy and value to our members include: (1) who are we? (2) What interests to we serve? (3) What do we stand for, and (4) what is our ultimate goal or objective?

One of my motivating reasons pertains to the defeated Kirk provision, which would have made CSOs and flow blending illegal in states that discharge into the Great Lakes. Many of you have heard about this over the last few months. WEFTEC was abuzz with discussions on possible ramifications had this provision passed. During the Sunday meeting at WEFTEC for the Government Affairs Committee, a scenario was presented that would have made it entirely plausible for the provision in the 2016 budget bill to have passed.

As Chair of GARA, I used a model letter that WEF suggested as a position against the bill, did not like it, and then rewrote my own with a friendlier tone, and sent the letter to our Congressional representatives. Later on, I heard that the Ohio EPA was not pleased with my letter suggesting that neither CSOs nor flow blending are good for the Great Lakes. If there is any blame to assign, it goes to me.

This experience gave me pause to think. Does Ohio WEA stand purely for the interests of communities? Are we to always be in philosophical lock step with each belief of EPA? Or, rather do we stand for water quality and aquatic environment and the tangible and intangible benefits this brings to society? While I believe that our beliefs lean towards the third (environmental) option, I think that the real answer is that our belief of *what we stand for* must consider the needs and requirements of all communities – regulated, EPA, and environmental. I heard it many times during the last 33 years that the Ohio WEA needs to be an advocate of water quality and public education. I believe that this advocacy needs to be an impartial and unbiased counterweight that requires other factors to enter into the decision making equation. These include sound science, the economic reality of marginal benefit for each dollar spent on pollution control, and time needed to implement the best long term improvements, keeping in mind that the best solutions are not always the fastest. Also, we need to always be mindful of the ever present question, "If we can measure it, is it a problem?"

In closing, my answer is that neither I nor Ohio WEA support CSOs. Given that I grew up near Lake Erie and swam in the lake at Headlands State Park in Mentor, Ohio, I appreciate the value of the lake, and the lake is one reason why I entered this field. It is one of the things that make Ohio great. But, this brings me to the more important question I posed earlier that we collectively all need to know what Ohio WEA stands for. I have written several position statements for the WEF Government Affairs Committee, and I think this will be useful to Ohio WEA, and those we wish to communicate with as well.

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Government and Regulatory Affairs Committee Chair  
Stantec, 614.486.4383, [dale.kocarek@stantec.com](mailto:dale.kocarek@stantec.com)

John Owen, P.E., BCEE  
Government and Regulatory Affairs Workshop Vice Chair  
Ohio EPA, 614.728.3849, [john.owen@epa.ohio.gov](mailto:john.owen@epa.ohio.gov)

### Agenda

- 7:30 - 8:00 Registration and Continental Breakfast**
- 8:00 - 8:15** Welcome/Introductions/Opening Remarks  
- Dale Kocarek, P.E. BCEE, GAC Chair  
- Elizabeth Wick, President Ohio WEA
- 8:15 - 9:00** Ohio EPA Update  
- Craig Butler, Director, Ohio EPA
- 9:00 - 9:45** Ohio EPA Division of Surface Water Update  
- Erin Sherer  
- Harry Kallipolitis  
OEPA/DSW OEPA Program Managers
- 9:45 - 10:00 Break in Exhibit Area**
- 10:00 - 10:45** Ohio's Future Nutrient Rules – Episode MMXVI: A New Hope  
- Guy Jamesson, P.E., BCEE, City of Columbus  
- Elizabeth Toot-Levy, Geosyntec Consultants
- 10:45 - 11:30** ORSANCO Status Report  
- Richard Harrison P.E.,  
Executive Director, ORSANCO
- 11:30 - 12:45 Lunch and Visit with Exhibitors**
- 12:45 - 1:30** 2016 WEF Washington Update  
- Claudio Ternieden, WEF
- 1:30 - 2:15** WERF and LIFT Update  
- Dorn Sanders, WERF  
- Fidan Karimova, WERF
- 2:15 - 2:30 Break in Exhibit Area**
- 2:30 - 3:15** Ohio EPA DEFA: Reorganizing to better serve Ohio communities and businesses  
- Alauddin Alauddin, P.E.  
Assistant Chief OEPA, DEFA  
- Jerry Rouch, Assistant Chief OEPA, DEFA
- 3:15 - 4:00** EPA's Next Generation Compliance Program– Are We Ready for Big Data  
- Adrienne Nemura, P.E.,  
Geosyntec Consultants
- 4:00 Closing Remarks**  
- Dale Kocarek, P.E., BCEE, Committee Chair



# PLANT OPERATIONS UPDATE

by Kim Riddell and Joe Tillison, Co-Chairs

The Plant Operations Committee met on January 22, 2016 at the OWEA office in Columbus to start planning for Ops Challenge 2016 and our 2016 Plant Operations and Laboratory Two-Day Workshop. Members in attendance were: Kim Riddell and Joe Tillison (Co-chairs), Dave Reinker (SW Operations Chair), Matt Boone (SE Operations Chair), Denise Seman, Melody Clark, and Kevin Givins.

Planning is in full swing for the 2016 Operations Challenge Competition which will be held during our annual conference at the Bertram Inn in Aurora, Ohio on June 27th and 28th, 2016. We are happy to announce that the event will again be an invitational with up to 12 teams being hosted. We will save at least six spots for Ohio teams until the deadline of April 15, 2016 at which point all remaining available spots will become open on a first come first serve basis, so register early to reserve your spot for this exciting event! 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.

Our 2016 workshop will be held at the Doubletree Columbus Worthington on October 26th and 27th. The committee is working on a great line-up again

this year! Topics will include utility performance enhancements, green infrastructure and management / maintenance of those efforts, emergency operations and maintenance, phosphorus removal and the impact to POTW and the agricultural community, phosphorus recovery, mercury variance oversight, and the return of our much anticipated cocktail hour round table forum. 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!

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](mailto:kim.riddell@alloway.com) or Joe Tillison at [JTillison@bgohio.org](mailto:JTillison@bgohio.org) or 419-354-6274.

Kim Riddell, [kim.riddell@alloway.com](mailto:kim.riddell@alloway.com)

Joe Tillison, [JTillison@bgohio.org](mailto:JTillison@bgohio.org)

## TEST YOUR KNOWLEDGE – TAKE THE OPERATIONS QUIZ

1. A pump curve plots the relationship between the system head and the...
    - a. Liquid temperature.
    - b. Impeller material.
    - c. Casing type.
    - d. Flow.
  2. Your centrifugal pump motor was just installed and rewired. The pump is running but generating very little flow or pressure. What is the most likely cause?
    - a. Pump is not primed
    - b. Seal leak
    - c. Impeller speed is set too low
    - d. The impeller is rotating incorrectly due to improper wiring
  3. Which of the following is a list of waterborne diseases?
    - a. Tuberculosis, diphtheria, chickenpox
    - b. Typhoid fever, dysentery, cholera
    - c. Scarlet fever, pneumonia, hay fever
    - d. Mumps, measles, common cold
  4. A slow drip of water is leaving the packing gland of your centrifugal pump with rope packing. This is an indication of what?
    - a. Packing should be replaced
    - b. Packing should be loosened until a steady stream of water is observed
    - c. Packing gland should be tightened
    - d. Packing gland is properly adjusted
  5. What test is typically not performed on influent wastewater?
    - a. Fecal Coliform
    - b. pH
    - c. Total Suspended Solids
    - d. CBOD5
- Answers noted below.**  
**Questions, comments, or submit a suggested question? Email OWEA at [info@ohiowea.org](mailto:info@ohiowea.org)**

Answers: 1-d; 2-d; 3-b; 4-d; 5-a



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# MANAGING ORGANIZATIONAL CHALLENGES: HOW TO DEAL WITH A BAD BOSS

by Sharon M. Stecker of Brown and Caldwell

I have now been working in the environmental/water business for over 25 years. Over the course of that time period, I have found myself working under supervisors that have been less than motivating or cultivating; even outright incompetent. When this first happened, I was early in my career and found myself feeling frustrated, confused and worried... even really stressed. I thought I should quit or change careers. I was miserable to say the least!

My situation was seemingly getting worse, not better, only three or four months into the job. Then one weekend, I saw my dad and he asked "How is the job going?" I replied with a hesitant, slightly-shaky, "It's okay... I guess." Of course, he picked up immediately that I was talking code and in contrast was really saying, "Not going well. I am not happy at all." With that, he shared some great advice that I remember to this day. He said "You have met your first bad boss... and I promise it won't be your last!" He further went on to share that how I dealt with a bad boss was more important than how a bad boss dealt with me. I probably didn't say it, but for sure I was thinking to myself what the heck is he talking about? Could you repeat that? He did take the time to delve deeper into those words and explain further – with less Yoda-like language – that this negative experience was a great opportunity for me. In so many words, he was saying: Deal with it and get over it quickly... it happens! That might sound a bit trite or glib, but over the course of my career, his words have proved to be extremely valuable.

Let me get to the disclaimer quickly. There is difference between a bad boss and an abusive boss.

*If it hasn't happened to you yet, it will at some point in your career.*

Nobody should ever have to deal with an abusive boss. Never tolerate abusive behavior in the workplace (or anyplace). If you find yourself face to face with one

of them, my advice is to blow the whistle that you are being mistreated up the chain of command or to your Human Resources representative.

As a leader in a market leading organization, I take supervisor performance and employee engagement very seriously. I also take personal responsibility for creating an environment that builds strong supervisors as well as sniffs out the bad ones and either re-slots them to play up their strengths or moves them out. However, the reality of the work environment today is that there are many bad supervisors, managers, and bosses out there. In fact, a recent Gallup report, State of the American Manager: Analytics and Advice for Leaders, provides a deep look at what embodies great managers (supervisors and bosses) and examines the vital links between talent, engagement, and key business outcomes such as profitability and productivity. Gallop's research shows that managers account for at least 70% of the variance in employee engagement scores. A Gallup study of 7,272 U.S. adults revealed that one in two had left their job to get away from their manager to improve their overall life at some point in their career. Bottom line: There are lots of bad bosses out there!

## 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@brwnncald.com](mailto:jtincu@brwnncald.com)



Specific to the employee engagement points made by Gallup, organization leadership guru and author of *Lead from the Heart*, Mark C. Crowley recently reported in a LinkedIn Pulse piece that “Traditional leadership practices have produced the enemy that is low engagement. To defeat it, we must have the courage to reject many of our archaic methods, and to adopt ones known to have the greatest impact on inspiring human performance in the workplace.” While Mark and many other management and HR consultants are writing about what leaders can do for themselves than anyone else to fix their supervisors or what supervisors need to fix themselves, I want to shift the focus to what an employee with the bad supervisor can do to control their own destiny and not rely on others to do it for them. My thought is that there is more each individual can do to control their own level of engagement, advance their own career, and frankly, own their level of motivation. Each of us can do more with the power of our own mind, emotions, and attitude to create a healthy work environment and rewarding career.

Let me get back to that conversation with my Dad. What he impressed upon me most throughout my life was to always look beyond the short-term; seek those you want to be more like, and find motivation internally long before you seek it externally. Don’t get me wrong, a good supervisor is a strong career growth and personal development asset, but a bad supervisor isn’t the end of the world. The bad boss situation has the ability to instill more learning and growth than you could imagine. I view all the bad supervisors that I have had in the span of 25 years—trust me there have been a few—as blessings. These experiences, or tests, helped teach me how to deal with difficult people; hold difficult conversations, find my path, and certainly never, ever blame someone else for my own state of mind, situation, or development.

So, if you find yourself in the bad boss situation, here are some suggestions on how you can maximize the experience and dig deep to grow from it:

**1.** Be the leader you wish you had. I have heard this mantra a few times in my career and it has stuck with me. I remind myself of this one often when I think of my own leadership impact. Leadership role models can exist at any level or position in an organization. Your boss is rude; be kind. Your boss is disorganized; be well organized. Your boss is always late for meetings; be early for every meeting. You get the point.

**2.** Don’t take it personally. The worst thing you can do is take a bad boss as a reflection on you. You should never be a puppet or victim and you should recognize that you have more control over the outcome than you think. There are parts of life you cannot control and parts of life you can control. When you feel personally picked on, everything feels worse. Let that go.

**3.** Remember that this too shall pass. All difficult situations are temporary. The older you are, the more

your personal experience can help you acknowledge this. Remembering that the only constant in the universe is change may help build the prudent patience needed to get through a challenging situation.

**4.** Try to work it out. Confront your boss with “kind truth.” Honesty and compassion will not weaken you or let them off the moral hook. Actually, it will make you feel better and could help them grow as well. “Kind truth” is something leadership guru Patrick Lenconi talks about relative to supervisors dealing with difficult employees. I think it easily goes both ways. Having a truthful conversation with your boss to give feedback on what isn’t working for you, if done in a constructive manner, can go a long way. I realize this can be risky and might fall on deaf ears, but at least you know that you did everything you could to help yourself succeed.

**5.** Have a vision for the future. Having a vision of the future can help align your attitude and bring a positive outlook without getting dragged down. A vision will help pave the way to your future. Write your vision down and plan how you’re going to make your vision a reality. If you’ve done your best to work and communicate with them and nothing has changed, your efforts at building a better partnership may be futile. Don’t overstay.

All of the above may sound like common sense to you. However, it does take mastering your emotional context to deal with difficult people – especially the proverbial bad boss. While you can’t control other people or every situation, you can influence them. Most importantly, you can control how you feel and respond to them. As I reflect on highly successful individuals, they are people that have incredible self-control and awareness. Whether it’s a mom leading a family or a person leading a business or team, the thing that makes them different is they have high command of their emotions and positively influence those around them.

I hope these thoughts help you hone your emotional and tactical skills to deal with challenging bosses that you have or will ultimately find along your career path

Speaking from experience, professional and emotional development is never done!

***“Have patience. All things are difficult before they become easy.” -Saadi***

Sharon M. Stecker, Senior Vice President,  
Brown and Caldwell, [sstecker@brwnclld.com](mailto:sstecker@brwnclld.com)

**Sharon M. Stecker** is the business unit leader of Brown and Caldwell’s national Private Sector Enterprise. She has been recognized for her business acumen, client service and technical problem solving. She leads with balanced leadership and a strong focus on results. Sharon has over twenty five years of experience leading, managing and executing diverse environmental programs and projects.





# ROLL CALL

**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](mailto:info@ohiowea.org)**



**Joe Bates** has taken a position with the City of Xenia as the Water Treatment Plant Supervisor. Joe has over 22 years of experience in water and wastewater treatment and holds a double Class III license. He has been a WEF member since 1997. Joe's primary responsibilities include staff supervision of five full time and two part time operators, management of the cities 8MGD

design WTP, 11 wells, 5 water towers and 1 booster station along with ORC of Central State University. Total Customer base is approximately 36,000, with Greene Co. and CSU purchasing water from the city. Joe has worked for a number of communities in his career including, City of Springboro, City of Franklin, Montgomery County and the Village of Yellow Springs. He has served on SWOWEA Plant Ops Committee and as the SWOWEA Safety Representative since 2005. "Making this move to Xenia has been very positive for me and my family. I work with a great group of people! The operators take a lot of pride in their WTP." - Joe



**Jason L. Beck**, PE has joined the Henry P. Thompson Company as a Sales Engineer in their Milford, Ohio office and will be covering parts of Kentucky and Southern Ohio. Jason received a Bachelor's degree in Civil Engineering from Purdue University and a Master's degree in Environmental Engineering from Virginia Tech. He is a registered Professional Engineer with over

nine years of experience in the water and wastewater industry as an engineering consultant having worked for CDM Smith and Hazen & Sawyer. Jason has a diverse background in the industry that includes design of activated sludge systems, solids handling and digestion, disinfection, chemical feed, and effluent filtration.

"I'm excited to be a part of the HPT team and begin the next step in my career path. HPT's dedication to quality products and customer service aligns with my own values and goals as an Engineer and I'm looking forward to continue serving our customers ." - Jason



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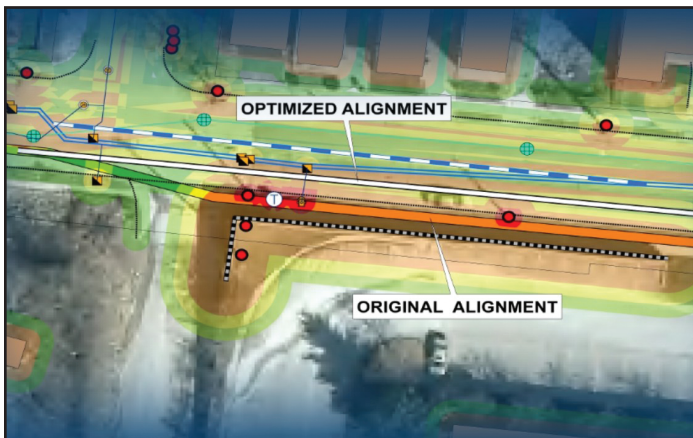
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## "PERFECT FIT"

### INGENUITY AND AN ELECTRICAL ENGINEERING TECHNOLOGY DEGREE ARE STRONG ASSETS FOR AN OHIO OPERATOR

by Scottie Dayton, Photos by Amy Voight

An electrical engineering degree helped Mike Welke slip comfortably into a role overseeing biosolids production and general maintenance of an older facility.

Until the upgrade for the Warren (Ohio) Water Pollution Control facility becomes reality, Mike Welke and his crews nurse and coerce every piece of aging equipment.

The plant was upgraded in 1988, and the biosolids facility went online in 1998. "Our greatest challenge is age," says Welke, biosolids manager and maintenance supervisor. "Each day I walk in wondering what's next. I've sweated out how to do things more often than I care to admit."

Ingenuity and an associate degree in electrical engineering technology from Youngstown State University have been strong assets for Welke, enabling him to work with the resources at hand. His ability to keep equipment running and the plant compliant is one reason he won the 2014 F. D. Dean Stewart Award from the Ohio Water Environment Association (OWEA) recognizing exemplary efforts in plant operations, maintenance and record keeping.



Mike Welke  
Biosolids Manager,  
Maintenance Supervisor  
City of Warren Water Pollution Control

Welke was a maintenance mechanic 3 when the biosolids plant went online. Then Director Tom Angelo moved him to the Biosolids Division and shared his goal of aggressively marketing the product using the brand name Nature's Blend. "His ideas intrigued me, and I became very interested in the beneficial reuse of biosolids," says Welke.

As a biosolids technician, he worked with engineers as they finished the build. The experience solidified his understanding of how components operated, and that helped him through the startup phase. Welke worked with the electrical engineer to verify that the circuits met plant specifications. Later, he explained situations over the phone to engineers, then implemented their suggestions.

"It was hands-on work — just what I went to school for," says Welke, who has 27 years with the city. "I initially envisioned myself as the person who built and tested prototypes based on engineers' designs of amplifiers or circuits, then suggested modifications if they didn't work," he says. "This is one of those weird life situations that worked out well. My training transitioned seamlessly into the wastewater industry, and I wouldn't change a thing."

#### Treatment Trains

Built in 1962, the 16.5 mgd (design) activated sludge plant averages 12 mgd from more than 15,800 customers in Warren, Champion and Lordstown. Wastewater flows past a raw influent sampler (Hach), over two catenary bar screens and a manual bar screen (E & I Corp., a Division of McNish Corp.), and into four Detritor tanks (Ovivo USA).

Leaving the tanks, liquid passes through five primary settling tanks. Secondary treatment occurs in four aeration tanks and a mixed liquor channel. After four final clarifiers, a chlorine contact tank and two post-aeration tanks, the effluent discharges to the Mahoning River.

Sludge passes through a gravity thickener into a holding tank. The biosolids facility is designed to process 240 wet tons per day, yielding Class A exceptional quality biosolids. It has two 2-meter Klampress belt presses (Alfa Laval Ashbrook Simon-Hartley), dual conveyors (Serpentix Conveyor Corp.) and an EnVessel Pasteurization system (RDP Technologies) that uses electric heat and hydrated lime. The facility won first place in the U.S. EPA 1999 National Biosolids Exemplary Awards.

#### Duty Calls

Welke joined the city in 1988 and worked his way up to his present position. He manages the biosolids facility and 14 people who maintain the collections systems, seven lift stations, and treatment plant equipment. His degree allows him to maintain the facilities' electrical systems.

Because of time constraints, Welke relies on versatile Paul Geist, lead maintenance mechanic 3, and Jim Valentine, maintenance mechanic 3, to manage daily treatment plant operations. Tom Yauger, lead wastewater operator, monitors the treatment process and alerts Welke to major changes that would require his presence. Welke depends heavily on Ryan Hathhorn, lead biosolids technician, to oversee production and two other technicians. When situations turn difficult, though, Welke gets down and dirty with his crews.

One example was Christmas Eve 2010, a Friday. A pipe clamp had loosened in an inground pump station, allowing sewage to flood the dry well and short out the two 40 hp pumps. Welke responded with his crew. He called John Silbaugh of the Sewer Division, who brought the city's Vactor combination truck and its crew. After



they lowered the level in the dry well, they shut off the power and closed the inlet valve.

"We started portable heaters and used dielectric sprays to dry out panels, contactors and circuits," says Welke. "If I couldn't dry one of the motors enough to start the pump, there wasn't a spare at the shop and no stores would open until Monday."

Jim Wilden, plant superintendent, was also present. While components baked, workers tightened the pipe clamp and cleaned. Around midnight, Welke restored power and switched on the redundant pump. It ran. "John and his men stayed with me the whole time," says Welke. "I was proud of my crew, because many were newer and hadn't seen this before."

### Quality Product

Welke devotes most of his attention to the biosolids plant. The dual train can process 240 wet tons per day, but the treatment plant averages 36 to 40 wet tons.

The extra capacity was designed for redundancy and to accommodate material from other municipal plants that contracted with Nature's Blend processing facility.

"We can make anything into Class A exceptional quality material, but it must have a marketable appearance," says Welke. "Therefore, we conducted trials with material from local facilities and New York City." The latter produced a sloppy product with high ammonia, both unacceptable to farmers. Because correcting the situation would mean extra processing and increased costs, city officials stopped receiving material from New York.

While the price partners paid covered production costs and was less than the landfill tipping fees, most facilities had no way to ship sludge. "Once we added transportation costs to production costs, communities chose to landfill," says Welke. "The bottom line blinded them to the benefit of reuse."



Aerial photo of City of Warren Water Pollution Control.

That left Warren to market its own product. Most went to farmers for \$1 per dry ton, but some was mixed into Nature's Blend potting soil. Between 2000 and 2007, 450 Giant Eagle grocery stores sold 6-pound bags of the product in four states.

The program ended when the U.S. EPA held Warren accountable for a misstatement in its biosolids management plan that said all products would meet 503 regulations for all parameters including pH. "Officials wanted the potting soil to have a 10.5 pH, which would have burned every plant it touched," says Welke. "Potting soil needs a neutral pH of 7."

Today, farmers apply the plant's annual production of 2,500 to 3,000 dry tons. "We start with 4.5 to 5.5 percent feed solids that dewater to 24 percent cake," says Welke. "After pasteurization, the granules are 36 to 40 percent solids."

"Besides the EPA, our greatest obstacle was and remains the municipal mentality of how quickly and cheaply can I get rid of this," he continues. "We never convinced partners and potential partners that if they put a value on their product, others would eventually believe it."

### Positive Reinforcement

Setbacks in the program haven't stopped Welke from talking about biosolids to grade school students during Earth Day. One of his favorite demonstrations involved Nature's Blend potting soil.

He gave classes little growing pots and some sunflower and marigold seeds, then asked the kids to plant them in the organic fertilizer. "One class sent a picture of marigolds growing so well that the kids gave them as presents for Mother's Day," he says.

Welke needed figures, not flowers, to convince some council and community members to stay the course. "We average 8,000 to 10,000 wet tons of biosolids per year, and in 2014, it cost \$34 to \$59 per wet ton to process," he says. "Selling the product to farmers generated \$11,865, which didn't offset production costs."

However, even Milorganite, the most successful biosolids program in the nation, doesn't generate enough income to cover production."

A recent decrease in landfill tipping fees reopened the conversation. "While fees of \$40 to \$50 per ton sound enticing, I still have to turn the material into cake before landfills will accept it," says Welke. "Last year's figures show it is at least \$200,000 cheaper to hold our course. We're much further ahead and we believe beneficial reuse is the responsible choice."

*This article first appeared in the October 2015 edition of Treatment Plant Operator magazine, published by COLE Publishing, Three Lakes, Wisconsin.  
It is reprinted by permission.*

# NPDES NEWS

by Erin Sherer, Ohio EPA, Division of Surface Water

2015 was an interesting and busy year for issues related to NPDES permits in Ohio. Highlights include passage of a law (Senate Bill 1) to require nutrient-related data gathering for some NPDES permit holders; changes to Ohio's TMDL program based on an Ohio Supreme Court ruling; continuation of harmful algal blooms including a 650 mile stretch of the Ohio River, and implementation of new USEPA regulations applicable to intake structures of existing sources (316(b)). In addition, several Ohio EPA management and program changes occurred resulting in additional changes to the NPDES program. This article gives an overview of how these issues are being implemented in the NPDES program.

## Senate Bill 1 (Ohio Revised Code 6111.03)

This law incorporates new requirements for POTWs with design flows of 1 MGD or greater. Facilities that have a phosphorus limit as of July 3, 2015, must begin monitoring dissolved phosphorus not later than December 1, 2016. Facilities without phosphorus limits (as of July 2015) must evaluate the technical and financial capability of the existing treatment facility to meet a total phosphorus effluent discharge of 1 mg/l.

The first part of the new law states:

*Not later than December 1, 2016, a POTW with a design flow of 1 MGD or more, or designated as a major discharger by the director, shall be required to begin monthly monitoring of total and dissolved reactive phosphorus pursuant to a new NPDES permit, an NPDES permit renewal or a director-initiated modification.*

New conditions will be incorporated into applicable NPDES permits to implement this law. Dissolved reactive phosphorus, also referred to as orthophosphate (OP), is analyzed by filtering an unpreserved sample through a 0.45-mm filter within 15 minutes of collection and analyzed within 48 hours of sampling. The approved analytical methods for OP are listed in 40 CFR 136, Table IB. The sampling, filtering and preserving requirements are in Table II of 40 CFR 136.

The permit will include a monitoring requirement for a monthly grab sample of parameter code 00671 (Ortho-phosphate (as P)) and the following language in Part II:

*Beginning no later than three months from the effective date of this permit, the permittee shall begin monitoring for dissolved orthophosphate by grab sample. The permittee shall filter the grab sample within 15 minutes of collection using a 0.45-micron filter. The filtered sample must be analyzed within 48 hours. Samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance.*

Ideally, the OP grab sample would be taken at the

same time as the TP composite, and the permit language may be modified in the future accordingly. Ohio EPA will mainly use the OP effluent data for watershed and stream modeling purposes. In-stream OP data is collected by grab sample; therefore, effluent samples are also being required as grab samples. However, a POTW can determine its own use of the OP data and take additional data which can be reflected in the applicable NPDES permit if requested.

Ohio EPA will incorporate the new OP requirement included in the renewals of permits due to expire on or before 12/1/2016. Permits expiring after 12/1/2016, or in other unusual situations (e.g. litigation), will have an agency initiated minor modification, likely in May 2016, to incorporate the requirements. Ohio EPA recommends POTWs subject to this law plan to submit the required OP data beginning 12/1/2016, regardless of the actual permit requirements in effect at that time.

The second part of the new law states:

*Not later than December 1, 2017, a POTW with a design flow of 1 MGD or more that, on July 3, 2015, is not subject to a phosphorus limit shall complete and submit to the director a study that evaluates the technical and financial capability of the existing treatment facility to reduce the final effluent discharge of phosphorus to 1 mg/l using possible source reduction measures, operational procedures and unit process configurations.*

This law is 'self-implementing' (not required to be within an NPDES permit). Ohio EPA will send a letter to the affected POTWs in early 2016 explaining the requirements in more detail. NPDES permits currently require majors in the Lake Erie Basin that have a 1 mg/l TP limit to evaluate the WWTP's capability to achieve a less than 1 mg/l TP in the final effluent. The standard Evaluation for Reducing Discharge of Phosphorus form used by Lake Erie Basin majors is being modified for the POTWs that are now required to do capability evaluations. The current form is available at:

[www.epa.ohio.gov/dsw/permits/npdesform.aspx](http://www.epa.ohio.gov/dsw/permits/npdesform.aspx).

## Ohio Supreme Court TMDL Ruling

In March 2015, The Ohio Supreme Court decided that a TMDL is a "rule" and must be promulgated in accordance with state law (ORC Chapter 119) before it can be submitted to US EPA for approval and before it is used for establishing NPDES permit requirements. A copy of the court's opinion, *Fairfield County Board of Commissioners versus the (former) Ohio EPA Director Nally*, is available at:

<http://www.supremecourt.ohio.gov/ROD/docs/pdf/0/2015/2015-Ohio-991.pdf>.

Ohio EPA is evaluating TMDL-based effluent limitations on a case by case basis as permits are renewed. At this time, future TMDLs will be required



to go through a full rule making process. The TMDL program is evaluating options in light of this decision, and working with USEPA to pursue potential federal TMDLs in Ohio.

### **Harmful Algal Blooms, Water Treatment Plants, and NPDES**

The Ohio EPA Division of Drinking and Groundwater recommends that water treatment plants experiencing a harmful algal bloom in source water should discharge filter backwash water instead of recycling it. Because water treatment plant NPDES permits are not necessarily designed to accommodate this situation, the Divisions of Surface and Drinking Water are currently working on guidance and a permit pathway.

### **Water Intake Structures (316(b))**

Section 316(b) of the Clean Water Act requires U.S. EPA to issue regulations on the design and operation of intake structures in order to minimize adverse environmental impacts. In 2014, U.S. EPA promulgated 316(b) regulations for existing sources. These are included in the NPDES permit regulations, 40 CFR Parts 122 & 125 (Subparts I, J, & N). Some highlights from these regulations include:

- ◆ Industrial facilities that get non-potable water from an intake structure are responsible for ensuring the intake is 316(b) compliant – even if they get the water through a 3rd party contract.
- ◆ Applicable NPDES permits that expire after July 17, 2018, must document compliance with these regulations in the application renewal.
- ◆ If a facility uses 125 MGD or more of intake water, impingement and entrainment studies will likely be required. If a facility uses 2 MGD or more of intake water, special provisions apply, and other applicable facilities may need to demonstrate Best Technology Available on a case by case basis.

### **New NPDES Application Data Requirements**

In 2015, USEPA noted that Ohio EPA NPDES 2C application requirements were not entirely consistent with 40 CFR 122.21. In essence, federal regulations require more data for some parameters to be submitted with the application than has been Ohio EPA's past practice.

This change affects POTWs with design flows greater than 1.0 MGD that do not already have an approved pretreatment program. Those that have a pretreatment program already submit the additional required data.

Federal regulations require the 2C application include three scans for parameters listed in Appendix J to 40 CFR 122. These include metals such as antimony, beryllium, silver, and thallium; hardness; volatile organic compounds; acid-extractable compounds; and base-neutral compounds. Affected POTWs with permits that expire after March 1, 2018, will need to include the data as part of their renewal application. Ohio EPA

will send a letter in 2016 with information about this requirement to facilities that will need to meet the new application requirement. For more information refer to the fact sheet available at:

[www.epa.ohio.gov/dsw/permits/individuals.aspx](http://www.epa.ohio.gov/dsw/permits/individuals.aspx).

### **Management Changes**

In October of 2015, there were several upper management changes. Karl Gebhardt (previously both Chief of the Division of Surface Water and Deputy Director of Water Resources) handed off his Chief duties in order to better focus on implementing the binational agreement to reduce nutrient levels going into Lake Erie, and developing a strategic plan on managing dredge material (specifically by not disposing it in Lake Erie). In addition, Pam Allen, formerly Chief of Division of Materials and Waste Management, is working with Karl and these major initiatives. Terrie TerMeer is now Chief of the Division of Materials and Waste Management (DMWM). Tiffani Kavalec is now the Chief of Division of Surface Water. Brian Hall is the Assistant Chief. Ashley Ward started as the supervisor of the NPDES Section in central office on January 25th, 2016. Mark Stump is the supervisor of the biosolids, pretreatment, and the Permit to Install programs.

### **NPDES Program Changes**

Previous to 2015, major NPDES permits were done in DSW central office with district office assistance. Now district staff will be the lead permit writers (with central office assistance) for most major permits. In addition, Ohio EPA implemented a new staff rotation policy that switched county assignments.

A new goal for the program is to renew NPDES permits by their expiration date. The previous goal was to renew permits within the state fiscal year as allowed by federal law. In order to achieve this new goal, the agency will begin enforcing the long standing requirement that applicants must submit renewal applications not later than 180 days prior to the expiration date of the current permit. A new compliance and enforcement process will encourage timely submittals. DSW is considering requiring applications 7 months, instead of 6 months, in advance for complex permits.

2015 also saw the implementation of a preview period for the permittee. A 14-day review period of the draft permit is now being offered to the permittee prior to public notice. The preview is extended as a courtesy to the permittee and is not intended to replace or preclude receiving comments during the public notice period. All communications during this preview are included in the public record.

In conclusion, my first year as the program manager for the NPDES and PTI program was active and interesting. One focus in 2016 will be improvements to our electronic permitting software SWIMS and the ability to submit individual applications on line. I look forward to the 2016 OWEA activities and may the next "NPDES News" not need to be quite so long.



## 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@ohioweat.org](mailto:amydavis@ohioweat.org), 614.488.5800

### Avon Lake Municipal Utilities

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City of Columbus DPU

City of Fairborn

City of Harrison

City of Mansfield

City of Marietta WWTP

City of Newark Wastewater Treatment Plant

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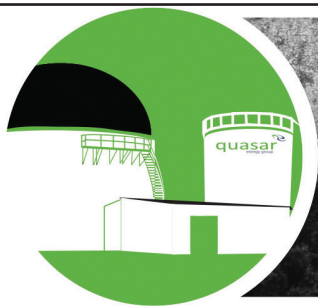
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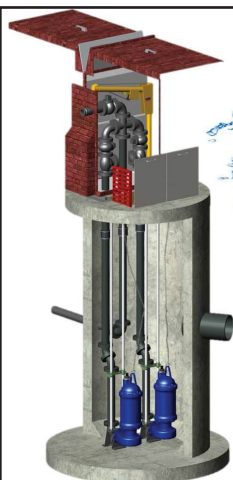
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Mary Ann Driscoll  
Conference Co-Chair  
330.376.5778  
[MaryAnn.Driscoll@burgessniple.com](mailto:MaryAnn.Driscoll@burgessniple.com)

Art Kimpton  
Conference Co-Chair  
440.838.1221  
[akimpton@peltonenv.com](mailto:akimpton@peltonenv.com)

Ted Baker  
Technical Program Chair  
440.461.4677  
[kingsnu@aol.com](mailto:kingsnu@aol.com)

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### Dear WaterBOOMers,

**Join your OWEA friends and colleagues as we return to the Bertram Inn for the OWEA 2016 Annual Conference!**

We would like to invite all water and wastewater professionals and coworkers to join us in Aurora for three and a half days of networking and learning. The program contains a variety of learning and networking opportunities that will appeal to people of all ages and experience. We will be continuing the tradition of recognizing the achievements of our peers at the Awards Breakfast and Banquet, while introducing new concepts and technologies through exhibits and technical sessions.

**The 2016 Conference offers BOOMing value for your money and time!**

There are more than 13 contact hours offered through technical sessions, exhibit hall tours, and a plant tour. The Conference Committee has compiled a diverse group of talented speakers to share their knowledge and provide a learning opportunity through more than 44 presentations. New this year – we are presenting the All Star Performers track on Thursday morning! These four presentations are

being given on both Wednesday and Thursday, so you have two chances to catch these informative sessions!

Numerous vendors will gather to provide insight on new equipment and technological advances in the industry. In addition to the learning opportunities, there are several occasions to network and expand professional relationships. Golf, the Welcome Social,

Meet and Greet and Banquet are all great occasions to network, make new friends and spend time with colleagues. Be sure to meet the Ops Challenge teams and take in the Operations Challenge Events. See if you and your group are up to the challenge next year!

We would like to thank all the sponsors and those that have worked hard for several months to make this conference a great experience for all!

Sincerely,

**2016 Conference Committee Co-Chairs**

Mary Ann Driscoll,

[maryann.driscoll@burgessniple.com](mailto:maryann.driscoll@burgessniple.com)

Art Kimpton,

[akimpton@peltonenv.com](mailto:akimpton@peltonenv.com)

### 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:

Amy Davis, [amydavis@phiowea.org](mailto:amydavis@phiowea.org), 614-488-5800.

You can also sign up using the online form at [www.ohiowea.org](http://www.ohiowea.org).

**Registration:** Monday - Thursday

**Golf Volunteers:** Monday

**Exhibit Tour Monitors:** Tuesday

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Sponsors committed as of 2/25/16.



## Registration Options

### Early Registration - by May 31st:

Full Conference Member.....	\$275
Full Conference Nonmember.....	\$400
Retired Member Full Conference.....	\$150
Tuesday Only Member .....	\$145
Tuesday Only Nonmember .....	\$220
Wednesday Only Member .....	\$145
Wednesday Only Nonmember .....	\$220
Student.....	\$50
Spouse/Guest Program .....	\$160

### Late Registration - June 1 and after:

Full Conference Member.....	\$325
Full Conference Nonmember.....	\$450
Retired Member Full Conference.....	\$200
Tuesday Only Member .....	\$170
Tuesday Only Nonmember .....	\$245
Wednesday Only Member .....	\$170
Wednesday Only Nonmember .....	\$245
Student.....	\$75
Spouse/Guest Program .....	\$210

### Budget Options\*

\*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.

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

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Golf.....	\$250
Sustaining.....	\$250

Register online [www.ohiowea.org](http://www.ohiowea.org)

## Schedule

Monday, June 27 - Thursday, June 30

### Monday, June 27

8:00 a - 9:00 p	Registration
9:00 a - 5:00 p	Ops Challenge Events
9:00 a - 4:00 p	Preconference Utility Workshop
8:00 a - 5:00 p	Golf Outing - Boulder Creek Golf Course (shotgun start at 9:30 am)
5:00 p - 9:00 p	Exhibitor Setup
7:30 p - 10:00 p	Welcome Social - Attendees and Ops Challenge Teams

### Tuesday, June 28

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 - 4:00 p	Ops Challenge Events
1:00 p - 3:45 p	Technical Sessions - Young Professional Papers
1:30 p - 2:30 p	Exhibit Hall Tour (earn one contact hour)
2:15 p - 3:45 p	Portage County Water Resources Tour Streetsboro WWTP
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 - ThornCreek Winery
10:30 p	After Party in Hospitality Suites - Pool Area (All attendees welcome)

### Wednesday, June 29

7:00 a - 5:00 p	Registration
7:00 a - 8:00 p	Crystal Crucible Breakfast (by invitation)
7:00 a - 9:00 p	Breakfast
8:00 a - 11:45 a	Technical Sessions (4 Concurrent Sessions)
9:15 a - 4:00 p	Spouse/Guest Program
11:45 a - 1:00 p	Lunch
11:45 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
11:00 p	After Party in Hospitality Suites - Pool Area (all attendees welcome)

### Thursday, June 30

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 - 11:45 p	Technical Sessions (3 Concurrent Sessions)
12:00 p - 1:30 p	Conference Committee Lunch (by invitation)

\*Schedule as of 2/24/2016

## NEOWEA PRECONFERENCE WORKSHOP MONDAY, JUNE 27<sup>TH</sup>

### What Do We Know and How Do We Share It?

This is a one-day workshop hosted by the OWEA Northeast Section open to anyone – conference registrants and one-day visitors. The Northeast Section is hosting this event and covering some of the costs to provide a service to the membership and offer training on a very important topic.

Communication and outreach is an often forgotten key element of our industry. The Northeast Section is excited to bring this important topic to the annual conference. This workshop is designed to provide attendees with some direction or advice on how best to communicate the importance of what we do to the public. The next Buckeye Bulletin will provide a list of speakers and topics.

**Special Offer:** Invite your manager to come with you for FREE! If an operator or superintendent registers for this workshop, they may register one manager or governmental official (from the same municipality) for free. The free attendee must also pre-register.

The cost of the workshop is \$25 and includes a continental breakfast and lunch and attendees will obtain contact hours. This event requires separate registration from the conference. Non-members can attend for the same rate.

### Welcome Social | Monday, June 27

Whether a busy day with colleagues on the golf course, at Operations Challenge or at the Preconference Workshop, or just getting to the conference Monday evening, join us Monday evening poolside at the hotel for a Welcome Social! Meet new people while enjoying beverages and appetizers from 7:30 pm – 10:00 pm.



### Exhibition | Tuesday, June 28

**Exhibitor spaces are limited so reserve your booth now!**

The Exhibition will be held at The Bertram Hotel & Conference Center in Aurora, Ohio. The Exhibit Hall will be open Tuesday from 10:00 am - 5:00 pm, with an Exhibit Hall Tour for one contact hour 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](http://www.ohiowea.org), or contact OWEA at 614.488.5800/[info@ohiowea.org](mailto: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



## **Awards Breakfast** | Tuesday, June 28, 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 28 at 8:30 a.m. in the Hayes Ballroom. This ballroom is in the adjacent building to the sleeping rooms. 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. Paul Bowen, WEF President, will also be there to address us and let us know what is going on at the Water Environment Federation.



## **OWEA Annual Business Meeting** | Tuesday, June 28, 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, ongoing 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 28, 11:00 am to 12:00 pm and 1:30 pm to 2:30 pm

Earn 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!



## **Young Professional Papers** | Tuesday, June 28, 1:00 pm

Remember when you were just starting out in the field? To encourage our young professionals we have young professionals presenting in the Amphitheater on Tuesday afternoon. Take a break from the exhibits and earn additional contact hours. Listen to presentations regarding the design considerations of a greenway for CSO control, holistic sewer rehabilitation for the next generation of I/I control and the prioritization of improvements for Columbus' Blueprint projects.

## Portage County Water Resources | Tuesday, June 28, 2:15 pm to 3:45 pm

### Tour Streetsboro WWTP

The Portage County Department of Water Resources Streetsboro Wastewater Treatment Plant has a design average daily flow of 4.0 (million gallons per day) mgd and a peak hour flow of 17.4 mgd. Average daily flow to the plant is currently around 2.9 mgd, with its effluent discharging into Tinkers Creek.

The wastewater treatment process consists of the following: influent screw pumps; aerated grit removal; mechanical screening; aeration/contact stabilization; final clarification; nitrification towers; tertiary treatment; and UV disinfection. The solids treatment processing consists of aerobic digestion; centrifuge dewatering; and sludge dryer to dry the solids to over 90 percent solids. What is unique about the Streetsboro WWTP solids treatment? The County hauls sludge from ten different remote WWTP's to Streetsboro for processing.

The Streetsboro WWTP has undergone numerous improvement projects since it was first built. The two most recent projects were in 2009 and 2013. The 2009 project improved their sludge processing by adding a centrifuge for dewatering and sludge dryer. The sludge dryer has design capacity of 16 dry tons per day. The system includes a wet cake silo for feeding the dryer, a dry biosolids storage silo for the dried material, and a bio-filtration system for odor control. The 2013 improvement added UV disinfection.

Join the Portage County Water Resources staff for a tour of the plant. No additional charge for the tour. Please sign up when you register.



## Exhibitor Reception | Tuesday, June 28, 4:00 pm to 5:00 pm

Join your fellow professionals and exhibitors at the end of Tuesday for a time of networking. Enjoy some refreshments while we wrap up the first day of the conference in the exhibit hall. The Ops Challenge winners will be announced after an exciting two days of competition. Make sure you make contact with the exhibitors that you wish to get more information from on technologies, equipment and services. This provides a relaxed atmosphere to talk to one another and get any questions answered that you may have. You may even help another peer by sharing your experiences.

### Tuesday, June 28 - **Afternoon** Technical Sessions



#### YOUNG PROFESSIONALS



1:00-1:45	<b>Holistic Sewer Rehabilitation for the Next Generation I/I Control</b>	<i>Muralikrishna Chelupati, PE</i> ARCADIS
2:00-2:45	<b>Blueprint of Columbus Prioritization through Stakeholder Involvement and GIS</b>	<i>Megan Miranda, PE</i> ARCADIS
3:00-3:45	<b>Design Considerations of the Lick Run Greenway for CSO Control</b>	<i>Jenn Delebreau</i> Strand Associates

Technical Program as of 2/23/16. Visit [www.ohiowea.org](http://www.ohiowea.org) for up-to-date Technical Program.

## Wednesday, June 29 - Morning Technical Sessions

### LABORATORY

8:00-8:45	<b>The Lab Analyst and Process Monitoring - How to Increase Treatment Efficiency Without Even Trying</b>	<i>Robert Smith Xylem - YSI</i>
9:00-9:45	<b>Updates to the New Method Detection Limit in 40CFR Part 136</b>	<i>Carol Turner NEORS</i>
10:00-10:45	<b>Implementation of a Field Sampling Audit Procedure</b>	<i>Erin Hammer Alloway</i>
11:00-11:45	<b>Total and Dissolved Phosphorous Monitoring Study</b>	<i>Melodi Clark City of Columbus</i>

### POTPOURRI

8:00-8:45	<b>Protecting Operators from Falls: A Case Study</b>	<i>Tracy Riepenhoff, PE, LJB Corey Timko, City of North Ridgeville</i>
9:00-9:45	<b>Cost Effective Reduction of the Hg in NEORS's Incineration Exhaust Gases</b>	<i>Scott Reed, PE, Black and Veatch Robin Rupe, PE, NEORS</i>
10:00-10:45	<b>Akron's Main Outfall Sewer Alternate Design and Construction</b>	<i>Louis Burnoski, PE, AECOM Travis Capper, PE, City of Akron</i>
11:00-11:45	<b>The Miamisburg WRF Challenge: Innovative Planning and Design for Compliance and Wet Weather Improvements</b>	<i>Steven Reese, PE, Hazen and Sawyer David Reinker, City of Miamisburg</i>

### NUTRIENTS

8:00-8:45	<b>Is Your "New" Treatment Technology Really Disruptive?</b>	<i>Art Umble, PE MWH Global</i>
9:00-9:45	<b>Application of a Hydrolysed Biosolid Product as a Carbon Source in Biological Nutrient Removal</b>	<i>Jeanette Brown Manhattan College, Riverdale NY</i>
10:00-10:45	<b>Nutrient Reduction Through Use of Advanced Biological Nutrient Recovery</b>	<i>Rick Johnson Clearas Water Recovery</i>
11:00-11:45	<b>A Roadmap for Smarter Nutrient Management in a Carbon and Energy Costrained World</b>	<i>Dr. Samuel Jeyanayagam CH2M</i>

### CSO / COLLECTIONS

8:00-8:45	<b>SSO 700 IWAP: Development of a Water Quality Sampling Program</b>	<i>Kathleen Bollmer, PE CH2M</i>
9:00-9:45	<b>Chevrolet Boulevard Basin: A Local/Regional Stormwater Project</b>	<i>Jay Mosley, PE AECOM</i>
10:00-10:45	<b>Bringing Together Treatment, Storage and Conveyance for System-Wide, Continuous Real Time Optimization</b>	<i>Timothy Ruggaber, PE EmNet</i>
11:00-11:45	<b>Lancaster Phase II LTCP Success : Part 1 Developing the Plan</b>	<i>Laura McGinnis, PE and Denise Crews ARCADIS and City of Lancaster</i>



## Wednesday, June 29 - **Afternoon** Technical Sessions

### WET WEATHER

1:00-1:45	<b>Green vs. Gray: Applying Sound Planning Principles to Optimize CSO Control Efforts</b>	David White, PE Wade Trim
2:00-2:45	<b>Does Green Infrastructure Meet Expectations at an Urban Zoo</b>	Nancy Ellwood, CDM Smith Mark Fisher, Cincinnati Zoo and Botanical Garden
3:00-3:45	<b>A CMOM Program? It Doesn't Need to be Scary: A Guide to Implementation and Documentation</b>	Steve Donovan Brown and Caldwell
4:00-4:45	<b>Using a Simple Scorecard Evaluation to Improve Your Stormwater Program</b>	Mark Van Auken, PE ARCADIS

### POTPOURRI

1:00-1:45	<b>Recruiting the Next Generation of Operators and Engineers</b>	Carolyn Watkins Ohio EPA
2:00-2:45	<b>"We Don't Need No.....Incineration" Columbus Transitions to 100% Beneficial Re-Use of Biosolids</b>	Sierra McCreary, PE, Black and Veatch Brandon Fox, City of Columbus
3:00-3:45	<b>Impacts of PPCP's on Our Waterways: A Brief Review</b>	Bill Zawiski Ohio EPA
4:00-4:45	<b>Five Years Since Ohio Construction Reform was Approved</b>	Dennis Tinkler, PE Kokosing Industrial

### NUTRIENTS

1:00-1:45	<b>Can Small Plants Meet Revised Ammonia and Nitrogen Criteria</b>	Tyler Linton and Craig Varos Great Lakes Environmental Center
2:00-2:45	<b>When Cost Matters</b>	Robert Hrusovsky, PE MWH
3:00-3:45	<b>Lake County Madison WWTP: Building on the Past and Looking to the Future</b>	Robert Schreiner, PE, Burgess & Niple Dennis Meek, DM Engineering
4:00-4:45	<b>Optimization of Enhanced Biological Phosphorus Removal Process to Achieve Low Phosphorus Limits</b>	Sara Arabi, PE Environmental Operating Solutions

### CSO / COLLECTIONS

1:00-1:45	<b>Lancaster Phase II LTCP Success: Part 2 Financing the Plan</b>	Brian Bass, PE, ARCADIS Denise Crews, City of Lancaster
2:00-2:45	<b>CSO Mitigation; The Results Are in for the City of Bowling Green, Ohio</b>	Gibson Chen, PE, Avetin Engineering Douglas Clark, City of Bowling Green
3:00-3:45	<b>Taking an Emerging Enhanced High-Rate Treatment Technology from Concept to 100-mgd Reality</b>	Bob O'Bryan, PE Black & Veatch
4:00-4:45	<b>The City of Defiance's Integrated Long Term Control Plan: Targeted Inflow Reduction for CSO Control</b>	Tiffany Maag, PE, AECOM Mark Lehnert, City of Defiance

## Thursday, June 30 - Morning Technical Sessions

### ALL STAR PERFORMERS

8:00-8:45	<b>Can Small Plants Meet Revised Ammonia and Nitrogen Criteria</b>	<i>Tyler Linton and Craig Varos Great Lakes Environmental Center</i>
9:00-9:45	<b>Five Years Since Ohio Construction Reform was Approved</b>	<i>Dennis Tinkler, PE Kokosing Industrial</i>
10:00-10:45	<b>Does Green Infrastructure Meet Expectations at an Urban Zoo</b>	<i>Nancy Ellwood, CDM Smith Mark Fisher, Cincinnati Zoo and Botanical Garden</i>
11:00-11:45	<b>Protecting Operators From Falls: A Case Study</b>	<i>Tracy Riepenhoff, PE, LJB Corey Timko, City of North Ridgeville</i>

### ASSET MANAGEMENT

8:00-8:45	<b>Performance Contracting</b>	<i>Tim Murphy Schneider Electric</i>
9:00-9:45	<b>Asset Management for Wastewater Utilities</b>	<i>Richard Miller, PE and Allen Aspacher, PE FTCH</i>
10:00-10:45	<b>Equipping Operators with Meaningful Financial Data</b>	<i>Scott Maring, MCDGC Christy Cooper, Hilltop Consulting</i>
11:00-11:45	<b>What's in Your Maintenance Management Wallet?</b>	<i>Simon Watson Brown and Caldwell</i>

### REGULATORY UPDATE

8:00-8:45	<b>Ohio EPA DEFA Program Updates &amp; Case Histories</b>	<i>Jerry Rouch Ohio Epa</i>
9:00-9:45	<b>Upcoming Nutrient Rules: What You Should Expect</b>	<i>Guy Jamesson, PE, City of Columbus</i>
10:00-10:45	<b>Ohio EPA DSW Program Updates</b>	<i>Tiffani Kavalec Division Chief of DSW, Ohio EPA</i>
11:00-11:45	<b>Ohio EPA Agency Update</b>	<i>Craig Butler Director Ohio EPA</i>

## Reception & Annual Banquet | Wednesday, June 29, 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!

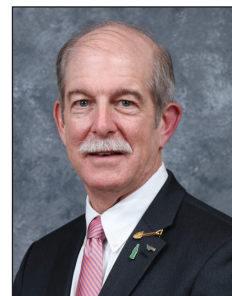
After a wonderful dinner, the WEF Awards will be presented to our prestigious award winners by WEF President, Paul Bowen. OWEA President, Elizabeth Wick, will have outgoing remarks before she hands over the gavel to incoming OWEA president, Ted Baker. Ted will enlighten us on what he has in store for OWEA in the next year. 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.



**Elizabeth Wick**  
OWEA President



**Ted Baker**  
OWEA President-Elect



**Paul Bowen**  
WEF BOT Representative



## 2016 Golf Outing | Monday, June 27, 9:30 am Shotgun Start

Where: **Boulder Creek**  
9700 Page Rd.  
Streetsboro, OH 44241

Times:  
8:00 am Registration  
8:00 am Driving Range Open  
9:30 am Shotgun Start

Spend the day with friends and colleagues playing a round of golf at the beautiful Boulder Creek Golf Club and Event Center. One of the premier golf courses in Northeast Ohio, Boulder Creek was voted the number 2 public golf course in 2011 in Golf Week. This 18-hole course contains over 100 feet in elevational change across the 200 acre course. Boulder Creek also has a pro-shop, driving range and full scale practice facility available to our members. Finish your day on the course with refreshments and dinner at the course event center. This event is limited to 144 people, so register early!

The \$360 per foursome includes: 18-holes of golf, cart, driving range & practice facility, light breakfast, lunch, dinner, beverages and prizes.

Golf Hole Sponsor Signs available for \$250 per hole.





Please come and join us for a fun and relaxing evening at ThornCreek Winery in Aurora. Established in 2007, the winery consists of 8 acres of beautifully landscaped grounds with numerous garden and terrace areas for socializing and networking. A catered meal with both heavy and light appetizers will be served at various food stations throughout the winery. Try one of the ten different wines created by Thorn Creek. The tented waterfall garden will have live music performed by **The Lovetown Mavericks**.



If they look and sound familiar, they are! Band members, Jason, Danny, Chris, and Bonzie entertained the crowd at the 2014 One Water Conference. I guess they couldn't stay away as they will be traveling from Columbus to hang out once again.



## 2016 Operations Challenge Invitational | Monday, June 27 and Tuesday, June 28

The Ohio Water Environment Association is proud to announce they will host an Operations Challenge Competition and National Invitational as part of the 2016 Technical Conference and Exhibition.

12  
Teams

6 spots held for  
invitational  
teams

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

Monday Morning - Continental Breakfast  
Monday Lunch  
Monday Night - Welcome Social at Bertram Hotel  
Tuesday's Awards Breakfast  
Tuesday's Meet & Greet at ThornCreek Winery

Registration  
and details at  
[ohiowea.org](http://ohiowea.org)

## ★ ★ ★ PROCESS CONTROL EVENT ★ ★ ★

This event consists of a written test meant to evaluate an operator's knowledge of WWTP process control. The test consists of three main sections: short math, multiple choice, and process control scenarios. The point values for the questions in each section vary. The teams have to decide on how to divide up the sections among the four team members and chose which questions to answer. The test is designed to have enough questions that the teams will not complete the entire test within the 20 minute event. Teams will often consult the WEF MOP 11 manual and Ohio EPA "need to know criteria" for the operator certification exams, while preparing for this event.

## ★ ★ ★ LABORATORY EVENT ★ ★ ★

Most operators have been there ... it's Saturday and the lab people aren't there, but somebody has to read the BODs. This event is designed to simulate operators preparing and reading a set of BODs. Working as a team, the competitors will verify the sample to be tested is within parameters, prepare a set of 10 BOD dilution bottles, and then fill the bottles with differing amounts of dilution water, seed material, and sample. The dissolved oxygen content of each is bottle is determined after filling. A laboratory bench sheet must be completed accurately documenting the BOD dilutions. Teams are evaluated on completing the event in accordance with acceptable lab practices and in the least amount of time possible.





## SAFETY EVENT

Words that no one wants to hear . . . a co-worker has become incapacitated while in a confined space. You need to get them out, and fast. But first things first . . . you must complete a confined space permit, test the atmosphere to be sure it's safe for a rescue, and get your safety equipment ready. Assemble the gantry recovery crane, insert the fresh air blower, then pop the manhole cover and lower the rescuer. Place a harness on the unconscious co-worker and lift him out. Then retrieve the rescuer. The key is to be fast, but also be safe. Teams are judged on time to complete the event and on penalties assessed for safety violations. Remember it does not do any good to try to rescue someone and injure yourself in the process.



## COLLECTIONS 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!



# Lodging & Spouse Program

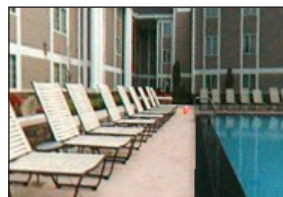
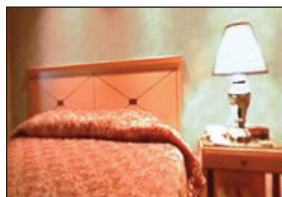
JUNE 27-30  
THE BERTRAM INN AND  
CONFERENCE CENTER

## Bertram Inn and Conference Center

Join OWEA members and colleagues for a stay at the Bertram Inn and Conference Center in Aurora, Ohio for the OWEA 2016 Technical Conference and Expo. The Bertram Inn and Conference Center is conveniently located less than an hour from Cleveland, Akron, Canton and Youngstown. The approximately 180,000 square feet of meeting space is complimented by two business centers, heated outdoor pool, game room, two fitness centers and two restaurants on site.

- ♦ Standard room rate is \$119 per night for up to four persons.
- ♦ The guest rooms include standard amenities such as flat screen television, desk & chair, coffee maker, iron & ironing board, hair dryer and more.
- ♦ Complimentary Wi-Fi and high speed Internet is also included in the rooms, public areas, and meeting rooms.
- ♦ Free parking

OWEA room rates available Sunday June 26 - Thursday June 30, 2016.  
Make your reservations via the link at [www.ohioweat.org](http://www.ohioweat.org) or call The Bertram: (330) 995-0200  
**Please ask for Ohio Water Environment Association 2016 Conference**  
**Cutoff date for special rate is Tuesday, May 31, 2016**



## 2016 Spouse/Guest Program | Tuesday, June 28 to Wednesday, June 29

**Calling all spouses and guests – be ready for a BOOMing time in Northeast Ohio!**

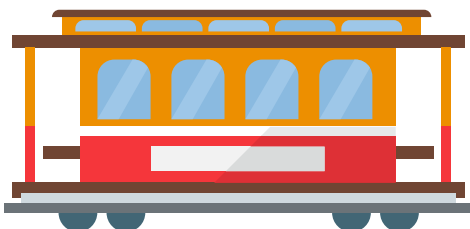
### Tuesday

Ever wanted to try your hand at creating fancy cakes but never had the opportunity? Following the Awards Breakfast, spouses will gather for a trip to The White Flower Cake Shoppe. Yes, this is the shop whose staff was on Food Network's Cake Challenge! As part of the demonstration, you will get to try your hand at decorating cupcakes. Following this sweet treat, you will travel to the rustic Burntwood Tavern in neighboring Solon for a late lunch, returning in plenty of time to attend the Meet and Greet.

### Wednesday

Following breakfast at the hotel, the adventure begins with a trip on Lolly the Trolley to the nationally known Lakeview Cemetery in Cleveland. The guided tour will provide spouses and guests the opportunity to see the historic Wade Memorial Chapel, along with the Garfield and Rockefeller Monuments. Explore the final resting place of a president of the United States, John D. Rockefeller, Eliot Ness, Carl B. Stokes; and many other locally famous people. You will be taken back in time following this fabulous tour by lunch and shopping in Cleveland's Little Italy. The renaissance is alive and well with the cafes, shops and galleries in this neighborhood brimming with strong traditions, a rich cultural heritage, and a spirit of artistry.

*Program includes tickets to the Awards Breakfast, Meet & Greet, Reception & Annual Banquet, and these special spouse/ guest activities. The cost is \$160 per guest if registered by May 31st or \$210 per guest June 1st or later.*



# Attendee Registration

Register Online at [ohioweaa.org](http://ohioweaa.org)

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
<b>Full Conference includes:</b> All Technical Sessions, Exhibition, Awards Brunch, Meet & Greet, Wed Lunch, Annual Banquet	Full Conference Member	\$275 <input type="checkbox"/>	\$325 <input type="checkbox"/>	
	Full Conference Nonmember	\$400 <input type="checkbox"/>	\$450 <input type="checkbox"/>	
	Full Conference Retired ( <i>not working</i> )	\$150 <input type="checkbox"/>	\$200 <input type="checkbox"/>	
	Full Conference Student ( <i>ID Req'd</i> )	\$50 <input type="checkbox"/>	\$75 <input type="checkbox"/>	
<b>Tue Only includes:</b> Exhibition, Awards Brunch, Meet & Greet	Tuesday Only Member	\$145 <input type="checkbox"/>	\$170 <input type="checkbox"/>	
	Tuesday Only Nonmember	\$220 <input type="checkbox"/>	\$245 <input type="checkbox"/>	
<b>Wed Only includes:</b> Technical Sessions, Box Lunch, Annual Banquet	Wed Only Member	\$145 <input type="checkbox"/>	\$170 <input type="checkbox"/>	
	Wed Only Nonmember	\$220 <input type="checkbox"/>	\$245 <input type="checkbox"/>	
<b>Includes:</b> Awards Brunch, Meet & Greet, Annual Banquet, Spouse Event	Spouse/Guest Program	\$160 <input type="checkbox"/>	\$210 <input type="checkbox"/>	
<b>Streetsboro Plant Tour</b> <input type="checkbox"/> \$0 Tues, June 28, 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		
<b>OWEA Golf Outing Monday, June 22 at Boulder Creek</b>				
<b>Includes:</b> 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. Boulder Creek Golf Course <i>www.bouldercreekohio.com</i>	# Team(s) of four golfers	___ x \$360 each		
	# Individual Golfers	___ x \$90 each		
	Hole Sponsorship Sign	___ x \$250 each		
	Print names of golfers:			
	<b>TOTAL AMOUNT DUE</b>			

**For Reduced Rate Technical Session/Exhibition Registration Only Options - Visit [www.ohioweaa.org](http://www.ohioweaa.org)**

<b>Tickets will be taken for the events below.</b> Please check which events you plan to attend.	
Included in Full and Tues Registration	Included in Full and Wed Registration
<input type="checkbox"/> Awards Brunch	<input type="checkbox"/> Wednesday Lunch
<input type="checkbox"/> Meet & Greet	<input type="checkbox"/> Annual Banquet

<b>FORM OF PAYMENT</b>
<input type="checkbox"/> Check # or P. O. #
<input type="checkbox"/> 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.
<input type="checkbox"/> 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: <a href="mailto:info@ohioweaa.org">info@ohioweaa.org</a>

## 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.

# Exhibitor Registration

JUNE 27-30  
THE BERTRAM INN AND  
CONFERENCE CENTER

## Register Online at [ohioweat.org](http://ohioweat.org)

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 <a href="http://www.ohioweat.org">www.ohioweat.org</a> )		

Exhibitor Registration	Registration Type	Cost		Row Total
<b>Includes One Full Conference Registration:</b> All Technical Sessions, Exhibition, Awards Brunch, Meet & Greet, Wed Lunch, Annual Banquet for primary exhibitor.	Exhibit Booth Member	\$700 <input type="checkbox"/>		
	Exhibit Booth Nonmember	\$875 <input type="checkbox"/>		
<b>Add a Professional Membership:</b>	OWEA/WEF Membership	\$160 <input type="checkbox"/>		
<b>Additional Booth Attendant includes:</b> Exhibit Exposition access and Tuesday Brunch in Exhibit Area	Booth Attendant (max 4)	_____ x \$50 each		
	Print Names:			
<b>Includes:</b> Awards Brunch, Meet & Greet, Annual Banquet, Spouse Program	Spouse/Guest Program	\$160 <input type="checkbox"/> Early Bird Rate	\$210 <input type="checkbox"/> After May 31	
<b>Note Special Requests</b> ( <i>subject to avail</i> )				
<b>Exhibitor Tour:</b> If you would be interested in giving a 15 minute booth presentation, check here: <input type="checkbox"/>				
	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 27 at Boulder Creek Course

<b>Includes:</b> 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. Boulder Creek Golf Course <a href="http://www.bouldercreekhio.com">www.bouldercreekhio.com</a>	# Team(s) of four golfers	_____ x \$360 each	
	# Individual Golfers	_____ x \$90 each	
	Hole Sponsorship Sign	_____ x \$250 each	
	Print names of golfers:		
<b>TOTAL AMOUNT DUE</b>			

**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
<input type="checkbox"/> Awards Brunch	<input type="checkbox"/> Wednesday Lunch
<input type="checkbox"/> Meet & Greet	<input type="checkbox"/> 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@ohioweat.org](mailto:info@ohioweat.org)

### OWEA Exhibitor Refund Policy

Booth Cancellations received after April 1 or no-shows the day of the Exhibition will not receive a refund.



# A (Re) VISIT TO THE CITY OF ST. MARY'S SEWAGE PLANT

by Jeff Thompson, Superintendent of St. Mary's WWTP

It's been 6+ years now of operation of the "new" wastewater plant here in St. Mary's. Things that we have learned and things that have happened in this time period are a follow up to the original "Plant Profile" article that was written about our new plant by Dave Sprague, the former Superintendent of Water/Sewer Department and published in the Volume 83:1, Issue 1 2010 Buckeye Bulletin (available on the Ohio Water Environment Association website).

I won't go into detail about the processes that the plant utilizes, as Dave's article does an excellent job in that area, I will however detail items that stand out in our learning process, including equipment failure, process control, and items beyond our control.

When the plant came online in 2009 I was the plant coordinator at both water and wastewater, and being on site, I was the Class III Operator of Record. The rest of

the plant operations staff was fairly new, so it was going to be a learning experience for all involved.

## The Learning Curve

The time had come in May of 2009, the flow now going into the new oxidation ditch, Cannibal® process plant, with no more flow going to the primary clarifiers, trickling filters or aeration tanks of the old plant.

Oxidation ditch seeding took place by pumping aeration tank mixed liquor into it. Finally the oxidation ditches filled, and aerators and other equipment needed turned on. Phil Anderson from the plants' engineering firm, ARCADIS, was on hand during the first stages of startup, so everything went well. Testing began, a lot of testing. Everyone was sure that as the clear final effluent started leaving the new outfall, hidden within it would be ammonia and phosphorus above our permit limits. Much to our surprise our limits were never compromised.

Within weeks of startup we started losing aerator discs on one particular aerator. Siemens engineers were consulted and everything from bolt torque to shaft dimensions were checked, no reason why was identified, but we learned that hanging over an aerator trying to replace two piece discs with four bolts on a hub, three feet in radius with two foot arms doesn't work, especially as the space decreases. Added to all of this, a mixed liquor traveling around the ditch wanted to rotate the whole unit. It looked so easy during construction when the employees from Peterson's Construction installed them from scaffolding in an empty tank. Back in our new maintenance shop we put our heads together. Do we drain that ring of the oxidation ditch? One to two days of draining for a one hour job, then refilling was too impractical for our liking. One, three foot extension for a ½ inch drive socket was acquired, and one new tool was made: rebar bent at 180° to hold the underside of



*Ariel view of St. Mary's WWTP*



*Main Process Building*

the bolt. These worked extremely well. The second set of tools included wrist straps. In addition we shut off all the aerators to stop the flow and had available twice as many bolts and nuts that we needed, oops, hand down another bolt.

Broken pieces of aeration discs ended up in the clarifiers plugging holes and drains. Bar screens were made and fitted over the drains after one became lodged in the drain pipe leading to the plant pump station, which brings the waste back to the head of the plant. Luckily, with the use of the sewer jet, we got the piece out. We really didn't want to dig down 20 feet to a new line to get it out.

The drum screen, in which a portion of Return Activated Sludge (RAS) gets very finely screened, removes lint and hair along with other fine untreatable wastes. This was a whole new animal to tame. Problems started from the beginning. We could not get the press to produce anything with a consistency greater than cow dung, which created quite a mess. We took samples into the lab and determined that the material coming out of the press was very high in organics, which doesn't want to dry out and press, and besides our refuse department and the landfill weren't thrilled either. After some experimenting, the solution was quite simple, a garden hose with a brass, adjustable spray nozzle was attached to spray non-potable water into the discharge end of the screen. With a cone shaped spray focused on the solids trying to leave the screen, the water kept the solids back and thoroughly rinsed the organics out. The remaining debris eventually made it to the press, and within a day we were putting out solid cylinders of very dry material, like intended. When the engineers from Siemens came in for O&M training, they were a little taken back, but before they left they replaced the garden hose with schedule 80 internal plumbing with a nozzle. I haven't seen recent drum screens, but I wonder if I missed out on a patent?

Along with the drum screen, Siemens insisted we have the cyclone fine grit removal system attached to it. Both ourselves and Siemens personnel worked on getting it to work without ending up with a bag of sludge. After

months of trying they gave up and so did we.

## Wet Weather

When excessive rain and snow runoff strikes at any plant, it's a major concern. Our previous plant was capable of around 4.5 MGD peak and 2.0 MGD design. The new plant was designed at 3.0 MGD normal and 9.0 MGD peak. The first event at the plant was met with some dread and anxiety, as we weren't sure what would happen. We had been instructed on what to do as flows increased, but as with all other aspects of the new plant, what is supposed to happen doesn't necessarily go by the book.

I don't quite remember when the first event happened, but I do know we had gone nine months with very little precipitation, and the plant operating at or below normal design flow. So when the rain hit the six or so inches of snow on the ground, it took very little time to find its' way into the collection system. Peak capacity design of 9.0 MGD, that's where the influent gates had been set for months, it should be fine. Wrong! As the flow increased under our close eye, we soon got one of our lessons on hydraulics, water coming in displaces what's already there. As the flow rose to 5.0 – 6.0 MGD we saw our solids migrate to the clarifiers. We previously had been instructed to put the plant in "storm mode" to capture the solids in two of the three rings, basically storing them out of the high flow, low strength storm water. Nobody really ever said when to do so. We then began the process of putting the plant in storm mode, isolating the solids, ramping up the RAS pumps to reduce the solids level in the clarifiers, and dumping them into the storage rings, while reducing the influent flow to 2.0 MGD.

With the plant flow now being controlled, a quick glance into the drum screen room reminded us of another hydraulic lesson, thinner solids, higher head, and sped up RAS pumps, makes the drum screen an open channel for RAS flow. RAS breached the end of the screen, filled up the press and was flowing into the room. The screen was turned off and all hands on deck for clean-up.

Throughout the day we kept an eye on the solids, flow, and EQ basin. We gradually increased the flow as the solids in the clarifiers would allow. We maxed out at over the design peak flow without compromising treatment, or overflowing the EQ basin. Slowly increasing the flow was the key to get to or above peak design flow.

After the event, in order not to repeat history, we wrote our own policy and procedure. It now includes watch the weather, put the plant in storm mode as soon as possible when the event begins, shut down the drum screen, use the EQ basin as intended, capture the flow until the plant can be ramped up, and never have the influent gate set higher than 3 MGD before an event hits.

## Settling In

After the first year we had settled into our routine. Minor issues arose as would be expected. Winter time, of course, always brings its own set of issues, raise the



Aerator Disc



## PLANT PROFILE

brushes on the clarifier (learned the first winter), sampler lines will freeze, etc.

Testing was scaled back because the plant had proven to meet all the required design standards, including the reduction of solids by the Cannibal® process. Ammonia and phosphorus limits were being met, with a lot less ferrous being added.

The Trojan U.V. system was killing the bacteria adequately. The use of chlorine for disinfection and sodium thiosulfate to eliminate the residual in the old plant, was not missed at all by the operators and maintenance personnel.

The required preventative maintenance took effect, as manufacturers required.

Dave Sprague retired on June 1, 2014, and the supervision of the water and sewer departments was handed over to myself.

### The Latest Issue

Of course over time, the usual wear items need replaced as needed, belts, seals, couplings, etc.

I was not expecting the call I received in February of 2015. I was half way to Indianapolis to attend the pumper and tanker show, to see what sewer video equipment was available, as ours needed replaced. It was the kind of call where you can tell instantly in someone's voice there was trouble. On the other end of the line one of the maintenance personnel explained that sometime overnight there was a fire in our main process building, specifically one of our two Aerzen interchange tank blowers had burnt up.

He explained to me that the fire was out, the blower destroyed and the room that houses the control panels for the whole plant was black. It never ceases to amaze me that whenever I'm on vacation or out of town for business, that's when major events happen.

Upon my return it was obvious that the blower would need replaced, an electrician was hired to clean the internal components in the control panels as carbon on the components can be conductive and be an arc flash hazard. The whole room was cleaned and painted.

Aerzen was contacted along with the City's insurance agency. As with all insurance claims, the finger pointing began. Eventually engineers from both Aerzen and our insurance carrier got together to determine a cause. The blower is set to mix the interchange tanks at 1:30 AM so any odors produced would be at night.

No witnesses were there and no alarms went off. After inspection, no definite answer was determined, but it appeared that

the belt sheave had come loose and rubbed against the motor casing, igniting the blower insulation.

A new blower was ordered and installed, about four months after the fire.

**Whether a plant is old, upgraded or new, every day is an opportunity to learn something.**

### Final Thoughts

Whether a plant is old, upgraded or new, every day is an opportunity to learn something. With changing regulations, processes, equipment and all other aspects of our profession, it is of utmost importance for everyone involved to keep up to date and get involved. With WEF/OWEA and other resources, I have personally gained a lot of knowledge from the contacts I have made and the information available.

The events I have mentioned are of course, just the tip of the iceberg. These are just the ones that come to mind first. Overall the new plant has been impressive, and I'm sure will continue to do so, well into the future. Finally I would like to thank my staff--past and present--for quickly adapting to the new plant, as well as for the input to make the plant operate as it should.



*Burnt Blower*



*Replacement Blower*





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# NUTRIENT ENRICHMENT IN THE LOWER GREAT MIAMI RIVER

## MUNICIPAL COALITION SEEKING CLARITY

by Erik Torgersen, P.E.

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 two 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 50 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) monitored 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 the ramifications and cost and rate implications of new phosphorus 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,

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 on new Ohio standards for nutrients, the TMDL for our River was under development, and 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 three 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;
- ◆ 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 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 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, but none of the other POTWs – the Coalition decided to proceed with the project nonetheless. Ohio EPA did acknowledge the water quality study in 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," Jason Hunold, Wastewater Superintendent for the City of Fairfield, said. "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) which is 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 and are now under review by MCD and Coalition representatives. The Coalition anticipates issuing a notice to proceed to the selected environmental firm by February 2016 with a project completion date in June 2017. Coalition-funded targeted sampling efforts have already begun, including sediment studies, with the goal of filling existing data gaps to enable model completion.

At the time of this article's publication, no final NPDES wastewater discharge permits have been issued to any of the LGMR POTWs; all POTWs continue to operate under expired permits. Similarly, the TMDL for the watershed has not been released for review and comment.



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# FROM RAINFALL TO RESULTS

## A WATER ENVIRONMENT FEDERATION REPORT DETAILS A NEW VISION FOR MEETING THE CHALLENGES OF STORMWATER MANAGEMENT—AND THE RESULTING OPPORTUNITIES

by Heather Harris and Chris French



Stormwater is currently the only growing source of water pollution in many watersheds across the country, and it is a rising challenge for communities around the world. In 1970, 85% of U.S. water quality impairments were associated with point-source pollution. The remaining 15% came from nonpoint sources such as agriculture and urban stormwater. Today, after significant advancements in wastewater treatment, these values have flipped — 85% of impairments now stem from nonpoint and urban stormwater discharges. The U.S. Environmental Protection Agency’s (EPA) first administrator, William Ruckelshaus, alluded to these facts in a 2010 Wall Street Journal opinion article in which he called stormwater runoff “the water quality issue of the day.”

**Rainfall to results:** The future of stormwater, a comprehensive report by the Water Environment Federation (WEF; Alexandria, Va.) Stormwater Institute, presents a vision for the future in which all stormwater is transformed from a pollutant source to a resource.

The report is a product of a meeting of stormwater professionals convened by WEF in July at The Johnson Foundation at Wingspread (Racine, Wisc.). The report was released at WEFTEC 2015 in Chicago to coincide with the launch of the WEF Stormwater Institute, a new center of excellence and innovation created to address stormwater challenges.

### Vision for the future of stormwater

In the vision presented in the report, stormwater is managed through an optimized mix of green, gray, and natural infrastructure, and pollutant source control is pursued as a complement to infrastructure solutions. In this vision, stormwater infrastructure is fully funded and managed by a dedicated utility with a comprehensive asset management program. Additionally, stormwater management is adaptive based on new science, experiences, technical innovations, and responsive regulations. Stormwater management is part of doing business and part of community resiliency and quality of life. As such, the community values and understands the many benefits of stormwater infrastructure.

The report identifies six key objectives and a set of concrete actions intended to achieve this vision and improve the future of stormwater in the United States.

### 1. Work at a Watershed Scale

All communities will have integrated, watershed-scale assessments of their water resources needs and challenges to better align stormwater management

efforts with larger watershed priorities. This means long-range planning across jurisdictions within watersheds. Planning and decision-making will account for the many benefits of stormwater controls, which go beyond water quality improvements to increased property values, expanded public education, improved air quality, and more.

### 2. Transform Stormwater Governance

The second objective is to transform stormwater governance so that regulations are integrated and adaptive. Regulations will stimulate stormwater control innovation and improve performance by focusing on program outcomes. By exploring ways to emphasize stormwater program outcomes in permits and design and maintenance requirements, the sector can develop permitting frameworks that, for the first time, embrace the long-term nature and potential cost efficiencies of solving stormwater challenges.

### 3. Support Innovation and Best Practices

Evaluating stormwater programs can provide a wealth of information. By sharing these experiences, the sector can ensure up-to-date best practices are available, advance the necessary tools and methods to support ongoing improvements in stormwater management, and increase the ability to analyze and value stormwater management on a multi-benefit basis.

### 4. Manage Assets and Resources

The next objective is to achieve stormwater systems that are maintained through robust asset management programs and supported by innovative information technology. Inadequate attention to operations and maintenance (O&M) and a lack of effective planning for repair and replacement are the biggest current weaknesses of stormwater management. Key to improving maintenance and developing a robust asset management program is developing a well-trained, multidisciplinary workforce. Also important is integrating O&M into project planning so that projects are properly designed and installed for easier operations, repair, and timely replacement.



## 5. Close the Funding Gap

Many of the opportunities to improve the stormwater sector invariably require financial resources. Communities can start by better understanding their funding needs and looking to reduce the costs of stormwater management. However, sustainable stormwater management requires a dedicated funding source. Education and understanding by elected officials are important, as they play a significant role in supporting the investments needed to meet stormwater objectives. Additionally, there are opportunities to access untapped sources of capital and innovative financing mechanisms.

## 6. Engage the Community

The stormwater sector must improve its ability to engage various audiences and encourage information sharing between public officials. With increased communication and collaboration, communities can better value the role of stormwater management in providing clean and safe water, reducing flood risks, and making neighborhoods more resilient to the effects of climate change.

Better ways to address stormwater challenges

The actions and objectives outlined in Rainfall to results: The future of stormwater are meant to help communities tackle stormwater issues caused by urbanization, aging infrastructure, and climate change while overcoming regulatory hurdles. Beyond achieving a healthier water environment, stormwater management presents an opportunity to make communities more vibrant, livable, and resilient.

This report marks the beginning of an ongoing dialogue. It is a call to action for communities, companies, governments, and organizations to work together to move from rainfall to results. To read more about current challenges and future opportunities in stormwater, download Rainfall to results: The future of stormwater at <http://wefstormwaterinstitute.org/rainfall-to-results/>.



**Heather Harris** is the chair of both the Stormwater Committee of the Water Environment Federation (WEF; Alexandria, Va.) and the Water Environment Association of Texas Stormwater Committee. She serves as the Central Texas operations lead for the Austin office of CH2M (Englewood, Colo.), where her focus includes stormwater management and stream restoration.

**Chris French** is WEF's director of stormwater programs and is guiding WEF's newly launched Stormwater Institute through member, stakeholder, and practitioner engagement. Chris can be reached at [CFrench@wef.org](mailto:CFrench@wef.org)



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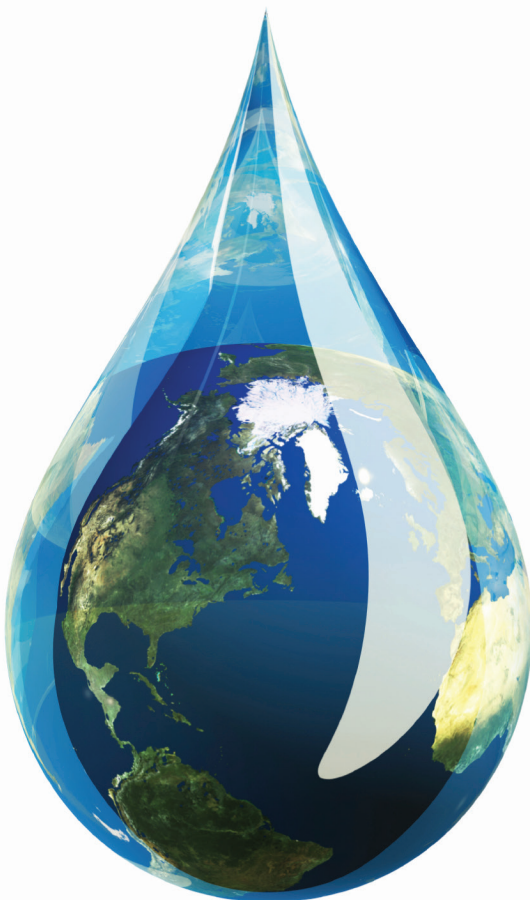
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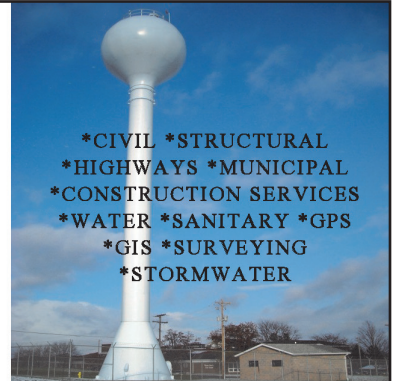
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# INTERMITTENT OPERATION

## AN IRRESISTIBLE ATTRACTION?

by Marcia Sherony, National Sales Manager of Hydro International

*Operating wastewater treatment plant processes or equipment intermittently offers the irresistible attraction of reduced energy costs. But take the practice too far, or in the wrong circumstances, and treatment processes can be damaged as a result. Marcia Sherony, National Sales Manager of Hydro International, looks at the trend to introduce intermittent plant operation in some processes in waste water treatment. Using grit removal as an example, she considers the opportunities and pitfalls.*

The cost of energy is a constant consideration on the operating budget of plant operators. Public facilities that treat and distribute drinking water and those that collect and treat wastewater are energy-intensive, accounting for approximately three percent of U.S. electricity use (approximately 100 billion kWh annually).

For local governments, this level of consumption means that water and wastewater facilities are one of the largest and most energy intensive loads they own and operate, representing up to 35 percent of municipal energy use. Wastewater facilities in particular have a wide variety of processes and associated equipment that consume energy.

The equipment and processes used in treatment plant operation, and the amount of energy they use, vary significantly reflecting the regional topography and environmental conditions and requirements to treat certain types or concentrations of waste.

### Looking for savings in energy usage

Any plant operator tasked with auditing wastewater processes to isolate the biggest energy consumers and identify operational efficiencies faces conflicting priorities. Both operators and engineering designers are motivated firstly by maintaining or improving the availability and reliability of their facilities. Any energy-efficiency opportunities have to be considered within this context.

A waste treatment plant engineer knows that motors and motor-driven equipment use a significant amount of energy to pump, filter, and aerate water. Indeed, wastewater aeration, pumping and solids processing account for a significant amount of the electricity used in wastewater treatment. Approximately 42,000 wastewater pumping stations across the country operate to meet continuous and varying wastewater flows and typically, pumps are the most prominent energy consumers.

However, each piece of equipment is part of an integrated system. Therefore, it is important to consider facility performance when introducing energy-efficiency measures and to determine which measure or combination of measures will result in the biggest energy reduction for a given investment, and avoid degradation in performance.

Frequent targets of cost-cutting audits are pumps and

the subsequent activated sludge treatment process. Both processes can be energy-intensive in many plants. For example in a typical activated sludge treatment plant, the aeration system typically represents 60 percent of a plant's electricity use; pumping represents an additional 15 percent, of which grit slurry pumping is a small part.

### Grit System Considerations

It's tempting to think that diurnal flow variations and wet versus dry weather variations in incoming waste water flow volumes might be met with intermittent grit pumping schedules. While plants should continue to reduce electricity consumption where possible, balancing the system performance efficiency and operation of any other downstream treatment processes must also be considered. The loss of digester performance and aeration basin efficiency, along with the time and expense to clean either, can quickly offset any savings realized by running the grit pump intermittently.

As there are no industry guidelines available for intermittent running of grit pumps, careful and continuous attention to flow and incoming grit load is required and intermittent operation is often not suited to many plants and locations for a variety of considerations including flows, collection system design, condition of the collection system, and grit loading.

Continuous grit pumping is recommended in many applications to ensure that elevated grit loads and wet weather events are covered when higher grit volumes can be expected. It is also important that total solids in pumped grit slurry remains at approximately 1% or below, otherwise washing and dewatering equipment efficiency can degrade and risk plugging, as can piping.

Where conditions allow, it is possible to consider intermittent pump operation, which should always be assessed by an expert. For example, it could be used if the range between the peak and average flow is very great, (i.e. high wet weather flow spikes) or there are very low overnight incoming flows with small grit loadings such as may occur at small plants. However, the entire grit system must be designed to handle the build-up of grit which will occur with intermittent operation.

When operating the grit system intermittently, it is advisable that continuous operation is still enabled during wet weather events. This can be achieved either by influent flow sensing triggered by a set point for automatically switching between continuous and intermittent operation, or a manual control switch with timed intervals during dry weather and continuous during wet. The latter carries a certain risk if not well attended.

High-performance grit separation system can be optimized for intermittent flows. In the latest developments of the Eutek HeadCell® for example, an expanded grit underflow collector allows grit to inventory

while the pump is not operating. Flexible grit pump operation can be optimized by plant operations personnel based on grit load and plant demand while minimizing energy consumption. Intermittent pump operation can also reduce plant use of Non-Potable Water associated with the grit washing / dewatering system components as these components typically run in tandem with the grit pump.

### Design implications

In other grit collection technologies, energy usage is dependent on the process design as well as the operating equipment. For example, aerated grit basins can be a significant source of power consumption due to the blowers used to supply air to diffusers located in the basin. Aeration basins typically have a recommended air delivery rate of three to eight cfm of basin length, where the basin length is the standard three to eight times its width, and designed for a detention time of three minutes at peak flow. This means that a typical basin of 55 ft length, and a width of 7 ft to 18ft, could require 165 to 440 cfm of air, and need up to 100HP of power to drive the air compressor. There are, of course, far bigger basins which require more air and higher power to produce it.

The next power user in a grit system is typically the grit pump and any potential saving through intermittent operation would be attractive. However, will intermittent pump operation impact the grit- or other subsequent processes? Combined sewer plants and plants with large peak to average flow ratios will see a significant increase in grit load at higher flows.

Grit quantities are typically reported to range from 0.53-24 ft<sup>3</sup>/mgal (M&E) and operating grit pumps intermittently during high influent loadings can be detrimental to the grit removal process and cause plugging, loss of grit and system failure. Pumping intermittently increases the concentration of the grit slurry as well as the problematic debris accumulated in the grit sump and grit slurry piping.

In fact, even without intermittent pump operation, the lack of sound design guidance may contribute to the problems met in removing, conveying, and processing grit slurry at many treatment facilities; combined sewer collection systems are particularly prone. It is ironic that this process is intended to prevent or reduce

downstream maintenance, but often is fraught with its own frequent maintenance issues such as plugged grit slurry collection sumps, plugged grit slurry piping, failed grit slurry pumps, and plugged grit slurry concentrators. Intermittent operation will only exacerbate such problems.

### Careful conclusion

While decisions to run equipment like pumps, including grit pumps, intermittently can save electricity and lower energy costs, care must be taken to match the operating schedule to plant inflow conditions. Careful assessment, and the right grit removal equipment, will greatly reduce the risks of extra costs incurred through ineffective removal using conventional technologies or intermittently pumping decisions influenced solely by the desire to cut the dollars.

Consulting closely with engineering designers and equipment manufacturers is therefore essential to take advantage of the opportunities of intermittent operation without running unnecessary risks.

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*Hydro International co-ordinates the knowledge-sharing website [www.advancedgritmanagement.com](http://www.advancedgritmanagement.com) on behalf of industry in the US.*

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## Advertiser Index

AECOM .....	32
Akron Electric, Inc. ....	67
Allied Pump Rentals.....	75
Allied Underwater Services.....	76
Alloway.....	75
Aqua-Aerobic Systems, Inc.....	58
ARCADIS .....	26
Baker & Associates .....	67
Beacon .....	35
BissNuss, Inc.....	67
BNR.....	76
Buckeye Pumps .....	78
Burgess & Niple, Inc. ....	15
CDM Smith.....	59
Chesley Associates, Inc. ....	19
Civil and Enviromental Consultants.....	15
Commerce Controls Inc.....	59
CT Consultants.....	18
CTI Engineers, Inc. ....	71
Delaney & Associates .....	71
DN Tanks .....	77
E and I Corporation .....	35
EMH&T .....	67
Engineering Associates, Inc.....	67
Enviroscience, Inc.....	77
Excel Fluid Group.....	35
Fishbeck, Thompson, Carr & Huber, Inc. ....	72
Gorman-Rupp.....	69
GPD Group .....	76
OHM Advisors.....	72
Hazen and Sawyer .....	33
H.R. Gray .....	Back Cover
HydraTech Engineered Products LLC .....	8
Indigo Water .....	17
Integrity Aquatic .....	22
Jacobs Engineering Group.....	75
J. Dwight Thompson Co.....	19
J.G.M. Valve Corporation.....	15
Johnson, Mirmiran & Thompson, Inc.....	66
Jones and Henry Engineers .....	72
K.E. McCartney and Associates.....	73
MASI Environmental Laboratories.....	76
Mid Atlantic Storage Systems, Inc. ....	15
Mixing Systems, Inc.....	Inside Back Cover
ms consultants, inc.....	78
North Shore Pump and Equipment Co. ....	67
OHM Advisors.....	72
Quasar .....	33
RA Consultants, LLC .....	26
Schultz Fluid Handling Equipment, Inc.....	77
Southern Sales Company, Inc.....	62
SpectraShield Liner Systems.....	26
Stantec Consulting Services, Inc .....	65
Strand Associates, Inc. ....	75
The Bergren Associates (2) .....	78
Trumbull Industries, Inc.....	36
University of Wisconsin.....	25
USA Bluebook.....	Inside Front Cover
Vaughn Company, Inc. ....	57
YSI, a Xlyem Brand.....	63

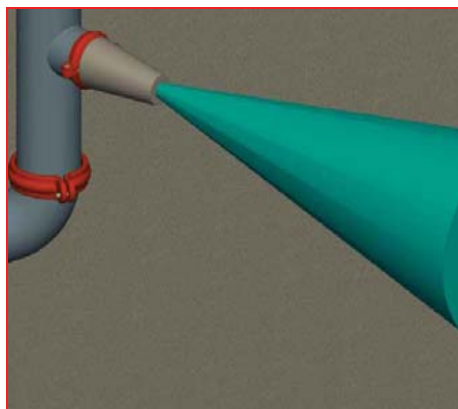
## DIGESTER SLUDGE MIXING BY MIXING SYSTEMS, INC.



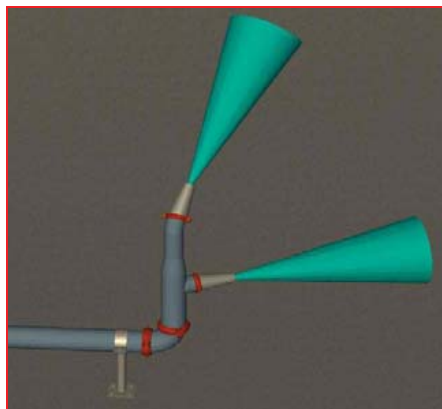
JET MIXING IN EQUALIZATION TANKS



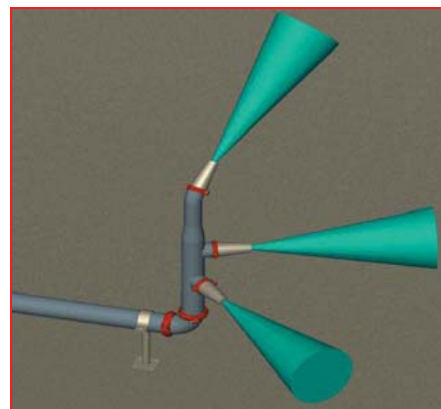
MIXING AND AERATION IN pH CONTROL TANK



SINGLE ZONE MIXING FOR SHALLOW TANKS



DOUBLE ZONE MIXING FOR DEEP TANKS



TRIPLE ZONE MIXING FOR VERY DEEP TANKS

### HYDRAULIC SLUDGE MIXING APPLICATIONS

- ♦ Digester mixing
- ♦ Mixing anaerobic digesters
- ♦ Sludge holding tanks
- ♦ Aerobic Digester Mixing
- ♦ Equalization tanks
- ♦ Variable liquid level tanks

### HYDRAULIC SLUDGE MIXING BENEFITS

- ♦ Energy efficient
- ♦ Stainless steel nozzles
- ♦ Nozzles hardened to a Brinell hardness of 450+
- ♦ Chopper pumps
- ♦ CFD mixing analysis

### MIXING SYSTEMS, INC.

- ♦ Preferred provider of submerged jet aeration and jet mixing systems
- ♦ Single, double and triple zone mixing
- ♦ No rotating equipment in digesters

### MIXING SYSTEMS, INC.

7058 Corporate Way, Dayton, OH 45459-4243

Phone: 937-435-7227 ♦ Fax: 937-435-9200

Web site: [www.mixing.com](http://www.mixing.com)

E-mail: [mixing@mixing.com](mailto:mixing@mixing.com)

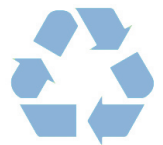




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