Buckeye Bulletin

Ohio Water Environment Association | Volume 86:3 | Issue 3 2013

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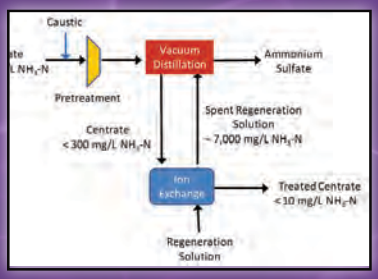

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Ohio Water Environment Association
Preserving & Enhancing Ohio's Water Environment

www.ohiowea.org

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For further information on submitting articles or advertising, please contact our organization at:

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Contact Hour Information: OWEA training is submitted for contact hour approval. Free Webinars are not submitted for contact hour approval at this time.

Check out OWEA's website, *ohiowea.org,* for a complete listing of OWEA approved training.

Article Deadlines: 1st day of January, April, July, and October

Publication Dates: Spring, Summer, Fall, and Winter

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Get Involved

Join a Committee Today

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

OWEA needs your skill, experience, and energy. Contact OWEA at ***info@ohiowea.org*** or the chair of a committee that interests you for more information.

OWEA ASSOCIATION NEWS

Utility Partnership Program Members Grow

More utilities are taking advantage of the benefits of the WEF/OWEA Utility Partnership Program (UPP). Current Ohio UPP participants are:

Avon Lake Municipal Utilities

City of Fairborn

City of Warren WWTP

Fairfield County

Northeast Ohio Regional Sewer District

Learn more about the Utility Partnership Program below.

OWEA Summer Intern

Mary Stankiewicz will be a junior at Ohio State University this fall, where she is majoring in Stategic Communication, with a minor in Business. She is the Executive Officer of the OSU Running Club and is training for the October 2013 Columbus Marathon.

Have You Updated Your Membership Information Lately?

Visit *http://www.ohiowea.org/memberships.php* to update your information if you have a new position, email address, telephone number, etc. We will transmit your updates to WEF so your WEF member record will be up-to-date also. If you need assistance, please call 614.488.5800 or email us at *info@ohiowea.org*.

August 2013

15	Free Lunchtime Webinar
23	SEOWEA Friends & Family Night
29	Free Lunchtime Webinar

September 2013

6	Cincy Area Water Prof. WFP Sporting Clay Event
11	OWEA Mega Meeting
12	Collections Hands-On Workshop - NW
14	NESOWEA Annual Clambake
19	SWOWEA Section Meeting
19	Collections Hands-On Workshop - SE
25-26	Plant Ops, Lab Analysis, & Energy Efficiency Workshop
30	Cincy Area Water Prof. WFP Golf Event

October 2013

3	Free Lunchtime Webinar
5	NESOWEA Operator Certification Review
5-9	WEFTEC
6	Ohio Mixer
10	SWOWEA LAC Meeting
17	Collections Hands-On Workshop - NE
17	Water For People NE "Spirited" Waterfest
24	Collections Hands-On Workshop - SW

November 2013

6	OWEA Executive Committee Meeting

December 2013

5	Biosolids Workshop

For full details and event registration, visit OWEA's online calendar at *www.ohiowea.org*
Please send all calendar updates to *info@ohiowea.org*.

Ohio Water Environment Association
Preserving & Enhancing Ohio's Water Environment

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 UPP 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 5 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.

Contact OWEA at 614.488.5800 or *info@ohiowea.org* and we'll help your utility with enrolllment!

President's Message

Dan Sullivan
OWEA President

Greetings to you all and many thanks for entrusting me with leading this fine association. Many thanks also to the 2013 Annual Conference and Technical Exhibition planning committee for a fantastic event last month! I am grateful for your willingness to be a part of the largest conference in recent memory.

As I sit here and reflect on my last fourteen years serving first the Southwest Section and now on the Executive Committee at the state level, I cannot help but recall that irrepressible and iconic lyric from the legendary Jerry Garcia . . . "What a long strange trip it's been ." Strange, in the sense that it literally seems like yesterday when I was called to serve the Southwest Section. I do not mean for it to sound cliché, but truly the years have flown by. My oldest child was just three, my middle child was just learning to walk, and my youngest was not yet even born. Strange in that our industry has changed so dramatically; with secondary treatment being the previous norm and now nutrients being the growing concern. In other areas, reuse has become the new norm and "toilet to tap" has become the reality. Strange in that the ambitions of the OWEA have also challenged the association to delve into arenas previously not thought necessary, or even possible, by long past leadership. The OWEA of today is not your parents' OWEA. And I am proud to be at the helm. Strange in that I have witnessed a personal growth from the once token equipment peddler, volunteering his time in support of the association, morphing into somebody I actually never considered possible. I have many goals I hope to accomplish in the coming year and I am asking for your help.

I aim to continue the tremendous work set forth by OWEA's most recent presidents in the areas of governance, relevancy, and membership. Much has been accomplished by my esteemed colleagues and their legacies must be maintained for OWEA to forge ahead on its ambitious path of success.

First - Governance: From the governance perspective, I wish to build on the successful committee structure in place and ensure that we have leadership mentoring and specific goals and direction for each and every committee. If you are not currently involved in a committee and wish to become involved, please check out our committee listing within this periodical. Reach out to me or the specific chair of the committee which piques your interest. Sustainability at the committee level is extremely important to our organization's continued success.

Next - Relevancy: So much has been accomplished in the past few years. From the AWWA/WEF Fly-Ins in Washington, D.C., where we met with our congressional representatives on issues that affect all of our members, to working with our local regulators on issues closer to home. We will be doing more of these outreach endeavors, in a more "grass roots" approach, to bring water environment issues to the forefront of our political leaders mind-set.

Lastly - Membership: We have finally eclipsed the once mythical number of 2,000 members. This is important in that it allows OWEA an additional Delegate to WEF; which increases our "voice" at the national level. It also ensures that OWEA will continue to grow for the betterment of our association. This is where you come in again. We will be having a membership drive during July and August, where for each new member that you, as an OWEA member, bring in, we will reward you with $5.00 for each new member. The person who brings in the most new members during July and August will receive an additional $500.00.

If you were at the recent conference banquet, there is no doubt that you have learned that my personal platform is "One Voice for Water". I am extremely excited about the prospect of our next annual conference, which will be a joint venture combining the Ohio AWWA annual conference with our own! With the recent cooperative efforts of both organizations to build on, combined with the challenges both organizations face with regulatory and financing issues, along with the state of our current economy, this Joint Water Professionals Conference was, simply, inevitable. It is now a reality and both the OWEA and the Ohio AWWA have entrusted a tremendous group of leaders who are already well on their way in the planning of this epic event. Please plan on attending August 26-29, 2014.

In closing, I wish to ask one more thing from you. In the coming months you will be receiving a Membership Questionnaire that I am hoping you will take a few minutes to fill out and return to the Executive Committee. It is my intention to set the wheels in motion for some strategic planning with the hope of increasing the value of your membership in OWEA. This will be your personal platform to tell us how the leadership is doing, what we need to do better, and to tell us what else may need to be done from your own membership perspective. We provide a tremendous service in providing educational opportunities, with our many workshops, and more recently in our various outreach endeavors. But I fear that we could become complacent; which is why your voice needs to be heard. To reiterate a line, from my induction speech, "what can OWEA do for you?"

Thank you again for allowing me this opportunity to serve. I am humbled and inspired by the many energetic and enthusiastic leaders I serve alongside. OWEA is in great hands for the future. I hope you will choose to become a part of the journey.

Dan Sullivan, OWEA President
dan@sullivanenvtec.com

Ohio Water Environment Association

One Water

Ohio WEA-AWWA 2014 Technical Conference & Expo

www.onewaterohio.org

Ohio Section American Water Works Association

Hilton Columbus Downtown **Save the dates: August 26-29, 2014** Greater Columbus Convention Center

Call for Papers – Abstract Submission

Submit Abstracts Online by February 1, 2014 to *www.onewaterohio.org*

We are excited to develop a technical program for this first-ever joint Ohio WEA/AWWA conference. The water and wastewater industries both face similar challenges with new and current regulatory requirements as well as development of emerging technologies and industry practices. And efficient, cost-effective operation and maintenance of our aging infrastructure is at a premium for our water and wastewater providers.

We are looking to provide our members and conference attendees with a unique opportunity to gain professional development and educational opportunities for both industries at one time. We have selected the technical tracks (listed right) for our concurrent technical program to cover the educational goals of this joint conference.

We are only accepting on-line submissions of abstracts in order to streamline the submission process and gathering of your information. Visit *www.onewaterohio.org* to submit an abstract. Please remember to provide concise information and submit the required abstract (1-2 pages) and biography information. This information will be used to review and select presentations for the conference technical program.

Presentation time slots will be 30 minutes long. Actual presentations should be 25 minutes in length with 5 minutes allowed for questions.

Once again, we are excited about this unique opportunity and look forward to an excellent technical program.

Technical Program Co-Chairs

Stacia Eckenwiler, City of Columbus, *skeckenwiler@columbus.gov*
Michael Frommer, URS Corporation, *mike.frommer@urs.com*

General Information: *info@onewaterohio.org*

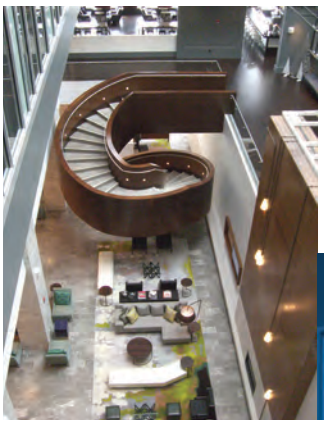
TECHNICAL TRACKS

Water Treatment
Wastewater Treatment
Water Distribution
Wastewater Collections
Utility Management
Stormwater
Drinking Sourcewater
Regulatory
Green Technologies
Residuals/Recovery

All the same events from both conferences

ALL IN ONE PLACE!

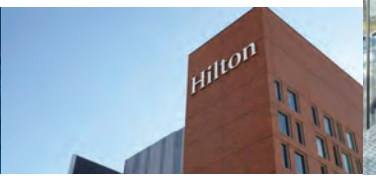
Bringing more Ohio water professionals to one conference than ever before



The two premier Ohio water associations are teaming up and working together to hold a joint water professionals conference in 2014.

The joint conference will be held August 26-29, 2014 at the new **Hilton Columbus Downtown** and **Greater Columbus Convention Center**, which are connected by a stunning glass skywalk.

Watch for more details at *www.onewaterohio.org*



"WE WILL MAKE A PLACE FOR YOU"

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

When I began writing this series in 2007, I made a conscious decision to not use this column to discuss myself. I consider this practice boorish, and it reminds me of a book from the early 1980's, written by former Chrysler Corporation Chairman Lee Iacocca, called "Iacocca." To be fair, parts of the book about the iconic chairman were fascinating as they pertained to his young life in the Depression and World War II years and the early part of his career at the Ford Motor Company as a mechanical engineer. However, there was a point when the focus of the book was less historical and more about himself and what he did to save the Chrysler Corporation. It is with this idea in mind that I traditionally seek to focus my column on the Ohio Water Environment Association, WEF, the industry, and most importantly our members and their accomplishments. Unfortunately, I cannot tell this story without the backdrop of my own.

Larry Moon in the Early 1980s

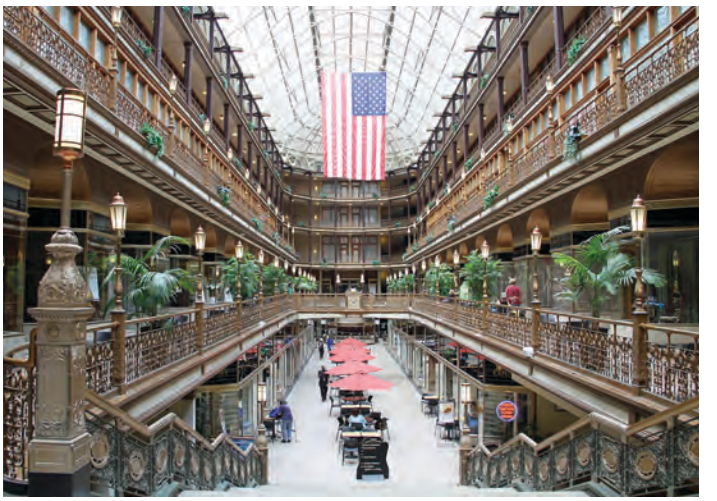
I first met Larry Moon when I worked for the Ohio EPA, Central District Office in January 1983. At that time, I was working as a "District Engineer" for the Ohio EPA Central District Office at 2244 South Hamilton Road. (This was one of many locations that the Central District Office would call home during the next 30 years.) A portion of this job involved reviewing plans and PTI applications, NPDES permits, and otherwise responding to complaints and compliance investigations. It was on one of those occasions that my supervisor asked Larry Moon to come along with us to a wastewater treatment plant that was reportedly having problems.

Thirty years later, I no longer recall the treatment plant we visited or the nature of our visit, but I do recall our discussion over lunch on our return trip. For it was here that I began to know Larry. From this initial meeting, it was evident to me how proud he was to be a licensed wastewater operator and how much he enjoyed the profession. He presented the profession as an exclusive club, and I did not want to be excluded! I was motivated to take the Class III Wastewater examination in October 1983 and was awarded my Class III Wastewater Operator's license in 1988.

In addition to serving as the long time Secretary-Treasurer of OWEA, Larry's position at the Ohio EPA included the oversight of the Ohio EPA Operator Certification Program, which included administering and proctoring the semi-annual operator examinations for the Ohio EPA. At other times, Larry visited wastewater treatment plants across the state giving advice, and served as an ambassador for the Ohio EPA. I recall reading Larry's memos that regaled his travels to different plants, his observations, and what he told operators.

Shortly after meeting Larry in January 1983, I joined the Water Environment Federation and immediately signed up to attend the 1983 Annual Conference, which was held in Cleveland at the Bond Court Hotel. It was at that time, Larry and I shared an experience that we joked about for a long time. Shortly after arriving at the hotel, my colleague and I went to a bistro in the basement of the Bond Court Hotel and were almost immediately approached by the late comedian Phyllis Diller (1917-2012). She was in Cleveland to attend a 90th birthday celebration for local celebrity, journalist, and news anchor/reporter Dorothy Fuldheim (1893-1989). We talked with Phyllis for ten minutes on a number of topics. During this conversation Phyllis said that she was from Lima. We talked about what we did for a living and the taste of drinking waters in different cities. She then concluded by telling us one of her trademark jokes about her fictitious husband "Fang." Later on, Larry told me that Phyllis spent much of the evening in his hospitality suite "partying." As evidence, Larry produced a personally autographed photo of Phyllis a few weeks later.

The OWEA 1983 Annual Conference highlight was the banquet, which was held in the Cleveland Arcade.



The Cleveland Arcade, Location of the OWEA 1983 Banquet
My First Conference Left a Lasting Impression

The setting was made complete by decorations and background music from the 1920's. As far as I was concerned, the atmosphere was perfect! The retro theme was in perfect sync with the setting, which was a large Art Nouveau structure constructed in 1890 as one of the first indoor shopping malls in the United States. Growing up in the Cleveland area and visiting the Arcade in the 1960's and 70's, I also recall my grandmother talking about visiting the Arcade prior in its early days. I felt transported back in time to the jazz age, which was an incredible experience for a young man visiting his first OWEA Annual Conference in the company of the most influential people in our industry. Such was the impact of this experience that I still recall several of the people sitting at my table. Throughout the conference, it was very clear that Larry Moon was a large part of OWEA.

As the years passed Larry remained a steadfast presence in the Ohio Water Environment Association serving as its longest serving Secretary-Treasurer. I began my own journey in the Ohio Water Environment Association as an officer in the Southeast Section in 1996. During a meeting in 2000; Larry invited me to become a member of a standing conference planning committee. At that time, I was on track to become the Southeast Section Vice

President in 2001 and President in 2002. I told Larry that once I completed my presidency, I would continue my involvement in other ways. I will never forget what he told me. It was: "we will make a place for you."

Larry's comment and the warmth of expression behind it inspired me to keep going and going. Since that time, I became the Southeast Section President in 2002, joined the State Board in 2004 and then became the 85th President of the Ohio Water Environment Association in 2010. At the OWEA 2013 conference – 30 years after my first – I was elected to become the Junior WEF Delegate from Ohio. I will assume my new position in October 2013 and serve both OWEA and the WEF House of Delegates for a period of three years.

The last time I saw Larry was at a Southeast Section Friend and Family Day in 2000 where we played golf together. The golf event was a scramble, and our scores were so bad we did not even turn in our score sheet! About one year later, I heard that Larry suffered a stroke, and I have not seen him since. Wherever he is, I wish him well. If he is reading this, I want him to know that I think of him often and fondly.

A highlight of the 2013 Conference for me was receiving the Larry D. Moon Outstanding Service Award for 2013. Winning this award was not only personally satisfying to me, but it brought me back full circle to my point of beginning and flooded me with memories of the wonderful man that bears its name of the award.

President Tom Angelo presents the Larry D. Moon Award to Dale Kocarek at the 2013 Annual Conference

As you can see, Larry Moon was not just a disembodied name to me and others of my era, but a wonderful person who taught me many things. Two of which I will never forget and have served me well in my career over the past 30 years:

- Operators are critical to our industry. If you want to be successful, you need to listen to them as they can teach you many things.
- We are all ambassadors. Where possible, project warmth and inclusiveness. This puts people at ease and makes them feel welcome.

I am proud to see Larry's legacy continues in OWEA.

Dale E. Kocarek, PE, BCEE
Chair, Government Affairs Committee
and WEF Delegate-Elect
Stantec Consulting Services, Inc.
dale.kocarek@stantec.com

5S REPORT

by Mark Livengood, Grand Integrator and Effluent Recorder

The Ohio 5S (Select Society of Sanitary Sludge Shovelers) welcomed their 190th inductee during the 2013 OWEA Annual Conference. Since 1984, we're still trying to get it right!!

The following persons were inducted: Doug Borkosky (NW), Mike Welke (NE), Dan Miklos (SW), Ed Nutter (SE), Guy Jamesson (At-large) and Matt Bond (Honorary).

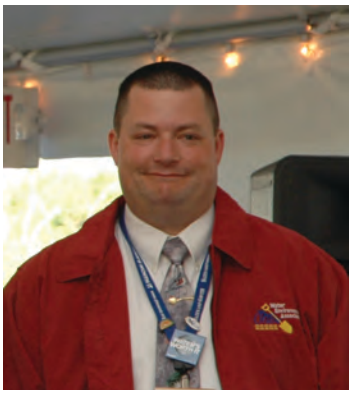
During the week these new members collected over $900 in cash, with $600 being donated to Water for People.

2014 will mark the 30th induction class of Ohio 5S, and in 2015 we will welcome our 200th member.

As always, extra lapel shovels are available for $15, which is a lot cheaper than buying drinks.

Mark Livengood, Grand Integrator and Effluent Recorder
livengoodm@mcohio.org

Matt Bond (Honorary)



Doug Borkosky (NW)

Guy Jamesson (At-Large)

Ed Nutter (SE)

Mike Welke (NE)

You can view the history, 5S Award information, and the list of 5S members at: *http://www.ohiowea.org/5s_society.php*

(Dan Miklos not pictured)

WEF Delegates' Report

Kim Riddell

Mark and I were very pleased to have WEF Past President, Matt Bond, in attendance at the Ohio Water Environment Association's 2013 Annual Conference which was held June 18-20, 2013 and was kicked off on June 17th with our Annual Golf Outing. Matt joined us for the entire week and enjoyed the Ohio hospitality of our President Tom Angelo and the rest of the executive committee. He spoke at the annual banquet where he addressed the membership on WEF initiatives such as the Utility Partnership Program, Operator of the Future Initiatives, and Ad Council Fund Raising Efforts to create public awareness of the importance of clean water and to increase the relevancy of WEF and its member associations within their local communities.

Since summer is almost over and autumn is on the way… The executive committee and your delegates have been starting to focus on WEFTEC, which will be held in Chicago from October 7 -9, 2013. I have been very honored to serve as your WEF Delegate for the past three years and thank the membership for the opportunity to do so. Mark and I are very pleased to announce that Mr. Dale Kocarek will be stepping into the role of Junior WEF Delegate when I rotate out and Mark moves up to the Senior Delegate position this fall at WEFTEC in Chicago. Congratulations Dale! Also, Mark and I are excited to report that our membership numbers are trending towards being above 2000 this summer and if we can keep our numbers above 2000 as of September 15, 2013, the Ohio Water Environment Association will be granted a third delegate to WEF. Mr. Doug Clark will be joining Dale and Mark in the ranks as Ohio Delegates to WEF WHEN THIS OCCURS! Let's keep the new membership numbers going up! So congratulations (a little early) to Doug and a big shout out to the members to remember to renew your membership, consider having your utility sign up for the new Utility Partnership Program, and consider encouraging a colleague to become a member of OWEA. Together we can ensure that OWEA gets our 3rd WEF Delegate!

Kim Riddell, Senior WEF Delegate, *kim@go-smith.com*

Mark Livengood

Buses to WEFTEC

If you have not heard by now, OWEA is sponsoring a day-long FREE trip to WEFTEC to allow members to attend the largest water-equipment exhibition in the world. OWEA is providing buses from each Ohio Section to give members the opportunity to participate in the 86th Annual Water Environment Federation Technical Exhibition in Chicago, on October 8, 2013. WEFTEC is offering free admission to the Exhibition (preregistration required). 4-6 Hr travel time one way. Snacks, soda, and water will be provided. Members must complete the complimentary exhibition registration (*http://www.weftec.com/Register/*) prior to registering for the bus transportation. You will need your WEFTEC registration number to register for the bus. Check the OWEA website for official registration link and information.

Ohio WEA is recognized by WEF as a leading Member Association because of our excellent past delegates. I would like to officially recognize Kim for her past work for Ohio WEA and WEF as one of the leading MA Delegates serving on the House of Delegates. If you think your employer is a "big machine" and has difficulties making what seem to be "easy decisions", well, imagine the level of decisions that WEF Delegates and Board of Trustees try to undertake each year. Thanks Kim for your continued service to OWEA.

Mark Livengood, Junior WEF Delegate, *livengoodm@mcohio.org*

Incoming WEF Delegates

At the June 17, 2013 Executive Committee Meeting, Dale Kocarek was selected as the incoming WEF Delegate, to serve a three year term beginning in October 2013.

Doug Clark was voted in for a two year term WEF Delegate (provisional), to begin his term in October if OWEA member roster total remains above 2000 as of September 15, 2013.

Do You Work with College Interns, Employ College Students, or Know a Student Interested in a Water Quality Career?

Eligible Students can join OWEA/WEF Free for One Year!

Designed for the specific needs of students - offering a solid foundation on which to build careers and gain credibility with water quality leaders.

The Ohio Water Environment Association is offering a year long OWEA/WEF membership to students with an interest in the water quality/wastewater field. This is a dual membership with OWEA (as the state member association) and WEF.

Students must be enrolled in a minimum of 6 credit hours in an accredited college or university.

Encourage students to apply for a free year long OWEA/WEF membership at: *http://www.ohiowea.org/memberships.php*

As of July, OWEA has 43 student members, who represent the future professionals in the water quality field.

Sunday, October 6, 2013
6:00 - 7:30 p.m.
Marquette Room - 3rd Floor
Hilton Chicago Hotel

weftec
the water quality event
2013 CHICAGO

Free Exhibit Hall Pass & Free Bus Ride for OWEA Members

Reserve Your Seat on the Bus to WEFTEC 2013 on October 8th

OWEA will provide buses from each Ohio Section to give members the opportunity to participate in the 86th Annual Water Environment Federation Technical Exhibition in Chicago, on October 8, 2013. WEFTEC is offering free admission to the Exhibition (preregistration required). With complimentary Exhibition registration, this will offer up to 200 members the chance to go to Chicago WEFTEC for a day for free. 4-6 Hr travel time one way. Snacks, soda, and water will be provided.

Date: Tuesday, October 8, 2013

Departure and Return Locations

Northwest: Findlay (Wal-Mart) and Maumee (Meijers), OH

Northeast: Richfield, OH at the Days Inn and Suites

Southwest: West Chester, OH at Union Center Blvd

Southeast: Columbus, OH at the Fort Rapids Indoor Waterpark

Members must complete the complimentary exhibition registration (*http://www.weftec.com/Register/*) prior to registering for the bus transportation. You will need your WEFTEC registration number.

Bus registration at *www.ohiowea.org* under the Event Registration tab.

Not a member? Visit *http://www.ohiowea.org/memberships.php*.

Not A Member? It's a great reason to join OWEA!

Buses Sponsored by:

Alloway, AllMax Software, American Structurepoint, and CTI Engineers

NWOWEA

Josh Wehring, President

"The Great Lakes are a diamond on the hand of North America," from Pat Dailey, are among my favorite song lyrics. I believe it truly echoes the purpose of our profession of preserving and enhancing our water environment, as water is one of our most precious resources. I am honored to have the opportunity to serve as the President of the Northwest Section of the OWEA this year and I would like to thank Brad Lowery and all the superb past Presidents; they truly have set the tone for success in the Northwest Section. Specifically, I would like to thank two very influential people that have truly demonstrated what it means to be a consummate wastewater professional, Jim Johnson and Jeff Lamson. My former superintendent and 2004 OWEA President, Jim Johnson, continues to be an active member of the OWEA and has exhibited the true meaning of diligence and ambition in all that he has accomplished. Thanks, Jim. Also, I would like to thank my current superintendent, Jeff Lamson, as he has also lead by example and has always fostered an environment for the personal and professional growth of his staff. Thanks, Jeff.

I would like to welcome Jeff Thompson to the Executive Committee as he will be taking the reigns as the Section Secretary. I am confident he will serve the Northwest Section well. I would also like to welcome Pat Tebbe, as she will be replacing Jeff Thompson as the Section Contact Hour Coordinator. Finally, I would like to announce that Gary Bauer will serve the Section as the Industrial Pretreatment/Industrial Waste chairperson. I can truly say that the Northwest Section is loaded with top notch engineers, chemists, operators, and managers who not only represent the Northwest Section well, but embody the mission of the OWEA. For this, I thank all of you.

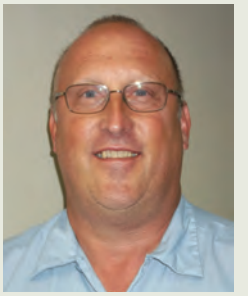
I have lived in Fremont all of my life except during college. I am an alumnus of Walsh University, located in North Canton, Ohio and I graduated Cum Laude with a degree in Biology in 1999. While at Walsh, I played football for another very influential person in my life, Coach Jim Dennison. Coach Dennison instilled in me the power of Positive Mental Attitude (PMA) and how a positive focus and goal setting techniques can make all things possible. Thanks, Coach Dennison. I am currently the Assistant Superintendent of Operations at the City of Fremont Water Pollution Control Center and have been with the city since 1999. I have an OEPA Class III Wastewater Operator certificate and I am certified as a Class IV Wastewater Analyst by the Ohio Water Environment Association. I have been involved with OWEA for many years serving as the Northwest Section and State Industrial Pretreatment/Industrial Waste chairperson, as well as the Section Secretary, 2nd Vice President, and 1st Vice President. Serving in these positions has been a great learning experience, but the people I have come to know and serve with have made the experience even more enjoyable. This is why I encourage everyone to get involved in your Section of OWEA. As OWEA Past President Doug Clark once stated, "Find your passion and run with it".

I live in Fremont with my wife Sara and our daughters, Adrienne (13), and Mara (10), and our son Isaac (2). We stay quite busy with all of the activities that our children partake in, and with any free time we can be found near the Lake, most probably at Cedar Point. We are active members of Sacred Heart Parish and also stay busy participating in activities surrounding Bishop Hoffman Catholic Schools. I have been known to coach many sports, but now focus on coaching my daughters' basketball teams. I am also a certified OHSAA football official and on Friday nights in the fall can be found on a sideline somewhere in Northwest Ohio.

We have an exciting year shaping up in the Northwest Section, beginning with our Annual Spouses and Friends Day in August at Put-In-Bay. We will be visiting Gibraltar Island and Dr. Jeff Reutter, Director of Ohio Sea Grant and Stone Laboratory, will be speaking and giving a tour of the Stone Laboratory. I am also proud to announce that the Northwest Section of OWEA will be teaming up with the Northwest Section of AWWA for a joint meeting to be held in Lima, Ohio in October. This is truly a monumental event as both organizations will come together for the first time in the Northwest Section. Thanks go out to Brad Lowery and Richard Kroeger for putting in the legwork to make this event possible. I am also excited to announce that we will hold our March meeting in Leipsic, Ohio and I am currently busy finding a location for the May meeting.

I look forward to the great task of leading the Northwest Section of OWEA this year. Please check the OWEA website for meeting announcements and the Northwest Section link for additional information. God Bless.

Josh Wehring, *jmwehring@fremontohio.org*



SWOWEA

Bob Beyer, President

My name is Bob Beyer and I am the 2013-2014 Southwest Section President. I have been with the City of Mason since 1999 as a Plant Operator III and the Industrial Pretreatment Coordinator. Prior to that I worked for the City of Harrison since 1988 and my last position there was as the Wastewater Coordinator. I hold an OEPA Class III Wastewater Operator Certification.

I became involved with the Ohio Water Environment Association as a member in 1991 and the Southwest Section Industrial Waste Committee in 1997. I joined the executive committee in 2008 and in 2009 was involved with the state conference committee.

I live in Harrison with my wife of 29 years, Debbie, and we have two adult daughters, Hannah and Lisa. Hannah lives in South Carolina with her husband and has taught 8th grade science for the last three years. They are moving back to Ohio when he resigns his commission with the U.S. Navy, hopefully this September. Lisa

graduated from Miami University this spring and will begin her position as an accountant in September. My hobbies include my yard and camping.

I want to congratulate 2013 Conference Co-chairs, Jeff Olsen and Marc Nusser, and their Southwest Section committee for a well planned and outstanding OWEA Annual Conference, held at the Great Wolf Lodge in Mason, Ohio in June. I also want to thank Barb Wagner, SW Past President, for all her hard work and guidance in the 2012-2013 year. It will be a hard act to follow the queen! I want to send out a hearty congratulations to the newly elected president of OWEA, Dan Sullivan—one of our own, from the Southwest Section.

My goal as President is to recruit more members and have the present members become more active in the organization. Please join us and bring a new member to the Southwest Section Meeting on September 19th at *otp industrial solutions* in Middletown. The Section Meeting is free for new members with paid membership application. You can find us at *www.swowea.org*. Check out the website to learn about upcoming events, committee activity, contact hour information, and the section's policy and procedures. It is a great resource for membership.

Bob Beyer, *bbeyer@masonoh.gov*

SEOWEA

Matt Boone, President

Hello fellow members. My name is Matt Boone, and I am very honored and excited to serve as the 2013 President of the Southeast Section. The Southeast Section Executive Committee is looking forward to another great year. We will continue our outreach to young water professionals, and we encourage all of our members to promote our organization. If you are an active member, please invite someone new to a meeting this year. Our Section Meetings are free to first time attendees.

Our first Section Event of the new officer year will be Friends and Family Night at the Columbus Clippers Game on Friday, August 23. At the time of writing this article, the event was approaching our limit of 100 attendees. For information on upcoming events, please review the OWEA calendar at *http://www.ohiowea.org*.

At our May Section Meeting, we acknowledged fellow colleagues for their contributions to the water environment with Section Awards. The recipients of our 2013 Southeast Section Awards are:

Dean Stewart - Gary Hickman, City of Columbus
J.W. Ellms - Dax Blake, City of Columbus
W.D. Sheets - Jeff Hall, City of Columbus
Lifetime Engineering - Joe Jacobs, ARCADIS
Engineering Excellence - Lancaster Upper Hocking WPCF, Chad Dunn, ARCADIS
F.H. Waring - Jim Peebles, T&M Associates

Congratulations to our Section Award winners. I also want to thank Tyler Linton for his service as President, and welcome our newest executive committee member Melodi Clark as First Year Director.

With this being my first article as President, it is time to tell you a little about me. I am thirty-seven years old. I have two daughters Hadley (2) and Campbell (4). My hobbies include road biking and mountain biking. A couple times a week, you can find me pulling my girls in a bike cart on the Olentangy bike path between Ohio State and Worthington. My girls are very supportive of going on bike rides as they are familiar with all of the parks along the bike path as well as a couple of places to get milkshakes.

Since 2003, I have been employed by ARCADIS, formerly Malcolm Pirnie, in Columbus, Ohio where I am a Senior Water Resources Engineer. My focus has been water resources conveyance planning and design. My hometown is Lebanon Junction, Kentucky, which is about twenty-five miles South of Louisville. Being from Kentucky and having the last name Boone, I am often asked if I am related to Daniel. I am not a descendent of Daniel Boone, but my Boone ancestors have been in Kentucky since 1796. Being the first in my family to graduate from college, I obtained a civil engineering degree from the University of Kentucky. I am an avid University of Kentucky sports fan, and we are very excited about our new football coach from Youngstown.

Playing an active role in organizations has always been a part of my life experience. I have served in various organizational leadership roles since high school. I enjoy serving in these roles, and I am happy that people keep allowing me to serve. With this Section being in excellent condition, my goals as President are to maintain Section Meeting attendance, continue to increase involvement in Section Committees, and establish an electronic filing system for the Executive Committee on the OWEA server to improve our record keeping and provide better continuity between Executive Committee officer roles. If you have any ideas about improving our Section, we are always open to suggestions to better serve our members.

I look forward to hearing from you and seeing you at upcoming Section events.

Matt Boone, *matthew.boone@arcadis-us.com*

NEOWEA

Mary Ann Driscoll, President

I would like to begin by thanking the membership for allowing me to serve as the Northeast Section President for 2013-2014. The Section has grown so much over the last five years while I've been on the Executive Committee and I am proud to be a part of it. On behalf of the Executive Committee and the Section, I would like to thank our Past President, Lance Willard for his hard work and dedication! He has been a great leader, mentor and supporter of OWEA over the years.

continued on page 14

continued from page 13

I have been working as an engineer in the water and wastewater fields for the past 16 years. My project experience includes wastewater plant design, infrastructure rehabilitation, pump station design, construction administration, and site development. I received my bachelor's degree in civil engineering and master's degree in engineering management from the University of Akron. Several months ago, I joined Burgess & Niple as a Project Manager in the Akron office. I have been a member of WEF for 15 years and active in both OWEA and NESOWEA. I became involved in the Section many years ago as the Science Fair Coordinator and later was elected to serve on the Executive Committee.

The Executive Committee has an exciting year planned for the Section! We will kick it off with our annual clambake. The clambake will be held at Grantwood Country Club in Solon on September 14th. This is a great opportunity for relaxing and networking with friends and colleagues. Come and see if you can be the next corn hole tournament champion!

Also this Fall, we will be holding our annual Supervisory Seminar in Richfield and visiting a wastewater plant in the Northeast Section. Please plan to join us for one of these great events in October and November.

Mary Ann Driscoll, *maryann.driscoll@burgessniple.com*

Call for Abstracts

Attention Ohio Consultants & Vendors

The NESOWEA Industrial Wastes/Pretreatment Committee is requesting submission of potential presentation ideas related to industrial waste treatment practices for use in our annual Industrial Waste Seminar planned for February 2014 in Richfield, Ohio (near the Ohio Turnpike & I-77).

This is a well attended, one day seminar that typically draws 240+ attendees and more than 20 exhibitors. Presentation should be 40 minutes in length with a 5 minute Question & Answer period. Commonly presented subjects include:

- Industrial Wastewater Process Design and Control
- Remediation Projects
- Unique Industrial Waste and Pretreatment Case Histories
- Industrial Related Compliance and Regulatory Concern Topics

For consideration on presenting at the 2014 seminar please forward your contact information and a 150 – 200 word abstract by November 1, 2013 to Committee Chair, Ted Marten, at *tmarten@twinsburg.oh.us*.

COLLECTIONS COMMITTEE UPDATE

by Bill Horst, Chair and Don Gallimore, Vice-Chair

The Committee had a very successful Specialty Conference on May 9, 2013 with the help of the entire committee. Attendees from all segments of industry attended and listened to topics ranging from case histories on CSO and SSO reduction to green infrastructure to evaluation of flow meters and SSES studies. Attendance was excellent at 180 and many positive comments were received on the program and the site. The event was held at the Grand Oaks Event Center in Grove City. Next year we will be back at the NorthPointe Conference Center. Many of the presentations are posted at *http://www.ohiowea.org/presentations_2013.php*. A thank you goes out to all who spoke, and the committee members who made it a successful day.

The Hands-On Workshops are now the focus of the Collections Committee for the fall of 2013, under the direction of Don Gallimore, Hands On Sub-Committee Chair. The presentations have been developed to be presented around the State at the various sections. We are still finalizing our speakers list and should have that resolved by the time you read this. Currently, we are considering presentations on what hardware to use to remove tough blockages in pipes, a new method to quickly evaluate the condition of the sewer without full length televising, a program leading to reduction/elimination of I/I using a point of sale dwelling investigation, air/vacuum release valve operation and selection, and a discussion of the effectiveness of flow metering technology. We'll present four or five topics. The costs for these hands-on sessions will be kept low at $20.00 to provide regional training for continuing education credit that is easy to obtain.

If you should have any questions about the Collections Committee or any of these activities please contact:

Bill Horst, Collections Chair, *horstb@mcohio.org*

2013 Hands-On Collection Workshops

Register Online at ***www.ohiowea.org***

4 Contact Hours - $20 (includes lunch)

Coming to a Section near you!

Thursday, September 12, 2013
NW Location: Tiffin

Thursday, September 19, 2013
SE Location: Zanesville

Thursday, October 17, 2013
NE Location: Avon Lake

Thursday, October 24, 2013
SW Location: Dayton

2013 Collections Hands-On Workshops are sponsored by

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

RESIDUALS COMMITTEE

by Jamie Gellner, Chair

Recent news and our upcoming activities include the following:

- **Recent Committee Meeting** – Our most recent meeting was held on July 23, 2013 at the Dayton WWTP. We had a great turnout and constructive discussion. After the meeting, City of Dayton staff provided a tour of the Dayton WWTP solids facilities. A special thanks to Tom Dempsey and the City of Dayton for hosting our meeting.

For the remainder of 2013, the Residuals Committee will continue to work on the following initiatives:

- **Development of New Promotional Materials for Biosolids** We are going to modify our display at the Farm Science Review and hopefully use the modified display at other conferences and events. The materials will be developed to specifically highlight the benefits of beneficial use of biosolids. We will also highlight the potential cost advantage of using biosolids for agricultural use.
- **Continue Our Working Relationship with Neighbor Associations in IN and MI** – During the past year, Rob Smith and Steven Reese have led our efforts in reaching out to Residuals Committees in Indiana and Michigan. We have had several conference calls and have exchanged a large amount of information. We'll continue this beneficial communication throughout 2013 and beyond.
- **Alternate Locations for our Residuals Committee Meetings** – Our first meeting this year was held at the Olentangy Environmental Control Center on January 15, 2013. Our second was held at the Quasar facility on April 9, 2013. Our next meetings are scheduled for October 8, 2013 and January 14, 2014. If you have any ideas for possible venues for future meetings or would like to help coordinate these locations, please let me know.
- **Review and Discussion of P Management Requirements Under Revised Land Application Regulations** – As a committee, we are exploring ways to constructively evaluate and review the requirements for management of phosphorus in land applied biosolids. The revised regulations are now in affect and will reduce the amount of land application possible in some areas. As a committee, we will strive to objectively review and discuss and continue to inform you, the OWEA membership, on the latest issues.
- **Farm Science Review** – OWEA will have a booth at the Farm Science Review September 17 – 19, 2013. This annual event is a key opportunity to spread the word (pun intended) about beneficial reuse of biosolids to Ohio's agricultural community. A special thanks to Tom Dempsey, City of Dayton, for volunteering to coordinate the booth and display. If you are interested in helping to staff the booth or have any ideas on updated and helpful information on beneficial biosolids reuse, please let me know.
- **Biosolids Workshop** – The OWEA Biosolids Workshop will be held on December 5, 2013. We are finalizing topics and speakers. If you have a topic of interest that you would like to present or think would be a good addition to the agenda, please let us know.
- **Verify Member List and Update Contacts** – If you haven't received any correspondence from me and you would like to receive the correspondence related to committee activities, please send me an email (see contact information below). Please also drop me an email if your contact information has recently changed so that we can include you in upcoming activities.

We would love to have you as part of our committee. The Residuals Management Committee is focused on serving the OWEA membership through education, promotion of effective biosolids management, technical information on biosolids, and interface with OEPA on regulatory issues. We always welcome new membership and we would love see you at our next meeting. If you are interested in getting involved or if you have any questions about the committee, please contact me.

Jamie Gellner
513.317.0337, *jgellner@hazenandsawyer.com*

OWEA's Specialty Workshop Schedule

Water Environment Association
Preserving & Enhancing Ohio's Water Environment

September 25-26, 2013	**Plant Ops, Lab Analysts, & Energy Efficiency Workshop**
December 5, 2013	**Biosolids Workshop**
March 3, 2014	**Government Affairs Workshop**
May 1, 2014	**Collection Systems Workshop**
May 21-22, 2014	**Plant Operations and Laboratory Analysts Workshop**
December 11, 2014	**Biosolids Workshop**

Visit ***ohiowea.org*** for more information and registration

PLANT OPERATIONS COMMITTEE

by Jim Borton and Kim Riddell, Plant Operations Committee Co-Chairs

The Plant Operations Committee has been busy planning this year's Plant Operations/Lab Analyst/Safety Seminar, which will be held on Wednesday and Thursday, September 25 and 26, 2013. There are state and nationally recognized experts on the agenda again so watch for the flyer coming to your mailbox soon. Plan on attending or sending your employees to hear the likes of David Hackworth, Sidney Innerebner, Steve Samuels, Elizabeth Wick and many more! Don't worry, there are plenty of topics for the Operations, Laboratory, and/or Safety Professional(s). In fact, this year we've incorporated an energy efficiency track on Thursday, in conjunction with USEPA.

For the price and for what is included; up to 13 contact hours, two continental breakfasts, two lunches, an excellent dinner, breaks and a social hour, this seminar continues to be the best bang for the buck for earning your contact hours without breaking the training budget! But don't take the Plant Ops Committee's word for it, come see for yourself and find out what you have been missing! We plan on seeing you there at the Grand Oaks Event Center in Grove City on September 25 and 26, 2014.

The Plant Operations Committee also has the responsibility of coordinating the annual Operations Challenge. It should be noted that this contest does not work without partnership from the Laboratory Analyst, Safety, Collections System committee members, along with many dedicated individuals. A special THANK YOU to our event coordinators: Ed Nutter (Safety), Jim Borton (Process), Darryl Gibson (Collections), Denise Seman (Laboratory) and Doug Sayre (Maintenance). The Executive Committee has agreed to continue to fund the full trip to Chicago, up to $7000 per team, for the two winning teams in Ohio. This is accomplished fully through the generous contributions of OWEA's sponsors, especially OVIVO, Smith Environmental, NE, SE, SW and NW sections, who support Operations Challenge and the operations professionals comprising the teams.

On May 22nd, 2013 the Ohio Operations Challenge/Hands-On Operator Education Day was held at the Northwestern Water and Sewer District's Offices. Participants in the Operator Education Day could earn up to 5 contact hours and have some fun doing so without sitting in a classroom all day. In addition, the non-team attendees could watch and learn from the competitive Operations Challenge teams and root their favorite team to victory. This format, according to those in attendance, again appeared to be successful in its fifth year. In total, 3 competitive teams and 30 individuals registered and participated in the event.

The three Ohio teams were from Bowling Green/Ohio EPA-NWDO, Industrial Fluid Management, and Northwestern Water and Sewer District. At the end of the day, the Bowling Green/OEPA-NWDO team had won Division I and the overall Process Control, Laboratory, Maintenance and Safety events while IFM took the Division II title. Not walking away empty handed, the Northwestern Water and Sewer District team took the overall Collections System event trophy. Teams, organizers, and judges can agree that it was an excellent opportunity to learn new things, improve teamwork, and make some new acquaintances throughout the state.

As a committee, we are continuing to challenge treatment plant managers to find a team within their ranks (managers can play too) or combine with another utility and show up in 2014 to compete. The committee is even challenging the OWEA State and Section Executive Committees and other OEPA offices to form teams, as has been done in previous years. Next year's contest will be held at the **One Water Ohio Conference** in August 2014, so the best of our best will be on display for all water and wastewater professionals in Ohio.

Existing teams are more than willing to help new teams get started, and team members don't all have to work for the same employer; contact Kim Riddell at *kim@go-smith.com* or Jim Borton at *james.borton@ch2m.com* for a list of potential team members nearest you. You can also visit the Plant Operation Committee web page for more details: *http://www.ohiowea.org/plant_operations.php*. Remember, participating team members are eligible to earn up to 12 contact hours, and at the going rate, the contact hours are some of the cheapest around when comparing dollars/hour.

Current members of the committee are: Dave Wilson (SW), Joe Tillison (NW), Steve Elliott (SE), Kim Riddell (Co-Chair), Barb Wagner, Gary Hickman, Tom Kutcher, Bill Hill, and Jim Borton (Co-Chair). Other individuals acting as their respective Committee Chairs might as well be listed as committee members as the partnerships between the committees run deep and include, Jim Graham (Safety) and Denise Seman (Lab Analyst). Of course we are still looking for more members, so contact one of the section reps, Jim, or Kim for more information.

Jim Borton, Co-Chair
james.borton@ch2m.com

Kim Riddell, Co-Chair
kim@go-smith.com

*Division I Winner - **Volatile Solids***
Bowling Green/OEPA-NWDO

*Division II Winner - **Reclamators***
Industrial Fluid Management

*Division II 2nd Place - **Motley Poo***
Northwestern Water and Sewer District

2013 PLANT OPERATIONS, LABORATORY ANALYSIS AND ENERGY EFFICIENCY SPECIALTY WORKSHOP

September 25th – 26th Register at ***www.ohiowea.org***

Wednesday, September 25, 2013	
8:30 - 9:00	**Registration and Light Continental Breakfast**
9:00 - 9:15	Welcome and Introductions *Kim Riddell - Plant Ops & Maintenance Co-Chair & Senior WEF Delegate*
9:15 - 10:15	Activated Sludge Process Control Methodologies and Troubleshooting - Part 1 *Sidney Innerebner, Indigo Water Group*
10:15 - 10:30	**Break in Exhibit Area**
10:30 - 11:30	Activated Sludge Process Control Methodologies and Troubleshooting - Part 2 *Sidney Innerebner, Indigo Water Group*
11:30 - 12:30	**Lunch Provided**
12:30 - 1:30	Activated Sludge Process Control Methodologies and Troubleshooting - Part 3 *Sidney Innerebner, Indigo Water Group*
1:30 - 1:45	**Break in Exhibit Area**
1:45 - 2:45	Optimization of Wastewater Utilities - Part 1 *David Hackworth, CH2M HILL*
2:45 - 3:00	**Break in Exhibit Area**
3:00 - 4:00	Optimization of Wastewater Utilities - Part 2 *David Hackworth, CH2M HILL*
4:00 - 4:15	**Break in Exhibit Area**
4:15 - 5:15	An Update on the Changing Legal Landscape and the Impacts on Wastewater Operations *Steve Samuels, Shottenstein, Zox and Dunn*
5:15 - 5:30	**Break in Exhibit Area**
5:30 - 6:30	Round Table Discussion and **Social** *Panel: Sidney Innerebner, David Hackworth, Elizabeth Wick, Steve Samuels, April Kasun, Jim Borton and Kim Riddell*
6:30	**Dinner** *(Included in Full Registration and Wednesday Only Registration with Dinner Option)*

Exhibitor Opportunities

13 Contact Hours

Grand Oaks Event & Business Center
1801 Gateway Circle
Grove City, Ohio 43123

Workshop Sponsored by:

SMITH ENVIRONMENTAL, INC.

Thursday, September 26, 2013			
7:30 - 8:00	**Registration and Light Continental Breakfast**		
Track	**Operations**	**Laboratory**	**Energy**
8:00 - 9:00	What's the Word & Why Does it Matter? - Public Messaging for Water Utilities *Jason Tincu, City of Dayton and John Gonzalez, NEORSD*	Alternative Lab Methods *John Ingleright HACH*	Enhance Your Energy Performance With EPA Resources *Louann Unger, USEPA* AEP Ohio Business Incentives Program for Energy Efficiency in Water Waste Water Facilities *Angie Rybalt, AEP*
9:00 - 9:15	**Break in Exhibit Area**		
9:15 - 10:15	Hazard Communication to Globally Harmonized - The Times are Changing *Ed Nutter City of Newark*	Low Level Mercury *Rhonda Morris Alloway Labs*	Strategies to Reduce Electric Energy Costs Through Demand Management *Brian Lisk, Hazen and Sawyer* Efficiency Smart: Benchmarking and Energy Efficiency Incentives for Public Power Customers *Claus Eckert Efficiency Smart Ohio*
10:15 - 10:30	**Break in Exhibit Area**		
10:30 - 11:30	Expecting the Best - The Power of Clear Expectations in a Turbid Environment *Steve Schulze, Montgomery County*	BOD and Solids: Pitfalls and Troubleshooting *Joe Boyd Environmental Express*	Realistic Energy and Cost Saving Opportunities *Scott Strahley and Tom Fishbaugh, Ohio RCAP*
11:30 - 12:30	**Lunch Provided**		
12:30 - 1:30	Activated Sludge Basics *Sidney Innerebner, Indigo Water Group*	Lab Game Show *SWOWEA Lab Committee*	Knowledge is Power, Energy Mgmt Controls Energy Costs *Craig Williams WW Dept, Angola, Indiana*
1:30 - 1:45	**Break in Exhibit Area**		
1:45 - 2:45	Activated Sludge Microbiology *Sidney Innerebner, Indigo Water Group*	An Introduction to Organics Sampling and Analysis *Kathy Richards, City of Akron*	Co-generation with Landfill and Anaerobic Digester Gas *Mike Schreidah City of Toledo*
2:45 - 3:00	**Break in Exhibit Area**		
3:00 - 4:00	Documentation at POTW's - The Foundation of Defensible Data *Elizabeth Wick Ohio EPA*	Activated Sludge Microbiology *Denise Seman, City of Youngstown*	Cut Your Utility Costs 10% or More Using Low Cost Methods *Mark Moore WPC Dept Lafayette, Indiana* Warren's Hydroelectric Project - "Turning Wastewater to Electricity" *Tom Angelo, City of Warren and Deb Houdeshell, Hazen and Sawyer*
4:00	**Closing Remarks**	**Closing Remarks**	**Closing Remarks**

LABORATORY ANALYSTS COMMITTEE

by Eva Hatvani and Denise Seman, Co-Chairs

Hi Everyone!

If you were able to attend, hope you had fun at the OWEA State Annual Conference. It's always a fun as well as a very informative and educational event. Thanks to those that put it together.

We had a great year. A special thanks to all that made it possible. We appreciate your help in providing venues to hold our meetings and also sharing your expertise in the area of wastewater analysis.

Save the Date for the Joint Operations/Lab Workshop. The workshop will be held September 25th & 26th at the Grand Oaks Event & Business Center, 1801 Gateway Circle, Grove City, OH 43123. (See details on page 17.) Your suggestions are always taken into consideration. If you have any ideas of topics that you would like to hear or would like to be a speaker at next year's workshop, please send us an email. Please remember to use the new email address for any communication with the State Lab Committee or WW Lab Analyst Certification. The email address is *oweastatelac@yahoo.com*.

Follow Lab Munkee on Facebook and Twitter for upcoming events, and possibly some new games/ challenges as we approach the state events. *(@LabMunkee)*

Congratulations!

We would like to congratulate the following analysts for passing the Wastewater Analyst Exam which was given this past April.

Class I
Joanna Beres
Bradley Eisenhauer
Chad Feehan
John Garrett
Tim Hendricks
Kevin Kiser
Aubrie Koontz
Nancy Mikovic
Michelle Nelson
Karen Peterson
William Southan
Bradley Tussing

Class II
Michelle Gilford

Class III
Matthew Cox

EXAMS

The next exam will be given on Friday, October 25, 2013. The application deadline is Friday, September 13, 2013. Please use the application form on the OWEA Website.

LAB CERTIFICATION EXAMS

Fall exam date: Friday, October 25, 2013
Application Deadline: Friday, September 13, 2013

Applications at *www.ohiowea.org* on the Certification tab. Mail to:

Ohio Water Environment Association
1890 Northwest Blvd, Suite 210
Columbus, OH 43212.

RENEWAL OF CERTIFICATES FOR 2013

The current certificates are valid until December 31, 2013. Renewals are on a two year cycle. The application for renewal will be mailed out this fall. If you do not get one by December 1, 2013, you may not have notified us about a possible move, retirement, or other situation. Forms are available for download on the website. Please email any changes of information to *oweastatelac@yahoo.com*. The cost for renewal is $25. Renewal applications will be accepted starting November 1, 2013.

NOTE: Print renewal applications from the OWEA website as the mailing address has changed to the OWEA Office. Do not use any old renewal applications.

2013 Operations Challenge

The LAC Participated in the Ops Challenge Event that was held in Bowling Green, OH at the Northwest WWTP on May 22, 2013. The lab event was BOD using the optical DO probe by YSI. The judges/ instructors for the lab event this year were *(l-r below)* Denise Seman, Kyle Kaminski (YSI), Melodi Clark, and Miyah Dunford.

SW LAC – Jim Davis and Karen Tenore

The SW LAC met July 18th at YSI and learned from presenters Robert C. Smith, P.E., BCEE, Ph.D and Laura St. Pierre, Product Manager. A facility tour wrapped up the meeting.

The fall SW LAC meeting will be October 10th at the City of Fairfield WWTP. Check the OWEA website closer to the dates for additional information and to register.

To inquire about being added to our email list or receive information about attending, hosting, sponsoring, or presenting at a future LAC meeting please contact:

Karen Tenore, City Of Dayton
Karen.Tenore@daytonohio.gov, (937) 333-1501

Jim Davis, Montgomery County Water Services
DavisJi@mcohio.org, (937) 496-7051

Committee Members:
Lynette Hodnicki, City of Fairfield
Lori Kyle, Greene Co.
Linda Moubray, City of Fairfield
Ron Paulick, TestAmerica
Teresa Shinkle, Greene Co.
Violet Fanning, TestAmerica

continued on page 19

NE LAC – Bev Hoffman

We had a great year. Thanks to everyone that participated in making it a success. The NELAC hosted 3 free training sessions with a total of 5.5 contact hours available. 61 persons attended.

NE LAC's recent meeting was July 19th at the Lake County Training Center. The topics were: DO, a review of Clark-type versus Luminescence Electrodes & Ion Selective Electrode and Photometric, EPA approved methods for Nutrients in Water and Wastewater.

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 email updates for training events and other news, please send your contact information to Beverly Hoffman at *NESOWEALAC@gmail.com.*

Committee Members:
Beverly Hoffman *nesowealac@gmail.com*
Marie Simon *marie@northcoastlabs.com*
Lisa Feigle *lisaf@gcdwr.org*
Amy Starkey *ajstarkey@co.stark.oh.us*

SE LAC – Melodi Clark

The SELAC had a great year. We offered 14.0 contact hours and had 47 people attend our meetings. I hope to increase the attendance this year. I would be open to suggestions to help increase the attendance.

A meeting was held on June 4th in Millfield. Topics offering 3.0 contact hours were given for the following: Tour of Burr Oak Groundwater Facility, Automated O&G, Doing more with less Automating Manual Techniques. We had 7 attendees.

I am looking forward to the rest of the year and am in the planning stages for the remaining 2013 meetings. We are planning the following meetings:

- September 2013 – Byesville or Circleville – Topics TBA
- October 2012 – Lancaster – Topics TBA

As always, I am open to suggestions on places to hold our meetings and any topics that people would like to have discussed. Hope to see you at the upcoming meetings.

NW LAC – Briget Shiets

We are currently planning a fall meeting. If you would like to sign up for the NWLAC members directory, or suggest speakers and topics, please email *wwtplab@cityofbellevue.com.*

Committee Contact Information

State Chairs
Eva Hatvani, 440.846.8220, *oweastatelac@yahoo.com*
Denise Seman, 330.742.8820, *dseman@cityofyoungstownoh.com*

Northeast Chair
Beverly Hoffman, 440.446.4228, *nesowealac@gmail.com*

Northwest Chair
Kevin Hughes, 419.488.5440, *watertreatment@tiffinohio.gov*
Bridgit Shiets, 419.483,7514, *wwtplab@cityofbellevue.com*

Southwest Chairs
Karen Tenore, 937.333.1501, *karen.tenore@cityofdayton.org*
Jim Davis, 937.496.7051, *davisji@mcohio.org*

Southeast Chair
Melodi Clark, 614.645.1239, *mlclark@columbus.gov*

2013 Crystal Crucible Inductees

We would like to congratulate the 2013 Crystal Crucible inductees: (l-r) Josh Wehring, Ruth Ann Buzzie, Paula Humphreys, and Bev Hoffman *(Linda Sandefur not pictured)*

GOVERNMENT AFFAIRS COMMITTEE UPDATE

by Dale Kocarek, P.E., Chair, and Dianne M. Sumego, P.E., Vice Chair

Early Stakeholder Response to the Ohio EPA on Nutrients

In 2012, the OEPA added a step in their rule making process, in which they request input from interested stakeholders prior to the development of a rule. Stakeholders can provide critical insight and input to help craft the rule prior to the first draft. On May 22, 2013, OWEA submitted a letter to the Ohio EPA in its request for early stakeholder outreach as part of its initial efforts to develop rules to reduce the impact of nutrients on surface waters. This letter was produced by a panel of experts through the OWEA's Technical Review Group (TRG).

The subject of nutrient control is critical to Ohio's waterways. In our letter, OWEA supported the efforts of the OEPA for working towards a sound technologically based method of identifying thresholds and indicators of nutrient enrichment and the concept of a weight-of-evidence approach. Below are some highlights of our response:

Technical/Implementation Considerations –

- We requested an explanation on the impact of this rule on current POTW's with existing nutrient limits that have or are currently investing in the implementation of improvements.
- We requested further information of how the Trophic Index Criterion (TIC) score will be determined.
- We requested further information relating to the development of the Total Maximum Daily Load (TMDL)/Water Quality Based Effluent Limit (WQBEL) calculations.
- Treatment Technology: We expressed a concern with degree of difficulty existing POTW's will face to meet these limits, based on existing space, technology, and processes in place.
- Permit Cycle: We encouraged that communities have the option to evaluate and collect data following the implementation of reduction measures to understand the impact on the water quality of the receiving stream.
- Integrated Planning: We suggest the inclusion of Integrated Planning Framework into the rule. This will provide an overall approach to improvements including the affordability of additional cost to address nutrient reduction. A holistic approach should consider programs involving stormwater, wet weather programs, drinking water and agricultural nonpoint source runoff as interconnected to reach regulatory compliance.
- Adaptive Management: We agreed with the inclusion of Adaptive Management into the rule as this will provide communities with the flexibility to spend their limited resources to achieve the "biggest return for their dollars invested." We encouraged the addition of a means to balance and prioritize multiple mandated regulations based on their highest need for investment.
- Nonpoint Source Contributors: We agreed with the development of point and nonpoint source effluent limitations where streams and rivers are threatened or impaired, but understand the challenges to enforcing nonpoint source contributors. There needs to be a balance of requiring utilities to meet nutrient limits that are beyond their control and their level of contribution and developing a means to regulate nonpoint source contributors.

Economic and Financial Burden – We encouraged developing a means to balance the benefits of implementing the rule vs. the financial impact required to comply with the rule. Utilities need a means to prioritize their investments wisely to receive the most for their investment while meeting regulations.

Development of an Advisory Board – We suggested bringing representative organizations, including utilities, non-point dischargers, industry experts, ODNR and the Ohio Department of Agricultural, and non-profit organizations together to share open dialogue on developing how this rule will be implemented.

The OWEA TRG will continue to follow and provide input through each stage of the rule making process. A copy of our letter to the Ohio EPA is posted on our website at *www.ohiowea.org* under the Regulatory/Legislative Tab. If you are interested in participating in the next step, which will include commenting on the draft rule, please contact me.

Dianne Sumego, P.E.
sumegod@bv.com

The Fly-In

OWEA participated with the Ohio Section of AWWA in the annual AWWA-WEF Fly-In to Washington DC on April 17-18, 2013. During this intense two day period, 170 members of AWWA and WEF converged on Capitol Hill to meet with congressional representatives on "water" issues.

This is the third year in a row that representatives of the OWEA Government Affairs Committee participated in the Fly In. Like the previous years, OWEA teamed with the members of the OAWWA. Like the previous two years, our message was similar.

The core of our message to members of Congress was on the following:

- Affordable financing and the Proposed WIFIA Legislation was again the focus of most of our message. The original sponsor of WIFIA was Congressman Bob Gibbs of Ohio. This year, WIFIA was packaged into Senate into Title 10 of the Water Development Act, sponsored by Barbara Boxer. At the present time, the bill needs to work its way through the House or Representatives.
- In consideration of discussion on revisions of the tax code and balancing the federal budget, we asked members of Congress to not support any legislation that would put a "cap" on the amount that high income investors of municipal bonds can deduct on their income taxes.
- In consideration of the high cost of improvements to water and wastewater systems, AWWA and WEF wish to see a different strategy to calculate "affordability" for communities based on the coefficient of variance of income distribution the distribution of income and other factors such as age and fixed income. At the present time, the primary strategy to determine "high cost" projects is Median Household Income.

continued on page 21

- Both AWWA and WEF offered support of USEPA's Integrated Planning Framework and wish to see EPA work in more of a collaborate manner with communities as a partner as opposed to an adversary.

As I have written about before, the AWWA-WEF Fly-In has several purposes.

- It presents an opportunity for significant "water" organizations such as AWWA and WEF to play an active and participative role in our nation's law and rule making process. This is not lobbying, but active engagement and participation to ensure that our voice is heard.
- It allows OWEA to form long term relationships with Congress and adhere to the principals of participative government. Regardless of political affiliation, we believe that accurate, science based information is a valuable tool for enlightened governance.
- To be relevant, OWEA needs to be perceived as reasonable, enlightened, consistent, and as adding value to a discussion. We believe that OWEA made good progress, but there is much more work to be done to improve our communication with our members to let them know what we are doing and what we wish to gain. As Chair of the OWEA Government Affairs Committee, I am exploring ways to better engage our membership.

Dale Kocarek, P.E.
dale.kocarek@stantec.com

Senator Rob Portman of Ohio, Dave Weihrauch (OAWWA), Dale Kocarek, and Doug Clark on April 17, 2013 at the Senator's reception breakfast in the Capitol Building

PUBLICATIONS COMMITTEE UPDATE

by Elizabeth Wick, Chair

The Publication Committee is seeking members who would like to assist with OWEA publications.

Duties of the Publications Committee

Review and provide final edits of the Buckeye Bulletin prior to printing.

Solicit articles for the Buckeye Bulletin from section meeting speakers, coworkers, wastewater professionals, etc.

Time Commitment

The committee meets face-to-face once or twice per year at the OWEA office in Columbus.

A few hours each quarter are required to proof read the draft Buckeye Bulletin.

General Article Guidelines

- Articles should be 1500-2000 words with descriptive photos. Please check for space availability if your article is longer.
- Attach photos/graphics as separate image files.
- Images should be submitted as jpg or tif files in the highest resolution possible, original camera files if available.
- Captions should be sent in an email or word doc, brief, and referenced to image.
- Articles submitted in Word with minimal formatting are best.
- Preferred texts - New Roman or Arial 12
- You may submit an abstract to make sure your article would be an appropriate subject for the Buckeye Bulletin.
- Accepted articles will be included as space is available in upcoming publications.

If your article focuses on a specific process or area of the water quality field, it would be deemed a "technical" or "feature" article. Technical and feature articles can't be disguised product pitches or advertorials for a particular service or company. Describing real world examples of technologies in place at Ohio facilities also make good articles for the Buckeye Bulletin.

Plant profile and watershed articles are coordinated by each section, so contact the Publications Committee representative in your section for article schedule.

Reference past Buckeye Bulletins for sample article sizes and format. Past Buckeye Bulletins are posted online at *http://www.ohiowea.org/buckeye_bulletin.php*.

If you have any questions, please contact:
Elizabeth Wick, Publications Chair, *elizabeth.wick@epa.ohio.gov*
Judi Henrich, OWEA Executive Mgr., *judihenrich@ohiowea.org*

Portable Ladder Safety

Falls from portable ladders (step, straight, combination and extension) are one of the leading causes of occupational fatalities and injuries.

- Read and follow all labels/markings on the ladder.
- Avoid electrical hazards! – Look for overhead power lines before handling a ladder. Avoid using a metal ladder near power lines or exposed energized electrical equipment.
- Always inspect the ladder prior to using it. If the ladder is damaged, it must be removed from service and tagged until repaired or discarded.
- Always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. Keep your body near the middle of the step and always face the ladder while climbing.
- Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
- Ladders must be free of any slippery material on the rungs, steps or feet.
- Do not use a self-supporting ladder (e.g., step ladder) as a single ladder or in a partially closed position.
- Do not use the top step/rung of a ladder as a step/rung unless it was designed for that purpose.
- Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement.
- Do not place a ladder on boxes, barrels or other unstable bases to obtain additional height.
- Do not move or shift a ladder while a person or equipment is on the ladder.
- An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support. Do not stand on the three top rungs of a straight, single or extension ladder.
- The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface. (See Figure A)
- A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement or a barricade must be erected to keep traffic away from the ladder.
- Be sure that all locks on an extension ladder are properly engaged.
- Do not exceed the maximum load rating of a ladder. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.

Source: Occupational Safety and Health Administration, U.S. Department of Labor, www.osha.gov (800) 321-OSHA, Keyword: Portable Ladder Safety

OSHA®

SAFETY COMMITTEE REPORT

by James Graham, Co-Chair

Think about the effects of working unsafe

Have you ever thought about who would be affected if something were to happen to you at work due to lack of following safety procedures? Let's just go over some of the people who would be affected. Let's say Bob was working on a ladder in a clarifier, and he forgot to tie the ladder off, causing the ladder to slide and throw him to the ground. Bob would obviously be affected, along with his family and friends who will have to adjust lifestyles to take him to rehab and doctor appointments, as well as drive his children to activities since Bob can no longer drive due to his injuries. Who else will be affected? How about his co-workers who have been traumatized by seeing him fall and lay there helplessly. Or the 911 operator who takes the call, wondering if he is going to be ok. The paramedics would also be affected by seeing him lying helplessly in the bottom of the tank, while they organize and set up all of the proper PPE so they can perform a safe confined space entry to rescue him. Anybody else? The answer is yes. I could probably go on for hours with people and scenarios that could be affected by one small action of not thinking and being safe. It only takes a few extra seconds to make sure things are safe for you and everyone who could be affected so why not do it?

This is not the time to make up excuses for doing things unsafe! Bob should have taken the extra time to tie that ladder off, and make sure he had fall protection, so if the ladder slipped, it would not have thrown him to the ground. Bob's carelessness affected not just himself, but many others. A few extra seconds is all that it would have taken to make sure Bob was able to go home that day to mow the yard, or play catch with his kids. Make sure that everybody in your life takes the extra effort so that they can enjoy the things and people that we work so hard for. Remember that every corner you cut when it comes to safety is just another injury waiting to happen.

James Graham, Safety Co-Chair
jgraham@bgohio.org

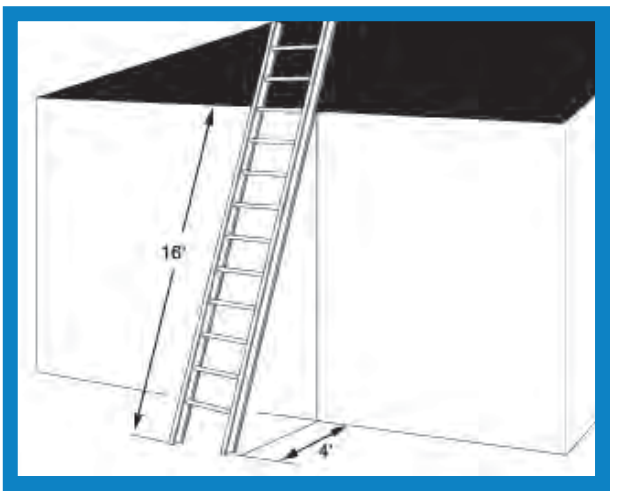


Figure A

YOUNG PROFESSIONSALS

by Nick Bucurel, YP Co-Chair

OWEA Conference Recap

This year's conference proved to be successful for the YPs involved. Congratulations to the following YP Award winners who did a tremendous job with very interesting presentations: Alicia Adams (Stantec), Rick Soltis (City of Bedford), Amber Bretland (Stantec), and Alyssa Jenkins (Hazen & Sawyer). In addition to the YP Award winners, many other YP Committee members made tremendous presentations at the conference that were very well received. Good work everyone!

A special thanks to those who supported the YP conference activities and presenters, including each section Executive Committee and the Conference Planning Committee for accommodating and supporting this initiative.

The Young Professionals Committee is already looking ahead to the 2014 joint conference to coordinate YP activities between OWEA/AWWA and encourage YP attendance – an effort being led by Sierra McCreary. If you are interested in helping, please contact Sierra at *McCrearySB@bv.com*.

Student Chapter Developments

The YP Committee is committed to building relationships with other professional organizations for the common cause of clean water, and continues to look for opportunities to provide value for the OWEA. Recently the OWEA YPs joined the Ohio AWWA YPs to start a new joint student chapter at Cleveland State University. A kickoff event to highlight the various water careers linked to both organizations and advertise the benefits of membership is planned for October.

Many local entities are starting to feel the pinch of the departure of long-term employees. Identifying, securing, and retaining qualified employees are major concerns for our industry. To help fill the void, we have developed a new program in partnership with Cleveland State University to create a pipeline for the next generation of water related, career-minded leaders. Led by Paul Solanics, City of Solon, and Nick Bucurel, OWEA is working with Cleveland State University administrators to develop a Water Workforce Internship Program that includes the following components:

- Matching students with an interest in the water industry to the public and private agencies with this need
- Providing mentorship to provide insight related to career advancement and holistic view of the industry
- Experience and education in project management skills to develop the next generation of leaders

If you're interested in learning more, please contact Paul (*PSolanics@solonohio.org*) or Nick (*nbucurel@BrwnCald.com*).

Notable Happenings

The Northeast YP Committee is planning quarterly meetings for the 3rd Tuesday of the month starting in July. These events will typically include a plant tour and then a social meeting afterwards. The first event in July was a tremendous success, and included a tour of the French Creek WWTP digester facility led by Mark Suchan of the *quasar energy group*. The anaerobic digester at French Creek's facility, owned by *quasar energy group*, processes their biosolids along with other merchant biosolids and grease. After the tour, the group met at Mulligan's Pub for continued networking.

The next event is planned for October and includes a tour of the City of Bedford WWTP led by the YP Committee's own Rick Soltis. Please contact Ashley Williston (information below) for details.

Contact your Section YP representative to become more involved in the Young Professionals Committee:

Northwest Section: Walter Ariss
walter.ariss@epa.state.oh.us

Northeast Section: Ashley Williston
awilliston@ctconsultants.com

Southwest Section: Kelly Kuhbander
kelly.kuhbander@strand.com

Southeast Section: Alicia Adams
alicia.adams@stantec.com

Special thanks to all the committee volunteers who make the YP committee vibrant! As always, if you have any suggestions or questions, please contact Nick Bucurel at: 216.606.1323, *nbucurel@BrwnCald.com.*

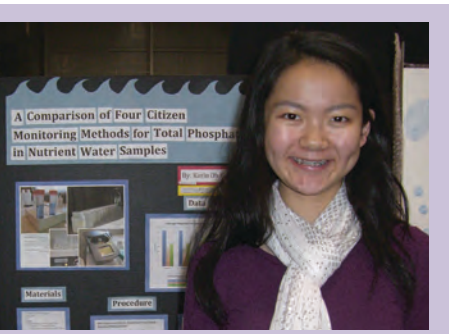
OWEA'S OHIO SCIENCE DAY AWARD WINNERS

Selected May 11, 2013
at The Ohio State University

2013 JUDGES

David Stewart, CDM Smith
Paula Kulis, CDM Smith
Drew Richards, CDM Smith
Judi Henrich, OWEA

Ohio Stockholm Junior Water Prize Winner
Ms. Alyssa P Armstrong, Grade 10
Canfield High School, Canfield
The Effect of Sewage Sludge on Lettuce Growth and Earthworm Toxicity



$1000 Scholarship
Ms. Karin Oh, Grade 11
Sycamore High School Cincinnati
A Comparison of Four Citizen Monitoring Methods for Total Phosphate in Nutrient Water Samples

OHIO EPA'S PARTNERSHIP WITH OWEA

by Elizabeth Wick, P.E., and Scott Nally, Ohio EPA and Tom Angelo, Past President, City of Warren

On June 19, 2013, Ohio EPA and OWEA signed a Memorandum of Understanding (MOU) on Wastewater Infrastructure and Technology/ Education. This MOU solidifies an already cooperative relationship between the two parties. Our teams intend to focus on exchanging technical information and education in the areas of wastewater and storm water infrastructure, treatment, and technologies with the goal of promoting environmental professionalism in Ohio.

Ohio EPA and OWEA have always been partners. To many people, Ohio EPA is only viewed as a regulatory agency. However, for many years, Ohio EPA has provided a considerable amount of technical assistance to Publicly Owned Treatment Works (POTWs) and city/ village/county officials to help them solve operational problems and return to compliance in a cost-effective manner.

Sometimes it's hard to separate the regulatory hat from the compliance assistance hat. In other words, sometimes it's hard for the regulated community to be comfortable with Ohio EPA in a cooperative assistance mode. It takes a level of trust to give Ohio EPA information and believe that it won't be used against you.

OWEA members, employed by public and private wastewater sectors, are located in 458 communities, 79 counties and eight major metropolitan areas of Ohio, which serve approximately 10 million Ohioans.

This level of exposure puts OWEA in a unique position to broadly address environmental concerns and questions and provide education to many communities and citizens of Ohio. Historically, OWEA has predominately educated its own members but has recently expanded its reach to share information and knowledge with a wider audience.

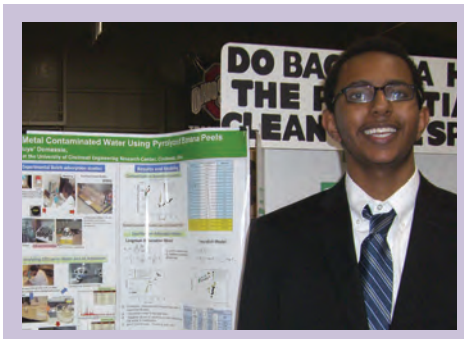
By signing this MOU, Ohio EPA has committed to jointly work with OWEA on educational opportunities that address environmental concerns. Who better to talk to a POTW about wastewater issues than other POTW professionals? Many times a community will understand a rule/policy better if a neighboring community, who has already been down that road, explains it to them. Ohio EPA will use the respected membership of OWEA to educate the public and regulated community.

Ohio EPA intends to actively engage and communicate with OWEA on areas of concern where education and outreach are needed. Ohio EPA is also committing to collaborate with OWEA and its members on projects of mutual interest. Through this relationship, we hope to facilitate better understanding of regulatory rules, permits and programs.

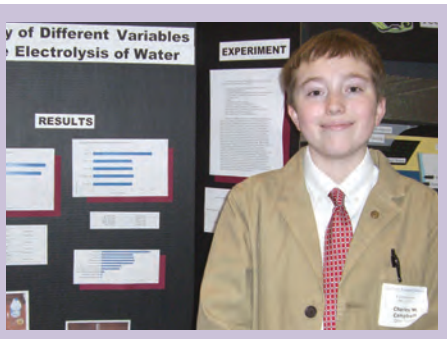
What does this mean to you? Ohio EPA, through OWEA, may ask the operator who already has a phosphorus limit to talk to the operator in a neighboring community who has a new phosphorus limit to meet. If a group of citizens is upset about a new wastewater treatment system, OWEA may be asked to talk to the leader of the group about the benefits of the system. It may also simply be that OWEA will ask Ohio EPA to provide a speaker who is an expert in a certain field.

For all of this to be effective, we all need to communicate on a regular basis to identify mutually beneficial opportunities that will promote knowledge of water quality. If you have any ideas for collaboration, please contact George Elmaraghy, Chief of Ohio EPA's Division of Surface Water (Contact info available at *http://www.epa.ohio.gov/dsw/ SurfaceWater.aspx)* or any member of OWEA's Executive Committee (see page 4).

Scott Nally, Director Ohio EPA; Doug Clark, OWEA Past President and GAC Vice Chair; Tom Angelo, 2012-2013 OWEA President; and Dale Kocarek, GAC Chair, prepare to sign the Ohio EPA/ OWEA Memorandum of Understanding on the final evening of the OWEA 2013 Conference.



$500 Award
Mr. Bluyé B DeMessie, Grade 10
William Mason High School, Mason
Sustainable and Low Cost Approach for Cleaning Metal Contaminated Water using Pyrolyzed Banana Peels



$300 Award
Mr. Charles M Campbell, Grade 10
Northwest High School, Canal Fulton
The Efficacy of Different Variables on the Rate of Electrolysis in Water

$200 Award
Ms. Anastasia S Johnson, Grade 8
Willow Creek Learning Center, Youngstown
The Toxic Effects of Hydraulic Fracturing Flowback Water on Daphnia Plants in Ohio Creek Water

OWEA 2013 Technical Conference and Exposition

Howl You Get the Water So Clean?

CaPturiNg the Beast

Records Set as OWEA Annual Conference Howls

As conferences go, there is the mundane and the groundbreaking. The 2013 Conference **Howled** at the Moon! This year set records for attendance, sponsorships, give-aways, and overall member appreciation. We targeted **P** and **N**, and we were able to learn how others deal with these important nutrients and effectively remove them from our waterways.

Monday - LPGA touring pro, Carling Nolan, made a hole in one on #2 of the Grizzly Course for one of the ARCADIS teams, kicking off an enjoyable, easy paced golf round on Monday. It's never a bad day when you can enjoy a round with friends on a Jack Nicholas designed course.

Tuesday - A wonderful brunch helped us kick off the highlight of the conference – our award winners. While we recognize a select few with plaques and accolades, we know that it is each individual that contributes to the organization that makes it great.

Exhibition - Seventy-one exhibitors joined OWEA for the exhibition spread out throughout the 35,000 square feet. There were nine total groups touring exhibit presentations over three hours providing additional contact hours and giving exhibitors a chance to interact with small groups throughout the day. The exhibition was capped off with an exhibitors' reception that allowed the networking to continue on until the Meet & Greet later that evening.

Plant Tour - Butler County Department of Environmental Services opened the doors of their Upper Mill Creek WWTP to OWEA for a mid-day tour. The plant offered a great way for attendees to see in live-action a WWTP biologically remove phosphorous, a key focus of our conference.

Meet & Greet - What would be better to help us **Howl** than Dueling Pianos? The attendee-focused, audience-involved event lasted well into the night, under the stars. There was dancing, singing, a little friendly competition, and even a visit from the Wolfman. We might see more of the Meet & Greet over the next year as pictures from the photo booth make their way into the public eye. Overall, it was a beautiful night to spend with friends and colleagues.

Wednesday - WEF Past President Matt Bond helped provide some of the bold leadership that our past, present, and future OWEA presidents often speak of when talking about the role of OWEA. As we recognized the WEF award winners, we embraced the spirit of cooperation with the State of Ohio. Outgoing OWEA president Tom Angelo signed a Memorandum of Understanding with Scott Nally, OEPA Director, to pursue additional opportunities to work together and increase the relevancy of OWEA. But the highlight of the evening was the Member Appreciation portion, where we gave away four free registrations for next year's, One Water, a joint conference between OWEA and OAWWA. We know that but for you, our members, OWEA would not be able to do the things we are currently doing. It is your ongoing involvement that will helps us continue to work to improve a valuable natural resource for the betterment of everyone.

Technical Sessions - Three days of technical sessions, sixty presenters, and up to five concurrent tracks. Nutrient Removal was the conference's focal topic, but sessions on Operations, Collections, Biosolids, Energy Sustainability, Green Infrastructure, and Regulatory Updates were also available. The technical program received high marks from attendees!

Thank you for joining the Southwest Section at Great Wolf Lodge. We hope that you were able to strengthen relationships and expand your knowledge of nutrient removal. We encourage you to attend One Water next year in Columbus, Ohio. This joint conference will bring together professionals from both the water and wastewater industries in a single venue.

Sincerely,

2013 Annual Conference Committee Co-Chairs
Jeff Olsen, *jeffolsen45248@yahoo.com*
Marc Nusser, *marc@jdtco.com*

2013 CONFERENCE COMMITTEE MEMBERS

Angelo, Tom ..... OWEA President	Kocarek, Dale ..... Awards Chair	Wagner, Barb ..... Food/Beverage Chair
Aspacher, Al ..... Sign Chair	Martin, Dan ..... Audio Visual Chair	Welke, Mike ..... Photographer
Cramer, Michelle ..... Sign Co-Chair	Morgan, Mark ..... Contact Hours	Winkler, Jane ..... Secretary-Treasurer
Baker, Ted ..... Sponsor Chair	Schafer, Debbie ..... Transportation Chair	Lovett, Carol ..... Spouse Program Chair
Beyer, Bob ..... Meet & Greet/Banq Chair	Shaw, Tim ..... Exhibit Chair	Henrich, Judi ..... OWEA Executive Manager
Borksosky, Doug ..... Water for People Co-Chair	Sullivan, Dan ..... Technical Program Chair	Davis, Amy ..... OWEA Executive Assistant
Hubbard, Marty ..... Golf Chair	Thornsberry, Jack ..... Plant Tour Chair	

Titanium

Stantec

Platinum

ARCADIS
Infrastructure · Water · Environment · Buildings

Gold

Brown AND Caldwell

CDM Smith

CT Consultants
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Arthur Sidney Bedell Award

J. Douglas Brookhart
William D. Hatfield Award

Dale Holmes
Laboratory Analyst Award

Tri-Cities North Regional WWTF
Burke Award

OWEA AWARDS

Brandon Fox
F. D. Dean Stewart Award

Darin Wise
J. W. Ellms Award

Michael Maringer
F. H. Waring Award

Frank D'Ambrosia
W. D. Sheets Award

Pejmaan Fallah
L. T. "Tom" Hagerty Award

NEORSD 132MGD Lift Station
Engineering Excellence Award

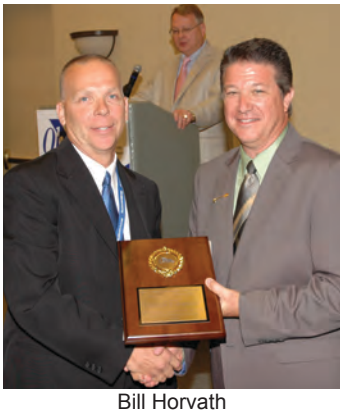
Michelle Nelson
Laboratory Analyst Award

David Pigg
P. W. O. Award

Michael Benza, P.E.
Lifetime Engineering Award

Edward J. Brown, P.E.
Lifetime Engineering Award

Don L. Robart
Public Service Award



Bill Horvath
Collection System Award

OWEA AWARDS

Dale Kocarek
Larry Moon Award

Northeast Ohio Regional Sewer District
Facility Image Award

Mason WRP
Facility Image Award

See more conference photos at *http://www.ohiowea.org/2013_conference_recap.php*

Minutes of the 2013 OWEA Annual Business Meeting

The 88th Annual Meeting
Great Wolf Lodge Conference Center, Mason, Ohio.
June 18, 2013

President Angelo called the meeting to order at 1:30 pm. A quorum was established.

Items for approval were the 2012 annual business meeting minutes. Jane Winkler, Secretary-Treasurer, reported that the minutes were published in the Fall 2012 issue of the Buckeye Bulletin. Copies of the minutes and Treasurer's report were posted on the overhead. Mark Livengood made a motion to approve the minutes, with a second by Doug Clark. Motion carried. Jane Winkler gave the Treasurer's report. A motion to approve the report was made by Doug Clark and seconded by Dianne Sumego. The motion passed.

Section reports were given. Mary Ann Driscoll, representing Lance Willard, gave the Northeast Section report; Brad Lowery reported for the Northwest Section; Tyler Linton, represented the Southeast Section and Barb Wagner presented the Southwest Section report. Written or electronic reports were submitted for the official minutes. Each outgoing section President was presented a certificate of appreciation for their service by President Angelo.

Standing/Ad hoc committee reports - Committee chairs were permitted to give brief updates on their committee's activities. Written reports were submitted for the minutes.

WEF Past President, Matt Bond, offered greetings from WEF. Mr. Bond commented on the Ad Council campaign support and the importance of members to WEF.

The WEF delegate report was given by outgoing Senior Delegate Kim Riddell.

Items for Voting-

Nominations and elections:

- Mark Livengood presented Jane Winkler for Secretary –Treasurer. The motion was made by Tom Angelo and seconded by Elizabeth Wick to elect Jane. Motion carried.
- Doug Clark made a motion to elect Elizabeth Wick to the Vice President position. A second was made by Gary Johnson. Motion carried.
- The following names are for the remaining for the 2013-2014 officer positions: President– Dan Sullivan, President Elect- Mike Frommer, and Tom Angelo, Past President.

OWEA received letters of support from the Northwest Section for the appointment of Kim Riddell as the NW delegate to OWEA. Dale Kocarek was elected by the board as the incoming WEF delegate, with Doug Clark selected to serve as the third delegate, if OWEA maintains their membership level above 2000 by September.

Announcements - Leon Smith thanked OWEA for their support of the Boy Scout Jamboree.

A moment of silence was held for deceased members. President Angelo adjourned the meeting at 2:18 pm.

Submitted by Jane Winkler, Secretary-Treasurer
For publishing in the Fall 2013 Buckeye Bulletin

Brad Lowery
2012-2013 NWOWEA President

Lance Willard
2012-2013 NESOWEA President
(accepted by Mary Ann Driscoll)

Tyler Linton
2012-2013 SEOWEA President

Barb Wagner
2012-2013 SWOWEA President

ROLL CALL

Jason Tincu has been appointed to the position of Manager of the Division of Wastewater Treatment in the Department of Water for the City of Dayton, effective July 15. As Wastewater Manager, Tincu will be responsible for leadership of the operation and administration of the 75-employee division that processes approximately 72 million gallons of wastewater daily at a treatment plant in southwest Dayton.

Tincu joined the City of Dayton in 2012 as a Wastewater Treatment Administrator following 11 years of employment with the City of Xenia, where he served as Utilities Manager among other positions. He also worked for the Montgomery County Department of Sanitary Engineering and holds degrees from the University of Phoenix and Sinclair Community College. Tincu holds professional and technical certifications including a Class IV Ohio EPA Wastewater Works Certificate and a Class II Ohio EPA Water Supply and Treatment Certificate. He is active in local, state, and national industry groups.

Alan H. Vicory, Jr., PE, BCEE, a principal with Stantec in Cincinnati, Ohio, has received a national award for his contributions to environmental protection from the American Academy of Environmental Engineers and Scientists (AAEES). Vicory received the Edward J. Cleary Award at the Academy's award luncheon on April 25, 2013 in Washington, DC. The honor is presented to a board certified environmental engineer to recognize "outstanding performance in the management of environmental protection enterprises conducted under either public or private auspices."

Vicory is a national and international leader on water quality and water resource management issues. With Stantec, he manages regulatory interface, watershed planning, and water quality initiatives. Prior to joining the firm, Vicory was the longtime executive director of the Ohio River Valley Water Sanitation Commission (ORSANCO), an eight-state agency established to control and abate water pollution in the Ohio Basin. In addition, Vicory is Chairman of Confluence, a Cincinnati-based, non-profit business cluster that promotes water technology innovation.

OWEA members may submit brief announcements with photo to **info@ohiowea.org** *for publication in the Buckeye Bulletin. Please include your OWEA/WEF member number. All requests subject to editorial review.*

WELCOME NEW MEMBERS

who joined OWEA from April to June 2013

Sarah Ackerman
Ryan Andrews
Verna Arnette
Kinshasha Azariah
Kristi Ann Babcock
Kevin L Baird
Brad Barber
Jennifer L Bare
Joseph Bauman
Nelson R Bear
Chris Blake
Jill Bramley
Tim Braun
Jack L Brown
Ryan Brown
Enzo C Cantalamessa
Meredith Anne Cariglio
David Chew
Peggy Christie
Jason Ciarlo
Marill Clay
Tom Coleman
Austin Corder
Tonya Cornell
Chuck Dahlgren
James Dalton
Dustin Doherty
Nicholas J Domenick
John Donnelly
Luke Dostal
Taymour El-Hosseiny
John T Feist
Jared Fuss
Dalton Gordon
TJ Grippi
John Hanagan
Mikchael Hanck
Ryan Hathron
Alex R Hauck
Steve Haynie
Kellie E Hebert
Ryan Hoepf
William J Hyland
Michael L Irwin
Shawn Isla
Mark Jamison
Kathryn Johnson
Jim Jones
Randy Keefe
Anne Kennedy
Dustin J Knippen
Christopher A Kosto
Dave Law
Marcus Lehotay
Paul Lisska
Jibin Liu
Scott Loper
Holly A Lorton
Carol Lovett
Phoebe S Low
Bryan Martikan
Berna Mazon
David George McCallops
Joe McCauley
Natalie McClaine
Logan McClish
Michael McMillion
Scott Mesi
Qingyan Min
Ted Montecalvo
Jay Morrison
Chris J Murphy
Timothy Murphy
Jarred Myers
Kim Noll
Greg Odell
Cameron Orr
Iti H Patel
Mike LeePatterson
Christopher W Pawlowski
Jim Peeples
Karen Peterson
Apryl Pfahler
Adam Pollak
Wesley A Prather
Todd Pulsifer
Christine Rahtz
Thomas Roth
David R Rubin
Andrew Sampson
Todd Saums
Jason Schaurer
Ann Scott
Caitie R Sheban
Jon Silbaugh
Kevin Slaven
Patrick Smith
Robert Stefano
Julie Ann Stein
Chris Stoneburg
Adam Szabo
Russell Teders
Steven Thompson
Paul Tomes
Megan N Ujvari
David James Vicarel
Rick Vincent
Stephen Williston
Jacquelyn Wilson
Valerie Wollet
Gary L Wurst
Thomas Yauger
Jeff Yohe
Michael Zajo

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

KEITH RILEY SELECTED AS 2013 WEF FELLOW

The Water Environment Federation (WEF) proudly announces that Keith Riley has been selected as a 2013 WEF Fellow, one of just fifteen distinguished members chosen for this honor. This prestigious designation recognizes a member's achievements, stature, and contributions in the water profession.

Keith is currently retired and working part time for the Portage County Sanitary Engineer. His duties include sampling ground water for the oil and gas industry. He continues to be involved in both OWEA and WEF.

Keith retired as the Assistant District Chief for the Northeast District Office of Ohio EPA. The majority of his career was in the current Surface Water Division where he dealt with NPDES permits, enforcement, inspections, industries, and municipalities. Keith went out of his way to help the regulated community by educating during his visits. He holds a B.S. degree in Civil Engineering from the University of Akron, a Class III wastewater operator's license, and is a professional engineer.

Keith has served as the OWEA State President, rising through the Executive Committee positions, as well as serving as a WEF Delegate from Ohio. Keith served on WEF's Board of Trustees. Keith led the charge for Water for People for OWEA, working with the AWWA at times, trying to increase our giving to a deserving cause. Keith has served on many committees throughout the State including several Annual Conference Committees. He has been a big advocate and actively participates in the NE Industrial Waste Committee. Also, Keith served as the OEPA representative to the OWEA Awards Committee for several years. Keith was a Kenneth J. Miller Award recipient, which was an AWWA award acknowledging him for his efforts for Water For People. He is the only person to receive the award at a WEFTEC.

"WEF is very pleased to recognize these truly outstanding water quality professionals," said WEF Executive Director Jeff Eger. "The 2013 Fellows are among the world's finest in service to water quality, the environment, and public health."

The WEF Fellow Recognition Program underscores WEF's reputation as a valuable water quality resource, which is due in large part to the expertise of its diverse membership. The 2013 WEF Fellows will be recognized during WEFTEC 2013, WEF's annual technical exhibition and conference to be held in Chicago, October 5-9, 2013.

MEMBERSHIP COMMITTEE UPDATE

by Tom Angelo and Deborah Houdeshell, Membership Co-Chairs

Over the last year numerous activities have occurred to expand membership opportunities with OWEA. These activities have included the creation of the Utility Partnership Program and the Student Scholarship program. Both programs have been very successful and have helped to escalate OWEA's total membership to 2,068 people as of July 17, 2013. This represents a significant increase in previous member numbers and speaks directly to the quality that our organization offers to wastewater professionals.

Over the next year, OWEA will become more involved in state-wide water quality concerns and will continue to establish its dominance as the "go-to" organization for education and information from state legislators, regulators, academia, communities, and individuals. OWEA is quickly becoming the most relevant and recognized water quality professional organization in Ohio and is a clear pathway to personal professional growth, education, and networking opportunities. This increased relevancy is a direct reflection on the professionalism of OWEA members and membership will translate to a certified stamp of approval to current and future employers.

The membership committee's goals for the next year is to continue to demonstrate the importance of OWEA membership to not only existing members but to new water quality experts in our collective and growing profession. We would like to see Ohio become the largest member organization in the Water Environment Federation – a goal that requires us to increase our membership by 800 new professionals. To accomplish this we need your help! So we are providing a contest and an incentive to you, our most valuable asset, our existing member. **For each new member you recruit you will be rewarded with $5.00 dollars paid directly to you, the member.** You must make sure that the new member identifies you as the recruiting agent on the membership form. There is no limit to the amount of dollars that an individual can earn. We will continue this program until September 30, 2013. **The member that has achieved the most new recruits by that date will receive a $500 dollar bonus.** Are you up to the challenge? Give yourself some extra cash by introducing a friend to a great organization!

No State Executive Committee member is eligible for the program and new members signed up through the Utility Partnership Program are not eligible for the $500 bonus.

Tom Angelo, Co-Chair, *tangelo@warren.org*
Deb Houdeshell, Co-Chair, *dhoudeshell@hazenandsawyer.com*

OWEA Membership Exceeds 2000.

If you are a member, encourage colleagues to join OWEA's growing network of Ohio water quality professionals! Earn rewards of $5 each, or win the bonus of $500. Details above.

If you are not a member, visit *http://www.ohiowea.org/memberships.php or see the membership application on page 63.*

OWEA by the Numbers - Member Types					
Professional	1100	Life Member	54	Executive	13
Professional Wastewater Operations	719	Student	43	Associate	6
Young Professional	92	Retired	35	Corporate	6
				Total	**2068**

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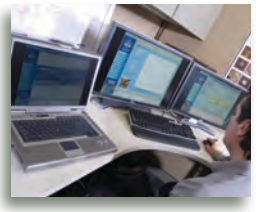

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OHIO EPA'S LAKE ERIE NEARSHORE MONITORING PROGRAM

by Elizabeth Wick, P.E. Ohio EPA, Northwest District Office, Division of Surface Water

Introduction

Ohio EPA's Division of Surface Water participates in many Lake Erie and Great Lakes-related issues and efforts. The two main focus areas are:

- Areas of Concern (AOCs), specifically the development and implementation of Remedial Action Plans (RAPs) for the Maumee, Black, Cuyahoga, and Ashtabula river areas of concern; and
- Lake Erie, including the bi-national lake-wide management plan (LaMP) for Lake Erie.

Both of these efforts are centered on reducing the loadings of pollutants and restoring all beneficial uses to these water bodies. Both programs are described in the Great Lakes Water Quality Agreement between Canada and the United States, and are mandated under the Great Lakes Critical Programs Act amendment to the Clean Water Act.

To complement these two focus areas, Ohio EPA is working on a nearshore monitoring initiative that will provide valuable water quality data to inform management decisions and actions to restore Lake Erie and its tributary streams.

Ohio EPA launched the Comprehensive Nearshore Monitoring Program in 2011 using funding under the Great Lakes Restoration Initiative (GLRI). This program will allow Ohio to establish baseline conditions and track progress of GLRI and other efforts along Lake Erie. This effort also ties into Annex 11 of the Great Lakes Water Quality Agreement (GLWQA), which calls for a comprehensive surveillance and monitoring program for the Great Lakes to evaluate water quality trends, assess the effectiveness of remedial programs, measure compliance with jurisdictional regulatory programs, identify emerging problems, and support development of RAPs and LaMPs. The monitoring strategy was designed over a three-year cycle to define environmental conditions in the dynamic nearshore areas. Experience and data gathered will serve as the baseline to integrate annual Lake Erie monitoring into the State of Ohio's Water Quality Monitoring Strategy.

The nearshore project was designed to build on the 2010 National Coastal Condition Assessment, a statistical survey of the ecological integrity and recreational quality of the Great Lakes led by U.S. EPA. A network of fixed ambient monitoring stations was created and parameters were added, including plankton. Subsequent years focus on harbors, bays and estuaries, as well as evaluation of biological communities at various trophic levels. Results of sampling will be summarized in Ohio EPA's 2014 Integrated Report.

For purposes of the Lake Erie LaMP, nearshore is divided into two areas and defined as coastal (depth $\leq$ 3 meters) and open water (depth 3-15 meters). The nearshore area is the most utilized, visible, impacted, and dynamic area of Lake Erie, yet few intensive investigations of water quality within this portion of the lake have been conducted since the intensive surveys of 1973-1975 and 1978-1979.

Results from a 1996-97 monitoring effort indicate that profound changes have occurred in the nearshore environment in the 20 years between the late 1970s and mid-1990s. Implementation of Clean Water Act programs significantly decreased the loads of toxic chemicals, nutrients, and sediment and resulted in a much improved Lake Erie ecosystem by the early 1980s. The invasion of dreissenids beginning in the late 1980s initiated dramatic changes in the internal dynamics of the lake, affecting the food chain as well as water quality.

In the mid-1990s, blue-green (cyanobacterial) algal blooms returned to the lake and have been increasing in temporal and spatial intensity. These algal blooms differ from those of the 1960s and 1970s as they are now composed largely of Microcystis aeruginosa, a toxin-producing species included under the Harmful Algal Blooms (HABs) umbrella. If present in high enough concentrations, these toxins could cause impacts to human health and wildlife, although the determination of overall risk is unknown and the science relating to these compounds is currently emerging.

Shoreline and shallow water growths of the filamentous algal species of Lyngbya and Cladophora are present at elevated nuisance levels in many areas. It has also been documented that the tributary loads of dissolved reactive phosphorus and the concentrations of phosphorus in the lake have been increasing since the mid-1990s. Eutrophic conditions have returned. It is likely that the changing water quality and the algal blooms have also had an impact on the nearshore biological community. Monitoring for fish populations, plankton, and water quality occurs at sites in the open lake, but past sampling programs did not provide routine assessment of the quality of the nearshore. In addition to the impacts on water quality from runoff, sediment from tributary flows and direct discharges, the nearshore habitat is impacted by shoreline development and wetland loss.

National Coastal Condition Assessment 2010

In 2010, Ohio EPA participated in the U.S. EPA National Coastal Condition Assessment. This involved sampling 26 stations in Ohio waters and four stations in Pennsylvania. The data analysis is ongoing. A draft report for public comment is expected in January 2014. However, the physical measurements indicate an area of anoxia was present in the central basin.

Anoxia was observed at nearshore stations as shallow as 10 meters. The anoxic zone appeared to vary greatly in vertical and aerial extent over short periods of time. Non-mobile benthic organisms will die within a short period of anoxia; therefore, the area affected by the anoxia may be much larger than predicted. In 2011, Ohio EPA established and sampled four transects for dissolved oxygen and other physical parameters in order to link the nearshore ambient stations to the deep water sampling stations routinely sampled by the R/V Lake Guardian. The Guardian is a 180-feet research vessel used by U.S. EPA to sample water, sediment, and aquatic life in the Great Lakes.

The study objectives of the 2011-2013 Lake Erie survey are:

- further develop methods and expertise which will allow for routine monitoring of the nearshore areas of Lake Erie by Ohio EPA;
- provide current, credible data regarding the limnological and biological characteristics of the nearshore areas that can be used to evaluate water quality trends;

- provide additional information regarding the distribution and abundance of species of concern (e.g. Microcystis, a potentially toxic algae, and Bythotrephes, the spiny water flea), which will be useful in lake-wide data development;
- provide baseline data and methodologies which will enable Ohio EPA to develop a comprehensive monitoring network of the nearshore areas of Lake Erie capable of detecting and characterizing changes in water quality over time;
- define the vertical and aerial extent of the anoxic zone as well as track changes in the anoxic zone over time;
- provide water quality data for Sandusky Bay; and
- support Ohio EPA nearshore and estuary biocriteria development.

Some degree of variability occurs between sampling stations and sampling dates due to temporal changes (i.e. weather, wind, and current induced differences). However, through establishment of a network of stations that can be routinely sampled, Ohio EPA hopes to develop a historical database capable of delineating water quality changes over time. This monitoring will evaluate the long-term effectiveness of water pollution control programs and provide a warning mechanism for unanticipated changes in water quality that may profoundly impact the management of Ohio's greatest natural resource. The establishment of a routine monitoring program also benefits other researchers conducting work on Lake Erie, thus helping cut the costs of the scientific study of this Great Lake.

The nearshore monitoring program consists of sampling at ambient stations, estuary and harbor locations, mayfly stations, and anoxia stations. Field measurements for Secchi disk transparency, temperature, conductivity, conductance, dissolved oxygen, pH, estimated Chlorophyll-a, and depth are taken at all locations. Inorganic compounds are sampled at each ambient and estuary/harbor station. Metals are sampled at each ambient station during two events in 2011 and 2013, and from estuary/harbor stations in 2011 and 2012. Specific parameters are listed in Table 1.

Analyte (STORET Code)	
Metals	
Aluminum (P1105)	Lead (P1051)
Arsenic (P1002)	Magnesium (P927)
Barium (P1007)	Manganese (P1055)
Cadmium (P1027)	Nickel (P1067)
Calcium (P916)	Potassium (P937)
Chromium (P1034)	Selenium (P1147)
Copper (P1042)	Sodium (P929)
Hardness, Total (P900)	Strontium (P1082)
Iron (P1045)	Zinc (P1092)
"Demand" Parameters	
Specific Conductance (P95)	Carbonate (P445)
pH – Lab (P403)	Chloride (P940)
Alkalinity (P410)	Total Dissolved Solids (P70300)
Bicarbonate (P440)	Total Suspended Solids (P530)
Chlorophyll Analysis	
Chlorophyll a	Pheophytin a
Nutrient Parameters	
Ammonia-N (P610)	Sulfate (P945)
Nitrite-N (P615)	Total Kjeldahl Nitrogen (P625)
Nitrate + Nitrite-N (P630)	Total Phosphorus
Orthophosphate –dissolved (P660)	

Table 1. Analytical parameters for Lake Erie nearshore water column sampling

Sediment is sampled from each station one time during the study and analyzed for the parameters in Table 2.

Nearshore Ambient Stations

The 1978-1979 intensive survey of Lake Erie divided the nearshore areas of the lake into 20 segments, or reaches, for data analysis purposes. Eight of these reaches lie along the Ohio portion of the Lake Erie shoreline, three within the western basin and five within the central basin. The strategy for sampling the nearshore areas of Lake Erie utilizes these segments for the placement of stations along the Ohio shoreline.

Stations used in the 1996-97 Ohio EPA surveys were chosen from those used during intensive surveys conducted in 1973-1975 and in 1978-1979. For all monitoring in 2011 and beyond, the 1996-97 stations located in water deeper than 12 meters at the low water datum were moved to the nearest 12 meter contour in order to better match the goal of sampling the nearshore zone. Several of the stations were shifted to coincide with sampling that was done by ODNR as part of the Lake Erie Plankton Abundance Study. To be consistent with the 1996-97 sampling, an ambient station is also located in the eastern half of Sandusky Bay south of Johnson's Island. Based upon an evaluation of the 2011 nutrient results, an additional station was added to Maumee Bay. Two additional sites were added to the western basin for 2013. One is in Maumee Bay just north of Maumee Bay State Park and the other is near the Ohio/Michigan/Canada border. These 15 stations are referred to as ambient stations. There are unique station identification numbers for each site. Location information is depicted in Figure 1 on page 38. The locations have changed slightly during the development of the monitoring program in order to maintain the goal of nearshore monitoring.

Each ambient station is being sampled five times during each of the 2011 - 2013 survey seasons. Efforts are made to sample the Maumee Bay and western basin sites during March – April. In the central basin, one sample is collected prior to the lake stratifying which normally occurs in mid-June. Three samples are collected approximately once per month during the time that the lake is stratified. A final sample is collected after the lake is no longer stratified, which usually occurs in mid-September.

Percent Solids	Particle Size	Total Phosphorus
Aluminum	Arsenic	Ammonia
Barium	Cadmium	Phosphorus
Calcium	Chromium	PCBs
Iron	Copper	BNAs
Magnesium	Nickel	Pesticides
Manganese	Lead	Selenium
Sodium	Zinc	Total Organic Carbon
Potassium	Mercury	Strontium

Table 2. Analytical parameters for Lake Erie nearshore sediment sampling

continued on page 38

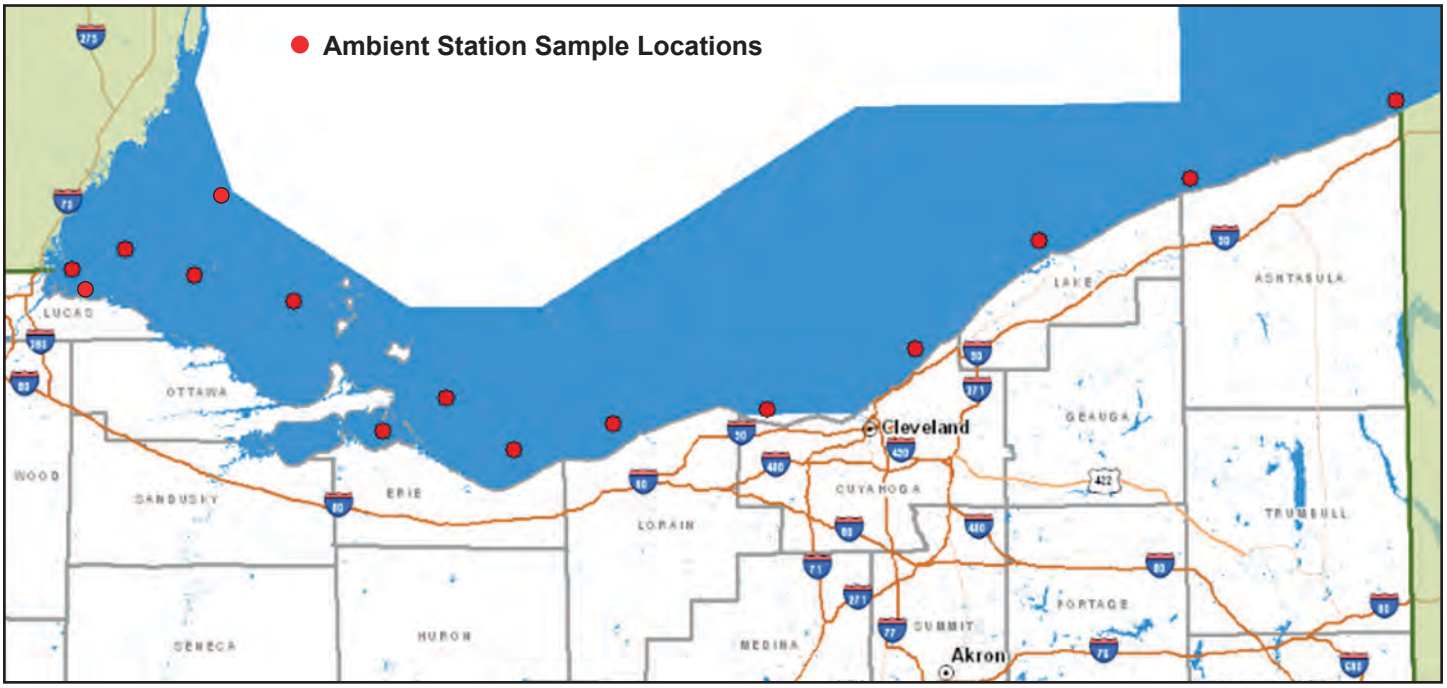


Figure 1. Location of Ohio EPA nearshore ambient monitoring sites.

Estuary and Harbor Locations

Ohio EPA monitors 48 sampling stations located in eight estuaries and four harbors for this project. Five of these stations are sampled four times for water chemistry and field measurements to evaluate potential differences between the water quality in the main channel and the water quality in the shallower sampling stations out of the main flow. The other 43 are sampled four times each for basic water chemistry and field measures, one time for sediment, two times for metals and biology. The stations were chosen from historical sites presently in the Ohio EPA database. Locations are on the Ashtabula River, Conneaut Creek, Arcola Creek, Black River, Grand River, Old Woman Creek, Portage River, Sandusky Bay, Sandusky River, and Maumee River.

Fourteen sites were sampled in 2011 so the results could be used in the Ashtabula River TMDL and to make decisions regarding possible delisting of the Ashtabula River AOC. The remaining 34 sites were sampled in 2012. Three of the sites supported the 2012 Maumee River TMDL.

Mayfly Stations

Ohio EPA established 24 stations in Lake Erie to track the long-term trends in mayfly population and distribution. Each of these sites is sampled once per year prior to the mayfly hatch. The stations were established based on historical sampling. Although funding does not allow for enumeration at this time, all organisms other than mayflies are archived for future use. These stations are depicted in Figure 2.

Anoxia Stations

Studies have shown the area impacted by hypoxia in Lake Erie can be very large (approximately 10,000 square kilometers). This is approximately half the maximum size of the hypoxic area in the Gulf of Mexico and about five times larger than the maximum hypoxic area in the Chesapeake Bay. The area of anoxia often referred to as "The Dead Zone" is approximated based on sampling conducted by the R/V Lake Guardian. The RV Lake Guardian displaces 850 tons. The displacement of the R/V Lake Guardian disrupts too much water to sample the nearshore zone effectively, so the area of anoxia was approximated based on 10 sampling locations located in the middle of the central basin in approximately 24 meters of water. Transects were established to provide sampling points between ambient monitoring stations and the closest station monitored by the R/V Lake Guardian.

Twenty-six stations were established to better define the duration and extent of anoxia in the Central Basin of Lake Erie. These stations were chosen to bridge the gap between the ambient stations in the nearshore areas and stations sampled by the R/V Lake Guardian in the off shore water. These stations are sampled at least twice per season for field profiles and once per season for phytoplankton. The sampling is conducted while the lake is stratified and attempts are made to take additional samples when conditions such as a strong south or west wind could push the surface water away from shore causing the deeper oxygen-depleted hypolimnionic water to migrate closer to shore. In the event that anoxia is found at the ambient station, another sample is taken two meters shallower than the ambient station and closer to shore. Additional sampling will continue until the anoxia is no longer noted.

Habitat Evaluation

Habitat evaluations are conducted at all stations in the estuaries and harbors where biological sampling occurs. These habitat evaluations are conducted in accordance with the Methods of Assessing Habitat in Lake Erie Shoreline Waters Using the Qualitative Habitat Evaluation Index (QHEI).

Data Reporting

Data collected from ambient site monitoring activities is summarized in a report that is posted on the Division of Surface Water web page. As with all water quality data generated by Ohio EPA, the data is fully available to the public and other government agencies through standard protocols currently used by the Agency. It is envisioned that as the Lake Erie nearshore monitoring program evolves, reports, and assessments will be incorporated into the biennial integrated water quality reports generated by Ohio EPA.

continued on page 39

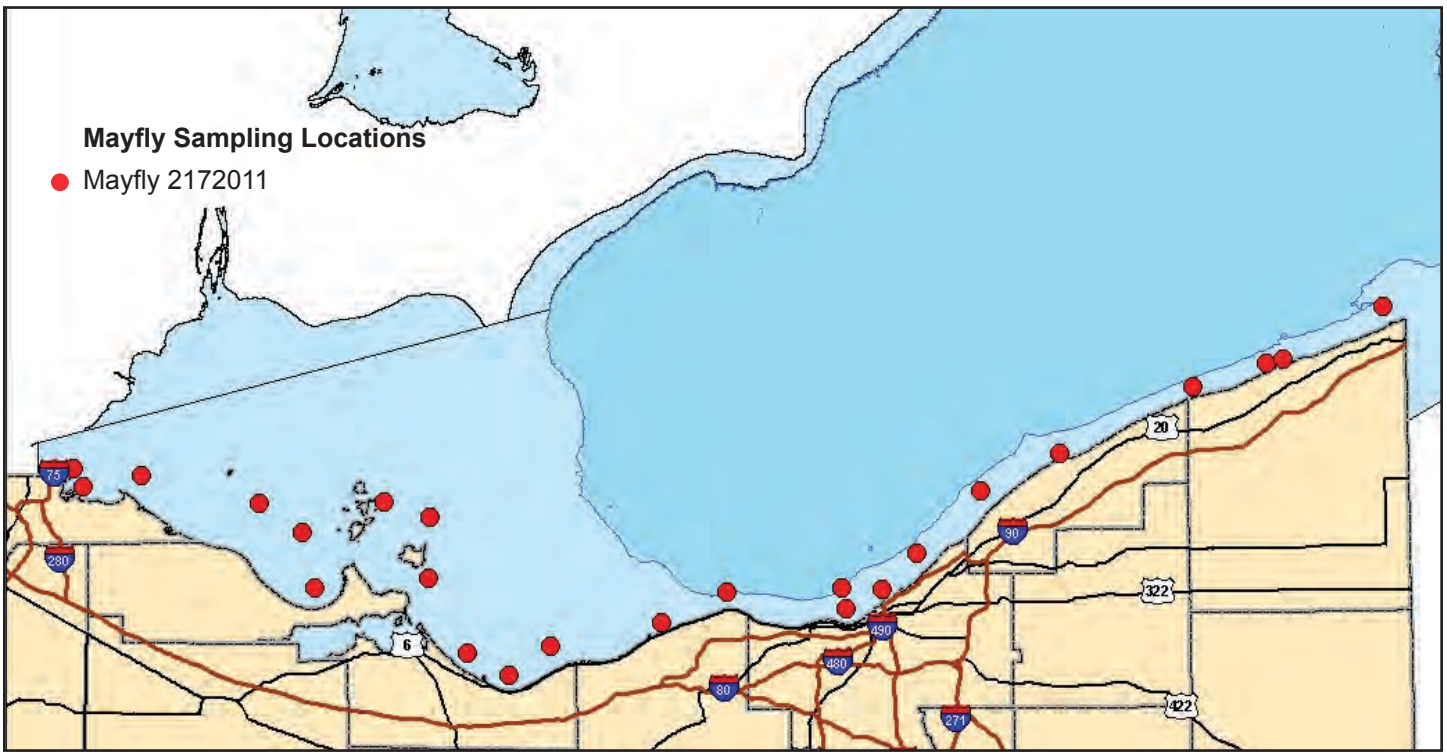
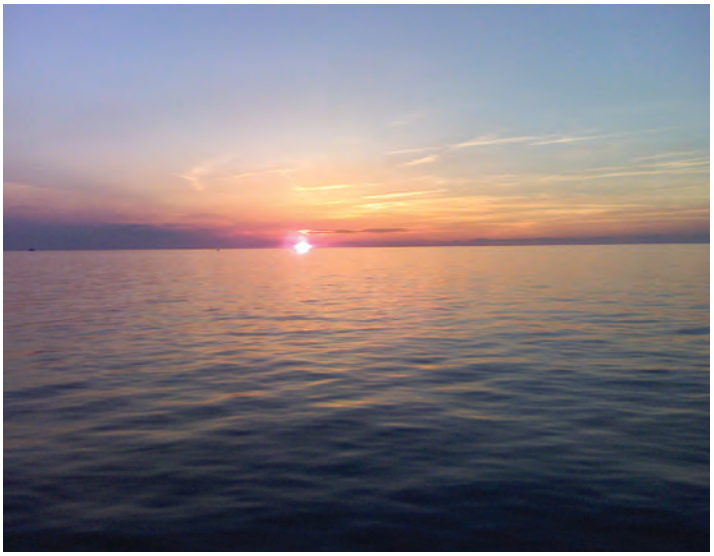


Figure 2. Location of Ohio EPA nearshore mayfly monitoring sites

Morning has broken on Catawba



Lake Erie sunset

For More Information

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Lake Erie

Fourth largest of the five Great Lakes
Shallowest of the Great Lakes
Primary Inflow: Detroit River
Primary Outflows: Niagara River, Welland Canal
Max Length: 241 mi
Max Width: 57 mi

Surface Area: 9910 sq mi
Average Depth: 62 ft
Max Depth: 210 ft
Shore Length: ~ 871 mi
Surface Elevation: 577 ft
Islands: 31 (18 in US, 13 in Canada)

MODERNIZING OHIO SEWAGE TREATMENT SYSTEMS

Adapted with permission from an article prepared by Rebecca Fugitt, Ohio Department of Health

Many homes in suburban and rural areas use household sewage treatment systems to treat sewage. State minimum rules for home sewage treatment system construction and operation were adopted by the Ohio Department of Health (ODH) more than 35 years ago. According to a survey conducted in 2012 by ODH of local health district data and inspections, shows that 31% of sewage systems in Ohio are failing based on nuisance criteria established in state law.

Just like many other technologies, much has changed since 1977 regarding sewage treatment products and technologies, and the science of how waste is treated in the soil. Most of the systems that are failing today are of unknown construction or are discharging raw to partially treated sewage to streams and ditches. In addition, state minimum rules have allowed local health districts to adopt their own rules, and, over time, nearly every local health district in Ohio adopted a local sewage code. This has led to a wide diversity in system types and practices for sewage system design and installation across the state.

Currently , new rules are being proposed that will fix these issues by modernizing the standards for designing and constructing sewage systems for new homes and businesses, replacing existing systems that have failed, and altering existing systems when necessary to improve their ability to treat sewage and prevent public health nuisances.

How the Proposed Rules Came Into Being

In 2005, increasing concerns about sewage system failures led to the passage of Ohio Revised Code (ORC) Chapter 3718, which established authority for state law and rules for both household and small flow (<1,000 gpd) systems. These concerns included an illness outbreak on South Bass Island that sickened more than 1,400 people and was traced to poorly designed sewage systems, known areas of ground water contamination from sewage systems and other system failures, the large variability in system designs and costs across the state, and local inconsistent enforcement of system failures and related nuisance conditions.

ODH was originally required to develop the new statewide rules by 2007. Working through a rule advisory committee, state rules were quickly developed and adopted. However, due to concerns over the economy and the changes proposed in the rules, portions of the state law were suspended in 2007. After additional discussion and review by a study commission, the law was changed in 2010. Under the law changes, ODH is required to adopt new rules that modernize the standards for the siting, design, installation, alteration, operation and maintenance and abandonment of sewage treatment systems based on the requirements spelled out in the law.

A rule advisory committee (RAC) was established by ODH in 2010. The RAC included representatives from 43 organizations including local health districts, product manufacturers, system installers, service providers, septage haulers, local and state government, homebuilders, realtors, townships, county commissioners, and engineers. How proposed standards would impact the cost of various system types for different soils and geographic regions of the state was a primary focus of the rule discussions. The committee worked hard to find a balance between cost and ensuring public safety from inadequate sewage treatment.

Draft rules were reviewed by the committee and posted on the ODH website in February 2012, August 2012, October 2012, and early December 2012, allowing an extended review period for most proposed rules. The first compiled draft of rules was posted for comment from December 20, 2012 through March 1, 2013 and ODH conducted 11 regional meetings across the state in early 2013 to discuss them.

Current Status of Rules

ODH completed the review of comments received on the first draft and scheduled a meeting in June with the RAC to discuss key comments. The initial draft will be revised and a second draft will be released for public comment in late July. ODH is proposing an effective date for the rules of January 1, 2014.

Setting the Record Straight: How this is a Win for Homeowners

The goal of the proposed rules is to update the old 1977 rules to provide a wide range of sewage system choices and technologies for new or replacement sewage systems that provide safe and sustainable treatment in the diverse soils and geology of the state. This promotes healthy communities and safe development in suburban and rural areas not served by public sewers. Most importantly, the rules do not require that all sewage systems must be automatically upgraded or replaced. The rules establish new modern standards for system construction, alteration and maintenance when a system fails or breaks and must be altered or replaced, or when a new system is installed. State law specifically says that all existing systems are deemed approved until they fail and cannot be repaired.

The draft rules carefully balance the protection of public health and safety from sewage related diseases with system cost using basic, proven designs in addition to new, innovative technologies. Good design options for systems help protect the financial investment of the homeowner and proper system maintenance ensures systems are sustainable for many years, adding value to a home. Lower cost, low maintenance systems, such as septic tanks to leaching trenches that use the natural soils for treatment are the preferred design and will continue to be the primary system installed in Ohio. New technologies are available for use where the soils present greater challenges for sewage treatment or where lot sizes are smaller. The rules provide a wide range of system choices for building new homes and installing replacement systems on different lot sizes, with different soils and topography.

Because the soils and geography vary across the state, the draft rules combine state baseline standards with a range of systems options for local flexibility based on conditions in the soils. For example, local health districts can establish a local vertical separation distance between six and 18 inches to the seasonal water table, representing the most common limiting condition for soils in the state. This approach will help lower system costs where local conditions can allow more basic system designs.

Keeping Costs Down

Another misconception is that sewage system costs will double or triple under the new rules. Cost data provided to ODH since 2007 by the local health districts shows the state average cost of a

new sewage system is $8,200. Depending on the complexity and components required of the system to work on the soils and lot conditions, costs may be more or less. ODH does not anticipate large increases in systems costs because many systems will continue to use the basic designs used now on many lots – with design adjustments to address specific limiting conditions in the soil.

The rules committee and ODH both recognize the cost to replace or repair a sewage treatment systems is significant for many homeowners. ODH has worked with Ohio EPA to offer a financial assistance program that counties and cities may choose to participate in where low-income homeowners can qualify to receive 85 to 100 percent of systems repair/replacement costs based on income. ODH has also worked with other federal and state agencies to identify other funding sources for sewage system repair/replacement and increase awareness and use of these resources. Information on funding sources can be found at: *http://www.odh.ohio.gov/odhprograms/eh/sewage/Financialinfo/fundswg.aspx*.

The costs for operation and maintenance of sewage systems have been cited as a concern in the proposed rules. Just like any other part of a home, such as a roof or furnace, sewage systems require maintenance and this is recognized in state law which says a homeowner is responsible for maintaining their sewage system. State law also says that local health districts are responsible for developing a program to ensure maintenance.

The rules do not propose new permit fees for system owners. Under the proposed rules there are three possible fees: installation, alteration, and operational – these fees have been in place since 1977. Every county in Ohio already has a fee schedule established for new system installation/replacement or alteration. Operation permits are one way a local health district ensures that a homeowner is doing the necessary maintenance to prevent the occurrence of nuisance conditions (i.e. sewage in yards, ditches, and streams) that affect not only the homeowner but the neighbor and possibly everyone on the same street. Operation permit fee costs will be set by the local health district and no portion of this fee is returned to ODH. These permit fees are to simply cover the costs for the local health district to track maintenance and provide reminders or education on system maintenance.

Some counties already have extensive operation permit programs in place, some have programs for only mechanical systems and some have no programs at all. The proposed rules will allow counties that have never charged an operational fee to phase it in slowly with the least impact possible. No time period is specified and the implementation is locally determined. The goal is to ensure systems are being correctly maintained. A sewage treatment system that is not maintained could cost a significant investment down the road. For example, a system that has the potential to last for 30 years could fail after only 10 years if it is not being maintained. Installation and alteration fees support both the local health district program and also the state sewage inspection program, which will help ensure that local health jurisdictions are doing honest and accurate inspections.

State law protects the homeowner from unwarranted inspections by allowing a homeowner to provide proof of maintenance (i.e. pumping receipts/service contracts) in lieu of an inspection. An inspection is only authorized under specific conditions listed in state law – nuisance, imminent threat or danger to public health, etc, or when the homeowner does not provide proof of system maintenance.

Learning More

More information on sewage systems in Ohio and updates to the proposed rule can be found at *http://www.odh.ohio.gov/odhprograms/eh/sewage/sewage1.aspx*.

Questions? Please contact the Residential Water and Sewage Program, Bureau of Environmental Health at (614)644-7551 or at *BEH@odh.ohio.gov*.

MONTGOMERY COUNTY ENVIRONMENTAL SERVICES EASTERN REGIONAL WATER RECLAMATION FACILITY

by Tom Gault, Technical Specialist, Montgomery County Environmental Services

Montgomery County Environmental Services Department owns and operates both the Eastern Regional and Western Regional Water Reclamation Facilities in southwestern Ohio. The Eastern Regional Water Reclamation Facility (ERWRF) was originally constructed around the end of World War II. In 1956, the plant was expanded to a design capacity of 6.4 million gallons per day (mgd). In 1988, the plant was expanded to its current treatment scheme of trickling filter/ solids contact stabilization with a design capacity of 26 MGD.

The ERWRF currently has a permitted capacity of 13 mgd. Flows up to about 26 mgd pass through primary and secondary treatment. Flows above 26 mgd (up to about 60 mgd) pass through wet weather treatment and equalization prior to chlorination. The ERWRF currently serves approximately 42,000 people and treats an average flow of about 9 mgd.

The ERWRF discharges treated effluent to the Little Beaver Creek (tributary to the Little Miami River) and has year-round permitted effluent limits for CBOD5, TSS, ammonia, dissolved oxygen, pH, and oil and grease, and has summer effluent limits for total phosphorus, total chlorine, and E. coli. Major plant processes include screening and grit removal, flow equalization, primary clarification, trickling filters followed by contact stabilization, ferric chloride addition for phosphorus removal, secondary clarification, chlorination/dechlorination, gravity sludge thickening, sludge dewatering, and lime stabilization and land application of biosolids.

Liquid Treatment Processes

All influent flow to the ERWRF passes through mechanically cleaned coarse bar screens with two-inch openings. Flows to primary and secondary treatment are pumped by four influent pumps to two mechanically cleaned fine bar screens with 3/8-inch openings and one manual bar screen with 3/4-inch openings. Flow then passes through grit and scum removal prior to flow equalization. Three equalization basins with a total volume of 1.3 million gallons are used to equalize peak flows to primary and secondary treatment. Two of the three basins are equipped with mixing and aeration.

Peak influent flow above 26 mgd overflows to the stormwater wet well where it passes through a bar screen with 1 ½-inch openings. Flow is then pumped by four storm water pumps to the stormwater screen building which has four rotary drum screens with screen openings of 0.02 inches (one-half millimeter) before entering flow equalization. Three storm water equalization tanks with a total volume of 0.706 million gallons equalize peak flows. Peak stormwater treated flow then combines with secondary effluent prior to chlorination.

Three circular primary clarifiers remove a portion of suspended solids and organic matter upstream of secondary treatment. Each clarifier has a diameter of 105 feet and a side water depth of 11 feet. Typically one clarifier is used for average flows and achieves approximately 75 percent removal of influent TSS and 50 percent removal of CBOD. Primary sludge is pumped (one pump per clarifier) to gravity thickeners where it is blended with WAS.

Primary effluent is pumped by four variable speed secondary pumps to three trickling filters for CBOD and ammonia removal. Each trickling filter has a diameter of 108 feet and a modular media depth of 28 feet. Historically, ammonia removal rates have averaged around 70 percent through the trickling filters. A portion of the trickling filter effluent can be recycled back through the trickling filters, with the remaining flow conveyed by gravity to contact stabilization basins.

Two, three-pass contact stabilization basins provide additional CBOD and ammonia removal. Each basin has a volume of approximately 190,000 gallons. The basins are operated at an MLSS concentration of approximately 2,500 mg/L leading to a hydraulic retention time of 0.5 hours and a solids retention time of one day. Three positive displacement blowers and fine bubble membrane tube diffusers provide aeration to the basins.

Mixed liquor from the contact stabilization basins flows to three circular secondary clarifiers. Each clarifier has a diameter of 105 feet and a side water depth of 18 feet. Typically, two of the three clarifiers are used during normal flow conditions. Ferric chloride is added for phosphorus removal as the mixed liquor exits the contact stabilization basins. Four variable speed screw centrifugal RAS pumps are used to pump settled sludge to the influent of the contact stabilization basins, typically at a rate of 20 percent of trickling filter influent flow rate. Wasted biomass is pumped to gravity thickening with one of two variable speed screw centrifugal WAS pumps.

Sodium hypochlorite is added to the secondary effluent flow (which is combined with equalized storm flow during peak flow events) just upstream of two chlorine contact basins. Chlorinated effluent is then dechlorinated with sodium bisulfite and then flows to the Little Beaver Creek.

Solids Treatment Processes

Primary sludge and WAS are pumped to one of two gravity thickeners. Each gravity thickener has a diameter of 48 feet and a side water depth of 16 feet. A portion of the thickened sludge can be stored in up to four sludge holding tanks with a combined volume of about 1.5 million gallons. Thickened sludge is pumped from the gravity thickeners or sludge holding tanks to one of two smaller sludge holding tanks, and then pumped to a belt filter press for dewatering. Lime is then added to the dewatered solids for stabilization to meet Class B biosolids requirements for land application. The solids dewatering operation and land application of the biosolids is contracted to a private firm. The flows from the thickener overflow and belt filter press filtrate drain back to the influent pump wet well.

Recent Operational Improvements

Additional monitoring of ortho-phosphorus was started in early 2012 to better track phosphorus removal through secondary treatment. Improvements were also made to the ferric chloride feed system controls at that time, including the addition of monitoring and control of the ferric chloride feed pumps through the plant SCADA system. The additional monitoring and controls allowed the ferric chloride dose to be significantly reduced, resulting in a savings of approximately $900 per month in chemical use. The lower ferric chloride dose also improved settling in the secondary clarifiers and reduced interference with chlorine residual testing.

Also in early 2012, the influent flow meters for each trickling filter were replaced. The new meters allow the flow split to be better controlled, which has resulted in improved process stability and more consistent effluent phosphorus levels. Some changes to laboratory procedures were also made to allow for faster results of total phosphorus testing, which helps operators be more responsive to effluent quality changes and to maintain effective ferric chloride doses.

Tom Gault – Technical Specialist
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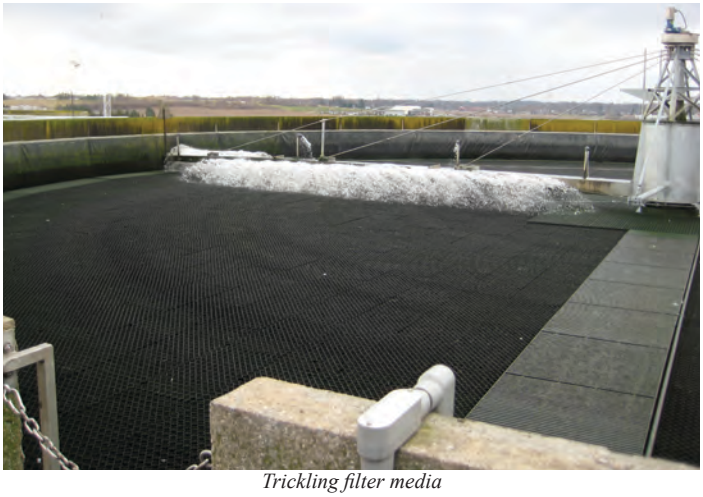
Trickling filter in operation



Trickling filter media

Ferric chloride feed pumps

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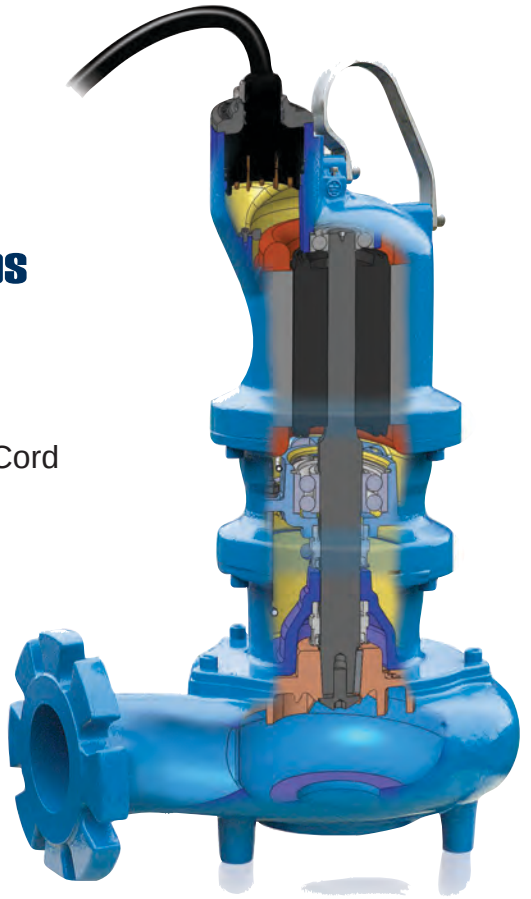

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HAVE YOU CONSIDERED EXTRACTIVE NUTRIENT RECOVERY AS PART OF YOUR PHOSPHORUS CONTROL STRATEGY?

by Samuel Jeyanayagam, PhD, PE, BCEE, CH2M Hill
Wendell Khunjar, PhD, Hazen & Sawyer, PC, and Ronald Latimer, PE, Hazen & Sawyer, PC

The Case for Nutrient Recovery From Wastewater

Nitrogen (N) and phosphorus (P) are life essential macronutrients that are extensively used in agricultural applications. Generation of synthetic fertilizers containing N and P is an energy intensive process that uses non-renewable resources. For example, phosphorus is sourced from non-renewable phosphate rock, which is largely limited to four countries: China, Morocco, South Africa, and USA. The rapidly growing global population is consuming P faster than the geologic cycle can replenish it. Experts believe that economically extractable P reserve is likely to be depleted in 50 to 100 years. In a similar vein, ammonia (NH_3) is produced via the Haber-Bosch process which consumes natural gas (a non-renewable resource) and has a high energy demand 12 kWh/kg NH_3 produced.

To minimize accumulation of these nutrients in the environment, the current approach is to remove N and P prior to discharge to a water body. In this scenario, we supply energy and other non-renewable resources to constantly replenish nutrient supply for agricultural uses and then further supply energy and non-renewable resources to remove these nutrients from wastewater before discharge to the environment. This approach to nutrient management assumes a linear usage cycle which inherently assumes that energy and resources are cheap and unlimited. This is not the case and a change in paradigm is needed with respect to how we manage nutrients.

It should be acknowledged that nutrient recovery and reuse is not a new concept. It has been applied in different forms in the past e.g., land application of biosolids and reuse of secondary effluent for irrigation; however, extraction of a chemical nutrient products with low organic matter content, defined here as extractive nutrient recovery, has not been widely applied within the wastewater treatment industry.

Many wastewater treatment plants (WWTPs) in Ohio are required to meet a phosphorus limit. Others are likely to have one imposed in the future. By implementing extractive nutrient recovery these plants can:

- Manage recycle loads and enhance P removal process reliability
- Achieve chemical and energy savings by reducing/eliminating chemicals for P removal
- Reduce solids production by minimizing/eliminating dependence on chemical P removal
- Achieve lower biosolids P content and potentially increase land application rates
- Minimize struvite nuisance scaling and lower maintenance requirements
- Create potential revenue stream from a highly desirable fertilizer product
- Achieve overall sustainability benefits by reducing the use of systemic fertilizer

Despite these obvious benefits, there remain technical, social and economic challenges towards a wider adoption of nutrient recovery. Many of these barriers revolve around a lack of technical information and economic data. This article reviews some of the technical information generated as part of an on-going Water Environment Research Federation (WERF) study aimed at filling the knowledge gap.

Basic Components of Extractive Nutrient Recovery

The nutrient concentration in the influent to municipal WWTPs typically ranges from 10 to 50 mg N/L and from 1 to 10 mg P/L. Since the efficiency of extractive nutrient recovery technologies is lower at these concentrations, a three step framework as shown in Figure 1 is often needed to make it viable:

1. Accumulation step: Accumulation of nutrients to high concentrations (>1000 mgN/L and > 100 mg P/L).
2. Release step: Release of nutrients to a small liquid flow devoid of organic matter and solids.
3. Extraction step: Extraction of nutrients as a marketable chemical product.

One of the advantages to this approach is that each step can be optimized separately. It is also possible that some utilities may not need capital investment for all three steps since existing infrastructure can be reused.

Figure 1: Components of Extractive Nutrient Recovery

Extractive Nutrient Recovery Technology Alternatives

The various technologies available to accomplish each of the three steps may be characterized as embryonic (early stage of development, bench/pilot scale experience); innovative (limited full-scale application); or established (mature with proven track record). Key information regarding selected accumulation, release, and extraction technologies is summarized in Tables 1, 2, and 3, respectively. A more detailed review of all available alternatives is contained in the WERF report (Latimer 2012).

Table 1: Summary of Selected Nutrient Accumulation Technologies

	Technology	Operating conditions		Pre-treatment required	Chemical Input	Commercial process	Nutrient(s) Accumulated
		Temp. (°C)	pH				
Embryonic	Microalgae	15 - 30	7.5 – 8.5	-		Lemna Technologies	N and P
	Cyanobacteria	5 - 40	6.5 - 8	-	Carbon source	-	N and P
Innovative	Adsorption/Ion exchange	NA	<8.0	Solid-liquid separation	Adsorbent, Regeneration solution	P-ROC, RECYPHOS, PHOSIEDI, RIM NUT, BIOCON	N and P
Established	EBPR	5 - 40	6.5 - 8	-	Carbon	-	P only
	Chemical	25 - 40	6.5 - 10	-	Metal salts (Al or Fe)	-	P only

Table 2: Summary of Selected Nutrient Release Technologies

		Operating conditions		Pre-treatment required	Chemical Input	Commercial Process	Nutrient(s) Released
		Temp. (°C)	pH				
Innovative	Chemical extraction	25-200	1 - 3	-	Leaching solution (sulfuric acid, hydrochloric acid, nitric acid, citric acid, oxalic acid, EDTA)	SEABORNE, STUTTGARTER VERFAHREN, LOPROX/PHOXAN, CAMBI, KREPCO, BIOCON, SEPHOS, AQUARECI, SESAL-PHOS, PASCH	N and P
	Thermochemical	150 – 1100	all	Temperature adjustment	-	MEPHREC, ASHDEC, THERMPHOS	P only
	Enhanced P Release from WAS	5 - 40	6.5 - 8	-	Carbon (volatile fatty acids)	WASStrip, PRISA	P only
Established	Anaerobic digestion	35 – 60	6.5 – 7.5	-	-	-	N and P

Table 3: Summary of Selected Nutrient Extraction Technologies

		Operating conditions		Pre-treatment required	Chemical Input	Commercial Process	Nutrient(s) Extracted
		Temp. (°C)	pH				
Embryonic	Electrodialysis	10 - 40	< 8.0	Solid-liquid separation	Electricity	GE Water	N and P
Innovative	Liquid-gas stripping	>80°C	> 9.5	pH and temperature adjustment	Caustic	ThermoEnergy Castion™	N only
Established	Struvite crystallization	25 - 40	8 – 9	Solid-liquid separation	Caustic, Magnesium or Calcium	PHOSTRIP, PRISA, DHV CRYSTALACTOR, CSIR, KURITA, PHONIX, OSTARA, BERLINER VERFAHEN, FIX-PHOS	N and P

continued on page 54

Proven Approaches for WWTPs with Phosphorus Limits

WWTPs with P removal requirements (like those in Ohio) should consider incorporating P recovery to reap the benefits listed previously. Intentional struvite formation is currently the technology of choice. Struvite (named after the German geologist Gottfried von Struve) is magnesium ammonium phosphate (MAP) with a chemical formula MgNH4PO4. It was first observed in digested sludge supernatant lines back in 1939. Struvite precipitation is quite common at most WWTPs with anaerobic sludge digestion but goes unnoticed because the precipitate is often incorporated into the sludge. Under favorable conditions (Mg^{+2}:NH^{4+}:PO_4^{3-} molar ratio of 1:1:1 and optimal pH of 8 to 10) struvite scaling can potentially lead to clogged valves, pipes, and equipment requiring significant cleaning and maintenance.

Recent efforts have focused on promoting struvite formation under controlled conditions thereby preventing/minimizing nuisance scaling. A generic struvite recovery process flow diagram is shown in Figure 2. Typically, magnesium chloride (or magnesium hydroxide) is added to provide magnesium, which is usually the limiting element, as well as caustic to achieve alkaline pH conditions. Following chemical addition, the filtrate or centrate enters a fluidized bed reactor (FBR), which is the heart of the process where struvite crystals are formed. Product is withdrawn periodically from the FBR, dewatered, dried, and stored. The FBR effluent is returned to the main stream process. The recovered product, containing phosphate-P (12.7%) and ammonia-N (5.7%), is a highly marketable slow release fertilizer. Table 4 compares salient features of five mature crystallization processes used for struvite recovery. It should be noted that two of the featured technologies use completely stirred tank reactors (CSTRs) while the remaining three use FBRs.

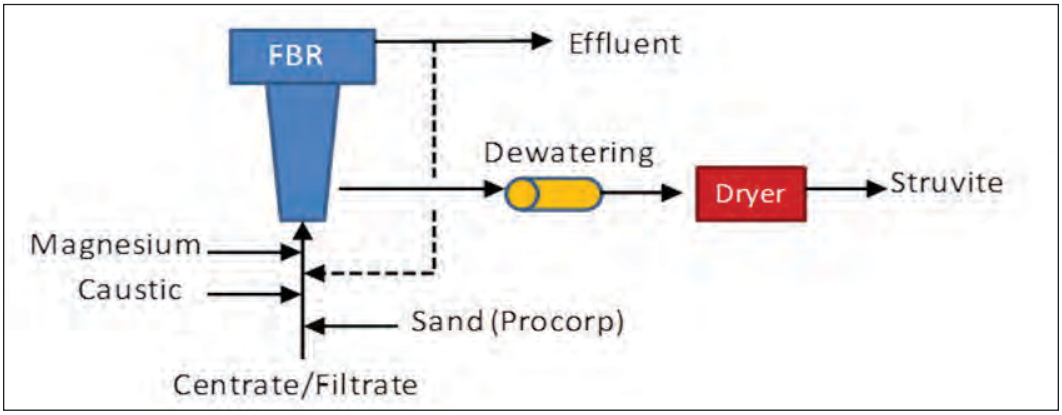

Figure 2: Generic Struvite Recovery Process Schematic

Table 4: Comparison of Proven Phosphorus Recovery Processes

	Ostara	Multiform Harvest	NuReSys	Phospaq	Crystalactor®
Technology provider	Ostara	Multiform Harvest	NuReSys bvba	Paques	HaskoningDHV (Procorp in North America)
Type of reactor	FBR	FBR	CSTR	CSTR	FBR
Name of product recovered	Crystal Green® (struvite)	Struvite	BioStru® (struvite)	Struvite	Struvite, Calcium phosphate, Magnesium phosphate
Recovery efficiency	80-90% P 10-50% N	80-90% P	45% P	80% P	85-95% P (struvite) > 90% P (Ca Phosphate)
Full-scale installations	8	2	7	2	4

Recovery of Nitrogen Only Product

A significant fraction of the influent nitrogen is found as ammonia in the centrate or filtrate stream following anaerobic digestion, which creates an opportunity to recover a nutrient product containing nitrogen only (as opposed to struvite, which contains both N and P). The Ammonia Recovery Process (ARP) marketed by ThermoEnergy is a two-step process that combines flash vacuum distillation with ion exchange to remove ammonia. As illustrated in Figure 3, centrate/filtrate undergoes pH adjustment to shift the ammonium-ammonia equilibrium towards ammonia gas formation. Following pretreatment to remove contaminants, vacuum (flash) distillation is used to capture the ammonia that would readily volatilize. The effluent stream with reduced ammonia nitrogen content (approximately 300

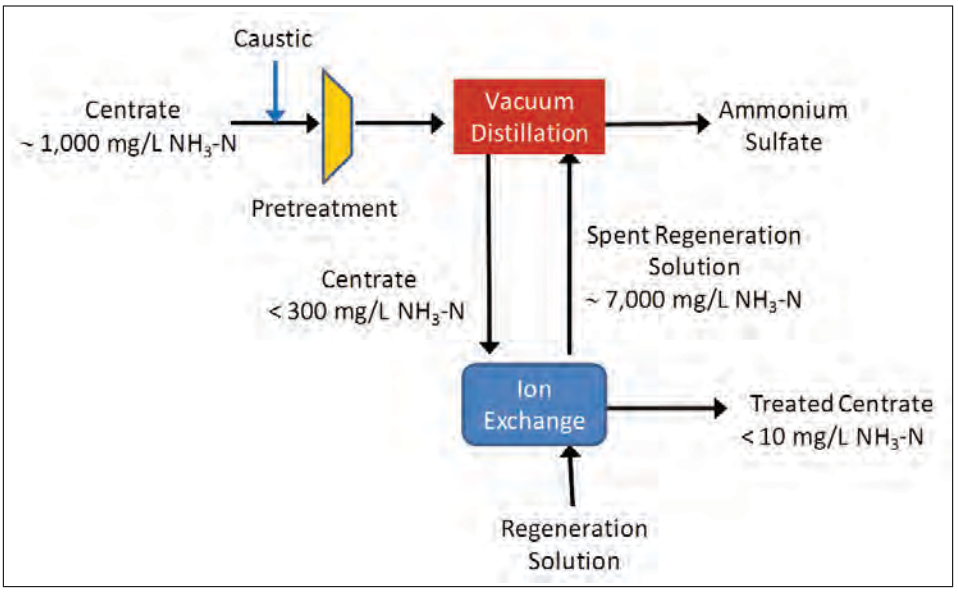

Figure 3: Simplified ARP Schematic

ppm or less) is then treated by ion exchange, which selectively adsorbs the ammonia. The adsorption columns are regenerated using either brine or sulfuric acid. The spent ammonia-laden regeneration solution is stripped of ammonia to produce a commercial-grade solution of ammonium sulfate. Currently there is no full scale application of this technology at municipal WWTPs.

Marketability of Recovered Product

At present, commercial technologies for extractive nutrient recovery primarily produce chemical nutrient products that are used in agricultural applications. Since food demand is expected to rise with an increasing global population, it is expected that demand for chemical nutrient products will also increase. This represents an opportunity for the wastewater industry to develop niche products that can be used in this field.

Biosolids are the primary product used to recycle nutrients from wastewater. One of the biggest challenges with biosolids is the expense associated with transporting a product with high moisture content (~80% - 90%). Since the current value of nutrients in biosolids (~ $US 8 per tonne) is a fraction of the transport costs ($US30 per tonne to transport 50 km), nutrient recovery via biosolids can be an expensive undertaking. Even in scenarios where thermal processes are used to reduce the moisture content, the energy required (~800 kWh to evaporate a tonne of water) is significant.

Consequently, recovery of nutrients into chemical nutrient products like struvite is the primary focus of several commercial extractive nutrient recovery technologies. In addition to struvite, other products like calcium phosphate, (hydroxyapetite), iron phosphate (vivianite), and phosphoric acid can also be recovered depending on the technology used. An additional advantage of recovering chemical nutrient products is the fact that some of these products have multiple end-use potential (Table 5). It should be noted that the recovery of nitrogen only products (e.g. ammonium nitrate, ammonium sulfate, etc.) is not favored currently due to the high cost of recovery relative to the industrial Haber Bosch process and availability of more attractive sidestream nitrogen treatment schemes (e.g. ANAMMOX).

Table 5: Summary of Chemical Nutrient Products from Extractive Nutrient Recovery Processes

Common Name	Chemical Name	Product Form	Uses
Struvite	Magnesium ammonium phosphate	Solid	Agricultural and ornamental crop fertilizer.
Hydroxyapatite	Calcium phosphate	Solid	Agricultural and ornamental crop fertilizer. Sorbent for heavy metal contained in flue gas.
Vivianite	Iron Phosphate	Solid	Ornamental crop fertilizer. Inexpensive blue pigment for arts and crafts.
Phosphoric acid	Phosphoric acid	Liquid	Agricultural and ornamental crop fertilizer. Removal of rust, de-scaling of boilers, and heat exchange tubes.
Ammonium nitrate	Ammonium nitrate	Liquid or Solid	Agricultural and ornamental crop fertilizer. Oxidizing agent in explosives.
Ammonium sulfate	Ammonium sulfate	Liquid or Solid	Agricultural and ornamental crop fertilizer. Used in flame retardant materials.

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In order for chemical nutrient products to be used for agricultural purposes, they must meet some minimum requirements. For instance, all products must have consistent nutrient content and possess no/minimal odors. Solid products must have uniform size, not less than 95 percent total solids, less than 1 percent dust content, and a bulk density of at least 45 pounds per cubic foot. Due to the limited mass production rate of the wastewater treatment sector, it will be challenging to compete with existing supply chains. Instead, recovered products from WWTPs should be marketed within niche markets to maximize resale.

In addition to having specific physical characteristics, the recovered product must also have minimal pathogen content and low concentrations of trace organic contaminants (TOrC). To date, research has shown that chemical nutrient products resulting from extractive nutrient recovery processes have negligible pathogen or TOrC content. This is an additional benefit that these products have over biosolids.

Conclusion

Mandated by regulations, many WWTPs in Ohio practice P removal. Others will have P limits imposed in the future. Implementing extractive nutrient recovery will particularly benefit these facilities since it complements P removal by reducing recycle loads, achieves chemical and energy savings, and promotes overall sustainability. In addition, the resulting nutrient product has value in a secondary market and can potentially represent a revenue stream for the utility. It should be noted that on a global scale, the nutrients that can be recovered from human waste approximates 15 to 17 percent of N and 25 to 30 percent of P produced as fertilizer. This in itself will not offset a significant portion of the global nutrient demand and must be combined with other strategies to make a difference such as nutrient recovery from animal wastes (animal wastes represent a much larger nutrient pool than human waste) and improved agricultural practices that reduce nutrient loss.

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References

Latimer, R., Khunjar, W.O., Jeyanayagam, S., Mehta, C., Batstone, D., Alexander, R., (2012) Towards a Renewable Future: Assessing Resource Recovery as a Viable Treatment Alternative (NTRY1R12). Water Environment Research Foundation.

AIR IONIZED ODOR CONTROL PROVIDES SUSTAINABLE SOLUTION

by Dennis Tulenko, REM, TEI and Ernest Isaac PCWWTF

If you think a wastewater treatment plant smells when you drive by it, just think what the plant's staff has to put up with every day on the job. Citizens have long-ago taken a stand against foul odors from wastewater plants, forcing such facilities to the outskirts of town. As urban sprawl encroaches and new facilities are constructed or existing facilities improved, treatment providers are including odor control measures, often at a cost of millions of additional dollars. As it usually does, necessity has come to the rescue with technology that gives the industry new alternatives to power-intensive, chemical-dependent wet air scrubbing or biofilters.

The polarized air ionization system offered by Trans-Tech Energy and Environmental, Inc., employs an alternating current device, which ultimately produces positive and negative oxygen ions along the 50/60-CPS sine wave, (O_{2}^{+}) and (O_{2}^{-}). At the moment the voltage potential is zero, the system is off. Therefore, the system pulses on and off, alternately producing positive and negative ions. Many ionization technologies produce only negative ionization and are not very effective in oxidizing chemical contaminants.

The ionization system produces more than one hundred thousand ions per cubic centimeter and saturates the air. The result is the production of a strong electromagnetic field or corona surrounding the ion tube. The voltage is controlled so that ozone (O_{3}^{-}) is not present. Air passing over the tube at high velocity is ionized and the ions are carried to the living environment through ventilation ducts. Ion concentration is controlled either manually with a voltage potentiometer, or through air quality sensors, which provide automatic closed loop control of ion level.

The ion tube produces an electromagnetic field (plasma), and corona that creates the ionized air condition that has been described. This highly ionized air can disassociate many types of gaseous compounds. In the presence of polarized air, an oxidation process takes place that can change the chemical contaminant to its fully oxidized and simpler form. Other harmful compounds are not generated. This is the same process that naturally occurs in "fresh" ionized outdoor air, and is how our Earth's atmosphere naturally cleanses itself. Bipolar ionization has been found to be effective on hydrogen sulfide, ammonia, formaldehyde, and similar compounds. Benign end products such as carbon dioxide, nitrogen, and water vapor are formed.

It is not necessary to collect exhaust gases or add chemicals to sludge to "scrub" the pollutants out. The system's "chemical" source is oxygen, free in air. The oxygen is ionized, both positively and negatively, and ionized oxygen clusters of 10 to 60 molecules are formed. These ion clusters restore the electrical conductivity to the air, and create an oxidizing atmosphere that oxidizes toxins generated by waste treatment processes. Hydrogen sulfide is oxidized to the fully oxidized sulfate ion which is non-toxic and odorless.

- $H_2S + O_2 = H_2O + SO$
- $SO + ½\ O_2 = SO_2$
- $SO_2 + ½\ O_2 = SO_3$
- $SO_3 + H_2O = H_2SO_4$
- $H_2SO_4 + n\ H_2O = 2H_3O^{+}\ (aq) + SO_4\ (aq)$

These ions are natural scrubbers that cleanse the air. They kill bacteria, remove odors, reduce toxins, and keep these toxins from forming acid gases that deteriorate equipment and corrode structures.

These levels of hydrogen sulfide and odor reduction in a variety of sewage treatment applications have been measured.

In normal applications, measured hydrogen sulfide levels are reduced by 90 percent or greater, by ionizing the problem space and can approach 100 percent depending on the level of the system design, such as by adding exhaust polishing with additional fresh ionized air mixed directly into the exhaust trunk. The systems are designed to levels sufficient to remove community odor, corrosion, and health and safety concerns.

This technology has been applied successfully at wastewater facilities for odor control in Europe for more than thirty years and now in the US for over ten years. The ionized air effectively oxidizes most air contaminants, including hydrogen sulfide, ammonia and other organic gases, and it prevents the corrosion of electronics and equipment while saving energy.

For buildings, the modular ionizers can be installed in ductwork on the fresh air supply side of an existing or new ventilation system. Alternatively, small package systems can be installed on lift stations or tanks. The system offers a minimal footprint, low power requirements, zero water usage and no chemical handling or storage.

A general flow diagram of the process is shown in Figure 1 below.

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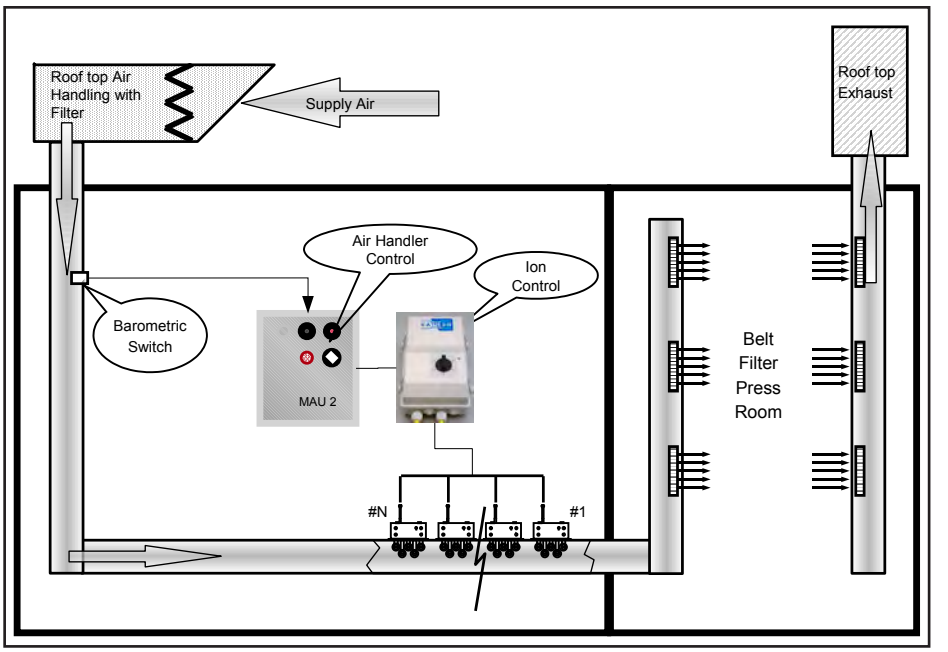

Figure 1: General Process Flow Diagram

At the 7,572-m^3/d (2.0-mgd) Port Clinton Wastewater Treatment Facility (PCWWTF) in Port Clinton, OH, a 2,665-m^3/h (1,569-ft^3/min) fresh ionized air system has been completed for the Grit Room, a 4,954-m^3/h (2,916-ft^3/min) system for the headworks upper floor, and a 5,158-m^3/h (3,036-ft^3/min) system for the headworks lower floor. The PCWWTF air ionization systems currently use 350 watts of power. This represents a total power savings of ninety-six percent (96%) compared to a collect and treat system like a biofilter, costing the utility $306 per year in power and saving $14,810 annually. This equates to 112 tons less per year of secondary carbon dioxide emissions from the PCWWTF as a result of reduced power usage. The energy savings are a result of the reduced pressure drop across the open ionization plenums as compared to a collect-and-treat system's packed media, and the low power draw of the ionizer modules (35W per module).

Odor control is typically the second largest energy draw at a wastewater treatment plant after aeration. Air ionization essentially eliminates that energy footprint.

Figure 2: Port Clinton WWTF Headworks Air Ionization Unit (AIU) Plenum

Figure 3: Port Clinton WWTF Ionized Wet Well

At the 150 MGD Denver Metro Wastewater Reclamation District in Denver Colorado (Metro), a 45,533 m^3/h (26,800 ft^3/min) fresh ionized air system has been completed for the Solids Processing Building (SPB) basement, and a 28,373 m^3/h (16,700 ft^3/min) system for the Cake Storage Building.

As a comparison of power costs, if Metro would have installed a biofilter to treat the total of 73,906 m^3/h (43,500 ft^3/min) of sour gas, the annual power cost would be $49,406 at $0.06 per kilowatt-hour for the 94 kilowatt (126 horsepower) total blower capacity required to force the sour gas through the resistant absorbing media. The Metro air ionization systems currently use a total of 1680 watts of power for a total of forty eight (48) ion modules. This represents a total power savings of 98 percent over the biofilter, an annual power cost of only $883, and $48,523 in annual savings.

This Metro air ionization option when compared to a similar sized biofilter eliminates 605 tons per year of carbon dioxide (greenhouse gas) emissions as a result of the reduced power usage. This is based on typically 1.5 pounds of carbon dioxide emissions per kilowatt-hour.

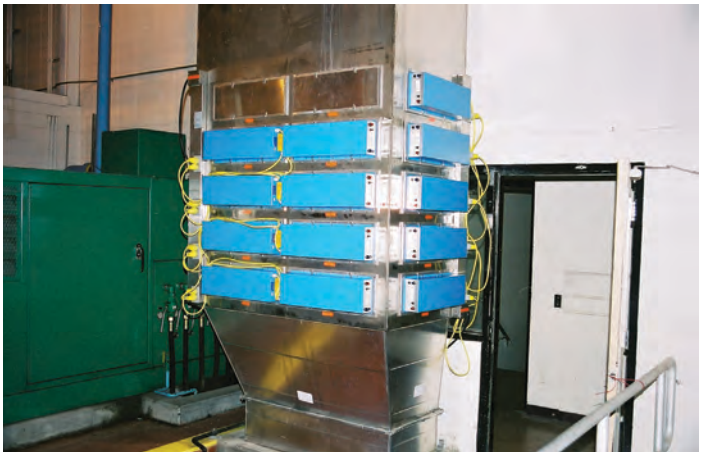

Figure 4: Denver Metro Air Ionization Unit (AIU) Plenum

Figure 5: Denver Metro Ionized Air Supplied to Sludge Conveyor Belt

For odor control at the 9,465-m3/d (2.5-mgd) Rifle Regional Wastewater Treatment Facility (RRWWTF), in Rifle, Colorado, a 9,344 m^3/h (5,500 ft^3/min) fresh ionized air system was supplied for the influent pump station and headworks, a 4,368 m^3/h (2,730 ft^3/min) system for the biosolids (belt filter press) room, and a 4,672 m^3/h (2,750 ft^3/min) system for the Cannibal screening room.

The RRWWTF air ionization systems currently use 1120 watts of power. This represents a total power savings of ninety-six percent (96%) compared to collect-and-treat systems such as a biofilter. The air ionization systems cost the utility $980.00 per year in power and save $21,659 annually.

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Similar savings are being realized at the Clifton Sanitation District (CSD) in Clifton, Colorado.

"The Trans-Tech system has no moving parts, a minimal footprint, low power requirements, zero water usage and requires no chemical handling or storage," says CSD's District Manager Brian Woods. "Both capital and operation and maintenance costs were less than other options such as wet scrubbers, activated carbon and biological treatment."

Along with full plant installations small package units can be applied in a cost effective way for small tanks and lift stations. Recently, this was done at the Darien lift station for the City of Shreveport, Louisiana. Here a 713-m^3/h (420-ft^3/min) package style air ionization system treats the 118.9 m^3 (4,200-ft^3) headspace of the Darien lift station. The power requirements are only 140 watts for the four (4) ionizer modules and both corrosion and odor are greatly reduced, at Darien, about ninety percent (90%) or more odor reduction is acheived.

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Non-Dispersibles in Wastewater

In recent years, municipalities and sewer districts have faced an increasingly frequent challenge: the tendency for consumer products—such as baby wipes, cleaning wipes (i.e., sanitizing wipes, shop wipes, dusting wipes, and mop heads, etc.), personal wipes, and feminine hygiene products - to interfere with private plumbing and public collection systems, to plug pumps, and to cause further interference at treatment plants. This interference often requires equipment to be taken offline for maintenance or replacement.

Clogs are caused by products that are not truly dispersible, as well as non-dispersible products that are not intended to be flushed. The New England WEA prepared a position paper on this issue, which was adopted by the WEF House of Delegates (HOD) Workgroup for use in the 2013 WEF/ AWWA Fly-in. Development and use of a "Safe to Flush" logo is one of the encouraged steps to solve this problem.

Read the full position paper at:
www.newea.org
⇨Resources
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⇨Position Papers

WATER FOR PEOPLE COMMITTEE UPDATE

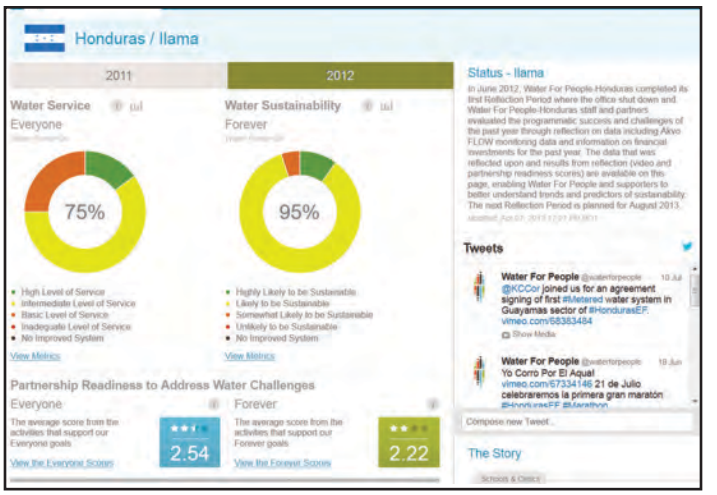
by Alicia Adams, OWEA Water For People Co-Chair

Since assuming my role as Co-Chair for Water For People, one concern that has been voiced to me is, "I wish I understood more how the organization is using the money we raise." I was so excited, when on April 17, 2013, Water for People announced the first version launch of its Re-Imagine Reporting Platform.

"We sat back and thought, nobody likes reporting – not us, not donors – because people are overloaded with data. Reports don't tell the full story of what we're doing and what we are able to accomplish," said Ned Breslin, CEO, Water For People. "It's time for nonprofit organizations to change the way they think about reporting and sharing their outcomes. Our hope is that the Re-Imagine Reporting Platform is a catalyst for other organizations to do the same."

As explained in our June Buckeye Bulletin write-up, Water For People is dedicated to creating a long-term impact through its "Everyone Forever" development approach. This approach ensures that every household, school, and clinic attains full water and sanitation coverage for everyone. Furthermore, Water For People works with communities and government who must also contribute finances that, linked with Water For People finances, lead to water and sanitation services for Everyone in targeted districts. The Everyone status is not only reached but sustained over time so that water and sanitation services are extended as populations grow and new families emerge in targeted districts. Therefore, these districts no longer need international water and sanitation nonprofits organizations to help address their water and sanitation needs.

The Re-Imagine Reporting Platform allows anyone to track the progress being made towards the area's Everyone status (shown on the pie chart in blue) and the Sustainability status (shown in green).



Then by clicking on the area's pie chart, you can navigate to the individual target areas and read status updates, see annual progress, and view detailed financial information about how the money is being spent in the area. This Re-Imagine Reporting platform even takes it past simply providing the donors the ability to see their financial impacts to the organization, but also supplements the data with videos, photos, social media and stories to produce a connection with the results their contributions are helping to achieve. I encourage you to check out the site! *http://reporting.waterforpeople.org/home*

As for a committee update, here's a quick summary:

Annual Conference:

Yet another year of wonderful fundraising totals!

- Golf Mulligans: $580
- Golf "Call Your Shot": $775
- Meet & Greet Raffles: $926

Then, 5S Society decided to donate another $600 to bring the total for the 2013 OWEA Annual Conference to $2,881. Thanks so much to everyone that donated, participated and volunteered! Special thanks to Leon & Vickie Smith, Doug Borkosky, Marty Hubbard and volunteers from GCWW and MSD!

RunDrenched 5K:

Water for People teamed with Nationwide Children's Hospital for an exciting 5K on July 6th. Between 500 and 600 runners, walkers, and kids riding in strollers brought back those childhood memories of summer fun. Participants

Columbus RunDrenched 5K benefits Water For People

went from dry to drenched through "hot zones" and drenched zones which included sprinkler minefields, spectator "sniper" zones, foam, and fire hoses. At the end, participants had a huge balloon and water fight!

Wine Tasting/Cocktail Social: We had just over 160 attendees join us in Columbus to raise an amazing $14,426.15! Special thanks to Afaf Musa, John Schroeder, and all the other CDM volunteers who assisted in organizing and orchestrating the event.

"Spirited" WaterFest for Water For People: Due to the outstanding turnout that we had at the Columbus Wine Tasting/ Cocktail Social, Tom Angelo has stepped up to the plate and volunteered to help us begin organizing a similar event in the Cleveland/NE Ohio area. So, save the date as we are tentatively scheduled for October 17th, 2013 at Debonné Vineyards & Cellar Rats Brewery. More info to come, but if you're interested in helping to organize, donating a raffle prize, or becoming an event sponsor, please feel free to contact me, Doug, or Tom Angelo. I hope to see you there!!

Find out more about Water For People at *www.waterforpeople.org*

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Doug Borkosky, Co-Chair, *doug@hlbaker.com*

DISCOVERING THE WONDERFUL WORLD OF WATER AT THE 6TH ANNUAL CENTRAL OHIO CHILDREN'S WATER FESTIVAL!

by Alicia Adams, Stantec

On Tuesday, May 7th, 2013 approximately 670 fifth grade students attended the Central Ohio Children's Water Festival at the Ohio State Fairgrounds in Columbus, Ohio. Attending from 9 different schools, the children viewed interactive displays and participated in hands-on activities with the goal of obtaining a greater environmental awareness of our valuable water resources.

The event began with half of the students being educated by City of Columbus Department of Public Utility (DPU) personnel on the City's extensive water supply, water treatment, wastewater treatment, water distribution and collection systems:

- Cindi Fitzpatrick and Brian Haemmerle, "Water Distribution System"
- Bob Ellinger, Gary Gumm, Mike Yurkovic, and Dustin Stoops, "Inspecting the Inside of Sewers"
- Matt Steele, Michelle Humphrey, Sapna Isaacs, and Ben Ellsesser, "Water Treatment"
- Bernard Conrad, Bob Lamb, Mike Merz, Dennis Pieszala, and Jeff Vesco, "Name that Pollution"
- Summer Hawkins and Dick Lorenz, City of Westerville, "Water Quality Monitoring"
- Kevin Gleich and Cory Henslee, "History of Columbus Water"
- Gary Hickman, Susan Brickman and Tanna Rhoads, "Wastewater Treatment"
- Kate Fisher, Kelsey Langdale, and Lauren Miller, Greif, "PackH2O Water Backpack"

The other half of the students interacted with presenters at 25-minute hands-on workshops – learning about the irreplaceable resource of water and how it impacts our lives:

- Doug Borkosky, Baker & Associates, "Water For People"
- Dale Kocarek , Stantec, "The Role of Wastewater Treatment in Modern Society"
- Allison Shaw from Metro Parks, "Amazing Amphibians"
- Dennis Clement, Ohio EPA Office of Environmental Education, "Water: Resources from the Earth."
- Carol Loopstra and Linda Pettit, Franklin County Soil and Water, "Sliding Soil"
- Carolyn Watkins, Ohio EPA Office of Environmental Education, "EnviroScape Watershed Model"
- Karen Norris, Division of Wildlife, "Casting for Answers"
- Stacey Law, Keep Columbus Beautiful, "Project WET: A-maze-ing Water"
- David Rutter, MORPC, "The Long Haul"
- Dona Rhea, Delaware SWCD, "Incredible Journey"
- Mark Eppich, Stacia Eckenwiler, Mark Timbrook, Hunter Kelly, and Tim Fallara, Columbus DPU, "Storm Hole"

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- Officer Dawn Potter, ODNR Division of Watercraft, "Floats and Kids Program"
- Kathi Alleman, Amanda Gullett, Brown and Caldwell, "Water Contamination and Filtration"
- Angela Dripps, OEPA, "Fish, Bugs and Water Quality"
- Tim Wolfe, MWH, and Zuzana Bohrerova , Linda Weavers , Zongsu Wei, and Chenyi Yuan, OSU,"Buoyancy Demonstration"

Before lunch the students gathered around the amphitheatre and were welcomed to the festival by Mayor Michael Coleman, DPU Director Greg Davies, and Columbus City Council member Eileen Paley. Division of Water Administrator Dr. Rick Westerfield was also on hand to greet the students.

Following the introductions, students were entertained by a skit illustrating the drinking water treatment process lead by Laura Teggehoff of 360water, and an exciting performance by the Columbus pipe-tapping team. Jill Taptich narrated the tapping demonstration and students cheered as Pat Crumley, Mark Bowen, Don Lathem and Eric Scheffel raced against the clock to skillfully install a successful tap.

This year the students were able to participate in a Bumper Sticker Contest. The bumper sticker was to illustrate ways to honor our local water resources, reduce water usage, or promote local tap water. The winner, Joseph Sarmiento from Norwich Elementary, was announced and his photo was taken with Director Davies and Council member Paley.

After lunch, each group of students switched sides so that each fifth grader had the opportunity to participate in everything the 2013 Water Festival had to offer.

Several individuals serve as key coordinators for the 2013 Central Ohio Children's Water Festival:

- Robin Liss of MWH served as the event coordinator and assisted in organizational planning and overall site preparation – securing the ideal location for the festival;
- Alicia Adams of Stantec served as the school coordinator and worked extensively with the schools and teachers to arrange for the 670 students to attend the wonderful event;
- Cindy Jacobsen of T&M Associates coordinated more than 60 volunteers from among a number of organizations to make sure the students' visit to the festival was both enjoyable and safe;
- Lorraine Winters of Columbus DPU coordinated City of Columbus staff participation;
- Andrea Kilbourne of Ohio EPA lined up and coordinated presenters of the 16 half-hour hands-on workshops;
- Jamie Decker and Mike Giangiordano of CH2MHill served as site coordinator and assisted in the planning and site preparation to ensure the festival ran smoothly;
- Linda Pettit of the Frankin Soil and Water Conservation District administered the Water Festival's funding;
- Vui Chung of B&N, Jim Hays & Amy Tabor of Malcolm Pirnie/ Arcadis and Tim Wolfe of MWH helped secure funding for this year's event. Over $17,000 was raised by professional engineering firms and other organizations providing technical services in central Ohio.

This year's event would not have been possible without the help from the following organizations' financial contributions:

AEC	HR Gray
AECOM	Kokosing
ARCADIS	Layne Ranney Collector Wells
Brown & Caldwell	ms Consultants
Burgess & Niple	MWH
Black & Veatch	OWEA
CDM Smith	Pelton Environmental Products
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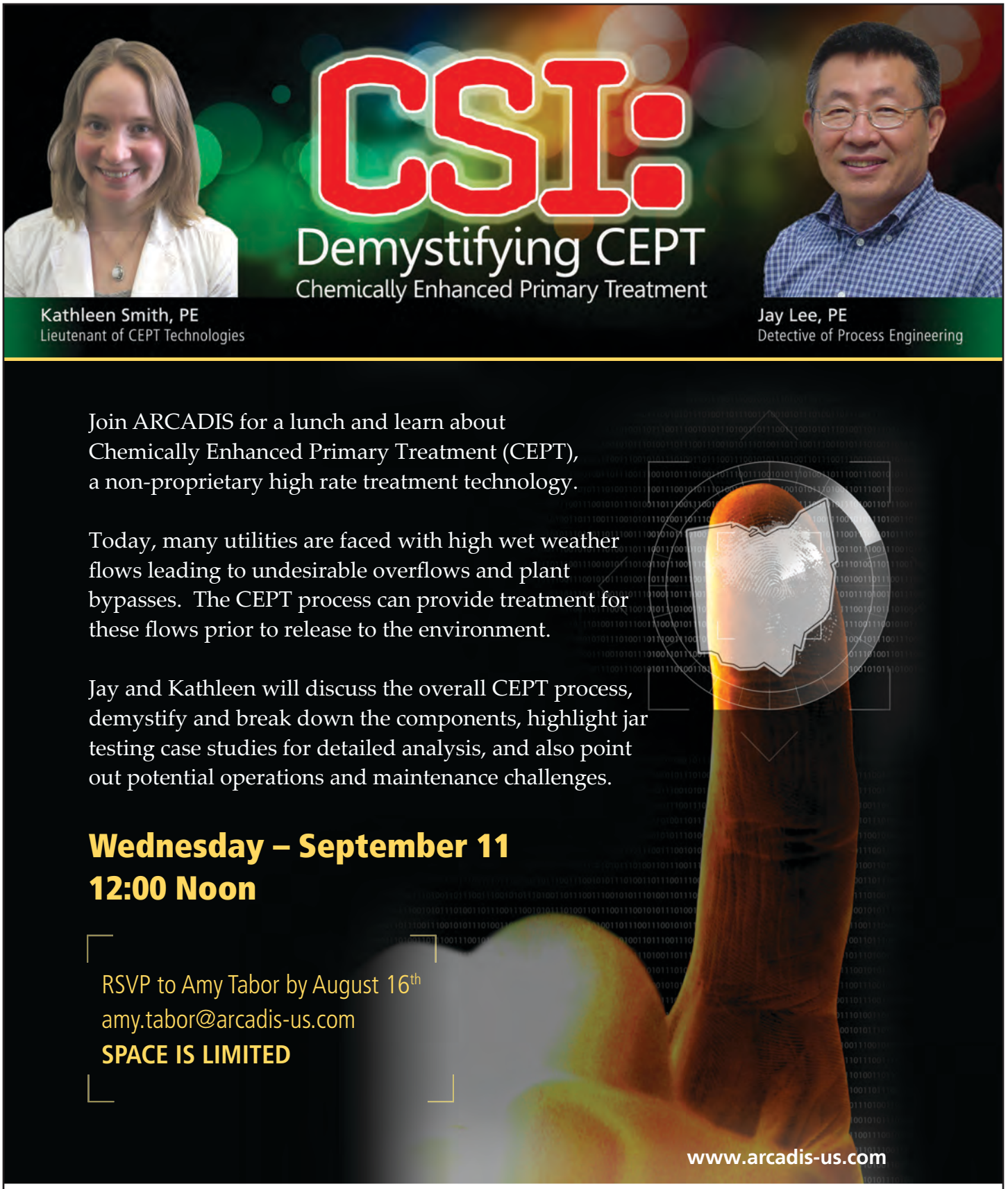
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Today, many utilities are faced with high wet weather flows leading to undesirable overflows and plant bypasses. The CEPT process can provide treatment for these flows prior to release to the environment.
Jay and Kathleen will discuss the overall CEPT process, demystify and break down the components, highlight jar testing case studies for detailed analysis, and also point out potential operations and maintenance challenges.
Wednesday – September 11
12:00 Noon
RSVP to Amy Tabor by August 16th
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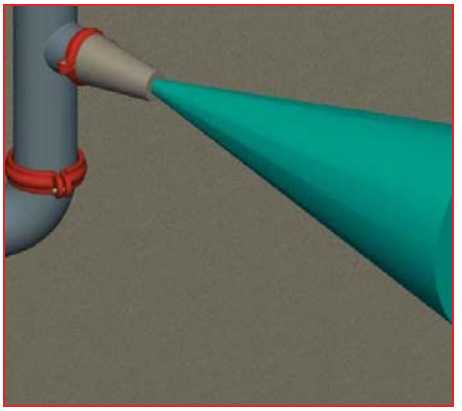

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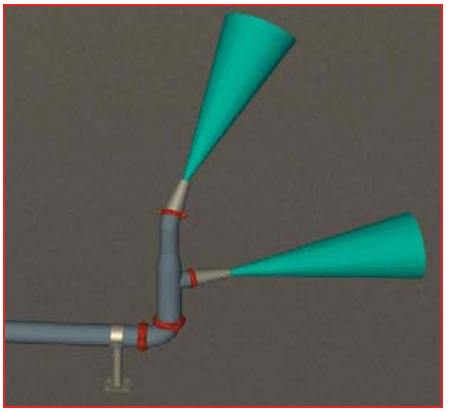

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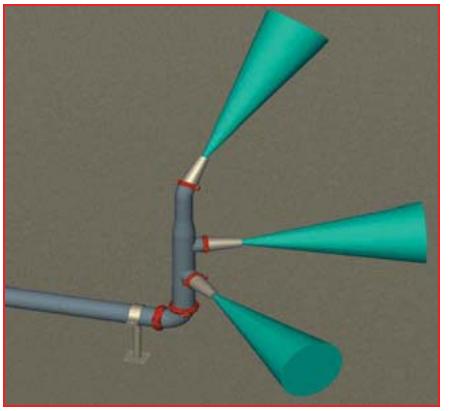

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