

CENTRAL STATES WATER

The Official Magazine of the Central States Water Environment Association, Inc.

7TH ANNUAL MIDWEST WATER INDUSTRY EXPO

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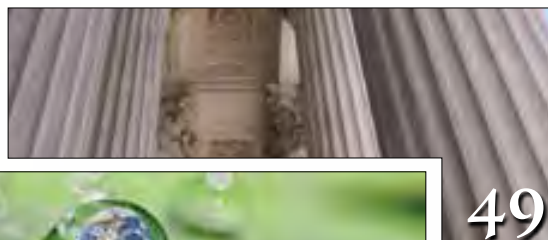
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Tel: (866) 985-9780 / Fax: (866) 985-9799
www.kelman.caManaging Editor: Cheryl Parisien, cheryl@kelman.ca
Design/Layout: Theresa Kurjewicz
Marketing Manager: Al Whalen, awhalen@kelman.ca
Advertising Co-ordinator: Lauren Campbell
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Send undeliverable addresses to: CSWEA, 3809 Shenandoah Dr., Crystal Lake, IL 60012

President

Beth Vogt
Fox River Water Reclamation District
847-742-2068
bvogt@frwrd.com

1st Vice President

Randy Wirtz
Strand Associates, Inc.
608-251-4843
randy.wirtz@strand.com

2nd Vice President

Patti Craddock
Short Elliott Hendrickson, Inc.
651-490-2067
pcraddock@sebhinc.com

Treasurer

Doug Henrichsen
Brown and Caldwell
651-468-2077
dhenrichsen@brwnncald.com

Immediate Past President

Jim Miller
Foth I&E LLC
612-961-2505
jim.miller@foth.com

WEF Delegate '13

Dave Raby
H.R. Green Company
651-644-4389
draby@hrgreen.com

WEF Delegate '14

Ralph B. (Rusty) Schroedel
AECOM
920-912-1227
rusty.schroedel@aecom.com

PWO Representative '13

Jeff Mayou
City of Marinette
715-732-5184
jmayou@marinette.wi.us

YP Representative '12

Rich Hussey
LAI Ltd.
847-392-0990
rich@leyassociates.com

Illinois State Section Trustee '12

Gary Scott
Glenbard Wastewater Authority
630-790-1901 ext 124
gscott@gbww.org

Minnesota State Section Trustee '12

John Glatzmaier
CH2M HILL
651-365-8526
john.glatzmaier@ch2m.com

Wisconsin State Section Trustee '13

Bill Marten
Donohue & Associates
414-217-6909
wmarten@donohue-associates.com

Executive Director

Eric R. Lecuyer
CSWEA
815-954-2714
cswea@ymail.com



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Thankful and Hopeful

By Beth Vogt



As I write this message, Thanksgiving and the rest of the holiday season is quickly approaching. For many of us, this time of year seems hectic – requiring even greater organization and planning to get everything done while still advancing our daily workload. Often it seems there is little time left for reflection. However, I would ask all of us to reflect on the accomplishments of our members and to be thankful for the greatest resource we have – our people. CSWEA has benefited from dedicated, energetic, and accomplished members from the beginning and today is no different.

WEFTEC

With WEFTEC held in Los Angeles in October, many of us had the opportunity to learn, see the latest advances in technology, and network with our peers. The Executive Committee met Sunday morning to set overall budgets, review progress of committees, and coordinate for activities to come in 2012. I am happy to report that the organization is strong and fiscal responsibility continues to be a focus while planning meaningful and enjoyable events. The CSWEA/IWEA Joint Reception on Sunday night was the place to meet up with friends and kick off a productive week. Committee Chair, Jim Huchel, the rest of the committee, and of course all of our great sponsors made this event a great success. Thank you.

Many CSWEA members successfully represented our organization's knowledge and capabilities to WEF. Sunday afternoon our University of Illinois Design

Team (Jacob Becraft, Jason Freeck, Yana Genchanok, and Marika Nell) competed in the Environmental Design division taking second place. Plus, both Alexander S. Gorzalski from the University of Wisconsin, Madison in the Undergraduate Division and Mark Ludwigson from the University of Wisconsin-Milwaukee in the Master's Division were awarded their first-place prizes in the Student Paper Competition! Congratulations to all these students and our Students Committee, led by Dustin Maas, for all their hard work.

The inaugural year of the WEF Fellows Program recognized distinguished accomplishments and contributions of individuals who have made an impact in the global water environment and our own Executive Director, Eric Lecuyer, was awarded this honor alongside other top professionals in our field. The WEF Canham Graduate Studies Scholarship

"I am happy to report that the organization is strong and fiscal responsibility continues to be a focus while planning meaningful and enjoyable events."

that provides \$25,000 for a post-baccalaureate student in the water environment field was awarded to Trevor Ghylin. The WEF Collection System Award, presented to an individual for contributions to the advancement of the state of the art wastewater collection, was given to Joan Hawley of Superior Engineering.

The Pumpers and Shovelers represented Central States with enthusiasm, skill, and effort. Competing against teams that work together every day at the same utility isn't easy, but our teams can be proud of their efforts (the teams placed 10th and 20th overall) and know that learning from each other will bring value to each of their organizations. Thanks to all the Operations Challenge team members and coach Jim Miller of Foth Engineering for their commitment.

PUMPERS: Captain Rob Barnard, Moline IL; Todd Carlson, Duluth, MN; Matt Schmidt, Green Bay, WI; Brian Skaife, Janesville, WI.

SHOVELERS: Captain Jim Huchel, Crystal Lake, IL; Jason Treat, Antioch, IL; Darsey Thoen, Moorhead, MN.; Tom Dickson, Oconomowoc, WI.

Upcoming events

MWIE – CSWEA will jointly host the 7th Midwest Water Industry Expo with the Wisconsin Water Association at the Kalahari in the Wisconsin Dells February 7-8, 2012. This event provides an opportunity to learn about the latest advancements in treatment technology in a relaxed

Continued on page 8

Continued from page 7

environment. As part of the expo, the Ad-hoc Digester Foaming Committee will be hosting a workshop to share condition assessment techniques and potential management solutions.

YP Leadership Academy – The 2nd Annual YP Leadership Academy will be held on April 2, 2012 at the Monona Terrace in Madison, WI. The 2011 inaugural event featured an excellent slate of speakers with a tie-in to the next day's

Education Seminar topic. YPs attending both events get a significant break in fee. Sending YPs to attend for both events provides high quality learning experiences at a great value.

Education Seminar – The 17th Annual Education Seminar will be held on April 3, 2012 at the Monona Terrace in Madison, WI. This now signature CSWEA event draws attendees from well beyond our organizations limits due to the outstand-

ing speakers recruited by the committee. This year will have a very timely focus on nutrient removal. The committee has been hard at work for months setting the program. Anyone who is dealing with current or expected nutrient limits should not miss this exceptional one-day event.

2012 Annual Conference – The CSWEA 85th Annual Conference will be held May 14-17, 2012 at Pheasant Run Resort in St. Charles, Illinois. This convenient and all-inclusive location will be a great place for all our events. Exhibit space at this location allows for many exhibitors, and I hope many will use this location to showcase their latest technologies. The local arrangements committee and technical program committee have been and will be working hard to make the event relevant, educational, and fun. We are looking at ways to incorporate new fun events into visiting the exhibit hall and learning from our exhibitors. Given the many potential regulatory changes facing our membership, learning from and networking with our peers is more valuable than ever. After our discussions at CSX over the summer, we will be working to incorporate more focus on operational issues into the program. Collaborating with other local organizations will also be a top priority. Stay tuned for more details on the conference in the coming months.

Thanks and opportunities

Another year is coming to a close, and it makes one wonder how things will be different in 2012. One change that we know is coming is the resignation of Eric Lecuyer as our Executive Director. Eric has been a tireless force in advancing and managing CSWEA. He deserves the chance to get a bit of rest (or at least do his racing around in cars). We will miss him in this role, but we know he will remain active in CSWEA well into the future. That change will be an opportunity for another dedicated, organized individual to take on this role.

I believe this summary demonstrates how much there is to be thankful for in our membership's talented and hardworking people as well as the many opportunities to learn from one another in upcoming events. I hope to see you all soon! **CS**

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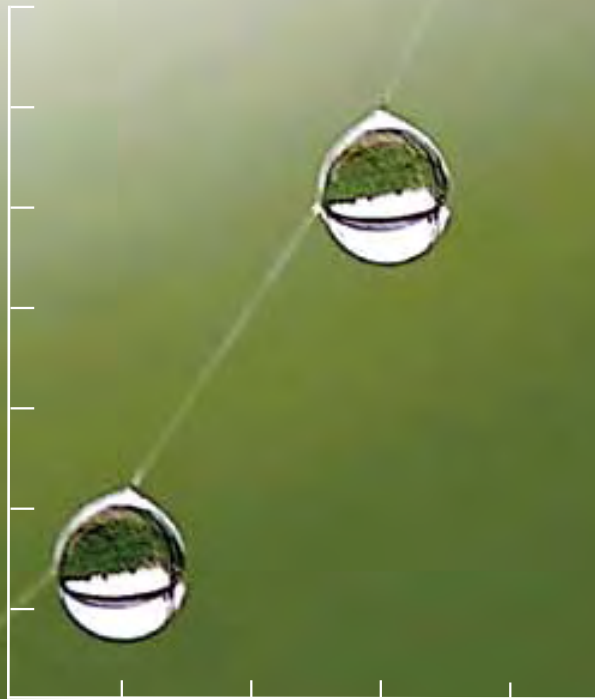
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Hello...I Must Be Going!

Eric R. Lecuyer



This is my penultimate message as Executive Director of Central States, having announced my retirement to the Executive Committee at the end of the October 16, 2011 Ex Com meeting. If you are looking for a way to silence a room, that would be the way to do it. The silence lasted for only a couple of seconds, but it was cool! As much as I am looking forward to retiring from this post and, according to the plan, regaining some time to pursue other interests, I'll miss the daily challenges of the position of Executive Director of such a great organization. I'll save my final thoughts for my final column, but want to assure you all that our association will be left in good hands. The Executive Committee, led by Beth Vogt, possesses wisdom beyond their years, and I am confident that they will choose an excellent person to lead Central States, one who will take the association to new heights and have the skills and tenacity to face any challenges presented in the future. The job of Executive Director has grown with the growth of the association, and takes considerable time and effort. Rather than explain my reasons for stepping away at this time, I'll simply share my letter announcing my retirement to the Executive Committee with you all. [CS](#)

October 16, 2011

Beth Vogt, President and the Executive Committee,
Central States Water Environment Association, Inc.

Dear Beth:

After much consideration and deep thought, please be advised that it is my intention to retire at the end of my current term as Executive Director of the Central States Water Environment Association, Inc. I will not seek reappointment at the December 2011 Executive Committee Meeting.

It has been my pleasure and great honor to have served the Association as Executive Director and will have served in this capacity for nearly ten years, when my term ends at the close of the Annual Meeting, on May 17, 2012. I take great pride in our accomplishments and having been a part of the growth, development and success of the Association and even greater pride that my family, Anne, Elaine and Emily has been part of that adventure. The time has come to step aside and regain some free time to pursue other interests and responsibilities.

I will gladly assist in any way desired by the Executive Committee to identify a successor and will work tirelessly to assure that a smooth and successful transition occurs. I plan to continue to be active in our great Association and am excited about the future of Central States as we are taken into the future under the direction of a new Executive Director.

It's been one hell of a ride!

Sincerely,

Eric R. Lecuyer

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New Executive Director Needed

As many of you have probably heard, Eric Lecuyer has decided not to continue as Executive Director for CSWEA effective at the end of the Business Meeting (May 16) of the Annual Conference. He presented his resignation letter at the WEFTEC Executive Committee Meeting.

Eric has been an invaluable resource, tireless worker, and amazing organizer for CSWEA. So much of the advancement of the organization has been due to his efforts. We will miss him in this role but recognize that he deserves the opportunity to have only one job! Even as he prepares to step down from this role, he has been very conscientious to keep us moving on planning the transition. The process to select a new Executive Director and the schedule to make this transition a smooth one has been set by the Executive Committee.

The process and schedule are outlined below. This schedule will allow the full Executive Committee to hold interviews and make a selection at Winter Executive Committee Meeting.

- A Request for Proposals (RFP) will be published via the CSWEA website and e-blasts through December.
- Proposals will be due from interested individuals in early January.
- A smaller group of Executive Committee members will perform a Preliminary Screening of Proposals and develop list of top candidates for interviews.
- The full Executive Committee will review top candidate proposals.
- Interviews will be held at the Winter Executive Committee Meeting with selection to occur by the end of the meeting.

With this process and schedule in place, we hope to set the stage for a smooth transition that will continue to support our membership at the high level that Eric has given to all of us since 2004. While change can be a bit unsettling, I know the commitment of our membership and Executive Committee will yield another qualified, organized, and enthusiastic individual to fill this role. Serving CSWEA in this role takes great passion for our mission in addition to a lot of energy. If you are interested, please visit our website for further details on the RFP requirements. [CS](#)

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NEW THIS YEAR: TWO FULL DAYS

It is time once again for the Midwest Water Industry Expo. This year's expo will prove to be an exciting, fun and interactive opportunity to meet water professionals from the three state areas: Wisconsin, Minnesota and Illinois. We are now accepting vendor registrations for the 7th Annual Midwest Water Industry Expo. Floor space is limited, so register as soon as possible.

Exhibit hours:

Tuesday, February 7:

8:30 a.m. to 4:00 p.m.

(Meet & Greet 4:00 to 5:00 p.m.)

Wednesday, February 8:

8:00 a.m. to 3:30 p.m.

Exhibit set-up:

Monday, February 6:

8:00 p.m. to 10:00 pm OR

Tuesday, February 7:

7:00 a.m. to 8:30 a.m.

Room rates:

\$99.00/night

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Expo highlights

- Continental breakfast and lunch in the exhibition area on Tuesday and Wednesday.
- Exhibition area reception (Meet & Greet) on Tuesday (4:00 to 5:00 p.m.).
- 10-minute scheduled vendor talks at booths and 25-minute classroom

sessions in designated rooms adjacent to the exhibit hall: both designed to enhance participation.

- Fun and friendly activities throughout the day in the exhibit hall designed to engage the crowd and provide quality interactions with your potential customers.
- Raffle prize drawings for participants on both Tuesday and Wednesday.
- WWA's Annual Distribution Conference will be held in conjunction with MWIE.
- CSWEA's Digester Foaming Workshop will be held in conjunction with MWIE.
- Southern District WWOA's meeting will be conducted at MWIE.
- Young Professional Bowling Event will again be held on Monday night.
- One Hour Lock-out Tag Out refresher training offered each day.

Exhibitor registration

Exhibitor registration is open online at www.wiawwa.com, early registration ends on 12.31.11. Please register early, as space is limited.

Attendee registration

Registration is open on line at www.wiawwa.com. Full expo registration is only \$45.00, \$30.00 each for either Tuesday or Wednesday. Guest expo registration is only \$15.00. Please register early!

Continuing education credits

Again for 2012, it is expected that a total of four water/wastewater credit hours will be available. Once again, very cost-effective CEUs are being offered!

We are looking forward to seeing you at the expo. If you have any questions, please contact Jill Duchniak at 414-423-7000 or jill@wiawwa.org.

Midwest Water Industry Expo Committee

Chair Laura Daniels, WWA and Vice Chair Tom Mulcahy, CSWEA, CSWEA: Carol Strackbein, Dean Falkner and Eric Lecuyer
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MIDWEST WATER INDUSTRY EXPO WORKSHOP

CSWEA's Digester Foaming Workshop at MWIE

By Jim Huchel, Chair

The CSWEA committee on anaerobic digester foaming will conduct another foaming workshop, this year in conjunction with the Midwest Water Industry Expo (MWIE). The workshop will be conducted on Wednesday, February 8, 2012 from 10:00 a.m. to 2:00 p.m. at the Kalahari Resort in the Wisconsin Dells. Registrants to the Digester Foaming Workshop will also be registered for Wednesday events at MWIE.

The Digester Foaming Committee was formed in 2009 to plan and execute activities to enhance the awareness and knowledge of foaming issues. Excess foam in anaerobic digesters can be a major problem and expense to



correct. Causes of anaerobic digester foaming are not well understood. Therefore, the committee encourages exchange of information among operators, engineers, researchers and others regarding potential causes and corrective measures. The intent of this year's

workshop is to report to operators on findings related to common foaming causes and the best ways to control and mitigate digester foaming events, and to give information to the operators for use in either determining digester foaming cause and/or to assist in determining the foam characteristics.

The workshop format is intended to be very informal, with brief presentations and updates on survey results, the status of ongoing research being conducted by WERF and the results of actual in-plant mitigation efforts from facilities throughout the three states. This is a hands-on workshop, intended to provide operators and facility managers with some practical strategies to predict, control, mitigate and maybe someday, prevent digester foaming events. If you are interested in joining the committee, please contact Jim Huchel at jhuchel@crystallake.org. Registration and final program information will be available in mid-December and will be available at www.CSWEA.org.

"Excess foam in anaerobic digesters can be a major problem and expense to correct. Causes of anaerobic digester foaming are not well understood. Therefore, the committee encourages exchange of information among operators, engineers, researchers and others regarding potential causes and corrective measures."



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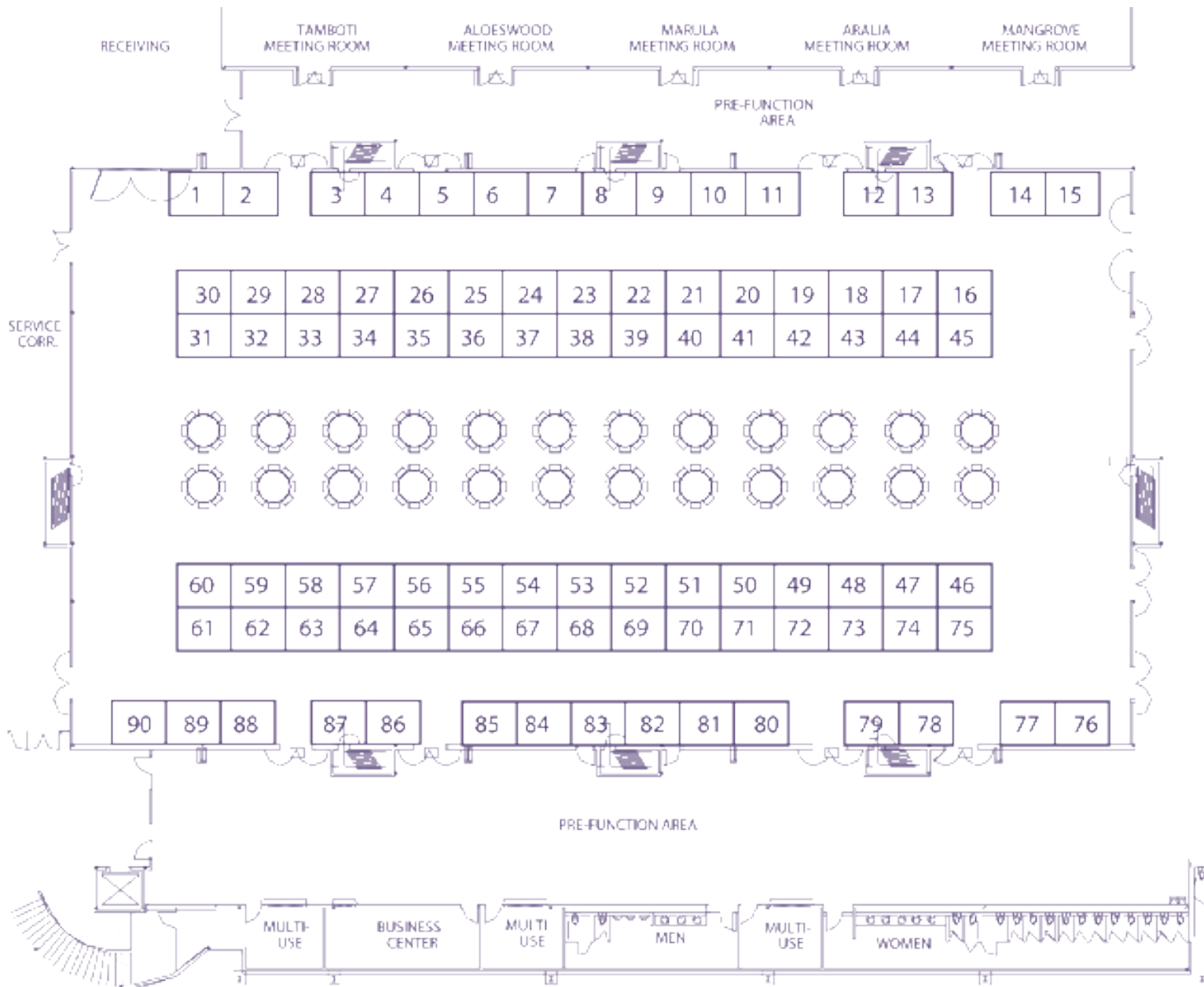
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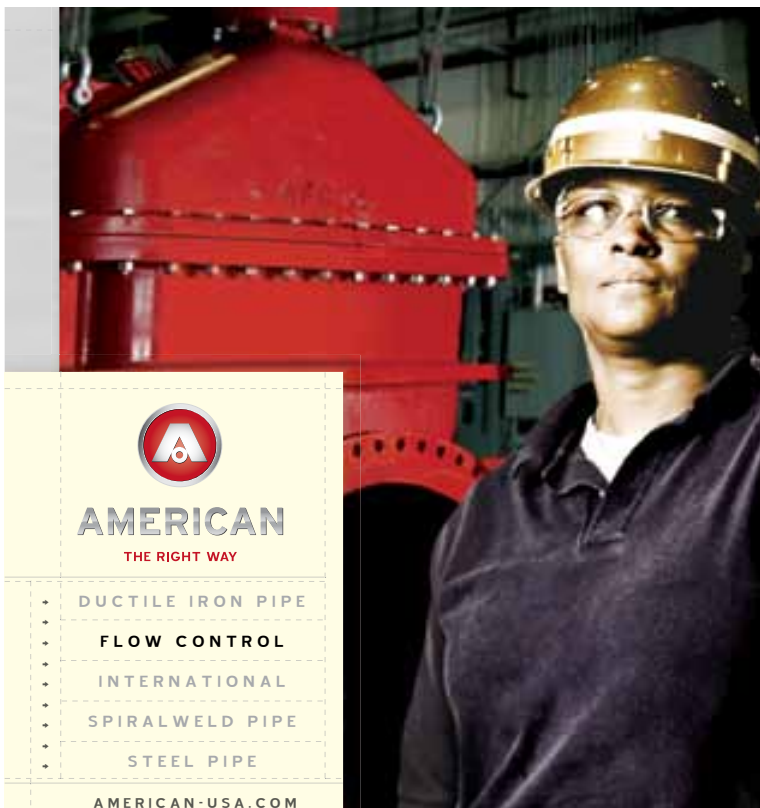
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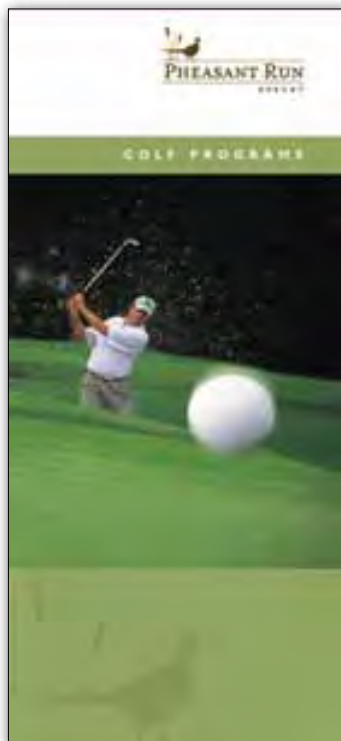
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CSWEA'S 85TH ANNUAL MEETING
MAY 14-17, 2012

The Pheasant Run Resort and Convention Center
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Plans are under way for our 85th Annual Meeting, this May 14-17 at the Pheasant Run Resort, in St. Charles, Illinois. The Local Arrangements Committee is making plans for an outstanding Annual Meeting, chock full of fun, networking opportunities, and socializing to go along with an outstanding Technical Program. Our Technical Program committee, under the leadership of Chair Rick Manner, is working to provide an excellent program of relevant technical sessions sure to capture your interest. Invitations to exhibit have been extended to the many fine exhibitors with a great turnout expected. The Pheasant Run is an excellent venue for our Annual Meeting, with a top-rate golf course on site and in close proximity to many fine restaurants within a few miles for those wishing to go off site for dinner. We look forward to hosting the many events you have traditionally enjoyed and some new approaches intended to make your visit to the Annual Meeting even more enjoyable. The 85th Annual Meeting Program Announcement and Registration package will be mailed in early March of 2012. Be sure to mark your calendar and visit www.CSWEA.org to get the latest 85th Annual Meeting news.



See you there!

WEFTEC 2011 CSWEA-IWEA Welcome Reception A Booming Success

Thanks to our many sponsors and the work of committee chair Jim Huchel and others, our annual Welcome Reception at the JW Marriott, L.A. Live was awesome. This was the 16th year that CSWEA and IWEA joined to host this event, one that was enjoyed by about 250 members, sponsors and friends. The food seemed to be endless, with well-timed delivery and abundance. The noise level was high as friends met and made plans for the week of WEFTEC. Of course, this is all made possible by our generous sponsors, whose support allows this event to be revenue neutral and not subsidized by either association. Make a note now to plan to attend the 17th Annual Welcome Reception at WEFTEC 2012, in New Orleans, September 30, 2012.

Thank you sponsors!

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CSWEA Members Recognized at WEFTEC '11



Joan Hawley receives WEF's Collection Systems Award

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Trevor Ghylin receives WEF's Canham Graduate Studies Scholarship

This scholarship provides \$25,000 for a post-baccalaureate student in the water environment field. The scholarship is for education related expenses such as room and board, tuition and books.

CSWEA Members Krishna Pagilla and Eric Lecuyer included in the Inaugural Class of WEF Fellows

The WEF Fellows Program recognizes the professional achievement, stature and contributions of WEF members to the preservation and enhancement of the global water environment in the practice areas served by WEF.

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CSWEA's Students Rule WEF's Student Paper Competition at WEFTEC'11

CSWEA was able to sponsor two students to compete in WEF's Student Paper Competition, Mark Ludwigson in the Graduate Student level and Alexander Gorzalski in the Under-Graduate level competition, and both students won the competition! Both papers were chosen at CSWEA's Paper Competition this past April to represent CSWEA at WEFTEC. Summaries of each paper are published beginning on page 34 in this issue of *Central States Water*. As part of winning the Paper Competition, both Alex and Mark were able to attend WEFTEC'11 and present their projects in WEF's Student Poster Session. Pictured below are Mark (far left) and Alex, (far right) at the Poster Session visiting with other students attending the session. Both Alex and Mark were very grateful for the opportunity to attend and present their projects at WEFTEC and the support they received from CSWEA. They comment on their exceptional experiences.

"Over the last year I've been fortunate to attend WEFTEC, the CSWEA Annual Meeting, and the CSWEA Education Seminar. Each event provided exceptional networking and learning opportunities. Presentations at the Education Seminar exposed me to emerging challenges in the field and future trends in wastewater treatment. As my first time attending WEFTEC, I was equally overwhelmed and intrigued by the size and diversity of the exhibition and technical sessions. At all three conferences I met a number of individuals interested in applying the research I presented to their various fields, and also met collaborators who have been invaluable in my current work at the University of North Carolina."
- Alexander Gorzalski



Mark Ludwigson (far left) and Alex Gorzalski, (far right) with other students at WEFTEC's Poster Session.

"As part of the student paper competition, I presented at the CSWEA annual conference in MN. The conference was very lively with a lot of laughs and smiles. I ran into several people I know and I made several new acquaintances.

"I also had a poster presentation at WEFTEC in LA. What a fun city and what awesome weather! The opening session had two very moving talks on providing clean water to those in need. I purchased a t-shirt that says 'My Passion: Water is Worth It' and I wear it proudly. The exhibit halls were packed full of people and products. It was helpful to see and touch the equipment.

"I appreciate CSWEA covering my travel expenses for these conferences. I truly feel like a winner. Thanks CSWEA!"
- Mark Ludwigson

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CSWEA's Student Design Team from the University of Illinois Competes at WEFTEC

CSWEA was proud to sponsor a Student Design Team from the University of Illinois to compete at WEFTEC'11 in the Environmental Design category and the team made a wonderful presentation. Their project, simply titled *South Dakota Water Project*, involves the use of indigenous materials to produce highly effective point of use filters to remove Uranium and Arsenic from a South Dakota tribe's drinking water. A summary of the project is located beginning on page 34 in this issue of *Central States Water*, and below are thoughts provided by team members Jacob Becraft, Marika Nell, Yana Genchanok and Jason Freeck on their experience with the Student Design Competition and the opportunity to present their project at WEFTEC.

"I could not believe the exceptional treatment of students at WEFTEC. It was unbelievable that so many companies would provide for the students and give them opportunities to meet professionals and other young people in the field. All of the student teams we competed against were very well spoken and a lot of fun to get to know. I feel that going to WEFTEC gave me opportunities to do things I would not have otherwise received, and am very grateful to be given such an awesome experience!"
-Jacob Becraft, Team Leader

"Since I had never been to WEFTEC, I was astounded to find out that 17,000 people would be attending. The sheer number of technical sessions and companies represented at the conference made it an unparalleled opportunity for learning about water quality and connecting with water quality professionals. I also enjoyed meeting the other students from the design competition. It was

interesting to hear about their projects and about the engineering programs at other universities. CSWEA, thank you so much for giving me this invaluable opportunity to learn and to develop my interests in water quality issues!"
-Marika Nell

"I had a wonderful experience at WEFTEC. The conference was much bigger than I ever expected, and I was really impressed with everything I saw while I was there. I was especially grateful for all the support and opportunities provided to the student design teams."
-Yana Genchanok

"WEFTEC was a fantastic learning experience and I am very grateful that CSWEA made it possible for me to attend. Competing against and interacting with the other student teams was an enlightening experience



Student Design Team: L-R Jason Freeck, Marika Nell, Yana Genchanok, Jacob Becraft and WEF Past President Rebecca West.

that opened my eyes to the scope of water quality projects. Spending time with like-minded engineering students and water quality employees was a great introduction to the industry that I will draw on in my future experiences. I cannot thank CSWEA enough for making the trip possible and allowing me to have these experiences that I have found enlightening."
-Jason Freeck



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CSWEA's Pumpers and Shovelers Compete in Operations Challenge at WEFTEC'11

By Jeff Mayou

Following two intense practice sessions at the Madison Metropolitan Sewerage District Nine Springs Plant, our CSWEA Operations Challenge Teams were off to compete at WEFTEC 2011 in Los Angeles.

Team Members comprise of:

SHOVELERS: Coach Jim Miller, Buffalo, MN; Captain Jim Huchel, Crystal Lake, IL; Jason Treat, Antioch, IL; Darsey Thoen, Moorhead MN; Tom Dickson, Oconomowoc, WI.

PUMPERS: Coach Jeff Mayou, Captain Rob Barnard, Moline IL; Todd Carlson, Duluth, MN; Matt Schmidt, Green Bay, WI; Brian Skaife, Janesville, WI.

CSWEA has participated in Opera-

tions Challenge since its inception by WEF, and views this event as an important way to involve and support operators in the association, foster fellowship and friendships between the three state sections, and identify and develop future leaders of CSWEA. We have been extremely successful in meeting these goals, with many of CSWEA leaders, past and present, having first been introduced to the association and WEF through Operations Challenge.

New for 2011, team members highlighted the unique composition of our two teams, with members pulled together from different facilities in our three states with team uniforms reflective

of each member's home state. These were depicted with Bears, Green Bay Packers and Vikings shirts and hardhats worn by team members, once again proving that water professionals can overcome geographic separation and varying levels of home team success to compete on a national stage.

Our teams did very well, with the Pumpers finishing 10th overall and the Shovelers finishing 20th of the 26 teams competing. The Pumpers had top showings in the Process and Lab Events, scoring sixth and seventh respectively, in these categories. The Shovelers finished sixth in the Lab Event and tenth in the Process event. Great job!



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Special recognition should be made to the following people for their help in preparing the Pumpers and Shovelers for this years OPS Challenge.

Charlie LaRocco, 2009-2010 CSWEA PWO.

Jim Miller, Foth Engineering – Coach of the Shovelers (and Pumpers).

Jim Huchel, Crystal Lake, IL – Sponsorship assistance and continued organizational support.

Paul Nehm, Madison MSD – The use of their facility in preparation for all five events.

Monty Baker, Madison MSD – Hours of training for the Lab Event.

Howard Jacobson, City of Duluth – CSWEA Team Shirts and logos.

Hardhat, competition shirts and sponsorship display board were created by Jeff Mayou (Better View) in a combined effort and sponsorship with FLYGT.

We would also like to thank our Operation Challenge 2011 Sponsors:

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CSWEA STUDENT DESIGN TEAM PROJECT SUMMARY

PRESENTED BY: JACOB BECRAFT, MARIKA NELL, YANA GENCHANOK, AND JASON FREECK



The Pine Ridge Reservation in South Dakota is one of the poorest reservations in the country. While some homes on the reservation receive treated municipal water, many residents rely on private wells. A U.S. Geological Survey (USGS) report in the 1990s revealed that much of the groundwater on the reservation contains arsenic (As) and uranium (U) above Environmental Protection Agency (EPA) maximum contaminant limits (MCLs). Acting on this information, members of the Oglala Lakota College (OLC) contacted The Center of Advanced Materials for the Purification of Water with Systems (WaterCAMPWS) at the University of Illinois Urbana-Champaign (UIUC). An undergraduate student team was subsequently formed to address the problem and verified this concern during a trip to the reservation in August 2009. A variety of methods are available to remove these metals from drinking water, but most are relatively expensive, require an expert to maintain, or do not make use of indigenous materials. Absorbent biomaterials, such as bone char, present a novel and sustainable approach to remove As and U from drinking water.

A UIUC team arrived at the reservation in November 2010 for a second assessment in order to collect a larger quantity of the contaminated water for testing and to expand the set of sampled sources. To date, 35% of the private wells sampled

contain As above the EPA maximum contaminant level (MCL) of 10 parts per billion (ppb), and 6% contain U above the EPA MCL of 30 ppb. This data, in conjunction with the USGS report, indicate that As and U contamination is a widespread and recurring problem in the Pine Ridge Reservation.


The objective of this work was to develop a bone char filter that can be used to efficiently remove As and U from groundwater at the Pine Ridge Reservation. While bone char has been shown to efficiently adsorb As and U from water, the efficiency of removal depends on local water conditions and bone char characteristics.

Our potential solution is the production of household filters using the absorbent biomaterials bone char. In batch studies, bone charred at 500°C for seven hours can remove 98% of U in Pine Ridge Reservation groundwater after 24 hours. No As removal is observed in groundwater; however, using a synthetic As(V) solution, bone charred at 700°C for 21 hours achieved the optimal results, removing 87% As(V) in a 10-hour period. This indicates that As(III) will need to be oxidized to As(V) in the Pine Ridge Reservation groundwater. Through partnerships on the reservation, continued efforts are under way to raise awareness and develop a solution to address the As and U contamination of private well water on the Pine Ridge Reservation.

Currently, a novel filter design is under optimization studies. The current goal aims at implementation on the reservation in the spring of 2012. Also, we have focused further research efforts on the oxidation and removal of the As(III) in the water. A prototype could be developed by spring 2012 so that optimization tests can begin on it as well.


Bone char has been shown to remove other heavy metals besides As and U. Our team is currently researching other affected areas that could benefit from a filter that makes use of animal bone. One such potential is Ethiopia. Efforts are under way currently to develop collaborations between our team and groups in the region. Further expansion to other regions will take this technology to more people who need the clean water the filter can provide affordably and renewably. [CS](#)

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Mark Ludwigson, Graduate Student, University of Wisconsin-Milwaukee, Project Engineer, Symbiont, mark.ludwigson@symbiontonline.com

ABSTRACT

When considering alternatives in preliminary design, there are challenges in quantifying sustainability and reducing subjectivity. A 10-step multi-criteria decision-making framework is presented for quantifying sustainability. To reduce subjective bias, an Analytic Hierarchy Process is recommended to determine the weight factors. The developed framework is applied to an activated carbon system and a biofilter bed system for odor control. Results indicate the two systems have similar overall sustainability scores which are sensitive to the chosen indicators and weight factors.

FRAMEWORK

In the spirit of sustainability worksheets recently introduced by Milwaukee Metropolitan Sewerage District (MMSD) and Green Bay Metropolitan

Sewerage District (GBMSD), a multi-criteria decision-making framework was developed for sustainability comparisons of alternatives. The 10-step framework is summarized in Figure 1. An original contribution is to determine weight factors by utilizing the Analytic Hierarchy Process (AHP) as developed by Saaty (2001). In AHP, direct comparisons are made for each pair of indicators, which breaks down the task of creating weight factors

into less subjective inputs. Indicator comparison inputs can be obtained from those with a vested interest in the project, such as engineers, owners, operators, local authorities and community members.

APPLICATION

The developed framework is applied to an activated carbon system and a biofilter bed system.

“ Results indicate the two systems have similar overall sustainability scores which are sensitive to the chosen indicators and weight factors. ”

Step 1: Background on alternatives

The activated carbon installation, shown in Figure 2, is located at Jones Island Water Reclamation Facility in Milwaukee, Wisconsin. The biofilter bed installation, shown in Figure 3, is located in an historic park in South Bend, Indiana.

Step 2: Selection of indicators

The six most significant indicators are chosen: energy use, water use, solid waste, lifecycle cost, greenhouse gas (GHG) emissions and aesthetics.

Step 3: Selection of normalization technique

The internal normalization technique is chosen for a direct comparison between the two systems, without a specific existing system or industry standard for comparison.

Step 4: Determination of weight factors

The Analytic Hierarchy Process (AHP) is utilized to determine the weight factors, with indicator comparison data obtained from three experienced professional engineers.

Step 5: Calculation of indicator values

For energy use, each system has an air fan, however, the biofilter bed fan consumes more than double the electricity because the pressure differential increases by a factor of 10 as the wood chip media breaks down

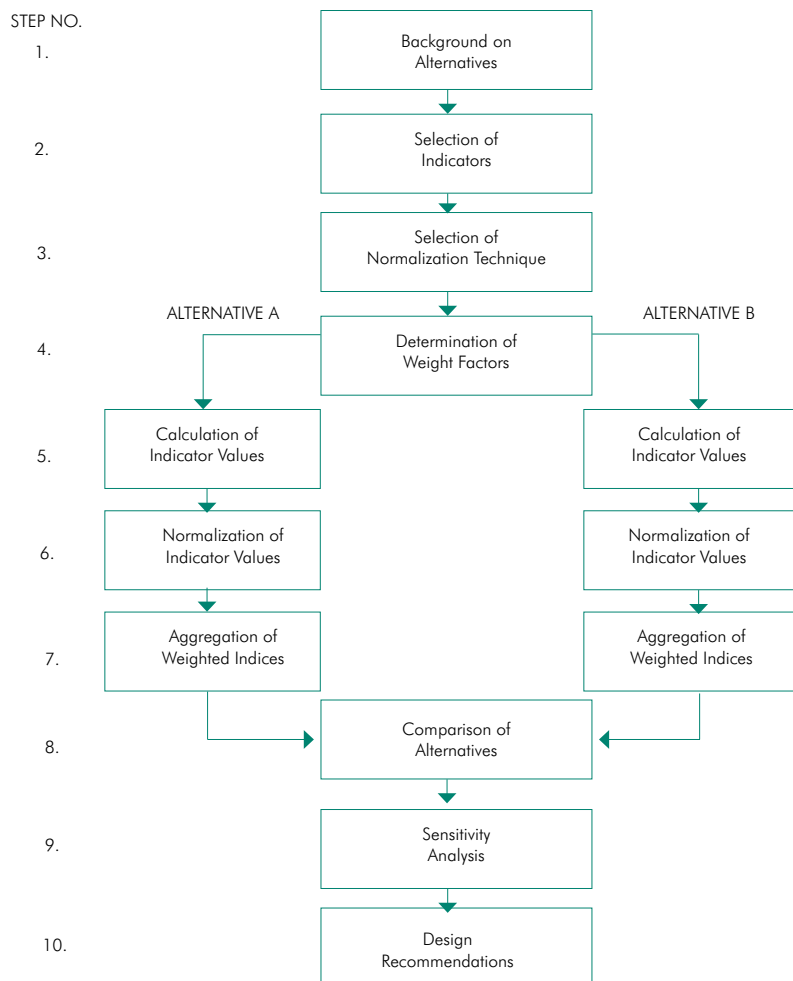


Figure 1: Framework for sustainability comparison of alternatives.
Additional alternatives can be considered in steps 5, 6 and 7.



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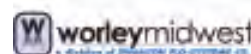
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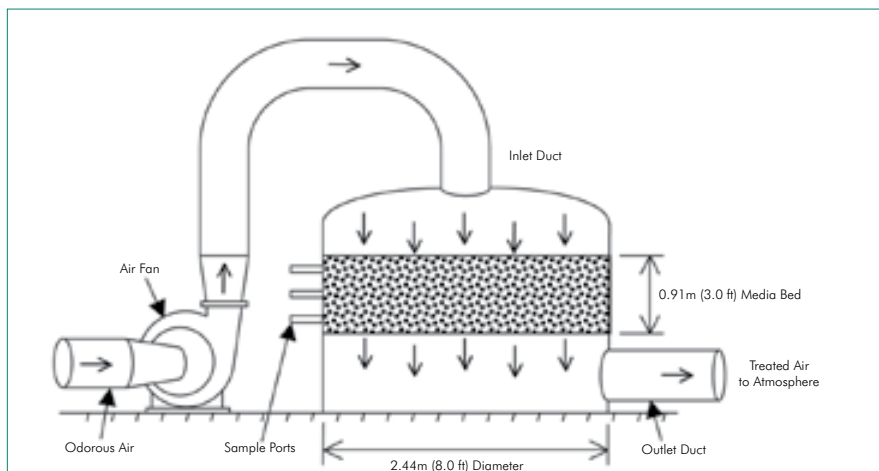


Figure 2: Schematic diagram of the activated carbon system.

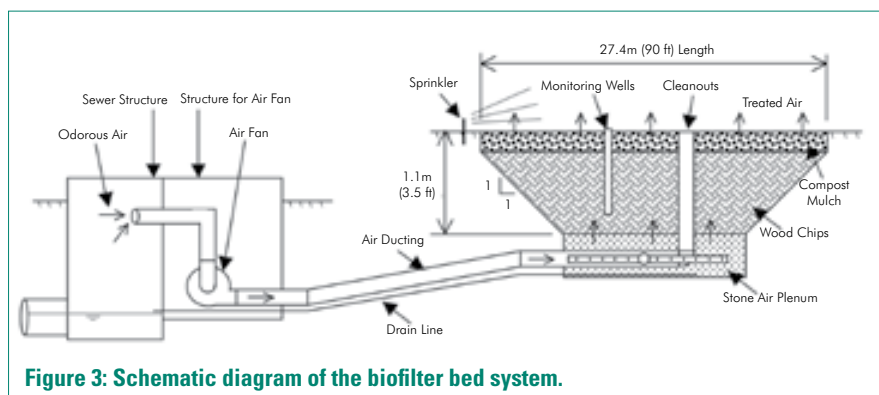


Figure 3: Schematic diagram of the biofilter bed system.

over time. For water use, only the biofilter bed requires a regular dose of water, to keep the bed moist. For solid waste, each system requires landfilling of spent media; however, the biofilter bed has a greater quantity. For lifecycle cost, the biofilter bed has a lower 20-year present worth cost, due to a significantly lower capital cost. For GHG emissions, the biofilter bed has a net reduction of GHG due to methanotrophic bacteria that remove methane gas from the air stream (Shareefdeen 2008, DECC 2007). For aesthetics, the biofilter bed received a better score because it is installed below ground with a beautiful flower bed on top.

Step 6: Normalization of indicator values

The indicator values are divided by the largest indicator value to obtain normalized indices, with results listed in Table 1.

Step 7: Aggregation of weighted indices

Weighted indices are calculated for each indicator by multiplying the normalized index by the weight factor, and the indices are summed to provide an aggregated index for each alternative. The aggregated indices are normalized to provide the final index score for each alternative, as shown in Table 1. A lower value is considered more sustainable.

Step 8: Comparison of alternatives

The results indicate that the activated carbon system is overall slightly more sustainable since it has an aggregated index that is 8.9% lower. The normalized indicator values without weight factors can be viewed in a radar diagram, as displayed in Figure 4. The area encompassed by each system can visually represent the unsustainable footprint of the system, with a smaller area indicating increased sustainability.

Step 9: Sensitivity analysis

Calculations were redone for the range of uncertainties and the aggregated indices changed by a maximum of 8%. Also reference indicators and weights can be applied to gain insights. The MMSD worksheet (2008) does not include aesthetics, and results in the activated carbon system being 14.9% more sustainable. The GBMSD worksheet (2010) does not include water use and gives less weight to energy use, and results in the biofilter bed system being 14.5% more sustainable.

Step 10: Design recommendations

For the activated carbon system, both lifecycle costs and solid waste can be decreased significantly with a recently developed surface modified non-impregnated activated carbon which can be regenerated with water instead of caustic soda. For the biofilter bed system, significant energy reduction can be achieved by adding a variable frequency drive (VFD).

CONCLUSIONS

In this study, a framework is developed for comparing the sustainability of alternatives. AHP is used for determining weight factors with decreased subjectivity. The developed

“ For aesthetics, the biofilter bed received a better score because it is installed below ground with a beautiful flower bed on top. ”

Indicator	Weight Factor	Activated Carbon		Biofilter Bed	
		Normalized Index	Weighted Index	Normalized Index	Weighted Index
Energy Use	28.5	0.388	11.058	1.000	28.500
Water Use	8.1	0.005	0.041	1.000	8.100
Solid Waste	12.0	0.701	8.412	1.000	12.000
Lifecycle Cost	38.7	1.000	38.700	0.726	28.096
GHG Emissions	8.4	1.000	8.400	0.000	0.000
Aesthetics	4.2	1.000	4.200	0.250	1.050
Aggregated Index		-	70.811	-	77.746
Normalized Aggregated Index		-	0.911	-	1.000

Table 1: Weighted indices and aggregated indices for both systems.

framework is successfully applied to compare an activated carbon system and biofilter bed system for odor control. The activated carbon system has lower values in energy use, water use and solid waste. The biofilter bed has lower values in lifecycle cost, GHG emissions and aesthetics. This study concludes that the activated carbon system is 8.9% more sustainable than the biofilter bed system. However, community preferences would determine which system is more sustainable on a project by project basis.

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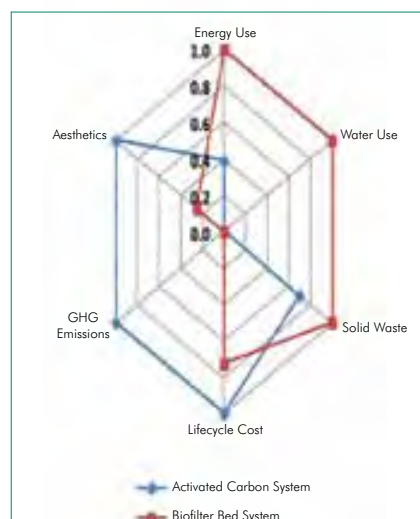


Figure 4: Radar diagram of normalized indices for each alternative.



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Propidium Monoazide (PMA) for Live/Dead Distinction of Microbial Communities in a Pilot-scale Water Treatment System

Alexander S. Gorzalski, Department of Civil and Environmental Engineering, University of Wisconsin, Madison

1. INTRODUCTION

Many water utilities use chloramines as a secondary disinfectant because they are stable in distribution systems and tend to form low levels of disinfection byproducts (DBPs), many of which are regulated by the EPA. In the distribution system, chloramines slowly decay and release ammonia, leading to nitrification events. Nitrification is the bacterially mediated oxidation of ammonia to nitrite and subsequently to nitrate.

Nitrification also results in indirect health risks and operational concerns. Nitrification produces the EPA-regulated contaminants nitrite and nitrate while reducing chloramine residual, leaving distribution systems vulnerable to pathogen regrowth. Nitrification events also reduce pH, especially in low alkalinity waters, leading to corrosion of distribution system piping. One of the greatest challenges for water utilities that use chloramination is to identify the onset of nitrification. Current practice focuses upon the detection

of sustained nitrite production, loss of chloramine residual, or an increase in heterotrophic plate counts (HPC).

Combining two molecular techniques, quantitative polymerase chain reaction (qPCR) and propidium monoazide (PMA) treatment, may provide a more direct measurement for the prediction and detection of nitrification events. qPCR quantifies microbial populations based on the number of copies of a specific gene that are present, and PMA is a DNA-binding dye that restricts quantification to only live cells.

To our knowledge, the potential use of PMA treatment to detect live cells in drinking water distribution systems has not yet been evaluated. The objective of this work was to use qPCR and PMA to quantify ammonia oxidizing prokaryotes in chloraminated drinking water distribution systems. Two different groups of ammonia-oxidizers were targeted, namely ammonia-oxidizing bacteria (AOB) and ammonia-oxidizing archaea (AOA).

2. MATERIALS AND METHODS

Water samples evaluated in this study

Targeted Gene and Microbial Groups	Primer Name	Sequence	Reference
16S rRNA Bacteria	27f	AGAGTTTGATCMTGGCTC	Lane et al. 1991
	1492r	GGYTACCTTGTTACGACT	
AOB	amoA-1F	GGGGTTTCTACTGGTGGT	Rotthauwe et al. 1997
	amoA-2F	CCCCTCKGSAAGCCTTC	
AOA	Arch-amoAF	STAATGGTCTGGCTTAGACG	Francis et al. 2007
	Arch-amoAR	GCGGCCATCCATCTGTATGT	

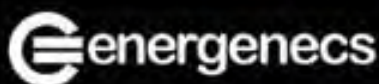
TABLE 1. Summary of primers used for each microbial group



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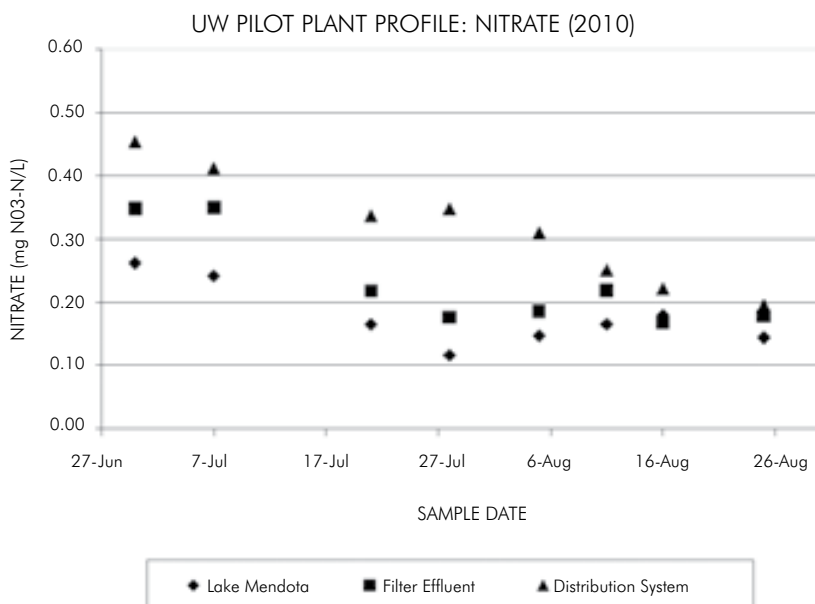


FIGURE 1. Nitrate concentrations throughout the pilot plant over time

were collected from the pilot-scale drinking water plant on the campus of the University of Wisconsin-Madison. This plant treats water from Lake Mendota (Madison, Wisconsin) and simulates typical operational conditions found in full-scale systems. Treatment consisted of aluminum sulfate coagulation, three-stage tapered flocculation, sedimentation, and dual media (anthracite and sand) filtration to produce water that meets U.S. EPA drinking water standards for turbidity. Following primary disinfection with chlorine, this water was used in simulated distribution systems that operated with a target chloramine residual concentration of 0.5 - 1.0 mg Cl₂/L. Samples were collected approximately bi-weekly from untreated Lake Mendota water, filter effluent, and the distribution system.

Microbial groups were enumerated from DNA sequences specific to each group. Table 1 summarizes primers used for each microbial group. AOA and AOB

were quantified by qPCR targeting the ammonia monooxygenase gene (*amoA*), while the 16S ribosomal RNA gene (16S rRNA) was used for total bacteria.

3. RESULTS

Nitrification was observed in distribution system throughout the sampling period, as demonstrated by sustained nitrate production (see Figure 1). Nitrate concentrations increased in the distribution system, indicating that the ammonia fed for chloramine production was oxidized to nitrate. The loss of combined ammonia (chloramines) residual, as shown in Figure 2, also indicates sustained nitrification.

Despite ongoing nitrification throughout the sampling period, AOB were not detected in the distribution systems (data not shown). Similarly, AOA were only detected during one sampling event (August 18) as shown in Figure 2. Observed nitrification without detectable AOA or AOB might have a number

**“Nitrate concentrations increased
in the distribution system,
indicating that the ammonia fed
for chloramine production was
oxidized to nitrate.”**

of explanations, including ammonia oxidation in biofilms (only bulk water was sampled), oxidation by populations without the *amoA* gene, or active populations below the detection limit.

Figure 2 also indicates that AOA were only observed in the distribution system when total chlorine residual dropped significantly. This was partially due to the loss of chlorine feed between August 16 and August 18. Free chlorine on August 18 was measured to be 0.08 mg/L, the lowest concentration during the entire sampling period. These concentrations are much lower than those shown in Figure 2, which reports the two-week average of chlorine concentrations. When chlorine feed resumed, AOA were no longer observed.

Given the slow growth rate of AOA, the AOA detected on August 18 were likely detached from filter media rather than actively colonizing either distribution system. The absence of AOA on August 31, after chlorine feed had resumed, could indicate that AOA are sensitive to low concentrations of chloramines. Another explanation is that AOA may not be acutely sensitive to chloramines, but that AOA from the filter were usually inactivated in the chlorine contactor (concentration typically 2-5 mg/L). Only when the chlorine feed was lost did AOA survive the contactor, and those AOA were subsequently washed out of the distribution systems prior to the August 31 sampling.

Concentrations of total bacteria, shown in Figure 2, were stable once detectable. Detection occurred after loss of chloramine residual and reduction in total chlorine. However, subsequent reductions in total chlorine did not correspond with statistically significant increases in bacterial concentrations. Possible explanations include predation or greater bacterial growth in biofilms (not sampled), however, there is no experimental evidence to support either claim.

AOA appeared to have colonized filter media in the pilot plant throughout the summer of 2010. Figure 3 shows concentrations of AOA, AOB, and total bacteria in filter effluent and Lake Mendota throughout the sampling period. AOA were much more prevalent than AOB in filter effluent throughout the summer.

Although significant quantities of AOA were observed in filter effluent, it was possible that microbes from untreated Lake Mendota water were passing through

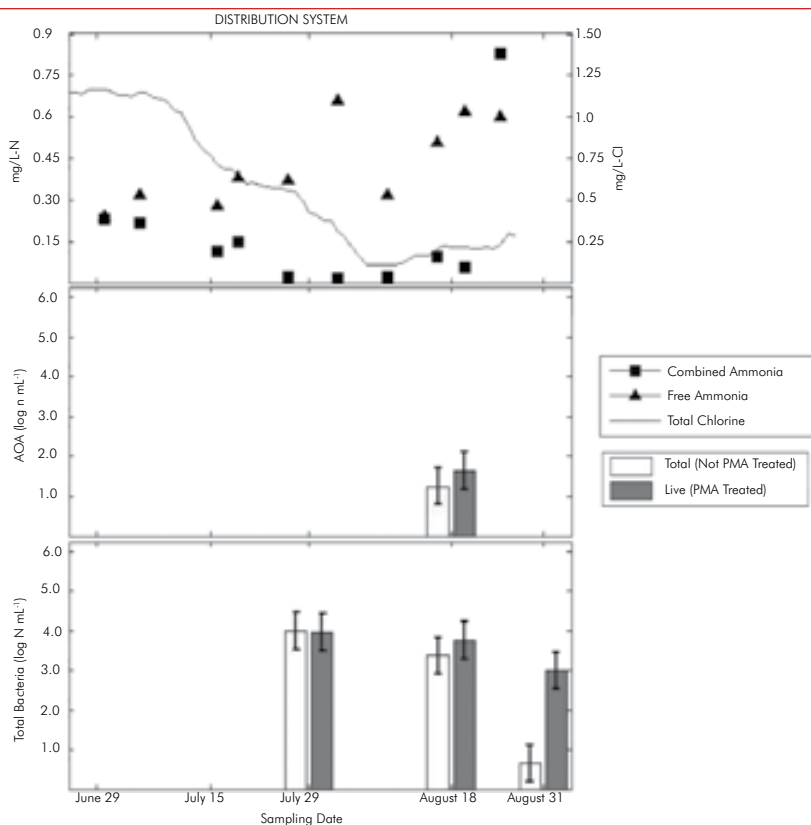


FIGURE 2. Concentrations of disinfectant residuals, AOA, and total bacteria in the distribution system throughout the sampling period (A) Combined ammonia (chloramines), free ammonia, and total chlorine (two-week average) concentrations in the distribution system. Log copy numbers for (B) AOA and (C) total bacteria are also shown. White bars indicate samples without PMA treatment, and grey bars indicate PMA treatment.

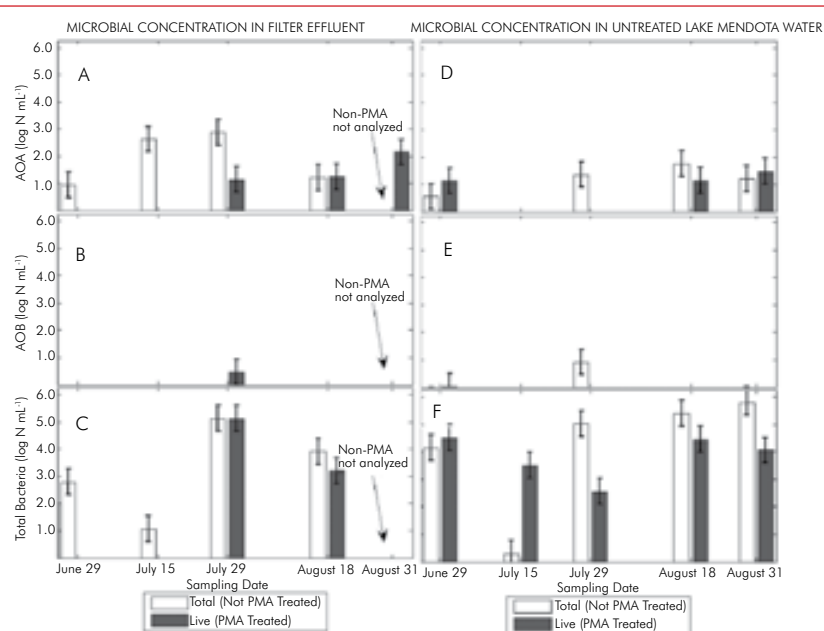


FIGURE 3. Concentrations of microbial communities in filter effluent and Lake Mendota throughout the sampling period. Concentrations of both total and live (A&D) AOA, (B&E) AOB, and (C&F) total bacteria are shown. Due to insufficient volume of eluted sample, qPCR analysis of non-PMA treated filter effluent was not performed for samples collected on August 31.

“It was determined through this study that PMA had utility for assessing live/dead microbial populations within mixed community drinking water samples.”



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the filter. Mass balance between panels A and D in Figure 3 indicates that AOA were growing somewhere between plant influent and filter effluent. Flocculation and sedimentation were likely to remove some AOA rather than concentrate them. Previous findings in literature indicated that filter media was the most likely place for AOA to multiply.

AOA present in filter media were likely actively oxidizing ammonia. Results shown in Figure 1 indicate a production of nitrate between untreated Lake Mendota water and filter effluent. The confirmed presence of AOA, with the possible presence of nitrite oxidizing bacteria (NOB), would explain the production of nitrate.

4. CONCLUSIONS AND RECOMMENDATIONS

AOB were unexpectedly below detection throughout the sampling period. AOA were also rarely detected, except in Lake Mendota and filter effluent. Despite nitrification during the sampling period, ammonia oxidizers were below detection. However, the presence of AOA in greater concentrations than AOB in both Lake Mendota and filter effluent is a significant finding. It was determined through this study that PMA had utility for assessing live/dead microbial populations within mixed community drinking water samples. Reducing analytical error and sampling error could allow for greater differentiation between quantities of live and dead bacteria.

ACKNOWLEDGEMENTS

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The keynote message will be presented by Dr. Vladimir Novotny who will discuss nutrient management and cities of the future. Invited speakers from the regulatory arena include Marcia Willhite, IEPA, Rebecca Flood from MN and Greg Azevedo from USEPA Region

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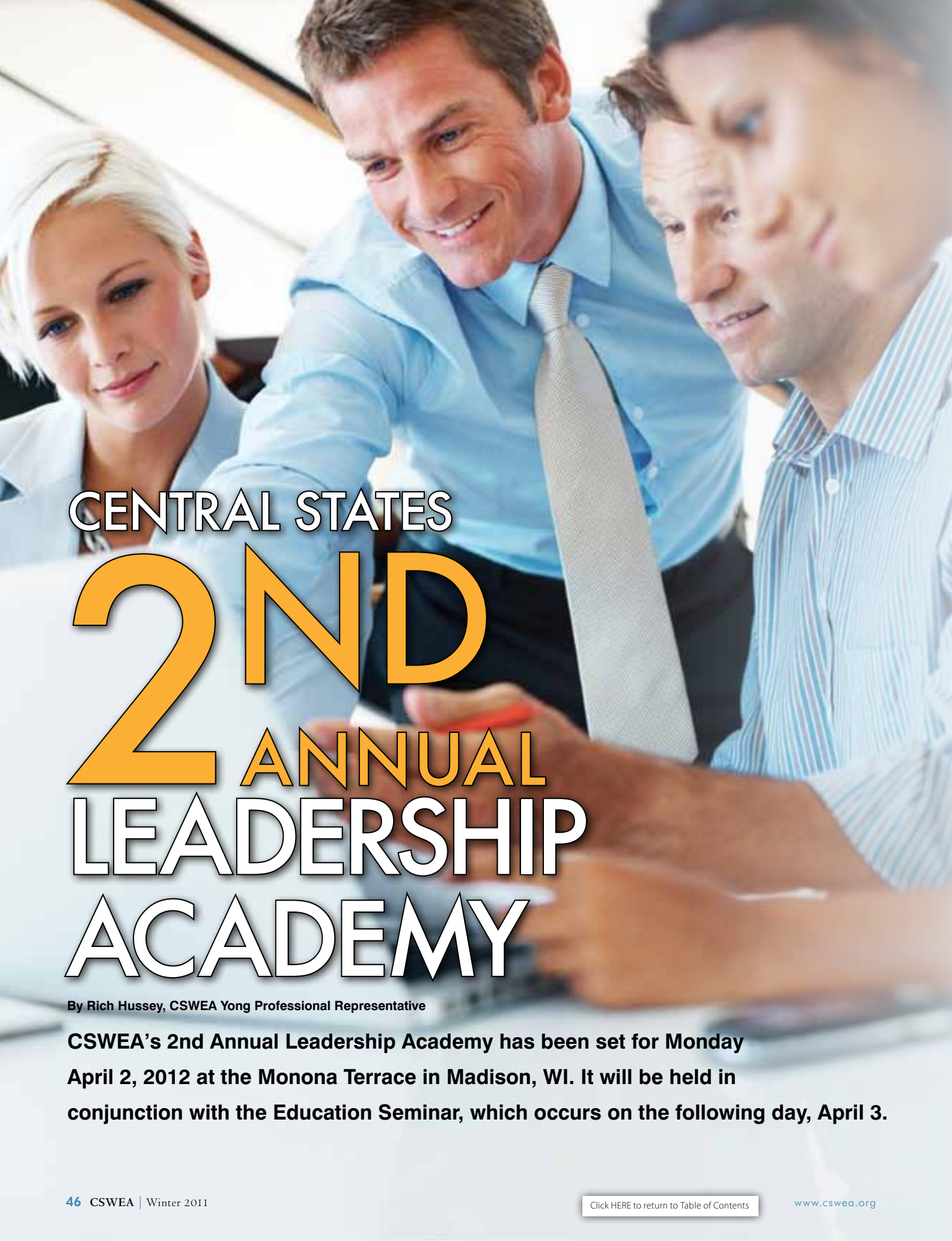
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A photograph of three business professionals in a meeting. A man in a light blue shirt and tie is pointing at a document, smiling. A woman with blonde hair is looking at the document. Another man in a striped shirt is also looking at the document. The background is blurred.

CENTRAL STATES 2ND ANNUAL LEADERSHIP ACADEMY

By Rich Hussey, CSWEA Yong Professional Representative

CSWEA's 2nd Annual Leadership Academy has been set for Monday April 2, 2012 at the Monona Terrace in Madison, WI. It will be held in conjunction with the Education Seminar, which occurs on the following day, April 3.

We are excited to continue this new opportunity for a second year, and believe it will add great value to our members. Currently, we are in the process of establishing the program speakers and presentations. Topics are intended to provide young professionals with information and skills that will help them develop the work skills needed to succeed and excel in their careers. Topics will include keys to employee development, how to successfully communicate with others, building team cohesiveness, building an excellent team, presentation skills, and some presentations that will relate to Education Seminar topic on the following day but have a twist for the Leadership Academy.

Registration fees are designed to be affordable, and encourage attendance at both the Leadership Academy on Monday and the Education Seminar on Tuesday, which we believe will serve our members well by allowing some of their younger staff to attend both this program and one of the best technical one-day seminars in the country, at a reasonable rate. Senior Members are encouraged to push for your younger staff to attend this event. We do need both young professional and senior members to show an initiative for this program, otherwise it will not be a continued success.

If you wish to suggest a topic or presentation and/or would like to suggest a speaker for the Leadership Academy, please contact me via email: rich@leyassociates.com. We are actively seeking presenters and suggestions to make this program valuable for our members. We hope to see a great turnout on April 2, 2012.

Here are a few comments from young professionals who attended our 1st Annual Leadership Academy: "The CSWEA YP Leadership Academy was a phenomenal learning and networking experience. It was great to hear advice and the experience of environmental leaders (CEOs and directors) in the Midwest. I had fun, gained invaluable advice and met a bunch of other young professionals that I will continue to network with throughout my career." Trevor Ghylin, PE, CH2M Hill.

"The environment is a passion of mine, and after the conference I realized this

"Topics are intended to provide young professionals with information and skills that will help them develop the work skills needed to succeed and excel in their careers."

was the perfect industry for me to make a difference in. The people involved with CSWEA and their YP program are very knowledgeable, but more importantly they are all eager to extend a hand and

share their knowledge. I wasn't too sure what to expect going into it, but the YP Leadership Academy surpassed my expectations in information and awareness of the need for young people in our profession." Andy Pakosta, Glenbard Wastewater Authority.

"The YP Leadership Academy was a great way for me as a young professional to get to know some of my peers as well as get some valuable career advice from more experienced professionals. Attending the YP Leadership Academy was a great way to start getting involved in CSWEA, and was very helpful in providing some guidance for my career in the water/wastewater industry." Mike Holland, Trotter & Associates. [CS](#)



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By Brandon Koltz, Central States Wisconsin Section Government Affairs Chair

Regulatory UPDATE

Members of the WEF Government Affairs Committee received a briefing at WEFTEC from officials from the Office of Water, Office of Science and Technology and Office of Water Enforcement and Compliance Activities in committee meetings and the Government Affairs Session. There are a number of regulatory developments at the federal level that will be published for comment in the next few months. In other cases, policies are being developed that may provide more flexibility, or may increase the cost of compliance. A summary follows.

Integrated Permit Policy

U.S. EPA has heard from numerous members of the regulated community about the cost for simultaneous compliance with different regulatory initiatives. CSO and SSO correction, nutrient removal, stormwater permit compliance may all be required by different divisions within U.S. EPA, pushed down to the states and on to permittees. On October 27 Nancy Stoner/Office of Water and Cynthia Giles/Office of Water Enforcement and Compliance Assurance issued a joint memo to the regions

directing them to work with municipalities to schedule program compliance for multiple permits to achieve the greatest environmental benefit first and implement activities in an affordable manner. This may increase flexibility; however, there is discussion that a schedule would be enforceable through consent decrees.

Stormwater

U.S. EPA was directed by a court order to revise the stormwater permitting program for greater effectiveness. Draft revisions are expected to be published on or after



December 15, 2011 with final rule publication by November 2012. The rule is expected to eliminate the distinction between Phase I and Phase II permittees, bringing monitoring requirements to Phase II communities. The area subject to permitting under the MS4 program would be expanded to other urbanized areas. U.S. EPA will likely ask if expansion should be to the county level, or if there should be a watershed basis for new areas subject to permitting. Separate storm sewer areas tributary a combined sewer service area, managed under the CSO program and currently exempt

from the storm water program would be subject the MS4 best management practices as well. Performance standards for MS4s would be promulgated – flow control as a surrogate for TSS and nutrient discharges. It is expected that control of the 85th or 90th percentile storm on site for new development or redevelopment will be required. U.S. EPA has sent to OMB a proposal for effluent limitation guidelines based on turbidity. Municipal storage yards would need to prepare and implement a Storm Water Pollution Prevention Plan. EPA expects communities to use more green practices

to meet the new requirements. WEF has formed a Stormwater Committee to review and respond to the updated regulations when they come out. If interested, go to the WEF webpage to sign up to participate.

Ammonia Water Quality Criteria

EPA expects to publish final water quality standards for un-ionized ammonia based on chronic toxicity to mussels and snails. There will likely be no distinction between waters with mussels present and mussels absent, as was originally proposed. The standard will be lowered from 1.2 mg/L to 0.28 mg/L. The regulation will be published final early in 2012. States will then be expected to go through rulemaking to update their standards.

Recreational Standards

EPA completed technical studies to refine the water quality standard for assessing the attainment of recreational uses. Various indicator organisms were evaluated and testing for specific pathogens examined to determine the risk for illness from waterborne disease. Recommendations will be published early 2012. *E. coli* and Enterococci will be recommended as the organisms to measure. Concentrations will likely be similar to those published in EPA's 1986 Guidance; the updated values will specifically reflect risk to children. States that have continued to use fecal coliform as recreational standards will be expected to adopt the updated criteria. A new rapid assessment method – qPRC – will be approved for beach closings, but not wastewater analysis.

SSO Rule

Select stakeholders met this summer for a facilitated discussion with EPA regarding the need for a SSO rule to provide

1 EPA EXPECTS TO PUBLISH FINAL WATER QUALITY STANDARDS FOR UN-IONIZED AMMONIA BASED ON CHRONIC TOXICITY TO MUSSELS AND SNAILS."

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certainty for sanitary sewer control and peak wet weather treatment. EPA agreed that clarity is needed, but has no schedule for preparation of a draft rule. Meanwhile, in Illinois, for wastewater treatment plants that “blend” peak wet weather flows, draft permit renewals have been issued requiring a “No Feasible Alternative” analysis with the intent of eliminating blending of peak wet weather flows. Dischargers are carefully watching and responding to this apparent shift in policy absent further rulemaking.

Nutrients

U.S. EPA continues to pursue instream nutrient criteria. EPA was required by

court order to establish nitrogen and phosphorus criteria in Florida, and published values earlier this year. The State of Florida requested and received permission to revisit these values and propose alternate, more site-specific criteria to replace the EPA values. In Wisconsin, DNR has published draft permitting guidance to derive phosphorus limits to address the recently promulgated instream criteria. Information with respect to permitting and nutrient trading is on the DNR’s website.

U.S. EPA indicated that chloride and selenium water quality standards will be proposed spring of 2012. The chronic chloride standard will be calculated based

on hardness and sulfate concentration; for Midwest waters this will likely raise the numeric limit. EPA may propose effluent limits for specific compounds of emerging concern, such as pharmaceutical compounds, in the next two years. Watch for announcements as these proposals are published for comment.

While the requirements for dischargers are increasing, sources of funding such as capitalization of the state revolving loan funds is diminishing in proposed budget for this fiscal year. Dedicate funding sources such as a Water Trust Fund and an infrastructure bank have gained support but not passage in Congress.

To stay abreast of the evolving regulatory issues in Washington, subscribe to *This Week in Washington* from WEF through the WEF webpage. Stay tuned.

Compiled by Brandon Koltz, Vice President, SYMBIONT Science, Engineering & Construction, West Allis, WI. Contact Brandon at Brandon.Koltz@symbiontonline.com [CS](#)

1 EPA MAY PROPOSE EFFLUENT LIMITS FOR SPECIFIC COMPOUNDS OF EMERGING CONCERN, SUCH AS PHARMACEUTICAL COMPOUNDS, IN THE NEXT TWO YEARS.”

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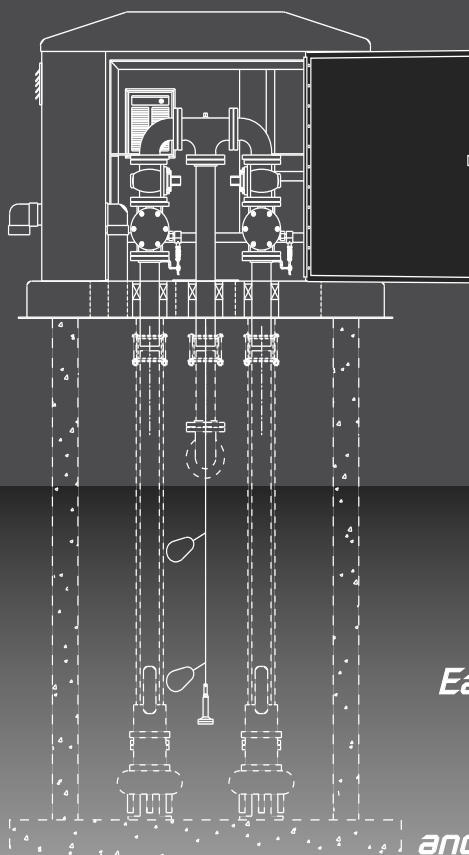
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To demonstrate our admiration and respect for the association, its members and the water industry as a whole, we have established a yearly educational scholarship of \$500 to be funded through a percentage of advertising sales generated in **Central States Water**.

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We Are Strong

By Jane Carlson

I hope your winter is going well with enjoyable holidays, friends and family, and plenty of frozen water. The Wisconsin Section has been busy, and there are several initiatives that I would like to share with you.

Just prior to the Annual Business Meeting November 10, our Watershed Management Committee hosted its second annual webinar. The topic was "Implementing the Phosphorus Rules." Committee Chair Julie McMullin moderated, and speakers included Ephraim King (USEPA), Amanda (Boyce) Minks (WDNR), Nicki Clayton (WDNR), Tom Dupuis (CH2M Hill), and Lisa Jeffrey (Brown and Caldwell). The webinar was well attended and informative. Copies of the presentations are posted here: <http://www.cswea.org/wisconsin/seminarproceedings/>. For additional information, please contact Julie jmcmullin@brwnclad.com.

Vice Chair Bill Oldenburg has assembled a strong committee and is continuing efforts to update our Section's Strategic Plan. He expects to have a draft plan available for board review in February with an approvable final version at our winter board meeting February 22.

The Wisconsin Section Policy and Procedure Manual was recently updated. A section was added titled "Committee Guidance for Financing Technical Conferences." The board approved the changes at the Business Meeting and we expect CSWEA Executive Committee approval in January. After that, the updated manual will be posted on our website. Thanks to Keith Haas for spearheading this effort.

Elections for incoming Section Vice Chair and Secretary/Treasurer were held at the Business Meeting. I would like to congratulate our incoming Vice Chair, Dave Arnott. Dave has provided great service to the Section as Secretary/Treasurer, and I know he will be an excellent Vice Chair. Congratulations also go to Joshua Gable as our incoming Secretary/Treasurer. Josh has been active in the Section as a student and a young professional. We welcome him to the board and know he will do a great job



filling Dave's big shoes. Dave and Josh will begin their new roles at the Annual Meeting in May.

Other actions taken at the Business Meeting included approval of our 2012 budget and discussion of updates to our Wisconsin Section Annual Activity Timeline (SAAT). The SAAT is a one-page summary of the various recurring activities of the Section and is available on the website. The Business Meeting also includes committee breakout sessions and it was great to see so many committee representatives, including a few new or prospective committee members, participating in those face-to-

face meetings. We also welcomed our new Wisconsin Wastewater Operators Association (WWOA) liaison to the board: Sharon Thiesen of Sheboygan WWTP. Sharon is new to Wisconsin, but she brings many years of experience in the field and in professional organizations from her prior activities in Illinois. Sincere thanks go to our past WWOA liaison, Dennis Egge, for his many years of excellent service to WWOA and the Wisconsin Section.

Thanks to our active members, officers, and committees, our association and our Section are strong. However, we can always use new members, and I encourage you to reach out to your colleagues, clients, consultants, bosses, employees, and friends to join. Membership opportunities are listed on the CSWEA website (www.cswea.org) under the "Join Now" and "Benefits of Membership" tabs. An Associate Level membership is available for only \$25. It includes our *Central States Water* publication and several other benefits. This level of membership may be appropriate for treatment plant operators, state agency staff, and others who may not have need for a full Water Environment Federation membership.

Planning for the Government Affairs Seminar (February 23, 2012) and Education Seminar (April 3, 2012) is well under way. Please mark your calendars for these popular and very educational seminars. We hope to see you there. Bring a prospective member with you! [CS](#)



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See You In St. Charles

By Dean Wiebenga

The construction season is behind us, and all of the orange barrels are in storage until spring. The summer of 2011 will be remembered for the long commutes to and from the city, and of frustrating baseball seasons for both sides of town.

The Illinois Section is excited to host the 85th Annual Conference at Pheasant Run Resort in St. Charles. Rick Manner, Technical Program Chair from Urbana Champaign Sanitary District, has been getting abstracts and has the difficult job to top last year's technical content. Local Arrangements Committee members are working diligently to ensure every attendee has a memorable experience from the Meet and Greet (Monday, May 14, 2012) to the Farewell Breakfast (Thursday, May 17, 2012). Through fun, fellowship and hospitality, they are striving to inform us about the issues relevant in our industry today.

Mary Dressel and Randy Patchett have been working together and have planned a Lab/ Industrial Pre Treatment meeting with a very strong technical program to inform attendees of "Sampling Techniques of that Pesky Industry" and an update of the 2011 Industrial Pretreatment Conference.

Carl Fischer worked diligently with Lou Kollias from the Illinois Water Environment Association on the 2012 Government Affairs. This will be held in Willowbrook on January 20, 2012.



Information will be presented on ammonification, pesticides, energy footprint, not to mention, the keynote speaker Ken Kirk, Executive Director of the NACWA. We are looking forward to a very informative conference.

I would like to express my gratitude to Gary Scott, who has led this organization in several capacities over the past decade. His hard work and dedication is a reason that the Illinois Section is as organized and successful as it is. You have done a wonderful job and have set a standard that is hard to be matched.

Finally, our section provides numerous opportunities for everyone to serve and opportunities to grow personally and professionally. We are always in need of more help. If you are able, please contact one of the Illinois Section chairs or a committee chair and offer them your assistance. I know they would love to hear from you. **CS**

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Engineer Flash Mob at the Earle Brown Heritage Center

By John Friel

Complex environmental problems solved while no gets hurt at engineer flash mob... Well, maybe it wasn't a flash mob, but I'm happy to report the annual Conference on the Environment (COE) held at the Earle Brown Heritage Center was a great success with over 200 in attendance. In addition to another great technical program, the COE included a larger contingent of students from five student teams (four from UMD and one from NDSU) competing in the Student Environmental Challenge and several graduate students from the U of MN-Twin Cities exhibiting research posters. Ted Field, Rob O'Connell, Bill Lueck, and Rachel Radloff served as judges for the Student Environmental Challenge.

The COE is a joint event sponsored by the Air & Waste Management Association (A&WMA) and Minnesota Section of CSWEA and includes sessions covering different air, water, and waste topics. Greg Archer, A&WMA, and Ted Field, CSWEA-MN Section did a great job as the conference planning committee co-chairs this year. The COE included a morning keynote address from the current MPCA Commissioner, Paul Aasen, and a lunchtime keynote presentation by Brad Moore, PolyMet Mining. Before Mr. Moore started his presentation, I was honored to present Jason Benson with a plaque from the MN Section for



all his years of service and for completing his Past Chair duties last year. Many of the COE presentations will be posted on the A&WMA Upper Midwest Section website, <http://www.awma-ums.org/>, in the near future.



MN Section business meeting updates

The following paragraphs contain updates from the MN Section business meeting held at the COE and other updates since my fall message. The MN Section business meeting included updates on the budget from the MN Section Treasurer, Alison Sumption, an update from the MWOA trustee, Brian Mehr, several committee updates, and John Glatzmaier's trustee report from WEFTEC given via proxy. Kevin Newman was also elected as the Vice Chair and Alison Sumption agreed to stay on for another two-year term as Secretary/Treasurer. Greg Johnson gave a brief

overview of the importance of the Washington D.C. Fly-In event to be held with AWWA-MN in early March 2012. Last year was the first year the MN Section sent a representative, Mr. Pete Moulton, who was able to meet with numerous federal politicians from Minnesota to discuss water/wastewater infrastructure needs.

Children's Water Festival: Another splash with WWMD water testing kits

This past September was the MN Section's second year sponsoring a learning station at the Children's Water Festival (CWF) held at the Minnesota State

Fairgrounds. We used the World Water Monitoring Day (WWMD, <http://www.wwmd.org/>) water testing kits to teach classes of fifth graders about water quality. WWMD is an international education and outreach program that builds public awareness and involvement in protecting water resources around the world. Last year, over 200,000 people in 85 countries monitored their local waterways. Students who visited the station learned about and performed water quality monitoring tests on local surface water and tap water. Monitoring kits were also distributed to the teachers of the seven classes attending the station with encouragement to use and report their monitoring activities on the WWMD website. Li Zhang, John Friel, Dustin Maas, and Susan Danzl participated at the WWMD station at the CWF.

Lab Seminar: Rescheduled following state shutdown

On October 26 and 27 the Lab Committee held its annual seminar in St. Peter and attracted 45 people. The seminar was rescheduled from June due to the state shutdown affecting regulatory staff involvement. Part of this year's seminar included the required ethics training and an informational discussion on e-DMR reporting and procedures. Patti Mettler, Lab Committee Chair, has dedicated countless hours in the past 10 years to keep this valuable training event going. Patti and the committee members deserve special thanks.

Committee guidance from across the Cheddar Curtain

With the way the Packers are playing this year, I thought it might be smart to take some pointers from the Wisconsin Section. Actually, at this summer's CSX event, the Wisconsin officers graciously mentioned that their section's web page includes some informative guidance documents related to committee development (<http://www.cswea.org/wisconsin/guidance/>) that they prepared a few years ago. At the section business meeting, I mentioned that these guidance documents are worth a review for both new

and returning committee chairs and members. The guidance documents provide a framework for setting committee goals and reporting committee activities.

Innovative approaches to operational problems: Next major event February 15, 2012

The next major event and business meeting for the MN Section will be at the Innovative Approaches to Operational Problems 29th Annual Conference, which will be held on February 15 at the Holiday Inn, in St. Cloud, MN. This conference is a co-sponsored event with the Minnesota Wastewater Operators Association (MWOA) and is in the final planning stages. Another exciting program is in the works and Dan Swanson, MN DNR, is slated as a keynote speaker and will provide a presentation about Exotic Invasive Species in Minnesota.

Blueprint Minnesota: Liquid Assets – Filming complete, in production, and airing this winter

The whole MN Section should be excited to hear that the filming of the *Blueprint Minnesota: Liquid Assets* documentary was completed this summer, is in production, and should be airing this winter on public television. The MN Section is a major sponsor of this project. This project is significant in raising awareness about how critical our wastewater, drinking water, and

stormwater infrastructure is to Minnesota. Please check out www.blueprintminnesota.com for updates and related information on the project.

2014 Annual CSWEA Meeting: Volunteers needed for MN Local Arrangements Committee

The Annual CSWEA Meeting will return to Minnesota in 2014 and it is not too early to start the planning for this large event. Patti Craddock is requesting that anyone interested in volunteering and being a part of the local arrangements committee please contact her at pcraddock@sehinc.com.

Get involved through a committee or by nominating someone for an award

Thanks for taking the time to read this MN Section update, and thanks to all the dedicated members. I am continually impressed by the involvement of many new and old members and encourage all members to get involved again or for the first time. All of the committees will gladly welcome new members. Additionally, if you know someone who deserves some extra credit for what they do, please take a look at the link for awards at www.cswea.org/awards and feel free to call or email me (jfriel@sehinc.com) or any committee chair to make a nomination. Stay warm and enjoy the holidays! **CS**

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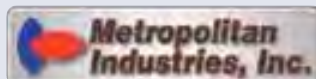


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Van Bergen & Markson, Inc.	58	800-422-0791	
Walker Process Equipment	59	800-9WALKER	www.walker-process.com
WSB & Associates, Inc.	56		www.wsbeng.com

Central States Water would not be possible without the advertising support of these companies and organizations. Please think of them when you require a product or service. We have endeavored to make it easier for you to contact these suppliers by including their telephone numbers and, where applicable, their websites. You can also go to the electronic version of **Central States Water** at www.cswea.org and access direct links to any of these companies.



CSWEA Associate Membership Application 2012

Contact Information

Last Name	MI	First Name	(Jr., Sr., etc.)
Business Name (if applicable)			
<input type="checkbox"/> Business Address <input type="checkbox"/> Home Address Street or PO Box			
City	State	Zip	Country
Home Phone Number	Business Phone Number		FAX Number
E-mail Address			

Employment Information

Employer	Job Title
Environmental Focus	Other focus or interest (please specify)
Signature (required for all new memberships)	Date

Associate Membership in Central States Water Environment Association

CSWEA Associate Membership Benefits include: Central States Water Magazine and Member price for CSWEA and Section Events	Dues cover a one year period, and must be renewed annually.	DUES
<input type="checkbox"/> I am a Young Professional (35 yrs or younger, less than 10 work experience) <input type="checkbox"/> Please send me info on YP Events	Renewal notices will be sent one month prior to anniversary date.	\$ 25.00

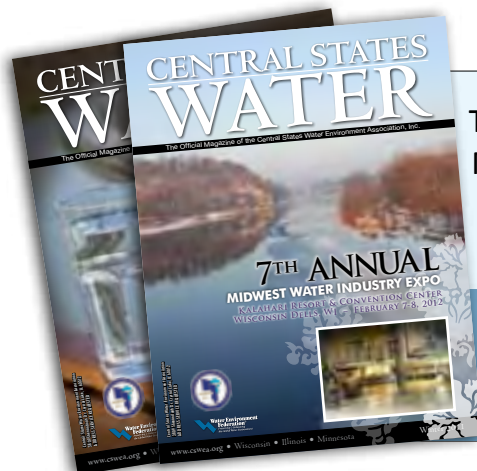
Payment Information

☐ Check/Money Order enclosed. Make check payable to Central States Water Environment Association.

OR Visit www.CSWEA.org to join on-line and pay by credit card.
 Visa, Master Card & American Express Accepted.

Mailing Information

Send Form & Payment to: Central States Water Environment Association, 3809 Shenandoah Drive, Crystal Lake, IL 60012
 Call 815-954-2714 for additional information or visit www.CSWEA.org



To reach water industry professionals in Minnesota, Illinois and Wisconsin through **Central States Water** magazine and its targeted readership, please contact me at

1-866-985-9782
awhalen@kelman.ca



Al Whalen
 Marketing Manager

Last Name		MI	First Name		(Jr., Sr., etc.)	
Business Name (if applicable) <input type="checkbox"/> Business Address <input type="checkbox"/> Home Address						
Street or PO Box						
City		State		Zip	Country	
Home Phone Number		Business Phone Number		FAX Number		
E-mail Address						
<input type="checkbox"/> Please send me information on special offers, discounts, training, and educational events, and new product information to enhance my career. <input type="checkbox"/> by email / <input type="checkbox"/> by fax Member Association (MA) Choice: Central States Water Environment Association						
Employment Information						
Employer Code		Other (please specify)		Job Title Code	Other (please specify)	
Environmental Focus				Other (please specify)		
Signature (required for all new memberships)					Date	
Sponsorship Information						
WEF Sponsor Name & Sponsor ID Number:				ACQ.Code for WEF use Only GENI		
Membership Information						
Membership Categories <i>Select one only</i>		Member Benefit Subscriptions Include			DUES	
<input type="checkbox"/> Professional (Active)					\$ 113.00	
Individuals involved in or interested in water quality		✓ WE&T (including Operations Forum)				
		✓ WEF Highlights Online				
		✓ Central States Water Magazine				
<input type="checkbox"/> Young Professionals Package					\$ 67.00	
YP=<35 yrs of age, < 10 yrs work experience can receive 50% discount for 1st three years of membership		✓ WE&T (including Operations Forum)				
		✓ WEF Highlights Online				
		✓ Central States Water Magazine				
<input type="checkbox"/> Professional WW Operations (PWO)					\$ 72.00	
Individuals involved in the day-to-day operation of wastewater collection, treatment or laboratory facility, or for facilities with a daily flow of < 1 mgd or 40 L/sec.		✓ WE&T (including Operations Forum)				
		✓ WEF Highlights Online				
		✓ Central States Water Magazine				
<input type="checkbox"/> Student					\$ 40.00	
Students enroll for a minimum of six credit hours in an accredited college or university. Must provide written documentation on school letterhead verifying status, signed by an advisor or faculty member.		✓ WE&T (including Operations Forum)				
		✓ WEF Highlights Online				
		✓ Central States Water Magazine				
<input type="checkbox"/> Corporate					\$ 370.00	
One person is entitled to receive member benefits. Companies engaged in the design, construction, operation or management of water quality systems. Designate one membership contact.		✓ WE&T (including Operations Forum)				
		✓ Water Environment Research (Print)				
		✓ Water Environment Regulation Watch				
		✓ WEF Highlights Online				
		✓ Central States Water Magazine				
Executive					\$ 315.00	
Upper level managers interested in an expanded suite of WEF products/services.		✓ WE&T (including Operations Forum)				
		✓ World Water & Environmental Engineering				
		✓ Water Environment Research (On-Line)				
		✓ Water Environment Regulation Watch				
		✓ Utility Executive				
		✓ Biosolids Technical Bulletin				
		✓ Central States Water Magazine				
Additional Subscriptions						
Consider including additional WEF resources in your membership package! Check the appropriate subscription and include the subscription cost in your payment. NOTE: Prices listed reflect a substantial member discount!		<input type="checkbox"/> WE&T (including Operations Forum)			\$55.00	\$
		<input type="checkbox"/> World Water			\$75.00	\$
		<input type="checkbox"/> World Water (Water Reuse and Desalination)			\$55.00	\$
		<input type="checkbox"/> Water Environment Research Online: \$75, Print: \$100, Both: \$125				\$
Payment						
<input type="checkbox"/> Check/Money Order enclosed		<input type="checkbox"/> Charge		Credit Card Number		
(Made payable to WEF in US funds)		<input type="checkbox"/> VISA		Exp. Date		
		<input type="checkbox"/> American Express		Signature		
		<input type="checkbox"/> MasterCard		Daytime Phone		
				TOTAL DUE	\$	
Mailing Information						
Send Form & Payment to: Water Environment Federation • Member Service Center • PO Box 18044, Merrifield, VA 22118-0045 For more information, call 1-800-666-0206 (U.S. and Canada) or + 1-703-684-2452 (all other countries) • Fax + 1-703-684-2428 • www.wef.org						

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