



Buckeye Bulletin

Ohio Water Environment Association | Volume 82:2 | Issue 2 2009



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On the Front Cover

Photo provided by the Cincinnati USA Convention & Visitors Bureau

Contact Hour Information:

All OWEA training is submitted for contact hour approval.

Check out OWEA's website at: www.ohiowea.org for a complete listing of OWEA approved training.

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

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**Next Buckeye Bulletin
Deadline:
July 1, 2009**

2009 Calendar of Events

May 2009

- 7 Collection Systems Workshop
- 8 NWOWEA Operation Education Day
- 14-15 Ohio Stormwater Conference
- 14 NEOWEA Annual Business Meeting
- 20 NWOWEA Section Meeting/Golf Outing
- 20 Executive Committee Meeting
- 21 SEOWEA Section Meeting
- 21 SWOWEA Section Meeting
- 28 Operations Challenge with Hands-On Operator Education Day
- 29 NE LAC Meeting

June 2009

- 10 SWOWEA Nearly Free O&M Seminar
- 22-25 2009 Annual Conference
- 22 Executive Committee Meeting

July 2009

- 17 NEOWEA Biomass'ers Golf Event

August 2009

- 7 NWOWEA Spouses & Friends Day

September 2009

- 11 Lab Analyst Exam Application Deadline
- 11 NE LAC Meeting
- 23-24 Plant Operations/Lab Analysts Workshop
- 26 NEOWEA Clam Bake

October 2009

- 2 NE LAC Review

November 2009

- 6 NE LAC Meeting Method Update Review

December 2009

- 10 Biosolids Specialty Workshop

Executive Committee Meeting Dates

May 20, 2009

June 22, 2009

2008-2009 Executive Committee

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Each year shortly after Spring arrives and Summer is just around the corner we come to the end of another year for OWEA. As I sit here writing my final article I find it hard to express in words the journey over the past year. As we know, the journey to become president starts at the Section level and continues on to the state. The OWEA does not exist without our members. Each project and goal completed is a direct reflection of our organization and the possibilities that lie ahead.



*Dianne Sumego
OWEA President*

In my first article I presented a list of projects / goals to be undertaken by the Executive Committee (EC) this past year. Our focus was to bring more awareness to our organization, increase services to our members, update our “look” and develop additional tools and resources for our members. I am happy to report that because of the hard work of the EC, Section Officers, members and Judi Henrich, our Executive Administrator (EA) we have achieved these goals as well as accomplished others. I have provided a brief summary below:

1. On-line workshop and conference registrations. OWEA has been successful using on-line registration for our workshops and conference this year. Use of this resource has increased over the course of the year and we have had the Sections utilize the on-line registration for their meetings as well. Many thanks to Judi Henrich, EA, for the implementation of this process.
2. Website Update – If you have not visited our website recently, we encourage you to do so. In January of 2009 we put our new website on-line. The website has been expanded to provide easier and quicker access to resources and information relevant to the OWEA, Sections and Committees. We are continuing to update and improve the OWEA website. Our next step is to provide an interactive section, allowing members to ask questions to other members for advice on topics relating to the wastewater industry. Again, thanks go out to Judi Henrich and Tom Fishbaugh.
3. Local/ Regional Training – The OWEA recently entered into a contract to provide webinars to our members. OWEA currently has a task group led by Mike Frommer developing the policy and procedure for this training tool. This training tool will be available to the EC, Sections, Committees and members.
4. Teaming Opportunities – OWEA continues to develop teaming opportunities with organizations who share common interest relating to our vision and mission. We are working with industry leaders in the review

and education of emerging and “hot” topics. OWEA teamed with ORSANCO and USEPA Region V in hosting the “POTW Nutrient Reduction and Efficiency Workshop” in November of 2008. Later this month on May 14-15 OWEA will be partnering with the Mill Creek Watershed Council of Communities, Regional Storm Water Collaborative, and the Tinkers Creek Watershed groups to host the “2009 Ohio Stormwater Conference”. In June, at the Annual Conference, the OWEA will be signing a Memorandum of Understanding with the USEPA Research Group on “Wastewater and Infrastructure Technology”. Special thanks to John Aldrich (OWEA) and Dan Murray (USEPA) in their assistance with these ventures.

5. Utility Committee – This committee was newly formed this year and is led by Doug Clark. The Utility Committee is continuing to develop and has determined a mission statement for the committee. Over the next year this committee will continue to grow through use of the webinars, e-blasts and the dissemination of useful information for communities in dealing with a variety of topical issues.

I would also like to take a few more moments to talk about some other projects undertaken by the EC this year.

- E-blast - OWEA has used this tool to disseminate time sensitive materials to our members relating to the announcement of webinars, upcoming workshops, OEPA technical reviews, stimulus updates and other information pertinent to the well being of our industry.
- Technical Review Group – This group is under the guidance of the Government Affairs Chair, Dale Kocarek, and was established to provide technical review and feedback to the OEPA on new and updated regulations pertaining to our industry. OWEA provided technical comments to the USEPA on the Draft Nutrient Control Manual and OEPA Draft Sewage Sludge Rules. The group is currently working on developing technical review comments to the draft Surface Water Quality Rules and second round of the Draft Sewage Rules.
- Rules and Regulations – The OWEA EC revised and submitted to WEF for approval updated Rules and Regulations. These documents will replace our current Bylaws and Constitution and will be voted on by the membership at the Annual Business Meeting. Thanks go out to Mark Livengood for his tireless efforts in the development of this document. I would also like to thank the Governance Committee and Sections for their active participation and feedback.

A copy is included in this issue.

- Policies and Procedures (P&P) – OWEA has been working to update and simplify our P&P. This effort has been undertaken by Dale Kocarek, as Governance Chair, and many volunteers. Efforts will keep us in compliance with our new Rules and Regulations, industry and technology changes and administrative changes.
- Quarterly Calls with Section Presidents – These were very valuable to me, to hear the direct exchange of our Section Presidents with their counterparts across the state. It also provided me with a different means to further understand the successes and concerns of our Sections.

I am looking forward to a successful Annual Conference in Cincinnati, June 22-25 (including golf). Dan Sullivan and Tim Shaw, Co-chairs, and their committee have an excellent program lined up for this year, complimented by a strong technical program developed by Mark Livengood.

My support and best wishes go to Mark Livengood as the incoming President and his Executive Committee.

I would be remiss in not thanking and recognizing those who have been supportive of me throughout my journey. I would like to thank the Northeast Section and the members who gave me my start in OWEA through the Section, my company ARCADIS, and boss, Gary Johnson, for his support as a mentor and for allowing me the necessary time commitment to serve over the years, the support of the OWEA EC (Mark Livengood, Dale Kocarek, Jane Winkler, Doug Clark, Tom Angelo, Dan Sullivan, Mike Frommer, Steve Morrison and Phil Anderson), Chairs and Committee Members, Judi Henrich, EA and last but not least, you the members! Thank you from the bottom of my heart. This has truly been an exciting time for me and I look forward to continuing to work with each of you in the future.

Thank you for the opportunity to represent you, our members, as President of the OWEA.

Dianne Sumego

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Don't Miss Out On Important News Update Your Membership Profile

Maintain an accurate mail and email address so you receive timely communications from OWEA regarding upcoming events, important news affecting water environment issues, and your copy of the Buckeye Bulletin.

Please check your member profile at: www.wef.org by clicking on the Membership link. You can also make changes to your OWEA/WEF membership account by contacting WEF directly at 1.800.666.0206 or by email at csc@wef.org.

GET INVOLVED DO YOU KNOW ABOUT WORLD WATER MONITORING DAY?

World Water Monitoring Day (WWMD) is an educational outreach program. The Water Environment Federation (WEF) and the International Water Association (IWA) have teamed up with USGS, USEPA, PerkinElmer, ITT, CH2M Hill, Smithfield Foods, and other corporations and businesses to sponsor this event internationally.

Volunteers test for four core parameters:

- pH
- Temperature
- Dissolved Oxygen
- Turbidity

WWMD is officially celebrated on September 18 every year but participants can monitor their site at any time from March 22 to December 31, 2009. The goal of WWMD is to educate the public and get citizens involved in protecting our water resources. By 2012, WEF and IWA hope to have more than one million participants in 100 countries.

It is very easy to plan and conduct your own water monitoring event. Visit the WWMD website: www.worldwatermonitoringday.org and register your site. Once the selected site has been tested, report your data on the website. You can use your own testing equipment or order an easy-to-use test kit for only \$13. The site also has guides and lesson plans for educators who want their classrooms to participate, and even resources such as instructional videos, Participation Certificates and fact sheets.

If you are part of a community group like Boy Scouts, Girl Scouts or the Rotary Club or even The Parrotheads, why not sign up to participate? Many people are unaware of how their actions affect the quality of their own watershed. This is an excellent opportunity to educate the public on what we, as water and wastewater professionals, do for a living.

Amy Fuller, Membership Chair

wwlab@coz.org





Steve Morrison, Sr. WEF Delegate

WEF DELEGATE REPORT



Phil Anderson, Jr. WEF Delegate

When you read this report Spring will be in high gear and a lot of exciting activities will be occurring at WEF and OWEA.

The OWEA Annual Conference is fast approaching and will be in Cincinnati this year on Monday June 22-Thursday June 25. It is my pleasure to announce that WEF President Rebecca West will be attending our conference this year. This is another reason to attend the Annual Conference this year and hear what President West has to say about the happenings at WEF.

It is hard to believe but registration for WEFTEC 09 in Orlando has been underway for a month. WEF has some exciting promotions this year to get everyone to Orlando. First of all they are keeping registration costs the same as last year, offering discount rates for organizations that send multiple staff and have their normal early bird registration discounts. Go to www.wef.org for all the details on the conference.

If you haven't heard, the WEF office has gone green. They recently installed a green roof and terrace at the offices in Alexandria. For more details go to the website for additional

information. You can also access the WEF Year in Review document on the website. This document is the annual report for 2008 and it highlights all the great things happening in our organization.

WEF staff and the appropriate committees are keeping tabs on the Federal Stimulus Funds coming out of Washington. WEF has provided its members with web casts over the past couple of months to keep us informed on the process.

You might have noticed that I have referenced the WEF website frequently during this report. WEF's website provides us with access to the many services that WEF provides for its members. It will also provide you with links to virtually every other water related organization. While you are doing that, check out www.ohiowea.org to see the new OWEA website. Tom Fishbaugh and Judi Henrich have a great job coordinating those renovations.

If you want to discuss anything pertaining to WEF, let Phil Anderson or myself know.

Steve Morrison
steve.morrison@woolpert.com

OWEA Meeting Space Available

The Ohio Water Environment Association recently moved to a new location. Take advantage of the available conference room (with wireless internet access and web/conference call abilities) for your next OWEA committee or workgroup meeting. The office is conveniently located near the Ohio State University campus and just few miles from downtown Columbus. Ample free parking is available.

For more information, contact:
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QUANTIFYING “GREEN”

by Dale E. Kocarek, P.E., BCEE - OWEA Vice President

One of the most vexing questions these days is why “green technology” is so popular. After all, “green” is all the rage. I believe that in part “green technology” appeals to the best in us by seeking to preserve nature and our natural resources and green spaces. Its very mention invokes pleasant mental imagery that has been memorialized by poets such as James Russell Lowell in his poem “June.”

As I explore this topic, I want to acknowledge several of the most common technologies that we have all heard about in the last few years. These include:

- Rain gardens, bioswales, and green roofs to control storm runoff and reuse water (Read about WEF Young Professionals Project at WEFTEC08 on the WEF website at www.wef.org and in the March 2009 edition of Water Environment & Technology.)
- Energy generation systems that generate fuel or energy from fats, oils, grease, septage, and sludge
- Energy saving systems through new and innovating systems of mixing and aeration
- “Green” buildings systems that use recycled material, and employ heating and lighting systems to minimize energy and water consumption
- Decentralized treatment to cut down on the cost of large regional systems in favor of cluster type development (Also, see the March 2009 issue of Water Environment & Technology.)

While most of what we have learned about is good, there are unresolved questions on how effective “new” technology may be and what their anticipated “benefit to cost” is. This is important because the ultimate decision makers—water and sewer boards, public officials, technical managers, and the public at large, will want to know if there is enough substance to match the style of these technologies. While metrics are being established for technologies to generate or conserve energy, less is known on the impact of rain gardens, green roofs, and bioswales with respect to reducing (or increasing) costs of our infrastructure, which includes operating costs. It is the need to verify and measure results where research is needed to answer the following questions:

- What is considered to be “green technology”?

- What technologies show promise?
- Can benefits be measured and verified?
- Can key decision makers be convinced that the risk matches the reward to justify investment in green technology?

There are some groups that are trying to define and quantify what “green technology” is and what benefits that it may offer us. What I have learned is that “green technology” is actually a family of technologies associated with the sustainability movement, which I have written about before in the Buckeye Bulletin. While we all tend to form mental images of green roofs and solar panels, green technology appears to fall into at least three broad categories: energy, water conservation, and supplements to improve conventional systems. Each is discussed below.

Energy Use

The first general application is energy use. In reviewing the American Reinvestment and Recovery Act of 2009, substantial discussion is devoted to energy conservation and efficiency in buildings, and the development of environment friendly fuels. The public understands that our planet does not contain unlimited and unending resources. While politicians may debate the remaining life of these resources, conservation on a practical level, in concert with a well capitalized movement to develop promising sources of alternative energy, makes sense on a number of fronts, including national security.

Urban Planning

The second general use of the term “green technology” is associated with urban planning. Green technology can be used in the development and re-development of areas that provide communities and centers of commerce developed from a well conceived and integrated master plan that reconciles, balances, and integrates systems of roadways, buildings, schools, centers for shopping and commerce, recreation areas, natural spaces and utility systems in a way which is complementary to the natural environment as opposed to in conflict with it. Green attributes may include bioswales, green roofs, porous pavement, rain gardens, infiltration zones for aquifer recharge and large buffer strips to protect riparian zones along with parks, bicycle paths and recreating areas. Municipal wastewater is reclaimed and used for irrigation. The Scioto Reserve community in Delaware

County, Ohio is a good example of such as community that demonstrates stormwater management, riparian protection, and reclamation of wastewater for an 18-hole golf course.

Supplements to Improve Conventional Systems

The third general definition of “green technology” is to improve our public sewerage systems. It is here that engineered green solutions may be used to control inflow and infiltration, conserve water, reuse energy, and remove refractory contaminants, and nutrients from municipal wastewater, which are all huge challenges in our industry. One good example of a promising green technology is Vertical Linear Motion technology as described in the most recent issue of Water Environment and Technology. This technology will complement or enhance proven technology, rather than re-invent it.

The biggest concerns before us now are if this technology can be used to address some of the most pressing problems of our current day including managing NPDES permits, compliance schedules, high costs, and customer satisfaction? Unfortunately, as I have mentioned, many potential or envisioned benefits have not been fully measured or verified, leaving many to wonder if the risk is worth the reward.

Fortunately, there are groups such as the USEPA Research Center in Cincinnati, Ohio, who are in position to provide funding assistance to quantify results of emerging and promising new technologies. To this end, the Ohio Water Environment Association (OWEA) will be entering into a Memorandum of Understanding (MOU) with this important organization for the purpose of working together for the good of advancing this cause.

I have listed several green areas of focus that I believe are promising to our industry in Table 1 below

Given my passion for this technology, I will keep you posted on new developments in “green” as they occur. If any of you have other ideas that you wish to share, please bring them to my attention, as I will most certainly write about this topic again in the future. As Vice President of this organization, I will be happy to pass on promising ideas to the USEPA Research Center for further evaluation and testing.

This is an exciting time. For the first time since the old Construction Grants Program, there is a public will enacted by Washington to move forward to advance our industry. While it is likely that some green technologies will not prove out, it is likely that many will, and still others will be invented. In the end, “green” is here to stay.

About the author:

Dale Kocarek is a frequent contributor to the Buckeye Bulletin and has a regular column called the Kocarek Korner. He is a professional engineer with Stantec Consulting Inc and has been a WEF member for 25 years. Dale is the OWEA Vice President, the Chair of the Governance Committee, and the Chair of the Government Affairs Committee.



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**TABLE 1
GREEN TECHNOLOGIES FOR SEWERAGE SYSTEMS**

Technology	Description	Pros	Cons
Biogas Generation	Electricity from digester methane gas	Quantifiable benefit for large treatment plants that practice anaerobic digestion	One MGD generates 10 SCFM of gas, so the plant must be quite large to derive much benefit. Also, must be concerned about siloxanes.
Energy Harvesting from Wastewater	Use heat in wastewater for heating and cooling in buildings	Demonstrated quantifiable benefit	Primarily a large plant technology for now
Biofuel from FOG	Harvesting energy from FOG		Primarily a large plant technology for now
Bioswales and Rain Gardens	Low tech natural systems than re-direct storm water away from sanitary sewers	Can be integrated in home landscaping	Benefits of gallons I/I removed from sanitary sewer systems must be quantified. (USEPA Research Project)



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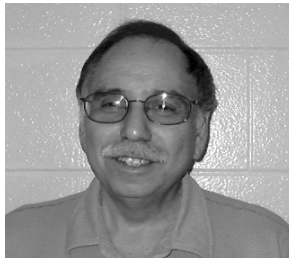
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The Northwest Section sponsored a meeting hosted by the Lima WWTP on March 18, 2009. Approximately 140 people attended this meeting. There were two tours of the Ford Motor Company pretreatment facilities. Also, several tours of the Lima treatment plant were given. Presentations were given by John Hoffman, Brad Lowery, Tony Lococo, and Elizabeth Wick. The highlight of the presentations seemed to be a short humorous video shown by Tony Lococo on switching out a large submersible pump. My thanks go out to Russ Bales, along with the Lima WWTP staff, for hosting the meeting and also to all of the presenters for some interesting and informative presentations. This Section meeting was the first meeting for the Northwest Section that used the new on-line registration at the OWEA website. I received much positive feedback on this new registration format. I encourage all of the other Sections to make use of this benefit for their meetings and workshops.

NW SECTION

Frank D'Ambrosia, NW President



Also, new officers for 2009 – 2010 will be voted on at the May meeting.

The Northwest Section will also sponsor another Operator Education Day on Friday, May 8, 2009. Check out the OWEA website for more information on this event.

Frank D'Ambrosia
archwwtp@tecexpress.net

Alloway Laboratories in Lima sponsored a three hour Lab Analyst training session on Wednesday, April 22, 2009 from 9 AM to 12 Noon. The training was focused on various lab calculations. Attendees received free training, free contact hours, and free lunch. What a bargain. Thank you to John Hoffman and Alloway Laboratories for sponsoring this event.

The May Section meeting will take place at the Van Wert WWTP on Wednesday, May 20, 2009. The annual golf outing will take place at this meeting.

The Northeast Section has been busy planning and hosting several meetings and seminars for 2009/2010.

On February 26, 2009, the Section held its annual Industrial Waste Seminar at the Quality Inn Conference Center in Richfield, Ohio, the second year at this location. The meeting was well attended by 221 individuals (down by less than 1% over last year).

Seminar topics included Our Global Imperative: A Conversation with Jeff Friedman; Exhibitor Presentations by Adapco, Stark State College, and Alloway Environmental Testing Services; Ohio EPA Division of Surface Water Update Regulating Industrial Storm Water & Residuals; Case Histories at Industrial Facilities - Brewster Dairy & Middlefield Cheese; Potential Impacts of Pharmaceuticals on Our Environment; Ohio River Clean Fuels Project; Shearer Foods LEED's the way; Panel of POTW's Taking Landfill Leachate. The contact hours for the seminar were submitted to OEPA for 5.75 contact hours. The Section would like to thank our speakers: Jeff Friedman, Mel Whitson, Scott Williams, John Hoffman, Chris Moody, Lonnie Via, James Barnard, Robert Shoaf, Bill Zawiski, Daniel Szwed, Scott Weyandt, Joe Amabeli, Brian Gresser, and Mike Heher for their exceptional presentations at the seminar. The Section would also like to thank the Industrial Waste Committee: Ken Allen, Brian Klink, Keith Riley, and Bill Dorman for putting this seminar together.

On March 20, 2009 approximately 50 people attend a LAC meeting held at the Elyria WWTP. Two excellent technical presentations were given by Amanda Meitz on Wastewater Microbiology and by Leslie VanKuren on the Correct Use of Pipettes and Balances. The contact hours for the seminar were submitted to OEPA for 2.00 contact hours.

On March 26, 2009, 157 people attended a Section meeting held in Willoughby-Eastlake. Tours of the WPCC were given in the morning, followed by a lunch/business meeting along with technical presentations in the afternoon. The Section would like to thank

NE SECTION

John Leiendecker, NE President



our speakers for their excellent presentations at our Section meeting: Louise Watson (Chemical Management in a Manufacturing Facility); John Logsdon, & Tim Matheis (Odor Control Basics for Wastewater Treatment Facilities); Kirk Bihler, & Eric Bowman (Lift Station Power Saving using Variable Frequency Drives), Jeff Dillen (WWTP Instrumentation Gauge Application and Trouble Shooting); Tom Voldrich (Sewer System Evaluation Survey – Past and Future); and Mike Welke (Polymer Testing-The Forgotten Cost). The Section would also like to thank Jack Gorka and everyone at the Willoughby-Eastlake WPCC for

all their efforts in helping with this Section meeting. The contact hours for the Section meeting were submitted to OEPA for 4.25 contact hours.

NESOWEA's calendar of summer 2009 meeting/event dates follows:

May 14, 2009 Section Meeting and Annual Business Meeting, Newton Falls

May 29, 2009 LAC Meeting Tinker Creek and emerging pollutants, Location TBA

July 17, 2009 3rd Annual Biomass'ters Golf Outing in Green

September 11, 2009 LAC Meeting WET testing, why it may be your fault you show toxicity, Location TBA

September 26, 2009 Clam Bake, Solon

October 2, 2009 LAC Review, Location TBA

November 6, 2009 LAC Meeting Method Update Report, Location TBA

November, 2009 Section Meeting, Solon

If your facility is interested in hosting a NESOWEA meeting, please contact Bob Hrusovsky at (216) 621-2407.

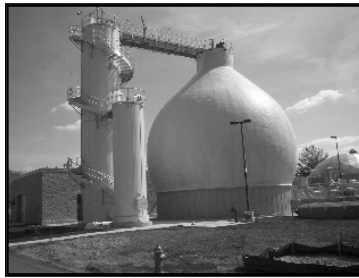
John Leiendecker
john.leiendecker@cantonohio.gov

The Southeast Section has had a busy start to the year. Our first Section meeting for 2009 had an industrial theme and was held on February 12th in Jackson, Ohio where tours of the Jackson WWTP and Bellisio Foods' Pretreatment facility were conducted. The turnout was great and featured excellent tours even though the Jackson WWTP was in the middle of construction of a major plant upgrade. The technical sessions were also excellent. They focused on the upgrades being done to the Jackson WWTP, the Zenon membrane system that is being installed at the treatment plant, and the Jackson pretreatment program and how they deal with a major employer in the city. Of note was Mike Gambino, Superintendent of the Jackson WWTP. He pulled triple duty by conducting tours at the treatment plant and then being part of two of the three technical presentations. Thanks to him and all who helped put on an outstanding meeting.

No sooner had we wrapped up the Section meeting in Jackson, we were attending our next Section meeting in the City of London on March 19th. This was a joint meeting with the SWOWEA and featured tours of the newly completed London WWTP, which featured, among other things, an egg shaped digester. Tours of the London WWTP were conducted by Dan Leavitt and his enthusiastic staff. After lunch a technical session was held and presentations were made about the pipe lining work that was done to correct leaky and failing sections of the London sewer system, the CB&I Class A sludge digestion process that utilizes the egg shaped digester, and an Ohio EPA update. A special thanks to the SWOWEA for doing the heavy lifting in putting on the Section meeting. The SEOWEA looks to return the favor in the future.

SE SECTION

Paul Matrkka, SE President



Egg shaped digester

Preparations are underway for the next SEOWEA Section meeting, which will be held May 21st in beautiful Buckeye Lake. Look for the announcement in the mail, via email in the Point Source, or on the OWEA website.

A special thanks to all of the volunteers who took time out of their Saturday to judge district science fairs. Our volunteer judges were: Tom Bulcher and Rachael Rhodes judging District 7, Denise Crews and Jason Westfall judging District 8, Christopher Gilcher and Mel Weaver judging District 9, Matt Boone judging District 12, Richard Duncan and Bryan McKee judging District 14, and Dave Markley judging District

16. SEOWEA 3rd Year Director, Mel Weaver did a great job of handling the difficult task of securing judges for the six science fairs for which our Section is responsible to judge.

Finally, the SEOWEA Plant Operations committee chair, Steve Elliott, is busy putting together an Operators Education Day. This event is scheduled for May 1st to be held at the City of Columbus SMOC facility. This meeting is for plant operators who will be taking certification tests in June and would like some help getting ready for them. Information about this review session can be found on the in the Southeast's section of the OWEA website. Along with Steve, another three knowledgeable and experienced instructors will help to prepare you so you walk in to take your exam with confidence.

Paul Matrkka
paul@go-smith.com

SW SECTION

David Reimer, SW President

The SWOWEA Industrial Pretreatment Committee hosted their 20th Annual Industrial Wastes Seminar on January 29, 2009 at Robert's Centre in Wilmington. Attendees had the opportunity to earn 4.5 contact hours from technical sessions on various topics including an OEPA update, a 20 year Retrospective on Industrial Wastes, and Magnesium in Wastewater Pretreatment. Attendees also had the opportunity to visit with over 15 exhibitors. Congratulations to Sugar Creek Packing Co. of Dayton. They were the recipient of the 2009 Karl J Voelkel Industry Award for outstanding environmental achievement. Sugar Creek was nominated by the City of Dayton Wastewater Treatment Division.

On March 19, 2009, the Southwest and the Southeast Sections met for a combined meeting hosted by the City of London. Attendees toured the facility in the morning, enjoyed a lunch of baked steak or chicken cordon bleu with salads and iced tea. In the afternoon, technical sessions on OEPA, "Class A Biosolids Comes to London" and "City of London's Experience with Pipe Bursting" were presented.



Jim Albertz, Industrial Pretreatment Committee Co-Chair, presents the award to John Richardson, President, and Tim Sparks, Corporate Engineering of Sugar Creek Packing Co.

Future meetings include the Spring Operator Education Day on April 30, 2009 at Montgomery County Sanitary Engineering Building, a section meeting on May 21, 2009 hosted by the City of Oxford, and the Nearly Free O & M seminar on June 10, 2009 in the Greene County Media Room.

Please check the Southwest OWEA's web page, www.swowea.org for future updates.

David Reimer
david.reimer@cityofmiamisburg.com

GOVERNANCE

by Dale E. Kocarek

Over the last few months, the Ohio WEA Governance Committee has taken further steps to finalize its Rules and Regulations to replace our out of date Constitution and Bylaws. Also, we are in the process of developing Policies and Procedures. President Dianne Sumego has discussed the Rules and Regulations in her President's message in the last issue of the Buckeye Bulletin.

To begin, I want to discuss briefly what the role of the Governance Committee is and what it should do for the Ohio WEA. While it is a standing committee, it operates much like an ad-hoc committee, with specific assignments and tasks, directed by the President to the Chair of the Committee. Overall, the purpose of Governance is to review the internal machinery of how the Ohio WEA operates and to make revisions as necessary to ensure that our organization is in conformance with the Water Environment Federation (WEF), State Law, changing times and evolution of our industry, and to ensure that the way that we operate is responsive to the needs of our membership.

Being essentially ad-hoc in nature, there have been some years where the Governance Committee was not very active. However starting two years ago, the Committee became very active as we took on the significant task of creating new job descriptions for Ohio WEA employees and writing a new Employee Manual. This year, with me as the Chair of the Governance Committee, working under the leadership of Dianne Sumego, the Committee has taken on the task of finalizing the Rules and Regulations and embarking upon new Policies and Procedures.

As I mentioned, work associated with the Rules and Regulations is now complete on our end. This effort was begun and substantially completed last year by Mark Livengood, when he served as the chair of this Committee. In the last few months, the Ohio WEA has received approval from the Water Environment Federation (WEF) and is going to public notice the Rules and Regulations in this issue of the Buckeye Bulletin to comply with the 60 day public notice requirement for our membership. The Rules and Regulations will be formally voted upon at the 2009 Annual Conference in Cincinnati. Until such time, we are operating under the authority of our old Constitution and Bylaws. It should be noted that as a point of clarification, we have decided to use the term Rules and Regulations as opposed to Constitution and Bylaws, because it is in conformance with State of Ohio Law as it pertains to nonprofit organizations such as the Ohio WEA.

The new Rules and Regulations are a little different than our old Constitution and Bylaws. First of all, we tried to streamline and shorten the old document to promote clarity. Rather than get into mundane procedural details on how the organization operates on a routine basis, which is better suited for Policies and Procedures, the Rules and Regulations are intended to be a short and to the point business statement that defines who we are, what our purpose/mission is, and how we are governed, our relationship with the Water Environment Federation (WEF), and what happens if the Ohio WEA ceases to exist. Most of what had been in our old Constitution and Bylaws on the day to day operations of the organization will be placed in our new Policy and Procedures. Both our Rules and Regulations and Policies and Procedures have been modeled closely with those of the Water Environment Federation (WEF), and with advice, input, and guidance of Ms. Phyllis Ross, WEF's Managing Director for Governance. The Ohio WEA Board is indebted to the time and effort that Ms. Ross has spent with us on this issue and on many others over the last few years.

The new Policies and Procedures will cover all aspects of daily life for officers, committee chairs and our membership. Their purpose is to memorialize routine actions and activities, which often result in a lot of questions and confusion, for the end purpose of creating a common understanding and expectation for the Board, our Staff, our Committees, and our members. We wish to keep each policy and procedure clear and understandable. Each one is being written into a modular, stand-alone Fact Sheet. By adopting this approach, it will be easier in the future for the Governance Committee to modify individual documents as needed, rather than revisit all of them.

We are slightly behind our own internal schedule for finalizing all of the new Policies and Procedures this year, but hope to catch up between now and July.

You can read the full proposed Rules and Regulations on Pages 59-63. The Ohio WEA membership will vote on the proposed Rules and Regulations on Tuesday, June 23 at the OWEA Annual Conference

RESIDUALS MANAGEMENT

by Dave Brewer

The OWEA Residuals Management Committee continues to remain active in the monitoring of issues related to biosolids management and to seek opportunities to serve the membership of OWEA. Since our last update, we have remained active in several main focus areas, including the following:

Land Application Rules Revision

At our last meeting, an update was provided on the proposed revisions to the land application rules. OEPA is in the process of reviewing all of the comments provided on the first draft of the rule. They are expected to be done with this process in April 2009. Revised proposed rules will likely be posted for another public comment period. OWEA members should actively check the OWEA website for updates on the rules and carefully review the proposed changes when they are released. The OWEA Residuals Management Committee will continue to be actively involved in discussions with OEPA regarding these rule changes and will also actively participate in the public review process when the updated rule changes are released.

Farm Science Review

This year the Farm Science Review will be held near Columbus on September 22nd through September 24th. The Residuals Committee will continue to build on a highly successful public education effort of recent years by continuing to offer promotional flower pots with wildflower seeds and a small amount of potting mix containing biosolids

(provided by City of Warren – Nature's Blend™). The OWEA display will also continue to include the popular “wheel of trivia”. The Residuals Committee is currently working on updating of display and brochure materials.

Biosolids Workshop

Each year, the OWEA Residuals Management Committee organizes the yearly Biosolids Workshop. The workshop will be held in December in Columbus. Like in past years, the workshop will be focused on emerging trends and the latest issues in biosolids, and will focus on the benefits, both environmentally and economically of effective biosolids management.

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 to have you at our next meeting.

If you are interested in getting involved or if you have any questions about the committee, please contact:

Dave Brewer
937 781-2561
brewerd@mcOhio.org

Jamie Gellner
513-317-0337
jgellner@hazenandsawyer.com

YOUNG PROFESSIONALS

by Dan Martin

We are excited to offer Young Professionals the opportunity to attend the OWEA Conference for **free** on the afternoon of Tuesday, June 23, 2009. This opportunity covers 3 technical sessions and the afternoon break. YPs present will be eligible to **win door prizes**. Please contact Dan Martin for additional information: 513.469.6600 / dmartin@raconsultantsllc.com.

If you would like to support the conference in an even more visible way, YPs will have an opportunity to act as moderators and room monitors during the conference. Please contact Dan Martin (e-mail above) if interested.

We have also selected an informative slate of 3 technical presentations by university researchers for Tuesday of the conference. Come see what the future has in store for treatment and water resources. See you at the conference!

The YP Committee met via WebEx conference call on March 2nd. We discussed planning for the conference as well as future plans for the committee.

The Southeast YPs recently had a successful event:

The *WEF/AWWA Buckeye Student Chapter* at The Ohio State University recently was given the opportunity to tour the Dublin Road Water Treatment plant in Columbus, Ohio.



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YP Committee continued from page 15

The Dublin Road Water Treatment plant serves northwest and southwest Columbus residents, using water from the Griggs and O'Shaughnessy Reservoirs and Scioto River. Conrade Hinds, from the City of Columbus, was the tour guide. His passion and enthusiasm for water helped make this experience an unforgettable one. Conrade gave the students an extended 2-hour tour that featured the filtration process, disinfection stage and an overview of the City of Columbus' water history.

Contact your Section's Young Professional representative to become more involved in the YP Committee:

- **Southeast** – Brandon Fox
bfox@co.fairfield.oh.us
- **Southwest** – Dan Martin
dmartin@raconsultantsllc.com
- **Northwest** – Walter Ariss
walter.ariss@epa.state.oh.us

- **Northeast** – Nick Bucurel
nbucurel@pirnie.com
- **Ohio State University Student Chapter** - Nick Elmasian.
nelmasian@gmail.com

Please contact Nick if you or a Student/YP you know would be interested to develop a **student chapter** at a local university.

Special thanks to all the committee volunteers who make the YP committee vibrant! As always, if you have any suggestions or questions, please contact me.

Dan Martin
YP Committee Chair
dmartin@raconsultantsllc.com
513.469.6600

LAB ANALYST COMMITTEE

by Eva Hatvani, LAC Chair and Nancy Taylor, LAC Co-Chair

Committee Activities

On behalf of our committee, we would like to express our deepest sympathy to the Mullins family and friends at the Tiffin WWTP. Our prayers are with you. Emmet passed away suddenly on January 27, after the huge snow fall. He served as the Chair for the NW Section. You will be missed.

The Lab Analyst Committee met in Columbus on March 16, 2009, at Columbus State Community College. Welcome to the committee Diana. Diana Liston has volunteered to be the new SE Section chair.

- The committee discussed all of the activities that they will be participating in this year. We will be putting together, as well as judging, the lab event for the Operations Challenge on May 28, 2009 at the City of Delaware WWTP. Please note that the event will no longer be held in conjunction with the OWEA Annual Conference.
- Various members of the LAC Committee will be volunteering to moderate and monitor at the annual conference in Cincinnati, OH.

The annual lab workshop will be held in conjunction with the Operations and Maintenance Committee in the fall of 2009. The event was very successful last year. Topics are in the planning stages and may include the following: Microorganisms in Wastewater, Microscopes, Laboratory Ethics, qPCR and It's Relevance to Predicting Water Quality, Using Excel in the Lab, and Laboratory Trivia.

The OWEA is also actively looking for articles to be submitted to the Buckeye Bulletin for publication. If you have written something you would like to see in our newsletter, please submit your paper suggestion to Eva Hatvani or Nancy Taylor.

2009 Crystal Crucible Nominations

Nominations for the 2009 Crystal Crucible Society Inductees has closed. However, we can accept nominations for next year. The nomination form is on the OWEA website. Please mail the nominations to Eva Hatvani, NEORS, 4747 E. 49th Street, Cuyahoga Heights, OH 44125.

Lab Certification News

Renewals for the certification program will be sent out in Fall 2009. Everyone is on a two-year renewal cycle. Renewal fees will remain at \$25 for the two year renewal.

If you did not renew in 2007, you will not be mailed a renewal form because you were removed as your certificate has expired and is no longer valid.

To be reinstated, you must provide proof of holding a certificate and submit a fee of \$95.00. If you can not provide proof of certification, you must retake all tests, in sequential order.

If you have moved, please update your information with Eva Hatvani, otherwise we have no way of contacting you. If you need any information regarding renewals, contact: Eva Hatvani, *hatvanie@neorsd.org*, 216.641.6000

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2009 Exam Dates

October 23, 2009 - Cleveland and Columbus

Application Deadline: September 11, 2009

1. Lab Certification information is posted on the OWEA website http://www.ohiowater.org/owea/For_the_Lab/
2. Applications can be obtained by calling Eva Hatvani at 216.641.6000 or downloaded from the OWEA website.
3. The "Need-to-Know" information is posted on the OWEA website.
4. Please note new rules for certification section on web page. The test fee is \$95.00.

NE LAC – Kathy Richards

On March 20th, approximately 50 hungry Lab Analysts and Wastewater Operators descended on the Elyria WPC facility. They were treated to a wonderful lunch, hosted by BBQ master Rich Goldsworth and his team. After chowing down, we were treated to two very impressive technical sessions: "Wastewater Microbiology" presented by Amanda Meitz, Biosolutions and "Correct Use of Pipettes and Balances" presented by Leslie VanKuren, NEORS. Both sessions have been approved for 1 contact hour each.

Future training events tentatively scheduled:

- May 29th (Tinker's Creek and Emerging Pollutants)
- September 11th (WET Testing: Why It May Not Be Your Fault You Show Toxicity)
- October 2nd (LAC Review)
- November 6th (Method Update Report).

Venues are yet to be determined. If you have a suitable site and would be willing to host, please let me know.

In an effort to better serve our analysts, we have developed a fairly comprehensive questionnaire and ask that you take a moment to fill it out. It is posted on the OWEA website under the NE Section. Please feel free to forward a copy on to other labs that may not have Internet access. We would especially like to hear from the smaller facilities we may not have contact information for.

Wastewater Certification Laboratory Review Manuals are still available, either electronically or as a bound copy. There will be an order form available online at the OWEA website very soon. Until then you can always reach me at:

NESOWEALAC@gmail.com, 330-928-1164 ext. 484.

SE LAC – Diana Liston

The Southeast Section of the Lab Analyst Committee will start holding meetings again in 2009. We need to rebuild our membership roster, so please send your contact info (name, organization, phone, fax, etc.) to me. Of course, if you have any particular issues you would like to see covered in our meetings, we want to hear from you!

dliston@co.fairfield.oh.us

614.864.3370, 614.864.1322 (fax)

STATE LAC COMMITTEE MEMBERS***State Chairs***

Eva Hatvani

216.641.6000, *hatvanie@neorsd.org*

Nancy Taylor

740.349.6774 Ext. 205, *ntaylor@ci.newark.oh.us*

Northeast Chairs

Denise Seman

330.742.8820, *dseman@cityofyoungstownoh.com*

Kathy Richards

330.928.1164, *NESOWEALAC@gmail.com*

Northwest Chair

Kevin Hughes

419.488.5440, *watertreatment@tiffenohio.gov*

Southwest Chair

Roger Rardain

937.754.3075, *roger.rardain@ci.fairborn.oh.us*

Southeast Chair

Diana Liston

614.864.3370, *dliston@co.fairfield.oh.us*



PLANT OPERATIONS COMMITTEE REPORT

by Jim Borton

The Plant Operations Committee met at the City of Delaware WWTP on February 9, 2009, to discuss the 2009 Operations Challenge and Plant Operations Workshop. During the meeting the committee selected potential speakers and general topics for the September 23rd and 24th plant operations workshop, as well as finalizing the Operations Challenge and concurrent Operator Education Day.

Operations Challenge exists to promote professionalism and recognition of Ohio's wastewater professionals. In addition, the contest promotes teamwork and camaraderie, not to mention earning team members up to 12 contact hours per participant. Want to give it a try? Contact Kim Riddell at (419) 234-4507 or Jim Borton at (330) 263-5293 to learn how being a team member can help advance your career. Ready to sign up? The team registration is available on the OWEA website at www.ohiowea.org. As a reminder, entered teams compete for the opportunity to represent Ohio WEA at WEFTEC '09, and can receive up to \$7000 to cover costs of travel to Orlando.

As a reminder for the registered Operations Challenge teams, there will be practice time on the actual event equipment in the morning while the Operator Education Day proceeds.

For those of you not ready yet to be part of a team, or you need up to 5 contact hours, come to the Operator Education Day to watch and learn. Contact hours, good food (lunch and dinner) and the opportunity to network with other operations professionals all for the low price of \$50.

In September more training sponsored by the Plant Operations, Lab Analyst and Safety Committees will happen at the University Plaza Hotel, just north of the Ohio State University campus in Columbus. Nationally known speakers have been invited and some have committed to attending at the time of this writing. Other "home grown" speakers are also on the tentative speaker list. The day will be similar to the 2008 version with a full day devoted to nationally and state known experts along with an exclusive question and answer session driven by the attendees. The second day provides concurrent sessions with laboratory (complete day's worth of lab sessions – replaces the annual Lab Analyst workshop), safety and plant operations sessions also presented by well known and respected presenters. Up to 13 contact hours, two lunches and a dinner are included in the full workshop registration, you will be hard pressed to find a better deal for training this year. Save money in your training budget and we'll see you in September.

If you have interest in putting an Operations Challenge Team together, judge the contest or present at one of the upcoming Plant Operations sessions, please contact Kim Riddell at (419) 234-4507 or Jim Borton at (330) 263-5293.

Why should I attend the 2009 Operator Education Day?

held in conjunction with OWEA's 2009 Operations Challenge

May 28, 2009 at City of Delaware WRC

- Earn up to 5 Contact Hours
- Network with other Operations Professionals
- Five Morning Training Sessions (2.5 CH's)
- Afternoon Hands-on Sessions (2.5 CH's)
- Two Great Meals - catered by Hoggy's
- Learn from the Operations Challenge Experts!
- All for just \$50.00



WATER FOR PEOPLE

by Keith Riley

The Water For People Committee is ramping up its efforts to collect donations for its second annual Silent Auction planned at our Annual Conference in Cincinnati. If you would like to contribute an auction item to support the good works of Water For People, please contact either of our event co-chairs:

Cindy Jacobsen
cjacobsen@pirnie.com
614.430.2710

Jennifer Emerick
jemerick@ggceng.com
614.471.7310



We are again planning our “string” fund-raiser event at OWEA’s 2009 Annual Conference Golf event. Ten foot lengths of string are being sold for \$10. Participants may cut lengths of the purchased string to make putts shorter and increase their chances for bagging those coveted birdies and bragging rights. Hope you all look up our event chair, Kristen Atha to purchase string and join in the fun to support Water For People.

I would encourage everyone who raises any Water For People funds in 2009 to make sure they drop me an email to let me track and acknowledge your good works (keith.riley@epa.state.oh.us). In 2009, we are asking all funds raised to be mailed to the OWEA Office:

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

Thanks to the contributions of OWEA’s Water for People Guardians, \$6097 in donations were forwarded to Water for People in 2008.

REMOVING ARSENIC - AND SAVING LIVES IN WEST BENGAL, INDIA

By John Kayser

An environmental health crisis of disturbing proportions continues to unfold in the West Bengal region of India. Tens of millions of people in this poor and heavily populated rural area are drinking groundwater contaminated with high concentrations of arsenic—far exceeding the maximum permissible limit recommended by the World Health Organization of 0.01mg/L. Hundreds of thousands have already been diagnosed with chronic arsenic poisoning, and millions more are thought to be at risk.

Arsenic—a popular poison in literature and life—offers a sure and instant death at high doses. But when ingested at lower doses over an extended period of time, arsenic inflicts a much slower death with horrific symptoms. The first visible manifestation of chronic arsenic poisoning is melanosis or dark spots on the chest, back, limbs and gums. In the more advanced stages, wart-like skin eruptions develop on the hands, feet and torso, which can lead to skin cancers. Continuing arsenic exposure can result in the enlargement of the liver, kidneys and spleen, which often develop malignant tumors. Long-term exposure can also result in disorders of the gastrointestinal, circulatory and nervous systems.

A naturally occurring semi-metallic compound, arsenic is commonly found in water in many parts of the world, including India, Bangladesh, Taiwan, Japan, Mexico and some parts of the United States. Its occurrence in West Bengal and neighboring Bangladesh, however, is especially devastating because such huge numbers of people rely on arsenic-contaminated water for drinking and cooking. Eight of 19 districts in rural West Bengal have been reported to have groundwater arsenic concentrations above 0.05mg/L. The total population in these eight districts is an astounding 34 million and it has been estimated that the population actually using arsenic-contaminated water as a primary source

is more than 1.3 million, although the numbers have improved somewhat with awareness and mitigation efforts.

Because arsenic is usually tasteless and odorless, it is somewhat difficult to detect and requires water quality analysis and testing. The extreme poverty in the region only compounds the problem because the affected people often do not seek medical attention until after years of ongoing exposure when the damage is done.



Woman in India - Water for People Photo

Arsenic hasn’t always been a water problem in West Bengal. It is in fact the by-product of attempts to solve other water problems. Over the past several decades, the installation of shallow tube wells was heavily promoted as a safe alternative to the microbiologically unsafe and untreated surface water that was plaguing the population. In the 1980s, scientists began finding evidence of arsenic contamination in this groundwater. But it wasn’t until the mid-1990s that the dilemma became widely publicized.

Water For People Intervention

In response to the crisis, Dr. Arun Deb, a member of the Water For People Board of Directors, initiated the organization’s work

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in the West Bengal region in 1996 by supporting arsenic-removal efforts and working to develop arsenic-mitigation technologies appropriate for use in rural villages. Water For People soon partnered with Bengal Engineering and Science University, which developed domestic and well-head arsenic-removal units using activated alumina.

The in-home domestic units consist of two chambers—the upper houses the pretreated activated alumina and the lower stores treated water. For ease of handling (particularly for media regeneration and restoration), the media is enclosed in an impervious nylon bag with a pervious bottom. The media bags are easily removed for offsite regeneration or restoration.

The well-head units consist of a stainless-steel column that is 12 inches in diameter and 7.2 feet in height. Water flows down through a 51-inch layer of activated alumina and an 8-inch thick bed of gravel. The filter media is replaced or restored every eight to 12 months. One well-head unit can serve between 200 and 300 families.

These simple technologies are highly effective at removing arsenic, relatively inexpensive (approximately \$2,000 for each well-head unit, including training) and easy to maintain. Most important, they are sustainable, offering effective protection for years to come. To date, Water For People has financed the installation of 103 of these units, improving the quality of life for an estimated 20,600 people.

The results speak for themselves. The incidence of arsenic poisoning has dropped dramatically where the units have been installed and people are living healthier more productive lives. “I used to have indigestion and chronic dysentery,” one woman reported. “Now all these problems are gone, and I have an appetite. I used to spend 150 rupees (\$3.43) each month on medicine, and now I save this money.”

Building Capacity—Village By Village

The solution is simple: identify the sources of the arsenic-contaminated water and treat it with simple technologies, ensuring sustainable access to safe drinking water. What becomes challenging is the scope of the problem. The districts within the West Bengal region most impacted by arsenic span 13,000 square miles with 30 million inhabitants who rely on the arsenic-laced water for their day-to-day existence. Studies in the region indicate that hundreds of thousands of people are already demonstrating late-stage manifestations of chronic arsenic poisoning.

“Our efforts are working,” says Ned Breslin, Water For People’s Director of International Development. “But when you consider the millions of people who are exposed to this deadly poison on a daily basis, you can see that our efforts are only a drop in the bucket. We need to build capacity and expand the program considerably if we are going to make a meaningful impact on this problem. That takes resources.”

Water For People is committed to India’s arsenic crisis and plans to continue its mitigation efforts indefinitely. Thanks to the generous support of Nalco, which provided free office space, Water For People recently established a more permanent presence in the West Bengal region, including hiring full-time in-country staff to oversee this important work. The organization is actively pursuing new partners and solutions and has modified its working model

to more strategically carry out its mission by working on a more regional, targeted basis.

“Community by community, village by village, we will continue to work on the arsenic crisis until this threat is completely eliminated in a given region before moving on,” says Breslin. “We are taking a more targeted approach and growing the program to make a real and measurable difference to a significant percentage of the population. It’s what has to be done.”

Water For People can’t do it alone. The organization relies on the support of other non-governmental organizations working in the area, as well as local government and especially the communities themselves. For these projects to be effective and sustainable, the people who benefit must be involved in all aspects of the planning, placement and installation of the arsenic-removal units. They must determine their water needs and have a voice in the future of their communities. Community members must be invested solving the problem so they can ensure that the units are properly maintained and continue to operate as planned.

Regeneration of Filter Media

Another important consideration for Water For People is effectively dealing with the captured arsenic in a safe and environmentally sensitive fashion. The activated alumina filter media is regenerated annually and sometimes more frequently depending on the arsenic and iron content of the source water. With the assistance of Bengal Engineering and Science University, a central regeneration facility has been established north of Kolkata in one of the rural areas most affected by arsenic-contaminated groundwater. The facility is being turned over to a private enterprise that is intended to be self-sustaining.

The regeneration process involves transferring the spent activated alumina to a stainless steel drum that is mounted horizontally on an axis to allow for rotation of the drum. The first step is an acid rinse, in which a dilute hydrochloric acid solution is added to the activated alumina in the drum. A crank is turned allowing the drum to spin, thereby agitating the media and enhancing the rinsing process. This step dissolves the accumulated iron deposits and dislodges them from the surface of the activated alumina pellets. The acid is transferred from the drum to a nearby sand bed, which allows the iron to be trapped in the sand close to the surface. The drum is rinsed with water, followed by the addition of a dilute solution of sodium hydroxide (caustic soda) and a rinsing step. The wash with caustic soda extracts the adsorbed arsenic from the media. The solution is transferred from the drum to the sand bed, which acts to trap the arsenic, preventing it from penetrating to the ground below. A second rinse with hydrochloric acid is then performed, followed by a water rinse. The activated alumina is then removed from the drum and stored for transport back to a treatment site. The capacity of the regenerated activated alumina to remove arsenic is almost as much as a fresh filter bed.

The regeneration process is one of several ongoing maintenance activities paid for by the user charge—an essential prerequisite of a filter installation. Each regeneration costs approximately \$100, or 4,500 Rupees. The typical user charge of 10 Rupees per month, per family, provides more than enough funds for regeneration, and leaves some reserve for other operational costs.

continued on page 21

Partnering for Success

The installation of arsenic-removal units in West Bengal is just one example of Water For People's model for creating sustainable solutions in the developing world. In every region in which it works, Water For People strives to partner with local government entities, nongovernmental organizations, the local private sector, and in this case Bengal Engineering and Science University. This ensures operational viability and the expertise for ongoing repairs and maintenance.

Water For People also makes a point of working closely with the communities it serves so that community members are invested in the project and take ownership of its long-term operation. This usually involves facilitating the organization of a local water committee, which in turn develops an equitable tariff structure to generate funds for ongoing maintenance.

Sometimes Water For People's intervention can also impact the local economy. In West Bengal, the regeneration of activated alumina has resulted in a business enterprise, providing some of the poorest people in the world with a welcome source of income.

The installation of arsenic-removal units in West Bengal is working on many levels. The challenge now becomes to replicate this success and build capacity to reach the millions of people exposed to arsenic-contaminated groundwater.



Arsenic Filter - photo by Water for People

SAFETY COMMITTEE REPORT

By Ed Nutter

AND THE WINNER IS.... for that you will have to attend the OWEA annual Conference. The Safety Committee met in February to review the Safety Award applications. Our thanks goes out to all facilities that returned an awards application. We had an increase in participation this year and some tough decisions had to be made.

The Safety Committee is heavily involved in this years Operation Challenge and Operator Training Day. Committee members will be there to set up the event and act as Judges. Operations Challenge will held at the Delaware WWTP on May 28th. The event this year is a confined space rescue with lockout / tagout. New this year is the addition of the use of an AED (automatic external defibrillator).

We are also in the process of lining up speakers for the Operations Conference held in September. We are more than willing to address any topic that you want us to. If you have a specific topic that you want covered please contact any Committee member at the contact info listed below.

We also are losing a long time Committee member. Larry Rouhier from the City of Wooster has stepped down and will be missed. His generous commitment will be hard to replace.

Remember a successful safety program is no accident. It takes the work of all employees from new hires to management.

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Jim Lee, NW Section
insp@allencountyohio.com
419.228.3700 Ext 8866

Jim Carrell, NE Section
carrellj@neorsd.org
216.881.600 Ext 6425



Safety Committee (L to R):

Joe Bates, Tim Parks, Jim Carrell, Jim Lee, Ed Nutter

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and select Career Opportunities.

Or contact OWEA:
614.488.5800
info@ohiowea.org



**Water Environment
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Ohio's Water Environment*

WELCOME

*new members who joined OWEA
in February and March*

OWEA would like to extend a warm welcome to the following new members. If you see these folks at a Section meeting or workshop, please welcome them to our organization.

Daniel Anderson
Patrick Arnette
Kevin Black
Cary Duchene
Zachary Held
Kevin Hughes
Mirko Kucinic
Rich Landman
Grace Lange
Chad Leasure
Trent Lydac
Timothy McCann
Luther Miller
Carol Mohamed
Jennifer Myers
Walter O'Malley
Steve Osborne
Aaron Putnam
Kellie Rotunno
Michael Santora
Stan Smith
Edward Starcovic
Scott Willis
Michael Zapior



TONY PITONIAK

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Rounding 3rd . . . and heading to

Cincinnati



2009 OWEA

Conference

June 23-25 at the Hyatt Regency Cincinnati



Hosted by the Southwest Section. For information contact:

Tim Shaw
513.807.7256
aswater@cinci.rr.com

Dan Sullivan
859.426.5178
danny.sullivan@fuse.net

Ohio Water Environment Association
614.488.5800
info@ohiowea.org

Welcome

Dear Colleagues:

It is that time of year again to learn while enjoying the company of our peers. The 2009 OWEA Annual Conference will be hosted by the Southwest Section held at The Hyatt Regency in Cincinnati, Ohio. The Conference will start June 22, 2009 with golf and progress through June 25, 2009. The Conference Committee has put together an informative and educational program as well as some enjoyable activities for all of us to enjoy.

The conference will be kicked off Tuesday with an Awards Breakfast where the state awards will be presented. Throughout the Conference there will be technical sessions from operations, collections, and laboratory, to engineering and management, so there is something for everyone. Exhibits are planned for all day Tuesday, as well as a tour of the Mason Water Reclamation Plant.

Along with a great technical program, networking opportunities include golf, the Meet and Greet, and the Annual Banquet. Monday's golf event will be held at the Weatherwax Golf Course, the Tuesday evening Meet and Greet will be held at the Great American Ball Park and Wednesday evening concludes with the Annual Banquet and entertainment.

Finally, our OWEA membership counts on and appreciates the support from our sponsors and exhibitors. We realize that this conference would not be a success without your financial support and volunteer personnel. As President and representing OWEA, I say "thank you" for your help and commitment to our organization.

So, I invite everyone to "Round Third....and Head to Cincinnati" - OWEA 2009! See you all there!

Sincerely,

Dianne Sumego
OWEA President



For conference information contact Conference Co-Chairs or the OWEA Office:

Dan Sullivan, 513.515.6253, danny.sullivan@fuse.net

Tim Shaw, 513.807.7256, aswater@cinci.rr.com

OWEA Office, 614.488.5800, info@ohiowea.org

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Sponsor List as of April 28, 2009

The Ohio Water Environment Association is very grateful to the generous sponsors who make our Annual Conference possible. Additional Sponsorships available. **Register online** at www.ohiowea.org, complete the Sponsor Registration Form on page 44, or contact OWEA at 614.488.5800/info@ohiowea.org for more information.

Conference Schedule

2009 OWEA ANNUAL CONFERENCE SCHEDULE

MONDAY, JUNE 22

9:00 am	to	6:00 pm	GOLF OUTING @ WEATHERWAX GOLF COURSE
4:00 pm	to	6:00 pm	REGISTRATION AT HYATT REGENCY
5:00 pm	to	9:00 pm	EXHIBITOR SETUP
7:00 pm	to	9:00 pm	EXECUTIVE COMMITTEE MEETING

TUESDAY, JUNE 23

8:00 am	to	10:00 am	EXHIBITOR SETUP
7:00 am	to	5:00 pm	REGISTRATION AT HYATT REGENCY
8:00 am	to	10:30 am	AWARDS BREAKFAST
10:30 am	to	4:30 pm	EXHIBIT HALL OPEN
11:00 am	to	4:30 pm	SPOUSE/GUEST PROGRAM
11:00 am	to	3:30 pm	MASON WWTP PLANT TOUR (Buses Leave @ 11:00 AM)
11:15 am	to	12:00 pm	ANNUAL BUSINESS MEETING
12:30 pm	to	1:30 pm	LUNCH IN EXHIBIT AREA
2:00 pm	to	4:00 pm	TOMORROW'S TECHNOLOGIES & TRENDS
5:30 pm	to	10:00 pm	MEET AND GREET (First Bus Leaves @ 5:15 PM)

WEDNESDAY, JUNE 24

7:00 am	to	9:00 am	CH2M HILL BREAKFAST
7:00 am	to	5:00 pm	REGISTRATION AT HYATT REGENCY
8:00 am	to	11:45 am	TECHNICAL SESSIONS (3 Concurrent Sessions)
10:30 am	to	4:30 pm	SPOUSE/GUEST PROGRAM
12:00 pm	to	1:30 pm	PRESIDENT'S LUNCHEON
1:30 pm	to	4:45 pm	TECHNICAL SESSIONS (3 Concurrent Sessions)
6:00 pm	to	7:00 pm	COCKTAIL HOUR – 5S INDUCTION
7:00 pm	to	10:00 pm	BANQUET AND RECEPTION

THURSDAY, JUNE 25

7:00 am	to	8:00 am	5S BREAKFAST
7:00 am	to	9:00 am	CH2M HILL BREAKFAST
7:00 am	to	11:00 am	REGISTRATION AT HYATT REGENCY
8:00 am	to	11:45 am	TECHNICAL SESSIONS (3 Concurrent Sessions)

Awards Breakfast

Tuesday, June 23rd 8:00 am to 10:30 am

The 2009 Ohio Water Environment Association Awards Breakfast will be held on Tuesday, June 23 at 8:00 am in the Regency Ballroom A. Breakfast will be followed by the presentation of our State Awards. WEF President, Rebecca West, highlighted below, will give a presentation on the activities of the organization. The festivities will kick off our 2009 Annual OWEA Conference.

WEF President



Rebecca West is the 2008-2009 President of the Water Environment Federation (WEF).

She is currently director of technical services for Spartanburg Water in Spartanburg, S.C. In that role, Rebecca is responsible for a division of 11 reclaimed water facilities and three drinking water facilities as well as their associated collection and distribution systems, biosolids and residuals management, and three drinking water reservoirs.

A WEF member since 1990, she has served on the Biosolids and Residuals Management Committee, International Coordinating Committee, Government Affairs Committee, and as chair of the Public Communications and Outreach Committee.

In addition, Rebecca has been an active member of the Water Environment Association of South Carolina (WEASC). She has served as chairperson of WEASC as well as the South Carolina Water for People Committee and WEASC Education, Biosolids, Laboratory and Public Education Committees. In addition, Rebecca helped develop a biosolids training school in South Carolina and established a state certification program for biosolids and water residual management operators.

She is a member of the American Water Works Association, International Water Association and a member of Business and Professional Women/USA.

A recipient of WEF's prestigious Arthur Sidney Bedell Award and WEASC's Select Society of Sanitary Sludge Shovelers, Rebecca is a certified biological wastewater operator and biosolids and residuals operator in the state of South Carolina. She received a B.S. in biology from Wofford College in Spartanburg, South Carolina.

Exhibit Hall & Education Forum Tours

Tuesday, June 23rd 10:30 am - 4:30 pm

Exhibit Hall

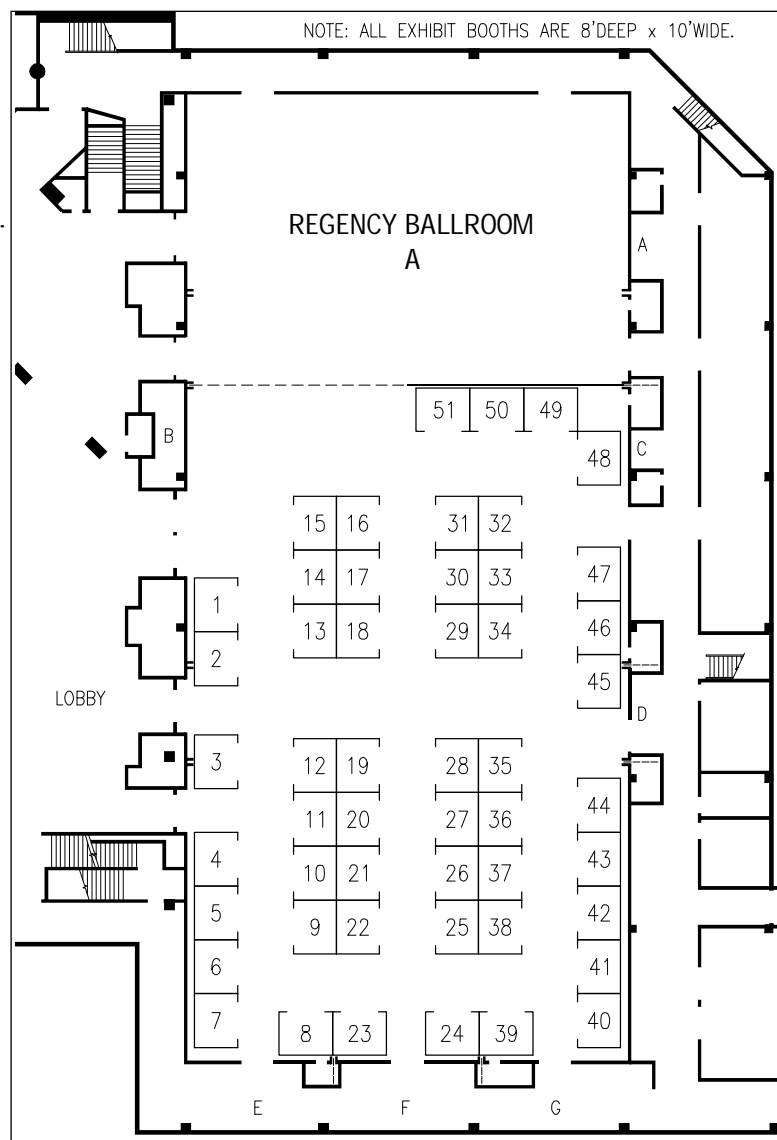
The Exhibit Hall will be held at the Hyatt Regency Cincinnati. **Exhibitor spaces are limited so reserve yours now!** The Exhibit Hall will be open Tuesday with a box lunch provided.

Register online at www.ohiowea.org, complete the Exhibitor Registration Form on pages 42-43, or contact OWEA at 614.488.5800/info@ohiowea.org for more information.

EXHIBITORS

(as of April 28, 2009)

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Attendees - Earn Contact Hours at “Education Forum Tours”

OWEA will offer “Education Forum Tours” in the Exhibit Hall on June 23, 2009 to give you an opportunity to discover the newest technologies and obtain contact hours for participating in a tour. You will be guided on a one (1) hour-long tour to predetermined exhibit booths where each Exhibitor will provide a 15 minute educational presentation, discussing their latest product, service or experience.

To register for one or more of the tours, simply sign up at the Conference Registration Desk for the tours and times that interest you. Each tour can hold 15 attendees—so **sign up early** on Tuesday, June 23rd at the Conference Registration Desk.

Plant Tour - Mason WRP

Tuesday, June 23rd 11:00 am to 3:30 pm



The new Mason Water Reclamation Plant (WRP) was recently constructed on a 36 acre site along Mason-Morrow-Millgrove Road replacing the former 5.0 million gallon per day (mgd) WRP on U.S. 42. The new plant has a design flow capacity of 8.7 mgd (expandable to 13.0 mgd) and includes both biological nutrient removal (BNR) and Class "A" biosolids processing. The new WRP is the result of a seven-year effort that included study, design and construction at a total project cost of approximately \$37,000,000 – the largest public works improvement project undertaken by the City. Construction began in March 2004 and the WRP received its first flow in May 2006.

Although an intermediate flow of 8.7 mgd was determined for design, the City decided to apply for a new NPDES permit for the full 13 mgd and include mitigative measures to minimize the impact to the creek and river. Mitigative measures included two key components to reduce impact on the waterbodies: biological nutrient removal (BNR) and effluent reuse. By using BNR, the new WRP would not only reduce ammonia nitrogen and phosphorus to required permit levels, they would reduce total nitrogen and effectively exceed regulatory requirements. Secondly, the existing WRP already had an agreement with a local golf course for supplying effluent during summer months for irrigation. This program could be expanded with the goal of reusing 10 to 15% of total plant effluent on local golf courses during these months, thus reducing the loading on the creek and river during the critical summer months.

Join us for a comprehensive tour of the Mason WRP and enjoy lunch on site as you have the opportunity to visit with the Mason WRP staff.



YP Session

Tuesday, June 23rd 12:30 - 2:00 pm

Please join the Young Professionals (YP) Committee for a fun and informative session at 12:30 - 2:00 p.m. Tuesday, June 23th in the Buckeye Room.

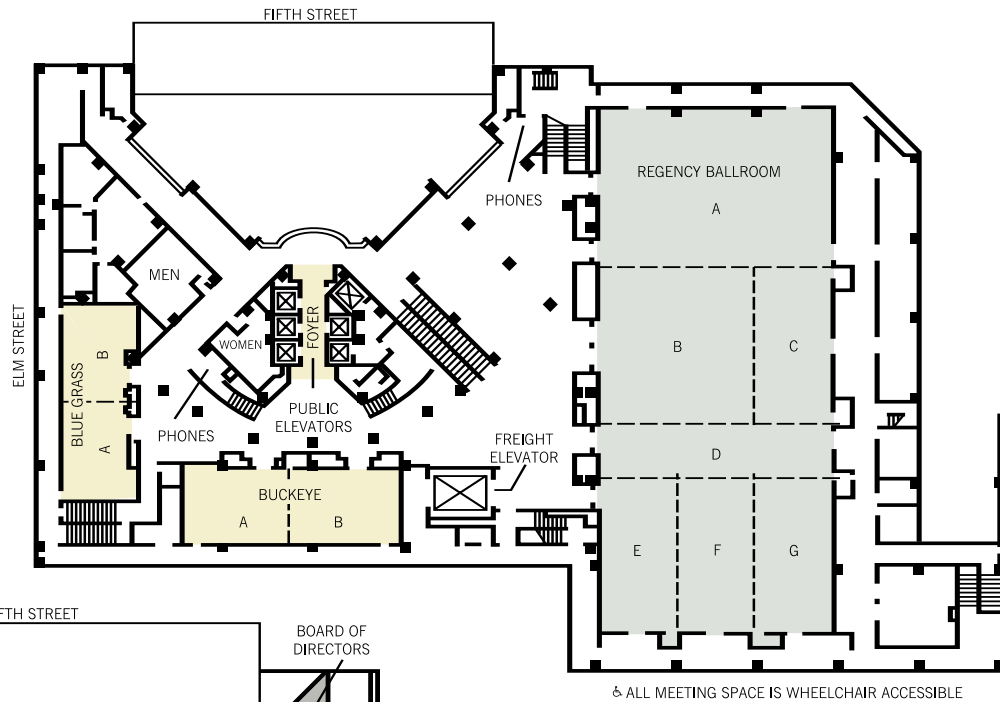
We are excited to offer Young Professionals the opportunity to attend the OWEA Conference the afternoon of Tuesday, June 23, 2009 at no charge. This opportunity covers 3 technical sessions and the afternoon break. YPs present will be eligible to **win door prizes**. Please contact Dan Martin for additional information: 513.469.6600, dmartin@raconsultantsllc.com.

If you would like to support the conference in an even more visible way, YPs will have an opportunity to act as moderators and room monitors during the conference. Please contact Dan Martin (e-mail above) if interested.

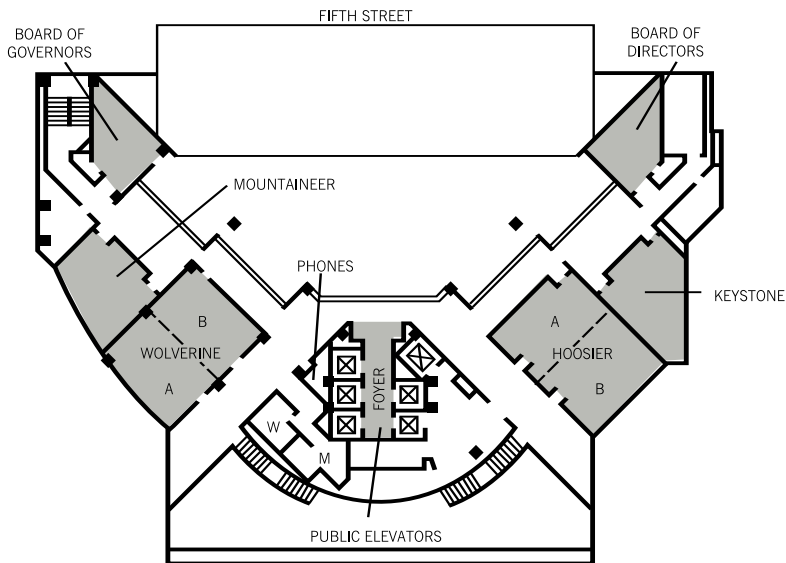
Hyatt Regency Cincinnati

Conference Area Layout

THIRD (BALLROOM) LEVEL



FOURTH LEVEL



Technical Program

Tuesday, June 23rd 2:00 pm - 4:00 pm

BUCKEYE ROOM	
Tomorrow's Technologies and Trends	
2:00-2:30	Causes of Water Scarcity <i>Albert Shin</i>
2:30-3:00	Physiological Response of Activated Sludge to Industrial Pollutants <i>Ting Lu</i>
3:00-3:30	Break
3:30-4:00	In Situ Microscale Analyses of Activated Sludge Flocs in Biological Phosphate Removal Process <i>Woo Hyung Lee</i>

Technical Program

Wednesday, June 24th 8:00 am - 4:00 pm

	REGENCY E-F	REGENCY B	REGENCY G
	<u>Management I</u>	<u>Management II</u>	<u>Biosolids</u>
8:00-8:30	Ohio Ethics Law: Can I do That? Susan Willeke	Major Infrastructure Construction Successes Thomas Hutka	An overview of Second Generation ATAD Performance Jim Scisson
8:30-9:00		Finding Funds for New Construction Thomas Hutka	Bowling Green's Switch to EQ Biosolids Doug Clark
9:00-9:30	Dealing with Problem Employees-Part I Doug Duckett	Construction Management Pointers- Part I William Hixon	Dealing with an Inconvenient Truth Rob Smith
9:30-10:00			Acid/Methane Two-phase Anaerobic Digestion Tom Bulcher
10:00-10:15	Break	Break	Break
	<u>Management I</u>	<u>Management II</u>	<u>Watershed</u>
10:15-10:45	Dealing with Problem Employees Part II Doug Duckett	Construction Management Pointers Part II William Hixon	Little Miami River TMDL Compliance Update Jason Tincu
10:45-11:15			Watershed Monitoring Program Development in Butler Co., OH Dan Whited
11:15-11:45			Restoring East Fork Avey's Run using Natural Channel Design Scott Peyton
11:45-1:00	LUNCH	LUNCH	LUNCH
	<u>Management I and O&M</u>	<u>Management II and O&M</u>	<u>Wet Weather</u>
1:00-1:30	Dealing with Asbestos During Demolition or Renovation Projects Dan Johnson	Capital Improvement Prioritization Jay Madigan	Innovative Stormwater Treatment using 19th Century Siphon Principle Joe Suhre
1:30-2:00	Silent Epidemic: Hearing Loss and the Water Industry Connie Muncy	Columbus Utilities Asset Management Program Development Kevin Campanella	Results of High Rate Clarification Performance Study Mary Long
2:00-2:30	Schmutzdecke: What is it and why do I want it? Harold Curtis	Gulf Hypoxia--What Does It Mean for Your Permit? Stephen Reese	Combining State of Art Technolgy for Evaluating Wet Weather Capacity Jamie Gellner
2:30-2:45	Break	Break	Break
	<u>Odor Control</u>	<u>O&M</u>	<u>Collections</u>
2:45-3:15	Septage Receiving Station and Odor Control at Mill Creek WWTP Rick Anderschat	Full-Scale Demonstration of IFAS Technology Jamie Gellner	Rehab of Large and Non-circular Sewers James Perotti
3:15-3:45	Sustainable Air Ionized Odor Control Technology Dennis Tulenko	BNR Case Study at Mason WRP Bill Barhorst	Force Main Condition Assessment Kent Veech

Technical Program

Thursday, June 25th 8:00 am - 11:45 am

	REGENCY E-F	REGENCY B	REGENCY G
	Potpourri I	Potpourri II	Potpourri III
8:00-8:30	SuperOxygenation to Prevent H₂S in a Force Main <i>David Clidence</i>	Five Years of Thermal Drying at Bryan, OH <i>Phil Anderson</i>	Diffusers First <i>David Rubin</i>
8:30-9:00	Septage-the Good, Bad and Ugly <i>Randy Bruback</i>		Mitigating Creek and Sewer Erosion Problems <i>Tim Koch</i>
9:00-9:30	Ohio Programs Update <i>George Elmaraghy</i>	Attend Ohio Programs Update	
9:30-10:00			
10:00-10:15	Break	Break	Break
10:15-10:45	Next-generation MBR Technology <i>John Koch</i>	Who Needs Engineers When You Have Fearless Operators? <i>Ed Walker</i>	Basic Activated Sludge Microbiology <i>Denise Seman</i>
10:45-11:15	Surge Attenuation at a High Pressure, High-flow Pump Station <i>Bo Copeland</i>	On-line Nutrient Monitoring Optimization <i>Bernie Beemster</i>	Dover WWTP MBR Expansion Project <i>Dennis Meek</i>
11:15-11:45	Using IFAS Technology for Increased Treatment Capacity <i>Richard Pehrson</i>	Building a Consistent I&I Model <i>John Barton</i>	Chemically Enhanced High Rate Settling and Storage to Address SSOs <i>Dave Meyer</i>

Water for People Silent Auction

Auction Closes Wednesday, June 24th 2:45 pm

OWEA's Water for People Committee will hold the Second Annual Water for People Silent Auction. In 2008, the first Water for People Silent Auction raised almost \$3000 for this deserving organization. This year's auction promises to be even bigger and better. If you would like to make a donation to the Second Annual Water for People Silent Auction, please contact Auction Chairs:

Cindy Jacobsen
cjacobsen@pirnie.com
 614.430.2710

Jennifer Emerick
jemerick@ggceng.com
 614.471.7310



Meet & Greet

Tuesday, June 23rd 5:30 pm - 10:00 pm



GREAT AMERICAN BALL PARK

- 5:30 – 7:00 pm** **Hall of Fame Museum**
- 6:00 – 8:00 pm** **Reception in the Champions Club**
Entertainment by The Music Machine with DJ Tom Angelo
- 8:00 - 10:00 pm** **Desserts and Coffee in the Riverfront Room**



Transportation to and from Conference Hotel will be provided.

We will start off with access to the Hall of Fame Museum from 5:30 until 7:00 pm. Drinks and light snacks will be available as you self-tour its ten galleries and take in the history of major league baseball's oldest franchise.

The Champions Club (formerly the 4192 Club) will be open at 6:00 pm. You will enjoy hot and cold hors d'oeuvres, drinks, and an assortment of salads and other specialties that showcase a "taste of Cincinnati". As you "Meet & Greet" we will have entertainment provided by **The Music Machine** with DJ Tom Angelo.

Starting at 8:00 pm, desserts and coffee will be served in the Riverfront Club, adjacent to the Champions Club. The Riverfront Club and the Champions Club have great views of the Great American Ball Park from right field along with the breathtaking backdrops of downtown Cincinnati, the Ohio River and Northern Kentucky.

We will wrap up the Meet & Greet at 10:00 pm, in plenty of time for the serious party animals to take in Mount Adams, Newport-on-the-Levee, Covington's Mainstrasse, or ?



Wall of Balls - Reds Hall of Fame



Hall of Fame Plaque Room



Great American Ballpark

Reception & Banquet

Wednesday, June 24th 6:00 pm - 10:00 pm

The Banquet will be held on Wednesday, June 24, 2009. The activities will include a Reception beginning at 6:00 p.m. The ceremonious 5S Induction will take place during the Reception.

The banquet will start at 7:00 p.m. This year's banquet program will honor those receiving WEF Awards, presented by WEF President Rebecca West. Next will be the passing of the Ohio Water Environment Association gavel from outgoing President Dianne Sumego to the incoming President, Mark Livengood.

Come enjoy a sumptuous dinner prepared by the excellent chefs at the Hyatt Regency Cincinnati and cap off your evening with the hilarious and self-deprecating humor of a **Drew Hastings**.

Drew Hastings

At 6'6" tall, clad in a tailored black suit and trademark black horn-rimmed glasses, Hastings is a commanding presence onstage as he launches into a study of the human condition that is both hilarious and self-deprecating. Though his angst can be easily sensed, he is obviously at home onstage.

Raised in Ohio by a British mother, Drew brings to every performance a down-to-earth Mid-western sensibility tempered - or, rather, contradicted with typical British aloofness and condescension.

Drew Hastings is a raconteur with a lot of stories to tell. Before becoming a comedian at age thirty-one, Drew's escapades included owning a trucking business, running a document shredding company that never actually shredded any documents, leading archaeological expeditions (some would call him "looter") to South America, and playing polo with stolen horses at polo clubs in Washington, DC and Cincinnati, OH.

Drew moved from Ohio to Los Angeles in the early 1990's, where he was quickly noticed by the entertainment industry. His acting talent landed him a number of guest-starring roles and he has done television pilots for some of the big networks including Fox, NBC, and HBO. He has also made many stand-up appearances on television and is one of a very elite group of comedians to have received a standing ovation on "The Tonight Show."

His storied and colorful life has been the subject of three different one-person shows, "Commencement Speech," "Life & Other Short Stories" and "The Business of Living," a satire of the success/motivational industry. His character from that show, Jack Freeman, in 2001 caught the attention of the nationally syndicated Bob and Tom Radio Show, where the hilarious Freeman was introduced to a much wider national audience. Drew's initial appearances on the Bob and Tom Show were so well received that he soon became a regular guest, regaling listeners with his stories, questioning his life and everyone else's, and giving his comedic opinions on just about any topic that comes up. Drew spends much of his time headlining with "The Friends of the Bob and Tom Show" which has played over 70 cities thus far.

"The Bob and Tom Show has been a perfect outlet for me," says Drew. "I tend to have a no-nonsense Mid-western attitude and their show is a Midwest-based show with a huge National reach." He adds, "Hollywood has never figured out what to do with me, so I'm just doing it myself."

When he's not touring he can be found on his farm in Ohio.

www.drewhastings.com



Spouse/Partners Program

What are you doing at the 2009 OWEA Conference??

The Spouses/Partners are going to explore, design, sip and laugh.... **A lot!**



The wonderful news is that **YOU** are cordially invited to join us for a guaranteed good time! We will be having **daily prizes and giveaways**. All attending will receive a gift bag packed with many Cincinnati favorites such as Skyline chili, Montgomery Inn BBQ and much, much more! Plus the Spouse/Partners Program includes tickets to the OWEA Awards Breakfast, Meet & Greet, and Annual Banquet.

Tuesday – Newport on the Levee Voyage

- **Newport Aquarium** – Explore the Nationally Renowned Newport Aquarium. www.newportaquarium.com
- Spouses/Partner luncheon at **Brio's Tucson Grille** – Private room with open menu selection YUMMY! www.brioitalian.com
- **Ride The Duck** – Explore Historic Cincinnati and Newport from a new perspective – from an amphibious vehicle. This is not your average tour! This is an interactive party boat! Laughter is promised! www.newportducks.com

Wednesday – Hyde Park Square Adventure

- **World of Beads** – Private class and room reserved with plenty of teachers to help us make either bracelets or necklaces and earrings. You can choose your own beads from their selection of beads. You will be amazed at what you can create. Beautiful jewelry is promised for all! www.aworldofbeads.com
- **The Vineyard Restaurant** – We have snagged the garden room for a private buffet lunch. This beautiful, peaceful setting will be fantastic for relaxation and enjoyment. www.vineyardwinerom.com
- Open time for exploring **Hyde Park Square**. – Hyde Park Square is well known in Cincinnati for its eclectic shops and hideaways. This square isn't about shopping, it's about fun. There is everything from local artist offerings to designer clothing to Graeters Ice Cream (oh yes, you know you want some!) www.hydeparksquare.org
- Return to the **Vineyard Garden Room** at 3:00 for a wine education and of course wine tasting!

And though the working spouses may beg, no, they cannot come, they must attend their conference – but we will take plenty of pictures.

**This is a new year for the Spouse/Partners program.
We hope to see many new faces and many old friends.**

If you have any questions – please don't hesitate to call Jenny Kutcher, Spouse/Partner Program Chair, at 513.505.7694 or drop a note to: jkutcher@fuse.net

Golf

Monday, June 22nd

Where:	Weatherwax Golf Course 5401 Mosiman Road Middletown, OH 45042 513.425.7886	Format:	240 Golfers (30 Teams Per Course) Four Person Scramble
Times:	9 -10 a.m. Registration Driving Range Open 10:30 a.m. Shotgun Start	Prizes:	Lunch and Dinner Included 1st, 2nd, 3rd Place Prizes for each course 2 Longest Drive Prizes/course 2 Closest to the Pin Prizes/course

\$300 per Foursome includes:
Golf Cart, Range, Lunch, Dinner, Beverages, Prizes, and events.

Register online at www.ohiowea.org
or complete the registration form on page 41.

Weatherwax Golf Course

A 36-hole municipal golf course owner and operated by the City of Middletown, Ohio.
Opened in 1972 with the design of architect Arthur Hills and the Wadsworth Golf Construction Company.

- 1988 Golf Digest's "America's 75 Best Public Golf Course"
- 2004 Golf Digest's "Best Places to Play" – Four Star Rating
- 2005 Golf Week's "Public Courses in Ohio" – 5th Position



Hotel Information

Hyatt Regency Cincinnati

151 West Fifth Avenue

Cincinnati, Ohio 45202

513.579.1234

www.cincinnati.hyatt.com

Single \$149

Double \$174

Parking Garage: Attached to hotel via SkyWalk

Valet parking: \$20.00 overnight with in/out privileges *Clearance is 6'8"

Self Parking: \$14.00 with in/out privileges.

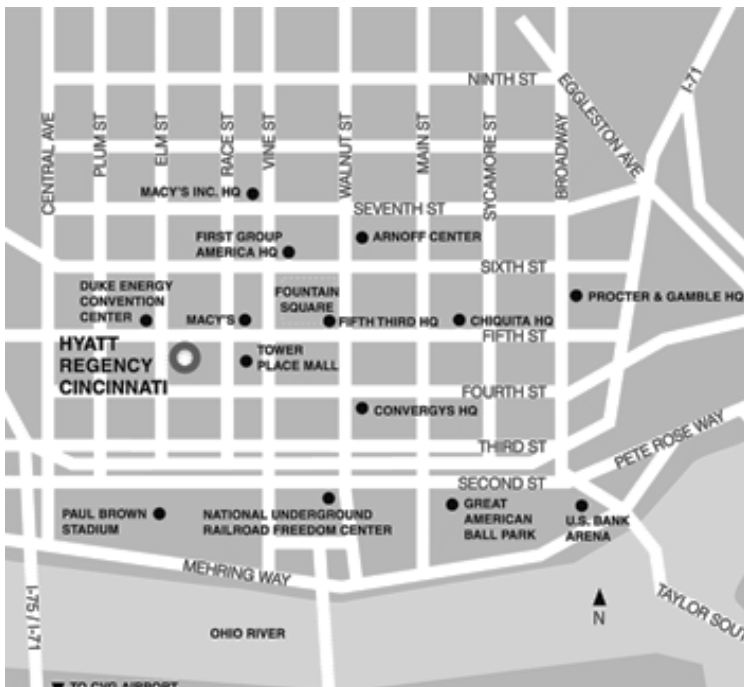
Hotel Reservations are not included in the OWEA conference registration.
You must make reservations by directly calling the Hyatt Regency Cincinnati
at 513.579.1234.

Be sure to mention that you are with the OWEA!

You may also reserve online at <https://resweb.passkey.com/go/fwat>

This price is guaranteed until May 24, 2009.

Directions



From Greater Cincinnati/Northern Kentucky International Airport - (13 miles):

Take I-275 East to I-75 North.

After crossing over the Ohio River,
exit at Fifth Street.

Proceed on Fifth Street two blocks to the hotel.

From Columbus, OH - (105 miles):

Take I-71 South.

Take the Third Street Exit and follow Third Street
roughly seven blocks to Elm Street.

Turn **RIGHT** on Elm Street for two blocks and
turn
RIGHT on 5th Street.

The hotel is immediately on your right.

From Dayton, OH - (50 miles):

Take I-75 South to the 5th Street Exit
(ON THE LEFT SIDE).

Proceed on Fifth Street for two blocks to the hotel
on your right hand side at the corner of Fifth and
Elm.

**2009 Attendee Registration - Register online at ohiowea.org****Please check appropriate box for events you wish to attend for meal count purposes.**

- ◆ **Full Conference Registration** includes: events listed in box, scheduled conference meals, technical sessions, and exhibit hall entrance.
- ◆ **One Day Registration** includes scheduled conference meals, plus technical sessions and exhibits held that day.
- ◆ One Day Registration **only applies if you are attending one day.** If you attend Tues and Wed, a Full Conf Registration is required.
- ◆ Tickets will be collected at the door for each event and meal.

First Name	M.I.	Last Name	
Badge Name		WEF Member #	
Company Name		Title	
Address			
City		State	Zip
Email		Spouse/Guest (if attending)	
Tel #	Fax #	<input type="checkbox"/> Ck if 1st Time Attendee	

MEMBER	Before May 29	After May 29	NON-MEMBER	Before May 29	After May 29
Full Conference <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Plant Tour <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet <input type="checkbox"/> Annual Banquet	\$250	\$300	Full Conference <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Plant Tour <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet <input type="checkbox"/> Annual Banquet	\$350	\$400
Tuesday-One Day Only <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Plant Tour <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet	\$125	\$150	Tuesday-One Day Only <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Plant Tour <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet	\$175	\$200
Wednesday-One Day Only <input type="checkbox"/> Annual Banquet	\$125	\$150	Wednesday-One Day Only <input type="checkbox"/> Annual Banquet	\$175	\$200
Retired Member <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Plant Tour <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet <input type="checkbox"/> Annual Banquet	\$100	\$150	Student Member/NonMember <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Plant Tour <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet <input type="checkbox"/> Annual Banquet	\$50	\$75
Spouse/Guest <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Tues Spouse Event <input type="checkbox"/> Meet & Greet <input type="checkbox"/> Wed Spouse Event <input type="checkbox"/> Annual Banquet	\$150	\$200	Extra Tickets <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet <input type="checkbox"/> Annual Banquet	\$25 \$30 \$60 \$80	\$30 \$35 \$65 \$90
Conference Registration Total				\$	

If you are submitting multiple Registration Forms, you may complete one **Composite Payment Form** (last page)

<input type="checkbox"/> P. O. #	<input type="checkbox"/> Ck #	<input type="checkbox"/> VISA or <input type="checkbox"/> Mastercard Accepted	
Make checks payable to OWEA and mail with form to:		CC #	
Ohio Water Environment Association 1890 Northwest Blvd, Suite 210 Columbus, OH 43212 or fax to: 614.488.5801		Exp Date	Billing Zip Code
		Name on Card	
		Signature	

Registrations will be confirmed via email.

2009 Conference Co-Chairs
Dan Sullivan, 513.515.6253, danny.sullivan@fuse.net and **Tim Shaw**, 513.807.7256, aswater@cinci.rr.com




2009 Golf Registration - Register online at www.ohiowea.org

Where: Weatherwax Golf Course
 5401 Mosiman Road
 Middletown, OH 45042

Format: 240 Golfers
 30 Teams per Course
 Four Person Scramble

When: Monday, June 22, 2009
 9 - 10 a.m. Registration
 Driving Range Open
 10:30 a.m. Shotgun Start

Food/Prizes: Lunch and Dinner included
 1st, 2nd, 3rd Place Prizes for each course
 2 Longest Drive Prizes per course
 2 Closest to the Pin Prizes per course

Company Name		
Address		
City	State	Zip
Contact Name:	Email:	
Tel #:	Fax #	

Foursome Pricing - print foursome names below		\$300	\$
1.	2.		
3.	4.		
Individual Pricing - print name(s) below, will be assigned to a team			
1.		\$75	\$
2.		\$75	\$
Golf Sponsorships (multiple sponsorships per event)			
Hole Sponsor		\$200	\$
Beverage Sponsor		\$500	\$
Gimmick Sponsor		\$400	\$
Lunch Sponsor		\$500	\$
Dinner Sponsor		\$750	\$
Total Golf Amount			\$

If you are submitting multiple Registration Forms, you may complete the **Composite Payment Form** (last page)

<input type="checkbox"/> P. O. #	<input type="checkbox"/> Ck #	<input type="checkbox"/> VISA or <input type="checkbox"/> Mastercard Accepted
Make checks payable to OWEA and mail with form to:		CC #
Ohio Water Environment Association 1890 Northwest Blvd, Suite 210 Columbus, OH 43212 or fax to: 614.488.5801		Exp Date
		Billing Zip Code
		Name on Card
		Signature

Sign up soon!
Limited to 60 teams.



2009 Golf Outing Co-Chairs

Chris Weber, 513.677.8380, cweber@pirnie.com | Charlie Miller, 513.714.5238, charlie.miller@univarusa.com

Rounding 3rd ... and heading to Cincinnati!



2009 Exhibitor Contract - Register online at ohiowea.org

(page 1)

Company Name		
Address		
City	State	Zip
Individual Responsible for Exhibit:		
X _____ Date: _____ Signature (I have read and agree to Exhibitor Contract Terms on Page 43)		
Tel #:	Fax #	
Email:		
Company Website:		

Exhibitor Pricing (includes full conference registration for Individual Responsible for Exhibit)		
OWEA Member - WEF # Required	\$700	\$
WEF #:		
Non-member Rate	\$850	\$
Please indicate which events you will attend: <input type="checkbox"/> Awards Breakfast <input type="checkbox"/> Plant Tour <input type="checkbox"/> Exhibitor Lunch <input type="checkbox"/> Meet & Greet <input type="checkbox"/> Annual Banquet		
Additional Booth Attendant(s) - Includes lunch on 6/23 and exhibit hall pass		
Name 1:	\$35	\$
Name 2:	\$35	\$
Name 3:	\$35	\$
Name 4:	\$35	\$
Total Exhibitor Amount		\$

If you are submitting multiple Registration Forms, you may complete the **Composite Payment Form** (last page)

<input type="checkbox"/> P. O. #	<input type="checkbox"/> Ck #	<input type="checkbox"/> VISA or <input type="checkbox"/> Mastercard Accepted	
Make checks payable to OWEA and mail to:		CC #	
Ohio Water Environment Association 1890 Northwest Blvd, Suite 210 Columbus, OH 43212		Exp Date	Billing Zip Code
		Name on Card	
Or fax to: 614.488.5801		Signature	

Registration will be confirmed by email.



Exhibit Hall - June 23, 2009

Tuesday, 10:30 a.m. - 4:30 p.m.
AM and PM Breaks in Exhibit Area
Box Lunch in Exhibit Area
Exhibitor Forums with Contact Hours

2009 Exhibitor Co-Chairs

Brad Olsen, 513.677.6870, bolson@pirnie.com and Jennifer Emerick, 614.471.7310, jemerick@ggceng.com



2009 ANNUAL CONFERENCE EXHIBITOR CONTRACT - Page 2

TERMS AND CONDITIONS

1. We hereby contract to participate in the Tabletop and/or Equipment exhibits on Tuesday, June 23, 2009, at the Ohio Water Environment Association's (hereinafter referred to as "OWEA") Annual Conference and agree to pay the designated registration of \$700.00 for WEF members (\$850 for non-members) for 6' tables. The registration fee includes one full conference registration and admission to all conference activities for the responsible person.
2. Additional personnel participating in the exhibit will be charged \$35 (which includes lunch on June 23, 2009 and complimentary exhibit hall admission) and must register as additional exhibit booth attendants prior to the conference so name badges are available. Additional personnel interested in attending the social events and/or meals other than lunch on June 23, 2009 must purchase tickets at the registration desk. Use the enclosed "Attendee Registration Form" to pre-register additional personnel for the full conference.
3. We agree to all the terms of the "Liability & Responsibility Clause", which is part of this contract.

LIABILITY AND RESPONSIBILITY CLAUSE

1. In signing this Exhibitor's Contract, the exhibitor agrees to assume the entire responsibility and liability for losses, damages, and claims arising out of loss or damage to the exhibitor's displays, equipment and all other property brought upon the premises of and shall indemnify and hold harmless the OWEA, Cincinnati Hyatt Regency, the agents, servants, and employees of each organization for any and all such losses, damages, and claims.
2. The exhibitor also agrees that the OWEA, and/or the Cincinnati Hyatt Regency will not be responsible for any injury, loss or damage that may occur to the exhibitor, the exhibitor's employees or property, or to any other person prior, during, and subsequent to the period covered by the Exhibitor Contract; provided said injury, loss or damage is not caused by the willful negligence or wrongful act of an employee of the Cincinnati Hyatt Regency and agrees to expressly release the OWEA, Cincinnati Hyatt Regency and of such liabilities and to indemnify the OWEA, and/or the Cincinnati Hyatt Regency against any and all claims for such injury, loss or damage.
3. It is mutually agreed that it is the duty of each exhibitor to install his/her exhibit before the opening of the exhibit area on Tuesday, 8:00 AM, June 23, 2009; and to dismantle the exhibit before Tuesday, 6:00 PM, June 23, 2009.
4. By signing Page 1 of the Exhibitor Contract, I agree to above Terms and Conditions and Liability and Responsibility Clause.



2009 Sponsor Registration - Register online at ohiowea.org

Company Name		
Address		
City	State	Zip
Contact Name		
Tel #:	Fax #	
Email:		
Company Website:		

Overall Conference Sponsorships			
A	Titanium	\$3,000 and higher	\$
B	Platinum	\$2,000	\$
C	Gold	\$1,000	\$
D	Silver	\$500	\$
E	Bronze	\$250	\$
Help Sponsor These Events <small>(multiple sponsorship available for each event - larger sponsorships welcome)</small>			
F	Breaks	\$500	\$
G	Plant Tour Lunch - Mason WRF	\$500	\$
H	Spouse Program	\$500	\$
I	Meet & Greet - Great American Ballpark	\$1,000	\$
Total Sponsor Amount			\$

If submitting multiple Registration Forms, you may complete the **Composite Payment Form** (last page)

<input type="checkbox"/> P. O. #	<input type="checkbox"/> Ck #	<input type="checkbox"/> VISA or <input type="checkbox"/> Mastercard Accepted	
Make checks payable to OWEA and mail to:		CC #	
Ohio Water Environment Association 1890 Northwest Blvd, Suite 210 Columbus, OH 43212		Exp Date	Billing Zip Code
		Name on Card	
		Signature	
Or fax to: 614.488.5801			

*Thank you
for your support!*



Sponsor Recognition:

- ◆ Conference Signage
- ◆ Conference Program
- ◆ OWEA Buckeye Bulletin
- ◆ OWEA Website
- ◆ Specific Event if Event Sponsor

2009 Sponsor Co-Chairs

Rich Engle, 513.785.7273, engler@ci.hamilton.oh.us | Bob Leventry, 513.887.5616, leventryb@butlercountyohio.org



2009 Composite Payment Form

Use this form if you are submitting payment for multiple registration forms.

Attendee, Exhibitor, Sponsor, and Golf Registration available online at www.ohiowea.org

Company Name		
Address		
City	State	Zip
Contact Name		
Tel #:	Fax #	
Email:		

Registrations Submitted:		
1	Sponsorship Form Total	\$
2	Exhibitor Form Total	\$
3	Golf Form Total	\$
4a	Attendee Form Total - Last Name _____	\$
4b	Attendee Form Total - Last Name _____	\$
4c	Attendee Form Total - Last Name _____	\$
4d	Attendee Form Total - Last Name _____	\$
4e	Attendee Form Total - Last Name _____	\$
Total Payment Amount		\$

<input type="checkbox"/> P. O. #	<input type="checkbox"/> Ck #	<input type="checkbox"/> VISA or <input type="checkbox"/> Mastercard Accepted	
Make checks payable to OWEA and mail to:		CC #	
Ohio Water Environment Association 1890 Northwest Blvd, Suite 210 Columbus, OH 43212		Exp Date	Billing Zip Code
		Name on Card	
Or fax to: 614.488.5801		Signature	

Questions, please contact:

OWEA Office, 614.488.5800, info@ohiowea.org

Dan Sullivan, 2009 Conference Co-Chair, 513.515.6253, danny.sullivan@fuse.net

Tim Shaw, 2009 Conference Co-Chair, 513.807.7256, aswater@cinci.rr.com

Thank you



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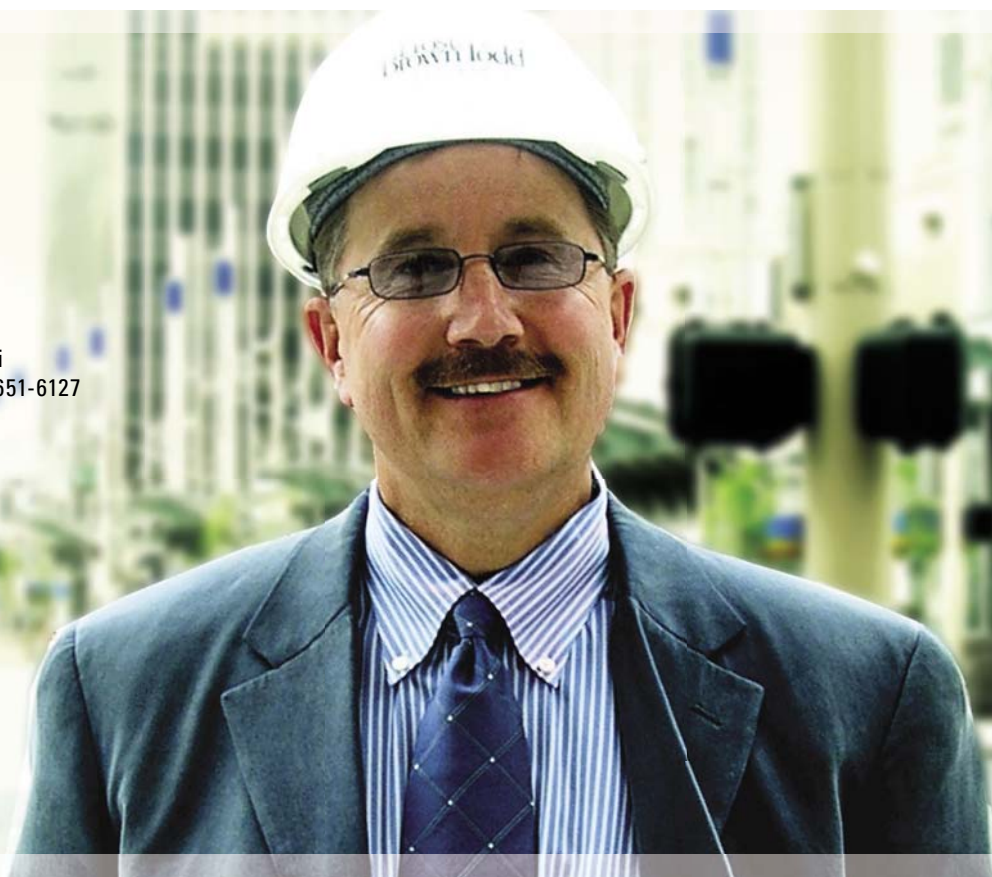
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THREATENED AND ENDANGERED SPECIES: MUSSELING THEIR WAY INTO YOUR WATERSHED

by Tyler K. Linton, PhD

Principal Researcher, Great Lakes Environmental Center

Federal Agency Mandates

The U.S. Environmental Protection Agency (EPA), Office of Water, is charged with protecting aquatic life, wildlife, and human health from adverse anthropogenic, water-mediated effects under the purview of the Clean Water Act (CWA). In support of this mission, the EPA reviews and approves, or disapproves, new and revised water quality standards adopted by states and tribes. The U.S. Fish and Wildlife Service and National Marine Fisheries Service (jointly, the Services) are charged with working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. In support of this mission, and under the purview of Endangered Species Act (ESA), the Services consult with other Federal agencies to determine whether a proposed agency action(s) is likely to jeopardize the continued existence of a listed species (jeopardy) or destroy or adversely modify its critical habitat.

Under section 304(a) of the CWA, the EPA publishes water quality criteria that serve as scientific guidance to be used by states or tribes in establishing and revising water quality standards. These criteria are not mandatory, but are recommended criteria levels that states or tribes may adopt as part of their legally enforceable water quality standards. State or tribal water quality standards serve as the basis for water quality based limits in NPDES (National Pollutant Discharge Elimination System) permits under CWA section 402. Many states adopt EPA's 304(a) criteria recommendations into their state water quality standards. As per their mandate under the CWA, EPA must approve (or disapprove) of these state-adopted 304(a) aquatic life criteria.

Under the ESA, Federal agencies like EPA are to consult with the Services to insure that any action authorized, funded or carried out by the Federal agency does not jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of designated critical habitat. EPA consults with the Services on its approval of new and revised state and tribal water quality standards to determine whether EPA's approval action would jeopardize Federally-listed species or adversely modify designated critical habitat. The Memorandum of Agreement between EPA, FWS, and NMFS (MOA, January 19, 2001) establishes a framework for coordinating actions by EPA and the Services for activities under CWA section 402, which include EPA review of permits issued by states or tribes with approved permitting programs, and EPA issuance of permits.

Two Mandates, One Accord

Looming large against this back drop to the national consultations of EPA's 304(a) criteria is a very real and disconcerting trend occurring right here in our own backyard. For several decades now researchers have been noting the decline of freshwater mussel species (superfamily Unionoidae) in our Nations waters. As recently summarized in Cope et al. (2008): "...nearly 70% of the 300 species in North America are endangered, threatened, of special concern, or already extinct." The exact cause of the dramatic decline in freshwater mussel species is not known. Current threats are presumed to be habitat alteration, sedimentation, introduction of exotic species, and chronic, low-level exposure to point and non-point source pollution (ASTM 2006; Cope et al. 2008; Newton and Bartsch 2007).

Evaluating the sensitivity of freshwater mussels to aquatic contaminants is a particularly important area of current scientific investigation. Over the past decade early (juvenile) life stages of several species of freshwater mussels have been shown to be acutely sensitive to some common pollutants in laboratory water-only and sediment exposures



relative to other sensitive species (e.g., cladocerans and salmonids), particularly ammonia. For example, several recent studies indicate acute sensitivity of newly-transformed juvenile mussels to ammonia at or below the current acute aquatic life criterion. Nine of the ten most acutely sensitive species in the current EPA aquatic life criteria dataset (see Table 4. Ranked Genus Mean Acute Values in EPA 1999 available at <http://www.epa.gov/waterscience/criteria/ammonia/index.html>) are fish species led by the mountain whitefish, golden shiner, orangethroat darter, and several salmonid species. The lowest acute value for mountain whitefish, a relative of salmonids, is approximately 12 mg/L of total ammonia nitrogen (TAN) at pH 8 (EPA 1999). Including the new data recently published for several freshwater mussel species, acute toxicity values for nine of these species lie below this value, with the lowest value (approximately 3.5 mg TAN/L) being recorded for the green floater (from Black 2001). Likewise, the lowest chronic toxicity value for juvenile freshwater mussels (approximately 0.3 mg TAN/L reported in a study by Wang et al. 2007) is nearly 5 times lower than the most sensitive species (amphipod) currently included in the ambient water quality criteria dataset (see Table 5 EC20s from Acceptable Chronic Tests in EPA 1999).

With such strong experimental evidence indicating the possibility of a jeopardy call for any future approval actions by EPA on state-adopted 304(a) criteria for ammonia in freshwater, the Services have been lobbying EPA to consider the sensitivity of freshwater mussels species to ammonia, and because of this, EPA is re-assessing its current aquatic life criteria for ammonia. Specifically, EPA is considering lowering its national recommended criteria levels to protect freshwater mussels in areas where they are present. Becoming more informed on this matter might be one endeavor worthy of genuine pursuit. Engaging in dialogue with individual states like Ohio about possible courses of action might be another.

Bottom Line

It behooves us all to be informed of the pending issues associated with sensitivity of freshwater mussels to ammonia and other contaminants. The concern over the loss of freshwater mussels has prompted a re-assessment of the ammonia (and other) criteria at the Federal level. Many states can be expected to follow EPA's lead. Not only are many freshwater mussel species sensitive, but several are Federally-listed threatened and endangered species. Take some time to inform yourself on the subject, and, to shamelessly borrow from the popular commercial slogan for Capital One Card, find out "what's in your watershed?"

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Photos

Courtesy USEPA, Jeffry D. Grabarkiewicz. (1) *Actinonaias ligamentina*, (2) *Lampsilis siliquoidea*, (3) *Pyganodon grandis*



(1)



(2)



(3)

2009 Ohio Stormwater Conference

May 14 -15, 2009, The Manor House, Mason, OH

Thanks to the efforts of OWEA's Watershed Committee, OWEA is a co-presenter of the
2009 Ohio Stormwater Conference.

Information/Registration available at: <http://www.tinkerscreekwatershed.org/conference2009.php>.
 Questions or comments may be addressed to the OWEA Watershed Chairs:

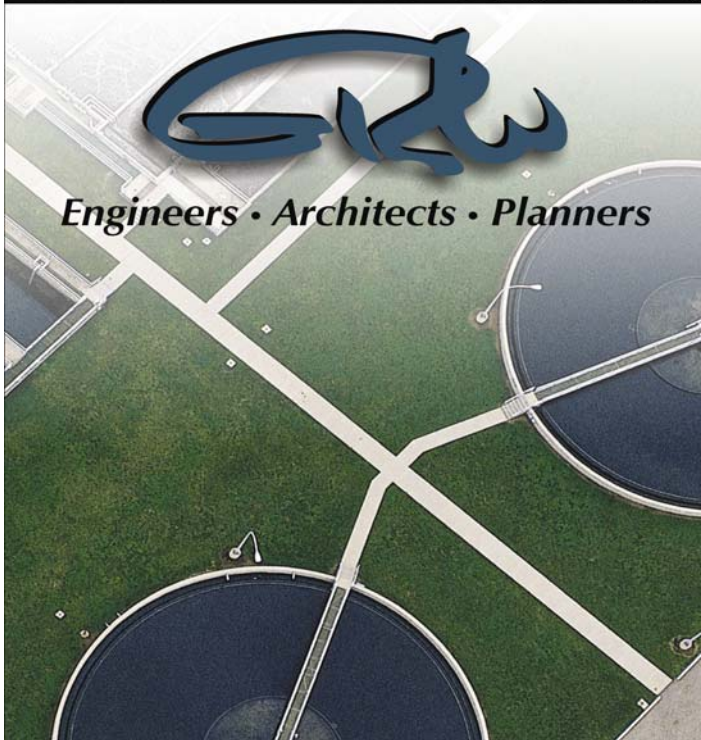
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CITY OF COLUMBIANA WWTP UPGRADE ... THE RESULTS ARE IN

by Lance Willard
Wastewater Superintendent

There was recently a plant upgrade at the City of Columbiana Wastewater Treatment Plant. This upgrade started in January 2004 and the date of substantial completion was October 2005. The plant can be seen in PHOTO 1. This upgrade was designed for a 20 year growth period. The wastewater treatment process was designed for an average daily flow of 2.35 MGD and a 4.7 MGD peak hourly flow. The total influent peak hydraulic capacity is 10 MGD. The actual average daily flow for the period of March 2008 through February 2009 was 1.09 MGD which is 46% of the design flow. Table 1 shows the Summary of Data from March 2008 to February 2009, with values that are Below Detectable Limit listed as BDL.

The plant is at the front end of the 20 year design and currently has the capability to treat high flows longer than the peak hourly flow. Peak flows of 4.7 MGD have been treated for extended periods of time, well over eight hours. Currently, there are four operators and one Superintendent on staff. The operators are responsible for the operation and maintenance of the wastewater treatment plant, laboratory, and the collection system. The collection system consists of over 35 miles of sanitary sewer lines and 13 pump stations.

The wastewater treatment plant consists of several minor pieces of equipment which include; an influent fine screen, grit removal, and disinfection. The major equipment or processes of the wastewater treatment plant include; flow equalization, an oxidation ditch, clarifiers, tertiary filters and solids handling equipment. Descriptions of these processes are listed below along with an update on performance.

FLOW EQUALIZATION

Wastewater flows from the influent screening building to either the full treatment process or is stored in two equalization basins. Each basin has a capacity of 1.1 MG. Flows over 4.7 MGD are automatically diverted to the equalization basins by the equalization flow splitter. The basins continue to fill until the level reaches 17.26 feet. At this point, the excess flow

enters a bypass line. The bypassed wastewater then misses all further treatment and enters the effluent line shortly before the effluent sampler.

Since it has been placed into operation, several significant snow melts and rain events have caused both basins to fill. The filling of the basins has occurred over an 18 hour time span. After both basins completely filled, bypasses have occurred. This settled but untreated water was introduced to the downstream treated water. These bypasses have lasted up to 18 hours and totaled as much as 1.5 MG per event. After running analyses, the data on the final effluent showed that all parameters were within the NPDES permit, with the exception of a loading violation due to the amount of water treated during the bypass. The collection system is not a combined sewer system. Inflow and infiltration is a problem for the City of Columbiana. The average potable drinking water production from the City's WTP for the past year has been 0.539 MGD, while the average daily influent flow at the wastewater plant was 1.09 MGD. Efforts are being made to reduce both inflow and infiltration.

OXIDATION DITCH

After wastewater passes through the influent screen and grit removal, it enters the oxidation ditch. The ditch consists of three concentric twenty-foot wide by twelve-foot deep channels. Nine mechanical disc aerators provide aeration. Influent wastewater enters the outside ring then proceeds to the inner ring. The target dissolved oxygen level in the outside ring of the ditch is less than 1 mg/l. The middle ring has a target of 1 mg/l and finally the inner ring is 2 mg/l and above. This provides an atmosphere for promoting the growth of facultative bacteria, which can live in low levels of free oxygen and higher levels of free oxygen. This swing from anoxic condition to well oxygenated condition makes it difficult for other bacteria or organisms to thrive. Selecting the facultative bacteria increases settling and increases ammonia removal. Under these conditions, nutrients are removed due to de-nitrification occurring. Under the anoxic conditions, the bacteria use the oxygen that is attached in the chemical compound NO_3 . Other bacteria that cannot use this bound oxygen will die; thus this process acts as a selector.

If a significant storm is expected, the oxidation ditch has the capability to be placed into another mode of operation, the storm mode. This mode allows the RAS solids to be

TABLE 1. SUMMARY OF DATA, MARCH 2008 - FEBRUARY 2009

Date	Plant Flow, Avg. (MGD)	Potable Water Production, Avg. (MGD)	Avg. Effluent cBOD (mg/l)	Avg. Effluent TSS (mg/l)	Effluent Ammonia (mg/l)
3/2008-2/2009	1.09	0.539	BDL	BDL	BDL

stored in the outside ring. The influent bypasses the outside ring, and enters into the middle ring. This prevents excessive build up of solids in the clarifiers and having solids going over the weirs. By having this flexibility of storm mode and the luxury of equalization basins, hydraulic overloading has not been a problem for the oxidation ditch.

The oxidation ditch was designed for 14.98 ppd/1,000 cu.ft. of organic loading. The total aeration volume is 227,660 cu.ft. The average organic loading for the plant has been 7.06 ppd/1,000 cu.ft. This is 47% of the design capacity. If this under-loading affected the effluent of the clarifiers, measures would be taken to address the problem. One option would be to use only two of the concentric channels of the oxidation ditch. The outside ring would be taken out of operation until loading increases to near 11.0 ppd/1000 cu.ft. The other option would be to adjust the MLSS to affect the F/M ratio. The F/M ratio is very low at a 0.055 or 0.06. Operating without the outside ring has been considered, but during high flows the hydraulics would suffer. Typical MLSS for the plant has averaged 3224 mg/l in 2008/2009 and it has provided a nice settling sludge and a good ammonia removal. The final effluent cBOD have been below detectable limit along with the ammonia being BDL. If the low F/M ratio causes problems in the future, both shutting the outside ring



Photo 2

and adjusting the MLSS would be considered. While the flows to the plant have been down and the influent CBODs have increased over the past few months, this has not affected the F/M ratio greatly. Effluent of the clarifier is still excellent and continues to supply clean water to the tertiary filters.

CLARIFIERS

From the oxidation ditch, the flow enters a flow splitter box which divides the flow evenly among three clarifiers.



Photo 1

The clarifiers each have a 12 foot sidewall depth and are equipped with Stanford baffles. Two of the clarifiers are 65 foot in diameter and the other is 35 feet. Circumferential weirs are covered with hinged covers that block light from contacting the weirs or the weir trough. The clarifiers and covers can be seen in PHOTO 2. These covers inhibit the accumulation of algae growth and significantly reduce the maintenance needed to keep the units clean. The new clarifiers have only needed to be cleaned once in the past two years.

During normal flows, it has not been necessary to use the smaller, 35 foot diameter clarifier. If exceptionally high flows are expected, the smaller clarifier is used. With only the two large clarifiers in service, and at the observed average daily flow, the surface overflow rate has been 164 gal/day/sq.ft. The peak hourly surface overflow rate, with the smaller clarifier offline, has been 708 gal/day/sq.ft., which is 59% of the Ten State Standards recommendation of 1,200 gal/day/sq.ft. With the smaller clarifier in use during peak hourly flow, the surface overflow rate is 619 gal/day/sq.ft. The peak solids loading rate calculated with only the two large clarifiers in service is at 79% of Ten State Standards recommendations. The weir loading rate at peak hourly flow, with only the two large clarifiers in service, is 11,519 gpd/ln.ft. This is 38% of the Ten States Standards requirement of 30,000 gpd/ln.ft. The clarifiers are not expected to be taxed to a point of failure because of the equalization basins.

TERTIARY TREATMENT

The water coming out of the clarifiers enters a wet-well. From here, the water is pumped by one of three 30 HP centrifugal suction lift pumps to a three-celled, tertiary treatment filtration system. The water enters the filter cells, each of which contains multiple fabric filter media disks. The wastewater flows through the disks, leaving particles on the media. The media encloses a six-foot circular shaped frame. Six frames (can be expanded to eight frames) are set vertically in each filter cell as can be seen in PHOTO 3. All of the



Photo 3

frames are connected to a central hollow shaft. The filtered water flows through the hollow central shaft and out of the building and proceeds to the Ultraviolet Disinfection system.

As particles begin to build on the media, loss of head begins to build. Backwashing of the media takes place in two different ways. The first involves rotating the media across a vacuum collector. This takes place while the media is still in service. The other backwash sequence involves a normal backwash in which the filter is taken out of service. The level in the filter cells is drained down to expose the upper portion of the media. The shaft begins to rotate, passing the media through a high pressure spray wash system. The filter returns to normal operation after the spray wash. This system is also able to remove settleable solids that enter the filter cells. Backwashes occur either by loss of head or a timed event. If high flows are expected, the operator on duty activates a high pressure spray backwash. This ensures that the filter media is clean if high flows do occur.

The media for these filters is designed to treat 3 gpm per sq.ft. of media for average daily flow and 5 gpm per sq.ft. during maximum hydraulic loading. The plan is to expand the filter capacity by placing more media in the units. By expanding the filter media by 1/3 now and keeping the peak flow to the filters at 4.7 MGD, the filters will be able to keep filtering at this rate longer.

SOLIDS INVENTORY MANAGEMENT

The digested sludge, which is typically 2 to 4 percent solids, is pumped through progressive cavity pumps to a 2.0 meter belt filter press, where polymer is introduced to aid in the solids separation process. The belt filter press produces a sludge cake that has solids content typically above 26% and a volatile content of 40%. The pressed solids fall into a hopper which houses a series of screw conveyors. The solids are taken to an O.E.P.A. approved field and evenly land applied.

SUMMARY

As stated previously, the plant was designed to treat an average daily flow of 2.35 MGD and peak hourly flows of 4.7 MGD. The plant is currently operating within these flow boundaries. The effluent permit limits are being met as the plant was designed. At times, the operators of the plant have been operating the plant beyond its original design with effluent permit limits still being met. Pride is taken in maintaining Peak Hourly Flows for extended amounts of time, beyond the original design. In 2008, the facility received the Outstanding Facility Award 1.1 MGD to 10 MGD from the Northeast Section of the Ohio Water Environment Association.

BRINGING OUT THE TALENTED SPEAKER IN YOU

by Keith Riley

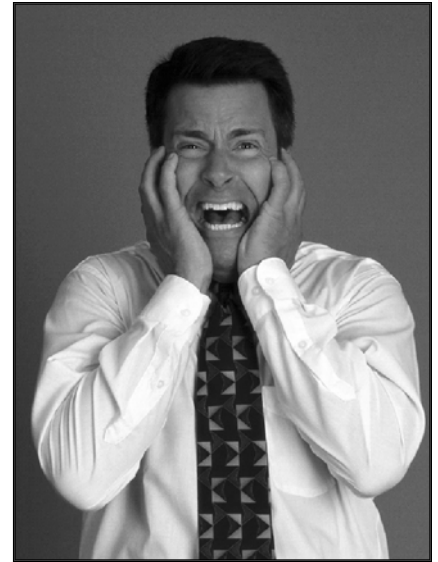
When I started working for the State of Ohio, Doug Hasbrouck, my district office chief, often gave speeches in front of large groups. I was in awe of his wisdom and the confidence displayed when making a presentation. He was a great storyteller—I hung on his every word. I wondered if I could overcome my fears to become a good speaker too. Doug inspired me to try.

I was not alone in my fear of public speaking. In a survey about what scares people the most, the top five things involved death: boiling in oil, falling from a building, being run over by a train, etc. Number six on the list was public speaking.

How many of you have received any formal training in giving a presentation? Many of you may have received some training on how to use PowerPoint software, but most of us have never had any actual training related to preparing to deliver a PowerPoint presentation.

I am not an expert presenter, but I have given more than 200 presentations over the last 20 years. I participated in a formal two-day training called “High Impact Presentations” a few years ago that I found quite helpful. I still am learning new skills and have learned that, with practice, speaking has become much more comfortable. Following are some lessons I’ve learned along the way that I hope will give you a few ways to make your presentations more effective.

Repetition Practice is the key to becoming better at most things in life. My most important suggestion is to start raising your hand for presentation opportunities. All you need is lots of “at bats.” You’re not trying to get rid of the butterflies, just trying to get them to fly in formation.



Following are three key areas to a successful presentation:

- Planning, Preparation and Practice
- Slide Format and Lay-out
- Delivery Techniques Do’s and Don’ts

Start With the Three P’s: Planning, Preparation and Practice

Choose a topic that you know fairly well. Once, I gave my first (and last) presentation pretending to be knowledgeable about air pollution regulations. Being an old sewage guy, this was a disaster. I thought I was going to get whiplash from looking back at the screen so much. Never again! You can predict the types of topics on which you might be asked to present. If you prepare for these topics gradually during the year, you can collect a good library of slides and visuals. Then, when you receive a presentation request, you will cut down on the stress and time to prepare.

Often, after hearing someone else speak, I will ask for an electronic copy of their presentation, so I can borrow a good visual or topic update from another speaker. I started collecting all types of visuals from Web site clip art, e-mails and scanned materials to save time when preparing for various presentation topics. Once a canned presentation is prepared, it can be improved upon, personalized to the audience you are addressing, and updated as things change. Also, write your presenter bio and keep it updated. This is one less task you’ll need to take on prior to your presentation.

Before the presentation, ask a friend to look over your slides. Be sure that the level of technical content aligns with your audience’s knowledge. Also ask someone in the audience to listen to your presentation and give you an honest critique after it is completed. Consider having one of your presentations recorded for a self appraisal.

When developing your presentation, start by **creating an outline**. Try to keep the number of slides to about one slide per minute. For a motivational speech, you’ll need far fewer slides than you would use for a technical training, and may not need any slides at all. Next, determine your presentation length. Be sure to ask how much time you have and if time should be included for Q&A. Also, find out if you should shorten the presentation if your talk begins after its scheduled start time.

Have you ever listened to a presentation and half way through the talk, you still are not quite sure what the main message is? Your audience can only remember about three main ideas. Develop them and make sure you get these messages across.

Decide what your three points of emphasis will be and use the “**Triple T Model:**”

- Tell people what you are going to tell them in summary form (main three messages)
- Tell them more (supporting information)
- Tell people again what you told them in summary form (repeat the main three messages at the end)

Presentations should have three primary parts: the opening, the main body and your closing. A good **opening** is important. It grabs the audience’s attention and leads them towards the topic you will discuss. It creates the mood and tells audience “why they need to listen”. Opening up with some tasteful humor or an anecdote can set the mood. A good **closing** is important as well. Many times, you hear an otherwise excellent presentation that runs out of pizzazz at the end when the speaker ends with: “Well, I guess that is all I have to say,” “That’s it, folks!” or “Well, I can’t think of anything else.” Instead, repeat the main message, summarize your key points, tell a story emphasizing main points or, where appropriate, make an appeal or a call to action. You may also use phrases like, “In closing,” “My final thoughts are,” or “Let me leave you with.”

Slide Format and Lay-out

Following are some helpful guidelines to consider as you prepare your PowerPoint presentation.

Use PowerPoint as a guide, not a crutch. Nothing is more boring than watching someone read their slides. Use your PowerPoint text only as an outline. Bullets should remind you of a story you already know.

For your **slide layout**, try to:

- Use the top ¾ space of each slide
- Don’t overcrowd slide
- Don’t put entire speech on slides

Include no more than 5 - 7 lines per slide and 5 - 7 words per line. Use a minimum 26 - 32 point font size and limit your slides to about 26 words per slide. Each slide should have about 20 percent white space. Use consistent font sizes and styles as switching between slides can be distracting. Research indicates that Times Roman and Arial are the easiest to read. Generally, don’t use all caps for large blocks of type. Limit the use of italics to emphasize a point.

Avoid using **acronyms** and technical **jargon**.

Bad	vs.	Better
Financial mechanism	→	money to pay for it
Nonpoint source pollution	→	polluted runoff
Hydrograph	→	volume of water
Riparian	→	vegetation on each side of river

Try not to use **acronyms** unless everyone in the room will understand them. The first time you use one, always spell out the words, and use plain English most of the time.

Acronym	vs.	What I Really Mean Is
TMDL	→	Study of water quality problems
ICI	→	Aquatic insect grade
IBI	→	Fish grade
QHEI	→	Stream’s potential for having good fish and bug populations
NPDES	→	Permit to control discharge quality
PTI	→	Permit allowing construction
PM2.5	→	Standard for soot levels



Visuals are important to keep the attention of your audience. Pictures, graphs or charts will help the audience remember your message. Using just text or bullet visuals will leave your presentation inherently forgettable. Visuals should be simple, understandable with a quick glance and visible from the back of the room.

Studies show that the addition of **color** accelerates learning, retention and recall by 55–78 percent. Pick colors that show up on your selected background. For a dark background, use white, bright yellow or orange type font. For a light background, use a dark type font. Use slide **transitions and animations** sparingly—overuse can be distracting.

It is sometimes a good idea to insert some **humor** to relax the audience. If you are not naturally funny or feel uncomfortable with telling a good, tasteful joke, add a funny graphic or cartoon that you have borrowed from someone else. A picture is worth a thousand words.

Delivery Techniques Do's and Don'ts

Always arrive early and end on time. When you arrive, check out the room, microphones, projector, screen and controls for lighting. Do a dry run to ensure that your slides, graphics and videos work on the audio visual equipment provided.

Understand your audience. Gather information about your audience in advance. Also, if there are presentations before or after yours, try to review what those speakers plan to say. You may consider referring back to points made in their presentations to help the audience see connections. Ask open-ended questions to involve the audience in the presentation. When the audience's minds are active, their attention span increases.

Have you ever seen a speaker who gives his whole speech while looking at the screen? Remember to use the **“L Triple T Model.”**

- Square your shoulders before speaking to the audience. If you have to look back at the slide, **Turn** to the slide, **Turn** back square, and **Then** speak. If you can plan to have the laptop at the podium, you won't need to look back at the screen.
- Separate your feet about 8–10 inches apart with your feet pointing towards the audience. Don't shift your weight to one foot and don't allow your feet to get wrapped around each other.

Use your hands to enhance your presentation. Natural hand gestures are like sign language—they help describe size and shape, as well as to convey emotions and feeling. To keep your hands free, try using a lapel microphone when possible and avoid having more than one hand in your pocket. And, always **maintain good eye contact** during your presentation.

Voice inflection also is important. Try to use a conversational style of voice and vary your inflection. If you are soft-spoken, pre-pick at least two slides when you will raise your voice to highlight a point. When transitioning from one thought or slide to the next, eliminate fillers, such as, “uh, um, like, er, you know, and okay.” Instead, use quiet pauses or phrases like: “My next point is,” “This leads me to,” “After ____ comes,” or “The third idea is.”

During the **Q&A period**, always re-state the question before answering. When you are presenting a controversial subject, like a proposed new landfill, new regulation or rate increase, provide information that addresses known opposing points of view during your presentation. This is particularly true if you know that a negative question will come up anyway following the presentation. Try to rehearse answers to tough questions.

Audiences often appreciate receiving a copy of the PowerPoint presentation so that they can take notes during your discussion.

And Finally...

In conclusion, an award-winning presentation is: well-organized, shows enthusiasm, includes visual aids that work, leaves the audience with key three messages, and includes a great opening and closing. Remember the three P's to better presentations: planning, preparation and practice. Don't wait till the last minute, practice your delivery, and get input from your peers about ways to improve your presentation.

To engage the audience, use open-ended questions, vary your delivery styles, think about your body language, display voice inflection, use good sweeping hand gestures, quietly pause for transitions between thoughts or slides, include easy-to-understand graphics and maintain good eye contact. Most of all, remember to smile so that the audience knows you are enjoying giving your presentation!

I hope this article has offered you some new ideas to improve the speaker in you. Now, it is time to raise your hand and volunteer to share your wisdom with your professional peers. You have much knowledge to share!



Keith Riley serves as Assistant Chief of the Ohio EPA Northeast District Office.

For more information, contact him at keith.riley@eap.state.oh.us

The Proposed OWEA Rules and Regulations
will be voted on by the General Membership at the 2009 Business Meeting
Tuesday, June 23, 11:15 a.m. - 12:00 Noon
2009 Annual Conference
Hyatt Regency Cincinnati

PROPOSED RULES & REGULATIONS

Ohio Water Environment Association Organizational Document

Final 11.19.08, updated for WEF comments 1.12.09

Updated per WEF comments 02.09.09, Approved by WEF 02.12.09

1. NAME
 - 1.1 The name of this association shall be the Ohio Water Environment Association, hereinafter designated as the Association. The Association was incorporated under the Ohio Revised Code, Section 1702.01 on July 12, 1976.
2. AFFILIATION
 - 2.1 The Association shall be a Member Association of the Water Environment Federation, hereinafter designated as WEF, and shall participate in the activities of that organization. The Rules & Regulations of this Association shall be in harmony with the WEF Constitution and Bylaws.
3. OBJECTIVES
 - 3.1 The objectives of the Association are as follows and are in harmony with the objectives of WEF:
 - 3.1.1 Advance the fundamental knowledge of the water environment, its basic qualities, and physical laws governing its interaction with other aspects of the environment and with the aesthetic, economic, and biological needs of the earth's inhabitants.
 - 3.1.2 Advance the knowledge and technology in the design, construction, operation and management of water quality systems and facilities.
 - 3.1.3 Increase the knowledge and understanding of the earth's water environment, and encourage and promote action necessary for its enhancement.
 - 3.1.4 Develop and implement effective delivery mechanisms to rapidly disseminate knowledge concerning the water environment to members and to other interested parties.
 - 3.1.5 Advance sound policy in matters relating to the water environment.
 - 3.1.6 Improve the professional status of all personnel engaged in any aspect of protecting and improving the earth's water environment.
 - 3.1.7 Strengthen and build alliances with organizations throughout Ohio incorporating members of all professions dedicated to the preservation and enhancement of water quality and water resources.
 - 3.1.8 Stimulate public awareness of the relationship of water resources to the public welfare and the need for pollution prevention, resource recovery, preservation, conservation, and reuse of water resources.

4. FRANCHISE

- 4.1 The exclusive service area of the Association shall consist of the State of Ohio. The Association may consist of a certain number of Sections, with the geographical boundaries of the Sections determined by the Executive Committee. Should they exist, each Section shall have its own Officers, Executive Committee, and Rules & Regulations, with Rules and Regulations being in harmony with those of the Association.

5. MEMBERSHIP

- 5.1 The membership of the Association shall consist of persons and organizations interested in any of the objectives of the Association and shall abide by the Code of Ethics.
- 5.2 Any member may be expelled from membership in the Association for good and sufficient reason by the two-thirds affirmative vote by the Executive Committee.

6. MANAGEMENT

- 6.1 The affairs of the Association shall be managed by an Executive Committee, hereinafter designated as the Executive Committee or EC, under such Policies and Procedures as the Executive Committee may determine, in keeping with the intent of this document.
- 6.2 The Executive Committee shall consist of: 1) the following Officers: President, President Elect, Vice President, Secretary-Treasurer; 2) Section Delegates; 3) the most recent living immediate Past President of the Association, and 4) a certain number of designated WEF Delegates who shall serve as members of the WEF House of Delegates. A quorum of the Executive Committee shall consist of a majority of its respective members. A quorum is necessary to perform official business of the Association.
- 6.3 Any action required to be “written,” to be “in writing,” or to have “written consent,” by these Rules and Regulations and/or applicable state law shall include any communication transmitted or received by electronic means.
- 6.4 Executive Committee meetings shall be conducted according to the latest edition of “Robert’s Rules of Order Revised,” subject first to the provisions of these Rules and Regulations. Except as otherwise provided in these Rules and Regulations or Robert’s Rules, all questions before the Executive Committee shall be decided by a majority vote of a quorum of the respective body. No Member shall have more than one vote, except as provided in these Rules and Regulations.
- 6.5 The WEF Delegates shall represent the Association in the conduct of all business by the House of Delegates of WEF for a term of service designated by the WEF Constitution and Bylaws. In case of a vacancy, the Executive Committee shall appoint a replacement for the unexpired term.
- 6.6 Terms of Office
- 6.6.1 The elected terms of office of the President, President-Elect, Vice President, and Past President shall be for approximately one year. The term of office of Secretary-Treasurer shall be for approximately one year and may serve consecutive terms. The terms of office of each Section Delegate shall be approximately two, two-year terms. All terms of office shall start at the conclusion of the annual business meeting at which they were elected and continue until their successor qualifies.
- 6.6.2 The term of service for a WEF Delegate is a three year term, with start and end dates as defined by WEF.

6.7 Nomination and Election of Officers

- 6.7.1 Upon completion of their term of office of President, President-Elect or Vice President, there shall be automatic advancement from President to Past-President, from President-Elect to President, and from Vice President to President-Elect. Denial of such automatic advancement shall be by a two-thirds majority vote of the Executive Committee.
- 6.7.2 Nominations for Vice President and Secretary-Treasurer for the following year shall be received by the Nominating Committee at least 60 days prior to the annual business meeting. All nominees shall be persons having the rights and privileges of members and shall have signified willingness to serve.
- 6.7.3 Should there be more than one nominee for Vice-President or Secretary-Treasurer, a vote by the members attending the annual business meeting shall be scheduled and coordinated by the Nominating Committee. Voting shall be by ballot and the nominee receiving a majority of the votes cast shall be declared elected. In case of a tie vote, the President at the time the annual business meeting was called to order shall break the tie.
- 6.7.4 In the case a vacancy in the office of President, the President-Elect shall automatically advance to the position of President
- 6.7.5 In the case a vacancy in the office of President-Elect, the Vice President shall automatically advance to the position of President.
- 6.7.6 In the case a vacancy in the office of Vice President occurs, and at the direction of the Executive Committee, the Nominating Committee shall select nominees for such office. Such nominee may be voted on at any regular meeting of the Executive Committee or by written ballot of the Executive Committee with ballots returned within thirty days. The nominee receiving a majority vote shall be declared elected. The Member so elected shall take office immediately and shall continue in office until their successor qualifies.
- 6.7.7 In the case of a vacancy in the office of Secretary-Treasurer, the Executive Committee shall elect a Member with the privilege of holding office to fill such office for the unexpired term.

6.8 The duties of the Officers shall be as follows:

- 6.8.1 The President shall have general supervision of the affairs of the Association. The President shall supervise the Association staff in accordance with the defined position descriptions and expectations.
- 6.8.2 The President-Elect and Vice President shall assist the President in the performance of prescribed duties. The President-Elect shall nominate committee chairs for their term as President.
- 6.8.3 In the absence of the President, the President-Elect shall act as President. In case the President-Elect cannot act, the Vice President shall do so. In case the Vice President cannot act, the latest living Past President shall do so. The Executive Committee shall elect one of its members to act if the latest living Past President cannot do so.
- 6.8.4 The Secretary-Treasurer shall monitor and report on all Association financial affairs.

6.9 The duties of other Executive Committee members shall be as follows:

- 6.9.1 The Section Delegates shall serve on the applicable Section Executive Committee, shall communicate Association business and interests to the Sections, and also inform the Executive Committee of pertinent issues of the Sections.
- 6.9.2 The Past President shall provide general resource information of past Association activities.

- 6.9.3 The Executive Committee shall appoint the WEF Delegates who shall represent the interest of the Association to WEF.
- 6.9.4 The Executive Committee shall approve through resolution the President-Elect's committee chair nominations.

7. ASSOCIATION COMMITTEES

- 7.1 The Executive Committee may establish and disband Committees as it deems necessary to accomplish the objectives of the Association.
- 7.2 The responsibility and authority for any declaration of Association policy, and/or endorsement, and/or rejection of any matter on any subject of policy, is reserved to the judgment and discretion of the Executive Committee. Committees of the Association are not authorized directly or indirectly to commit the Association in any way or manner, financially or otherwise, without prior approval by the Executive Committee, except as specified in the approved budget or in specific resolutions of the Executive Committee. The Executive Committee, except as herein otherwise provided, shall have control of the affairs of the Association, including all matters relating to the acquisition, holding, management, control, investment, and disposition of the funds and other property of the Association.

8. MEMBERSHIP CLASSIFICATIONS, QUALIFICATIONS, AND PRIVILEGES

- 8.1 Membership Classifications shall include all classes of membership designated by WEF and other classes of membership established by the Association. Classes of memberships, if so established by the Association, shall be listed on the Association's website with applicable privileges and dues.

9. DUES

9.1 Payment of Dues

- 9.1.1 General – Dues of those who are both members of WEF and OWEA (a Member Association) shall be collected by the Water Environment Association (WEF).
- 9.1.2 For each category of membership, dues shall be determined by the Executive Committee and shall include the current dues for the Association and for WEF.
- 9.1.3 Any Member of WEF who shall be delinquent in dues for a period of 30 days from the time dues become due shall be notified of such delinquency and suspended from further services. If payment is not made within the next succeeding 30 days, the delinquent Member shall be dropped from the rolls and thereupon forfeit all rights and privileges of membership.

10. MEETINGS

10.1 Annual Meeting

- 10.1.1 An Annual Meeting of the Association shall be held at a time and place selected by the Executive Committee, preferably during the month of June and during a time allotted during the Annual Conference. In addition to the annual meeting, the Executive Committee shall convene at least quarterly per annum.

10.2 Executive Committee Meeting Notices

- 10.2.1 Notices of all Executive Committee meetings of the Association shall be prominently posted on the Association's website at least 14 days in advance. Executive Committee meetings may be cancelled at any time by the President.

10.3 Meeting Participation

- 10.3.1 In addition to personally attending a meeting, the Executive Committee members may participate in and act at any meeting through the use of a conference telephone or interactive technology when available, including but not limited to electronic transmission, Internet usage, or remote communication, by means of which all persons participating in the meeting can communicate with each other and participation in such meeting shall constitute attendance and presence in person at the meeting of the person or persons so participating.

11. AMENDMENTS

11.1 Initiation

- 11.1.1 Amendments to these Rules & Regulations may be proposed by a majority of the Executive Committee or through it on written and signed petition of at least five percent (5%) of Association membership. All proposed amendments shall be submitted in writing to the Secretary-Treasurer at least 120 days prior to the annual business meeting. All proposed amendments shall be reviewed by WEF to ensure, if adopted, they shall be in harmony with WEF's Constitution and Bylaws. If deemed to be unharmonious, said amendments shall be rejected for adoption or shall be mutually redrafted between the Executive Committee and the petitioners to become harmonious.
- 11.1.2 Notices of proposed amendments and the complete text of a proposed amendment shall be sent to each Association member at least thirty (30) days before it is to be voted upon. Such notice may be included with other written communication from the Association.

11.2 Adoption

- 11.2.1 Amendments to these Rules and Regulations shall be adopted by a majority affirmative vote of the Association members present and voting at an Annual Meeting, or in any other alternate adoption method expressly authorized by these Rules and Regulations.
- 11.2.2 As an alternate adoption method authorized by these Rules and Regulations, the Executive Committee may choose to accept written and signed letters signifying an affirmative vote to adopt said amendment from at least five percent (5%) of the Association members.
- 11.2.3 All amendments approved by the Association membership shall take effect immediately.

12. DISPOSITION OF ASSETS UPON DISSOLUTION

- 12.1 Dissolution of the Association may take place only with the consent of not less than two-thirds of the members of the Association.
- 12.2 In the event of dissolution of the Association, the property and assets thereof, following satisfaction of all obligations and liabilities, shall be disposed of exclusively for the purposes of the Association as determined by the members at a meeting convened for the purpose of dissolution. Notice of dissolution shall be given to WEF within thirty (30) days.



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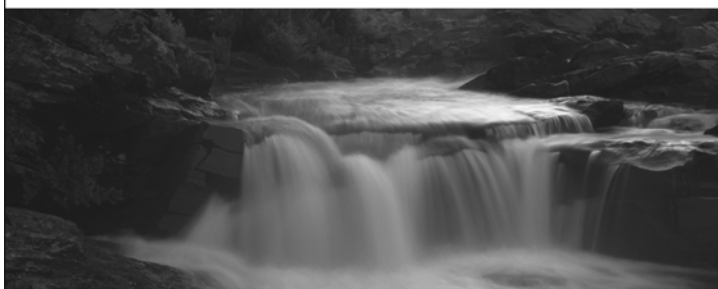
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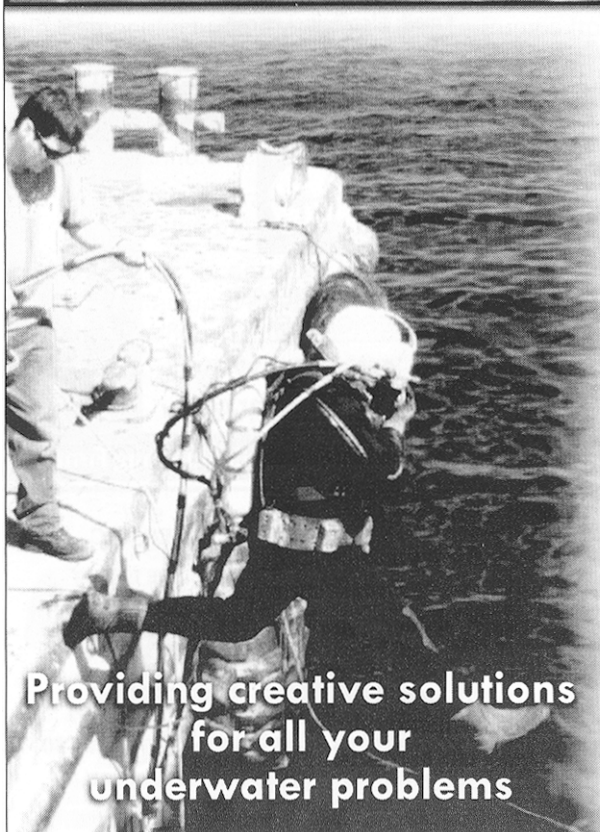
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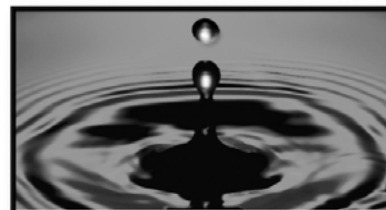


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Signature Required for all new memberships			Date

Sponsorship Information		
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Membership Information		
Membership Categories (select one only)	Member Benefit Subscription (select one only)	Dues
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