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

88TH ANNUAL MEETING *Recap*

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Section News

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Managing Editor: Cheryl Parisien, *cheryl@kelman.ca*
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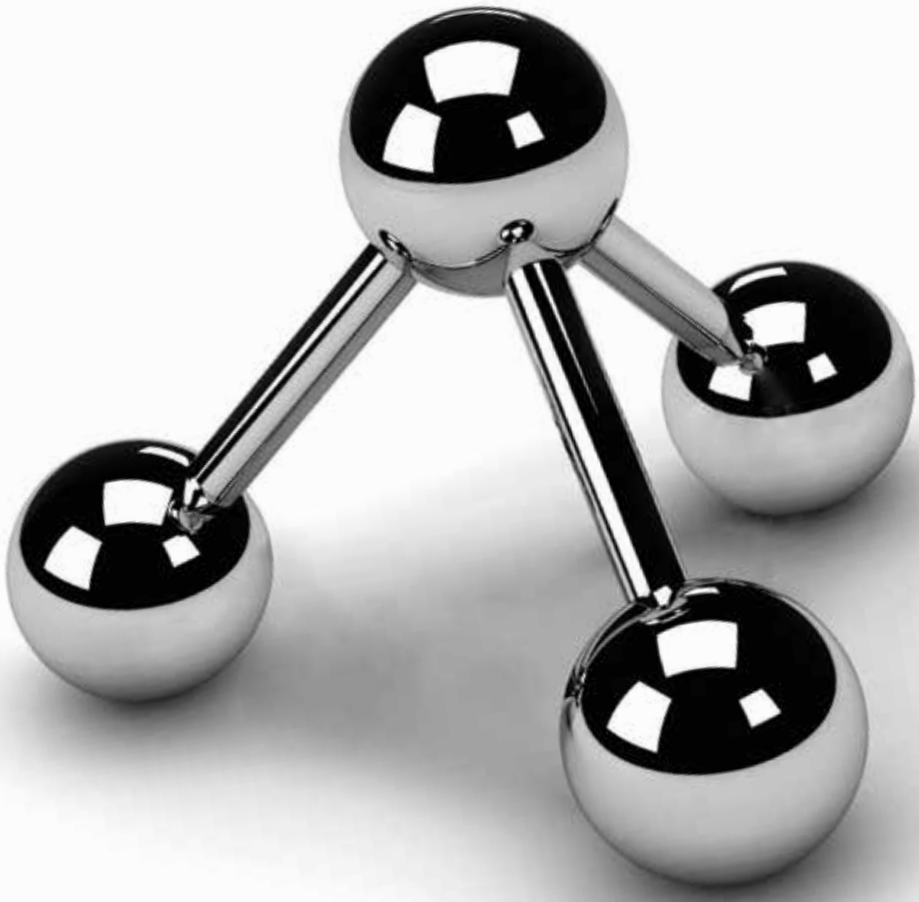

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Drag Someone Along

By Keith Haas

I am honored to begin my term to serve as your president for the next year. Just like the rest of you, it was no accident that I became a member of this great organization. We can all look back and recall how that came about and as they say "the rest is history." In my case, my former boss dragged me along to attend a CSWEA meeting. He exposed me to several meetings and conferences each year until it became an annual ritual and a permanent event on my annual calendar. It did not just happen; someone had to drag me along with them. Attendance at these meetings was critical to my successful career path in the wastewater field. I was thrust into a profession with a steep learning curve and little time to prepare.

I attended Government Affairs conferences in Madison where I quickly learned how the EPA and DNR influenced what we do each day through WPDES permits and other federal mandates. I attended collection system seminars and workshops where I learned about inflow and infiltration and how to mitigate their effects. I also participated in workshops and management seminars. At each one of these events, I was either introduced to or met so many influential people that my knowledge base was greatly enhanced in an accelerated fashion. I met state regulators, fellow managers and wastewater superintendents, engineering consultants, academic professors and equipment representatives. All of these contacts that I made were crucial to my success in my new position at work.

> "As I begin my term as your leader and mentor for the next year, I challenge each one of you to drag at least one person to one event this next year. We owe it to our profession, our organization and to our local community to nurture and expand the knowledge base in our local area."

This was all made possible because someone took the time to drag me along. So as I begin my term as your leader and mentor for the next year, I challenge each one of you to drag at least one person to one event this next year. We owe it to our profession, our organization and to our local community to nurture and expand the knowledge base in our local area. Someday you may be able to look back on the efforts that you made and tell someone, that you helped mold and shape a certain wastewater professional by dragging them along to a CSWEA event. That small effort on your part may have made a huge difference in their life and career. You might think that you can't spare the time for that individual to be away from work for the day, but in reality if you fail to prepare them for the future, they won't be ready when the time comes for you to retire or move on and ready them for the responsibility to take your place.

Let's get busy. CS

HAAS BIO

Keith received his BSCE from the Univ. of WI Platteville in 1979. He worked for the US Army Corps of Engineers in Rock Island, Illinois on flood control projects and navigation rehabilitation projects on the Illinois Waterway and Mississippi Rivers for the next 14 years. He received his MSCE from the Univ. of Illinois – Champaign Urbana in 1985. In 1993, he returned home to Racine, WI to serve as the Asst. Commissioner of Public Works. In 2000, he was promoted to be the Chief of Operations of the Racine Water and Wastewater Utilities. In 2007, he was promoted to the GM position, where he remains today. Keith also served as the Chair of the Wisconsin Section of CSWEA before taking his role in the current CSWEA rotation and serving as the current president. In his spare time, Keith enjoys sailing, iceboating and perennial gardening.

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WEF Constitution and Bylaws Proposed Amendments

By Eric Lecuyer and Doug Henrichsen

Article 10.2.1 of the WEF C&B requires that amendments to the C&B be approved by the WEF membership, with 5% of the membership representing a voting quorum *(Article 8.5.3)*.

The WEF Board of Trustees is pleased to present the following proposed modifications to the Constitution & Bylaws (C&B). These changes are intended to clarify roles and processes, help WEF be flexible and responsive to member needs, and enable us to meet the Critical Objectives of our Strategic Plan.

These modifications have been a collaborative effort, with review and input from the C&B Committee, House of Delegates Steering Committee, the Committee Leadership Council, and the Board Governance Committee.

We request your support of these changes that will foster greater engagement with our membership, maintain our strategic focus, and place WEF on a successful path to serve the water sector of the future. Your vote is important! We ask that you encourage members to vote in support of these changes as well.

Please visit *http://wwwwefnetorg/onlineform/surveysconstitutionbylaws2015/* to read the summary of the proposed modifications, review the complete set of changes proposed to the C&B, and cast your vote.

If you have any questions about the proposed changes, please contact Pam Henry at *phenry@wef.org*. We will ensure that you receive a quick response.

To view the full text of the WEF Constitution & Bylaws, marked with proposed modifications please visit: *http://www.wefnet.org/onlineform/surveys/constitutionbylaws2015/WEF_CB_Proposed_Mods_redline_041015.docx*

Voting will remain open until a quorum of WEF Members voting has been reached and we encourage you to vote to support the proposed amendments.

WEF LEADERS ATTEND CSWEA'S 88TH ANNUAL MEETING

WEF President-Elect, Paul Bowen, and **Linda Kelly, Sr. Director, Association Engagement & Governance on WEF's staff** visited CSWEA's 88th Annual Meeting this May. Paul provided direction as to where WEF is going in the future as an organization. Linda provided insight into working with staff, as well as presented on personality styles during the leadership track of the conference as well as at the Leadership Academy on Monday.

WEFMAX 2015

The locations and dates for WEFMAX 2015 were as follows:

- April 15-17, 2015: Virginia Beach, VA (Host was Virginia WEA)
- April 29-May 1, 2015: Kansas City, MO (Host was Missouri WEA)
- May 13-15, 2015: Coeur d'Alene, ID (Host was Pacific Northwest CWA)
- May 27-29, 2015: Quebec City, Canada

As of this report, the 2015 WEFMAX meetings have been completed, with WEF Delegates Eric Lecuyer and Doug Henrichsen attending WEFMAX events in Quebec City and Coeur d'Alene, respectively. Mohammed Haque, CSWEA Executive Director, also attend WEFMAX in Virginia Beach. A summary of the WEFMAX events is provided below.

WEF Vice President Rick Warner led off the discussions by providing an excellent update to summarize WEF's strategic direction to improving its business operations. A lot of items are being worked on by WEF to streamline the business, including an update to the Constitution and Bylaws. It was mentioned that all WEF Members should have had the opportunity to vote on the amendments. **Jamie Eichenberger, HOD Speaker Elect**, also provided an update to the House of Delegates, and described the anticipated direction for the House of Delegates in 2016. **Diane Crilley, WEF Staff**, also provided information related to the MA Engagement Team, and **Jenn Lachmayr, House of Delegates**, provided an update to the HOD Leadership Development WG.

During the MA dialog sessions, the following topics were covered: Financial Stability, Membership, Leadership Development, Student and YP Development and Student Chapters as well as updates provided on WEF's many ongoing initiatives.

Many MAs are dealing with similar problems, including doing more with less, and competing for dollars in an ever competitive market. At Coeur d'Alene, Doug presented on CSWEA's leadership development activities, including our: organizational background, YP Leadership Academy, Student Design Competition, flat rate utility pricing, CSX, Global Water

"Later this year, the Budget Committee's MA Survey will be retooled so that it is more understandable, easier to complete, and clearly defines spending categories on a programmatic level."

Stewardship, Minnesota Liquid Assets, and other items. Many MAs around the country were very impressed with the leadership activities that CSWEA has put in place.

WEFMAX is a great opportunity for MA leaders from around the country at all levels to learn more about WEF and what other MAs are doing and we would encourage all CSWEA leaders at the association and State Section level to attend future WEFMAX's whenever possible. For 2016, the following MA's have been selected to host a WEFMAX event:

- Florida WEA
- Pennsylvania WEA
- Illinois WEA
- Rocky Mountain WEA

Final locations for each 2016 WEFMAX have yet to be determined.

WEF HOD STANDING COMMITTEES AND WORK GROUP UPDATE

The HOD Standing Committees and Work Groups (WG) formed for 2014-2015 are:

- MA Leadership Development
- MA Sustainability
- Operators of the Future
- Water Advocacy/ Value of Water (VOW)

Eric Lecuyer continues to serve on both the Budget Committee and the MA Sustainability WG. Doug Henrichsen also serves on the Budget Committee, and the MA Leadership Development WG. Many of the Work Group tasks are inward looking, how we can improve the House of Delegates, WEF, and better support MA's success and sustainability. A brief summary on the work being conducted by each WG is provided below.

BUDGET COMMITTEE

For the Budget Committee, the primary task is to report to the HOD on how WEF's annual budget aligns with the strategic plan and provide feed-back to both the Board of Trustees and Member Associations on funding priorities. For the first time ever, the HOD Budget Committee will be meeting, in conjunction with the Committee Leadership Council with WEF leaders at the Mid-Year meeting in Chicago in order to better understand the relationship between WEF's spending and the strategic plan and how the budget aligns with the strategic plan and supports critical objectives. Later this year, the Budget Committee's MA Survey will be retooled so that it is more understandable, easier to complete, and clearly defines spending categories on a programmatic level. The goal is to create a tool that will result in high value MA feedback that clearly reflects our members' budget priorities.

MA SUSTAINABILITY

The MA Sustainability WG continues to work to create a repository of sample fiscal policies to assist MA's in maintaining sound business practices and is looking for ways that MAs can diversify revenue streams and increase income. The goal of this workgroup is to provide valued and readily accessible guidance to MA leaders for both small and large MAs on best management practices that can be easily edited to fit their particular needs.

MA LEADERSHIP DEVELOPMENT

The MA Leadership Development WG is in the process of developing a web-based guidance document and PowerPoint Presentations that will focus on leadership training needs for all MAs. These documents will summarize WEF's direction, as well as provide examples from MAs around the country as to what is working for them. This new Leadership Development Guidance document is planned to be available to MAs prior to WEFTEC in late September 2015.

The top areas of need for Leadership Development for MA's, as determined through a survey distributed by the HOD (2014), are as follows:

- Expanding member engagement and retention (43%)
- Preventing Burnout of Volunteers (40%)
- Strategic planning (37%)

The chapters for the new Leadership Development Guidance Document will be as follows:

- Chapter 1, Membership Recruitment
- Chapter 2, Membership Retention
- Chapter 3, Preventing Burnout
- Chapter 4, Operator Engagement
- Chapter 5, Young Professionals
- Chapter 6, Community Outreach

Throughout the year, the WG has also been presenting status of the various chapters through a webinar series using PowerPoint presentations.

A link to these webinar presentations that have already occurred is: *http://www.wef.org/Members/page_ma_detail.aspx?id=6442451557*

In 2016, the MA Leadership Development WG is planning to continue to develop new chapters for the Leadership Guidance Document. Stay tuned. CS

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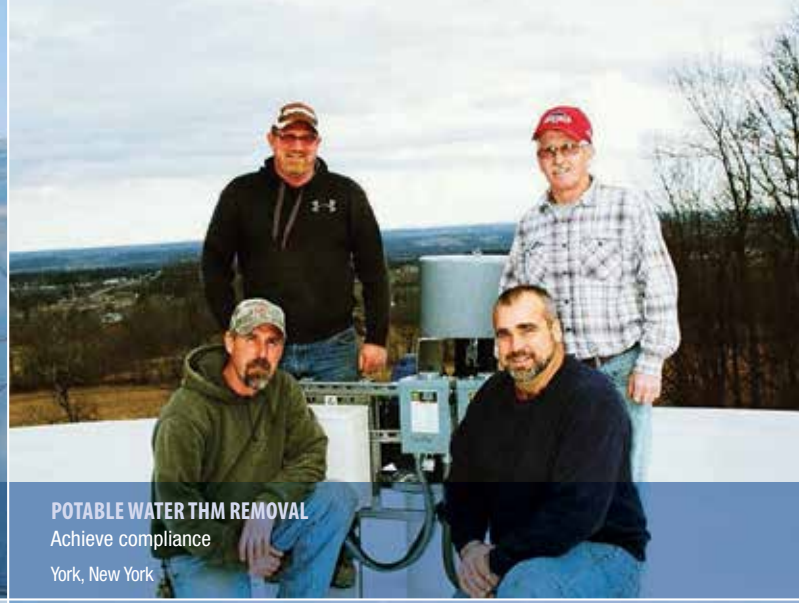

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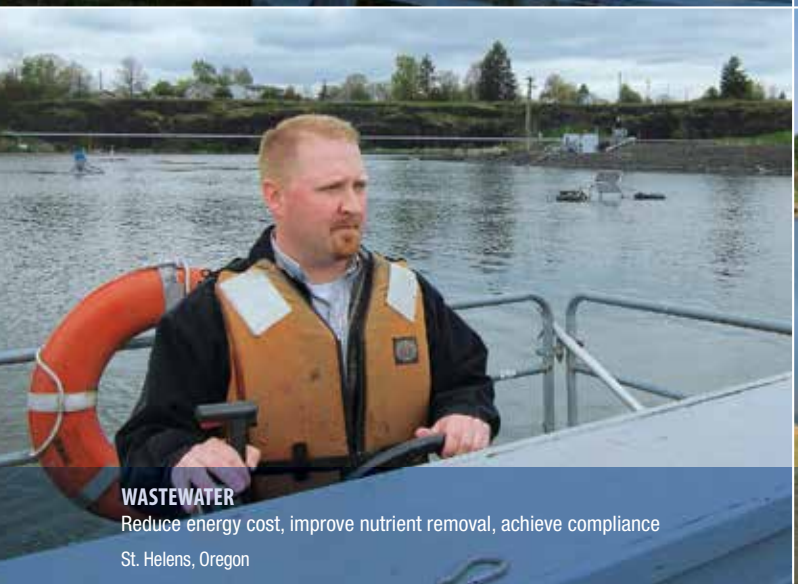

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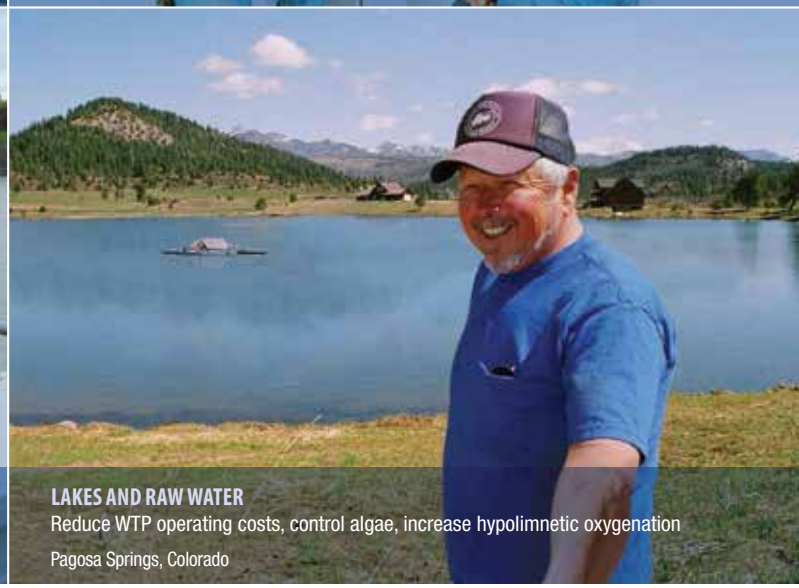

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Dreaming Big, Doing Right

By Mohammed Haque

I've often been guilty of dreaming bigger than current circumstances allow. I figure that the bigger the goal, the more satisfying the endeavor and the sweeter the gratification once you reach your milestone. We all need goals and aspirations. They keep us motivated and moving along in our careers and everyday lives.

Back in 2013, one of those goals was to try to get our annual meeting attendance from 350+/- to 600 by 2016. This was a very lofty goal and one that even I did not think we would get close to meeting. However, through a lot of support from all of our volunteers (especially our Local Arrangements Committee) and the trust and support of our Executive Committee, we were able to reach 567 attendees at our 2015 Annual Meeting. It was massive growth and created numerous challenges, but getting over 500 was really remarkable. To those who supported CSWEA and came to our annual meeting, a big THANK-YOU. We hope you had a great conference and got great value out of it. We strived to provide value to many professionals across the water spectrum and we hope that we did not disappoint you. We welcome all feedback and feed off of constructive criticism, so please send your ideas and advice our way, so that we can continuously improve to meet your needs.

The 88th Annual Meeting at Oakbrook Terrace featured speakers that I was very delighted to see. Our keynote, Leo Burke, was one of my favorite professors, and having him speak passionately about water and our profession was very touching. Leo took us on a journey about water throughout the globe, and through that journey we learned the challenges and opportunities that water presents worldwide. Water is one of those things that is common to every living organism on this planet, and Leo's journey reminded us of that commonality and of the responsibility that each of us has to preserving clean water as a resource for future generations. The leadership and ethics presentations that were conducted by Linda Kelly, Bob Jonas and Peter Burchard were extremely refreshing. In a technical world, it is good to be reminded of these soft topics that are at the fundamental core of our careers, how we manage and the cultures that we have at our workplaces. While our technical content at the Annual Meeting is second to none, topics such as leadership, ethics and innovation invigorate the passion that we need for our industry. They allow us to dream bigger, seek out new opportunities and reach greater milestones.

One of those big thoughts has been the Global Water Stewardship (GWS). CSWEA is fortunate to have started what was an idea in 2013, into what has become one of our greatest social/humanitarian outreach efforts. In 2013, we wanted to take our talents as water professionals and help solve water issues globally. We have made tremendous steps towards that and the Global Water Stewardship is the platform that allows us to do it. This year marks the first focused fundraising for GWS that we did at the annual meeting. A big thanks to Amanda Heller, Matt Streicher, Eric Lynne, Mike Holland and Rich Hussey for all their efforts towards the March Madness Fundraiser, Tuesday Social Raffle and the Silent Auction. We were able to raise close to $4,000 that will be used towards meeting GWS goals of delivering wastewater solutions to Piedras Blancas and Bahia Ballena, Costa Rica. In addition, this year we put together a new award that honors those individuals who have made significant humanitarian contributions for water. Our own David Arnott was the first recipient of the new Water Stewardship Award. In 2013, this all was just a dream, but in 2015 it has become a real effort and one that makes us proud to be part of CSWEA. The GWS is one of our biggest committees and we welcome all new comers. The group is looking forward to going to Costa Rica from August 16-22 to continue our work in Piedras Blancas and Bahia Ballena. Thanks to all of you who participated in the raffle and the silent auction at the Annual Meeting.

Your support of this endeavor is greatly appreciated.

Dreaming big should be encouraged and we should all support those that dream big, have devotion and are seeking to do the right thing. They are worthy of our support and we should encourage them. By doing so, you are becoming the leader that others aspire for.

After the annual meeting, the Haque family left the Midwest for an adventure out west. We took in the sights of the Grand Canyon, Monument Valley and Zion National Park. If you have never seen these sites, I highly recommend them. These places are truly remarkable wonders that leave you completely in awe.

On the tail end of our trip we stayed at a place called Lake Las Vegas Resort. While the place is beautiful, it is a case of someone Dreaming Big, but Doing Wrong. I have never seen such a waste of water in a desert. Do we really need waterfalls in the desert and were golf courses really meant to be in areas where the temperature can easily top 110 degrees F? While I love waterfalls and enjoy my fair share of a great golf course, I really felt that this place was wasting a precious resource in the desert – WATER. It takes a lot to keep grass green in the desert, and it appears that whoever dreamt big enough to create the Lake Las Vegas Resort, didn't have the foresight to see that wells can run dry as California is learning this year. So as you dream big, make sure you are doing right. CS

2015 EDUCATION SEMINAR

The 2015 Education Seminar featured a program focused on nutrients. The seminar highlighted several aspects of nutrient removal in our industry, including innovation, anammox, fermentation, struvite harvesting, low energy nitrification, and low level phosphorus removal. Regulatory updates from Illinois, Minnesota, and Wisconsin shared the current status of nutrient regulations in each state coupled with a big-picture talk that presented regulatory updates on a national perspective.

It is clear that nutrients remain a hot topic in our industry. All three CSWEA states are facing evolving nutrient regulations for phosphorus and nitrogen. The seminar was well attended, and guests enjoyed hearing from top-notch speakers all around. In case you missed it, you should consider participating in the webinar. The 20th Annual Education Seminar will be produced as a webinar available for purchase through the CSWEA website, *www.cswea.org*.

"The seminar highlighted several aspects of nutrient removal in our industry, including innovation, anammox, fermentation, struvite harvesting, low energy nitrification, and low level phosphorus removal."

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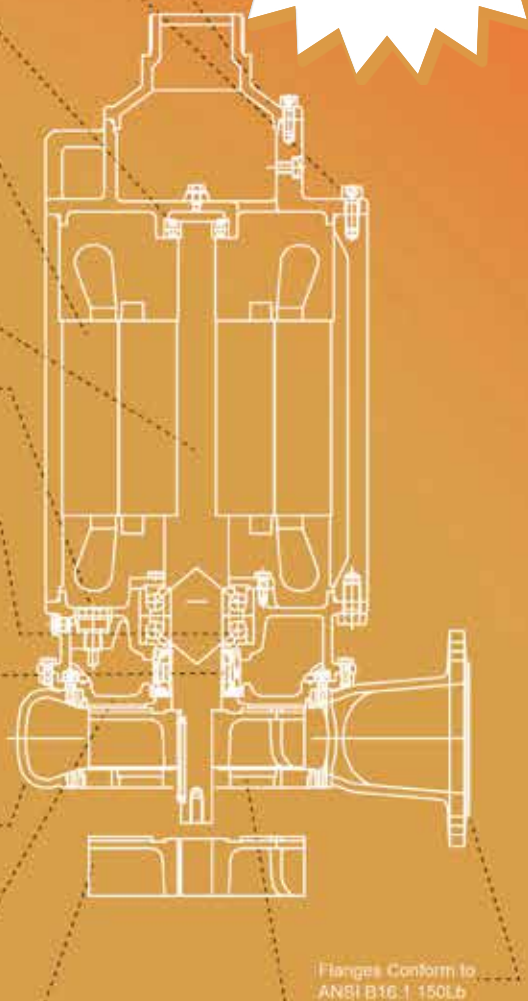

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88TH ANNUAL MEETING Recap

P.I.E. By Jim Huchel, Past President

Did you attend our 88th annual meeting in Oakbrook this past May? If you did, we hope that it provided you the opportunities you were searching for. If not, please contact me and I will pass it on to next year's committee. We appreciate your attendance and your opinions on how to improve this event. I need to thank the many volunteers, who without them, this conference could not take place. I would like to take this time to thank them all for their efforts and a great show.

Our annual event started with our keynote speaker, Leo Burke, whose presentation set the stage for our meeting. His presentation on our roles global water stewards was motivating. The technical sessions, ethics track and the utility leadership were all excellent. A big success this year was the utility pricing, which allowed us to have the most attendance of any annual meeting to date.

Our group provides many options at these meetings for anyone, from students to seasoned professionals. We look to you to help keep this push moving into the future. We always look for people to assist and give their input to increase the value of this meeting. That person could be you next year. Participate in the organization, Educate people on water issues, or Inspire someone to get involved.

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CSWEA Service Awards

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Brandon Koltz
WI Trustee '13-15

Todd Carlson
PWO Representative '13-15

Mary Dressel
Laboratory Chair '14-15

Jillian Goodlove
Local Arangements Chair '14-15

Amy Haque
CSWEA Deputy Director

Laboratory Analyst Excellence Award

Montgomery Baker
Madison Metropolitan Sewerage District

William D. Hatfield Award

Eric R. Lecuyer
Northern Moraine Wastewater Reclamation District

Arthur Sidney Bedell Award

Randall A. Wirtz
Strand Associates

George W. Burke, Jr. Facility Safety Award

Crystal Nicolai
Western Lake Superior Sanitary District

WEF Service Awards

Jim Huchel
CSWEA President '14-15

Ralph "Rusty" B. Schroedel
WEF Delegate '12-14

Operations Awards

Erik Lanphier
Glenbard Wastewater Authority, IL

Kris August
Kiel, WI

Henry Morgan
Fairbault, MN

AWARD WINNERS *continued*

Collection System Awards

Matthew Streicher
Wheaton Sanitary District, IL

Robert W. Lecey
Energenecs, WI

Dianne Mathews Western Lake Superior Sanitary District, MN

Water Stewardship Award

David Arnott
Ruekert - Mielke

Bill Boyle Educator of the Year Award

Daniel Zitomer
Marquette University

George W. Burke Jr. Facility Safety Award

Western Lake Superior Sanitary District

Gus H. Radebaugh Award

Jeremy Bril, Jane Carlson and John Leonhard
"Evaluating the Options for Phosphorus Compliance: The City of Fond du Lac Water Pollution Control Plant's Experience"

Academic Excellence Awards

Gurmanpreet Bhupal
Illinois Institute of Technology

Diana Byrne
University of Illinois – Urbana Champaign

Han Gao, Northwestern University

Lance Langer
University of Illinois – Urbana Champaign

Not pictured:

Laura Haak
Illinois Institute of Technology

Zeying Zhu
Southern Illinois University – Carbondale

Young Professional of the Year Award (Not pictured)

Leon Downing
Donohue & Associates

Congratulations Winners!

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Industrial Environmental Achievement Award

Forest County Potawatomi Community – Crandon, WI

Kelman Scholarship Award

Sara Breitzman, Andrea Dunn, Matt Fueston, Sarah Walsh, Marquette University
"Southeastern Wisconsin Regional Resource Recovery Facility"

Not pictured: **Andrea Dunn, Sarah Walsh**

Student Design Competition

Wastewater Design
Sarah Beam
Bryce Corrigan
Josh Koopmann
University of Wisconsin – Platteville
"Baraboo, WI Wastewater Treatment Facility Design"

Environmental Design
Professor Michael Penn
Dylan Friss
Devin Peterson
Curtis Veit
University of Wisconsin – Platteville
"Costa Rica Wastewater Management: Piedras Blancas Collection and Treatment"

$1,000 Scholarship

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CSWEA LEADERSHIP ACADEMY

CSWEA held its Fifth Annual Leadership Academy on May 18 in the morning, prior to the golf outing and plant tour at the Annual Conference in Oakbrook Terrace, Illinois. The seminar had 19 participants from various backgrounds ranging from young professionals attending their first annual conference to experienced professionals looking to hone their leadership skills. There were many new faces along with some repeat attenders but interestingly enough of the 19 attendees, 12 were from municipalities taking advantage of the utility pricing. We again noticed a boost in the Illinois member attendance, showing the benefit of rotating the Academy between the three states.

This year's goal was to keep the technical presentations with the conference agenda and stay focused on leadership topics. Additionally, the timing was changed to allow for attendees to take advantage of the afternoon events like the golf outing or the plant tour. Mike Holland started off the Academy with a riveting presentation, excitingly titled *What is CSWEA and How to Get More Involved*. However, the real goal of this was to answer some of the questions about CSWEA that he had when he first got involved, like "what's with those shovels I keep seeing people wearing" or "how much does it cost to run CSWEA." During this time the Executive Committee also paid a visit to introduce themselves, and what each one's role on the executive committee is responsible for.

After everyone was all worked up into a frenzy of excitement from Mike's presentation, we went right into speed-networking. This gave everyone a chance to have a 3-4 minutes one-on-one conversation with the other attendees before the bell rang to rotate to the next person. It was a great ice-breaker, and easy way to get to meet new people.

After the break there were two leadership-focused presentations. First up was freelance writer, Kevin Sutherland, speaking about *Critical Leadership Principles*. Kevin maintains a leadership blog (*kwsleadership.wordpress.com*) and spoke to the group about fundamental aspects of leadership and what happens when we fail in those fundamentals. It was a great presentation that was especially applicable to the group since it was coming from a writer who is also a P.E. in the water/wastewater industry.

Our final presenter was Linda Kelly with WEF speaking on *Successful Communications with All Types of People*. This precursor to Linda's presentation during the Leadership track on the following day at the Annual Meeting did not disappoint. Linda identified the traits, characteristics, and management styles of the different types of leaders and how to work with these types of individuals. It was a great talk given by a great presenter, and left everyone in the room trying to identify which type of leader they are (and their boss is).

Special thanks goes out to the presenters again for their time and effort, and to Jillian Goodlove, LAC Chair and Academy attendee, for the help in planning the event. In its fifth year running, the Leadership Academy is still going strong as a beneficial event to those interested in developing their leadership skills. We're looking forward to another great event next year in Madison.

TUESDAY NIGHT SOCIAL

The Tuesday Night Social was a big hit this year at the nearby Pinstripes facility. Members in attendance were able to network while enjoying great food and drinks with the opportunity to play bocce ball or sit around the bonfire outside. A special bonus again was being able to watch the Chicago Blackhawks in the playoffs. A tremendous success and something new this year was a raffle to help raise funds for the CSWEA Global Water Stewardship. The raffle sales met the GWS goal of $2,000 dollars, and three lucky winners got to take home gift cards. We appreciate everyone who contributed. A big thank-you to our sponsors Xylem – Flygt, Michels Corporation, Baxter & Woodman, and Foth Infrastructure & Environment.

GLOBAL WATER STEWARDSHIP

GOLF OUTING

The 2015 CSWEA annual golf scramble was held on Monday afternoon, as usual. We played Maple Meadows Golf Club and the weather was sunny and windy. We had a great turn out for the outing, and despite the wind, several foursomes were able to shoot some pretty low scores. Prizes were given for the lowest overall score, high score, closest to the pins on four par 3s, and one long drive. The outing was a great success and we raised a lot of money for many worthwhile CSWEA activities.
A special thanks to the golf event sponsors:

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5K RUN/WALK

Eighteen runners participated in the 2015 Annual Conference 5K Run/Walk. This year's scenic route took the runners down a portion of the Salt Creek Greenway Trail. The run/walk began on the frontage road, just south of Roosevelt Road and minutes from the conference hotel lobby. The runners ran approximately one half-mile along the frontage road and then entered the York Woods Forest Preserve where the participants were able to enjoy Mother Nature at her best. While within the forest preserve the winds were kept to a minimum, which made the run/walk much more enjoyable as the weather for the morning of May 19 was in the mid 40s with gusty winds. Some participants were able to catch a glimpse of a small herd of deer; while others were afraid the deer would not get off the trail and they would be attacked as they ran past. All is well that ends well, no one was attacked by deer and the feedback regarding the trail were positive. The following 5K run/walk participants were presented with medals for finishing top three.

Amanda Heller	Gold Medal	21:04
Gerhard Forstner	Gold Medal	21:04
Tracy Hodel	Silver Medal	21:59
Steve Reusser	Bronze Medal	22:01

A big thank-you goes out to Jason Neighbors and Erik Lanphier for volunteering their time, and a special thank you to the RJN Group for generously being the sole sponsor for the event.

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GOLDEN MANHOLE WINNERS

John Manijak, Linda Kelly, Mike Holland (Chairman), Paul Bowen (not pictured: Wade Kingsporn and Tim Zimmerman).

7S WINNERS

Linda Kelly, Julie McMullin, Daniel Zitomer, James Shaw (Influent Integrator), Christopher Buckley, Paul Bowen and Todd Sheridan (not pictured Tracy Hodel and Tracy Ekola).

CONFERENCE PHOTOS

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2015-2016 CSWEA EXECUTIVE COMMITTEE

President
Keith Haas
Racine Water & Wastewater Utility
262-636-9181
keith.haas@cityofracine.org

1st Vice President
Patricia Oates
Metropolitan Council Env. Services
651-602-4915
patricia.oates@metc.state.mn.us

2nd Vice President
Sue Baert
Wheaton Sanitary District
630-668-1515
baert@wsd.dst.il.us

Treasurer
Tim Tack
Lai Ltd.
847-392-0990
ttack@lai-ltd.com

Immediate Past President
Jim Huchel
City of Crystal Lake
815-459-2020 Ext 4168
jhuchel@crystallake.org

WEF Delegate '16
Eric Lecuyer
Northern Moraine Wastewater Reclamation District
847-526-3300
elecuyer@nmwrd.org

WEF Delegate '17
Doug Henrichsen
Brown and Caldwell
651-468-2077
dhenrichsen@brwncald.com

PWO Representative '17
Todd Sheridan
Northern Moraine WRD
847-526-3300
tsheridan@nmwrd.org

YP Representative '16
Mike Holland
DeKalb Sanitary District
815-758-3513
mholland@dekalbsd.com

Illinois State Section Trustee '17
Mark Eddington
DeKalb Sanitary District
815-758-3513
meddington@dekalbsd.com

Minnesota State Section Trustee '16
Jason Benson
AE2S
612-280-2273
jason.benson@ae2s.com

Wisconsin State Section Trustee '17
Randy Wirtz
Strand Associates, Inc.
608-251-4843
randy.wirtz@strand.com

Executive Director
Mohammed Haque
CSWEA
855-692-7932
mhaque@cswea.org

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STANDING COMMITTEES

Administrative Year 2015-2016
updated on June 24, 2015

General Awards Committee

Illinois
Jim Huchel
City of Crystal Lake
815-459-2020 ext. 4168
jhuchel@crystallake.org

Sue Baert
Wheaton Sanitary District
630-668-1515
baert@wsd.dst.il.us

Rich Hussey
LAI, Ltd.
(847) 392-0990
rhussey@lai-ltd.com

Minnesota
Patricia Oates (Chair)
Metropolitan Council – Env Services
651-602-4915
patricia.oates@metc.state.mn.us

Tracy Hodel
City of St. Cloud
320-255-7226
tracy.hodel@ci.stcloud.mn.us

Wisconsin
Randy Wirtz (Bedell)
Strand Associates
608-251-4843
randy.wirtz@strand.com

Rick Pace (Hatfield)
Retired
262-497-4624
rickmarypace@yahoo.com

Tom Krueger (Radebaugh)
Village of Grafton (retired)
262-375-5330
krueger745@sbcglobal.net

Julie McMullin
Brown and Caldwell
414-203-2904
jmcmullin@brwncald.com

Academic Excellence Sub-Committee

Illinois
Sue Baert
Wheaton Sanitary District
630-668-1515
baert@wsd.dst.il.us

Minnesota
Patricia Oates (Chair)
Metropolitan Council – Env Services
651-602-4915
patricia.oates@metc.state.mn.us

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

Bedell Sub-Committee

Illinois
Tim Tack
LAI, Ltd.
847-392-0990
ttack@lai-ltd.com

Minnesota
Dennis Lindeke
MCES
651-437-4212
dennis.lindeke@metc.state.mn.us

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

Hatfield/Operations Sub-Committee

Illinois
Eric Lecuyer
Northern Moraine WRD
847-526-3300
elecuyer@nmwrd.org

Minnesota
Mary Fralish
City of Mankato
507-387-8665
mfralish@city.mankato.mn.us

Wisconsin
Rick Pace, Chair
Retired
262-497-4624
rickmarypace@yahoo.com

Radebaugh Sub-Committee

Illinois
Beth Vogt
Fox River WRD
847-742-2068
bvogt@frwrd.com

Minnesota
Stephen Greenwood
Retired (formerly with MCES)
651-489-0948
sjgreenwood@q.com

Wisconsin
Tom Krueger, Chair
Village of Grafton
262-375-5330
krueger745@sbcglobal.net

Local Arrangements Committee

Chair 2018 IL
Vacant

Chair 2016 WI
Mary Frances Klimek
Racine Wastewater Utility
262-636-9520
maryfrances.klimek@cityof racine.org

Chair 2017 MN
Tim Korby
Donohue & Associates
612-655-9878
tkorby@donohue-associates.com

Nominating Committee

Illinois
Jim Huchel
City of Crystal Lake
815-459-2020 Ext. 4168
jhuchel@crystallake.org

Minnesota
Patti Craddock
Short Elliott Hendrichson, Inc.
651-490-2067
pcraddock@sehinc.com

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

Technical Program Committee

Illinois
Derek Wold
Baxter and Woodman, Inc.
708-478-2090
dwold@baxterwoodman.com

Mark Eddington
DeKalb Sanitary District
815-758-3513
meddington@dekalbsd.com

Minnesota
Tracy Hodel
City of St. Cloud
320-255-7226
tracy.hodel@ci.stcloud.mn.us

Andy Bradshaw
City of Moorhead
218-299-5385
andy.bradshaw@ci.moorhead.mn.us

Wisconsin
Jeremy Cramer, Chair
City of Fond du Lac
920-322-3662
jcramer@fdl.wi.gov

Trevor Ghylin
Xylem-Sanitaire
414-365-2255
trevor.ghylin@xyleminc.com

Public Education Committee

Illinois
Zach Matyja
RJN Group
630-682-4700
zmatyja@rjn.com

Amanda Poole
Baxter & Woodman
815-444-3342
apoole@baxterwoodman.com

Minnesota
Craig Lincoln
Western Lake Superior SD
218-722-3336
craig.lincoln@wlssd.com

Wisconsin
Vacant

Students Committee

Illinois
Mike Holland, Chair
Dekalb Sanitary District
815-758-3513
mholland@dekalbsd.com

Minnesota
Anna Munson
Black & Veatch
952-896-0700
munsona@bv.com

Wisconsin
Bryan Viitala
Mulcahy Shaw Water
262-241-1199
bviitala@mulcahyshaw.com

Young Professionals Committee

Mike Holland, Chair
Dekalb Sanitary District
815-758-3513
mholland@dekalbsd.com

Illinois
Jillian Goodlove
Trotter & Associates
630-587-0470
j.goodlove@trotter-inc.com

Minnesota
Anna Munson
Black & Veatch
952-896-0700
munsona@bv.com

Wisconsin
Amanda Heller
Baxter & Woodman
815-444-3373
aheller@baxterwoodman.com

Global Water Stewardship Committee

Eric Lynne (Chair)
Donohue & Associates
920-803-7375
elynne@donohue-associates.com

Education Seminar Committee Roster

Rachel Lee (Chair)
Strand Associates
608-251-4843
rachel.lee@strand.com

Program Committee

Patrick McNamara (Chair)
Marquette University
414-288-2188
patrick.mcnamara@mu.edu

Rich Hussey
LAI, Ltd.
847-392-0990
rhussey@lai-ltd.com

John Borghesi
CH2M Hill, MN
651-365-8518
john.borghesi@ch2m.com

Mohammed Haque (Registration)
CSWEA
855-692-7932
mhaque@cswea.org

Steve Arant
Black & Veatch Corporation
414-223-0107
arants@bv.com

Corey Bjornberg (brochure)
Rochester WRP
507-328-2653
cbjornberg@rochestermn.gov

George Sprouse
Metropolitan Council Environmental Services
651-602-1000
george.sprouse@metc.state.mn.us

Dan Zitomer (Past Chair)
Marquette University
414-288-5733
daniel.zitomer@marquette.edu

Mark Eddington
DeKalb Sanitary District
815-758-3513
meddington@dekalbsd.com

Dimitri Katehis
Greeley and Hansen, IL
312-578-2495
dkatehis@greeley-hansen.com

Matt Allen (Local Arrangements)
Madison Metro. Sewerage District
608-222-1201 ext. 364
matta@madsewer.org

Bryan Davis (Publicity and Display)
Evoqua
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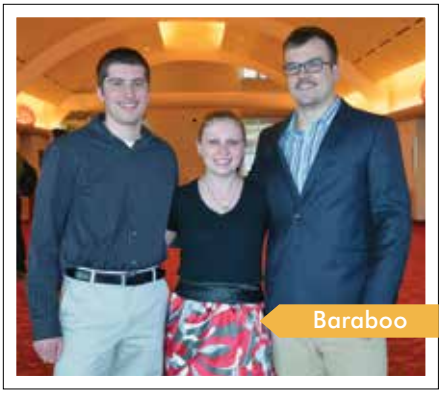
CSWEA Student Design Competition

April 6, 2015 at Monona Terrace, Madison, WI

The CSWEA Student Design Completion was held on April 6 at the Monona Terrace in Madison. The Student Design Competition is intended to promote "real world and hands-on" design experience for students interested in pursuing an education and/or career in water/wastewater engineering and sciences field. There are two levels of competition, conventional wastewater design, which includes traditional wastewater design project, and environmental design, which this year was given the problem statement of the Global Water Stewardship project in Piedras Blancas, Costa Rica. From the competition, the following teams were determined to be this year's winners:


Baraboo


Costa Rica

Wastewater Design:

University of Wisconsin, Platteville
Sarah Beam, Josh Koopmann,
Bryce Corrigan
"Baraboo, WI. Wastewater Treatment Facility Design"

Environmental Design:

University of Wisconsin, Platteville
Devin Peterson, Curtis Veit,
Dylan Friss, Trevor Rundhaug
"Costa Ric Wastewater Management: Piedras Blancas Collection & Treatment"

As part of winning CSWEA's student competition, the competing students' expenses for attending WEFTEC in Chicago will be covered by CSWEA and they will be given the chance to enter their design projects in WEF's competition, representing CSWEA. Additionally, the Environmental Design team will be involved in the implementation of the Global Water Stewardship project with the opportunity to go to Costa Rica. Congratulations to the winning students and good luck at WEFTEC in Chicago!

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Baraboo, Wisconsin Wastewater Treatment Facility Design

On April 6, a wastewater design team from the University of Wisconsin-Platteville competed in the CSWEA Student Design Competition at the Monona Terrace Convention Center in Madison, Wisconsin. The team consisted of senior environmental engineering students, Josh Koopmann, Bryce Corrigan, and Sarah Beam. Competing in the wastewater category, the design team addressed the challenges of proposing a new facility to accommodate the estimated population growth and changing nutrient removal needs of the Baraboo, Wisconsin area. Although the team's work in this project was for the purpose of academically learning the components of treatment facility design, the project challenges associated with increases in demand of services, and the ability to meet stringent regulations were realistic.

The project included an analysis of the area's wastewater management needs, effluent limitations, and a proposed new facility design. The proposed facility design was constructed for a 20-year design life and consisted of preliminary, secondary, and tertiary treatment. In addition, multiple solids management options were evaluated according to cost and the amount of land needed for disposal.

To begin the project, the design team assessed the population trends of the Baraboo location over the past decades and found an exponentially increasing population growth. This data trend was projected to determine the needs of the facility for the next 20 years. Although, the population trends may change, the team decided to proceed with designing a hypothetical facility that would meet the needs of the drastically altered area. Minimum, maximum and typical flowrates that accounted for inflow and infiltration were calculated and loadings of the following constituents were estimated: biochemical oxygen demand (BOD), suspended solids (SS), total Kjehldahl nitrogen (TKN), and phosphorus (P).

Table 1. Influent flow and loading parameters.

	Total Flowrates (MGD)		Constituent	Loadings (lbs/day)	
	2016	2036		2016	2036
Minimum	0.46	0.81	**BOD:**	2900	4900
Typical	1.7	2.6	**SS:**	3100	4300
Maximum	6.3 8.6		**TKN:**	560	810
			P:	46	141

Next, the team determined the effluent limitations of the Baraboo River receiving body. These limitations were set for monthly and weekly standards for both a summer and winter season. As has been the trend in Wisconsin, Baraboo's phosphorus limit changes needed to be accounted for. The 2014 phosphorus compliance regulation was at 1.0 mg/L, however, the current plant is very close to meeting new 0.1 mg/L limitations. Within the project, the team proposed hypothetical treatment to reach 0.05 mg/L compliance regulations because of the increasingly stringent nature of future regulations.

The proposed facility included preliminary treatment consisting of a parshal flume, properly sized grit screens and aerated grit chambers. Preliminary treatment was able to achieve as high as an estimated 50% grit removal efficiency. Because of the proposed implementation of extended aeration during secondary treatment, it was deemed unnecessary for any primary clarification. Within calculations, air requirements for BOD, TKN, and for mixing were determined. Chemical P removal using ferric chloride was calculated for a removal of 7 M lbs of suspended solids at the end of design life. However, the team is currently exploring other nutrient removal options for a more cost-effective proposed

Table 2. Effluent Limitations

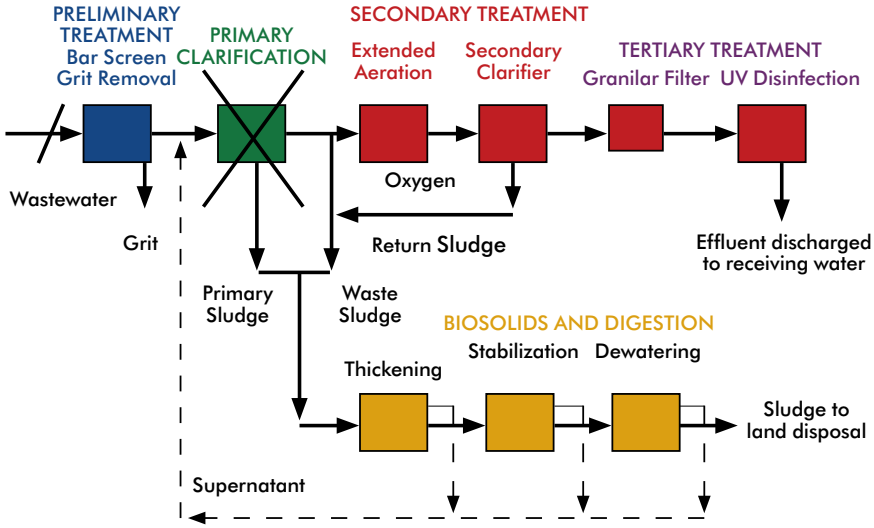
Parameter	Limit Type	Limit and Units	Timeframe
BOD5	Monthly	15 mg/L	May 1-October 31
	Weekly	22 mg/L	
BOD5	Monthly	30 mg/L	November 1-April 30
	Weekly	45 mg/L	
Suspended Solids	Monthly	15 mg/L	May 1-October 31
	Weekly	22 mg/L	
Suspended Solids	Monthly	30 mg/L	November 1-April 30
	Weekly	45 mg/L	
Nitrogen, Ammonia (total, as N)	Monthly Average	1.7 mg/L	May 1-October 31
Nitrogen, Ammonia (total, as N)	Monthly Average	2.4 mg/L	November 1-April 30
Phosphorus	Monthly Average	0.05 mg/L	All year

facility. Secondary treatment also was designed to include final clarification with a residence time of 2.5 hours, and 67% recycling of return activated sludge. During tertiary treatment a RAS Flow meter was suggested, sand granular filtration, and UV disinfection. UV disinfection was proposed because of its lack of disinfection byproducts and for better safety over other disinfection options. Finally, cascading aeration was proposed to oxygenate the water prior to its entrance into the Baraboo River.

For solids management, both aerobic and anaerobic digestion processes were considered with belt press dewatering or gravity thickening options. When conducting anaerobic digestion calculations, the amount of methane production was calculated to be 11.2 M ft^3/yr, producing 1.9 M kWh/yr which is enough energy to service 190 homes.

Throughout each step of the design process, including siting the location of treatment components, the team considered cost, resource availability, regulations, environmental concerns, and future growth. The cost of the proposed facility design was $16-20 M, although more cost-effective options are still being researched.

Figure 1. Overview of proposed treatment process



Overall, the student design team learned not only the technical components that go into designing a wastewater treatment facility and challenges with regulations and byproducts, but also practiced their non-technical skills. Presenting at the CSWEA Student Design competition challenged the team to format information in concise, complete, and clear communicative forms. The team was able to further illustrate work and knowledge gained throughout the design process during the question portion of the competition.

Koopmann, Corrigan, and Beam are excited to continue to work on their

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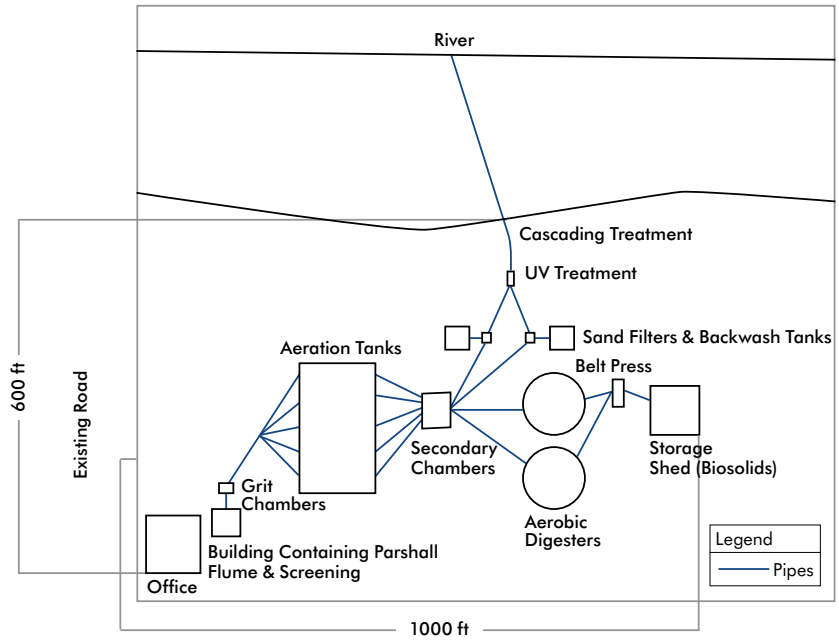
Figure 2. Proposed design layout



"Throughout each step of the design process, including siting the location of treatment components, the team considered cost, resource availability, regulations, environmental concerns, and future growth. The cost of the proposed facility design was $16-20 M, although more cost-effective options are still being researched."

proposed design and present at WEFTEC in Chicago, Illinois in September. There, the team will be evaluated for their technical design work, quality of writing and communication of project components, ability to answer defense questions about the work, and overall professionalism skills.

The design team would like to extend a special thank you to CSWEA and WEF for their support during this competition, as well as Dr. Mike Penn (UW -Platteville faculty), Dr. Ben Bocher (former UW – Platteville faculty), and the University of Wisconsin – Platteville. CS

City of Faribault Water Reclamation Facility

By Travis W. Block

The City of Faribault Water Reclamation Facility was originally constructed in 1954. The facility has been upgraded several times since then. The facility treats a combination of residential, industrial and lake service district flow for a population of 23,382 with an average flow of 4.0 MGD. A large percentage of the flow (50-55%) is from industrial sources. The liquid train for the facility includes screening, grit removal, primary settling, roughing filters, activated sludge, secondary settling, disinfection, and post aeration. The solid train consists of mechanical thickening, anaerobic digestion and liquid biosolids storage.

The facility's most recent upgrade occurred in 2008 partially as the result of an effluent phosphorus limit that had to be met by December 31, 2011. This limit also brought to light several large components of the treatment facility that were aging and in need of replacement. Prior to the upgrade, the facility faced operational challenges with the headworks, aeration, secondary settling and digester gas handling. Although the facility was able to discharge effluent that met permit requirements, there was a need to update these systems to achieve more reliable and efficient permit compliance.

Donohue & Associates was chosen to complete a facility plan and design for the City of Faribault. The plan took a look at the plant's current treatment processes and identified where upgrades would be the most beneficial. The process was extensive involving examining and exploring many different options that ultimately resulted in a $28M replacement in kind upgrade project. This option allowed for the continued use or reuse of existing treatment processes

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that were recently upgraded in 1998. This approached allowed for a very economical option that was able to address both the outdated equipment and phosphorus removal requirements. The upgrade had the intention of being a 20-year solution.

HEADWORKS BUILDING

There were many different processes at the facility that saw an upgrade during the project. One of the largest was the creation of a new headworks building for influent pumping. Previously this function was carried out in the control building. The new headworks building created an enclosed wet well with submersible pumps that pump the influent to rotary drum screens. From there the influent enters a vortex grit chamber where grit is removed. The headworks building not only provides improved screening of the influent but also addresses odor issues at the facility. Previously, odor from the wet well was vented off into the atmosphere. The new building provides an enclosed environment where the odorous air is exchanged and piped to carbon bed filters that are also used by the roughing filters.

AERATION

Prior to the upgrade the facility struggled to keep adequate dissolved oxygen levels in the aeration basin. The old blowers fed air to multiple fine and course bubble processes locations throughout the facility. The installation of three high-speed turbo compressors allow the operators to regulate the amount of air that the basin receives. The high-speed blowers are extremely low maintenance and are very reliable. Additional improvements were made to the aeration basin. The old two-cell basin was divided into four cells to allow for homogenous mixing and uniform air distribution.

PRIMARY CLARIFIERS

New scum beaches were added to the clarifiers to improve the removal of floating scum. New air diaphragm primary sludge pumps were added to allow for consistent 24/7 pumping. The addition of these pumps allows for more consistant sludge blanket depths which results in a steady feed to the digesters.

ROUGHING FILTERS

The roughing filters are true workhorses at the facility removing upwards of 70% of the influent CBOD. These filters are a key part of the treatment process allowing the treatment of the fluctuating loads that the facility receives. The filters received new media and motorized distribution arms. The distribution system allows for the waste stream to be evenly distributed over the media bed regardless of flow. This corrected the previous condition where the distributor arms would often stop in one place during periods of low flow.

DIGESTER BUILDING

The digester building saw many improvements to the three digesters during the project. Most of the solids piping was replaced. The new piping allowed for more flexibility in operations by allowing staff different combinations to operate. The gas piping was replaced in addition to new pressure regulators which allow gas to be captured and used more efficiently. The heat exchangers were replaced allowing for better sludge temperature control. Lastly, a new membrane cover was added to the third digester for gas storage, replacing the old floating cover.

SOLIDS THICKENER

A new solids thickening building was built housing a new gravity belt thickener. Solids from the secondary clarifiers are thickened before they are sent to the digesters. A new polymer feed system was added to optimize the polymer dosage.

SECONDARY CLARIFIERS/UV

The secondary clarifiers received all new recirculation pumps. The new pumps are larger with a higher gallon per minute pumping rate allowing for higher return rates resulting in improved performance. Baffles were also installed to improve settling. The plant previously used chlorine gas and sulfur dioxide for disinfection. This was replaced with an ultraviolet disinfection system yielding consistent permit compliance without having chemicals stored at the facility.

SCADA

The facility now utilizes a true SCADA system which allows for both increased operational efficiency and convenience. The SCADA system allows operating staff to dial in certain pieces of process equipment to match the existing conditions. Operators also can operate pieces of process equipment from multiple buildings on the grounds. Previously if an operator wanted to make a change they had to return to the control building.

One element that posed a significant challenge to the project was the flooding events that occurred in September 2010. Excessive rainfall fell across the area causing the Straight River to rise to historic levels. These river waters caused the failure of a siphon box structure severing the facility from the collection system. This condition allowed an overwhelming amount of river water to enter the facility and flooding it from the inside out. This event occurred at the time the construction was well under way. This caused some delays from a scheduling standpoint but an excellent job was done by the contractor Rice Lake Construction Group, Donohue & Associates and city staff to keep the project moving forward towards completion.

The facility is staffed by a superintendent, foreperson and four operators. Henry Morgan is the wastewater superintendent. Henry has 42 years of experience that aids in the operation and leadership at the facility. His knowledge of the facility and the community is a useful tool that help the facility achieve consistent permit compliance. Steve McDowell is the foreperson responsible for overseeing daily operations. The plant operators are John Frame, Matt Mensing, Chas Schroht and Andrew Fischer. The skilled team ensures that the facility is well maintained and that permit compliance is achieved. CS

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From wef hq Leading-edge updates from the Water Environment Federation

By Brianne Nakamura, Program Manager in the Water Science & Engineering Center at the Water Environment Federation (Alexandria, Va.).

The State of the Flush!

Better product guidelines, marketing standards for pipe-clogging "flushables" are on the way

Flushable wipes: To flush or not to flush?

While the average consumer might wash their hands of the matter without a thought, for those in the wastewater industry, the nightmares of clogged pumps and sanitary sewer overflows (SSOs) come to mind. Recently, the topic of "flushable" wipes has become front and center within the wastewater industry, as more consumers are turning to a wet wipe rather than the common dispersible toilet paper.

While flushable wipes have been on the market for years, the question of their degradability has been garnering more attention in the media and prompted state-level responses, such as the recently proposed bill in Maine requiring that products labeled "flushable" live up to their claim.

Advertising versus reality

According to the current Association of Nonwoven Fabrics Industry (INDA; Cary, N.C.) guidelines (GD3, June 2013), a "flushable" is "any product that is marketed as 'flushable' [that] can be flushed into the wastewater system without adversely impacting plumbing or wastewater infrastructure and operations." Under voluntary INDA guidelines, a product must pass seven assessment tests or be clearly labeled with the "Do Not Flush" logo.

These tests include a toilet and drain-line clearance test, disintegration "slosh box" test, household pump test, settling column test, aerobic test, anaerobic test, and municipal pump test. According to INDA guidelines, if a product passes all seven tests, it should not "under normal circumstances" block toilets, drainage pipes, water conveyance, and treatment systems or become an aesthetic nuisance in surface waters. But testing and real life can have different outcomes, especially under "normal circumstances." The U.S. Federal Trade Commission (FTC) recently announced its tentative agreement with wipe manufacturer Nice-Pak Products Inc. (Orangeburg, N.Y.), that might further define some of these issues.

Problems can't be wiped away

For wastewater utilities, these "nondispersibles," or anything other than human waste and toilet paper flushed down the toilet, are problematic throughout the treatment process. They cause ragging in pipes and lift stations and get caught in screens, pumps, and settling basins.

Nondispersibles wreak havoc in rainy and dry climates alike. They clog collection systems during storms and cause SSOs or, in a drought-ridden area (we're looking at you, California), the lack of water velocity in collection systems prevents wipes from breaking down. In extreme and highly publicized cases, the accumulation of wipes and other nondispersibles can cause the formation of "fatbergs," such as those weighing as much as 15 tons in London sewers.

Industry response to the flushables flood

Although recent media attention has increased awareness of the consequences of convenient-yet-clog-causing wipes (and other nonflushable materials), wastewater utilities throughout the country have responded with their own public education campaigns, such as "What2Flush" in California and "Don't Flush Baby Wipes" in Maine. These initiatives, as well as the wastewater industry's "Three P's (Pee, Poop, and *"Toilet"* Paper) standard, have been informing homeowners and renters about what's OK to flush and to not use toilets as trash cans.

The Water Environment Federation (WEF; Alexandria, Va.) has also been involved in the initiative to improve flushability requirements and educate the public. In 2010, the WEF Collection Systems Committee formed a Flushables Task Force in response to the growing concern about wipes-related problems.

The WEF Flushable Task Group, formed in 2014 and currently chaired by Scott Trotter, has worked on several initiatives for better public awareness about nondispersibles, including this 2013 billing stuffer campaign.

> "The initiative seeks to improve the labelling of both flushable and nonflushable products, as well as increase the industry's responsibility over the downstream impacts of flushable products."

The WEF House of Delegates (HOD) followed suit in 2012 to involve Member Associations with the formation of the HOD Non-Dispersible Work Group.

To create a singular message, the WEF Flushable Task Group, formed in 2014 and currently chaired by Scott Trotter, has worked on several initiatives including a 2013 billing stuffer campaign with the tagline, "It's a Toilet, Not a Trashcan!" The group also advocated for collaborative studies conducted by the Water Environment Research Foundation (Alexandria, Va.).

More recently, the Task Group, as a representative of WEF, is collaborating with four other associations representing the water sector and the nonwoven fabrics industry: INDA, the National Association of Clean Water Agencies (Washington, D.C.), the American Public Works Association (Kansas City, Mo.), and the Canadian Water & Wastewater Association (Ottawa, Ontario). The goal is to develop a new, fourth edition of guidelines (GD4) that will influence product design and support the marketing of nonwoven products as "flushable." The guidelines are scheduled to be released in July 2016.

In addition, the collaborative effort is behind the Product Stewardship Initiative to increase public and consumer awareness about the proper disposal of wipes. The initiative seeks to improve the labelling of both flushable and nonflushable products, as well as increase the industry's responsibility over the downstream impacts of flushable products.

WEF has been heavily involved in both GD4 and the Product Stewardship Initiative. As the awareness of the problems of flushable wipes continue to increase, both in the media and within the wastewater industry, WEF continues to support the initiatives of the Flushables Task Force. While we can't stop consumers from flushing things down their toilets, we can stem the tide with better education and incentives for corporate responsibility. CS

Brianne Nakamura *is a Program Manager in the Water Science & Engineering Center at the Water Environment Federation (Alexandria, Va.). She is the staff liaison for the Collection System Committee and can be contacted at* bnakamura@wef.org.

From wef hq Leading-edge updates from the Water Environment Federation


By Kristina Twigg and Peter V. Cavagnaro. Kristina Twigg is the Associate Editor, World Water: Stormwater Management at the Water Environment Federation (Alexandria, Virginia.). Peter V. Cavagnaro is a project development consultant at Johnson Controls Inc. (Milwaukee, Wisconsin).

From Problem to Profit

A Fort Worth water resource recovery facility turns industrial waste challenges into energy opportunities

The Village Creek Water Reclamation Facility in Fort Worth, Texas, lies on Trinity River's west fork. Every day, the facility treats more than 378,541 m^3 (100 million gal) of wastewater. With about 6437 km (4,000 miles) of sewers, the wastewater, carried largely by gravity, can take eight to 12 hours to travel to the facility. Within this time, flows can become septic, and high-strength industrial wastes can be problematic for local industries to dispose of.

However, the Village Creek plant has turned the problem into an energy solution: Now the facility generates 75% of its electricity onsite.

"The plant's co-digestion program has shifted the industrial wastes to a point in the plant where their energy can be harnessed," said Madelene Rafalko, a senior professional engineer at the Fort Worth Water Department. "By injecting these concentrated wastes directly into the digester, the plant has decreased the amount of energy needed for aeration treatment."

The co-digestion building is where the plant receives industrial wastes. Operators ensure that the wastes do not contain chemicals that would upset the anaerobic digestion process. (Credit: Kristina Twigg)

Wastes boost methane production

With the addition of co-digestion waste, the facility has doubled its gas production. However, facility staff are very selective about the wastes they bring in. "We are looking for wastes with high COD [chemical oxygen demand], which are more easily converted to methane," said Jerry Pressley, water systems superintendent. The plant looks for wastes that produce a high gas yield with low residuals but avoid wastes with sulfides and sanitizers because they can cause process upsets, such as digester foaming, he said.

For 10 minutes every hour, the high-strength wastes are injected into six of the plant's 14 anaerobic digesters. The plant has been capturing digester biogas for decades and uses it to power one of two 5.2-MW turbines. These turbines generate about half of the plant's energy, most of which is used for the plant's aeration system.

Biogas, used to generate energy via the plant's turbines, is created in these anaerobic digesters fitted with linear motion mixers. (Credit: Kristina Twigg)

The Village Creek Water Reclamation Facility generates both energy and steam. The steam is used to power two of the plant's aeration basin blowers. (Credit: Kristina Twigg)

Using anoxic zones in the aeration basin improves energy efficiency at the Village Creek Water Reclamation Facility. (Credit: Kristina Twigg)

Steam heat provides return on investment

However, the Village Creak Water Reclamation Facility has also found a way to reduce the energy needed for its aeration basins.

In the process of using the turbines to generate electricity, heat is also created. The plant has harnessed this heat to make steam, which powers two of the plant's blowers. The heat is also used to warm buildings and anaerobic digesters during winter. Even the steam itself is not wasted – it is condensed and reused.

"The cost savings from the steam process has paid for everything else," Rafalko said. The project, started in 2007, has saved $3 million so far, he said.

Improvements lead to other efficiencies

While the steam process is the largest part of the plant's energy-efficiency program, staff have also taken advantage of low-hanging fruit, such as optimizing process controls, upgrading pumps and motors, replacing its SCADA system, and installing a web-controlled lighting system. "Going through and taking measures helped us to identify maintenance needs and further energy improvements," Pressley said.

The plant also created anoxic zones in six of its 13 aeration basins. In the presence of oxygen, bacteria convert ammonia to nitrate (NO_3). Then in the anoxic zones, the bacteria can utilize the oxygen present in the NO_3. This eliminates mechanical aeration in these sections of the basins, further reducing the plant's energy needs. These improvements bring the facility one step closer its goal of net-zero energy.

Note: The information provided in this article is designed to be educational. It is not intended to provide any type of professional advice including without limitation legal, accounting, or engineering. Your use of the information provided here is voluntary and should be based on your own evaluation and analysis of its accuracy, appropriateness for your use, and any potential risks of using the information. The Water Environment Federation (WEF), author and the publisher of this article assume no liability of any kind with respect to the accuracy or completeness of the contents and specifically disclaim any implied warranties of merchantability or fitness of use for a particular purpose. Any references included are provided for informational purposes only and do not constitute endorsement of any sources. CS

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Radebaugh Paper

Evaluating the Options for Phosphorus Compliance: The City of Fond du Lac Water Pollution Control Plant's Experience

Jeremy S. Bril, Ph.D. and Jane M. Carlson, P.E., ENV SP, Strand Associates, Inc.,
John Leonhard, City of Fond du Lac Water Pollution Control Plant

In 2010, Wisconsin adopted numeric total phosphorus (TP) criteria for all surface waters throughout the state. Because the City of Fond du Lac (City) discharges to Lake Winnebago, and the current TP concentration in the lake is above the established criterion, the City is required to meet a future six-month average water quality-based effluent limit (WQBEL) of 0.04 mg/L. This is one of the lowest limits in the state. Given the difficulty in meeting this ultra-low total TP level, the WDNR has provided a nine-year compliance schedule in the latest Wisconsin Pollutant Discharge Elimination System (WPDES) permit. The first step in the compliance schedule was the Operational Evaluation Report (OER), which the City completed in 2013. The purpose of the OER was to determine if effluent TP can be reduced through source reduction, operational improvements, and/or minor facility modifications. The results of the OER indicated that it would not be possible for the existing WPCP to comply with the future TP WQBEL. Therefore, the City began evaluating additional compliance options in 2013 as part of the Study of Feasible Alternatives. This study includes the evaluation of advanced TP treatment technologies, watershed strategies, and regulatory alternatives.

Advanced treatment for TP removal

The advanced treatment technologies evaluated as part of this study were the Evoqua Water Technologies CoMag® system and Blue Water Technologies Blue PRO® system. Assuming a final TP effluent limit of 0.04 mg/L, full-scale budgetary costs and preliminary design information was obtained for each system. These were compared to updated costs for ACTIFLO® ballasted settling and tertiary membrane filtration developed as part of a previous study. The preliminary budgetary costs suggest that CoMag® is the more feasible alternative. In regards to nonmonetary factors, the CoMag® system fits better within the existing WPCP site. Given the size of the WPCP, peak flows, and required number of units for other systems, it is expected that a ballasted settling process will be easier to operate than a reactive filtration or membrane system. To further evaluate the CoMag® system, the City completed a pilot test in the fall of 2012.

CoMag® pilot study experimental design

The goal of the pilot study was to demonstrate that a TP effluent limit of 0.04 mg/L could be consistently achieved. Tests were conducted using three coagulants: aluminum sulfate (alum), ferric chloride, and polyaluminum chloride (PACl). Each coagulant was run for a period of approximately seven days. For each coagulant, the system was run under steady-state conditions followed by a high solids and high flow stress test.

Grab samples were taken daily throughout the pilot test from the pilot influent and pilot effluent to form an influent and effluent composite sample. The grab samples and composites were analyzed daily by Evoqua for TP, TSS, pH, and turbidity. Evoqua also recorded the amount of coagulant and polymer used and the amount of sludge produced. A split sample of the daily composites was provided to the WPCP lab and analyzed for TP, TSS, BOD, fecal coliforms, and ultraviolet (UV) transmittance. Periodic samples were sent to an outside certified laboratory for analysis of TP, ortho-phosphate, soluble nonreactive phosphorus, and metals.

CoMag® Pilot Study Results

The results obtained from the pilot represent CoMag® performance following multi-point chemical addition. The average TP, TSS, turbidity, and UV transmittance values measured during the testing period for each coagulant are provided in Table 1. It should be noted that these averages include the hydraulic and solids stress test values and values measured during the development of the dose response curves. The coagulant concentration was purposely varied from an overdose condition to an underdose condition to identify the optimum coagulant dose to meet the 0.04 mg/L effluent TP limit. The optimum coagulant and polymer dose was determined using a target effluent concentration of 0.03 mg/L. The chemical requirements for each coagulant to meet this target are provided in Table 2.

Figure 1
CoMag® pilot trailer (50 gpm) on site at the Fond du Lac WPCP.

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Table 1
Average values measured during pilot study for three different coagulants. Note the average values include both the hydraulic and solids stress test values. Analysis provided by Evoqua Water Technologies LLC and the City of Fond du Lac.

Parameter	Pilot Sample Location	Alum	Ferric Chloride	PACl
TP(mg/L)	Influent Effluent	1.0 0.039	1.0 0.025	0.9 0.036
TSS(mg/L)	Influent Effluent	28.9 1.6	19.3 1.9	25.1 3.2
Turbidity (NTU)	Influent Effluent	NM 0.24	NM 0.29	NM 0.17
UV Transmittance (%)	Influent Effluent	67.5 76.0	65.1 75.1	67.4 79.0

Table 2
Pilot study chemical requirements to meet a 0.04 mg/L TP effluent limit.

Tested Coagulant	Chemical	Chemical Requirement
Alum	Alum Polymer	12 mg/L as Al 0.70 mg/L dry weight
Ferric Chloride	$F3Cl_3$ Polymer	24 mg/L as Fe 0.80 mg/L dry weight
Alum	PACl Polymer	20 mg/L as Al 0.70 mg/L dry weight

Alum appeared to perform the best as it required the lowest dose (12 mg/L as Al) to meet the 0.04 mg/L limit. The higher dose required for PACl (20 mg/L as Al) to meet the limit is likely attributable to PACl being more highly buffered than alum. Even though PACl has a significantly higher Al^{+3} concentration than alum, it is expected that PACl does not lower the pH as much to make it as effective at reducing TP. Each coagulant also demonstrated significant decreases in TSS, with average reductions of 94.5 percent, 90.2 percent, and 87.3 percent for alum, ferric chloride, and PACl, respectively. Other results from the pilot study were as follows:

- The average effluent turbidity measurements were less than 0.30 for each coagulant.
- Each coagulant demonstrated an average BOD reduction of at least 74 percent.
- Each coagulant demonstrated an average increase in UV transmittance of at least 13 percent.
- Ferric chloride and PACl demonstrated a reduction in fecal coliforms of 99.7 percent (no fecal coliform tests were performed during the alum analysis).

The results of the pilot study were used to better define the coagulant, magnetite, and polymer use and the amount of sludge generated for a full-scale installation.

Watershed adaptive management

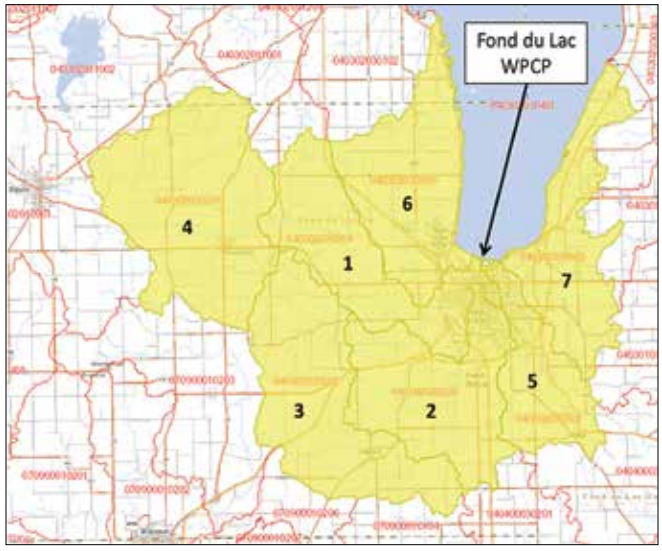
Given the considerable costs associated with advanced treatment technologies, the City is also evaluating other options for TP compliance. This includes watershed strategies such as adaptive management and water quality trading. Watershed adaptive management is a Wisconsin compliance option that allows point and nonpoint sources to work together to improve water quality in the waters that are not meeting TP water quality criteria. Adaptive management also extends the TP compliance schedule, which is an important consideration for facilities such as Fond du Lac that are currently waiting for a total maximum daily load (TMDL) to be developed, as the TMDL may result in a different WQBEL.

The first step in evaluating adaptive management is to define the action area for BMP implementation and to determine the load reductions needed in the watershed. The necessary reductions are determined using the following equation:

Needed Reductions =	Current Point Source Load + Current Receiving Water Load - Allowable Load

Using a recently completed United States Geological Survey Report and current discharge data, the necessary nonpoint reduction the City would need to achieve was estimated to be 37,000 pounds per year (lbs/year). The action area needed to achieve the 37,000 lbs/year reduction goal was determined using the WDNR's Pollutant Load Ratio Estimation Tool (PRESTO). The WDNR's guidance for adaptive management suggests defining the action area within the hydrologic unit code (HUC) 12 watershed where the treatment plant's discharge point is located. However, the HUC 12 for the WPCP is Lake Winnebago. Furthermore, the PRESTO results indicate the action area would need to be defined as several HUC 12 watersheds to achieve the calculated reduction goal. For the purposes of this study, the adaptive management action area was preliminarily defined as seven HUC 12 watersheds (see Figure 2).

Figure 2
Proposed Action Area for Watershed Adaptive Management.



1. West Branch Fond du Lac River
2. East Branch Fond du Lac River
3. Sevenmile Creek – Fond du Lac River
4. Rosendale – Fond du Lac River
5. De Neveu Creek
6. Van Dyne Creek – Lake Winnebago
7. Taycheedah Creek

Based on recommendations from the Fond du Lac County Land and Water Conservation Department (LWCD), three different BMPs were evaluated as part of this study. These included buffer strips, cover crops, and combined cropping, tillage, and in-field conservation practices. Assuming a combination of the BMPs would be installed, an average TP removal for each BMP in pounds per acre per year (lb/acre/yr) was determined. This resulted in a total present worth budgetary cost for adaptive management of $32 per pound of TP reduced.

Water quality trading

Similar to watershed adaptive management, the goal of water quality trading is to reduce TP loads in the watershed. The WDNR water quality trading guidance requires that all BMPs must be installed before credits can be used. The first step in evaluating water quality trading is to determine the TP load reductions needed in the watershed. This is estimated by the following equation:

Needed Reductions =	(Current Point Source Load - Allowable Load)*Trade Ratio

The allowable TP load is based on the WQBEL. The trade ratio is based on several factors including location of the BMP and type of pollutant traded. For this study, a trade ratio of 2:1 was used for buffer strips and cover crops, and a trade ratio of 1.2:1 was used for cropping, tillage, and in-field conservation practices. Using these trade ratios, the total present worth budgetary cost for water quality trading was estimated to be about $29 per pound of TP reduced.

Regulatory alternatives – legislative variance

As a part of this study, the City also evaluated the budgetary cost for the State of Wisconsin's recently proposed legislative variance. The 20-year variance would require the City to pay $50/lb for the amount of TP that is discharged over 0.2 mg/L. The variance also includes interim effluent concentrations of 0.8 mg/L, 0.6 mg/L, and 0.5 mg/L for each of the next three (5-year) permit terms, respectively. Based on current discharge data, the 20-year present worth cost for the variance would be approximately $8,500,000.

Summary

For the Fond du Lac WPCP, the CoMag® system is projected to be the most cost-effective of the evaluated tertiary treatment technologies. As expected, the results of this study indicate that the advanced treatment technologies are the most costly compliance alternative. Table 3 provides the 20-year present worth cost for each of the alternatives evaluated.

Table 3
Preliminary Present Worth Cost Comparison of TP Compliance Alternatives

Alternative	20-Year Present Worth Cost	Present Worth Cost per Pound TP Reduced ($/lb)
Advanced TP Removal		
CoMag®	$38,000,000	$130
Blue PRO®	$69,000,000	$240
Watershed Adaptive Management	$24,000,000	$32
Water Quality Trading	$17,000,000	$29
Legislative Variance	$8,500,000	$50

From a 20-year total present worth standpoint, the legislative variance appears to be the most cost-effective option for meeting the WQBEL of 0.04 mg/L. However, the variance would end after 20 years, and the City would still be faced with meeting the WQBEL. Furthermore, the variance is currently under review by the Wisconsin Department of Administration and will then be sent to the United States Environmental Protection Agency (USEPA) for review. Until the variance has been officially approved, it can only considered as a potential compliance option.

Therefore, based on the BMPs evaluated and the preliminary costs developed as part of this study, water quality trading may be the most cost-effective alternative for achieving compliance with the future WQBEL.

The City will continue to evaluate water quality trading and adaptive management to determine the feasibility of installing the BMPs required to achieve the necessary load reductions. Factors such as administration, validation, and maintenance of the BMPs, as well as potential cost-share grants, will be evaluated to better define the costs of these watershed compliance options. Adaptive management provides other benefits such as additional compliance time and the ability to potentially use it as a future TMDL compliance option for the City's municipal separate storm sewer system. An extra five years for adaptive management was recently approved as part of the legislation that introduced the variance compliance option. The needed reductions for adaptive management will also be explored in more detail with the WDNR as there is no specific guidance that has been established for lake dischargers. CS

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CSWEA/IWEA 20th Annual WEFTEC Reception

Sunday, September 27

6:00 p.m. to 9:00 p.m.

Hilton Chicago

720 S. Michigan Avenue, Chicago, IL, Normandie Lounge, 2nd Floor

CSWEA and IWEA members are invited to join us for the 20th annual CSWEA/IWEA WEFTEC Welcome Reception on Sunday, September 27, 2015. The reception will be held from 6:00 to 9:00 p.m. at the Hilton Chicago at 720 S. Michigan Avenue in Chicago. Our joint WEFTEC Welcome reception has become a not-to-miss event for members and friends attending WEFTEC, and offers an outstanding kickoff each year. The reception will be held in the Normandie Lounge, 2nd Floor of the WEFTEC'15 Headquarters hotel in Chicago. All members and supporters of CSWEA and IWEA are invited to attend!

Water Week 2015

By Tracy Ekola and Brandon Koltz

The National Water Policy Forum & Fly-In, part of Water Week 2015, was held April 12-18. The event brought together water sector organizations from around the nation in Washington, D.C., to advocate for national policies, share perspectives, collaborate on solutions, and meet with Members of Congress.

Sponsored by the Water Environment Federation (WEF), the National Association of Clean Water Agencies (NACWA), the Water Environment Research Foundation (WERF), and the WateReuse Association, the National Water Policy Forum informs and inspires local, state, and national leaders to communicate the considerable value the water sector brings to environmental protection, economic development, and job creation. Central States sent a letter supporting the positions put forth by the four organizers.

In addition to the Policy Forum & Fly-In, the U.S. Water Alliance's U.S. Water Prize Ceremony & Reception, as well as the Second Annual Water Expo on Capitol Hill took place during Water Week 2015 featuring companies and organizations in the water sector showcasing their products and services to Members of Congress, federal agency officials, and the public.

The week was initiated by U.S. Water Alliance breakfast reception focusing on *The Business Case of Water Sustainability* with Robert Glennon sharing his views the county's urgent water crisis. Glennon is author of *Unquenchable: America's Water Crisis and What To Do About It.*

Opening remarks for the National Water Policy Forum included various public water agency officials as well as Gina McCarthy, Administrator, U.S. EPA. Congressman Tim Walz (D-MN) was also a featured speaker along with Congresswoman Donna Edwards (D-MD).

Patrick Shea, Tim Walz and Tracy Ekola

Prior to meeting with Members of Congress, we were briefed on advocacy priorities for the 114th Congress including:

- Support for 1.45 billion for the Clean Water State Revolving Fund
- $25 million for the *Water Infrastructure Finance and Innovations Act*
- $13 million for the Integrated Water Resources Planning
- Full tax-exemption status for investments in municipal bonds
- Funding for research and development in clean water innovation
- Incentivizing greater private investment in clean water innovation
- Modernizing the Clean Water Act to address today's clean water challenges

Pat Shea and Tracy Ekola from MN Section spent Monday and Tuesday afternoon on Capitol Hill visiting members of congress to discuss these priorities including visits with U.S. Senator Amy Klobuchar, U.S. Congressman Tim Walz, U.S. Congressman Tom Emmer, and visits with staff members for U.S. Congressmen John Kline and Colin Peterson. Information packets were delivered to remaining Representatives.

Brandon Koltz, Kevin Shafer, Michael Mucha, and Tom Sigmund from WI Section attended the Forum. Brandon met with staff members from Representatives Gwen Moore, Sean Duffy, Ron Kind, Glenn Grothman, Jim Sensenbrenner and Paul Ryan. Tom met Representative Reid Ribble and both Tom and Brandon met with Senator Tammy Baldwin' office. Since WEF and NACWA began the Forum a few years ago, those multi-term congressional representatives and

Tracy Ekola, Amy Klobuchar and Patrick Shea

Cherry Blossoms

"Participation to promote our mission through these initiatives is crucial in delivering our message to our governing bodies and the public. It has taken many years, but there is heightened awareness in the Congress with respect to the importance of our water and wastewater infrastructure."

their staff have gained knowledge and recognition of the issues for wastewater infrastructure and overall water resources management. It has been especially important to meet with new members of the congressional delegation to make them aware of the importance of our water and wastewater infrastructure and the key federal role. There are many competing interests in Washington. Our personal visits stress the need for continued and potential increased financial resources at the federal level, both to improve infrastructure and to support research for innovative approaches for the utility of tomorrow.

The event concluded Wednesday with various panel discussions and roundtable discussions on Energy/Water Nexus, Integrated Planning/Financial Capability, Nutrients – USDA's RCPP Program/ Water Quality Trading, and Stormwater/ Green Infrastructure. These roundtable discussions included the key agency leadership from the U.S EPA Office of Water, Office of Enforcement and Compliance Assistance, Office of Science and Technology, Office of Wetlands, Oceans, and Watersheds, Office of Research and Development, and Office of Groundwater and Watersheds. There also were representatives of USDA and the Department of Energy. The press is excluded from the roundtable discussions so the conversation among the agency representatives and the attendees is frank and productive. Brandon participated in the Green Infrastructure and Stormwater discussion. Useful information included the continued emphasis on MS4 NPDES permit reissuance and program implementation, rather than new rulemaking. Last year an issue brought to U.S. EPA's attention concerned an opinion that public investment in green infrastructure on private property may result in taxable income to the property owner. This year U.S. EPA reported that they met with the Internal Revenue Service, and expected to get a final determination from the U.S. Treasury Department and will report that back to WEF. This is an example of the potential for collaborative discussion that benefits our members.

Participation to promote our mission through these initiatives is crucial in delivering our message to our governing bodies and the public. It has taken many years, but there is heightened awareness in the Congress with respect to the importance of our water and wastewater infrastructure. Examples specific to the home state and especially the home district are most relevant to the congressional member's interest.

And WERF, Citi Investment Research and Analysis, Growing Blue, and the U.S. Conference of Mayors have documented that investment in our infrastructure is good for the economy. One dollar invested in water and wastewater infrastructure increases the long term GDP by $6.35, and one job in water and wastewater leads to 3.68 jobs in the national economy. The clean water industry has the potential to generate 851 Trillion BTU of energy, enough to heat all the homes in California. To give a sense of how water is reused, it was noted that the water traveling down the Mississippi River is consumed and treated 25 times before reaching the Gulf of Mexico. 32 billion gallons of water are treated and recovered by over 15,000 wastewater treatment facilities. The length of water and wastewater pipes in the United States is 30 times the length of the Interstate System. Every member has water and wastewater infrastructure in their district. A reminder of the importance of these assets – locally and nationally – brings our industry above ground. CS

CSWEA

GLOBAL WATER STEWARDSHIP

CSWEA's Global Water Stewardship needs your help!

Please donate at ***http://www.cswea.org/globalwater/***

STOCKHOLM JUNIOR WATER PRIZE

Minnesota winners along with their teacher Cynthia Welsh

SJWP Paper Competition Winners

Minnesota SJWP Competition Winners:

1st place: **Tayiah Hanson**
Cloquet, MN
Paper Title: The Power of Clay: The Use of Clay as a Possible Pharmaceutical Waste Water Treatment Removal Method and the Subsequent Effect on the Germination and Root Length of Lactuca sativa (Grand Rapids Lettuce)

2nd Place: **Frances Slater**
Cloquet, MN
Paper Title: The Use of Growth and Dissolved Oxygen Consumption Per Mass of Fish to Determine the Impact of Gender, Transgenes (Wild-Type vs. Florescence), and Zygosity (Hemizygous vs. Homozygous) on the Fitness and Impact in the Wild of Transgenic Fluorescent Zebrafish

3rd Place: **Christine Neumann and Crystal Moynan**
Cloquet, MN
Paper Title: The Effect of Benthic Substrate and Location Within the Lake Superior Estuary, as well as Gender, Tone and Sound Location on the Response Behavior of Neogobius melanostomus (Round Gobies) and the Possibility of Future Trapping of This Invasive Species – Phase III
Sponsored by Central States Water Environment Association

Wisconsin SJWP Paper Competition Winners:

1st place: **Kayla Johnson and Jennah Durbin**
Cumberland, WI. Grade 12
Paper Title: Carcinus maenas in the Mudflat of the Little River.

2nd Place: **Laurel Chen and Reilly Olinger**
Brookfield, WI. Grade 9.
Paper Title: Optimizing Fertilizers to Maximize Crop Yield and Minimize Algal Blooms in Water.
Sponsored by Central States Water Environment Association

Illinois SJWP Paper Competition Winner:

1st place: **Ambria Benesch**
Skokie, IL
Paper Title: The Viability of a Mixed Bacterial Culture for Bioremediation of Heavy Metals, Poly-Cyclic Hydrocarbons, and Volatile Organic Compounds
Sponsored by Illinois Water Environment Association CS

Central States to Organize a Meeting with U.S. EPA Region 5

By Brandon Koltz

Central States WEA has begun planning for a meeting with U.S. EPA. The purpose of the meeting is to understand the agencies priorities, to seek clarity and consistency with respect to policy and regulation implementation among the region's states, and to inform the agency about the effects of various initiatives on the regulated community.

The Water Environment Federation routinely meets with U.S. EPA headquarters to advise and provide technical information to the agency. As an example, I was a co-author among many contributors for the WEF Government Affairs Committee Nutrient Workgroup that prepared a report with respect to removal of nutrients with available secondary treatment technologies. This report was prepared in response to the petition to include nutrient removal in the definition of secondary treatment and represented the broad experience of the WEF membership. It was subsequently presented to both the Office of Water and Office of Science and Technology and the agency ultimately declined to make this an additional requirement for secondary treatment.

The Iowa, Missouri, Kansas and Nebraska Water Environment Associations discovered members had difficulty with consistent policy from Region 7 with respect to nutrient management and wet weather controls. Discussion began among members of the WEF Government Affairs Committee from the different states. Subsequently, working collaboratively through the Member Associations, they established an annual meeting with Region 7. The state regulatory agencies have participated as well in this meeting. The result has been a more consistent and flexible regulatory environment in the Region 7 states.

The Executive Committee directed me to explore development of a similar meeting with Region 5. Central States members from the three states met briefly at the Annual Meeting to discuss if a meeting with Region 5 would be beneficial and, if so, what topics to focus on. There was consensus that such a meeting would be beneficial to discern U.S. EPA priorities ways that Central States could collaborate to beneficially for our members. The agenda should include Region 5 perspective and priorities followed by discussions of current status and issues in the three states. We anticipate that the state regulatory agencies would be invited to participate. We will inform the Ohio, Indiana, Michigan and Illinois WEAs of the meeting and may invite their participation. It is anticipated that the meeting will be scheduled late summer or early fall in Chicago at the Region 5 offices.

As we develop an agenda, it will be important for us to communicate a consistent message on behalf of our members. Please forward your opinions and experience with respect to nutrient removal or management requirements through our executive director Mohammed Haque. The members of Central States are a tremendous reservoir of experience that will be of value in developing the content for our meeting. The WEF Government Affairs staff will assist in coordination with Region 5. We look forward to a collaborative relationship between Central States WEA and Region 5 that will bring value to our membership. CS

Committee Leadership Council Implements Strategies To Improve WEF Volunteer Experience

Volunteers of the Future Task Force recommends five initiatives for committees

By Janet Hurley Cann, CLC Steering Committee member

Water Environment Federation (WEF; Alexandria, Va.) leaders are working to optimize the operation of WEF committees and to improve WEF volunteer engagement. Currently, WEF has 30 committees that help develop policy positions; write technical publications; develop training materials, program content, and conference programs; and contribute to many WEF program activities. The volunteer leaders who serve as chairs and vice chairs of these committees belong to WEF's Committee Leadership Council (CLC), which was established to promote communication between WEF's committees, staff, Board of Trustees, and Member Associations (MAs) through the House of Delegates.

In 2013, WEF's CLC established the Volunteers of the Future (VoF) Task Force. The task force spent a year evaluating the WEF volunteer experience, volunteer opportunities, and existing committee structures to provide recommendations on how to improve volunteer engagement and align committee activity with WEF's Strategic Plan.

The VoF task force was divided into two groups, one focusing on communications and the other focusing on product outputs. A volunteer survey completed in 2012 provided background for a more detailed second survey in January 2014, and approximately 300 WEF committee volunteers provided input on committee communications and volunteer outputs. The task force, led by a steering group consisting of volunteer leaders Joan Hawley, John Trofatter, Keith McCormack, Ifetayo Venner, Amy Corriveau, and Tania Datta, and staff members Barry Liner, Christine Radke, and Theresa Mixon, also conducted numerous conference calls, town hall meetings, and volunteer engagement events to collect information.

In a March 2014 meeting, the VoF Steering Group and WEF staff developed a strategy based on the task force's findings and recommendations. Meeting participants identified five initiatives for WEF committees:

1. Improve structure and consistency of committees.
2. Identify activities for committee members.
3. Improve communication within WEF.
4. Engage committee members.
5. Define and market "value to volunteers."

CLC chair Hawley and vice chair Trofatter presented the task force's final report to the WEF Board of Trustees in April 2014 and to the CLC at WEFTEC in September 2014. The report described these initiatives as well as provided recommendations or action items needed for each initiative's successful completion.

Since WEFTEC 2014, two recommendations have been implemented. Under the initiative to improve structure and consistency of committees, the CLC Steering Committee formed Communities of Practice (CoP) by grouping committees with similar or collaborative interests into a community. Currently there are six CoPs: Conveyance and Watershed, Treatment, Resource Recovery, Operations and Maintenance, Sustainability, and Programmatic. Director positions to lead each CoP were established, creating new leadership opportunities for volunteers.

CoP directors will act as a resource to committee chairs and vice chairs, serve as liaison to the CLC Steering Committee, and help identify collaboration opportunities and communication improvements among committees and with WEF's House of Delegates and MAs. CoP directors also comprise the CLC Steering Committee. The new directors went through a nomination process and were selected based on their professional experience and accomplishments in the water sector; understanding of WEF's strategic goals and objectives; diplomatic skills and affinity for cultivating relations; consensus building among diverse individuals; integrity, credibility, and passion for improving volunteer activities and engagement; and willingness and ability to invest the time, talent, and support in WEF committees.

During 2015, the CLC Steering Committee will work to accomplish the following recommendations that were cited in the VoF final report:

- Develop a consistent committee structure, which includes defined committee leadership roles, a steering committee for leadership and succession planning, and a nomination committee with specific nominating criteria for committee leaders.
- Implement a committee project-tracking system, so WEF members will be able to see all committee volunteer opportunities.
- Provide recommendations to WEF on the website through a task force of both CLC and House of Delegates members. CS

CSWEA Welcomes Our New Members

February 2015

Rania Bashar
Thomas Berns, Berns Clancy and Associates
Adam Behrns, City of Crystal Lake
Brian Campion, City of Crystal Lake
Dan Click, City of Crystal Lake
Ryan Giefer, City of Stevens Point
Gregory Glunz
Scott Halbrucker, Village of West Salem
Russ Hornung, City of Crystal Lake
Dan Langguth, City of Crystal Lake
Jeff Lundy, City of Crystal Lake
Bill Martinsen, City of Crystal Lake
Dan Oates, City of Crystal Lake
Kelsey Snell, City of Crystal Lake
Alexander Stanko
Mike Wisinski, City of Crystal Lake

March 2015

Lisa Enloe, City of Neillsville
Stacy Grunwald, Village of Cleveland
Timothy Juskiewicz, Strand Associates
Joe Kafczynski, Becher Hoppe
Michael Ordman, Xylem
Lucinda Serrano
Tim Wilson, Village of East Dundee
Weiping Zhang

April 2015

Ryan Anderson, Village of Minooka
Michael Grinnell, Lake County Public Works
James Kirk
JJ Larson
Greg Manning, Siemens
Catherine Morley, RJN Group
Philip Perna, Lake County Public Works
Paige Peters
Eider Alvarez Puras, Baxter & Woodman
Jimmy Tonias, Lake County Public Works
Jim Wilson, Lake County Public Works

May 2015

Nimi Ehr, NRU Tech
Matthew Fueston, Sigma Group
Micki Klappa-Sullivan, Milwaukee MSD
David Ponder, Metropolitan Council – Environmental Services
Sara Smith, Metropolitan Council – Environmental Services
Mary N Symes, ABB
Xinyu Yang, NALCO

June 2015

Sarah Beam
Nichole Brown, Baxter & Woodman
Eric Davenport, William-Reid
Dr. Paul Davidson
Aaron Dose, Madison MSD
Thomas Hovel, Madison MSD
Kathleen Lake, Madison MSD
Matt Larson, Carollo Engineers
Richard B Rajendren, American Aerators
Jack Schuster, City of Ashland
Caryl Terrell, Madison MSD
Kristi Ward, EMA Inc.

Updated on June 23, 2015

Kalahari RESORTS & CONVENTIONS

CSWEA CSX Invitation

July 23-24, 2015

Kalahari Resort, Wisconsin Dells, WI

CSWEA Leaders, interested members, section officers and chairs are encouraged to attend CSX, a planning and strategy meeting for CSWEA.

RSVP to Amy Haque at: *ahaque@cswea.org*

Take Someone Along!

By Dan Zitomer

I write this message as we have just finished another very successful CSWEA annual meeting at Oakbrook Terrace, IL last week. What a great event! The technical program, exhibits and networking time provided many opportunities to improve our knowledge of reliable water recovery, nutrient management, energy considerations and other topics. The annual meeting is just one of the many wonderful events the association and Wisconsin section deliver every year! I encourage you to visit the association webpage and plan to attend an upcoming event that you haven't made it to in the past. Whether it's the Wisconsin section summer collection systems or industrial waste pretreatment seminars, or the students/young professionals committee Brewer's baseball outing, you'll make new friends, gain valuable information and contribute to our community of water professionals.

When you come, I invite you to "take someone along" to an association event. In his acceptance speech as our incoming CSWEA president last week, Keith Haas of the City of Racine reminded us of how important it is to mentor our junior colleagues. He encouraged us all to take someone along! "Drag someone along!" Don't ask if they want to go to an association event, but pull them with you. Keith helped us to recall the person who "took us along." He happily recalled that his mentor, Tom Bunker, former general manager of the Racine Wastewater Utility and past president of CSWEA, encouraged him to be active in our association. As Keith spoke, I reflected on the mentors in my life and how fortunate I am to work with them. Specifically, Jay Kemp and Rusty Schroedel "dragged me along" and involved me in the association, helping me to become a more knowledgeable water professional to better protect our environment and mentor others. Thanks, guys!

Therefore, I ask you: who will you take along? Our association's future depends on it; the people we take alone will be leaders in years to come.

In closing, I'd like to thank the association and Wisconsin section for having the confidence in me to serve as section chair this year. I am always inspired by all of your good will, dedication and hard work to drive the association forward and protect our environment. However, it's the good will that's most refreshing and sustains our profession. Please feel free to contact me any time regarding information on the Wisconsin section or CSWEA. CS

> "I ask you: who will you take along? Our association's future depends on it; the people we take alone will be leaders in years to come."

Outgoing chair Julie McMullin with incoming chair Dan Zitomer.

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Wisconsin Section Officers and Committee Chairs 2015-16

CHAIR
Daniel Zitomer
Marquette University
414-288-5733
daniel.zitomer@mu.edu

VICE-CHAIR
Alan Grooms
Madison Metropolitan Sewerage District
608-222-1201 ext. 253
alang@madsewer.org

SECRETARY-TREASURER
Eric Lynne
Donohue & Associates
920-803-7375
elynne@donohue-associates.com

CSWEA TRUSTEE
Randy Wirtz
Strand Associates
608-251-2129 ext. 1102
randy.wirtz@strand.com

IMMEDIATE PAST CHAIR
Julie McMullin
Brown & Caldwell
414-203-2904
jmcmullin@brwncald.com

GOVERNMENT AFFAIRS COMMITTEE CHAIR
Jim Kleinschmidt
Baxter & Woodman
262-763-7834
jkleinschmidt@baxterwoodman.com

COLLECTION SYSTEM COMMITTEE CHAIR
John Langhans
MSA Professional
608-355-8895
jlanghans@msa-ps.com

COLLECTION SYSTEM COMMITTEE VICE-CHAIR
Jerad Wegner
Ruekert & Mielke
262-542-5733
jwegner@rukert-mielke.com

MEMBERSHIP COMMITTEE CHAIR
Jon Butt
Symbiont
414-291-8840
jon.butt@symbiontonline.com

SAFETY COMMITTEE CHAIR
Vincent Matarrese
Advanced Safety Technology, Inc.
262-796-8605
vmatarrese.astinc@yahoo.com

OPERATIONS COMMITTEE CHAIR
Troy Larson
Strand Associates
608-251-4843
troy.larson@strand.com

PUBLIC EDUCATION AND AWARENESS COMMITTEE CHAIR
Vacant

STUDENT COMMITTEE CHAIR
Bryan Viitala
Mulcahy/Shaw Water
262-241-1199
bviitala@mulcahyshaw.com

YOUNG PROFESSIONALS COMMITTEE CHAIR
Amanda Heller
Baxter & Woodman
815-444-3373
aheller@baxterwoodman.com

WATERSHED AND STORMWATER COMMITTEE CHAIR
Glenn Tranowski
Strand Associates
608-251-4843
glenn.tranowski@strand.com

INDUSTRIAL WASTE COMMITTEE CHAIR
Daniel Zitomer
Marquette University
414-288-5733
daniel.zitomer@mu.edu

SPRING BIOSOLIDS SYMPOSIUM REPRESENTATIVE
Bill Marten (and co-chair Jay Kemp)
Donohue & Associates
414-217-6909
wmarten@donohue-associates.com

WWOA LIASON
Jeff Simpson
Crane Engineering
920-716-3323
j.simpson@craneengineering.net

WWEA CHAIR
Tom Mulcahy
Mulcahy/Shaw Water
262-241-1199
tmulcahy@mulcahyshaw.com

Keys to The Future

By Lana Tullis

For some, the future is full of excitement and possibilities. Others feel anxious when considering the future and its uncertainty. Regardless of your outlook, water quality issues and regulations are developing in a continual process of data collection and increased regulation. I invite you to use CSWEA as a key resource when planning for future needs of your community or organization. Personally, CSWEA has introduced me to numerous water professionals throughout the Central States region and serves as a platform to exchange ideas through one-on-one conversations, committee activities, conferences, and the Central States Exchange (CSX). Each relationship and activity continues to influence my thoughts, decisions, and actions. Two of the many valuable keys to my future at CSWEA over the 2014-2015 year include past chairs Tracy Hodel (2014-15) and Tracy Ekola (2013-14). Thank you for your guidance and support. The 2015-16 term promises to be an exciting time for active members progressing the Minnesota Section Goals to increase involvement, recognize achievement, and improve committee guidance. Several Minnesota Section events, including the Conference on the Environment (COE), are also planned for the coming year.

Innovation and Collaboration, The Keys to The Future provides a theme for the 30th Annual COE. This collaborative effort with the Minnesota Air & Waste Management Association (A&WMA) provides an expansive look at the environment from regulatory updates to municipal and industrial wastewater treatment issues, including nutrients, biosolids, stormwater, reuse, and more. I look forward to discovering ways in which many of you have worked together to develop creative, innovative, cost-effective solutions to environmental challenges and concerns of today and the future. Call for abstracts are available on-line at *www.CSWEA.org*. Attendee and exhibitor registrations will be available soon. Attending the COE provides numerous opportunities to explore innovative solutions including technical presentations, vendor exhibits, student posters and a student design competition. The mentor breakfast and happy hour offer additional opportunities to catch a spark of excitement from the students and young professionals (YPs). Be sure to save the date – I hope to see you at the COE on **November 4, 2015 at the Minneapolis Convention Center**.

Although the COE provides an excellent opportunity for all professionals to network and learn, I encourage you to use this event as an opportunity to introduce yourself to our students and YPs. They possess bright new ideas, an abundance of energy, and technological skills that weren't even available when I started my career – just imagine what future technology will provide! Technology offers the organization a cost-effective tool to reach and connect with members and potential members, thereby supporting our goal to grow as an organization and efficiently share our collective knowledge.

After all, "knowledge not shared remains unknown." This quotation from *Escape from Mr. Lemoncello's Library* by Chris Graberstein resonated with me. Check it out if you enjoy young adult fiction (a genre chosen as a parent rather than an engineer). You never know where you might find a key that influences your future!

As members of the Water Environment Federation (WEF), CSWEA and the Minnesota State Section, we have access to many keys containing the knowledge and experience of individuals throughout Minnesota, Wisconsin, Illinois, the United States, and the world. That knowledge remains unknown if not for the time, talents, and energies generously provided by organization volunteers.

Please don't let your knowledge remain unknown. CSWEA offers numerous volunteer opportunities from preparing a technical presentation (CSWEA Annual Conferences, COE, Innovation Conference, or in association with the Midwest Wastewater Operators Association) to involvement in the student and operator competitions (participant, coach or judge of the Environmental Challenge, Operators Challenge or Stockholm Jr. Water Prize) to a term as committee chair or committee membership (Government Affairs, Collection System, Industrial Wastes, Membership, Operations/Safety/Laboratory, Public Education and Students & YP) to involvement with the CSWEA Global Water Stewardship.

Thank you for sharing – it just may be the key to someone's future. CS

"Several Minnesota Section events, including the Conference on the Environment (COE), are planned for the coming year."

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Minnesota Section Officers and Committee Chairs 2015-16

SECTION CHAIR
Lana Tullis
Bolton & Menk, Inc.
952-890-0509
lanatu@bolton-menk.com

SECTION VICE CHAIR
Chris Harrington
HR Green, Inc.
651-659-7760
charrington@hrgreen.com

SECRETARY/TREASURER
Alison Sumption
HR Green, Inc.
651-659-7725
asumption@hrgreen.com

TRUSTEE TO CSWEA '16
Jason Benson
AE2S
763-463-5036
jason.benson@ae2s.com

IMMEDIATE PAST CHAIR
Tracy Hodel
City of St. Cloud
320-255-7226
tracy.hodel@ci.stcloud.mn.us

GOVERNMENT AFFAIRS COMMITTEE CHAIR
Tracy Hodel
City of St. Cloud
320-255-7226
tracy.hodel@ci.stcloud.mn.us

GOVERNMENT AFFAIRS COMMITTEE VICE CHAIR
Lana Tullis
Bolton & Menk, Inc.
952-890-0509
lanatu@bolton-menk.com

COLLECTION SYSTEM COMMITTEE CHAIR
Chris Kleist
City of Duluth
218-730-4063
ckleist@duluthmn.gov

COLLECTION SYSTEM COMMITTEE VICE CHAIR
Dianne Matthews
Western Lake Superior Sanitary District
218-722-3336
dianne.mathews@wlssd.com

INDUSTRIAL WASTES COMMITTEE CHAIR
Peter Daniels
Wenck Associates
763-479-4200
pdaniels@wenk.com

INDUSTRIAL WASTES COMMITTEE VICE CHAIR
Mark Enochs
Parsons Engineered Products
952-926-7000
mark@pep-reps.com

INDUSTRIAL WASTES COMMITTEE VICE VICE CHAIR
Emma Larson
City of St. Cloud
emma.larson@ci.stcloud.mn.us

MEMBERSHIP COMMITTEE CHAIR
Chris Harrington
HR Green, Inc.
651-659-7760
charrington@hrgreen.com

OPERATIONS/SAFETY/ LABORATORY COMMITTEE CHAIR
Carol Mordorski
Metropolitan Council
612-602-1000
carol.mordorski@metc.state.mn.us

OPERATIONS/SAFETY/ LABORATORY COMMITTEE VICE CHAIR
Ben Lao
Brown and Caldwell
651-468-2058
blao@brwncald.com

PUBLIC EDUCATION COMMITTEE CHAIR
Craig Lincoln
Western Lake Superior Sanitary District
218-722-336
craig.lincoln@wlssd.com

STUDENT AND YP COMMITTEE CHAIR
Anna Munson
Black and Veatch
952-896-0700
munsona@bv.com

STUDENT AND YP COMMITTEE VICE CHAIR
Ashley Hammerbeck
HR Green, Inc.
651-659-7717
ahammerbeck@hrgreen.com

MWOA TRUSTEE
Rick Ashling
City of Albert Lea
507-373-9159
alwtp@smig.net

2015 A Year to Shine, Responsibly!

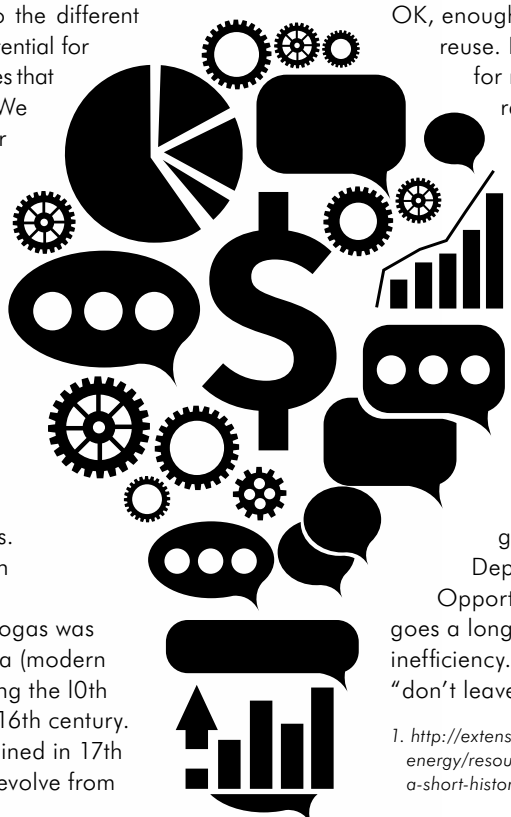
by Erik Lanphier

Here we are with another year under our belts! CSWEA just concluded the 88th Annual Meeting with monumental success. The annual meeting this year drew a record breaking 567 registered attendees fueled by the 39 utilities that registered. We were able to attract 73 booths and the Global Water Stewardship Raffle & Silent Auction Fundraising raised $3,800. Such a wonderful event, I cannot think of a better way to end one year and to begin a new one. The upcoming year will bring with it new ideas, new technologies, old technologies that are being revitalized, new permits, and Illinois permits (if all goes as planned) that will include special condition language that will help improve sections of the Salt Creek, East Branch and West Branch of the DuPage River watersheds.

Phosphorus is driving many utility owners and operators to search for the best remedies for the treatment facilities in which they are responsible for. The consultants are continuously learning, developing, and designing processes so the different treatment facilities can maximize their potential for Bio-P, while also dealing with ancillary issues that will prevent Bio-P from working properly. We all know that the manufacturers and their representatives are eagerly awaiting the sales of all the new equipment necessary to make the improvements function. The annual meeting highlighted how phosphorus affects so many ways in which we work. Seven of the sixteen sessions at the annual meeting had discussions in one form or another pertaining to phosphorus.

Old technologies that are being revitalized include the use of engine/gen sets or high-speed turbines to create electricity by utilizing digester gas. Humor me by reading; provided by Penn State Agricultural Sciences Department:

> Anecdotal evidence indicates that biogas was used for heating bath water in Assyria (modern day Iraq, Turkey and into Egypt) during the 10th century BC and in Persia during the 16th century. Jan Baptita Van Helmont first determined in 17th century that flammable gases could evolve from decaying organic matter. Count Alessandro Volta concluded in 1776 that there was a direct correlation between the amount of decaying organic matter and the amount of flammable gas produced. In 1808, Sir Humphry Davy determined that methane was present in the gases produced during the AD of cattle manure.
>
> The first digestion plant was built at a leper colony in Bombay, India in 1859[1] AD reached England in 1895 when biogas was recovered from a "carefully designed" sewage treatment facility and used to fuel street lamps. In the world of AD technology, farm-based facilities are perhaps the most common. Six to eight million family-sized, low-technology digesters are used to provide biogas for cooking and lighting fuels with varying degrees of success. Some AD facilities in Europe have been in operation for more than 20 years. More than 600 farm-based digesters operate in Europe, where the key factor found in the successful facilities is their design simplicity.



OK, enough with the history lesson on biogas reuse. Energy in general, is a large focus for many facilities, whether they are replacing old blowers with high-speed turbo blowers or opting for a more advanced alternative such as combined heat and power, solar or wind. The drive is to reduce energy costs or provide alternative energy sources. The cost of these savings can be mitigated by the many opportunities for grant funding available through foundations such as the Illinois Clean Energy Community Foundation (ICECF) or through government managed grant programs through the Illinois Department of Commerce and Economic Opportunity (DCEO). A little bit of effort goes a long way to help reduce the burden of inefficiency. Have a fantastic year and remember "don't leave the lights on." CS

1. *http://extension.psu.edu/natural-resources/energy/waste-to-energy/resources/biogas/links/history-of-anaerobic-digestion/a-short-history-of-anaerobic-digestion*

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Illinois Section Officers and Committee Chairs 2015-16

SECTION CHAIR
Erik Lanphier
Glenbard Wastewater Authority
630-790-1901 ext. 125
elanphier@gbww.org

VICE CHAIR
Matthew Streicher
Wheaton Sanitary District
630-668-1515
streicher@wsd.dst.il.us

2ND VICE CHAIR
Zach Matyja
RJN Group, Inc.
630-682-4700
zmatyja@rjn.com

SECRETARY/TREASURER
Shelly Cumbow
Danville Sanitary District
217-442-3193
shellyc@danvillesanitary.com

TRUSTEE TO CSWEA 2017
Mark Eddington
DeKalb Sanitary District
815-758-3513
meddington@dekalbsd.com

IMMEDIATE PAST CHAIR
Rich Hussey
LAI Ltd.
847-392-0990
rhussey@lai-ltd.com

GOVERNMENT AFFAIRS CHAIR
Carl Fischer
Baxter & Woodman, Inc.
815-459-1260
cfisher@baxterwoodman.com

COLLECTION SYSTEM CHAIR
Zach Matyja
RJN Group, Inc.
630-682-4700
zmatyja@rjn.com

COLLECTION SYSTEM VICE-CHAIR
Bob Swirsky
Downers Grove Sanitary District
630.969.0064
bswirsky@dgsd.org

MEMBERSHIP CHAIR
Aaron Berry
Trotter & Associates Inc.
630-587-0470
a.berry@trotter-inc.com

SAFETY CHAIR
Karol Giokas
RJN Group, Inc.
630-682-4700
kgiokas@rjn.com

OPERATIONS CHAIR
Jason Neighbors
Glenbard Wastewater Authority
630-790-1901
jneighbors@gbww.org

PUBLIC EDUCATION CO-CHAIR
Mandy Poole
Baxter and Woodman, Inc.
815-444-3342
apoole@baxterwoodman.com

PUBLIC EDUCATION CO-CHAIR
Zach Matyja
RJN Group, Inc.
630-682-4700
zmatyja@rjn.com

LABORATORY CHAIR
Mary Dressel
Dupage County Public Works
630-985-7400 ext. 203
mary.dressel@dupageco.org

BIOSOLIDS CHAIR
Chris Buckley
Baxter and Woodman, Inc.
815-459-1260
cbuckley@baxterwoodman.com

YOUNG PROFESSIONALS CHAIR
Jillian Goodlove
Trotter & Associates Inc.
630-587-0470
j.goodlove@trotter-inc.com

STUDENT CHAIR
Michael G. Holland
DeKalb Sanitary District
815-758-3513
mholland@dekalbsd.com

INDUSTRIAL WASTE PRETREATMENT COMMITTEE CHAIR
Eduardo Gasca
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312-223-9599
egasca@burnsmcd.com

JULY

WI Section Northwoods Collection System Seminar
July 23rd, 2015
Marshfield, WI

CSWEA CSX
July 23-24, 2015
Kalahari Resort, Wisconsin Dells, WI

AUGUST

WI Section YP Brewers Outing
August 4, 2015
Milwaukee, WI

WI Section Pretreatment Seminar
August 11, 2015
To Be Determined

SEPTEMBER

WEFTEC 2015
September 26-30, 2015
McCormick Place
Chicago, IL

NOVEMBER

MN Section 30th Conference on the Environment
November 4, 2015
Minneapolis Convention Center, Minneapolis, MN

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MN Section Innovative Operations Conference
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