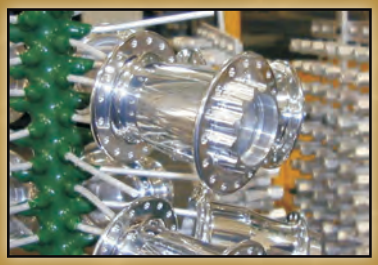
Buckeye Bulletin

Ohio Water Environment Association | Volume 85:2 | Issue 2 2012



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Ohio Water Environment Association

Preserving & Enhancing Ohio's Water Environment

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2012 Annual Conference: June 19-21, 2012

The Bertram Inn and Conference Center in Aurora, Ohio

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Register at www.ohiowea.org ♦ Conference Info pages 33-46

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

T: 614.488.5800
F: 614.488.5801
C: 614.361.2080
E: info@ohiowea.org
www.ohiowea.org

Elizabeth Wick, Publications Chair

Judi Henrich, Executive Manager

Amy Davis, Office Assistant

Stephanie Kellish, Intern

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

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

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

Publication Dates: Spring, Summer, Fall, and Winter

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OWEA is a Member Association of the Water Environment Federation
601 Wythe Street
Alexandria, VA 22314-1994
T: 703.684.2400
F: 703.684.2492
www.wef.org

Water Environment Federation
the water quality people®

Inside this Issue

FEATURES

DEPARTMENTS

The Buckeye Bulletin is published 4 times per year by the Ohio Water Environment Association.
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OWEA Officials

2011-2012 Executive Committee

President Doug Clark
City of Bowling Green
douglas.clark@bgohio.org - 419.354.6274

President-Elect Tom Angelo
City of Warren
tangelo@warren.org - 330.841.2591

Vice President Dan Sullivan
Sullivan Environmental Technologies, Inc.
dan@sullivanenvtec.com - 859.426.5178

Past President Dale Kocarek
Stantec Consulting Services
dale.kocarek@stantec.com - 614.486.4383

Secretary-Treasurer Jane Winkler
jwink1127@aol.com - 513.910.3775

Senior WEF Delegate Kim Riddell
Smith Environmental
kim@go-smith.com - 419.234.4507

Junior WEF Delegate Mark Livengood
Montgomery County
livengoodm@mcohio.org - 937.781.2559

SE Delegate Mike Frommer
URS Corporation
mike_frommer@urs.com - 614.464.4500

NW Delegate Elizabeth Wick
Ohio Environmental Protection Agency
elizabeth.wick@epa.state.oh.us - 419.373.3002

NE Delegate Ted Baker
Baker and Associates
kingsnu@aol.com - 440.461.4577

SW Delegate Jamie Gellner
Hazen and Sawyer
jgellner@hazenandsawyer.com - 513.469.2750

2011-2012 Section Presidents

NW President Tom Horn
thorn@ifmenviro.com

NE President Ed Haller
hallere@neorsd.org

SW President Dan Martin
dmartin@raconsultantsllc.com

SE President Bryan Curry
bcurry@newarkohio.net

2011-2012 Committee Chairs

Annual Conference Ted Baker and Terry Gellner
kingsnu@aol.com, tgellner@ctconsultants.com

Auditing Tom Fishbaugh
webmaster@ohiowea.org

Awards Mark Livengood
livengoodm@mcohio.org

Certification Kathy Cook
kathy.cook8@gmail.com

Collection Systems Bill Horst
horstwj@gmail.com

Contact Hours Marc Morgan
mmorgan@ci.mansfield.oh.us

Finance Steve Morrison
smorrison76@woh.rr.com

Governance Doug Clark
douglas.clark@bgohio.org

Government Affairs Dale Kocarek
dale.kocarek@stantec.com

Laboratory Analysts Eva Hatvani and Denise Seman
oweastatelac@yahoo.com, dseman@cityofyoungstownoh.com

Membership Dale Kocarek
dale.kocarek@stantec.com

Nominating Phil Anderson
phil.anderson@arcadis-us.com

Plant Operations Jim Borton and Kim Riddell
james.borton@ch2m.com, kim@go-smith.com

Pretreatment and Industrial Sharon Vaughn
sharon.vaughn@cityofdayton.org

Public Education Nancy Taylor
ntaylor@ci.newark.oh.us

Publications Elizabeth Wick
elizabeth.wick@epa.state.oh.us

Publicity Cindy Jacobsen
cjacobsen@brwncald.com

Residuals Jamie Gellner
jgellner@hazenandsawyer.com

Safety Ed Nutter
enutter@newarkohio.net

Small Systems Roberta Acosta
rjacosta@wsos.org

Strategic Planning Dianne Sumego
dianne.sumego@arcadis-us.com

Training / Development Phil Anderson
phil.anderson@arcadis-us.com

Utility Enhancement John Newsome
jgnewsome@columbus.gov

Water for People Doug Borkosky and Dale Kocarek
doug@hlbaker.com, dale.kocarek@stantec.com

Webmaster Tom Fishbaugh
webmaster@ohiowea.org

Young Professionals Kris Ruggles and Nick Bucurel
kris.ruggles@strand.com, nick.bucurel@arcadis-us.com

Get Involved

Join a Committee Today

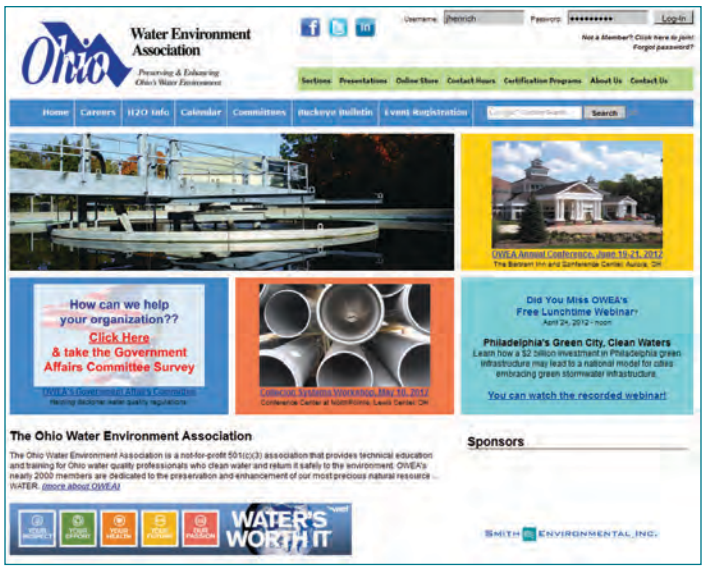
The Ohio Water Environment Association has 25+ committees with focus on various aspects of the water quality field and association operations.

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

OWEA ASSOCIATION NEWS

OWEA's Website Has a New Look

If you haven't logged in recently, visit *www.ohiowea.org* and navigate around OWEA's updated website. Comments, suggestions, and input always welcome at *info@ohiowea.org*.



OWEA Launches YouTube Channel

See the 2012 Operations Challenge teams in action on OWEA's YouTube channel: *http://www.youtube.com/user/OhioWEA*

OWEA Audit Committee Reviews the Books

On March 14th, the OWEA Audit Committee reviewed the association's accounting records and will submit a report to the Executive Committee. During the summer, the professional accounting firm Mulligan, Topy, and Co. will perform a full audit and prepare the association's 990 tax form.

Jane Winkler, (Secretary/Treasurer), Rick Varner and Tom Fishbaugh.(Audit Committee Co-Chairs)

WEFMAX Meetings

WEFMAX (WEF Member Association (MA) Exchange) is an annual program offering MA leaders an opportunity to attend one of four meetings each year that provides a forum to learn what is new from WEF and provides sessions for ongoing exchange of MA information. NE Delegate Ted Baker attended the WEFMAX in Sedona, Arizona in March and Executive Manager Judi Henrich attended the WEFMAX in Baltimore in April. Both spoke at the meetings on Member Association Financial Stability.

2012 Calendar of Events

May 2012

15 SWOWEA Section Meeting
16 NWOWEA Section Meeting/Golf Outing
23 OWEA Executive Committee Meeting
24 NESOWEA Annual Business/Section Meeting
24 SEOWEA Section Meeting
31 OWEA's Free Lunchtime Webinar - Green Infrastructure

June 2012

7 SOWEA Plant Operations Seminar
17 OWEA Executive Committee Meeting
18 OWEA Golf Outing
19-21 2012 OWEA Annual Conference
28 OWEA's Free Lunchtime Webinar - Green Infrastructure

July 2012

19 SWOWEA LAC Meeting

August 2012

2 SWOWEA Young Professionals Tour of Richard Miller WTP
3 NWOWEA Section Meeting

September 2012

20 Collections Hands-On Workshop (SE)
29 WEFTEC

October 2012

1-3 WEFTEC in New Orleans
4 Collections Hands-On Workshop (NW)
10 Collections Hands-On Workshop (SW)
11 SWOWEA LAC Meeting
18 Collections Hands-On Workshop (NE)
19 SWOWEA Operator Education Day
24-25 OWEA Plant Operations/Laboratory Analysts Workshop

November 2012

15 SWOWEA Section Meeting & Plant Operations Seminar

December 2012

6 Biosolids Workshop

Please send all calendar updates to *info@ohiowea.org*. Your event will be noted in the Buckeye Bulletin and on OWEA's online calendar at *www.ohiowea.org*.

President's Message

Douglas Clark
OWEA President

As I write this, my last President's message, spring is in full bloom. Spring happens to be my favorite season of the year as the grass is greening, flowers are blooming, trees are budding, and geese are laying their eggs - all signs of new and renewed life!

Over the last year the Ohio Water Environment Association has shown the same signs of new and renewed life as we have begun to promote outreach; working together, finding commonality with our peers and becoming part of the solution to water quality issues, instead of just being bystanders.

During my time on the Executive Committee, and especially as President of the Ohio Water Environment Association, it has occurred to me that OWEA (like me) has been somewhat of an introvert. We have been very comfortable teaching and training ourselves, yet not that comfortable interacting with other water quality groups, agencies, and industries. Over this last year, the Executive Committee has taken the first few baby steps to get out of our "comfort zone" by making a conscious decision to interact with others.

So what are these small steps the Executive Committee has taken and how do they help you as a member?

- Your Executive Committee members have reached out to the Ohio Section of the American Water Works Association (OAWWA) and signed a Memorandum of Understanding (MOU) to hold a joint Water Professionals Conference in August 2014. This benefits you as it allows our organizations to "get to know each other", reduces costs, eases the burden of attending two separate conferences to earn contact hours, and fosters teamwork in a holistic approach to our most precious resource, **water**.
- The President, President-Elect, and Vice President of your organization met with the Directors of Ohio EPA, Department of Natural Resources, Department of Health, and Department of Agriculture. Due to this meeting, OWEA is now included on the "interested party" list for new water quality rules and regulations. This helps you as a member as it allows your organization to be "a voice of one" during the rule making process instead of waiting until the 30 day comment period.
- Since our initial contact with the Directors expressing our desire to become a part of the solution to water quality issues, OWEA was invited to participate, and has representation, on the Point Source/Urban Runoff Nutrient Workgroup.
- As a result of communicating OWEA's message and objectives more effectively, we were requested by State Senator Schaffer's office to provide comments and testify in favor of Ohio Senate Bill 294 before the Agriculture, Environment and Natural Resources committee and we enthusiastically did so.
- I met with Gail Hesse, the Executive Director of the Lake Erie Commission, and explained who OWEA is and that we would like to be involved in solutions to Lake Erie's water quality issues. Ms. Hesse was excited about our interest and requested that an OWEA representative come to their next meeting to introduce OWEA and share our desire to become a stakeholder in helping find solutions to Lake Erie's problems.

All of these baby steps help you by virtue of having a voice of nearly 2,000 members speaking as one to be part of the holistic solution to industry, water quality, and regulations that promote both.

Just like spring, OWEA is finding new life and renewing the life that we have already valued. As we begin this new era of outreach, working together, finding commonality with our peers, and helping be part of the solution to water quality issues, instead of just being bystanders, it is incumbent upon you to find your new and renewed life in your organization, OWEA, and step a little outside of your comfort zone and help continue the forward progress being made!

As words cannot express what an honor it has been to serve you as President of OWEA, a "thank you" will have to suffice.

THANK YOU ! ! ! !

Doug Clark, OWEA President
douglas.clark@bgohio.org
WPC Superintendent, City of Bowling Green

Upcoming Executive Committee Meetings:

May 23, 2012 - 10 a.m.
OWEA Office in Columbus

June 17, 2012 - 6:30 p.m.
Bertram Inn and Conference Center in Aurora

OWEA's 2011-2012 Vice-President Dan Sullivan. President Doug Clark, and President-Elect Tom Angelo

LEAD, FOLLOW, OR GET OUT OF THE WAY . . .
INTRODUCTION TO STRATEGIC PLANNING

by Dale E. Kocarek, P.E., BCEE, OWEA Past President

I was prompted to write on the subject of strategic planning for several reasons. The first is that this is a timely subject. The Water Environment Federation (WEF), under President Matt Bond, rolled out its new strategic plan a few months ago. To develop this plan, WEF solicited input from a number of parties, including Member Associations at the 2011 WEFMAX meetings and through questionnaires to "MA Leaders." Many questions pertained to the role that WEF should play in our industry through education and as an advocate for the promotion of water quality and technical education in the marketplace, research and development including driving innovation, and working more closely with member associations, and expanding its presence abroad.

The second reason is to discuss where strategic planning rests within our own Ohio Water Environment Association (OWEA). While we traditionally seek to mirror WEF through a common mission statement, core beliefs, and operational practices, it is critical to understand that OWEA is not – nor ever should be – WEF or a "mini" WEF. Ohio has its own needs, challenges, local issues, and personality to make it a truly separate entity. After completing eight years on the OWEA Board, I believe that the greatest success comes when we operate in a manner that is complementary and harmonious with WEF. In this way we achieve positive synergism.

OWEA's efforts into the realm of strategic planning have not as yet resulted in a strategic plan. As president, I initiated a Strategic Planning Initiative, but after a slow, but promising start, my term ended. President Doug Clark re-assigned the bulk of this initiative to the Governance Committee handled by the four section delegates. This task group developed an annual budget and discussed needed financial reserves, as well as purpose of the reserves, which were issues that were timely rather than long term visionary planning. Please don't get me wrong; both are important. But dealing with issues in the "here and now" tends to be easier than long-term visionary planning.

There are many books and treatises on the subject of strategic planning, including one called *Strategic Planning for Dummies*, which I own. In reviewing any of these, you will find they have one thing in common: they advocate a similar starting point, which is a realistic self-appraisal. To quote England's puritanical leader, Sir Oliver Cromwell, (1599 - 1658), "when one is having his/her portrait painted, it should be painted warts and all." Cromwell was correct. While this may seem intuitively obvious, I can attest that it is not. Many organizations are polarized by positive bias, which amplifies success and minimizes failure.

A good case example is our own Ohio Water Environment Association (OWEA). I have heard statements, time and time again, attesting to the gains that we have made in training and the professional profile that we have gained over the last decade. To be certain, this is true and it is important to acknowledge victories. But we must forensically evaluate our failures and shortcomings, in addition to being on our guard and plan for the next "turn in the road." By anticipating changes both internal and external before they happen, we can be positioned to meet future needs of our members and industry in a realistic, relevant, and effective way. Being a leader in "mastering change" could be one of our legacies.

The natural question is "how do we begin this process," given OWEA is largely a volunteer army, and most people have paying jobs? In my opinion, the first step is to reestablish an independent Strategic Planning Committee, and perform the realistic self-assessment of which I spoke. Following this, I recommend that the Strategic Planning Committee in conjunction with our Sections and Executive Committee, develop a list of directed questions, tied to critical organizational goals and objectives to help direct the planning effort. Possible questions may include the following:

1. What does our industry need, and do we have either the resources or ability to help meet this need financially or the prowess to develop critical programs and activities? Also, will this need change or evolve in the future?
2. Who are our key workers, what are their skills, and how do we encourage and engage them to get the best result? We need leaders to perform critical thinking, and develop plans, position statements, and policies.
3. Who will be our spokespersons to carry our message forth to the world outside of our membership to elected and appointed officials, and other organizations? The President changes every year, and organizational continuity is necessary. Is our organizational structure correctly suited to meet this challenge?
4. What is the best way for us to build long-term, positive relationships with sister organizations to allow us to maintain our identity but unite when needed to carry our message of clean water and common sense regulation forth?
5. How can we work better with our student chapters in universities, which are also aligned with the American Water Works Association (AWWA) and the American Academy of Environmental Engineers (AAEE)? Students are the future of our industry.
6. Will work be performed by our volunteers or paid staff, and are our organization's finances and expectations correctly aligned?

As a former President of OWEA, I am in a unique position to list several challenges that need to be overcome to move forward beyond where we are today:

1. There is a lack of continuity in the "face person" of the organization. The President's term of one year is far too short to undertake long-term projects and build long-term relationships with others as a key spokesperson for the organization. Each year there is a new President with a new approach. As a result, and by the inherent nature of the position, the President's focus is on short-term issues to be done within one year. Using football terminology, this means that every play has to be a

THANK YOU TO THE EMPLOYERS WHO SUPPORT OWEA VOLUNTEERS

The members of the Executive Committee of the Ohio Water Environment Association work many long hours on behalf of the organization. OWEA would like to thank their employers for their support of their service and the mission of preserving and enhancing Ohio's water environment.

The City of Bowling Green, Ohio Douglas Clark, President *WPC Superintendent, City of Bowling Green Ohio*	MONTGOMERY COUNTY Mark Livengood, Junior WEF Delegate *Water Reclamation Superintendent - Montgomery County*
City of Warren Ohio Historic Capital Of The Western Reserve Tom Angelo, President-Elect *Director Water Pollution Control, City of Warren Ohio*	URS Mike Frommer, P.E., SE Delegate *URS Corporation*
Sullivan Environmental Technologies, Inc. Dan Sullivan, Vice President *President, Sullivan Environmental Technologies, Inc.*	Ohio Environmental Protection Agency Elizabeth Wick, P.E., NW Delegate *Environmental Engineer/Section Manager, Ohio EPA, NWDO*
Stantec Dale Kocarek, P.E., BCEE, Past President *Stantec Consulting Services, Inc.*	Baker & Associates Cleveland Ohio Ted Baker, NE Delegate *President, Baker & Associates*
The City of Hamilton, Butler County Ohio Jane Winkler, Secretary/Treasurer *City of Hamilton (Retired)*	HAZEN AND SAWYER Environmental Engineers & Scientists Jamie Gellner, P.E., SW Delegate *Hazen and Sawyer*
SMITH ENVIRONMENTAL, INC. Kim Riddell, Senior WEF Delegate *Sales Associate, Smith Environmental*	The Ohio Water Environment Association is a volunteer-based organization and is very appreciative of the companies who encourage their employees to participate on OWEA Committees, Sections, Workgroups, and at OWEA Events with the goal of preserving and enhancing Ohio's water quality environment.

short pass. Case in point: while President Doug Clark and I (OWEA's immediate Past President) hold very similar beliefs and a common philosophy, we are still different. This makes continuity challenging to achieve under even the best of circumstances.

2. OWEA must recognize that the work required of active and engaged chairs and board members is growing more complex, and our workers must be up to the challenge. There is a lot of time and intellectual effort required, and the work is not always easy.
3. WEF's timeframe and ours are not often in sync. Our business cycle is essentially one year. WEF's surveys and programmatic changes, which are longer than one year, straddle the terms of several OWEA Presidents.

As I conclude my article, I wish to end on a positive note. There are many things that OWEA has done well through the years, and I am confident that we can continue to move forward and evolve to meet the needs of our members and our industry. OWEA has a lot of diverse talent, energy, and experience, but this talent must be harnessed and organized like all power of the universe. The key challenge is how to do that, and at the same time be realistic as we answer this question. It is with a sustained and honest long-term strategic planning process that we can move our organization forward. This begins with a look in the mirror. If we agree to do that, with an open and flexible mind, I promise things will look pretty good. As I said in my closing speech as President, it is with this talent and cooperative spirit we can solve any problem and climb any mountain.

Dale E. Kocarek, PE, BCEE
Stantec Consulting Services, Inc.
OWEA Past President
dale.kocarek@stantec.com

Career Opportunities

The Career Opportunities page is the most visited page on OWEA's website.

- **No charge for job seekers.**
- **No charge to post a position** if you or a fellow employee are an OWEA/WEF member.
- **$115 for a 30 day posting** if not a member.
- **$115 for a Professional Membership**
  We encourage you to join OWEA and reap all the benefits of membership. Same price as a posting!

Visit *www.ohiowea.org* and select Career Opportunities or contact OWEA *(614.488.5800 or info@ohiowea.org).*

OWEA's 2012 Specialty Workshop Schedule

Collection Systems Workshop
May 10, 2012

Plant Operations/Laboratory Analysts Workshop
October 24-25, 2012

Biosolids Workshop
December 6, 2012

Information and Registration at
www.ohiowea.org

WEF Delegates' Report

Kim Riddell

Mark Livengood

The House of Delegates (HOD) and WEF staff have been busy working on multiple projects, the largest of which is the development and implementation of WEF's new Strategic Plan. This is currently being rolled out and the guiding principals and critical objectives are shown on the page to the right. The three main critical objectives of the Strategic Plan are as follows:

1. Drive Innovation in the Water Sector
2. Enrich the Expertise of Global Water Professionals
3. Increase the Awareness of the Value of Water

WEF's Board of Trustees (BOT) is scheduled to roll-out a revised WEF Strategic Business Plan in mid-2012. The HOD needs to be ready to react to the Strategic Business Plan, embrace it, and develop actions as to how the HOD will insure acceptance and implementation by the member associations (MAs) and members. Approximately 25 HOD members serve on the HOD Strategic Plan (SP) workgroup. Conference calls have taken place prior to and after each WEFMAX meeting to incorporate and discuss the feedback from each of these meetings with regards to the WEF Strategic Plan and the upcoming development of the HOD strategic plan. Mark and I are both actively involved in this workgroup.

Representatives from the following groups involved with operators: House of Delegates' Operator Outreach Work Group, Plant Operations & Maintenance Committee, Professional Development Committee, Operations Challenge, and Collection Systems Committee's Utility Group have been actively participating in the Operator Initiative Workgroup throughout 2012. Our own Dianne Sumego is the chair of this workgroup. They will be meeting in June during an invited session prior to the WEF Collections System Specialty Conference in St. Louis. There will be additional information regarding this workgroup's activity in upcoming reports. Please see the WEF website for additional information.

These are just a few of the highlights from the active workgroups and Mark and I will provide continual updates on the progress of the active workgroups throughout the upcoming year.

We would like to congratulate the winning teams from the Operations Challenge Competition, which was held April 17, 2012 at the Allen County Sanitary Engineering Department in Lima, Ohio. It was a well-attended event and this year we welcomed a brand new team to the competition from Miamisburg, Ohio. Please contact your Plant Operations Co-chairs, Jim Borton (330.201.1945) or Kim Riddell (419.234.4507) for information regarding the competition or what it takes to put together a team. There are existing teams out there and past competitors who would be happy to assist any new teams in preparing for the competition. Again, congratulations to our winning teams who will be representing OWEA in the national competition in October at WEFMAX in New Orleans!

As always, if you have any questions or comments pertaining to WEF activities, please contact Mark or me and we would be happy to discuss them with you.

Kim Riddell, Senior WEF Delegate, *kim@go-smith.com*
Mark Livengood, Junior WEF Delegate, *livengoodm@mcohio.org*

WATER SHOULD BE CLEAR, BUT NOT INVISIBLE

by Jeff Eger, Executive Director, Water Environment Federation

Water is incredibly valuable — you and I know that. But how much is water worth to the general public? Unfortunately, it's not appreciated as much as it should be. What's out of sight often is out of mind, and what's delivered and whisked away like magic is often taken for granted.

This is a familiar refrain in the water sector. But the Water Environment Federation (WEF) is seeking to change that.

On March 22, WEF officially launched the WATER'S WORTH IT™ public messaging campaign. WATER'S WORTH IT is designed to demystify water and water treatment, as well as generate greater awareness of the value of water. One of its goals is to promote the direct connections between what our profession does and what the public values — jobs, health, security, and clean water.

WATER'S WORTH IT features simple, compelling messages such as:

- Clean water is everyone's responsibility.
- Be as good to water as water's been to you.
- Indispensable to jobs, the economy, our health, and our communities, water runs through our lives in many ways.

WATER'S WORTH IT made its debut as a pilot campaign at WEFTEC® 2011 in Los Angeles. The response from WEF members and other stakeholders was incredibly positive. We drew on all the input we received to further develop the campaign, which we officially launched to the water sector on March 22, World Water Day.

I encourage you to visit the new campaign website, www.WatersWorthIt.org, which features a toolkit with graphics, fact sheets, and other materials. These materials are versatile, so you can use them on their own or incorporate them in to your existing communications plans. Materials can be customized to reach any audience, in any location, about any issue.

Water Environment Federation
the water quality people℠

Strategic Plan

Mission

Provide bold leadership, champion innovation, connect water professionals, and leverage knowledge to support clean and safe water worldwide

Vision

WEF - essential to water professionals around the world

Guiding Principles

Leadership\ *inspire and champion responsible water policies and practices*
Stewardship*serve the public and the environment through promotion of clean and safe water worldwide*
Collaboration*work across the water sector to achieve results*
Integrity*uphold the highest standards of ethics and excellence*
Passion*pursue our mission with unwavering commitment to clean and safe water for all*

Critical Objectives

Drive Innovation in the Water Sector
Enrich the Expertise of Global Water Professionals
Increase Awareness of the Value of Water

Drive Innovation in the Water Sector

Provide bold leadership for water sector efforts to help communities address water challenges and benefit from the value of their renewable resources

- Champion sector-wide initiatives to improve water services through innovative practices.
- Facilitate the identification and implementation of breakthrough concepts to support resource recovery
- Apply holistic water management approaches to infrastructure development and renewal.
- Inspire and support a movement toward an energy-positive water sector.
- Link leading edge research to the practical implementation of innovative technologies and practices

Enrich the Expertise of Global Water Professionals

Advance WEF's platform for knowledge exchange among global water professionals

- Position WEFTEC as the principal global water event.
- Deliver enhanced and relevant, cutting-edge education and training to a broad spectrum of members and water professionals.
- Expand WEF's global knowledge platform through a broadened membership.
- Implement integrated and innovative content delivery channels.
- Connect water professionals around the world to the value of WEF membership, through enhanced use of technology.

Increase Awareness of the Value of Water

Expand WEF's commitment to public advocacy for clean water and public health
Inspire respect for water and water professionals

- Promote and participate in global water policy discussions, leveraging WEF's unique position as an unbiased knowledge source.
- Engage WEF members and Member Associations in advocacy programs to support and enhance the impact of their efforts.
- Deliver timely and reliable information on legislative and regulatory developments to WEF members.
- Amplify WEF's voice in the global water sector and with the public.
- Instill the value of water and underscore the importance of the water profession.
- Advance WEF's commitment to holistic and innovative approaches to solving water challenges.

The central message is a powerful one. Whenever I wear my WATER'S WORTH IT pin, it never fails to spark a conversation. Whether I'm at a WEFMax or Member Association meeting, on Capitol Hill, or on an airplane, I inevitably get comments such as, "What's that?," "You're right," or my favorite, "Hell yeah!"

We are already generating some buzz with WATER'S WORTH IT, and we are just getting started. But water needs our unity. In order to fully realize the potential of this campaign, we need you to join us and be a voice for water.

There are several simple ways to do this. You can download the toolkit materials at WatersWorthIt.org, and start putting them to use. You can take the "Water's Worth It" pledge and declare that clean and safe water is important to you. And you can send us your feedback at WatersWorthIt@wef.org. We want to hear how we can develop WATER'S WORTH IT to suit your needs.

We are very excited about the campaign and encourage you to think about how you might use it in your community programs and outreach efforts. Help us keep water visible. WATER'S WORTH IT!

NESOWEA

Ed Haller, President

There are times when we are reminded that the wastewater treatment profession is one that has its share of safety concerns. On March 1st, a methane explosion, due to an unknown ignition source, severely injured two maintenance employees at the Struthers wastewater treatment plant located southeast of Youngstown. Gary Wilson and Ken Stiver suffered burns over 90% of their bodies as a result of the explosion and were life-flighted to University of Pittsburg Medical Center. Gary Wilson passed away on March 29th as a result of complications from the injuries he sustained in the explosion.

The NES Executive Committee voted to designate the 50/50 raffle proceeds collected at the March section meeting, normally used for scholarship funds, to be added to the fund established for the families of the men injured in the explosion. Even the winner's half was graciously donated back to the fund. Those who would also like to contribute to the fund established for the families of this tragedy can send their contributions to the Struthers Federal Credit Union at 964 Fifth St., Struthers, OH 44471.

Looking back, the Northeast Section has had three successful meetings already this year. On January 19th, the Operations Seminar was held at the Days Inn, Richfield. There were 223 in attendance and 6.5 contact hours were presented. Then on February 23rd, the Industrial Waste Seminar was held also at the Days Inn, Richfield. There were 262 in attendance and 6.0 contact hours were presented.

Most recently, the Northeast Section held a meeting in Geneva on March 29th. There were 134 in attendance and 3.5 contact hours were presented. Attendees were impressed with the Geneva wastewater treatment plant as well as the Spire Institute, which hosted lunch and the technical sessions. The NESOWEA Watershed Seminar was held April 26th. We'll report on attendance for this event in the next issue.

We certainly hope you will be able to join us in Orrville on May 24th. In addition to touring the WWTP and WTP, attendees will be touring the pretreatment facilities of Smith's Dairy who will be supplying ice cream later that day. This meeting will also serve as our annual business meeting and election of officers. If there is anything you might suggest we can do to better meet the needs of our members, please let anyone on the Executive Committee know.

Ed Haller, *hallere@neorsd.org*

Lance Willard, Vice President
Mary Ann Driscoll, Secretary
Art Kimpton, Treasurer
Denise Seman, 3rd Yr EC
Tom Voldrich, 2nd Yr EC
Paul Solanics, 1st Yr EC
Ted Baker, State Delegate
Mike Welke, Past President

(top) NESOWEA February Industrial Waste Seminar
(bottom two) March Section Meeting and Tour of Geneva WWTP

NWOWEA Section Meeting - May 16, 2012 in Pemberville

NESOWEA Section Meeting - May 24, 2012 in Orrville

SEOWEA Section Meeting - May 24, 2012 in Newark

SWOWEA Plant Operations Seminar - June 7, 2012 in Greene County

NWOWEA

Tom Horn, President

As spring has officially sprung, several events and happenings have been occurring and scheduled throughout the NW Section. Some of the news in the Section includes the recent State Ops Challenge, which was held April 17th in Allen County, the addition of a new LAC Co-Chair to the NW Section, Science Fair Events, and the upcoming Section Golf Outing in May.

The NW Section held its January Executive Committee meeting on January 13, 2012 at the OEPA NW District Office in Bowling Green, Ohio. Committee chairs and officers provided committee reports, addressed old and new business, and final discussions on future section meetings were conducted.

I'm also pleased to welcome Bridgit Shiets (Bellevue) as a new Co-Chair for the NW Section LAC. She will be heading up future meetings and working with the current Chair Kevin Hughes (Tiffin). Please join me in congratulating her on getting involved with OWEA. If you have questions regarding lab practices and pertinent topics, you can find her contact information on the OWEA Website.

NWOWEA has also been involved in area Science Fairs and has awarded winners for the following Science Fairs:

- Kathleen Sweeney, Ben Logan HS (Zanesfield) – Ohio Northern University Science Fair
- Chris Hicks, Clyde HS – Heidelberg University Science Fair
- Nathan Sell, Bowling Green HS – University of Toledo Science Fair
- Kalen Sutandar, Dempsey MS (Delaware) – OSU- Marion Science Fair

A special thank you for volunteers taking part as Science Fair Judges – Wade Leimeister, Rhonda Morris, John Hoffman, Nichole Jones, Mike Maringer, Paul Fletcher and Aubrie Koontz.

The NW Section Meeting was held March 14th in Swanton. Superintendent Chris Witt and his crew did an excellent job hosting the meeting. Tours, business meeting and technical sessions were provided. Valleywood Golf hosted the meal and technical sessions. Doug Borkosky, Water for People Co-Chair, headed up our Section Pancake Breakfast at the Swanton Plant. The event was very successful, raising nearly$400 for Water for People. Speakers for the events included Steve Wordelman (Jones & Henry), Luigi Tiberi (OVIVO) and Gary Bauer (Jones & Henry). We cannot thank our presenters enough. Remember, they help keep our licenses and education up to date!!

The May Section Meeting and Golf Outing is scheduled for May 16th in Pemberville, Ohio. The technical sessions and business meeting will occur first thing in the morning followed by tours and golf after lunch. We hope you can join us for this informative and fun annual event.

Congratulations to OWEA / WEF Award Winners from the NW Section!

- Josh Wehring – NW Section YP Award Winner
- Marc Morgan – WD Sheets Award
- Dan Miller – Engineering Lifetime Award
- Doug Borkosky – J.W. Ellms Award
- Andy Patterson – Collection Systems Award
- Tom Horn – F.H. Waring Award

Please watch the OWEA website for important dates and events. As always, we invite you to get involved and contact your Section EC or Committee Chairs for help or any questions you may have.

Feel free to contact me with any comments or questions.

Tom Horn, *thorn@ifmenviro.com*

SEOWEA

Bryan Curry, President

The Southeast Section of the OWEA met on February 16th at Owens Corning in Newark, Ohio to tour their Pretreatment process. Owens Corning uses a Sequencing Batch Reactor to treat the waste from the production plant and their private landfill. The Section also toured the Granville Owens Corning Research and Development Center. The Center has an aerated lagoon type system that has its own NPDES permit. The morning tours were followed up by afternoon lunch meeting and presentations with 55 attending.

The Southeast Section will hold two more meetings this spring. The first meeting was April 26th in Columbus, Ohio at the Jackson Pike Wastewater Plant. The second meeting on May 24th will be held in Lancaster, Ohio. Please register online if possible. This is the annual awards meeting for the section along with first year director nominations for the Executive Committee. Anyone interested in serving on the board please can contact me through my email listed below.

Several individuals from our section have been involved in judging science fair entries with water-based themes. We are responsible for 5 districts in our area. Thanks to Fred Smith for coordinating the effort, contacting each district, and recruiting judges. Also, thank you to those who volunteered to be judges.

Bryan Curry, *bcurry@newarkohio.net*

SWOWEA

Dan Martin, President

We are fortunate to have a solid financial footing in the Southwest Section. We have rolled out two benefits this spring, which express appreciation to our Southwest Ohio WEF members and attempt to encourage new membership in our organization.

Our first member appreciation benefit of 2012 added to the successes of our March 8, 2012 section meeting in Yellow Springs. WEF members who pre-registered through *www.ohiowea.org* received half-price admission to an educational (and delicious) meeting. Special thanks to YSI whose sponsorship of this meeting's lunch costs helped us financially defray this initiative. Around 90 attendees had an opportunity to earn water and wastewater contact hours with tours of Yellow Springs' treatment facilities. Attendees also toured YSI's manufacturing facility. This unique experience was near the limits of our section boundary, but still proved to be a great draw.

The second membership initiative for 2012 waives the $20 admission to the May 15th section meeting for anyone who has sponsored a new WEF member since January 1, 2011 (up until the early registration deadline for the May meeting). The May meeting will be at MSDGC Sycamore Creek Treatment Plant. New members can attend a section meeting for free with a paid membership application, so this is a $40 value for your employer, which goes a long way toward defraying new membership costs.

Great job to our Southwest Section Executive Committee Members and Committee Chairs who have served faithfully and steadfastly this year. During the business meeting of our March 8th section meeting, we presented our nominations for the 2012-2013 term and a vote will be taken at the May section meeting:

Barb Wagner, President (MSDGC)
Steven Reese, 2nd Year Director (Hazen and Sawyer)
Bob Beyer, Vice President (Mason)
Alison Hudson, 3rd Year Director (EHS Technology Group)
Tom Brankamp, Treasurer (Woolpert)
Dan Martin, Past President (RA)
Roger Rardain, Secretary (Fairborn)
Jamie Gellner, State Delegate (Hazen and Sawyer)
Jason Tincu, 1st Year Director (Xenia)

The Southwest Section meetings in Yellow Springs in March

Check out upcoming events in the Southwest Section. June 7th brings our annual Plant Operations Seminar at the Greene County Media Room in Xenia. We have a totally free Laboratory Analysis Committee Meeting on July 19th. See *www.swowea.org* for additional details.

As you gear up for OWEA's 2012 conference, you can keep the 2013 conference in the back of your mind. The conference will be at the Great Wolf Lodge in Mason, Ohio and will be another great learning and networking experience in a resort atmosphere. Thanks to Jeff Olsen (*jeff.olsen@hdrinc.com*) and Marc Nusser (*marc@jdtco.com*) who are co-chairing the 2013 conference effort. Please contact them if you would like to get involved.

Dan Martin, SWOWEA, *dmartin@raconsultantsllc.com*

Your WEF Membership Is Worth One Contact Hour

You can use this number during your renewal process:

OEPA-B398593-X 1 Hour
Professional Membership in WEF, AWWA, or ORWA

The course approval number can only be used one time per renewal. It cannot be used twice to renew one certificate, regardless of the number of individual memberships held in any professional organizations.

You must include a copy of the membership card with the renewal application.

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

Keep OWEA informed of your current mail and email address so you receive timely communications regarding upcoming events, important news affecting water environment issues, and your copy of the Buckeye Bulletin.

Please check your member profile by logging into the member only access area at *www.ohiowea.org*, calling OWEA at 614.488.5800, or emailing *info@ohiowea.org.*

YOUNG PROFESSIONALS COMMITTEE

by Nick Bucurel, Chair

Watershed 101 Workshop

One of the major initiatives of the YP Committee this year was to conduct a Watershed 101 – Back to Basics Workshop. This workshop provided a great opportunity for YPs to strategize and manage a technical workshop from concept to completion. The workshop was held April 5, 2012 in at the Ohio Union on the campus of The Ohio State University and was an overwhelming success that attracted 110 attendees! We were fortunate to have a wide range of speakers covering the breadth of watershed topics including challenges and municipality experiences in implementing watershed management, best management practices and green infrastructure approaches to stormwater management, and ultimately understanding funding mechanisms that support watershed management projects. During lunch, OWEA President Doug Clark joined YPs and students in attendance to discuss professional involvement in the OWEA.

Thank you to all of our speakers who generously gave of their time to present on such an important topic to our industry. It is our collective efforts and thoughts on best practices that will bring us closer to finding an integrated watershed approach to the challenges we face. The workshop was not meant to be a single event, but a starting point for the work that must be done to continue the collaboration and education necessary to better protect the environment. The committee would like to especially thank Judi Henrich, Amy Davis, and Stephanie Kellish for all of their time and effort in helping us put this together. There is no way this would have been possible without their tremendous effort! As a reminder, all presentations given at workshops and conferences can be found on the OWEA website at *http://www.ohiowea.org/presentations_2012.php*.

Pictured: Gail Hess (Ohio Lake Erie Commission), Brian Hall (Ohio EPA), Nick Bucurel (OWEA YP Chair), Anil Tangirala (OWEA Watershed Chair), Betsy Yingling (NEORSD), and Joe Bonnell (OSU) - Morning Presenters.

Notable Happenings

- The Southwest YPs and Watershed committees organized a tour of the new Christian Moerlein Lager House located between the Bengals and Reds Stadiums on the Ohio River. Tilsley and Associates led us on a tour of the unique LEED certified building, and head brewmaster Richard Dube provided a tour of the brewery and the brewing process. Over 50 people attended the event, and had the opportunity to network with colleagues and enjoy the wonderful beer selection after the tour! Thanks to all who attended! The Southwest YP group is also planning a tour of GCWW's Richard Miller Water Treatment Plant for August 2nd at 3:30 pm. This 114 MGD facility utilizes UV disinfection and Granular Activated Carbon treatment. Contact Kelly Kuhbander (information below) for additional details.

- A group of Northeast Section YPs met after hours in February at Michael Symon's renowned restaurant, the B-Spot, to discuss future plans. The YP committee plans to have their next event at the City of Solon WWTP. The objective will be to invite local area high school students and college students to inform the public more about the Wastewater Industry. The date and time have not been set. Contact Ashley Williston (information below) for additional details.
- Congratulations to Laith Alfaqih, winner of the free conference registration for the OWEA Watershed Conference. Laith submitted 150 words depicting his desire to attend the conference, and was selected for free registration.
- The Southeast Section is looking for a volunteer to lead the Young Professionals committee. If you are interested in getting your feet wet in OWEA, this is a great opportunity to meet new people from around the state, develop leadership skills, and learn more about how OWEA works. If you are interested or would like more information, contact Brandon Fox (*bfox@co.fairfield.oh.us* or 614.322.5200).

If you have any questions regarding the Young Professional or Watershed Committees, upcoming events, would like to be added to our mailing list, or would like to become more involved please contact your local Young Professionals Committee Chair:

NW - Walter Ariss, *walter.ariss@epa.state.oh.us*
NE - Ashley Williston, *awilliston@ctconsultants.com*
SW - Kelly Kuhbander, *kelly.kuhbander@strand.com*
SW - Ian Laseke, *ian.laseke@cincinnati-oh.gov*
SE - Brandon Fox, *bfox@co.fairfield.oh.us*

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

Nick Bucurel
216.912.2141, *nick.bucurel@arcadis-us.com*

LABORATORY ANALYSTS COMMITTEE

by Eva Hatvani and Denise Seman, Co-Chairs

The Lab Analysts Committee has worked hard all year to plan meetings and provide contact hours for fellow wastewater professionals at the state and section levels. At this time, we would like to thank all of the committee chairs for their dedication and commitment. If you see one of your section chairs, please take a moment to thank them.

We would like to welcome Bridget Shiets from the Bellevue WWTP to the team. She will be co-chairing the NW Section LAC with Kevin Hughes. Welcome Bridget!

The lab committee participated in the Operations Challenge by setting up and providing all of the materials for the lab event. The event was held on April 17th at the Allen County Sanitary Engineering Department in Lima, OH.

The renewal process for the Wastewater Analyst Certification has been completed. If you have not renewed and would like to, a form can be found on the OWEA website. Please send it in as soon as possible to keep your certificate current.

The agenda for the joint Plant Operations/LAC Joint Workshop is in the planning stages. The workshop will be held October 24th & 25th in Columbus. Topics being considered include: BOD, QA/QC, DMRQA, low level Hg, lab audits, nitrate-nitrites, hexavalent chrome, phosphorus, and ammonia. If you have any other ideas or would like to be a speaker at next year's workshop, please send us an email. Please remember to use the new email address for any communication with the State Lab Committee or WW Lab Analyst Certification Program. The email address is *oweastatelac@yahoo.com*.

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

Wastewater Analyst Exams

The Wastewater Analyst Exams were given on Friday, April 27, 2012 in Cleveland at the Northeast Ohio Regional Sewer District and in Columbus at the City of Columbus Sewer Maintenance Operations Center. The next set of exams will be given on Friday, October 26, 2012 with an application deadline of Friday, September 14, 2012. Please DO NOT use any old application forms. Please print the application form that is on the OWEA Website.

NW LAC – Kevin Hughes and Bridget Shiets

The NW LAC is planning a lab meeting tentatively for June 27th from 8:30-12:00. It will be held at Fort Ball Pizza in Tiffin. This location has been the venue for the past couple of meetings. There will be a $15 fee which will include a buffet lunch and attendees will earn 3 contact hours. The speakers and topics are pending. For more information on this meeting please contact Kevin Highes or Bridget Shiets.

SW LAC – Roger Rardain and Jim Davis

On February 2, 2012, the SW Section Laboratory Analysis Committee held a meeting at the TestAmerica, Inc. in Dayton, OH. Attendance was outstanding, with 49 attending.

Technical sessions included the following presentations:

- Sampling: How to Collect a Good Sample
- Method Detection Limit Studies
- Metals Analysis
- Laboratory Tour/Demonstrations

3.25 contact hours were approved.

Refreshments were provided by TestAmerica.

SW LAC meeting information:

Spring 2012 LAC Meeting

3 April 2012 – Hosted By: Montgomery County Environmental Services, 1850 Spaulding Road, Kettering, Ohio 45432. 6 contact hours were approved. 65 people attended this informative meeting.

Summer 2012 LAC Meeting

19 July 2012 – Hosted By: YSI, Inc., 1700/1725 Brannum Lane, Yellow Springs, Ohio, 45387. Approval for 4.75 contact hours is pending.

Fall 2012 LAC Meeting

11 October 2012 – Hosted By: City of Sidney WWTP, 420 Folkerth Avenue, Sidney, OH 45365

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

Roger Rardain, City Of Fairborn
937.754.3075, *roger.rardain@ci.fairborn.oh.us*

Jim Davis, Montgomery County Water Services
937.496.7051, *davisji@mcohio.org*

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

NE LAC – Beverly Hoffman

The Northeast Section began the 2012 year with a training event on April 13, in Streetsboro. Kristen Greenwood and Nicole Schafer from NEORSD prepared us for summer with "Countdown to Chlorination Season: Bacteria Methodology Review", while Kevin Moyers from Lab Casework, Inc., guided us through an effective and efficient laboratory with "Designing an Environmental Laboratory".

Future training sessions are being planned for July and October, with potential topics covering Oil & Grease methods, Phosphorus, the Nitrogen Cycle and a live sludge microorganism presentation. Please make sure to check the Sparkling Waters newsletters and online at *www.ohiowea.org* and *www.nesowea.org* for details of future events.

If you would like to be added to our NES membership directory and receive automatic updates for training events and other news, please send your contact information to *nesowealac@gmail.com*. Also, if your email has changed, please let me know so I can update our directory. We invite you to attend our training events, which are free and open to everyone.

LAB CERTIFICATION EXAM

Fall exam date: Friday, October 26, 2012
Application Deadline: Friday, September 14, 2012

Print applications from the OWEA website as the mailing address has changed to the OWEA Office.

We are always actively seeking new venues, topics and speakers for our LAC section meetings. Any and all suggestions are welcome. If you would like to volunteer in any way, please get in touch with any of the NES LAC members:

Beverly Hoffman *nesowealac@gmail.com*
Kathy Richards *krichards@akronohio.gov*
Dale Holmes *daleh@mclw.com*
Lisa Feigle *lisaf@gcdwr.org*
Amy Starkey *ajstarkey@co.stark.oh.us*
Marie Simon *marie@northcoastlabs.net*
Melanie Rangel *marangel@lakecountyohio.org*

SE LAC – Melodi Clark

The Southeast Section has had their first quarterly meeting and it was great. I want to thank the City of Newark WWTP and Nancy Taylor for hosting the meeting. We had two EPA speakers come in and cover DMRQA and Biosolids. The plant tour was great and very informative.

We plan on having three more meetings this year. The next one will be held sometime in May. We are looking into a number of unique places to hold our next meeting. The Southeast seems to be growing in number and we are getting more and more people attending the meetings. I hope to keep it growing. and if anyone would like to give suggestions or volunteer to speak at any of our upcoming meetings, please contact me at *mlclark@columbus.gov*.

Committee Contact Information

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

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

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

Southwest Chairs
Roger Rardain, 937.754.3075, *roger.rardain@ci.fairborn.oh.us*
Jim Davis, 937.496.7051, *davisji@mcohio.org*

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

OWEA LAC at the 2012 Operations Challenge
(front row) Karen Tenore, Denise Seman, Mary Ann Driscoll
(back row) Kyle Kaminski, Melodi Clark, Nancy Taylor

OWEA LAC instructs at the Hands-On Operator Training Session.

Ops Challenge Team, Ohio EPA Regulators, during the Lab Event.

Find OWEA on your favorite social network

GOVERNMENT AFFAIRS COMMITTEE

by Dale E. Kocarek, PE, BCEE, Chair

2012 AWWA-WEF Fly In

The OWEA Government Affairs Committee participated in the annual AWWA-WEF Fly In to Washington DC on March 6 and 7, 2012. During this intense two-day period, several hundred members of AWWA and WEF converge on Capitol Hill to meet with congressional representatives in both the House and Senate. OWEA President Doug Clark and I participated. For both Doug and I, this was our second year.

The purpose of the Fly In is two-fold. First and foremost, we believe that for OWEA and OAWWA to play an active and participative role in our nation's law- and rule-making process, we must form relationships with members of Congress and adhere to the principals of participative government. In this way we become a sought-after resource in providing objective and expert commentary on issues important to us. As a result, we become an advocate for reasonable, common sense regulation important to environmental stewardship and our own financial sustainability.

Each year, organizers of the Fly In provide attendees with a pre-briefing of hot issues and focused messages to "take to the Hill." AWWA leaders Tommy Holmes, Tom Curtis, and David Rager, along with WEF Leaders Tim Williams and Alan Vicory provide us with well-crafted talking points. This year, the most prominent message is ***The Water Infrastructure Finance and Innovation Act*** (or WIFIA).

The concept of WIFIA was introduced in the AWWA-WEF Fly In in 2011. Following the 2011 Fly In, David Weihrauch of the Ohio AWWA Water Utilities Council worked with Ohio Congressman Bob Gibbs (18th District) to develop a draft bill, which was presented in a packet given to members of Congress.

WIFIA is a loan based innovative credit program that can be used in conjunction with state revolving fund (SRF) programs to meet critical infrastructure needs with minimal or no impact on the federal budget. In principal, WIFIA would operate a lot like the popular TIFIA – the popular transportation funding bill.

WIFIA proposes to provide direct loans for large projects, which are generally envisioned to be in excess of $25 Million. WIFIA would also help states leverage SRF funds to provide lower rates and greater opportunities for funding small and hardship communities. The program is currently envisioned to be run from the US Treasury Department with rates similar to 30 year treasury bills. From the perspective of financial planning, I believe that the proposed WIFIA bill provides communities several things, which include the following:

Dave Weihrauch (OAWWA), Cliff Shive (OAWWA), Doug Clark (OWEA), Melissa Raimann (OAWWA), Representative Bob Gibbs (US 18th District), Bob Davis (OAWWA), Dale Kocarek (OWEA), Dick Lorenz (OAWWA)

- WIFIA will be able to serve larger communities with projects in excess of $25 Million dollars, which traditionally have been difficult for the SRF to provide, thus giving larger communities another option other than bonding.
- WIFIA will be able to provide communities with more confidence that they can get low-interest loan funding when they need it, as opposed to being beholden to limitations of the SRF. As we all know, when a community has a fixed date compliance schedule, they have no choice but to go to construction at a certain date, regardless of the availability of preferred funding.

I found the experience of "going to the Hill" to be rewarding and fun. Both Doug Clark and I were partnered with members of the Ohio AWWA Water Utilities Council. This year, I was paired with Dick Lorenz of the City of Westerville and the Chair of the OAWWA Water Utilities Council. With Dick being on the "water side" and I from the "wastewater side" I felt that we made a great team. In closing, I will provide a couple of other observations on the Fly In experience:

- About half of the time, our visits were with congressional aids. While the initial reaction in not meeting directly with the representative seemed a bit of a letdown, we found the actual experience to be the opposite. Most aids were very impressive. They were informed, knowledgeable, and interested in our message.
- To be effective on visiting the "Hill" it is apparent that we must have a focused message; for example an actual bill, which includes a sponsor, and a bill number. Having an actual bill, even though it had not been yet formally introduced, created a much better encounter than simply saying that "we are here to talk about clean water issues." The truth is that so much is happening on Capitol Hill when Congress is in session that it is very hard for them to spend more than a few minutes with us or anyone else.
- Having AWWA and WEF joined together was a true force multiplier. Together our groups represent more than 70,000 members. That is an impressive number. Also, having a single "water message" minimized confusion with a Congress that is already spread too thin. The proposed WIFIA legislation benefits both drinking water and treating wastewater effluent. That is powerful.
- One of the things that you hear on Capitol Hill is that the U.S. government is broke. Our representatives were impressed that the proposed WIFIA bill is essentially budget-neutral. We anticipate that this will help garner support on "both sides of the aisle."

It is not too late to contact your congressional representative to support Representative Gibb's bill on WIFIA. We will let you know how things progress.

Dale E. Kocarek, PE, BCEE
614.486.4383
dale.kocarek@stantec.com

RESIDUALS COMMITTEE

by Jamie Gellner, Chair

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. A few updates on our traditional focus areas:

- Farm Science Review – This year's Farm Science Review will be held September 18th through September 20th. It's never too early to plan to become involved! The Residuals Committee provides manpower and educational materials on the benefits of biosolids land application at the OWEA sponsored booth. A large number of attendees typically visit the booth. Promotional items are normally given away as an enticement to visit the booth and learn about biosolids. We will definitely continue to use the "wheel of trivia" to spur conversation, curiosity, and hopefully a little "BS" . . . in a good way, – HA!
- Biosolids Workshop – The 2012 workshop is scheduled for December 6, 2012. If you have an idea or topic you would like to present, please let me know. It will be tough to top the last workshop, but I'm aiming high for this year!

This year, we will be continuing to work on additional items, including the following:

- Exploring new venues for booth / information / PR – Members are exploring other events where we can showcase the information that we normally present at the Farm Science Review. If you have any ideas related to good locations for a display or information related to biosolids, please let me know.
- Verify member list / update contacts – If you haven't received any correspondence from me lately and were previously on the committee email list, this probably means that we need to update your information. Drop me an email if you'd like to be included on our mailing list or if your contact information has recently changed.
- Continuing our dialogue with our equivalent member committees in Indiana and Michigan to find ways to work together to provide information on biosolids issues. Recently, we provided content ideas for the quarterly newsletters of each of the committees. Thanks to Rob Smith (Dynotec) for his continued efforts on this initiative and to Steven Reese and Rob for their efforts in providing content for the other states.
- We have started scheduling our quarterly meetings at new locations in and around the Columbus area. As many of you know, we held our meetings exclusively at the Olentangy Environmental Control Center for many years (and thanks to the staff there for their continued hospitality). In February, we held a meeting at Olentangy, followed by a site tour of the biosolids processing facility (thanks to the Olentangy staff for this tour). In April, we held our meeting at Jackson Pike WWTP in Columbus and had a biosolids facility tour after the meeting (thanks to Gary Hickman and his staff for hosting and thanks to John Hoff for coordinating). Our next meeting on will be held on July 10, 2012 at 10am at the Southerly WWTP in Columbus (thanks to John Hoff for coordinating), followed by a facility tour at noon. If you would like additional information on this meeting, please let me know. In the future, we will also explore getting contact hours for the tours. If you have any ideas for possible venues for future meetings, please let me know.
- As a committee, we are exploring ways to constructively evaluate and review the requirements for management of phosphorus in land applied biosolids. The revised regulations that will go into effect with new changes have caused a host of concerns and debates. These concerns are focused on the lack of distinction in the types / mobility / availability of different forms of P, particularly in biosolids. As a committee, we will strive to objectively review and discuss and continue to inform you, the OWEA membership on the latest issues.

Our meeting schedule for this year is as follows:

1. July 10, 2012
2. October 9, 2012
3. Biosolids Workshop – December 6, 2012

We would love your involvement throughout the year. 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. If you are interested in getting involved or if you have any questions about the committee, please contact me.

Jamie Gellner
513.317.0337, *jgellner@hazenandsawyer.com*

How can we help your organization? Take the Government Affairs Committee Survey

The OWEA Government Affairs Committee (GAC) is looking for your assistance to improve the quality and value of the programs we produce and provide to you, our members. By now, you should have received an email from OWEA requesting your input on the following:

- How are we doing?
- Which of our programs have value/benefit to your agency/firm?
- What programs/events would you like to see us add that would provide value/benefit to your agency/firm?

If you have completed the survey, thank you. If you have not, we encourage you to do so by visiting *www. ohiowea.org* to complete the survey. This e-survey should take just 5 minutes to fill out. Your input is valued and we look forward to your response.

We appreciate your thoughts in helping us improve the GAC. The survey closes May 25, 2012. A summary of our next steps will be presented at the OWEA Annual Conference. Thank you again!

Please feel free to contact us:
David Haywood, *david.haywood@aecom.com*
Dianne Sumego, *dianne.sumego@arcadis-us.com*

PLANT OPERATIONS AND MAINTENANCE COMMITTEE REPORT

by Kim Riddell and Jim Borton, Co-Chairs

The Plant Operations and Maintenance Committee has the responsibility of coordinating the annual Operations Challenge in partnership with the Laboratory Analysts, Safety, and Collections System committee members. This year's event was held on Tuesday, April 17th at the Allen County Sanitary Engineering Department in Lima, Ohio. Three teams competed in this year's event: the Bowling Green Wastewater Rangers, the OEPA Regulators, and the Miamisburg Burg Turdlers. The Operator Education Day was held in conjunction with the Operations Challenge again this year. There were 59 attendees and presentations were given on emergency pump maintenance, small plant operations, CBOD testing, and the benefits of CCTV to your utility. The attendees also received an opportunity to try each event during hands-on training sessions in the afternoon.

At the end of the day, OEPA-NWDO Regulators took the Division I title and the Process Control event; while the Bowling Green Wastewater Rangers won the Division II title and took home trophies in the Laboratory, Safety, Collections, and Maintenance events. Miamisburg did spectacular for their first year in the competition and came in 2nd place overall in the Process Control Event! Teams, organizers, and judges agree that it was an excellent opportunity to learn new things, improve teamwork, and make some new acquaintances throughout the state.

The Executive Committee has agreed to continue to fund the full trip to New Orleans, up to $7000 per team for the two winning teams in Ohio. This is accomplished fully through the generous contributions of OWEA's sponsors, especially OVIVO, NE, SE, SW, and NW sections, and Smith Environmental, who contributed directly to the Operations Challenge in support of the operations professionals comprising the teams.

As a committee, we are continuing to challenge treatment plant managers to find a team within their ranks (managers can play too) or combine with another utility and show up in 2013 to compete. Existing teams are more than willing to help new teams get started, and team members don't all have to work for the same employer. Contact Kim Riddell at *kim@go-smith.com* or Jim Borton at *james.borton@ch2m.com* for a list of potential team members nearest you. Remember, participating team members are eligible to earn up to 12 contact hours, and at the going rate, the contact hours are some of the cheapest around when comparing dollars/hour. Thanks again to everyone for your continued support and participation!

SAVE THE DATE: October 24th and 25th, 2012

Mark your calendar for the 2012 Plant Operations, Maintenance and Laboratory Specialty Workshop, at the Conference Center at NorthPointe. We have great speakers lined up again for our first day:

- Julian Sandino (CH2MHill - Kansas)
- Woodie Muirhead (Brown and Caldwell - Hawaii)
- Jamie Gellner (Hazen and Sawyer - Cincinnati)
- Tom Kutcher (Cincinnati MSD)

will be speaking on wet weather related design and operations topics! The 2nd day planning is in the works and is sure to be another great training opportunity. Both days are worth a total of 13 hours and are an excellent opportunity for training and professional development! We hope to see you there!

Kim Riddell, *kim@go-smith.com*
Jim Borton, *james.borton@ch2m.com*

Division I Winners - Regulators (Ohio EPA/NWDO)

Division II Winners - Wastewater Rangers (City of Bowling Green)

Division II 2nd Place - Burg Turdlers (City of Miamisburg)

See more 2012 Ops Challenge photos and video at www.ohiowea.org

PUBLICATIONS COMMITTEE REPORT

by Elizabeth Wick, Chair

Top Ten Things
You May Not Know About the Buckeye Bulletin

10. The Buckeye Bulletin is published in full color.
9. It is sent to all our members plus our state legislators.
8. Advertisers in the Buckeye Bulletin help pay the cost of publishing and reach a large audience.
7. Each section rotates responsibilities for plant profile and watershed articles. If you want to feature your plant or watershed in the Buckeye Bulletin, just contact your section's publications person.
6. The Publications Committee, chaired by Elizabeth Wick, always welcomes new members.
5. The company that prints the Buckeye Bulletin uses soy based inks and 30% recycled paper, and is located in Ohio.
4. As each new issue is published, the previous issue is posted on OWEA's website as a .pdf document.
3. If you do a presentation at an OWEA workshop, conference, or section meeting, you may be asked to convert your presentation into an article.
2. Did you get a new job, receive a promotion, win an award, earn a new certification level, or hire a new team member? The Roll Call section is there to promote the good things that are happening to our members.

And the number one thing you may not know about the Buckeye Bulletin

1. YOU, the members, can submit articles on any topic relevant to our field. Just contact either Elizabeth Wick at *elizabeth.wick@epa.state.oh.us* or Judi Henrich at *info@ohiowea.org*.

SAFETY COMMITTEE REPORT

by Jim Graham

The current Bowling Green Water Pollution Control Facility (BGWPCF) was placed into operation in 1982 and is rated by the Ohio EPA as a Class IV Facility. The WPCF is located in northwest Ohio and serves a population of 30,000. Treatment is achieved through primary, secondary, and tertiary treatment processes with aerobic digestion of waste biosolids.

The plant has a rated capacity of 10 MGD average daily flow and 20 MGD peak hydraulic flow and currently treats approximately 6.5 MGD. All separate and combined wastewater is screened and pumped to the treatment plant by the East Poe Road Pumping Station using four variable speed, vertical centrifugal pumps with a total rated capacity of 24 MGD. Also at the pumping station is a 4 MG holding tank and combined sewer diversion chamber to handle excess wet weather "first flush" combined wastewater and storm water flows.

All three areas are maintained by the WPCF staff which consists of 8 operators, 1 lab technician, 1 biosolids coordinator, 1 Assistant Superintendent, and the Superintendent. In addition to monthly safety training provided by American Municipal Power, the WPCF has consistently sought to go beyond the basic safety requirements to ensure all staff go home in the same condition as when they arrived to work. This philosophy and platform has worked well for the WPCF and has allowed both staff and management to take great pride and ownership in the safety program.

The Safety Committee is featuring profiles of the Safety Programs at Ohio wastewater treatment plants. If you would like to submit your plant for a Safety Program Profile, please contact Jim Graham at jgraham@bgohio.org

Safety Committee members Jim Graham, Joe Bates, and Ed Nutter (Chair) met at the OWEA office to review Safety Award applications in March.

ROLL CALL

Jim Borton has joined CH2M HILL as a Senior Operations Specialist. Previously Mr. Borton served as the Utilities Manager for the City of Wooster and as an Environmental Specialist for Ohio EPA's Compliance Assistance Unit. In his new role, Mr. Borton will work with CH2M HILL clients in a wide range of operations, process control, troubleshooting and related wastewater/water operations and maintenance activities. Jim can be reached at 330.201.1945 or *james.borton@ch2m.com*

Alan Carter, P.E., has joined Hazen and Sawyer as Midwest client development director. Working from the firm's new Columbus office, he has client and business development responsibilities for the Midwest region, which includes Ohio, Kentucky, Tennessee, Michigan, western Pennsylvania, Indiana, and Illinois.

Alan previously worked in the Columbus office of Malcolm Pirnie (now ARCADIS) for 12 years, and prior to that for Sverdrup Corporation (now Jacobs) in Saint Louis. He is a registered professional engineer in Ohio and Missouri, and has a Master of Science in Environmental Engineering and Bachelor of Science in Civil Engineering from Washington University in Saint Louis. He is a long-time member of WEF.

Michael A. Frommer, P.E., was recently promoted to Director of the Water/Wastewater Division for the Columbus office of the URS Corporation, a full-service group of 40 professionals which provides service in the areas of water supply, treatment, and distribution; wastewater collection and treatment; and tunneling.

Michael holds Class 3 water supply and Class 3 wastewater operator licenses. He has a Bachelor of Science Degree in Civil Engineering from Ohio Northern University. Michael serves on the Executive Committee of the Ohio Water Environment Association as the Southeast Delegate, having held several leadership positions in the Southeast Section, and will become the President of OWEA in 2014. Michael is also a member of the Select Society of Sanitary Sludge Shovelers (5S).

Kevin Givins has been promoted to Utilities Manager of the City of Wooster. Mr. Givins will oversee the operations of the 7.5 MGD design Water Pollution Control Plant, the 6.1 MGD Water Treatment Plant. He also oversees pump and treatment remediation of the City's groundwater aquifer, including a local industry's system, in an effort to protect the City's production wells from VOC contamination. Previously, Mr. Givins was the Assistant Utilities Manager for the City of Wooster. Mr. Givins can be reached at 330.263.5285 or at *kgivins@woosteroh.com*.

Scott Phipps, P.E., has joined Hazen and Sawyer as an Associate in the firm's new Columbus, Ohio office. His experience is focused on municipal and industrial wastewater treatment, including process evaluations, wet weather treatment alternatives, and advanced nutrient removal processes. Prior to joining Hazen and Sawyer, Scott previously worked for 11 years in the Newport News, VA and Columbus, OH offices of Malcolm Pirnie/ARCADIS. He is a registered professional engineer in Ohio and Virginia, and has a Bachelor of Science in Civil & Environmental Engineering and Master of Science in Environmental Engineering from Virginia Tech.

Jason Tincu moved from the City of Xenia to the City of Dayton as Wastewater Treatment Administrator starting April 9, 2012. Jason spent almost 11 years with the City of Xenia in many different roles related to water, wastewater, and environmental compliance. He values the relations and progress made during his time at Xenia. In Dayton, he will join the Dayton's Wastewater Treatment Division with the main mission of ensuring the safe, effective, efficient, and regulatory compliant operation of the Dayton WWTP located at 2800 Guthrie Road.

PASSINGS

Larry Born, Superintendent of Public Utilities,for the Village of Delta, passed away on April 18, 2012 after an almost yearlong battle with Non-Hodgkin's lymphoma. Larry started working at the Delta Water Treatment in 1988 and was a Class III water operator. He was an active member of AWWA and taught classes for state water testing. He was also a Class III wastewater operator and member of the Northwest Section of OWEA. His work was extremely important to him. He only wanted the best for the village and continued to work through his illness with the support of co-workers and the village. Larry was an avid softball player, umpire and coach. The Detroit Tigers, Ohio State Buckeyes, collecting and sorting baseball cards, playing golf, and the music of the Monkees were only some of Larry's favorites. He is survived by his wife, Pam, daughter, Megan, and many brothers and sisters and nieces and nephews.

James P. Scisson died of a heart attack in his home on March 5, 2012. Jim was very active with OWEA. He served as the NW Section President in 2001, helped develop the NW Section Operator Education Day to help operators prepare for their certification exams, and for many years was one of the instructors. Jim was inducted into the Select Society of Sanitary Sludge Shovelers in 2007 as an at-large inductee. He received the W.D. Sheets award from OWEA in 2003. He was also nominated by OWEA for the Thomas R. Camp Medal, a WEF award for a member who is an outstanding educator, consultant, and writer whose contributions to applied research have guided design criteria in many aspects of water pollution control. One award that Jim was very proud of was his Golden Camel Award from the Kingdom of Saudi Arabia.

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WELCOME NEW MEMBERS

who joined OWEA from January to March 2012

John Adams
Ancil J Adkins
Marty Arnold
Marvin Kendrick Ballard
Paul Bockstahler
Muralikrishna Chelupati
Vito Cimino
Cliff Criswell
Raymond L Cully
Daniel Divelbiss
Tony Dore
John A Eastman
Jason Figgins
Dante Fiorino
Jeff Goetz
James Hall
Tess Hartwell
Alyssa Renee Jenkins
Shoma Khasnabis Jha
Scot G Johnston
Nichole Jones
Wendy Kidd
Charlie K Knotts
Gene Kobylak
Russell Krock
Lori A Kyle
Chris Lalonde
Ian Laseke
Robert Little
Robert D Lopez
Robert C Mecomonaco
Robert Munch
David Lee Palochko
David W. Paul
Joe Reitz
George Remias
Robert C Rill
Rob Robinson
Chris Rowland
Michael J Seluga
Alan Siebenthaler
Justin Paul Siegrist
Thomas Sinning
Dorothy Sorrell
Greg Spires
Chad Alan Spring
Larry Stadwick
Christopher Tarr
Emily Tuzson
John C Van Harlingen
Paul Vandermeer
Jennifer Vydra
Adam L Walker
Jeffrey L Weis
Mike Witmer
Michael Charles York

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

Share the Water Knowledge - Sponsor a New Member

How long have you been a member of the Ohio Water Environment Association/Water Environment Federation? Do you value being part Ohio's premier water quality organization? Encourage a co-worker or young professional to join the OWEA community of professionals, increase their water quality knowledge, and grow their network of fellow professionals. Need help or membership materials sent to a prospect? Contact OWEA at 614.488.5800 or info@ohiowea.org and we will be happy to send out a prospective membership package.

Jim educated many operators all over the world in the form of classroom training, hands-on training, practical manuals, and operator training videos. He was an OTCO trainer for many years and served as an OTCO trustee. He had several articles published and made numerous presentations at conferences and workshops.

Jim earned a Bachelor of Science Degree from The Ohio State University in Zoology and completed graduate studies at Miami University. He held an Ohio Class III Wastewater Operator Certificate and was approved to take the Class IV. He also held an Indiana Class 4 Municipal Wastewater Certificate and Indiana Class C Industrial Wastewater Certification. He was president of Phoenix and Scisson, Past Senior Design Specialist at URS Corp., Past Operations Specialist at ARCADIS, Past Operations Specialist at Jones & Henry Engineers, and Past Senior Operations Coordinator at Envirotech Operating Services. He was also a member of Alpha Tau Omega fraternity.

Jim was an educator, operator, and friend to many people. His contributions to wastewater plants around the state and OWEA will not be forgotten.

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

Gerald "Jerry" E Staiger was born May 29, 1935 in Bucyrus to the late Marcus D. and Alice D. (Wentz) Staiger. Jerry was a 1953 graduate of Bucyrus High School, graduated from The Ohio State University with a Bachelor of Science in chemistry, and went on to receive his master's degree from Kent State University. He returned to Bucyrus where he worked as the Director of Utilities for the city until retiring after 30 years of employment. Jerry held a Class III in both water and wastewater. Until his retirement, Jerry was an active member of OWEA's Northwest Section and 5S Society.

Jerry was a member of Bucyrus United Methodist Church, the Bucyrus F.&A.M. 139, and the Bucyrus Shrine Club. He thoroughly enjoyed being involved with the local DeMolay Chapter and Royal Order of the Jesters (clowns), serving as director for 12 years. Jerry had the privilege of traveling all over the world for Shrine conventions and various functions and was gifted enough to teach clown classes at these conventions. He and other "clowns" visited nursing homes, children's hospitals, attended parades and performed at the Columbus Shrine Circus.

In addition to his parents, Jerry is preceded in death by his wife, Raechele "Chelly" (Tomlin) Staiger and brother, Edward Staiger.

WATER FOR PEOPLE

by Doug Borkosky, Co-Chair

Are you getting busy? It is that time of year . . . as spring begins to move along and we can see summer just around the bend, there are many events, responsibilities, vacations, chores, etc. on our short range radar.

So it is with Water For People here in Ohio. We're about to get busy. Very busy! This spring and summer there will be several events to watch for, including golf outings at the section level and a very busy Annual Conference.

Plan now! At the state conference you will see:

- A charity Par 3 hole in the golf outing.
- An opportunity to donate at the meet & greet by going "all-in".
- A silent auction with goodies from around the state. (Contributions are still welcome!)

With respect to the start of the year, I wanted to highlight three fundraising efforts of sorts:

1. Northwest OWEA pitched in to raise $375 from their Water For People pancake breakfast at the March Section meeting in Swanton. Once again, a big thank-you goes out to the staff at the Village of Swanton for preparing the space and to the cooking/cleanup crew from NWOWEA and specifically the NW Office of OEPA.
2. Alloway is leading by example—they are donating to WFP based on the number of people that attend their V.I.P. workshops. $200 was donated in March based on Alloway's attendance and matching funds. I appreciate their intentional efforts to make Water For People a part of their corporate culture. They will be following suit at other events this year—basing donations on people that visit various other Alloway events and exhibits. Thank you Alloway!
3. Private donations. Although I believe very strongly that personal giving should be done in private, I cannot underestimate the importance of donations to Water For People from individuals—outside of OWEA events. There were several such donations this winter and spring. Please allow me to give a general "Thank You" to those individuals. Anytime an individual wants to make a donation to Water For People, feel free to make it through OWEA. We will provide a receipt of your donation and will make sure it is transferred to Water For People in a timely fashion. (Please make checks payable to "OWEA" with "Water For People" in the memo or cover letter. OWEA pools the donations and often takes advantage "matching" donations to double our impact.)

That's where we are at and where we are going . . . so far. Thanks again to our advocates, and please feel free to contact Dale Kocarek or Doug Borkosky if you have an idea for an activity or want to volunteer to help out with planned activities.

Doug Borkosky, Co-Chair
doug@hlbaker.com

Dale Kocarek, Co-Chair
dale.kocarek@stantec.com

Learn more about **Water For People** at ***www.waterforpeople.org***

A community member stands proudly by the new pour-flush latrine in El Tule, Santa Barbara, Honduras. (John Kayser, WFP Photo)

A local mason builds the walls of a latrine in Quiché, Guatemala.(John Niewoehner , WFP Photo)

Did You Know?

- Every 20 seconds, a child dies as a result of poor sanitation
- Globally, diarrhea is the leading cause of illness and death, and 88 per cent of diarrhoeal deaths are due to a lack of access to sanitation facilities
- In Sub-Saharan Africa, treating diarrhea consumes 12 percent of the health budget.
- 2.6 Billion people live without adequate sanitation
- Washing hands with soap can reduce the risk of diarrheal diseases by up to 47 per cent.

Source: http://www.unwater.org/statistics_san.html

VOLUNTEER MONITORING ON BLACKLICK AND ROCKY FORK CREEKS: LESSONS LEARNED

by Kurt Keljo, Franklin Soil and Water Conservation District

Introduction and Background

The Ohio EPA monitors the water quality of Ohio's streams through the periodic collection of data on fish populations, macroinvertebrate communities, coliform bacteria counts, and physical parameters, such as nutrient concentrations and suspended solid levels. Additional data on the concentration of organic compounds in the water column and the chemical/physical sediment quality complete the picture of water quality data gathered by the agency. The State's streams and rivers are sampled by Ohio EPA staff according to a schedule. Unfortunately, budget and staffing limitations have extended the time between sampling in a given watershed to more than a decade.

In the case of Blacklick and Rocky Fork Creeks, the time gap between sample collections is anticipated to be 20 years. It would seem that changes to water quality could occur in the course of considerably shorter periods of time, especially when there is rapid urbanization.

Volunteers are able to collect data on fish populations, macroinvertebrate communities, physical parameters, and coliform bacteria levels. The accuracy of the data and the rigor with which it is collected varies according to the skill level of the volunteers and the resources available to them. During 2010 and 2011, I led a volunteer team in sampling macroinvertebrates in the Blacklick (2010) and Rocky Fork (2011) watersheds. We sampled 17 sites in the Blacklick watershed and 11 in the Rocky Fork. The area of the Rocky Fork watershed is roughly half that of the Blacklick.

One of the volunteers, Don Dean, is a Level Two certified data collector as am I. I led all of the sampling, and the two of us did all of the identification work. We used the Macroinvertebrate Aggregated Index for Streams (MAIS) protocol developed by Dr. Kelly Johnson at Ohio University for use by volunteers (*http://www.drscw.org/reports/DuPage.QAPP_AppendixF.07.03.2006.pdf*). The method involves sampling organisms using kick and dip nets, counting the organisms collected, and identifying them to the family level. The resulting data is entered into a formula which generates a numerical index, which ranged from 6 to 14 in our samples—6 being the lowest and 14 being the highest. Level Two data is considered by the OEPA to be useful for trend analysis only.

In 2000, OEPA staff sampled 21 sites in the Blacklick watershed. Fish were sampled at 20 of the sites and 18 sites were sampled for macroinvertebrates. In the Rocky Fork, 7 sites were sampled for fish and 6 for macroinvertebrates, with a total of 7 sites sampled, recognizing that fish and invertebrates are not always collected at exactly the same location for a given "site." The organisms in these samples are counted and identified to the species level. This data is used to potentially generate three indices—the Index of Biotic Integrity (IBI), the Modified Index of Well-Being (MIwb), and the Invertebrate Community Index (ICI). It is not possible to generate an MIwb at all sites, given the limits of the data in some samples, and the ICI may be presented in qualitative terms (poor, fair, good etc.), when the invertebrate sample was collected using qualitative methods. IBI scores ranged from 20 to 48 in 2000 in the Rocky Fork and Blacklick watersheds, and ICI scores ranged from 26 to 50 with qualitative ratings from "poor" to "good." An IBI score of 40, an ICI score of 36, and a qualitative rating of "good" meet the attainment standards for a Warmwater Habitat stream (assuming that a boat is not required to sample the fish). Scores of 50 (IBI) and 46 (ICI) meet the standards for Exceptional Warmwater Habitat.

Lessons Learned: Volunteer Sampling of Macroinvertebrates

The pool of people willing to sample macroinvertebrates with the rigor required to collect Level Two data may be fairly small. While eleven people were involved in collecting samples, 55% of the samples were collected by two individuals—the certified data collectors. Rigorous macroinvertebrate collection requires a willingness to pick aquatic organisms from samples for an hour or longer—most often longer—at a time. It can be tedious. Biologists, people with biological backgrounds, and fly fishermen constituted roughly three quarters of the volunteer team.

Level Two sampling is also time intensive. While it is possible to become more efficient than this, field work typically involves two hours per site, and lab work can take upwards of six to eight hours per site.

It is difficult for volunteers to be able to collect samples using the same techniques used by the Ohio EPA. As a result, comparing data collected by the agency with data collected by volunteers is problematic. It is far preferable to develop a database of volunteer data that can be used to monitor trends over time within that set of data. Reprocessing samples collected during the past two years using methods as close as possible to those used by the Ohio EPA could help clarify the relationship between MAIS scores and ICI scores. It could also provide data more directly comparable to Ohio EPA data than the MAIS scores.

Finding appropriate locations for sampling can be a challenge. Ease of access and landowner cooperation limit site locations. As a result, the locations may not be ideal. In some cases, the stream features (habitat) are not as good as one would like. In other situations, storm sewer outfalls may have played a role in compromising collection sites—a condition to be avoided when possible.

All of the volunteer monitoring programs of which I am aware have required the direct involvement of professional leader. The volunteer monitoring program described here fits this pattern.

Lessons Learned: Blacklick and Rocky Fork Watersheds

Data collected in 2010 and 2011 in these two watersheds suggest that there have not been major changes in water quality since the Ohio EPA last sampled in the watersheds in 2000, although the differences in sampling methodologies make it difficult to know for certain. In locations where the macroinvertebrate index was low in 2000, the macroinvertebrate index was usually low for the volunteer samples and conversely when the index was high in 2000, the corresponding index was typically low in 2010/2011 (see Figure 1). What is difficult to determine is whether or not there was an overall decline or improvement in water quality between the sampling dates, since there is not a way to directly compare the ICI scores generated by the Ohio EPA with the MAIS scores produced by volunteers.

Both creeks have low scores for their uppermost reaches—corresponding to the lowest in the watershed—and relatively high scores as they approach their confluences with Big Walnut Creek—corresponding to the highest scores in the watershed. Urbanized reaches of the streams have considerable variation in the index levels and do not attain the highest index scores. Wastewater treatment plants on Blacklick Creek have historically resulted in significant local declines in ICI scores. These declines are not necessarily reflected over the typical reaches between sample locations. When given relatively undisturbed creek corridors, the mainstems of Blacklick and Rocky Fork appear to have considerable capacity for recovery. Reaches with the highest scores tend to have intact stream corridors and some distance from the direct impacts of agriculture and urbanization.

The lessons learned during 2010 and 2011 have led to several questions related to the volunteer efforts of effective and timely sampling and analysis of watersheds.

Questions

1. Can a larger team of volunteers be mobilized? Efforts at volunteer recruitment in 2010 and 2011 were limited.
2. How much can the time required for both field and lab work be reduced? What changes would yield greater efficiency while not compromising data integrity?
3. How can volunteers who are not qualified data collectors most effectively contribute to the monitoring process?
4. What is the relationship between ICI scores and MAIS scores in this part of Ohio (a data comparison has been made for Southeast Ohio)? Is there a consistent, reliable relationship?
5. How are fish index scores (IBI) and macroinvertebrate scores (ICI) related? What does it suggest when the two indices indicate significantly different water quality levels (conditions of "partial attainment")?
6. Can volunteer monitoring usefully identify local impairments to water quality?

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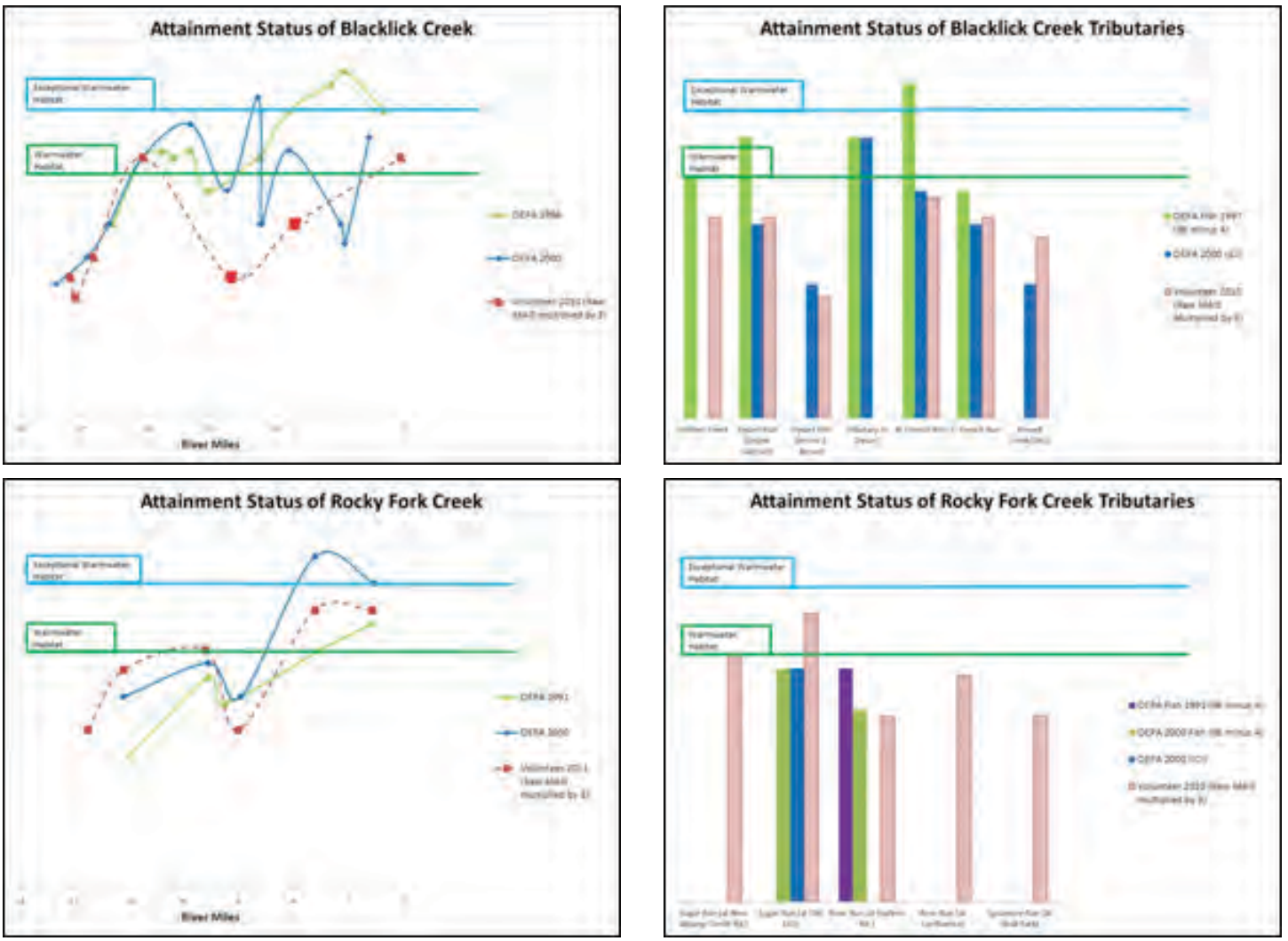

Figure 1: Ohio EPA data plotted against volunteer data to illustrate the relative relationships between the data sets.

IBI values have adjusted to make them correspond to ICI values.

Qualitative ICI values have been converted to numerical values (Poor – 20, Low Fair – 24, Fair – 29, Marginally Good – 34) for charting purposes.

MAIS values have been adjusted to better correspond in scale to the IBI and ICI values for illustration purposes only. Whether or not there is linear relationship between MAIS scores and IBI/ICI scores in Central Ohio has not been determined. MAIS scores are not used to determine attainment status.

7. What is the cumulative impact of local stressors on water quality (e.g. storm water outflows, home sewage treatment systems, inflows from impaired tributaries etc.)? To what degree do relatively distant, upstream problems compromise water quality at a given site?
8. Is it possible to distinguish specific types of water quality impairments on the basis of the community composition or density of macroinvertebrate samples?

Conclusions

It is unlikely that Ohio EPA sampling alone will be sufficient to monitor water quality in Ohio's streams. While volunteer monitoring can help fill in some of the gaps, these efforts require training and professional support. Assistance in increasing the efficiency of volunteer collection and analysis of macroinvertebrate samples would be useful. Data on the relationship between the scores produced by various sampling and scoring methodologies would be helpful in linking volunteer efforts with those of the Ohio EPA.

Water quality in the Blacklick and Rocky Fork watersheds as assessed by macroinvertebrate sampling does not appear to have changed dramatically between 2000 and 2010/2011. The relative relationships between sample scores within the watersheds are consistent with those reflected in past data. However, it is not possible to determine whether or not there have been some overall shifts in water quality with any certainty without more information about the relationship between MAIS scores and ICI scores. Local impacts on water quality are evident based on the data—especially in urbanized areas—but the nature and extent of the downstream effects of these impacts is unclear and more data is required to further define these impacts.

Kurt Keljo
Watershed Coordinator
Franklin Soil and Water Conservation District
kkeljo@franklinswcd.org

UTILITY ENHANCEMENT UPDATE

by John Newsome, Chair

The Utilities Enhancement Committee presented the first in a series of Green Infrastructure webinars on Tuesday, April 24, 2012. Jessica Brooks, P.E., presented "Philadelphia's Green City, Clean Waters" on how a $2 billion investment in Philadelphia green infrastructure may lead to a national model for cities embracing green stormwater infrastructure. 153 people registered for the webinar with some locations showing the webinar to multiple viewers. If you missed the webinar, the recording is available at *www.ohiowea.org*

OWEA currently offers water quality related webinars at no charge to our members and guests as a public service towards the common goal of clean water. At this time, OWEA does not offer contact hours for these webinars. PDH hours are at the discretion of individual participants. For more information, contact OWEA at *info@ohiowea.org*

The Utilities Enhancement Committee strives to provide relevant information to utility owners as it relates to regulatory updates, technology enhancements and improvements performed by other utilities throughout the state. The Committee will continue in its efforts to provide webinar series on topics of interest to utility owners.

We are looking to expand the committee in 2012! We need more municipalities involved with our efforts as we attempt to expand the role of the committee in 2012. If you work for a municipality/ utility and would be interested in joining the Committee, please send an email to Scott or me at the email addresses below.

Chair: John Newsome, City of Columbus
jgnewsome@columbus.gov

Vice Chair: Scott Holmes, City of Dayton
scott.holmes@daytonohio.gov

Did You Miss OWEA's April 24th Free Lunchtime Webinar?

Philadelphia's Green City, Clean Waters

Learn how a $2 billion investment in Philadelphia green infrastructure may lead to a national model for cities embracing green stormwater infrastructure.

You can watch the recorded webinar at:
http://www.ohiowea.org/webinars_posted.php

Upcoming Free Lunchtime Webinars

Green Infrastructure Series:

Thursday, May 31, 2012
Cincinnati's Green Infrastructure Update

Thursday, June 28, 2012
NEORSD's Green Infrastructure Update

COLLECTION SYSTEMS UPDATE

by Bill Horst, Chair

The Collection Systems Committee met at the OWEA office on April 27 to complete the final planning for the 2012 Collection Systems Workshop and plan the 2012 Collection Hands-On Workshops.

Chair: Bill Horst, Montgomery County
horstb@mcohio.org

2012 Hands-on Collection Workshops

4 Contact Hours - $20 (includes lunch)

Topic #1
Low Pressure Pumps

Topic #2
Water in Basement

Topic #3
Backflow Preventers & Video Inspection of Laterals

Topic #4
Pipe Liner & "T" Liner

Coming to a Section near you!

Thursday, September 20, 2012
Section: SE Location: Newark

Thursday, October 4, 2012
Section: NW Location: Sylvania

Wednesday, October 10, 2012
Section: SW Location: Fairfield

Thursday, October 18, 2012
Section: NE Location: NEORSD

Back Row l-r: Bill Horst, Barry Walkenshaw, John Schroeder, John Swartzbaugh, and Don Gallimore. Front Row l-r: Keith Bair, Rick Miller, Steve Donovan, and Matt Witter.

THE OHIO WATER ENVIRONMENT ASSOCIATION
PRESENTS

OWEA 2012

Make a Pass at Going Green...

... Looking Towards the Future

Register Now!

Earn up to 13 Contact Hours

Networking Events

June 18 – 21, 2012

Golf Outing	**Monday**
Monday at Grantwood C.C., Solon, Ohio	
Movie Night	**Monday Night**
Business Meeting & Awards Breakfast	**Tuesday**
Exhibit Expo & Technical Session	**Tuesday**
70+ exhibitors; vendor technical sessions	
Plant Tour	**Tuesday**
Solon Water Reclamation Facility	
Meet & Greet	**Tuesday Night**
Networking while you roll the dice	
Technical Sessions	**Wednesday & Thursday**
Wednesday: 40 technical sessions / 5 concurrent tracks	
Thursday: 20 technical sessions / 5 concurrent tracks	
Annual Banquet	**Wednesday Night**
WEF Awards, 5S Inductions, Passing of the Gavel and more…	

May 25 – Last Day for Early Bird Registration and Special Lodging Rates

At The Bertram Inn & Conference Center – Aurora

600 North Aurora Road | Aurora, Ohio 44202 | 877.995.0200

the Bertram Inn & Conference Center

Hosted by OWEA's Northeast Section. For information, contact:

Ted Baker	Terry Gellner	Ohio Water Environmental Association
440.829.8405	440.530.2275	614.488.5800
kingsnu@aol.com	tgellner@ctconsultants.com	info@ohiowea.org

Hear Ye! Hear Ye! Hear Ye!
Call to Water Environment Professionals

Requested is the presence of all individuals, young and old, front line operators, administrators, manufacturers, engineers and technical personnel at the 86th Ohio Water Environment Association Annual State Conference for the purpose of education, information exchange, networking, problem solving, and bettering our industry.

The conference will provide the Arena to exchange information, gain new knowledge, network, and share experiences with fellow colleagues.

The focus of this conference information exchange is alternative and optimization of energy usage whereby the industry we create will become "greener" and the carbon footprint smaller in the future.

Therefore, all professionals are to assemble at the Bertram Conference Center in Aurora, Ohio beginning June 18, 2012 and ending June 21, 2012 to accomplish this important task.

Follow us on Twitter and Facebook! #OWEA_2012 OWEA_2012

An Important Message from our Conference Committee Co-Chairs

Dear Colleagues,

We extend an invitation to all operators, manufacturers, consultants, administrators and technical people to participate in this upcoming annual conference. The core program consists of events to network with fellow colleagues, over 60 technical sessions to share and expand our knowledge, exhibits and plant tours for hands-on education, award presentations to recognize those deserving, and a business meeting that all are invited to attend. Activities vary in nature, going from one extreme to the other including a golf scramble, a movie, technical sessions, a casino night, a banquet, and activities for spouses.

Bring your spouse, send your staff, and encourage professionals of all ages to attend one day or the full conference. Various attendance durations are available on the registration form.

Join us and the conference committee, who has worked very hard and diligently to strive towards making this conference the greatest water environment activity in the State. In advance, we want to thank our conference committee for their endless dedication, our sponsors for their support and our professionals for attending and making this another successful conference.

Sincerely,

Ted Baker *Terry Gellner*

2012 Annual Conference Committee Co-Chairs
Ted Baker, *kingsnu@aol.com*
Terry Gellner, *tgellner@ctconsultants.com*

What's New this Year?

- Single day registration has been added for technical sessions, including lunch, to reach out to front line operators and/or communities with restricted budgets
- Technical Sessions by Exhibitors are included concurrent with the Exhibitors' hall activities
- The OWEA Business meeting has been located and formatted to encourage membership attendance.
- A Movie Night for socializing has been added on Monday for those arriving early or playing golf – complete with theater seating, popcorn, and drinks.
- 5S induction ceremony has been returned to the Banquet

SCHEDULE

SUNDAY, JUNE 17 – THURSDAY, JUNE 21

SUNDAY, JUNE 17

6:30 p	-	9:00 p	Executive Committee Meeting

MONDAY, JUNE 18

10:00 a	-	6:00 p	Golf Outing – Grantwood Golf Course
4:00 p	-	7:00 p	Registration – The Bertram Inn Atrium
5:00 p	-	9:00 p	Exhibitor Setup
7:30 p	-	10:00 p	Movie Night – Caddyshack in the Amphitheater

TUESDAY, JUNE 19

7:00 a	-	5:00 p	Registration – The Bertram Inn Atrium
7:00 a	-	10:00 a	Exhibitor Setup
8:30 a	-	9:30 a	Annual Business Meeting
9:30 a	-	11:30 a	Awards Breakfast
9:30 a	-	11:30 a	Exhibitor Breakfast
11:30 a	-	5:00 p	Exhibit Expo Open
12:00 a	-	4:00 p	Spouse/Guest Program
12:00 a	-	4:00 p	Exhibits and Plant Tour
12:00 a	-	4:00 p	Exhibitor Technical Sessions
12:30 p	-	2:30 p	Lunch in the Exhibit Hall
4:00 p	-	5:00 p	Exhibitor Reception
5:00 p	-	6:00 p	Exhibitor Tear Down
6:00 p	-	10:30 p	Meet & Greet

WEDNESDAY, JUNE 20

7:00 a	-	5:00 p	Registration – The Bertram Inn Atrium
7:00 a	-	9:00 a	Stantec Breakfast
8:00 a	-	11:45 a	Technical Sessions (5 Concurrent Sessions)
10:00 a	-	4:30 p	Spouse/Guest Program
11:45 a	-	1:00 p	Lunch
11:45 a	-	1:00 p	President's Lunch (by Invitation)
1:00 p	-	4:45 p	Technical Sessions (5 Concurrent Sessions)
6:00 p	-	7:00 p	Social Hour
7:00 p	-	9:30 p	Annual Banquet – 5S Induction
9:30 p	-	10:30 p	After Banquet – Drinks, Desserts and Music

THURSDAY, JUNE 21

7:00 a	-	11:00 a	Registration – The Bertram Inn Atrium
7:00 a	-	9:00 a	Stantec Breakfast
7:00 a	-	8:00 a	Jones & Henry 5S Breakfast
8:00 a	-	11:45 a	Technical Sessions (5 Concurrent Sessions)

Register online
www.ohiowea.org

2012 ATTENDANCE FEES

Early Registration – By May 25th

Full Conference Member	$275
Full Conference Nonmember	$375
Retired Member Full Conference	$150
Tues. only Member – Full Day	$145
Tues. only Nonmember – Full Day	$195
Weds. only Member – Full Day	$145
Weds. only Nonmember – Full Day	$195
Student	$50
Spouse/Guest Program	$160

Late Registration – After May 25th

Full Conference Member	$325
Full Conference Nonmember	$425
Retired Member Full Conference	$200
Tues. only Member – Full Day	$170
Tues. only Nonmember – Full Day	$220
Weds. only Member – Full Day	$170
Weds. only Nonmember – Full Day	$220
Student	$75
Spouse/Guest Program	$210

Technical Program Registration*

Tues. only (includes Exhibits, Plant Tour, Technical Sessions & Lunch)	$25
Weds. only (includes Technical Sessions and Lunch)	$45
Thurs. only	$25

** Single Day Registration Only*

Exhibitor Registration

Includes One Full Conference Registration

Exhibit Booth Member	$700
Exhibit Booth Nonmember	$850
Tuesday Exhibitor Presentation	$200
Booth & Presentation Member	$825
Booth & Presentation Nonmember	$975
Extra Booth Attendant	$50

Presentation must be approved by Conference Committee

Other Registration items

Awards Breakfast Ticket	$25
Meet & Greet Ticket	$90
Banquet Ticket	$75

WEDNESDAY, JUNE 20 – AM TECHNICAL SESSIONS – 5 TRACKS

GREEN / INNOVATIVE / SUSTAINABILITY			
8:00	8:45	**Leveraging Energy Audits to Effect Long Term Energy Savings and Cultural Changes**	Rich Atoulikian & Kimberly Kennedy
9:00	9:45	**The Challenge of Integrating Sustainability Concepts into Decision-Making is Overcome Through the Use of Sustainable Return on Investment**	Christopher Behr
10:00	10:45	**Warren's Hydroelectric Project: Turning Wastewater to Electricity**	Deborah Houdeshell & Tom Angelo
11:00	11:45	**Energy Audits and Case Studies in Wastewater Treatment**	Sam Morgan & Terry Gellner
OPERATIONS			
8:00	8:45	**Designing & Operating the Wastewater Treatment Plant of the Future Will Require a Paradigm Shift**	Samuel Jeyanayagam
9:00	9:45	**Full Scale Testing to Demonstrate Anaerobic Selector Effect for Low Strength Wastewater**	Eric Wahlberg & Bob Hrusovsky
10:00	10:45	**Development of Process Models for Planning, Design, AND Operations**	Curtis Courter
11:00	11:45	**Implementing Compressible Media Filtration for Springfield's Wet Weather Management Program**	Bob O'Bryan & Tim Weaver
COLLECTIONS			
8:00	8:45	**Basics Mechanisms of Corrosion and Corrosion Control for Water and Wastewater Systems**	Graham Bell
9:00	9:45	**Clean Your Pipes, Einstein! Why Cleaning Your Sewers Provides Substantial Returns**	John P. Schroeder & C. Timothy Fallara
10:00	10:45	**Progressive Solutions for a Historic Watershed**	Dave Russell & Cliff Shrive
11:00	11:45	**Continuous Calibration Promises Significant Savings in Meeting Wet Weather Compliance Requirements**	Anil Tangirala, C. Timothy Fallara, Limei Yang, & Dale Kocarek
RESIDUALS			
8:00	8:45	**Class A Biosolids Produced with Closed Alkaline Process**	Eric Wanstrom
9:00	9:45	**Innovative Techniques for Handling High Phosphorus and Solids Loading Within an Enhanced Nutrient Removal**	Edward Talbot
10:00	10:45	**Arkea: A Green Technology for Wastewater Treatment, Residuals Management, and Pathogen Reduction**	Michael Gerardi & Steve Owens
11:00	11:45	**MBR Activated Sludge Truths: The Real Information Concerning the O&M Associated with MBR Activated Sludge**	Ashley Williston & Terry Gellner
LABORATORY			
8:00	8:45	**Choosing a Contract Laboratory**	Kathy Richards
9:00	9:45	**Chlorophyll Analysis**	Christen Wood
10:00	10:45	**The Automation of Solid Phase Extraction (SPE) for Method 1664**	Joe Boyd
11:00	11:45	**Bioassay 101: Everything You Need to Know About Bioassay Testing**	Courtney Van Voorhis

Technical sessions subject to change – refer to OWEA website for changes

Register online at *www.ohiowea.org*

WEDNESDAY, JUNE 20 – PM TECHNICAL SESSIONS – 5 TRACKS

GREEN / INNOVATIVE / SUSTAINABILITY			
1:00	1:45	**Rebuilding Neighborhoods Using Green Infrastructure**	David Clark
2:00	2:45	**Is Green Infrastructure Really the Answer? It Depends on the Question**	Josh Reinicke & Marc Lehmann
3:00	3:45	**The Application of UV Oxidation for Treating Wastewater to Drinking Water Standards for Sustainable Water Reuse Applications**	Terry Keep
4:00	4:45	**Aeration System Optimization Can Offer the Greatest Long-Term Costs and Carbon Footprint Savings**	Rich Atoulikian
NUTRIENT REMOVAL			
1:00	1:45	**Nutrient Removal - Adapting the Approach for High Influent TP and Fixed-Film Treatment**	William Meinert & Richard Reed
2:00	2:45	**Paradigm Shift in Phosphorus Removal From WWTPs**	Steven Reese & Jamie Gellner
3:00	3:45	**Phosphorus Removal - Chemical Versus Biological Methods**	Mark Greene
4:00	4:45	**Nitrate Analyzers, Supplemental Carbon Addition and Treatment Plant Modeling Improves Nitrogen Removal**	Mark Strahota & William Martin
COLLECTIONS CASE STUDIES			
1:00	1:45	**Indianapolis Deep Tunnel Surge Analysis: Debugging Future Operational Issues in the Present**	Karen Ridgeway & Chris Ranck
2:00	2:45	**Effective SSO Elimination - "Indian Lake is a Beautiful Place"... AGAIN...**	'Mac' McCauley & Keith Radick
3:00	3:45	**Step-wise Approach to Piqua's SSO Removal**	Jeff Macomber
4:00	4:45	**Constructed Wetlands: How a Small City Saved BIG Bucks on Its CSO Program**	Mark Harrison & Lenin Kasthuri
RESIDUALS DEWATERING			
1:00	1:45	**Dewatering Case Study of Rotary Fan Press Verses Screw Press**	Kyle Novak & Tim Pringle
2:00	2:45	**Understanding the Capability of Solar Sludge Drying for Large Treatment Facilities**	Michael Hill
3:00	3:45	**Evaluation of Dewatering Technologies for 4 WWTP Nutrient Reduction Projects: BFP, Centrifuge, Rotary Fan Press, and Inclined Screw Press**	Edward Talbot
4:00	4:45	**3 Years Experience with the Urbana Microwave Sludge Drying System**	Dave Stewart
MANAGEMENT			
1:00	1:45	**Survival Skills For Supervisors: 7 Personal Behaviors to Help Supervisors**	Robert Hollis
2:00	2:45	**Separating the Forest From the Trees: The Use of GIS Decision Tools to Make Asset Decisions**	Marc Lehmann & Rod Moeller
3:00	3:45	**Decentralized Treatment of Sewage Water**	Rakesh Govind
4:00	4:45	**Using Alternative Delivery for Municipal Water & Wastewater Projects in 2012**	Dennis Tinkler

Technical sessions subject to change – refer to OWEA website for changes

Register online at *www.ohiowea.org*

THURSDAY, JUNE 21 – AM TECHNICAL SESSIONS – 5 TRACKS

GOVERNMENT AFFAIRS			
8:00	8:45	**The Benefits of Meeting with Washington D.C.: A Fly-In with AWWA, WEF and OWEA**	Dale Kocarek
9:00	9:45	**The New Direction of OWEA's Government Affairs Committee**	Dale Kocarek
10:00	10:45	**Indianapolis Consent Decree Amendment #2: Technical Basis for Regulatory Agreement**	Chris Ranck
11:00	11:45	**OEPA Regulatory Update**	TBA
POTPOURRI			
8:00	8:45	**Landfill Leachate Pretreatment Process Evaluation & Pilot Study**	Richard Claus & Dan Miklos
9:00	9:45	**Performance & Economic Improvement in Vapor Adsorbers Using Structured Activated Carbon Media**	Paula Walmet & John Perry
10:00	10:45	**Benefits of Hydraulic Model Development at MSDGC WWTPs**	Richard Claus & Tom Kutcher
11:00	11:45	**The 3 Cs – Climate / Carbon / Credits in Wastewater Treatment: How communities can benefit from green projects**	Terry Gellner
CSO			
8:00	8:45	**Using a Sustainable Watershed-Based Approach for CSO Control in the Doan Brook Watershed**	Stephanie Glossner & Kellie Rotunno
9:00	9:45	**Innovative Design for CSO Control & Treatment**	Kurt Giberson & Saad Ghalib
10:00	10:45	**Defiance CSO Program: Cost Effective Sewer Separation & Private Property Strategies (Part 1)**	Michael Frommer & Mark Lehnert
11:00	11:45	**Defiance CSO Program: Cost Effective Sewer Separation & Private Property Strategies (Part 2)**	Michael Frommer & Mark Lehnert
COLLECTIONS			
8:00	8:45	**Corrosive Technologies to Assess Condition of Force Mains**	James Lary
9:00	9:45	**Minimizing Objectivity in the Assessment of Pipes, Manholes and Laterals**	Brandon Conley
10:00	10:45	**Effective Development & Analysis of Alternative Strategies for Sanitary Sewer System Improvements**	Derek Wride & Mandeera Wagle
11:00	11:45	**Old Pipe / Renewed Pipe - How New Technology Enhances the Rehabilitation of a 140-Year-Old Sewer**	Chuck Wilson & Sean FitzGerald
STORM WATER			
8:00	8:45	**LID Developers and Builders Perspective of SWM**	Neil Myers
9:00	9:45	**Lessons Learned in Developing an Inventory of Storm Sewer Systems**	Tom Brankamp
10:00	10:45	**The Use of Scent Trained Canines for Illicit Discharge Detection**	Scott & Karen Reynolds
11:00	11:45	**Performance Evaluation of Blue Roofs to Mitigate CSO Impacts**	Sri Rangarajan, William Leo, Nitin Katiyar & Kevin Fitzpatrick

Technical sessions subject to change – refer to OWEA website for changes

Register online at *www.ohiowea.org*

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Ohio Water Environment Association
Preserving & Enhancing Ohio's Water Environment
Sections
Northwest Northeast
Southwest Southeast

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CONFERENCE COMMITTEE THANK YOU

Thank you to the following firms for allowing volunteer time from your employees:
Baker & Associates, Bissnuss, CT Consultants, Hazen & Sawyer, RW Armstrong, ARCADIS
HR Gray, and The City of Warren

HELP IS ALWAYS APPRECIATED!

The success of any conference is dependent on the volunteers who contribute their time and effort to help with various activities to support the conference committee. Once again we ask for assistance from all interested in taking an hour or so from your conference experience to be part to the group that makes it happen. If interested in helping, contact OWEA at info@ohiowea.org or 614-488-5800, or Conference Co-Chairs Ted Baker (kingsnu@aol.com) and Terry Gellner (tgellner@ctconsultants.com). Details and online volunteer forms are available at www.ohiowea.org/2012_annual_conference.php.

Volunteer Activities for the 2012 Conference include but are not limited to the following:

- **Pit Boss Assistants** – Tuesday Evening
- **Registration Assistants** – Time slots available Monday – Thursday
- **Golf Volunteers** – Monday
- **Movie Night Assistants** – Monday Evening
- **On-Site Plant Tours Monitors** – Tuesday
- **Exhibit Hall Assistants** – Tuesday
- **Exhibitor Technical Session Moderators** – Tuesday
- **Technical Session Moderators** – Wednesday and Thursday
- **Technical Sessions Monitors** – Tuesday, Wednesday and Thursday
- **Ticket Takers** – Tuesday and Wednesday

CONFERENCE VENUE

TUESDAY, JUNE 19 – THURSDAY, JUNE 21

OWEA room rates available from Sun, June 17 through Thurs, June 21. Make your reservation via the link at *www.ohiowea.org* or by calling the Bertram Inn at 877.995.0200
Cutoff date for reservations is May 25th

Room Options:

King Room	$109
Double Room	$109

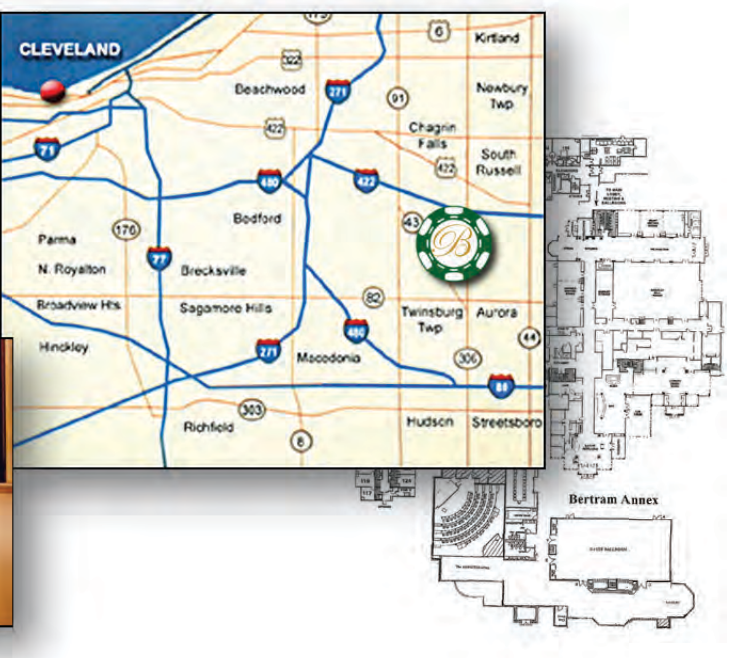
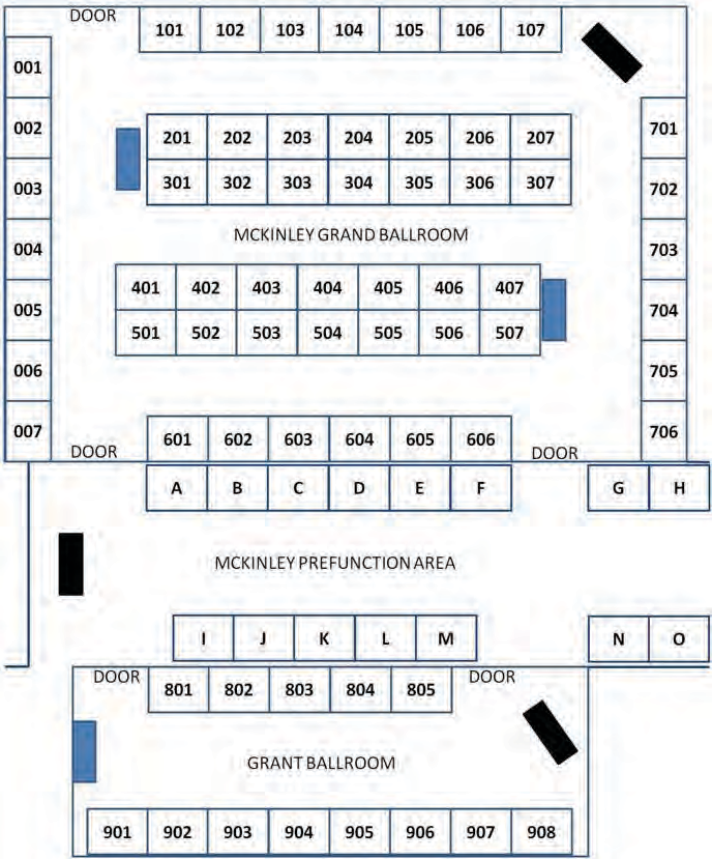


EXHIBIT EXPO

TUESDAY, JUNE 20
11:30 A.M. – 5:00 P.M.



EXHIBITOR REGISTRATION

Includes One Full Conference Registration

Exhibit Booth Member	$700
Exhibit Booth Nonmember	$850
Tuesday Exhibitor Presentation	$200
Booth & Presentation Member	$825
Booth & Presentation Nonmember	$975
Extra Booth Attendant	$50

Presentation must be approved for contact hours

Expo open Tuesday, June 19 from 11:30a – 5:00p
Lunch served between 12:30p – 2:30p in the Exhibit Hall

Register online
www.ohiowea.org

For more information or to register:
Ken Rogozinski
440.871.8394
krogozinski@bissnussinc.com

CONFERENCE EXHIBITORS (AS OF MAY 1ST)

AIRVAC, Inc.
Akron Electric, Inc.
Alloway
Aqua Aerobic Systems, Inc.
Archaea Solutions, Inc.
The Bergren Associates, Inc.
BissNuss, Inc.
Boerger, LLC
Buckeye Pumps, Inc.
Carrig & Associates, Inc.
CTI Engineers, Inc.
E&I Corporation
Environmental Express
Enviroscience, Inc.
FlowWorks.com
Ford Hall Company
GRW Engineers, Inc.
Hach Company
Hamilton Kent LLC
HydroDynamics Company
Infrastructure Technologies
Jacobs Associates
JGM Valve Corp.
Kemira
Logan Clay Products
M Tech Company
MASI Environmental Labs
Natgun Corp. (Div. of DN Tanks)
Northeast Ohio Regional Sewer District
Ohio RCAP
OTT North America
Perma-Liner Industries
Process Control Services
RW Armstrong
Southern Sales Company, Inc.
Spectrashield Liner Systems
Sullivan Environmental Tech. Inc.
Trojan Technologies
USALCO, LLC
Waterworks Systems & Equipment, Inc.
Williams Creek Consulting, Inc.

OWEA 2012 GOLF EVENT

GRANTWOOD GOLF COURSE

MONDAY, JUNE 18

10 A.M. SHOTGUN START

GREAT GOLF AND A LOT MORE

Grantwood Golf Course is a wonderful 18-hole golf course for players of all skill levels. A spacious green belt area that consists of an 18-hole golf course with a large clubhouse, which includes a snack bar, pro-shop, meeting rooms, a banquet facility, and a large shelter house.

Families of golfers can use the Timberlake Recreation Park, located adjacent to Grantwood Golf Course. Timberlake Recreation Park is a natural park with a large fishing lake, two shelter houses and numerous outdoor grills for picnics and outdoor gatherings.

The Grantwood Golf experience has been rated by Golf Magazine as one of the **"Top Five Courses You Can Play In Cleveland Under $50"**.

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

Where:
Grantwood Golf Course
38855 Aurora Road
Solon, OH 44139
(440)248-4646

Times:
8:30 a.m. Registration
8:30 a.m. Driving Range Open
10:00 a.m. Shotgun Start

Format:
128 Golfers (32 Foursomes)
Four Person Scramble

OWEA ANNUAL BUSINESS MEETING

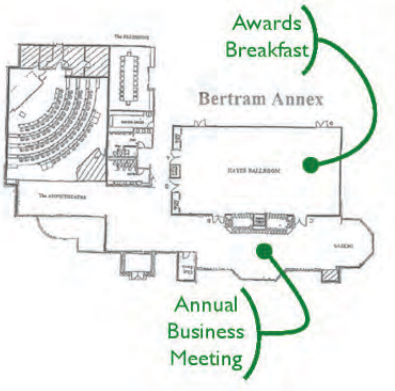
TUESDAY, JUNE 19
8:30 A.M.

All are invited to attend and participate in the OWEA Annual Business Meeting to experience your officers in action. Agenda items include financial reports, organizational news, committee news and Section activities. The Annual Business Meeting will be held one hour before and in the atrium just outside the entrance doors to the Awards Breakfast. Casino Dinero Tokens will be given to those arriving and attending the meeting.

AWARDS BREAKFAST

TUESDAY, JUNE 19
9:30 A.M.

Immediately following the OWEA Annual Business Meeting you can move right in to the Ohio Water Environment Association Awards Breakfast. The breakfast will be held on Tuesday June 19 at 9:30 am in the ballroom next to the atrium. Following a delicious breakfast, the OWEA awards will be presented for dedication and exemplary efforts in our industry. Following the awards presentation will be the Crystal Crucible and Golden Manhole winners. 5S inductions will be at the banquet on Wednesday.



PLANT TOUR – CITY OF SOLON WATER RECLAMATION FACILITY

TUESDAY, JUNE 19
12:00 – 4:00 P.M.

Sanitary sewer construction in Solon was initiated in 1929, and the first centralized treatment facility was commissioned in 1962. A second treatment facility, the Northeast Wastewater Treatment Plant (WWTP), was constructed in the mid-1960's to service the northeast area of Solon. Rapid growth within city limits led to the first of three plant expansions at the Central WWTP. The first expansion, completed in 1970, increased the design average daily flow capacity to 2.4 mgd.

Another plant expansion was completed in 1980. The growth component spurred the average daily design flow increase to 3.6 mgd. The contributing industrial wastewater flow and more stringent regulatory limits necessitated improvements of advanced secondary and tertiary treatment. Major wet stream improvements included
automatic bar screens, a grit classifier, and grease separator, new primary and secondary clarifiers, high rate trickling filters, additional aeration tanks, rapid sand filtration, and expanded chlorination facilities. Vacuum filters, a dissolved air flotation thickener, and a purifax sludge stabilization system were added to the solids stream process.

The city once again initiated a design for the expansion of the Central WWTP following conversion of the Northeast WWTP to a pump station. This expansion to 5.8 mgd, completed in 1997, and intended to serve Solon through build-out, completed the city's consolidation of treatment facilities. Implemented improvements rehabilitated and updated much of the existing equipment and processes. They provided additional primary, secondary, and tertiary wet stream process units, and wet stream equalization units.

In 2007, the city completed the Trickling Filters/Aeration Project. This included the replacement of the trickling tower media and the addition of variable speed distributor arms for greater flexibility in the treatment of variable loads.

The City is confident that the present facility will meet Nation Pollution Discharge Elimination System (NPDES) limits well into the foreseeable future, based on current standards. The City of Solon Central WWTP is tributary to the Beaver Meadow Run, which is an upstream tributary to Tinkers Creek, the Cuyahoga River, and, ultimately, Lake Erie.

TUESDAY, JUNE 19 – PM TECHNICAL SESSIONS AND EXHIBIT TOURS*

*Check OWEA website for updates: www.ohiowea.org

MEET AND GREET

TUESDAY, JUNE 19
6:00 P.M. – 10:30 P.M.

The more conference events you attend, the more Casino Dinero Tokens you receive. Bring them to the Casino Night and transfer the Casino Dinero Tokens to Casino Cash. How's your Craps, Card Playing and Number Picking? Increase your Casino Cash to earn more chances at winning grand prizes, or bid on prize auctions throughout the evening. Settle with friends in the Sport Book, enjoy live sporting events, and wager on your expected outcome. Enjoy the ambiance of being in Vegas with beverages and food served throughout the evening.

The conference casino will have 3 gaming rooms and one sports book. Enjoy food, beverages, music, and prizes galore as you network, sharing wisdom and experiences with fellow colleagues.

Show Tickets

Dinner Tickets

Casino Night

Table Games

Sports Book

Prizes Every 15 minutes

Grand Prize Drawings at the End

Grand Prizes - At Least Three 3-Day or More Get-Away Packages

iPads, Cameras & Other Electronic Devices

Sporting Events Tickets

ANNUAL BANQUET

WEDNESDAY, JUNE 20
SOCIAL & BANQUET: 6 P.M. – 9:30 P.M.
DRINKS, DESSERTS, & MUSIC: 9:30 P.M. – 10:30 P.M.

The Annual Banquet will be held on Wednesday, June 20, 2012. The activities will include a one-hour social event as conference attendees congregate and enjoy a favorite beverage and appetizers in preparation for the Banquet Dinner.

Banquet doors will open at 6:45 pm for all to find a seat, celebrate and reminisce about the preceding days of the conference. The dinner will include the presenting of WEF Awards by the representative from WEF, the 5S inductions, and the passing of the Ohio Water Environment Association gavel from outgoing President Doug Clark to incoming President Tom Angelo.

CORDELL SAMUELS

2011-2012 WEF PRESIDENT-ELECT

Cordell W. Samuels is the 2011-2012 President-Elect of the Water Environment Federation (WEF). He has been a long-time friend of many Ohio WEA executive committee members. Cordell enjoys having fun, so we are especially looking forward to having him with us in June.

Cordell is the Plant Superintendent for the Duffin Creek WPCP in the Regional Municipality of Durham in Ontario, Canada. In that capacity, he manages one of the largest wastewater treatment plants in Ontario. Prior to his current position, Cordell worked in the City of Toronto for 22 years.

Cordell has been a WEF member since 1994 and served on the Federation's House of Delegates and several WEF committees. He has been an active member of both the Water Environment Association of Ontario (WEAO) and the Canadian Water and Wastewater Association (CWWA), serving as President of the Water Environment Association of Ontario in 2005.

A member of the Select Society of Sanitary Sludge Shovelers; Cordell has received a number of WEF awards including the Hatfield Award in 1996, and the Arthur Sidney Bedell Award in 2008. He holds Class IV Wastewater Treatment and Collection Systems Licenses in the Province of Ontario. Cordell has received the Higher National Diploma in Mechanical Engineering (H.N.D. Mech. Eng.) from Leeds Metropolitan University in Leeds, Yorkshire, England.

2012 SPOUSE/GUEST PROGRAM

TUESDAY AND WEDNESDAY
JUNE 19TH & 20TH

TUESDAY AFTERNOON – GLASS FUSING, WINE TASTING AND AURORA FARMS

Spirit of Clay owners Kathy and Kelly will be providing a hands-on program in **Glass Fusing**. You will learn to make sun catchers, wind chimes, and even jewelry, all of which will be fired and returned by Thursday so you can take your artwork home. After you have had a chance to create your masterpiece, The Bertram Inn will be providing a light lunch and **Wine Tasting** for your afternoon pleasure. You can then sit and catch up with friends or jump on one of our shuttles to **Aurora Farms** for a late afternoon shopping excursion.

WEDNESDAY – A DAY OF EXPLORING EVERYTHING CHAGRIN FALLS HAS TO OFFER

Today we will board our private shuttle to **Chagrin Falls**, Ohio. While there we will have plenty of time to explore the many unique shops that Chagrin Falls has to offer. We will have a private area for us to enjoy **lunch "by the falls"**. Then it is off to explore more of what Chagrin Falls has to offer, including an afternoon **Tea Party**. Kathleen at the Village Herb Shop will be teaching us how to make our own teas with products all grown right here in Ohio. After we have all had a chance to make our special recipe we will be able to sample them at our private Tea Party which will include locally made finger desserts and pastries.

Just $160 per guest if registered by May 25th ($210 after May 25th)

TUESDAY, JUNE 19

9:30 a	– 11:30 a	Awards Breakfast
12:00 p	– 4:30 p	Spouse/Guest Program
6:00 p	– 10:30 p	Meet & Greet

WEDNESDAY, JUNE 20

7:00 a	– 9:00 a	Stantec Breakfast
9:00 a	– 4:30 p	Spouse/Guest Program
6:00 p	– 10:30 p	Social and Banquet

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OWEA/WEF# *(req for member rate)*	Spouse/Guest Name *(if attending)*	

Conference Registration	Registration Type	By May 25	After May 25	Row Total
Full Conference includes: All Technical Sessions, Exhibit Expo, Awards Breakfast, Meet & Greet, Wed. Lunch, Annual Banquet	Full Conference Member	$275 ❑	$325 ❑	
	Full Conference Nonmember	$375 ❑	$425 ❑	
	Full Conference Retired *(not working)*	$150 ❑	$200 ❑	
	Full Conference Student *(ID Req'd)*	$50 ❑	$75 ❑	
Tue Only includes: Exhibit Expo, Awards Breakfast, Meet & Greet	Tuesday Only Member	$145 ❑	$170 ❑	
	Tuesday Only Nonmember	$195 ❑	$220 ❑	
Wed Only includes: Technical Sessions, Lunch, Annual Banquet	Wednesday Only Member	$145 ❑	$170 ❑	
	Wednesday Only Nonmember	$195 ❑	$220 ❑	
Includes: Awards Breakfast, Meet & Greet, Annual Banquet, Spouse Program	Spouse/Guest Program	$160 ❑	$210 ❑	
Single Day Technical Program Only	Tuesday Only - Exhibits, Plant Tour, Technical Sessions, Lunch	$25 ❑		
	Wednesday Only - Technical Sessions and Lunch	$45 ❑		
	Thursday Only	$25 ❑		
	Extra Awards Breakfast Ticket(s)	____ x $25 each		
	Extra Meet & Greet Ticket(s)	____ x $90 each		
	Extra Annual Banquet Ticket(s)	____ x $75 each		

OWEA Golf Outing Monday, June 18 at Grantwood Country Club, Solon, Ohio			
Includes: Golf Cart, Range, Lunch, Dinner, Beverages, Prizes and Events. 8:30am Registration, 10am Shotgun Start, 4-person Scramble. Prizes for Long Drive, Pin Shots, and Course Winners. Grantwood CC	# Team(s) of four golfers	____ x $300 each	
	# Individual golfers	____ x $75 each	
	Print golfers names:		
	-------- *Limit 32 Teams* --------		
	TOTAL AMOUNT DUE		

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CITY OF KENT WATER RECLAMATION FACILITY

by Bob Brown, Plant Manager

Brief History

The City's first attempt to treat its municipal wastewater occurred in 1916, with the construction of a simple Imhoff tank and sludge drying beds. While this process seems archaic by today's standards, it was a substantial improvement over the routine practice of using on-site and/or the Cuyahoga River for disposal of residential and industrial waste.

Over the years, several improvements have been implemented to enhance wastewater treatment, including:

- 1953 – The design flow was upgraded to 2.0 mgd and included a pre-aeration tank, primary clarifier, two anaerobic digesters, additional sludge drying beds, and cascade aeration.
- 1967 – The design flow was upgraded to 4.0 mgd and the process was upgraded to activated sludge. These process additions included a detritus tank, three comminutors, another primary clarifier, two aeration basins, blower building, two secondary clarifiers, chlorine contact tank, two new anaerobic digesters, and a Service Building housing two vacuum filter presses, chemical feed equipment, and a new laboratory.
- 1985 – The design flow was upgraded to 5.0 mgd and the activated sludge process was improved to include chemical removal of phosphorus and the biological conversion of ammonia. An additional detritus tank was included with another aeration basin, two secondary clarifiers, DAF unit, four polymer feed systems, post aeration tank, anaerobic digester mixing, two belt filter presses, de-chlorination, and a new laboratory building.
- 2005 – An automatic barscreen was installed, the floating lid on the primary anaerobic digester was replaced, and two new sludge mixers were installed.

Basic Operation

The City's Water Reclamation Facility is a textbook example of a conventional plugflow activated sludge process with biological ammonia and chemical phosphorus control. The sludge is anaerobically digested, dewatered, and removed as a Class B biosolid. While the average design flow is 5.0 mgd, this flow projection has never been reached. For the past 30 years, the average flow has hovered around 2.5–3.0 mgd. The benefit of this over-designed

Kent WRF entrance sign

scenario allows operators the flexibility to take tanks on or off line to better match the fluctuating loads entering the plant. Maintaining the ability to adjust load capacity is particularly important in the City of Kent, which is home to Kent State University. The plant experiences a significant increase in its influent flow and loading rates during the academic year, with intermittent decreases occurring during semester break periods and during the summer months. Such divergent loading patterns requires adjustments be made to sludge wasting rates in order to compensate for the projected loading variations.

This flexibility to adjust tankage enables staff to permanently dedicate one (of three) aeration basin as a storm water retention basin. Therefore influent flow in excess of 5.0 mgd is automatically diverted to this dedicated aeration basin, which decreases the hydraulic and organic loadings to the secondary clarifiers during storm events.

Fine Tuning

There has been a fair amount of experimentation performed over the years, which has resulted in process control methodologies that have stabilized the activated sludge process. While this is not the most appropriate forum for a discussion of these prior research projects, it would be beneficial to provide an explanation of the project that generated the most significant benefits. This particular

Boardwalk sign

Boardwalk over effluent area.

Aerzen turbo blower

Aeration tanks and secondary clairifiers

project focused on sludge wasting. After the 1985 upgrade, the dissolved air floatation process (DAF) was used to thicken waste activated sludge (WAS) prior to anaerobic digestion. The plant, however, was operating at 50-60% of design flow which created problems from the standpoint that the DAF was also over-designed. Since the DAF process was very energy intensive and significantly increased operating costs, sludge wasting was limited to every few days. This intermittent wasting program was based on allowing the MLSS to increase to a point where it was justifiable to start up the DAF. This practice of intermittent sludge wasting created unstable biological conditions in the aeration basins along with problems in the anaerobic digesters, centered around the sporadic organic loadings and temperature variations. These problems generated continuous fluctuations in both MLSS quantity and quality which consequently affected biological stability and effluent quality.

The development of these ancillary negative factors, as a result of the intermittent sludge wasting, eventually led to the abandonment of the DAF process. As an alternative, staff began experimenting with pumping the WAS directly from the secondary clarifiers to the head of the plant, where the waste sludge was co-mingled and settled with the primary clarifier sludge. Over time, this process was upgraded to a continuous sludge wasting process to the head of the plant. This eliminated the MLSS peaks and valleys that were occurring in the aeration basins along with the inconsistent organic loading of the anaerobic digesters. This single process change has proven to be the greatest contributor to overall biological stability within the plant by providing improved consistency of both the MLSS sludge quantity/quality and the anaerobic digester performance.

Process Control Methods

The City's management staff has always advocated the use of procedures that will simplify process control and troubleshooting. As operators, we sometimes have a tendency to make things more difficult than necessary. In the past, the operations staff had routinely monitored numerous parameters throughout the plant, producing a massive accumulation of "numbers" on multi-page bench sheets. There were so many "numbers" that interpretation became confusing and it was difficult to even identify trends that were occurring in the various treatment processes. As explained below, this eventually led to a simpler method of process monitoring and control that could be easily understood and evaluated by all the operators.

Based on previous field experiences with the Ohio EPA's Compliance Assistance Unit, it was learned that acquiring too much data was not necessarily a good thing when troubleshooting and/or controlling the activated sludge process. While all data has the "potential" to be a useful tool in the troubleshooting process, it is imperative to focus primarily on the data that is the most important. In the conventional activated sludge business, the two most important parameters are sludge quantity and sludge quality. If we can just get these two things right, many other problems never materialize.

In an effort to streamline our control methodology, our process sampling and laboratory analysis underwent radical changes in 2006. For many years the operators used the filter pad method to determine the MLSS, RAS, and WAS concentrations, accompanied by all the required lab equipment (i.e. filter pads, Gooch crucible, vacuum unit, dessicator, scales, drying oven, etc.). While this methodology was considered "more precise", it was also very time consuming and, quite frankly, unnecessary. Activated sludge is not quantum mechanics, therefore all we need to do is "be in the ballpark". Even the more precise filter pad method was subject to the ever present "inherent variability" that is prevalent in the sampling and analysis of the activated sludge process. To address these shortcomings, our focus shifted from "precision analysis" to "trend identification." We therefore converted to the much faster centrifuge method of determining solids concentration, while simultaneously eliminating all of the time and cost associated with the lab equipment required for filter pad method.

In addition to these improvements, the operators made an effort to minimize the inherent variability of grab sample data by compositing MLSS samples throughout each shift. Representative core samples of the secondary clarifiers were also included to account for the total solids inventory in the secondary system. These composited samples were then centrifuged prior to the end of each shift for a more balanced approach to determine solids concentration. The sampling data were then recorded on a highly visible wall chart that contained at least two months of previous data points. The connected data points painted a clear picture of how the plant was responding to the various control decisions. A "target" MLSS range was also identified by a highlighted area on the wall chart (see photo on page 55). This created a highly visible MLSS trending pattern readily available to all the operators.

continued on page 54

The newly established 24/7 sludge wasting program now allowed the operators to make very slight modifications to the WAS rates to maintain the MLSS concentration near the desired target range. It is worth noting that the secondary system performed well on either side of this target range (within reason) and there was no immediate need to adjust the MLSS should a data point fall outside the range. However, due to the ever-present inherent variability of activated sludge monitoring, a "stray" data point would occasionally fall outside the targeted MLSS range. Since operators are trained to "control" the process, it soon became apparent that there was an overwhelming desire to adjust the WAS rate based on the latest data point. If this data point was incorrect, as it sometimes was, (that pesky inherent variability again!) the wrong process control decision was made. It is important that the operators be cognizant of the fact that one data point is simply that: one data point. In the world of activated sludge, reacting to one data point often results in the wrong decision. To address this issue, an SOP was developed to allow modification of the WAS rate only after a minimum of three consecutive data points actually represented an outward trend from the MLSS target concentration.

As with many plants, the staff had been running the 30-minute settleablity test for many years. However, operators began putting much more emphasis on the 5-minute settleability test. While the 30-minute test supports the presence of a high or low MLSS concentration (sludge quantity), the 5-minute test proves much more useful in identifying sludge quality issues, such as the on-set of filamentous bacteria. When there is a substantial increase in the 5-minute settleability test, without a corresponding increase in the 30-minute test, the presence of filamentous bacteria is a good possibility. This scenario can be followed up with a microscopic exam for verification. When only the 30-minute test was used, the presence and potential identification of filamentous bacteria was greatly diminished. These 5 and 30 minute data points were then added to the wall chart.

With all the data points connected, it now provides the operators with an opportunity to develop a comprehensive and on-going understanding of the relationship between sludge quantity and sludge quality. A simple glance at this chart gives the operator an indication of any sludge quality issues, indicated by the settleability tests and/or MLSS concentration issues, indicated by sludge units. In this age of computers, this simple tool may appear far too rudimentary, however it has greatly diminished the need for complicated data interpretation and provides the operators with much more confidence in their daily process control decisions.

2008 Improvements – Energy Related

As part of the 1985 upgrade, three new 350 hp centrifugal blowers were installed. Due to the lower than design flow experienced since that time, the use of just one of these blowers did not allow the scfm to be lowered enough to maintain the desired dissolved oxygen levels, particularly during low flow nights and summer months. The result was increased electrical cost from the air that was being wasted. To help alleviate this problem, the blower suction valves were connected to the SCADA system which automatically modulated the valves based on D.O. concentration from probes installed at the end of each aeration basin. While this did not improve the fact that the blower was oversized, it allowed the blower to be automatically operated just above the "surge" point during periods of low D.O. demand.

2011 Improvements – Energy Related

Turbo Blower –The desire to install a smaller aeration blower had not fit well into the City's annual budget. However with the recent turbo blower technology, the City now had an opportunity to save money by decreasing the blower horsepower and increasing electrical efficiency.

Turbo blowers are VFD controlled package units that can operate up to 40,000 rpm, which is a huge increase over our centrifugal blowers that operate at 3,600 rpm. Manufacturers claim a 20-40% operational cost savings over traditional blowers. These high speed blowers use an air film or magnetism (depending upon motor hp) to support the shaft, thereby eliminating the need for traditional bearings. This reduces noise and vibration, while also eliminating the need for alignment, lubrication, and other routine maintenance issues. Turbo blowers also employ an expanded scfm range over conventional blowers, which is beneficial to the facility due to routine loading variations from Kent State University.

The City acquired and installed a new 200 hp Aerzen turbo blower which has been in operation since February of 2012. The blower output is connected to our SCADA system to provide the proper amount of air required to maintain a pre-set D.O. range in aeration basins. Inadequate time has elapsed to accurately determine the cost savings from this project, however the City has already seen a marked reduction in its monthly energy use costs.

VFDs – The practice of pumping RAS and WAS sludge around the plant amounts to a significant portion of the overall electric cost at the facility. The flow rate of these centrifugal pumps was routinely controlled by adjusting the pump discharge valves. This sometimes places the pump in an undesirable location on the pump curve, resulting in inefficient energy consumption. In an effort to reduce electrical costs, this outdated control method was modified by the installation of VFDs in these pumping applications.

Interior Lighting – A high percentage of the incandescent and fluorescent lighting in all buildings was retrofitted with T-5 high efficiency fluorescent lighting fixtures.

Future Improvements – Energy Related

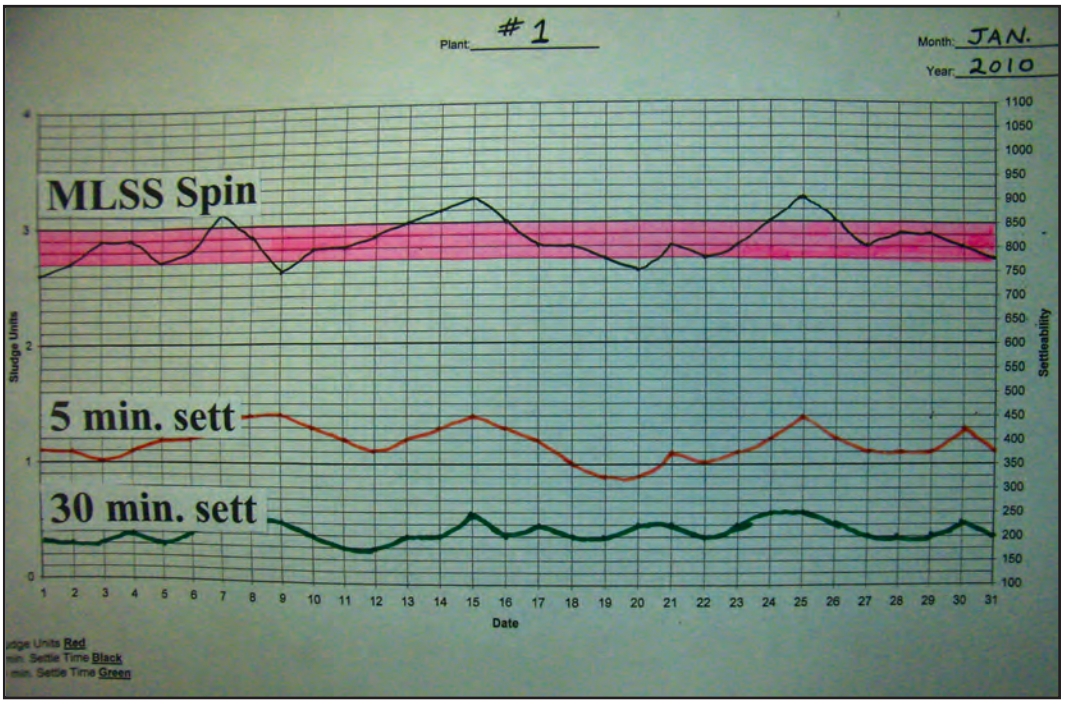
D.O. Control – Now that the new turbo blower maintains the proper air flow to each aeration basin, there is the additional need to insure an adequate D.O. level is maintained throughout the entire length of each basin. There are currently four D.O. probes installed in each aeration basin, with each probe associated with one (of the four) air drop leg entering each basin. To date, the operators have manually operated these air valves to balance the D.O. throughout the length of the basins. D.O. levels, however, can change rapidly and it has been a struggle for the operators to balance these on an ongoing basis. To address this issue, automatic air valves will soon be installed on each of the four air drop legs. This will allow these valves to also be controlled through the SCADA system, insuring proper D.O. levels throughout each of the aeration basins, providing more efficient use of the air supply, improved process control and further reduction of energy costs.

City of Kent, Ohio
Bob Brown, Plant Manager - Class IV WW
bbrown@kent-ohio.org

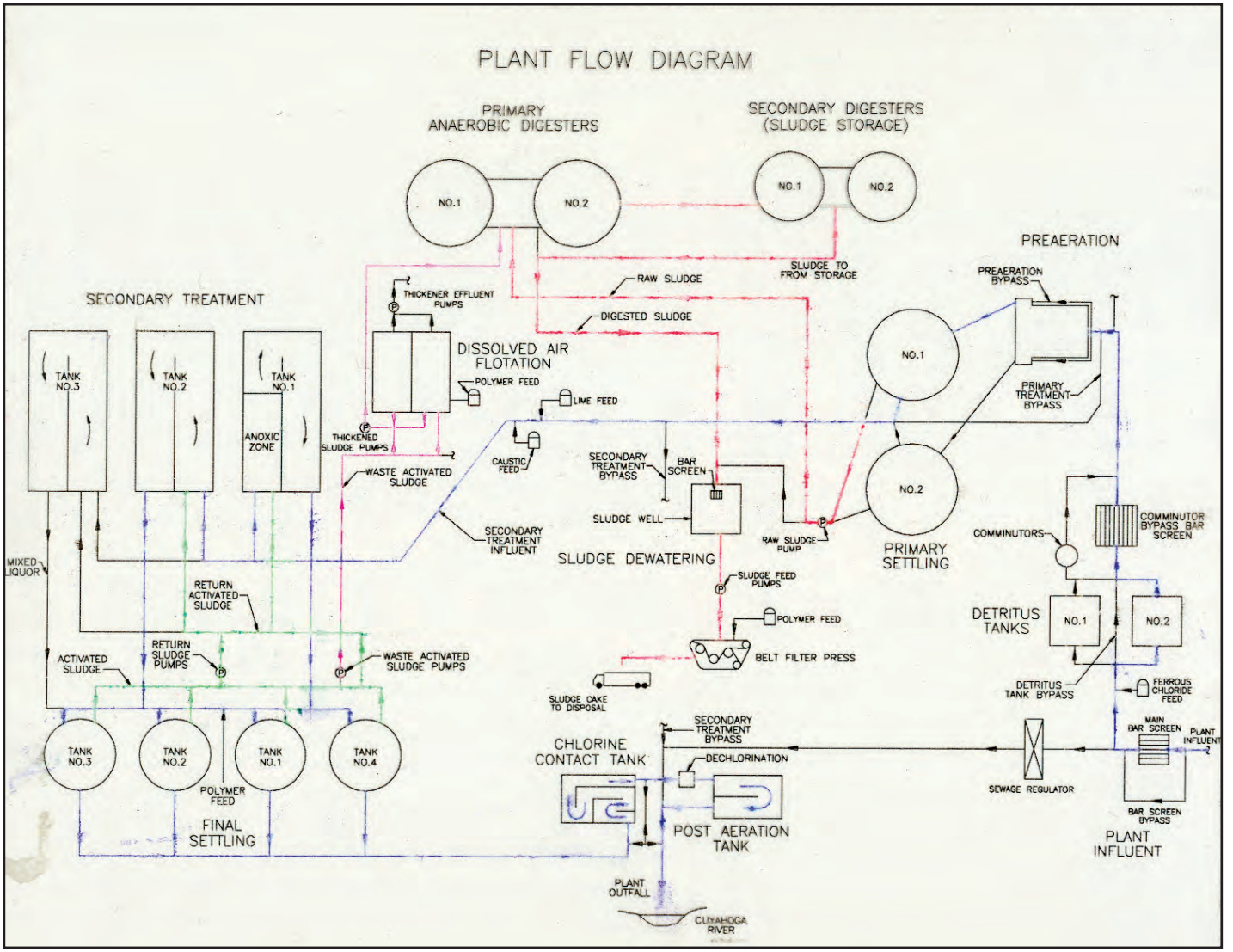
Bill Schesventer, Chief Operator – Class III WW
schesventer@kent-ohio.org

Bob Brown

Bill Schesventer



Process control wall chart



Plant flow diagram

USING AN AMMONIA PROBE FOR PROCESS CONTROL TROUBLESHOOTING

by Jim Scisson

Introduction

An ammonia probe is a handy tool for troubleshooting process control problems. Now that most plants, even small ones, nitrify, they should have ammonia probes. The probes themselves cost less than $400, and the selective ion meter (a fancy pH meter) used to measure the ammonia probe output may cost as little as $250.

Why is an ammonia probe a good troubleshooting tool?

1. Many plant labs will have an ammonia probe and staff trained in its use.
2. The nitrification reaction occurs at a steady rate throughout the secondary treatment process. This allows the operator to track the ammonia depletion with the ammonia probe.
3. The nitrification reaction is sensitive to many operating problems, such as lack of DO; recycle side streams and lack of detention time.
4. The ammonia probe is easy to use and can measure ammonia in all types of samples. The samples can be from the refrigerator or one grabbed only minutes ago.

These qualities allow the alert operator to detect many problems that may otherwise go unfound. Examples of problems that can be sniffed out by an ammonia probe are:

- Short-circuiting in an aeration tank
- Poor influent or RAS distribution among multiple aeration tanks
- Lack of DO in one tank, or in part of a tank
- RAS going septic in final settling tanks
- Poor air distribution among aeration tanks
- Supernatant or dewatering filtrate bleeding through the plant partially treated.
- Trickling filter media or snail problems
- Solids decay in “tertiary” lagoons

This article will demonstrate how the ammonia probe can be used for troubleshooting and include real-world problems detected by ammonia probes.

Characteristics of Nitrification

Nitrification is a two-stage biological process which oxidizes the ammonia to nitrate ion. Compared to carbonaceous BOD consuming organisms, nitrifiers are relatively slow growing, strict aerobes that consume ammonia at a steady rate in the aeration tank. This difference in food consumption rate is shown in Figure 1.

This steady rate of ammonia depletion can be seen in the real world by doing a “bucket test”. In a bucket test, RAS with nitrifiers present and secondary influent wastewater are combined at a ratio to approximate the MLSS concentration, poured into a large bucket and aerated to maintain aerobic conditions. Samples are taken from the bucket at regular intervals and analyzed for ammonia concentration. A typical bucket test result is shown in Figure 2.

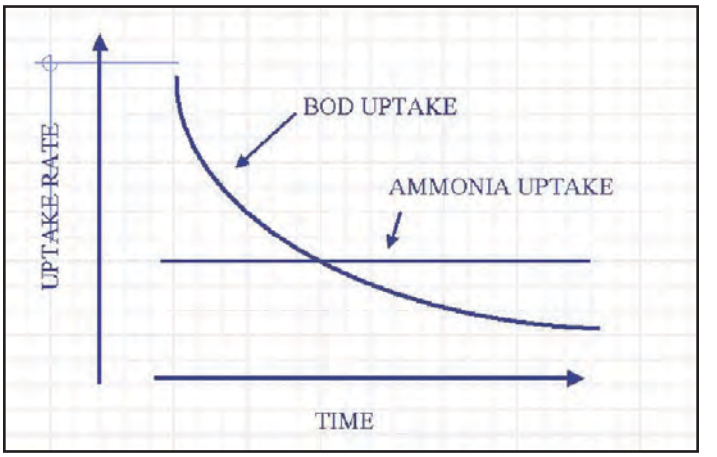


Figure 1
BOD and Nitrification Depletion Rates in a Plug=Flow Aeration Tank

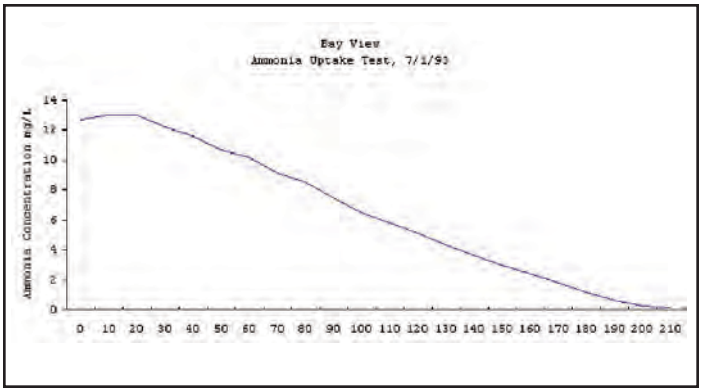


Figure 2
Bucket Test Ammonia Profile (Time/Minutes)

This test shows what happens in a plug flow aeration tank as the mixed liquor flows through the tank. (Note: results are site-specific and will vary due to temperature, mixed liquor dissolved oxygen (DO) concentration and other factors. The rate of depletion will remain fairly constant during the test)

What Causes Nitrification Problems in Activated Sludge?

The most common causes of incomplete nitrification are:

- Poor flow splitting between aeration tanks,
- Lack of sufficient DO in some tanks, parts of tanks, or at certain times of the day,
- Plant side streams high in ammonia concentration, such as anaerobic digester supernatant, filtrate or centrate,
- Short-circuiting caused by tank geometry, or
- A combination of all or some of the above.

What Makes the Ammonia Test a Valuable Troubleshooting Tool?

Because nitrification removes ammonia at a constant rate through an aeration tank, it allows the ammonia concentration to be used as a “tracer”, just like a dye tracer.

Ammonia depletion will reveal patterns of flow through aeration tanks. Ammonia removal, or lack thereof, can identify less-than ideal conditions, such as low DO or side streams.

continued on page 58

Where Can the Test Be Used?

The ammonia probe can be used to analyze refrigerated grab or composite samples, and fresh grab samples. Samples from all plant processes can be analyzed, including:

- Influent wastewater
- Primary effluent
- Mixed liquor
- Return activated sludge (RAS)
- Waste activated sludge (WAS)
- Aerobic and anaerobic supernatant
- Belt press filtrate and centrifuge centrate
- Gravity thickener (GT), gravity belt thickener (GBT) and dissolved air floatation (DAF) thickener overflows
- Secondary effluent
- Final effluent
- Water from any other plant process

How to Take an Aeration Tank Profile

Taking an ammonia profile of an aeration tank is just the same as taking a DO profile of an aeration tank. Grab samples of mixed liquor are taken at the aeration tank inlet, outlet and points in between. For a single pass tank, take a total of 3 or 4 samples. For a multiple-pass tank, take at least two samples in each pass. The samples do not have to be settled and supernated before analysis. Grab samples of mixed liquor should be analyzed within 30 minutes of being taken, and preferably sooner than that. The operator should calibrate the ammonia probe before collecting the sample to reduce analysis time.

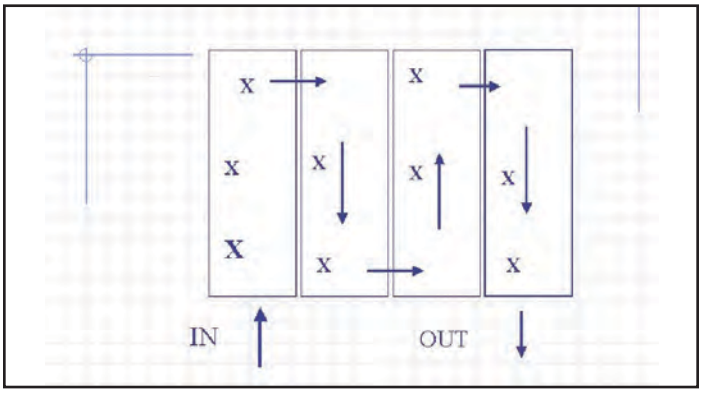


Figure 3
Ammonia Profile Sample Locations

Figure 3 shows typical plug flow tank sample locations.

Differences Between Plug-Flow and Complete Mix Plants

The ammonia probe is best used in a plug-flow tank, because a plug-flow tank tends to have an ammonia depletion profile similar to a bucket test, as shown in figure 4.

A complete mix reactor tends to have uniform ammonia concentration, such as the one in this oxidation ditch in figure 5.

Examples of How to Use The Test

The following examples are real-world examples of how use of an ammonia probe revealed process problems.

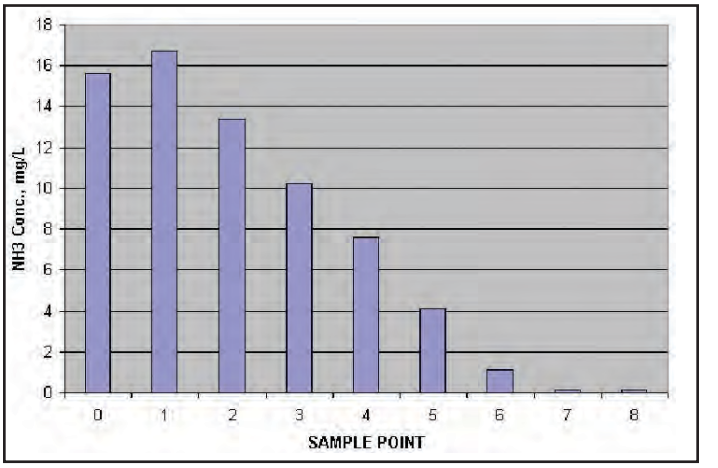


Figure 4
Ammonia Profile in a Plug-Flow Tank

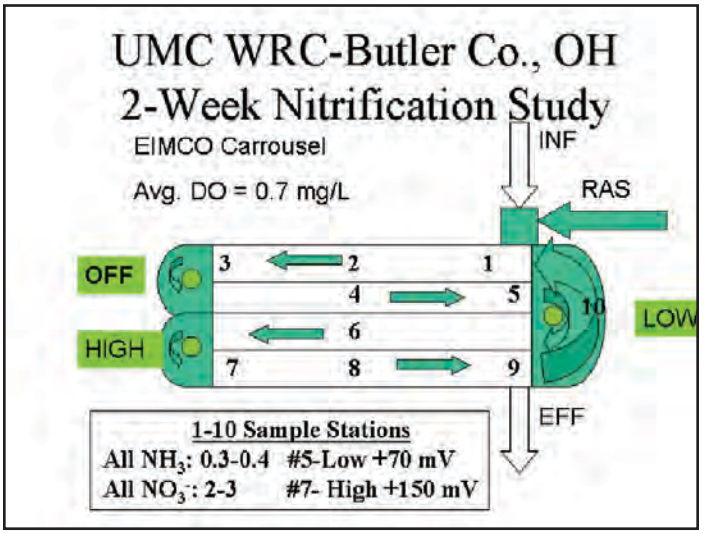


Figure 5
Ammonia Concentration in an Oxidation Ditch

Poor Flow Splitting

Plants that have multiple aeration tanks operating in parallel always have the potential for unequal flow splits. Tanks that receive more flow will have less detention time. All other things being equal, an aeration tank receiving more flow will have more ammonia at the tank effluent than one receiving less flow. An example of this is shown in figure 6.

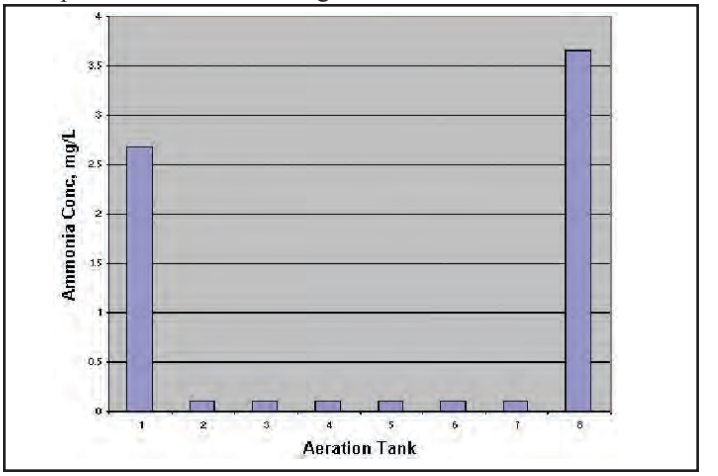


Figure 6
Poor Flow Distribution, Case 1

The tank effluent ammonia results show that tanks 1 and 8 receive more flow than tanks 2-7. In this instance, the poor distribution did not cause a problem because effluent limits were met.

Short-Circuiting (Tank Geometry)

Tank geometry affects aeration tank detention time. In a complete mix tank, or rectangular "plug-flow" tanks with a length to width ratio of 4:1 or less, the average aeration tank detention time may be less than 25% of the theoretical detention time. Switching a multiple-tank system where the tanks operate in parallel to one where the tanks operate in series flow will reduce short-circuiting and improve actual detention times. Figure 7 shows the difference in results between parallel and series operation.

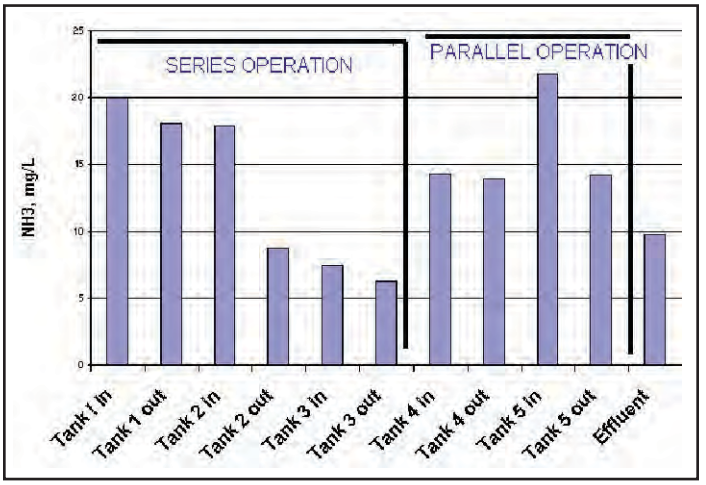


Figure 7
Parallel vs. Series Flow

Side Streams

Side streams with high ammonia concentrations can affect effluent ammonia concentration due to poor flow distribution, irregular flows and overloading an aeration system. High strength side streams that are not distributed evenly across multiple aeration tanks can overload one section of the plant and cause an increase in effluent ammonia concentration. In one case, belt filter press (BFP) filtrate with an ammonia concentration of 300-400 mg/L was recycled back to only half of the plant. Two sequential samplers were set up to sample the mixed liquor leaving one tank affected by the recycle and one not receiving any BFP filtrate flow. Additional evidence was found by measuring the ammonia concentration going to the different tanks. The primary effluent going to aeration tanks numbers 3-6 was 19 mg/L; the ammonia concentration to tanks numbers 7-10 was 27 mg/L. As a result of this and other research, the belt press filtrate was re-routed to the primary settling tank influent so it would be distributed evenly to all tanks.

Aeration Tank DO

Nitrification problems caused by low DO can be very difficult to find, especially in multiple-tank systems, plug flow systems, and in plants with poor DO control and/or monitoring. Nitrifiying bacteria are strict aerobes, and will not nitrify unless there is adequate DO.

What is an "adequate" DO? There is no magic number for an adequate DO. The aeration tank DO at which nitrification begins is site specific, and will change throughout the year. Nitrification will usually begin in a plug-flow aeration tanks when the DO is somewhere between 0.5 and 2.0 mg/L. Variables affecting the minimum DO for nitrification are:

- Aeration tank detention time
- Wastewater septicity
- Wastewater concentration
- Temperature
- MLSS concentration

Low DO can affect an aeration tank at certain times of the day when the flow and/or organic loading is higher. Figure 8 shows the effluent ammonia variation caused by low DO during some parts of the day in some aeration tanks.

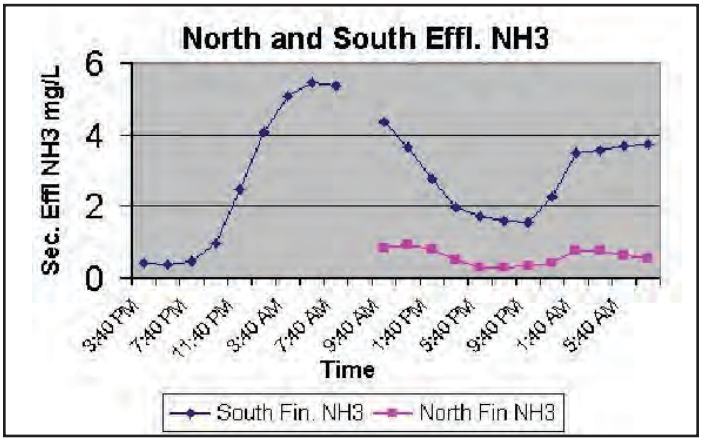


Figure 8
Effluent Ammonia Variations Caused by Periodic Low DO

In the case above, the cyclic trend of the ammonia concentration in the "south" aeration tanks corresponds with wide variations in mixed liquor DO. The "north" tanks did not have low DO and were less affected by changes in load.

Low DO problems can be very difficult to detect due to limited monitoring. Many plants do not monitor aeration tank DO, or, if they do, only take grab samples from the end of each aeration tank twice a day. Such sampling is of little value for troubleshooting and can be misleading because it does not reveal anything about the DO in the aeration tank at all the other times of the day, or in the other parts of the aeration tank. Low DO in portions of an aeration tank can inhibit nitrification as well, because there may be a minimum DO required to start nitrification, especially in long, plug flow tanks where the initial section is heavily loaded.

Still another use of an ammonia probe is to determine the difference in efficiency, in a practical way, between diffusers in two different tanks. Figure 9 shows the ammonia profiles in two aeration tanks. One tank has new diffusers; the other, seven year old diffusers from another manufacturer. The tank with new diffusers requires about 35% less air to nitrify approximately the same amount of ammonia as the tank with the old diffusers.

Aerobic Digester Operation

Aerobic digester ammonia concentration is a good indicator of aerobic digester health. Most aerobic digesters nitrify, converting the ammonia liberated from cellular destruction into nitrate and acid. The digester will generally have a site-specific baseline ammonia concentration. Rising ammonia concentration is an

continued on page 60

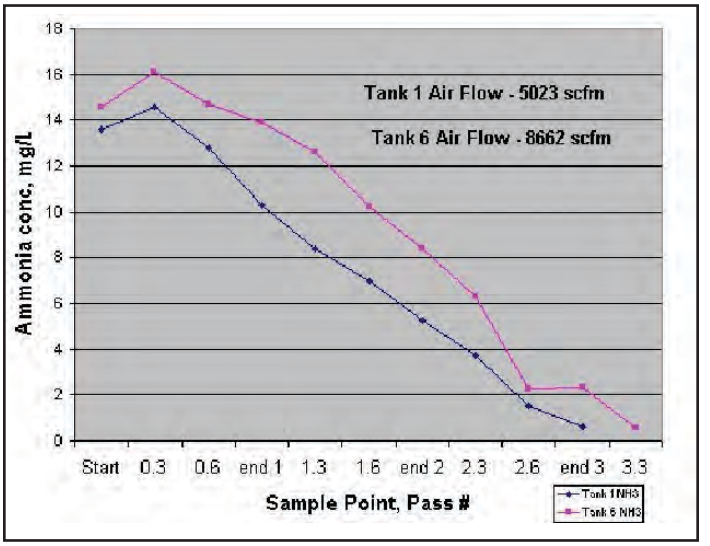


Figure 9
Diffuser Efficiency

indicator that the digester air supply is not sufficient to nitrify all the ammonia released by digestion. This test is especially useful when the aerobic digester feed sludge is thickened before entering the digester. When the sludge is thickened an increasing ammonia concentration can indicate that the sludge is too thick and should be thinned down. In these cases the digester may soon develop odors and, if the digester temperature is above 90°F, foaming may occur. The ammonia concentration can be used as a process control tool, taken at least twice a week and tracked for changes.

Summary

An ammonia probe is a handy tool for tracking and troubleshooting the activated sludge process, and aerobic digesters. The ammonia probe and selective ion meter are inexpensive and easy to use, and will yield results in a few minutes.

Acknowledgements

I would like to thank Steve Hallett, Mike Carson, and Chris McGibbeney from the City of Toledo Bay View Water Reclamation Plant for helping develop this troubleshooting process, and for allowing me to use examples from plant operations spanning over 10 years' time. I would like to thank Doug Keller from the Village of Carey, Ohio for the use of his plant data and turning an offhanded remark I made one day into a successful project. Last, I would like to thank Angelo Klousiadis from the City of Mansfield, Ohio and Lynnius Maximus Marshall for the use of their data to illustrate problems.

Jim Scisson

(Note: Jim Scisson passed away on March 5, 2012. Prior to his passing, two articles were submitted to the Publications Chair. These articles will be published as Jim wished. See "Passings" on page 22 for more information)

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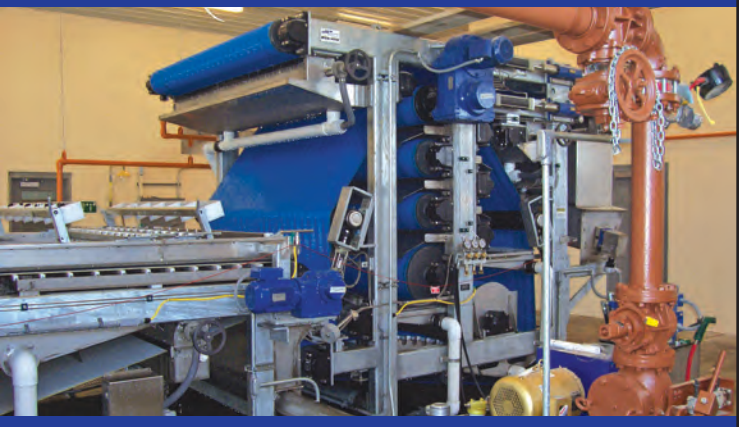

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Flow Meters

SAVE MONEY AND REDUCE WASTE: POLLUTION PREVENTION FOR METAL FINISHING

by By Dave Foulkes, Environmental Specialist, Ohio EPA-Office of Compliance Assistance and Pollution Prevention

High waste management and related raw material costs can be a financial drain for metal finishers, and take a significant portion of their profits as well. To remain competitive and go beyond compliance, pollution prevention (P2) is often the easiest and best management choice for dealing with these costs and waste issues.

P2 is 'front-of-pipe' and process focused. Instead of concentrating on treatment, this preventative strategy focuses on optimizing processes, reducing raw materials, and preventing losses. Losses equal wastes and more environmental regulations. Higher waste generation, particularly in the metal finishing sector, results in additional treatment and handling expenses, which negatively impact a company's bottom line.

By applying P2 concepts, metal finishers can extract the most use from process chemistries while directly reducing rinse water use and wastewater generation.

P2 Principles for Metal Finishing

Metal finishers can use the following principles when developing a P2 strategy:

- Use the least toxic and easiest to manage chemicals
- Extract the most life (use) out of process chemistries
- Keep process chemistry solutions where they belong (in the process tanks)
- Return as much escaping solution (dragout) as possible to the tanks
- Use the least amount of rinse water required for good rinsing

Once a facility understands P2 principles related to metal finishing, it can then identify where waste minimization opportunities exist within their operations. Ask these key questions during this process for guidance in identifying P2 techniques:

- Does the facility monitor and measure plating or coating solutions and how chemistry additions are made?
- Does the facility have specifications for each finished part (mil thickness, quality standards)?
- Does the facility have procedures and training in place for coating/plating time, rack withdrawal rate, drain time above tank, rinsing, and part orientation?
- Does the facility know addition and flow rates for water in the cleaning, plating solutions and rinses?

P2 Techniques for Metal Finishing

Before turning to methods to recover metals from wastewater, metal finishers should examine processes and operations for opportunities to reduce the generation of wastewater and extend the life of metal finishing solutions.

P2 techniques for metal finishing include:

1. **Slow down** - Reduce the speed of parts removal and allow drain time above process tanks to reduce dragout. Dragout occurs when the solution pulled from one tank in a plating operation is dragged into another. Excessive dragout can lead to increased plating chemical use, increased rinse water use or decreased rinse quality, increased dragin into next bath and increased wastewater generation. Use racks to hang parts to drain so workers can move to another task. Automation also can help.
2. **Counter-current rinsing** - Fresh water is fed into the rinse tank farthest from the plating tank and overflows backward through the flowing rinse tanks until it reaches the rinse tank immediately after the plating tank. Installing multiple rinse tanks after process baths will improve rinse efficiency and reduce water consumption.
3. **Reactive rinsing** - Reuse the acid rinse effluent as influent for the alkaline rinse tank, thus allowing the fresh water feed to the alkaline rinse tank to be turned off. This can also be applied to process tank rinses.
4. **Static rinse** - The first rinse after a process bath should be a static rinse that builds up a concentration of dragin and is used instead of fresh water to replenish the process bath. Use purified water to make the static rinse.
5. **Rack to reduce dragout** - Position the part so that fluid will flow together and off the part by the quickest route. Do not position parts directly over one another. Tilt parts to avoid fluid pockets.
6. **Bath chemistry** - Regularly monitor bath chemistry with pH and conductivity controls. Testing methods are available from your supplier. Sometimes supplier specifications for concentration levels are set high. By experimenting and lowering levels to just above the point when defects start to occur, you can reduce chemical costs and the costs associated with disposal or treatment.
7. **Restrict water flow** - Simple in-line flow restrictors can limit the water flow rate. Turn off flowing rinses when not in use.
8. **Drain boards** - Place a drain board over the lips of two adjacent tanks to catch dragout. Slope the board back to the first tank (this also keeps the solutions off the floor).
9. **Agitate/mix baths** - Agitation can be done by manually moving the part (better if part is completely removed and then re-immersed), with a mechanical agitator or with forced air or solution in an immersion tank. You may need to filter baths to remove sediment prior to agitation.
10. **Fogging/Spray/Air Knives** - After a part is removed from a bath, these devices, located above process tanks, can force excess solution off of work piece and into the process bath.

Metal Finishing Recovery Techniques

After utilizing the P2 techniques previously mentioned, techniques can be used to recover plating chemistries and reuse rinse water.

It's very important for a facility to understand and know all its process controls (flow rates, bath chemistry, water quality, tank layout, etc.) before pursuing recovery technologies. This way, the proper size and type of system can be selected to best fit each metal finisher's needs.

Many types of recovery systems are available depending on what chemicals (metals, acids, alkaline cleaners, etc.) are in a certain process. Options include:

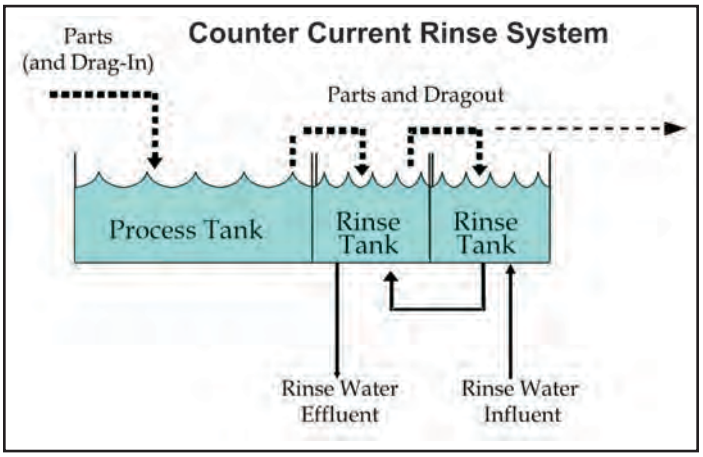
- Evaporation
- Ion Exchange
- Reverse Osmosis
- Electrodialysis
- Electrolytic Recovery
- Diffusion Dialysis
- Acid Sorption
- Membrane Filtration

Where can a metal finisher get more help?

For more information and assistance about P2 and waste reductions in a metal finishing process, Ohio companies can contact Ohio EPA's Office of Compliance Assistance and Pollution Prevention (OCAPP). OCAPP is a non-regulatory program that helps customers, including metal finishers, identify and implement P2 measures that can save money, increase business performance and benefit the environment.

OCAPP also provides information and resources to help small businesses comply with environmental regulations. Services of the office include a toll-free hotline, on-site compliance and P2 assessments, workshops/training, plain-English publications library and assistance in completing permit application forms.

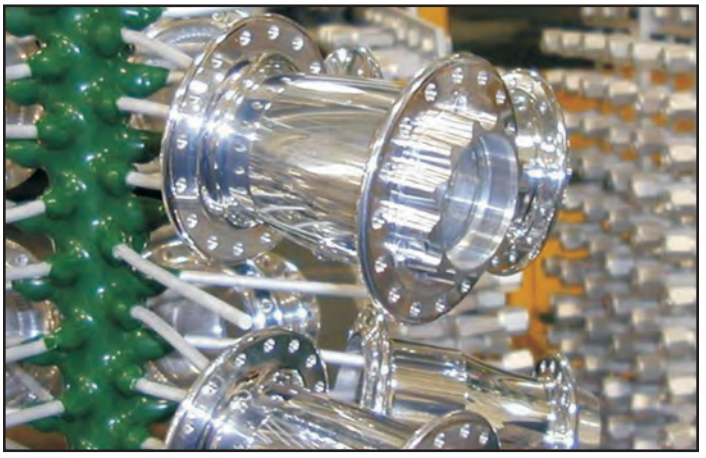
OCAPP has assisted many Ohio metal finishers with their P2 and waste minimization efforts. This includes over-the-phone or email consultation and site visits. OCAPP will tailor its technical assistance levels based on each company's needs.



Metal Refinishing Counter-current Diagram

Metal Refinishing Bath - Example 1

Metal Refinishing Bath - Example 2



Metal Finishing Parts on Rack

For more information about OCAPP and its services, please visit *www.epa.ohio.gov/ocapp* or call us at (800) 329-7518.

If you are interested in joining the OWEA Industrial Waste and Pretreatment Committee, please contact your section chairperson or the State Chair.

State Chair, Sharon Vaughn
937.333.1860, *sharon.vaughn@cityofdayton.org*

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Southeast Co-Chair, Brian Tornes
614.459.2050

Southeast Co-Chair, Brian Coghlan
614.761.1661, *bcoghlan@birdbull.com*

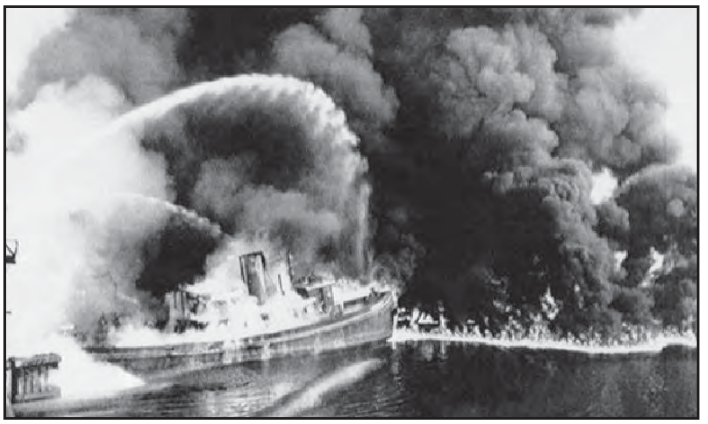
ENFORCEMENT OUTSIDE THE BOX

by Fred Neugebauer, City of Akron

The statewide Industrial Pretreatment Program depends on many groups of people for its success. At the very heart is the industry. After all, they are the ultimate target of Federal Pretreatment Regulations. In addition, they are the economic machine that makes possible the style of life that we live. There are also the Industrial Pretreatment Program Coordinators, including coordinators of Approved Pretreatment Programs, plus Ohio EPA pretreatment program coordinators of communities without approved programs or for direct discharges. This group also includes environmental engineering consultants who may run the pretreatment program on a contractual basis for a regulated community; which would include me.

It is our job to assist the industries' efforts to comply. We write the permits, we collect the data, we do the inspections and we enforce – if we must. Our primary job is to assist our industries, even though it tends to get underestimated or overlooked by those not directly involved in the program. The Ohio EPA Program Administrators, whose job it is to make sure that the Industrial Pretreatment Programs are effectively carried out, are also important. Lastly, there are the vendors of the equipment, chemicals, and engineering services needed in the industries' efforts to comply. The success of the Industrial Waste Seminars is largely dependent on the vendors who make it possible through the booth fees and door prize donations.

Industry, pretreatment coordinators, state regulators, and vendors all must work together as partners if we are going to be effective in our endeavor to protect the environment. Is the industrial pretreatment program perfect? No! However, as most are likely to know, on June 22, 1969, the Cuyahoga River caught on fire.



Considering photo below, it is no wonder the river caught on fire.

Around the same time, a study revealed that there were no viable fish populations to be found in the river. Now the photo below was taken a few years ago, just down from the City of Akron Wastewater Treatment Plant outfall, showing a rainbow trout.

Let's just say that rainbow trout need pretty clean water. Certainly, there were other contributors, and perhaps more significant, but this would not be possible with out the successes of the Industrial Pretreatment Programs.

Over the few years that I have been involved with the Industrial Pretreatment Program, I have been involved with a fair share of enforcement actions. Many resolve themselves relatively easily. The violation is a spurious, isolated violation (an anomaly) or the violation is the result of equipment breakdown, or some easily determinable cause – the correction is made, the violation is resolved, and we move forward.

But now and again we come across those cases where there is a persistent pattern of violations, and the citation-industrial response doesn't seem to address the real problem. At that time, we may turn to non-traditional enforcement actions that may more directly address the real deficiency. We need to think about "Enforcement Outside the Box".

Certification Programs

Periodically the cause can be most simply stated as a lack of knowledge. The industry just does not know what its pretreatment system is designed to do. They may have a simple recipe of what they need to do, maybe add a little more of one or another treatment chemical – and hope for the best. Maybe they are encountering a new violation – something they've never seen before – and are not exactly sure where it is coming from, nor what to do about it.

I had one industry, in responding to a zinc violation, indicate the cause of the zinc violation was that the results of the sampling event exceeded the zinc limit. Translated – he didn't know why they had the violation. The problem is, because he did not know the cause of the violation, he had no way of preventing a recurrence. We have had other similar violations. Education, in the form of certifications, may be one of the more efficient means of enforcement. However, the individuals at these companies are busy and would not voluntarily get the needed certification. In these cases we have included requirements for the industry to have someone at their facility certified. And going forward, the

industry is required to have someone with certification on staff. This way, the industry cannot readily dismiss the individual that knows the pretreatment system, without making provisions for the new individual to become certified. It may be the person that supervises the pretreatment operator who becomes certified. This is fine, too, because they can then provide the guidance and training to whatever individual they assign to operating the pretreatment system.

There are a couple of options given to the industry. The Ohio Water Environment Association offers an Industrial Pretreatment Operator Certification opportunity *(http://www.ohiowea.org/certification_programs.php)*. However, it has been found that many would-be test takers require much remedial work to be able to pass the test, because of the breadth of knowledge a certified operator is expected to have. For that reason, I also allow them the option for the Industrial Waste Treatment Certification Program offered by the Office of Water Programs of California State University Sacramento. For operators of metals-bearing wastewater treatment, they can also take the Treatment of Metal Wastestreams Certification Course. In addition to imparting much needed knowledge, these courses may provide sufficient remedial knowledge to enable the operator to pass the OWEA Industrial Pretreatment Operator Certification, if there is a need for more education.

In the case of the industry previously mentioned, the individual in charge is now well educated, being able to accurately measure pH, which is essential to reliably remove the heavy metals in his waste stream. With much coaching from Kathy Richards, our Industrial Sampling Technician, he has established reliable QA/QC for his pH probes. He is also comfortable performing jar tests as needed in order to optimize his treatment.

OCAPP

In another case, it became clear that one of our small job shop metal finishers needed more technical assistance than the pretreatment program could deliver. They may have needed recommendations to reduce pollutant loadings to their pretreatment systems usually in the form of pollution prevention measures, or there may have been other deficiencies.

A resource at our disposal that I have used occasionally is the Office of Compliance Assistance and Pollution Prevention (OCAPP).

As part of an enforcement action, I require the industry to get an assessment by OCAPP, and then require the industry to either submit a copy of the report or to authorize OCAPP to send a copy to me on their behalf. Then I require the industry to indicate actions they will take on the basis of this report and include a schedule for actions if appropriate. Upon completion of those items, if the discharge tested is in compliance with limits, the violation is considered resolved.

Here at the City of Akron we have resorted to this type of enforcement on several occasions. In one instance, the industry, at our approval, elected to have this assessment performed by a consultant – probably something to do with the trust factor. In other cases OCAPP performed the audit and delivered the report, which was forwarded to my attention. In one case, at the recommendation of this report, the industry elected to become a zero discharge facility. Savings were realized on analytical costs easily offsetting the increased disposal cost, not to mention the costs of fines, etc., the result of violation resolutions.

Maybe there will be a recurrence of the violation, but now the industry has some ideas on what to do about it, and I also have in my hands something to which I can refer, to assist the industry.

PTE Equipment Review

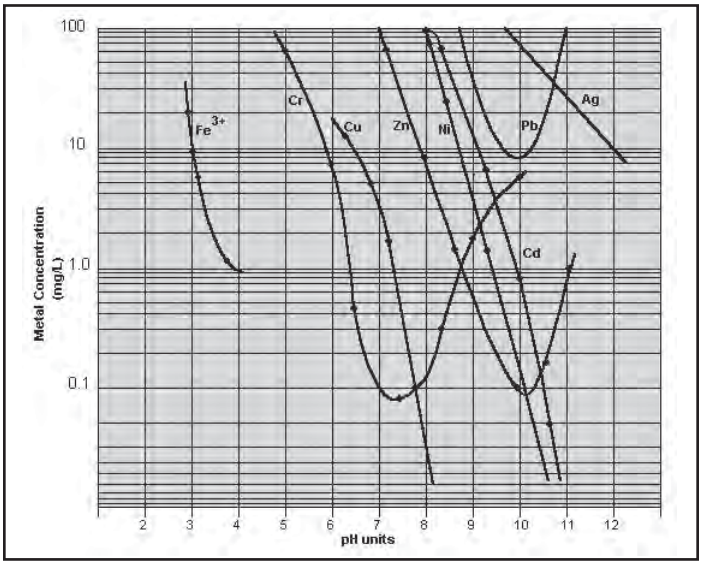
Periodically in reviewing the violations, it becomes evident that the Pretreatment Equipment in use at a facility is just not up to the task.

In some cases, the system was not properly engineered. In other cases the equipment may have once been adequate. But over the years changes in production rates, process chemicals, or other changes have resulted in a system no longer treating the wastewater for which it was designed. Consequently the operator, even if very skilled, may be challenged to keep the discharge in compliance, and there is very little room for error.

We had one industry, in greening their facility, switch to using citric acid in one of their production processes. Unfortunately zinc, which is their primary pollutant of concern, readily complexes with citric acid to form zinc citrate.

It may be that the wastewater generating processes are different only in the percentage of overall production of one particular product, which discharges a more recalcitrant contaminant at a higher loading.

A typical pretreatment process for metals waste treatment is hydroxide precipitation. If a metal plater has a few different plating processes, they may be treating a waste stream with several different heavy metals. A review of the metals hydroxide curves



indicates the minimum hydroxide solubility varies considerably between the different metals. In the case of a single stage system a pH is carefully selected to address the predominant heavy metal. Either the other heavy metals are adequately treated, even if not most efficiently, or there may be a particularly recalcitrant metal, such as lead or copper, but which is a small enough percentage of the overall waste stream that compliance is achieved with little or no effective removal of that metal. If the plater then acquires a new customer, resulting in a substantial increase in percentage of process wastewater of either the recalcitrant metals or the

metal with the less than optimum pH setting, the pretreatment equipment is no longer sufficient. Set points may need to be adjusted, or additional processes may be necessary to achieve consistent compliance.

These are circumstances where I tend to implement the enforcement requirements to have the pretreatment equipment assessed by a certified engineer to determine if the Pretreatment Equipment (as configured) is adequately designed to reliably achieve compliance. That may mean re-doing the jar tests that were done for the initial design, reviewing the original PTI application for a breakdown of the wastewater streams being treated, and comparing that to the current status. Such orders usually would be accompanied with reduced fines because of the increased costs for the industry to return to compliance, especially if an upgrade in pretreatment equipment is required. Then, if the report comes back that the equipment is inadequate, the follow-up is to order the industry to upgrade their equipment and establish a schedule to make sure they do so.

NE Section Industrial Waste Seminar

One more resource that I firmly believe in, not so much as a tool for enforcement, but as a means to enable our industries to see the bigger picture and to appreciate that compliance is a team effort between the state and local agencies and themselves, is an OWEA Industrial Waste Seminar. Many years ago our pretreatment inspectors and I made a point to personally call our permitted industry contacts and invite them to this seminar. Many of them responded and have been to many or all NESOWEA Industrial Waste Seminars since that time. This seminar helps them gain perspective, learn how similar problems to their own were addressed in other areas, network with other Industrial Pretreatment Operators, consultants, and equipment vendors - all resources that can only help their efforts to comply with the terms and conditions of their permits.

Michael Dean at Akron Beacon Journal, as shared in the adjacent side-bar, learned about the Industrial Pretreatment Operator Certification program, which resulted in his obtaining the certifications as he shared, and I might add, a virtual elimination of recurring copper violations that occurred before that time.

I strongly encourage every pretreatment coordinator in the state to mark your calendar to reach out to your industrial contacts and invite them to the 2013 Industrial Waste Seminar. SWOWEA typically schedules their seminar in January and NESOWEA schedules theirs in February. You will most certainly be rewarded if you do. Your investment of time will not be wasted.

In summary, if your pretreatment program doesn't already do so, give consideration for use of "Certification Requirements", OCAPP Audits, and PTE Assessments as a means to eliminate chronic violations. Also take the initiative to invite your industries to attend the closest Industrial Waste Seminar.

Fred Neugebauer, City of Akron
fneugebauer@akronohio.gov

Certifications – A New Trick for an Old Dog

Akron Plating was established in 1948 and a family business started in 1955. We have 13 employees, which include 4 in the office, 8 platers in the shop, and one Fred. The guy that does it all.

We chrome, copper, zinc-bright, black, yellow and olive drab, nickel, passivate, and polish.

Our services are used to provide plating for aerospace, industrial, automotive, medical, fire department, and any other odd and end pieces that people bring in.

We hold certifications with ISO 9001:2000 Quality Management System, NADCAP Aerospace Quality System, and Chemical Processing.

Because we are a family business that began in 1955, we got stuck in our old ways. This caught up to us in 2006 when we were going to be fined $10,000 by the City of Akron for a violation. We did not have the money to put towards this fine, so the City of Akron worked with us. We put the money into our equipment, paid a lesser fine, and I enrolled in the Treatment of Metal Wastestream course through the California State University, Sacramento. (Fred Neugebauer had been suggesting I take this course for more than a couple months prior, but it turned into a must!)

The course is designed as a home-study or self-paced instruction course for those that do not have the availability for a classroom. The course can be used as a training program. It was prepared to help operators operate and maintain their wastewater treatment facilities.

For Akron Plating and myself, we now have the knowledge to connect things together. Example: I am the office person. I do accounts payable or payroll. Fred in the shop would come in and say I have water samples. I would send them off, a report would come in. We would outsource the required report to be filled out. I would get a signature from Akron Plating and send it to the city, not once looking at the data in front of me. This is where we would get in trouble. I was not trained to look at the results and understand them. I was in the office and that was the shop's responsibility (not mine).

Now I understand the responsibility, I have the knowledge, and Akron Plating takes ownership of our reporting.

In the past we outsourced all our important reports to a consultant. We are required to do a Toxic Organic Management Plan (TOMP). I did our first solo one and felt very confident about the report and the fact we were saving money. I also did our SERC, which deal with the Employees Right-To-Know laws, which again saved our company money.

Akron Plating in 2008 had Fred, our Vice-President, and Joe Antal, our foreman, take the course. It was a great training tool for both of them. They were a little gruff about it at first, but you could tell Joe was enjoying the course. They both knew the material, but it gave them a new perspective and it was a great review. Whenever Fred goes out of town things would get stressed and Joe would slack on our water department

equaling in violations. I would point out to him that without water we are not plating. He now has the knowledge to understand why.

By taking this course we have developed a maintenance schedule, we have better reporting skills and in turn save money and we have better knowledge. Basically we are an old dog that did learn new tricks or in this case knowledge.

Jennifer Ormsby Sevald, Akron Plating Company

Industrial Pretreatment at the Beacon Journal

In 1995 the Beacon Journal upgraded its printing process, switching from oil-based used in letterpress technology to water-based ink used in Flexographic printing.

There is a small percentage of waste with this process that cannot be reclaimed for future use. The most economical way to process this waste is through a filter press. The water is separated for reuse and/or disposal and the residue is recycled for use as fuel blending.

Working with the City of Akron and Ohio Environmental Protection Agency, the Beacon Journal contracted a vender to supply a press that would recycle the waste and still meet wastewater discharge limits. The vendor installed the unit and gave the staff a quick lesson on the operation and science behind the process.

As a Certified Hazardous Materials Manager, I was not satisfied with the level of knowledge we obtained for this operation. While attending one of the past Ohio Water Environment Association – NE Section seminars I learned about a program to certify Industrial Pretreatment Operators. After further inquiry I learned that the University of California, Sacramento, had a training program that could be taken off campus. (I recommend this program highly for those that would like to broaden their understanding of waste treatment.) After completing field study programs on industrial waste treatment and treatment of metal waste streams, I took the Industrial Wastewater (Pre) Treatment Operator Certification test through the Ohio Water Environment Association and passed.

Though I maintain a Master's level CHMM certification, I was amazed at the limited knowledge I had on the industrial pretreatment process. The industrial pretreatment program and certification process provided me the knowledge to instruct our staff on the appropriate ways to treat our waste and what to look for when the process does not go according to plan.

We at the Beacon Journal strive to meet and/or exceed all environmental limits and be a good steward of the planet. I believe all companies that operate an industrial pretreatment process should be required to have a minimum of one individual certified in the proper operation, identification of pollutants, and knowledge of wastewater discharge.

Michael Dean, Akron Beacon Journal

OCAPP

The Northeast District Office has two people who work in the Office of Compliance Assistance and Pollution Prevention (OCAPP). They are Dr. Adrienne LaFavre and Ms. Pam Korenewych.

Dr. LaFavre is the contact person for Ashtabula, Carroll, Columbiana, Geauga, Holmes, Lake, Lorain, Mahoning, Trumbull and Wayne counties. Ms. Korenewych is the contact person for Cuyahoga, Medina, Portage, Stark and Summit counties.

OCAPP provides free, confidential environmental services to small businesses, which are defined as those who employ less than 100 people. We help small businesses by preparing air permit applications and/or responding to any Notice of Violation letters received from Ohio EPA or local air agency. We also provide assistance with the other environmental programs. We inform small businesses of their requirements to comply with the hazardous waste management rules, solid waste rules, and surface water rules. For example, we help small businesses understand if/when they need an NPDES permit (Individual, General, Indirect/ Pre-treatment, Storm Water).

If anyone has a question, we encourage them to call us. We would be happy to help them.

Pam Korenewych, Environmental Specialist
Ohio EPA Office of Compliance Assistance and Pollution Prevention.
(330) 963-1237

Beringer Plating Company LIKES The Industrial Waste Seminar

Attending the NESOWEA seminars has helped Beringer Plating in numerous areas. Exhibits set up at the seminars have benefited our purchasing department because we were able to find additional suppliers for the commodities and equipment used in our Water Treatment. The presentations at the seminars have always been informative and helped us in maintaining the skills needed in water treatment. For example, we learned that 10 pH buffer solution that is used to calibrate our pH probes begins to degrade rapidly once exposed to oxygen. This caused us to revise calibration procedures and how we inventory the pH buffer solution.

In closing, I would like to encourage everyone currently attending the seminars to go out and recommend others to attend the NESOWEA seminars.

Bruce Hogie, Beringer Plating

OHIO ENGINEERING TEAM DEVELOPS NEW TOOL FOR LOW IMPACT I/I INVESTIGATIONS

by John M.H. Barton, PhD, PE; and Joseph Kamalesh, MS; Stantec Consulting Services, Inc.

Micromonitors: A New Tool in the SSES Toolbox

The well-known combination of aging infrastructure and regulatory enforcement actions is leading communities throughout the United States to undertake detailed field investigations to reduce unwanted inflow and infiltration (I/I) into their sanitary sewer collection systems. However, these field investigations, known as Sanitary Sewer Evaluation Surveys (SSES) can be significantly invasive and expensive.

Micromonitoring is an emerging technology, developed by Stantec engineers in Cincinnati, Ohio, which can significantly reduce SSES investigation costs. Over the course of the past two years, we have applied micromonitoring in several pilot programs and small to medium scale projects. We've found that it can help municipalities zero in on their actual problem areas, while reducing the need to implement widespread traditional investigations such as smoke and dye testing, manhole inspections, flow isolations, and CCTV inspections. It is a tool which helps project engineers cost-effectively isolate I/I sources, and quickly target follow-up field investigations to problem areas.

Stark Contrasts

When comparing the two hydrographs shown in Figure 1, it doesn't take a trained eye to determine which of these two pipes has I/I and which does not. Both reflect the same time period and are located very close spatially. Both convey flows from approximately 40-50 homes and were monitored with the micromonitors. Both of the pipe segments have similar base flows.

However, during an intense rainfall event, the flow in the upper hydrograph does not change, while the flow in the lower hydrograph jumps more than 10 fold. If there are wet-weather related flow problems downstream, it is immediately obvious which pipe is a contributor to the problem and which is not.

These graphs represent the ability of micromonitors to effectively carry I/I investigations into the upstream reach of the basins where traditional meters do not perform as well, or at all.

What Is a Micromonitor?

Standard flow monitoring equipment can be unreliable in very-low-flow situations where debris obstructs the equipment, leading to inaccurate measurements.

Micromonitors, designed and developed by Stantec, are fabricated fiberglass weir inserts installed behind standard area-velocity probes. The weir insert has a defined rating curve. At very low levels the weir is used as a primary device. If flow exceeds the limit of the weir's rating curve, the continuity equation is used to calculate the flow from the level-velocity data. The weir conditions the flow over the probe to prevent obstruction by debris, enabling the micromonitor to measure flows down to 1.0 gallons per minute (gpm), generally in low flow sewer segments such as those with only a few houses. Thus the micromonitors efficiently adapt existing equipment and open up an innovative approach for pinpointing inflow and infiltration in upstream segments.

Micromonitoring Does Not Require Multiple Storm Events

While hydraulic modeling requires rigid protocols as to timing and placement of monitors, the search for I/I actually works best with fewer monitors that are used to rule out large areas of the basin and zero in on smaller target areas of concern – often during only a single storm event.

Under traditional methods, a model of I/I response to rainfall typically requires a minimum of three months of data during the wet season. Characterizing a wet season and a dry season would require at least a year of data. The modeler's need for data gathered during multiple storms has conditioned the industry to think in terms of seasons and years for actionable information. But, micromonitoring shows that as we narrow the search for the I/I sources to a single street, we can reach the correct conclusion from a single storm.

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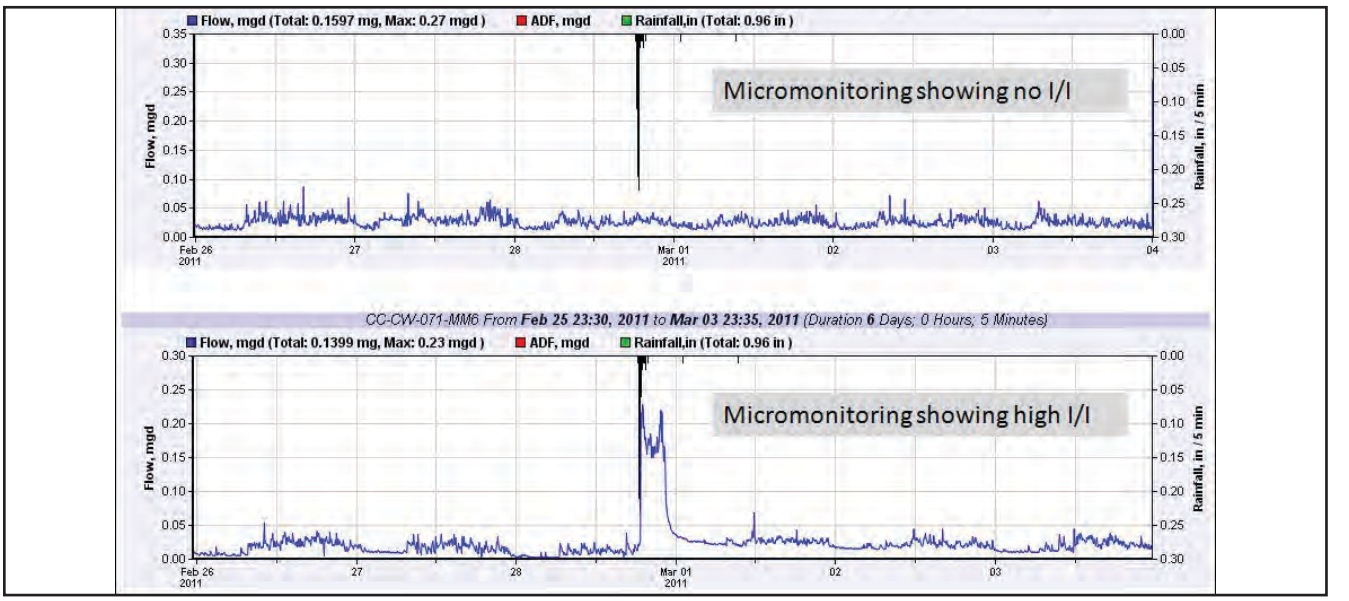

Figure 1: Two adjacent micromonitors, one with no I/I, the other with significant I/I

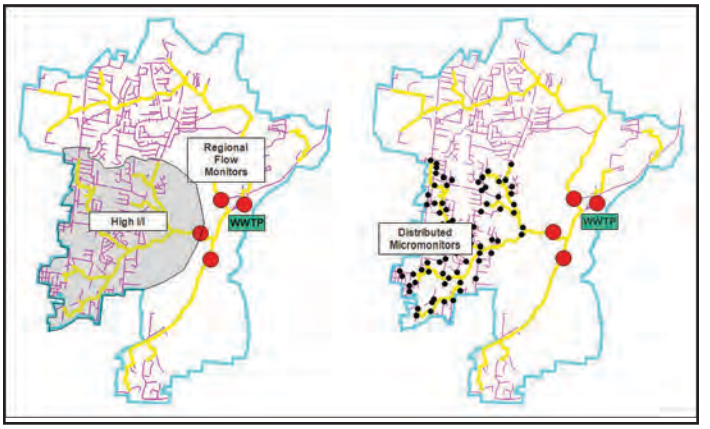

Figure 2: Micromonitoring compares micromonitor flows to a reference meter downstream

Project Location	Number of Flow Meters	Average Area of Subbasin (sq. miles)
Dayton, OH	124	1.0
Cincinnati, OH	328	1.1
Columbus, OH	168	2.5
Pittsburgh, PA	292	0.9
Clayton County, GA	118	0.7

Table 1: Average tributary area to flow meters in traditional City wide flow monitoring projects

Micromonitoring Works in Low Flows

Using traditional flow monitors to search up into a system to find the actual sources of I/I has been severely limited due to the problems inherent in monitoring low flow. These constraints are generally due to debris fouling and to the velocity depth limitations of standard equipment.

When the flow level is very low, the flow monitoring probe is a significant obstruction to the flow and results in debris accumulation. The debris runs directly into the blunt face of the probe, as seen in Figure 3. Typically in these circumstances a large amount of the data during daily flows is lost. Sometimes the higher flows during a storm event can clear the probe, but it is then difficult to make sense of the data.

When a micromonitor is installed downstream of the probe, a flow level is maintained about one inch deeper. This allows an

Figure 3: Debris run straight into the face of a normal probe at low flow

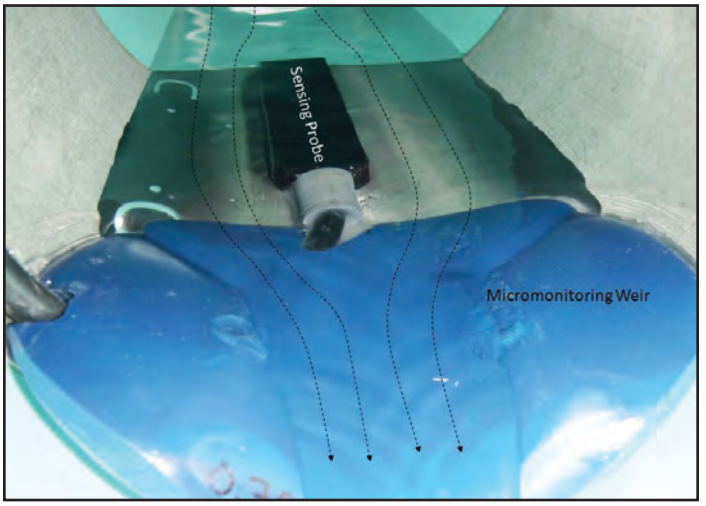

Figure 4: Debris has a flow path around the probe with a micromonitor

essentially unobstructed path for the debris on either side of the probe. Visual observation and the record of the data itself confirm that debris rarely obstructs the face of the probe. In some cases, sand and gravel have been observed upstream of the weir, but sand and gravel are rare in a sanitary sewer.

The velocity depth limitations at low flow result from the position of the velocity sensors in front of the probe. If they are not covered with water, they do not work. Some flow meter manufacturers address this limitation by estimating the velocity at low flow from previous readings at deeper flow. Some simply report the measured number, irrespective of the error. The micromonitor maintains the minimum depth required to get an accurate velocity reading. In addition, the weir has a rating curve that can be used at flows below 25 gpm. This curve has proven to be extremely accurate in pipes with low slope. Testing will be undertaken in steeper slopes, but initial results indicate that the advective velocity results in an overestimation of the flow rate.

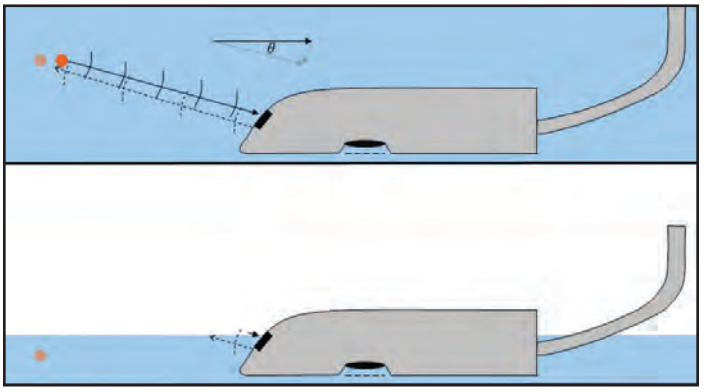

Figure 5: Doppler Velocity can only collect the signal if the crystals are covered

The ability to measure low flows accurately makes the micromonitor an ideal tool to move upstream from regional flow monitoring.

Micromonitors Save Time and Money

Micromonitors can be installed with much less risk and effort than conventional flow monitors. Risks are reduced because the failure of a single meter cannot affect the validity of an entire monitoring program. Effort is reduced due to the ease of device installation.

Large scale monitoring programs undergo an intense degree of scrutiny. Model calibrations are very sensitive to the results from

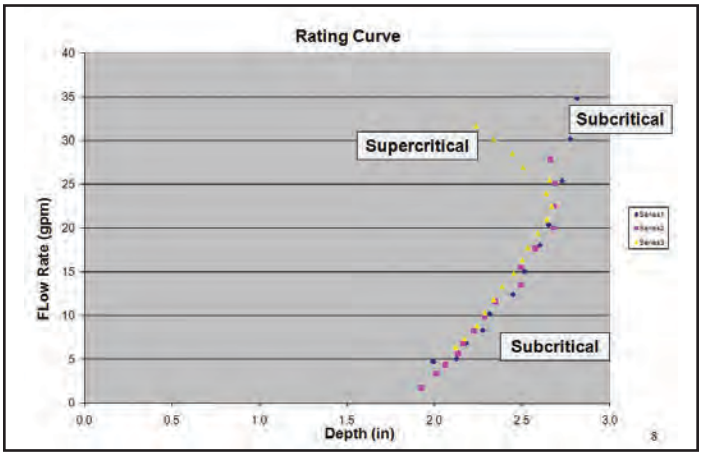

Figure 6: The micromonitoring weir rating curve can be used at flowrates below 25 gpm. It is extremely accurate for pipes with low slopes. It has not been confirmed for steeper pipes.

the largest storm event. Modelers will cry 'Foul!' if a single meter fails to perform accurately during a major storm event, as this can affect flow predictions by 20% or more (See Figure 7). As a result, the success of an entire, often multi-million dollar, flow monitoring / modeling program can be called into question based on missing results from a few meters during a single storm. To avoid this outcome, flow monitoring programs are subject to multiple levels of detailed scrutiny, each coming with a cost.

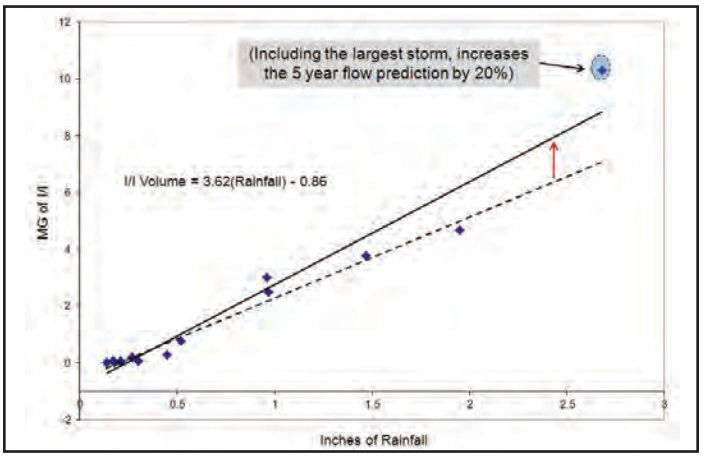

Figure 7: A single large storm can change flow predictions by 20%

However, loss of data from a micromonitor rarely affects more than just that one data point. Consider: the micromonitoring process examines the twigs at the end of the branch, so the results are rarely dependent on each other. Thus, if a micromonitor fails, it can be replaced, and that location can be monitored for another storm or two, with little or no impact on schedule and budget. Assuredly, we strive for first-time accuracy in all our micromonitoring. However, there is comfort in knowing that if problems arise, there is no greater cumulative effect on the entire program and that the individual site can be remonitored.

In addition to the savings that can be obtained by a simplified program, the actual process is much less costly. The device is installed with a street-level insertion tool, eliminating issues confined space entry (CSE) into the manhole to install the equipment, as shown in in Figure 9. Without the need for permitted installation, rapid deployment is the hallmark of the micromonitor approach. In a recent case study, one person was able to remove

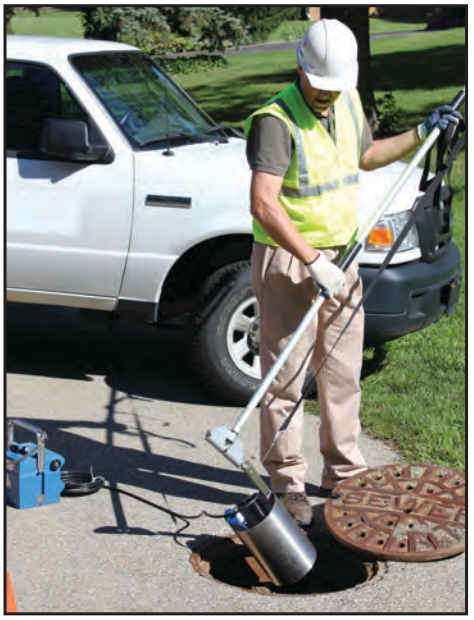

Figure 9: The micromonitor can be installed from the surface without CSE.

micromonitors from eight sites, download the data, change the batteries, recalibrate the meter, and install micromonitors in eight new sites in one workday. Calibration of the equipment is performed at the surface prior to installation.

Quickly, Effectively, Cost Efficiently: Case Studies

During the past year, Stantec has applied this approach on several I/I projects in Seattle, WA; Cold Spring, KY; Florence, KY; and Clayton County, GA. In each case, engineers were able to effectively isolate the I/I sources. The first major project to use the micromonitoring to isolate I/I sources was Clayton County Water Authority (CCWA) in Georgia (Feb 2011).

Clayton County Water Authority, Georgia

After a large regional program in 2010 (118 flow monitors), several basins showed a significant I/I response to rainfall. These basins were targeted for additional investigations to find the sources. The first few basins were approached with smoke testing, manhole inspection, and CCTV. In each case, several sources were found. However, as the ability to apply these methods were limited for fiscal reasons, it was critical to make the right choices in focusing the investigation. After the first few basins had been investigated, Stantec proposed the use of micromonitors to better focus the CCTV and smoke testing efforts and increase the probability of success.

Micromonitoring was proposed for Basin 071. Prior to micromonitoring it was assumed that most of the inflow was coming in along the main trunk sewer along the creek bed. The investigation would have focused on that trunk sewer if the micromonitoring had not been conducted. Six micromonitors were installed in February 2011.These collected data until a large I/I response was measured at the downstream regional meter. The layout is shown in Figure 11 *(page 72)*.

Figure 1 *(page 69)* shows the results of two of the micromonitors from the storm event which occurred on Feb. 28, 2011. These were selected as the clearest examples of I/I and no I/I. The resulting calculations showed that most of the inflow was coming from the basin upstream of MM-06 (See Figure 12). This effectively reduced the investigation for sources to 18% of the total basin.

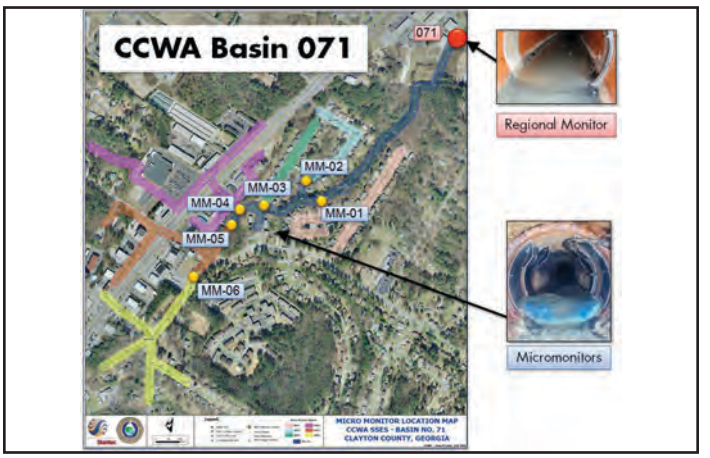

Figure 11: The micromonitoring plan for Basin 071

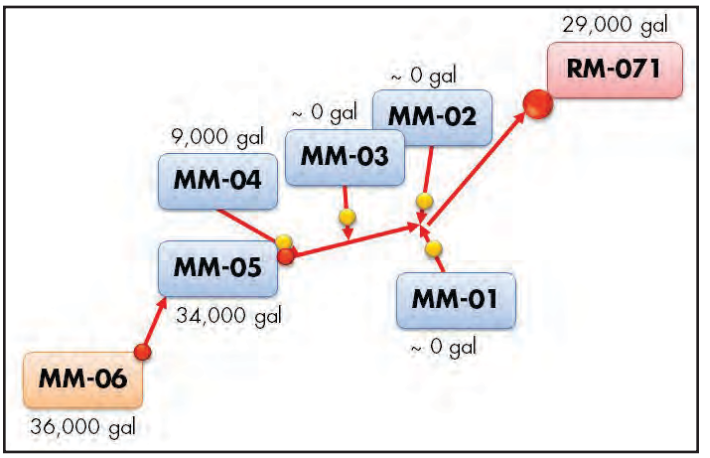

Figure 12: Schematic of the results of micromonitoring from the Feb 28th storm. MM-06 goes through MM-05 and RM-071, so the I/I generated at MM-06 was seen in all three graphs! Note that the amount measured at MM-05 is less than that measured upstream at MM-06, so there is essentially net negative production of I/I. This is not evidence of an overflow, but the result of inaccuracies in flow measurement late in the storm when the pipe surcharged.

During further investigation on the target area, the CCTV contractor located the unexpected but probable source of I/I. Finding an obstruction in the pipe, his root cutter proceeded to cut through a gas main which had been drilled through the sewer pipe (Figure 13). After the rather exciting emergency evacuation and repairs, the project was uneventfully concluded. Although several other minor defects were noted, the gas main is the likely culprit of the I/I. Wet-weather CCTV would have provided definitive information about the sources.

Figure 13: Gas line through the sanitary sewer. Most likely cause of the observed I/I. Other minor sources were documented

Florence, Kentucky

The City of Florence, Kentucky Department of Public Works partnered with Stantec for a research study that used micromonitors to rapidly assess inflow and infiltration locations. During the spring of 2011, seven micromonitors were installed in sub-basins known to have high I/I rates. They were moved several times for a total of 26 sections tested. Eight had high rates and warranted further investigation, including wet weather CCTV. Based on the results of the televised inspection, individual homeowners will be approached for I/I reduction .

Cold Spring, Kentucky

Sanitation District No. 1 (SD1) was faced with millions of dollars of rehabilitation scheduled for a single drainage area. Regional flow monitoring results showed excessive I/I rates from the basin. Every sewer was lined and still the rates were excessive. Complete manhole and lateral rehabilitation was scheduled. SD1 became aware of micromonitoring and scheduled a pilot test in the basin.

Eight reaches of pipe were micromonitored using a precursor to the 7" micromonitor. While not a true micromonitor, the data revealed that 50% of the area studied had very low I/I and could potentially be eliminated. By eliminating these reaches from future rehabilitation SD1 saved more $250,000 by eliminating scheduled improvements. This represents more than a 5:1 payback on the cost of the micromonitoring. As a result of this study, SD1 is planning to micromonitor all basins prior to rehab.

Based on data provided by Rich McGillis of SD1, the $45,000 investment in the first phase saved this Kentucky Sanitary District more than $250,000 in scheduled rehabilitation work – work ruled out due to the ability to identify specific pipeline segments.

Milford Center, Ohio

The Village of Milford Center in Union County, Ohio was experiencing considerable I/I which was greatly impacting their sewer budget. The Village has their sewage treated by the City of Marysville so the I/I was increasing their cost to the City by up to three times more than what should be expected for a Village of 364 customers.

The Village completed low cost studies such as smoke testing and manhole inspections during rain events but could not find any major sources of I&I. Next, officials were presented with several options to consider such as closed circuit television inspection or micromonitoring to help locate the sources. After review of the costs the Village decided the most economical step was to undertake micromonitoring, with the intent of pinpointing sections of the sewer lines exhibiting I/I problems.

Once the flow monitoring is completed the Village will only CCTV lines that show signs of significant I&I. Upon completion of the CCTV, the Village will pursue lining the sewers and manholes to reduce I/I in the system and stabilize their sewer budget. This project shows the advantage of micromonitoring particularly for small communities, with limited investigation and rehabilitation budgets.

A New Approach

For water and sewer managers seeking way to stretch budgets further, receive actionable data faster, and limit inconvenience to property owners during inflow and infiltration investigations, the micromonitor may well provide a useful tool.

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John Barton, PhD, PE, Senior Associate
Stantec Consulting, *john.barton@stantec.com*

Joseph Kamalesh, MS
Stantec Consulting, *joseph.kamalesh@stantec.com*

(A patent for the Micromonitor is pending with the US Patent and Trademark Office.)

OPERATOR CERTIFICATION RULE REVISIONS

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

The operator certification rules found in Ohio Administrative Code 3745-7 were recently revised. The new rules, effective on February 23, 2012, affect operators in both the water and wastewater fields. Major changes to the rules that may affect operators of wastewater treatment plants are:

- Definitions were added for automated, complete application, continuous monitoring, expired certificate, invalid certificate, and valid certificate. A complete application includes all required information on the form completed and all appropriate fees, transcripts and documentation attached. The definition of "one year" was modified to eliminate quarter and semester hours and add 450 hours of applicable course work.
- The Operator of Record (ORC) form must now be submitted by the owner or operator within three days of a change in the ORC or within three days of a request by the director. This provision was in the previous version of the rule; however, the new language allows Ohio EPA to request the ORC form be submitted at any time.
- Owners of sewerage systems or treatment works may enter into contracts for services of one or more appropriately certified operators to serve as the ORC. The revised rules specifically state that the contract must be consistent with the staffing requirements of the rule.
- If a class III operator has applied for and received approval to take a class IV exam, and maintains his class III certification, the director can approve the class III operator to be the ORC for no longer than two years. Under a new provision, a wastewater treatment works may only use this exemption for a total of 30 months in a five-year period.
- All wastewater treatment lagoon systems with design flows greater than 25,000 gallons per day will be classified as class I systems.
- The director now has the authority to reduce the staffing requirements of seasonal class A or class I treatment works in the off season to one visit every month and one visit every two weeks, respectively. For the purposes of this rule, a "seasonal operation" means the temporary ceasing of wastewater generating sources for a period of no less than 60 consecutive days. Provisions for documenting seasonal operations are included in the rules. Discharges during the reduced staffing period are prohibited.
- Minimum staffing requirements for controlled discharge lagoons only apply during periods of discharge. When discharge is not occurring, the ORC shall visit the facility at least once every two weeks.
- Class I and II wastewater collection system operators can no longer be the ORC for class A wastewater treatment systems.
- The education and experience requirements for class A operators were revised to reflect current practices. Work experience is defined to mean time spent at a job where a portion of duties involve dealing with a treatment works.
- Eligibility for operator-in-training status shall be limited to applicants for the class A, I, or II examination. An operator in training must now complete his operating experience within four years of passing the exam for which he applied.
- Record keeping requirements now apply to the collection system ORC also.
- The director can suspend or revoke the certificate of an operator for knowingly or negligently submitting misleading, inaccurate or false reports, documents or applications to any governmental organization or her employer. Another cause for suspension or revocation of a certification is representing yourself as a certified operator without a valid certificate, or performing the duties of an ORC without a valid certificate of the appropriate field and classification, unless in accordance with the exemptions and exceptions in the rule. An Ohio certificate may also be revoked if an operator had a certificate suspended or revoked in any other jurisdiction.
- Suspension of an operator's certificate shall now be effective for an initial period of not more than five years during which time the certificate is not valid. A certificate remains suspended unless a request is submitted and reinstatement approved by the director.

The classification and staffing requirements of this rule will be incorporated into new and renewed NPDES permits. The director may also classify an industrial water pollution control facility that is operated with biological treatment (except lagoons) as Class A, I, II, III or IV. This classification would be included in either an NPDES permit or a permit to install. The director has the authority to raise the classification of a particular treatment works or sewerage system. If he does raise the classification, the permitee may have up to 12 months to meet the requirements.

If an entity wishes to request a reduction in the minimum staffing requirements, the request must be made on a form acceptable to the director and mailed to Dan Kopec of the Division of Surface Water in Central Office. The form can be found on Ohio EPA's web page at *http://www.epa.ohio.gov/dsw/opcert/opcert.aspx*. A treatment works must develop and submit an operating plan for its facility as part of the application for a staffing reduction. Among other items, the plan must include a description of the continuous monitoring that includes the calibration frequency, verification of calibration and records maintenance. For a system operating plan to receive director's approval under the continuous monitoring scenario, continuous monitors shall be calibrated in accordance with the manufacturer standards or applicable regulations, whichever is more stringent. Calibration verification shall be conducted at least once per week or in accordance with applicable regulations, whichever is more stringent. Records of the calibrations and verifications shall be maintained for three years.

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To request a reduction in minimum staffing for a Class A or Class I seasonal operation in the off season, the proper form must be submitted to Ohio EPA's Central Office. This form documents the system shut down date and the proposed reopening date. The applicant must document that enough wastewater has been removed from the system to prevent discharge to waters of the state and include a contingency plan to lower the level in the plant in the event there is a potential to discharge effluent to waters of the state. Care must be taken to ensure there is enough water left in the tanks to prevent the tanks from shifting. During the off season, the ORC shall visually confirm via flow monitoring that the treatment works is not discharging and does not have the potential to discharge wastewater. A discharge from the treatment works during the reduced staffing period is prohibited. Discovery of a discharge to waters of the state shall result in a denial of the authorization for reduced staffing requirements and a prohibition on further approval for a five-year period. The agency must be notified prior to the facility resuming operations.

The rules are available at *http://www.epa.ohio.gov/ddagw/rules.aspx*. If you have questions about these rules, contact your district office representative or:

Dan Kopec, Division of Surface Water
dan.kopec@epa.state.oh.us
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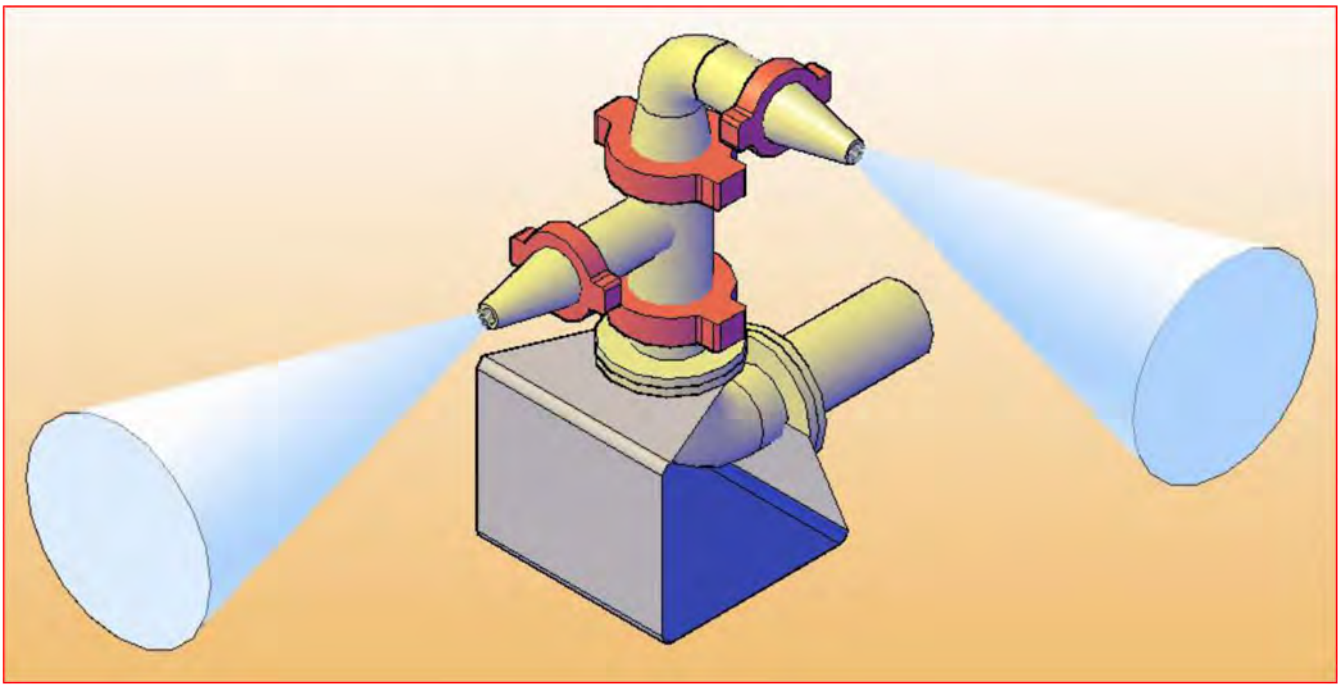

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