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Words from the Clarifier staff …

The executive secretary for WWOA notified the Board of Directors on July 4, 2018 that Leo Templeton had passed away on Monday July 2 at the age of 96. We knew we had to honor this man who has given so much to WWOA of his time and his talents. This issue of the Clarifier is dedicated to celebrating Leo, commemorating all that he was and all that he gave to WWOA. The Clarifier staff wishes to thank Dan Busch and Pete Albers for their articles on Leo. The staff also wishes to thank Karen Harter for providing pictures of Leo throughout the years. We hope that we have been able to honor Leo through this issue of the Clarifier.

Leo Templeton memoriam: A smiling remembrance

Dan Busch, Fellow Honorary Member

Leo was a member of CWSWO/WWOC/WWOA (1963 – 2018) for 55 years. Leo became an Honorary Member at the 37th Annual Meeting in October, 2003.

The following is excerpted from the June 2005 Clarifier when Leo was featured on the front cover as an Honorary Member.

We wanted to put together a chronological schedule of Leo’s long time association with WWOC and WWOA, but found we didn’t have much to start with because a while back, someone dropped the stone tablets that had captured Leo’s membership legacy and of course they shattered on impact. That’s just a clue as to how long Leo’s been around.

Leo became a member in 1963 and was recognized with the Bernauer Award in 1976. This was the same year he became a member of the Historical Committee and has served on this committee ever since. Leo was elected as Vice President in 1978 and served under Bill Stubbe, Stan Budrys and Pete Albers (No wonder he smiles a lot!!) He served as President of WWOC for the 1980 – 81 terms. His first official act as President in November 1980 was to deal with the resignation of Ward Holtz from the Secretary / Treasurer position. Paul Nehm served from 1980 – 1985 and then Ward returned to the position. Leo also promoted and supported the concept of regions affiliating with WWOC. He was recognized in 1992 with the WWOA Service Award.

I remember meeting Leo at the 1978 Annual Conference at the Red Carpet Inn in Milwaukee. I was only one of many young upshots who over the years were welcomed with open arms by Leo. My first thought was, here is a man I can follow, emulate and respect. Why? Because he was the same height as I was!! To this day there is probably not a better ambassador for WWOA than Leo Templeton!! He undoubtedly deserves recognition as Honorary Member in an organization that he has, and still continues to support with all his heart and soul.

By Dan Busch, Clarifier Editor

I had the pleasure of working very closely with Leo every year after the Annual Conference. As Clarifier editor I depended on Leo to provide the award banquet pictures for the December issue each and every year. He was meticulous with his trusty 35 mm camera and we even did some pictures with the old Polaroid camera, where you had your printed picture in 30 seconds or so, alright I know there are a lot of readers who don’t know what I’m talking about.
I don't think we ever got to the digital picture era together, not sure of the year, but there was a point where Leo relinquished his responsibilities to Rich McKee and Rich made the jump to digital. But even though he gave up snapping the shutter, for years afterwards he was still involved every Awards Banquet arranging people, getting names spelled correctly and making sure all was to his standards.

I also worked closely as Clarifier editor with Leo on the Historical Committee. He was appointed in 1976 and served to when I don't know, probably until the Historical Committee was phased out. Here again he was very meticulous and thorough, making sure all pictures were cataloged and people identified correctly and believe me there were very few members he didn't know.

But my best memories of Leo will always be as a fellow Honorary Member. I took a lot of pride in being a member of the surviving group of four, Pete Albers, Leo Templeton, Carol Strackbein and myself. I always joked that I got along so well with Leo because he was the same height as I was, did you ever notice how we are always in front of most pictures and got to stand next to Carol? Seriously, in reality I looked up to him most because he was honest, humble, gentle, dedicated and always put others before himself, there was no “me” with Leo, it always was about “you” and who you were as a person and what he could do for you. He was a person you were proud to associate with and model yourself after. We are all going to miss that smile this October.

The last memory I will share of Leo is fairly recent. He rode to and from the 50th Annual Conference in La Crosse with my wife and me. I learned a lot about Leo's life during that trip; wish I could remember more of it now! But what I do remember most is on the way back to Manitowoc, Darlene and I wanted to stop at this great little coffee and ice cream shop in Waupun. We never miss the chance to stop when travelling through Waupun. Leo couldn't believe that they had made from scratch malted milk shakes. We brought him the biggest size they had and he was literally like a kid

continued on page 6
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continued from page 4

in a candy shop all the way home! He was still pulling on
the straw when we came into the out skirts of Manitowoc
and I think he took the cup into his house when we got

there. He just kept saying it tasted just like when he was a
kid and it was the best part of the trip. Now in my book that
is as pure and sweet as life gets, when you can appreciate
something that brings back great memories.

Leo will smile down on us this October. WWOA and the
world lost a great human being last July. May we all take
time to do a “Leo smile” and strive to meet the example he
set for mankind.

A tribute on Leo Templeton:
memories and smiles
By: Pete Albers

A friendship of fifty-one years is not easy to put on paper
about a buddy of mine, Leo Templeton.

During the early years we met, were busy in the building
up of the organization of WWOA. Leo saw the start of the
magazine Clarifier. One of the important developments of
the magazine was to educate and the licensing of men and
women who chose being an operator as a career. The State
of Wisconsin requires an operator to achieve and educate
themselves. Leo was on the first Board to help people in
achieving this technical licensing degrees.

Leo took on the taking of pictures at the meetings and when
the awards were given to people. This was the beginning
of keeping the historical part of recording the happenings
in many of the happenings of the Operator’s Clubs, awards
and banquets. The fun times at the Golf Outings and
Conventions of the State of Wisconsin, helped in developing
and licensing their education. Leo was always active in this
process in some way. Instruction meetings are still offered
to all who are learning and licensed operators who are
relearning the new things in helping to run a wastewater
treatment plant.

Leo at the last WWOA convention, told of his many years
and felt the gang as another part of his life. He was awarded
a glass statute for his longevity in this WWOA organization.
Leo’s positive attitude and of the people elected to the
working boards, made the State Awards and education
meetings to keep working.

Together the men who helped to make the Organizations
a viable and recognized in WI and MN a success in the
keeping and making men like Leo. I was proud to work
with Leo and we learned together.

I and Bill Stubbe, Sheboygan’s Superintendent of the
wastewater plant, worked on getting reciprocity with MN
state licensing and operators of both states. When Leo and I
enjoyed the Conventions with others, the sharing of stories
and laughs and feelings only good friends share. Leo helped
build and keep the WWOA working in the maintaining
their Pride and getting Technical schools to open more for
people who need the classes. This is in order of achieving
the varied Classification of Licensing needed in the positions

continued on page 8
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The choruses of members singing Happy Birthday to Leo on his ninety-six birthday celebration rang out at the last Convention we shared. We will tell stories and share memories and laughter about Leo. If you hear a click and no one is there taking a picture, you are sharing a big smile with everyone’s friend, “Little Leo…”

continued from page 6

President’s Message: Thanks for a year I’ll never forget!

Good day to everyone from the soon to be Past-President of the best wastewater organization in the United States. I have read many a President’s final letter in the Clarifier and was always amazed how each one mentioned how fast the time has moved on. Well, they are all right.

I have had an awesome year visiting all the Regions throughout the State. Everyone has been so friendly and eager to talk about our organization. The technical sessions and plant tours were just packed full of information to help all of us be better at what we do. That’s right, clean up our precious and limited fresh water supply. Be proud, it is the most important job in the world and every one of you are great at what you do. Treatment, design, supply and education are the key to our business and our organization. Keep up the good work!

Speaking of education, the 52nd Annual Conference at the Grand Geneva Resort, Lake Geneva is just around the corner. The sessions are set, the arrangements are made and the exhibit halls are full. This is a new venue for the WWOA and it looks to be one of the best conferences yet. The website (WWOA.org) is waiting to take your registrations. Plan your trip, you will not be disappointed. It is a beautiful area and the scenery is spectacular.

Don’t forget about the Pre-Conference activities. The golf outing, sporting clays, bike riding plus the pre-con workshops. If you can’t come until later, join us at the Meet

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continued from page 8

and Greet Tuesday night to hook up with everyone you haven’t seen since last year. I hope to see you all there!

With all the excitement of the coming convention, there is some more somber news I must deliver. Leo Templeton, a very close friend to many and one of the founding fathers of our great organization passed away July 2, 2018 at the young age of 96. We should all strive to be as committed to our profession as Leo. Last year at the Annual Conference, Leo and his close friend Pete Albers, received 50-year Conference Attendance awards. What will you be doing when 50 years of service comes around? Stay active and keep coming to the Conference and talk to the many friends you have made through the best business in the world.

I would like to thank all of the Board of Directors I have served with through the years. You have all given me help and advice when it was needed. A special thank you to Karen Harter who has become a very good friend of mine. You have helped me to grow, learn and stay on the right path. When you accepted the job to be our Executive Secretary, none of us knew how much work was involved. You came in with an open mind, and our organization has benefitted from your expertise. We are still a growing and flourishing organization because of your eagerness to help us be better. Keep the faith!

WWOA has given a lot to me through the years. Friends that will last a lifetime and memories that will always make me smile. I want to thank all of you for the honor and privilege of serving on the Board of Directors. It is something I will never forget. This is not a farewell, but rather a moving on to the next part of my time with the WWOA, the best group of people in the world!

Sincerely,
Jeff Bratz, President WWOA

WWOA has given a lot to me through the years. Friends that will last a lifetime and memories that will always make me smile. I want to thank all of you for the honor and privilege of serving on the Board of Directors. It is something I will never forget. This is not a farewell, but rather a moving on to the next part of my time with the WWOA, the best group of people in the world!

Sincerely,
Jeff Bratz, President WWOA
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PROUDLY DESIGNED AND FABRICATED IN WISCONSIN
Troubleshooting corner volume VII: What truly defines low dissolved oxygen?

By Ryan Hennessy, Microbiology and Operations Specialist for Midwest Contract Operations and WWOA board member rhennessy@mco-us.com

How often have we heard the following question: How much dissolved oxygen (DO) needs to be present in the aeration basin? This question, like most things wastewater related does not simply have a “cut and dry” answer. The most accepted (and most often correct) answer is anywhere between 1.5-3 mg/L for municipal wastewater treatment plants.

One thing that is important to keep in mind is that when we are measuring DO, we are measuring what can be thought of as “residual” DO in the bulk liquid between the flocs. Within the floc structure the bacteria are further depleting dissolved oxygen. The actual DO set point/concentration needed is defined by “enough DO to keep the interior of the floc aerobic”. The faster the bacteria are taking up oxygen or the higher the oxygen uptake rate, the more “residual” DO is therefore needed to keep the interior of the floc aerobic.

Literature states that in typical municipal wastewater treatment plants with a DO concentration of 2 mg/L this leaves approximately 0.2 mg/L DO in the interior of the floc. (Jenkins, 2004). It is believed that the “ballpark” value of 2 mg/L was chosen for this reason. As we all know and many of us can personally attest to, no two plants are exactly the same. Another major (and sometimes overlooked) variable is the type of “food” the treatment plant is receiving. BOD (food) comes in many different forms. VFAs (volatile fatty acids) are immediately accessible and taken up very quickly within the basin. Acetic acid can be taken up by the bacteria within the first 15 minutes (Richard, 2018). Other types of BOD such as particulate BOD are adsorbed on the surface of the bacteria’s cell membrane while enzymes break the food down into smaller “pieces”. A good way to explain this is to think of bacteria as having a filter rather than a mouth. In order for the food to pass through the filter, it needs to be continued on page 14.
It’s the synergy that comes from supplying both pump equipment and electrical controls to operate those pumps. It’s the one stop shop for selection and sizing as well as after-market service to the end user.

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Dissolved oxygen should be measured from the place in which the oxygen demand and the oxygen uptake rate is the highest. Typically this is at or near the front end of the aeration basin. As the flow travels further down a plug flow basin, there becomes less available food, thus typically lower oxygen uptake rates. Some plants are able to taper down aeration within the basin to match demand. In other instances this isn’t practical such as if higher dissolved oxygen is needed to help meet an effluent DO limit, or if more DO is needed going into the clarifier to prevent/discourage denitrification.

Phase contrast microscopy (when used correctly) is a great tool to watch for signs of low DO. Note that low DO is a “relative term” as the higher the oxygen uptake rate and the higher the F/M (food to microorganism) ratio, the more DO will be needed. Filamentous bacteria identification and observing the presence/abundance of Sphaerotilus natans and type 1701 is especially valuable (note that H. hydrossis is also a low DO filament but this typically occurs at a much broader range of sludge ages and F/M ratio. As with all microscopy a common or greater abundance of an organism (for filaments common is 1-5 filaments per average floc) is needed in order to link abundance to a particulate cause.

The other important factor is simply if there is a problem or not. Our goal is always to meet permit limits in the most efficient manner possible. There are instances in which there can be signs of low DO but as long as this is not interfering with settling or nitrification the term “not broken, don’t fix” may apply. Personally we believe a thorough microscopic evaluation by a trained professional is a good idea every couple sludge cycles. By having a good idea of what “normal” conditions are, this is beneficial for troubleshooting should problems develop.

One last thing…. We are in the summer months and this means that with higher temperatures dissolved oxygen is less soluble in water so we typically have higher oxygen demand in the summer time. In Wisconsin this is most often viewed as a small price to pay for the few months of warm weather throughout the year! Hope everyone enjoys the summer.
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**Black River Falls hosts West Central meeting in May**

WWOA West Central Meeting May 8th 2018 – Black River Falls WWTP (Skyline Golf Course Black River Falls, WI)

Meeting was called to order by Chair Steve Reed. A special thank you to Rick Weikel with Black River Falls and to all other Operators and volunteers for all the time given to the WWOA West Central group. Your participation and time is greatly appreciated.

Speakers for the meeting were as follows:

1. “Blood borne Pathogens & other Health Issues” presented by Mark Rumpel with Keeping Safety Simple, LLC (mrumpel@keepingsafetysimple.com, 608-863-2141)

2. “The Alphabet Soup of Drones” presented by Dave Wierzba and Jeff Powell with MSA professional services (dwierzba@msa-ps.com, 715-790-3555 – jpowell@msa-ps.com, 763-267-8347)


4. “Guide to Higher Life Forms” Presented by Kara Hible and Mike Oldsberg (kibile@pvchemicals.com, 313-378-1283 – moldsberg@fremontind.com, 612-963-9315)

5. “Valves and Actuators” presented by Michael Barreau with Dorner Vales and Automation (mike@dornerco.com, 608-444-2511)

The meeting ended with tour of the Black River Falls Treatment Facility with the assistance of Rick Weikel and the City of Black River Falls staff, Thank you!

Submitted by: John Selvog

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**The operators competition needs you!**

Contact Rick Mealy at richard.mealy@wisconsin.gov for info
Wisconsin Wastewater Operators Association
52nd Annual Conference
Grand Geneva Resort, Lake Geneva, WI
October 16 to October 19, 2018

CONFERENCE & REGISTRATION INFORMATION

Dear WWOA Conference Attendees:

The WWOA Board of Directors cordially invites you to the 52nd Annual WWOA Conference, October 16 through October 19, 2018. We are at a new venue this year, the Grand Geneva Resort in Lake Geneva, WI. Our Conference Program is full of exciting information on what will prove to be a great conference.

Tuesday starts the fun with an array of activities.
- Golf Outing and Sporting Clays Events along with the Bicycle Ride
- Two Pre-Conference Workshops taught by the WDNR
- Meet and Greet with cook-out and refreshments

Wednesday officially opens the conference starting with the Welcome Address from Jeff Bratz, President WWOA and our Keynote Speaker, Karen Baetzel, retired Navy pilot, turned Leadership Speaker, Trainer, and Author.

Her inspirational Keynote Address titled “Cockpit Communications – Lessons that Work Anywhere,” will discuss the five key concepts regarding the power of words, the nonsense of nonverbal communication, the root of nearly all disagreements, and the latest leadership fad this is completely over rated. You will leave with one enduring leadership truth that you never hear. You don’t want to miss what is sure to be a Keynote to be remembered.

Wednesday’s activities include:
- Expo Halls/Exhibitor Venue - 10:00 am to 5:00 pm
- Technical Session with four different tracks from 10:45 until 4:00 pm
- Walk-Around-Lunch (open to all) Noon until 1:30 pm
- Operators’ Competition (Grand Ballroom Foyer) 12:30 pm until 4:30 pm
- Exhibitors Reception 8:30 pm until 11:30 pm at the Grand Geneva Ski Chalet

Thursday’s activities include:
- Technical Sessions - 8:00 am to 4:00 pm
- Technical Session – Septage Compliance and Master Operator Training: 12:30 pm – 4:30 pm
- Expo Halls – 8:00 am to 11:30 am
- Annual Business Lunch and Meeting- Lunch: Noon - 12:30 pm, Meeting: 12:30 to 1:30 pm
- Plant tour at WalCoMet- 1:15 pm to 4:00 pm
- Social Hour in the Forum at the Lodge – 6:00 pm – 7:00 pm
- Awards Banquet in the Forum at the Lodge – 7:00 pm to 9:00 pm
- Entertainment in the Forum at the Lodge – 9:00 pm to 11:00 pm with Comedian Eric Koconis, games, and cash prizes.

We close our conference Friday morning with a Farewell Speaker and Breakfast. Our closing speaker is, Jerry Deshane, League of Wisconsin Municipalities. Mr. Deshane will present an overview of Municipal Legislation.

PRE-REGISTRATION IS STRONGLY ENCOURAGED!
On-line registration via credit card is available at www.wwoa.org.

On behalf of the WWOA Board of Directors, the Technical Program Committee and everyone that has worked to bring the 52nd Annual Conference together, we look forward to seeing you in October.

Looking forward to seeing everyone in October!
Jeff Smudde

REMEMBER to pre-register.

It will save you time and frustration at registration time!
Conference schedule at a glance

Tuesday, October 16, 2018
10:00 a.m. Shotgun Start  Golf: Evergreen Country Club, Elkhorn, WI
10:00 a.m. Shotgun Start  Sporting Clays: McMiller Sports Center, Eagle, WI
9:30 a.m.  Bike Ride: Seminary Park, Lake Geneva, WI
2:00 p.m. – 4:00 p.m.  Registration Opens: Conference Center (pick up pre-registration only)
1:00 p.m. – 4:00 p.m.  Pre-Conference Workshops: Swinghurst and Galewood A/B
4:30 p.m. – 6:00 p.m.  Regional Officers Meeting: Loramoor B/C
6:00 p.m. – 9:00 p.m.  Meet & Greet (beer, wine, soda, cash bar)
6:00 p.m. – 8:00 p.m.  Dinner buffet: Brats, Burgers and all the fixins’ - Main Lodge pool and deck area

Wednesday, October 17, 2018
7:00 a.m. – 5:00 p.m.  Registration Opens: Conference Center (Scanning In and Out)
8:30 a.m. – 8:45 a.m.  Welcome Address: Loramoor A/B/C
WWOA President, Jeff Bratz
8:45 a.m. – 10:00 a.m.  Keynote Address: Loramoor A/B/C
Karen Baetzel, Retired Navy Captain:
Cockpit Communication-Lessons That Work Anywhere
10:00 a.m. – 5:00 p.m.  Exhibitor Expo: Grand Ballroom, Maple Lawn Ballroom, Evergreen Ballroom
10:45 a.m. – 12:00 p.m.  Technical Sessions: Lindwood, Galewood A/B, Galewood C/D, Swinghurst
12:00 p.m. – 1:30 p.m.  Walk Around Lunch:
Grand Ballroom, Maple Lawn Ballroom, Evergreen Ballroom Foyers
12:30 p.m. – 4:30 p.m.  Operators Competition: Grand Ballroom Foyer
1:30 p.m. – 4:00 p.m.  Technical Sessions: Lindwood, Galewood A/B, Galewood C/D, Swinghurst
8:30 p.m.— 11:30 p.m.  Chalet Ski Lodge - Exhibitor After Hours Event (open to all) Free Beer, cash bar, Bonfire. Trolley will be running until Midnight to shuttle attendees to and from the Ski Chalet to the Main Lodge, Timber Ridge Lodge and the Villas.

Thursday, October 18, 2018
7:00 a.m. – 4:45 p.m.  Registration Opens: Conference Center (Scanning In and Out)
8:00 a.m.– 11:45 a.m.  Exhibitor Expo: Grand Ballroom, Maple Lawn Ballroom, Evergreen Ballroom
8:00 a.m. – 11:45 a.m.  Technical Sessions: Lindwood, Galewood A/B, Galewood C/D, Swinghurst
12:00 p.m. – 12:30 p.m.  Operators’ Luncheon: Loramoor
12:30 p.m. – 1:30 p.m.  Business Meeting: Loramoor
12:30 p.m.—4:30 p.m.  Septage Compliance/Master Operator Training Technical Session: Swinghurst
1:15 p.m. – 4:00 p.m.  Plant Tour Departure: Hotel Foyer Entrance
( Must pre-register at Conference Registration Booth for bus transportation)
1:30 p.m. – 4:00 p.m.  Technical Sessions: Lindwood, Galewood A/B, Galewood C/D, Swinghurst
6:00 p.m. – 7:00 p.m.  Social Hour: Forum at the Lodge
7:00 p.m. – 9:00 p.m.  Awards Banquet: Forum at the Lodge
9:00 p.m. – 11:00 p.m.  Entertainment: Forum at the Lodge—Comedian Eric Koconus

Friday, October 19, 2018
7:30 a.m. – 11:00 a.m.  Registration: Conference Center (Scanning In and Out)
8:30 a.m. – 10: 30 a.m.  Farewell Breakfast: Grand Ballroom
Greeting: Jeff Simpson, WWOA President
Speaker: Jerry Deschane, League of Wisconsin Municipalities
Overview of Municipal Legislation
2018 WWOA sporting clays

McMillar Sports Center, S103 W38754 Hwy. NN, Eagle, WI 53119

Contacts: Tom Stebbins 920-763-4057
Jim Thalke 262-955-9090

Date: Tuesday, October 16, 2018

Time: 10:00 A.M. “Shot Gun Start”

Prizes: 1st, 2nd, & 3rd place team – Top Gun

Cost: $60 per shooter, WWOA Members, Manufacturers, Engineers, Suppliers, and Conference Attendees

Includes: 13 station/50 target shoot, (bring your own shells or purchase at Club). Steak lunch with all the fixins’ at the Grand Geneva Resort Ski Chalet from 1-4pm.

Cash bar after shoot at the Grand Geneva Ski Chalet!

Special door prizes and a separate Lewis Class.
Door prizes and other donations appreciated!

Station sponsors needed: $50 each (includes signage).
Mail all sponsorships to Karen Harter.

Sporting Clays registrations, with names of three/foursome or individuals must be received no later than Sept. 28, 2018. (Committee will assign if not in a three/foursome).

Please RSVP early as we are limited to 80 participants.

No refunds after Sept. 15, 2018 unless course is closed by decision of Club Management.

Waiver: In consideration of the registering for this event, I do hereby waive and release the Wisconsin Wastewater Operators’ Association and all persons and agencies connected with the WWOA from all claims for damages arising from my participation in and travel to and from this event.
2018 WWOA golf outing

Evergreen Country Club, N6246 US Hwy. 12
Elkhorn WI 53121

Date: Tuesday, October 16, 2018
Time: 10 a.m. “Shotgun Start”/18 holes
Prizes: Hole prizes and door prizes
Cost: $62 WWOA Members, Manufacturers, Engineers, Suppliers and Conference Attendees. Includes: Golf with cart, 18 holes golf, hole prizes and door prizes, box lunch with two drink tickets.

Golf outing registrations, with names of foursome or individuals, must be received no later than Sept. 29, 2018. (Committee will assign if not in foursome).

Hole prize sponsorship available for $75/hole. Please contact Randy Herwig at randymail@charter.net.

No refunds after September 15, 2018 unless course is closed by decision of club management. Day of event, rain checks would be issued for play, accepted through 2018 season. Appropriate golf attire required.

Name: _______________________________________
Address: ______________________________________
City: _________________________________________
State/Zip: _____________________________________
Email: ________________________________________
Phone: ________________________________________
Part of a Foursome?   Yes    No
Others in Group:

______________________________________________
______________________________________________
______________________________________________

# paid ______ X $62 each

Register online with a credit card or make check payable to WWOA.

Mail registration card and fee to:
Karen Harter, WWOA Executive Secretary
PO Box 451, Baraboo WI 53913

Waiver: In consideration of the registering for this event, I do hereby waive and release the Wisconsin Wastewater Operators’ Association and all persons and agencies connected with the WWOA from all claims for damages arising from my participation in and travel to and from this event.

Is your community interested in energy savings? Let Ruekert & Mielke, Inc. help your community identify and implement energy saving measures.

Ruekert  Mielke

Waukesha, WI • Kenosha, WI • Madison, WI
Chicago, IL • Global Water Center, WI
Fox Valley, WI • www.ruekertmielke.com
2018 WWOA bicycle ride and luncheon registration form

Name: ________________________________________  
Address: _______________________________________  
City: ___________________________________________  
State/Zip: _______________________________________  
Email address: __________________________________ 
Phone number: _________________________________  
$30: _________     Bike storage:       Yes_____ No____

Register online with a credit card or make check payable to WWOA. Mail registration card and fee to:  
Karen Harter, WWOA Executive Secretary  
PO Box 451, Baraboo WI 53913  
608-355-3081 or secretary@wwoa.org

Date:   Tuesday, October 16, 2018  
Time:   10a.m. Rider Meeting & Start Leisurely Ride  
Complete ride ~ 30-mile route  
Group start, ride at your own pace, there will NOT be a SAG wagon  
Cost:    WWOA Members, Manufacturers, Engineers,  
Suppliers and Conference Attendees – $30.00  
Cost Includes:  Snacks and drinks along the way , any  
required daily trail passes. Meal and drinks at establishment  
along ride route.  

Please RSVP early. No refunds after Sept. 15, 2018 UNLESS  
THERE IS INCLEMENT WEATHER.  
Registrations must be received no later than Sept. 29, 2018.  

Secure bicycle storage available in Conference Registration  
Office at the Grand Geneva. Contact Karen Harter, Executive  
Secretary for access to secure storage.  

Waiver: In consideration of the registering for this event, I do hereby  
waive and release the Wisconsin Wastewater Operator's Association and  
all persons and agencies connected with the WWOA from all claims for  
damages arising from my participation in and travel to and from this  
event.
Pre-Conference Workshops
Tues., Oct. 16, 1 to 4 p.m.

Registration Form

Name: ________________________________

Address: ________________________________

City: ________________________________

State/Zip: ________________________________

Phone: ________________________________

Employer: ________________________________

DNR#: ________________________________

Workshop #: ________________________________

Cost: $35 Pre-Registration
$45 On-Site or after Sept. 21
No refunds issued after Sept. 15, 2018
Includes refreshments between workshops

CECs 3 hours Municipal Waterworks
3 hours Wastewater
Full workshop attendance 1-4 PM

Register online with a credit card or make check payable to WWOA.

Mail registration card and check to
Karen Harter, WWOA Executive Secretary
PO Box 451
Baraboo WI 53913
## WWOA Technical Program Schedule

**Wednesday, October 17, 2018  ** CECs: 6.0 General Septage, 6.0 Wastewater

### Welcome Address – WWOA President - Loramoor A/B/C

Keynote Speaker - Karen Baetzel, Retired Navy Captain, Cockpit Communication-Lessons That Work Anywhere

### Exhibits  10:00 am - 5:00 pm

<table>
<thead>
<tr>
<th>TIME</th>
<th>Session A: Nutrient Removal Case Study</th>
<th>Session B: Automation</th>
<th>Session C: IT</th>
<th>Session D: Lift Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderator</td>
<td>Bernie Robertson</td>
<td>Nate Tillis</td>
<td>Troy Larson</td>
<td>Lyle Lutz</td>
</tr>
<tr>
<td>Room</td>
<td>Linwood A/B</td>
<td>Galewood C/D</td>
<td>Swinburnst</td>
<td>Galewood A/B</td>
</tr>
</tbody>
</table>

### 10:45-11:20 am  

<table>
<thead>
<tr>
<th>10:45</th>
<th>Cumberland Membrane Bioreactor Project, Lessons Learned on the Path to 0.075 mg/L Effluent P</th>
<th>Good, Better, Best, or Best Fit? Three Scenarios of a SCADA System Overview</th>
<th>Spreadsheets: An “Excel”-lent Tool to Make Data Work for You</th>
<th>Wastewater Forcemain Management Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker/Author</td>
<td>Mark Lundgren and Katie Goin</td>
<td>Steven Muther, P.E.</td>
<td>Sam Hocevar and Troy Larson</td>
<td>Steven Bruskiewicz</td>
</tr>
</tbody>
</table>

### 11:25-12:00 pm

<table>
<thead>
<tr>
<th>11:25</th>
<th>The Challenges of Change: From RBCs to BNR Activated Sludge at Whitewater – A Case History</th>
<th>Orthophosphate Monitoring and Phosphorus Removal Control</th>
<th>What Does the IoT (Internet of Things) Mean to Water &amp; Wastewater?</th>
<th>Lift Station Check-ups: The Doctor is in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaker/Author</td>
<td>Bill Marten, Tom Crouse, Tim Reel</td>
<td>Robert C. Smith</td>
<td>Joe Finn</td>
<td>Kathleen Hassing</td>
</tr>
</tbody>
</table>

**Walk Around Lunch**  12:00 pm - 1:30 pm Maple Lawn/Grand Ballroom/Evergreen

**Operators Competition**  12:30 pm - 4:30 pm  Grand Ballroom Foyer  CECs 5.0 Wastewater
<table>
<thead>
<tr>
<th>TIME</th>
<th>Session E: Watershed</th>
<th>Session F: Activated Sludge</th>
<th>Session G: Poop-er-ee</th>
<th>Session H: Collection Systems</th>
</tr>
</thead>
</table>
| 1:30 - 2:00 pm | **Moderator:** Kevin Freber  
 **Room:** Linwood A/B | **Moderator:** Don Lintner  
 **Room:** Galewood C/D | **Moderator:** Sue Leith  
 **Room:** Swinghurst | **Moderator:** Jeff Simpson  
 **Room:** Galewood A/B |
| 15 | Small Utility Uses the MDV to Help with Phosphorus Compliance | South Beloit Wastewater Treatment Plant Improvements | Real Truths Behind the RFP Process | Low Pressure Sewers. What are They and Are They Right For Me? |
| 2:05 - 2:40 pm | Phosphorus Trading a Real WWTP to WWTP Solution | Case Studies: Common Operational Challenges at Municipal WWTPs | Avoid “Robbing Peter to Pay Paul”; Collaborative Master Planning Results in a Balanced Plan for All Departments in a Small Wisconsin Community | Take Control of Your I&I In Manholes |
| 2:40 pm - 2:55 pm | Break in Exhibit Area |  |
| 2:55 - 3:25 pm | City Of Tomah’s Adaptive Management Journey | Troubleshooting Microthrix Parvicella Results in Development of Operational Tools | Roof Fall Protection Equipment Selection, Equipment Implementation, Training, and Fall Protection Policy | Wipes Ready Technology – Winning the War Against Wipes |
| 3:30 - 4:00 pm | Oconomowoc Watershed Protection Program (OWPP) - Key Elements of Success | Effects of and Recommended Response to Industrial Discharge of Quaternary Amines | Irrigation of a Hybrid Trees as an Effluent Discharge Alternative | A Review of Research Into FOG Deposit Sources, Formation and Remediation |

Exhibitor Sponsored Get-Together at the Grand Geneva Ski Chalet  8:30 pm - 11:30 pm  Don’t’ Drive—Take The Trolley  The Grand Geneva Trolley will run all night from the Main Lodge, Timber Ridge Lodge and the Villa’s to the Ski Chalet and back again.
## WWOA Technical Program Schedule

**Thursday, October**  
CECs: 7.0 General Septage, 7.0 Wastewater, 4.0 Septage Compliance

<table>
<thead>
<tr>
<th>TIME</th>
<th>Session I: Nutrient Removal</th>
<th>Session J: Laboratory</th>
<th>Session K: Regionalization</th>
<th>Session L: BioSolids</th>
</tr>
</thead>
</table>
| 8:00 – 8:45 am| Lagoon Solutions: Treatment Performance and Nutrient Removal  
Moderator: Tom Fitzwilliams  
Room: Linwood A/B | Session J: Laboratory | Session K: Regionalization | Session L: BioSolids |
| 8:50 – 9:35 am| Nick Janous  
Session J: Laboratory | Session K: Regionalization | Session L: BioSolids |
| Break in exhibit area 9:35 a.m. to 10:00 a.m. | Tons of Green: Algae-Based Nutrient Recovery in Beaver Dam, Wisconsin  
Moderator: John Bond  
Room: Linwood A/B | Using PACs to Achieve Low-Level Phosphorus Requirements  
Moderator: Ryan Hennessy  
Room: Swinghurst | Panel Discussion: Anaerobic Digestion and High Strength Waste Receiving  
Moderator: Jeremy Cramer  
Room: Galewood D/D |

### Session I: Nutrient Removal
- **Moderator:** Tom Fitzwilliams  
- **Room:** Linwood A/B

#### 8:00 – 8:45 am
- **Moderator:** Tim Canter  
- **Room:** Linwood A/B
  - Lagoon Solutions: Treatment Performance and Nutrient Removal

#### 8:50 – 9:35 am
- **Moderator:** Nick Janous  
- **Room:** Swinghurst
  - Designing Lagoon-Based WWTPs for <1 mg/L Ammonia in <34°F Water

### Session J: Laboratory
- **Moderator:** Rick Mealy  
- **Room:** Swinghurst

#### 8:00 – 8:45 am
- **Moderator:** Tom Trainor  
- **Room:** Swinghurst
  - NR 149 Changes

#### 8:50 – 9:35 am
- **Moderator:** Rick Mealy  
- **Room:** Swinghurst
  - All Your Lab Questions Answered!

### Session K: Regionalization
- **Moderator:** Bruce Bartel  
- **Room:** Galewood A/B

#### 8:00 – 8:45 am
- **Moderator:** Travis Anderson, Brad Zautcke  
- **Room:** Galewood A/B
  - Village of Salem Lakes Regionalization Project Results in Repurposing Flood Prone Treatment Facility

#### 8:50 – 9:35 am
- **Moderator:** Taryn S. Nall, P.E.  
- **Room:** Galewood A/B
  - Developing Successful Intermunicipal Agreements

### Session L: BioSolids
- **Moderator:** Jeremy Cramer  
- **Room:** Galewood D/D

#### 8:00 – 8:45 am
- **Moderator:** John Inglewright and Pete McIlvety  
- **Room:** Galewood D/D
  - Optimizing Sludge De-watering, Sludge Thickening and Sludge Retention Time

#### 8:50 – 9:35 am
- **Moderator:** James A. Willson, II  
- **Room:** Galewood D/D
  - Case Study: Optimizing Biosolids Management Cost and Circular Economy

### Session M: Nutrient Removal
- **Moderator:** John Bond  
- **Room:** Linwood A/B

#### 10:00 – 10:50 am
- **Moderator:** Leo Kucek / Rob Minnema  
- **Room:** Linwood A/B
  - Tons of Green: Algae-Based Nutrient Recovery in Beaver Dam, Wisconsin

#### 10:55 – 11:45 am
- **Moderator:** Joseph Carlston  
- **Room:** Linwood A/B
  - Using PACs to Achieve Low-Level Phosphorus Requirements

### Session N: Treatment Performance
- **Moderator:** Ryan Hennessy  
- **Room:** Swinghurst

#### 10:00 – 10:50 am
- **Moderator:** Laura Rozumalski and Nick Jordan  
- **Room:** Swinghurst
  - 3D Modeling for Improved Wastewater System Design

### Session P: BioSolids
- **Moderator:** Jeremy Cramer  
- **Room:** Galewood D/D

#### 10:00 – 10:50 am
- **Moderator:** C. Shaw, M. Penkwitz, R. Geifer, G. Markle, S. Thieszen, M. Klimek, C. Shoeple  
- **Room:** Galewood D/D
  - Panel Discussion: Anaerobic Digestion and High Strength Waste Receiving

### Session Q: Plant Operations
- **Moderator:** Sharon Thieszen  
- **Room:** Galewood A/B

#### 10:00 – 10:50 am
- **Moderator:** Sharon Thieszen, Tom Steinbach Randy Oliphant and Troy Larson  
- **Room:** Galewood A/B
  - Tricks of the Trade

### Session R: BioSolids
- **Moderator:** Jeremy Cramer  
- **Room:** Galewood D/D

#### 10:00 – 10:50 am
- **Moderator:** Panel Participation Continued  
- **Room:** Galewood D/D
  - Panel Discussion: Anaerobic Digestion and High Strength Waste Receiving

### Session S: Plant Operations
- **Moderator:** Sharon Thieszen  
- **Room:** Galewood A/B

#### 10:00 – 10:50 am
- **Moderator:** Panel Participation Continued  
- **Room:** Galewood A/B
  - Panel Discussion: Anaerobic Digestion and High Strength Waste Receiving
<table>
<thead>
<tr>
<th>TIME</th>
<th>Session Q: Nutrient Removal</th>
<th>Session R: Biogas</th>
<th>Session S: Energy</th>
<th>Session T:</th>
<th>12:30pm to 4:30pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderator:</td>
<td>Ryan Hennessy</td>
<td>Nate Tillis</td>
<td>Randy Langer</td>
<td>Steve Geis</td>
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</tr>
<tr>
<td>Room:</td>
<td>Linwood A/B</td>
<td>Galewood C/D</td>
<td>Galewood A/B</td>
<td>Swinghurst</td>
<td></td>
</tr>
<tr>
<td>Session Q:</td>
<td>optimizing BPR with Inline</td>
<td>Biogas - Efficiency through New Technologies</td>
<td>Benefits of Pulsed Burst Intermittent Large Bubble Mixing in Water &amp; Wastewater Treatment—Update</td>
<td>Septage Compliance and Master Operator Training</td>
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</tr>
<tr>
<td>Moderator:</td>
<td>Fermentation</td>
<td></td>
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<tr>
<td>Room:</td>
<td>Linwood A/B</td>
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<tr>
<td>Speaker:</td>
<td>Greg Paul</td>
<td>Kim Murdock-Timmeman</td>
<td>Charles Otis</td>
<td></td>
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</tr>
<tr>
<td>Sessions:</td>
<td>1:30 - 2:15 pm</td>
<td>2:20 - 3:05 pm</td>
<td>3:15 - 4:00 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:20 - 3:05 pm</td>
<td>Biological Phosphorus Removal in Oxidation Ditch Plants</td>
<td>Improved Method for Direct Steam Injection for Anaerobic Acid Phase Digester Heating</td>
<td>Energy Reduction and Biological Process Performance Improvements with Right-Sized Equipment and Next-Generation Process and Aeration Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:15 - 4:00 pm</td>
<td>Minor Modifications to Achieve Biological Nutrient Removal</td>
<td>Understanding Design Standards and Codes for Biogas Systems</td>
<td>How to Improve Your Plant with Energy Saving Solutions</td>
<td>Septage Compliance and Master Operator Training</td>
<td></td>
</tr>
<tr>
<td>Social Hour</td>
<td>6:00 pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awards Banquet / Entertainment</td>
<td>9:00 pm</td>
<td></td>
<td></td>
<td></td>
<td>The Forum at the Lodge</td>
</tr>
</tbody>
</table>
Meet keynote speaker Karen Baetzel

Meet Karen Baetzel, a fusion of a tough-minded senior military leader, a successful corporate executive and a gifted speaker and trainer. She retired after 30 years as one of the Navy’s most senior female Naval Aviators and then translated that success in the corporate world, before founding her own business, BattleAxe Consulting Services. Captain Baetzel has the resume of a practitioner, serving a wide range of corporate, government and non-profit organizations such as NASA, Microsoft, and the Departments of State and Defense, FDIC and the Corporation for National and Community Service. She was honored in 2015 to be named one of the nation’s top 101 Leadership Speakers by New York Times Best selling author Kevin Kruse.

For more info see www.truebattleaxe.com or look for her profile in the December 2017 issue of Kiplinger’s magazine https://www.kiplinger.com/article/business/T049-C000-S002-small-business-success-story-battleaxe.html

2018 WWOA Officers

President
Jeff Bratz

President Elect
Jeff “Juice” Simpson

Vice President
Jeff Smudde

Past President
Sharon Thieszen

Executive Secretary
Karen Harter

Director (2018)
Don Lintner

Director (2019)
Jeremy Cramer

Director (2018)
Rick Mealy

Director (2019)
Sue Leith

Director (2019)
Ryan Hennessy

Technical Committee
Chair
Jeff Simpson

Committee Members: Lyle Lutz, Sharon Thieszen,
Bernie Robertson, Jeff Bratz, Karen Harter,
Kevin Freber, John Bond, Mark Zimmerman, Don Lintner,
Troy Larson, Rick Mealy, Jeff Montpas, Nate Tillis,
Tom Fitzwilliams, Jeremy Cramer, Aaron Eichhorst,
Sue Leith, Ryan Hennessy

Exhibit & Manufacturers/Consultants Committee
Chair
Tom Mulcahy

Co-Chair
Carol Strackbein

Committee Members:
Kevin Freber,
Dave Dodge, Karen Harter,
Kelly Zimmer

Mark Your Calendars for 2019! WWOA 53rd Annual Conference!
KI Center/Hyatt on Main, Green Bay, WI October 7-11, 2019
Hotel reservation info on WWOA website under Annual Conference
WWOA 52nd Annual Conference Registration  
October 16—19, 2018 – Lake Geneva, WI

Registration Form (fill out one registration form for each person attending) Please print clearly.

Name (Last, First, M.I.) __________________________ Email Address: ___________________

Employer/Firm Name (if Manufacturer or Consultant): __________________________

Mailing Address: __________________________

Phone: __________________________

Position/Title: __________________________

WDNR Certification # __________________________

Regional Affiliation (circle one): SE NW SO LM NC WC

Member Number: __________________________

Member Affiliation: Municipal Consultant Industrial Operator Manufacturer/Sales Educator Septage Operator DNR/EPA Student

Pre-Registration (On or Before September 21, 2018)

<table>
<thead>
<tr>
<th>Type of Registration</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>WWOA Member - Full Conference</td>
<td>$100.00</td>
</tr>
<tr>
<td>WWOA Member - Wednesday Only (includes Walk Around Lunch)</td>
<td>$80.00</td>
</tr>
<tr>
<td>WWOA Member - Thursday Only</td>
<td>$60.00</td>
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<tr>
<td>Non-Member - Full Conference</td>
<td>$155.00</td>
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<tr>
<td>Non-Member - Wednesday Only (includes Walk Around Lunch)</td>
<td>$120.00</td>
</tr>
<tr>
<td>Non-Member - Thursday Only</td>
<td>$100.00</td>
</tr>
<tr>
<td>Non-Member plus WWOA Membership (see form following page) (Pre-Registration only)</td>
<td>$150.00</td>
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<tr>
<td>Retiree - Full Conference (Must be at least 60 years old &amp; retired from wastewater industry)</td>
<td>$55.00</td>
</tr>
<tr>
<td>Student - Full Conference (Must send copy of valid student ID)</td>
<td>$55.00</td>
</tr>
<tr>
<td>Student - Wednesday Only (Must send copy of valid student ID) (includes Walk Around Lunch)</td>
<td>$35.00</td>
</tr>
<tr>
<td>Student - Thursday Only (Must send copy of valid student ID)</td>
<td>$25.00</td>
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On-Site Registration (After September 21, 2018)

<table>
<thead>
<tr>
<th>Type of Registration</th>
<th>Fee</th>
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<tbody>
<tr>
<td>WWOA Member - Full Conference</td>
<td>$160.00</td>
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<tr>
<td>WWOA Member - Wednesday Only (includes Walk Around Lunch)</td>
<td>$140.00</td>
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<tr>
<td>WWOA Member - Thursday Only</td>
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<tr>
<td>Non-Member - Full Conference</td>
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<tr>
<td>Non-Member - Wednesday Only (includes Walk Around Lunch)</td>
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<tr>
<td>Non-Member - Thursday Only</td>
<td>$160.00</td>
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<tr>
<td>Retiree - Full Conference (Must be at least 60 years old &amp; retired from wastewater industry)</td>
<td>$70.00</td>
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<tr>
<td>Student– Full Conference (Must provide copy of valid student ID)</td>
<td>$70.00</td>
</tr>
<tr>
<td>Student - Wednesday Only (Must provide copy of valid student ID-includes Walk Around Lunch)</td>
<td>$50.00</td>
</tr>
<tr>
<td>Student - Thursday Only (Must provide copy of valid student ID)</td>
<td>$40.00</td>
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SUB-TOTAL: __________________________

REGISTRATION FORM CONTINUED ON NEXT PAGE

NO REFUNDS WILL BE ISSUED AFTER SEPTEMBER 15, 2018
**REGISTRATION FORM CONTINUED**

### Additional Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Outing <em>(Please include separate registration form)</em></td>
<td>$30.00</td>
</tr>
<tr>
<td>Golf Outing <em>(Please include separate registration form)</em></td>
<td>$62.00</td>
</tr>
<tr>
<td>Sporting Clays <em>(Please include separate registration form)</em></td>
<td>$60.00</td>
</tr>
<tr>
<td>Pre-Conference Workshop <em>(Please include separate registration form, enter fee here)</em></td>
<td>$35.00</td>
</tr>
<tr>
<td>Meet &amp; Greet - Tuesday <em>(Please check if planning to attend) NO CHARGE</em></td>
<td># attending</td>
</tr>
</tbody>
</table>

### Additional Functions (Cont.)

- *Operators Business Lunch: Circle Meal Choice below*
  - Grilled Chicken with Peppercorn-Mushroom Demi Glaze or Vegetarian Vegetable Lasagna $20.00
- Social Hour -Thursday *(Courtesy of Manufacturers & Consultants) (free to all paid attendees)* NO Charge
- Awards Banquet
  - *Circle Meal Choice: Orange Ginger Chicken - Stuffed Pork Chop w/Hunter Sauce - Herb Crusted Salmon*
  - Vegetarian –Chef’s Choice
- Farewell Breakfast *(Included in registration; Please note no. of tickets needed) NO CHARGE* # attending

### WWOA Dues – Two Years Renewal (If Applicable)

- $50 Regular Membership
- $40 Lifetime Members (25 Year Members)

### WWOA Dues – Two Years Renewal (If Applicable) (Cont.)

<table>
<thead>
<tr>
<th>Cost</th>
</tr>
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<tbody>
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<td>$</td>
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</tbody>
</table>

**TOTAL ENCLOSED**

$  

*NO REFUNDS WILL BE ISSUED AFTER SEPTEMBER 15, 2018*

---

**Manufactures & Consultants Registration and Payment Information on next page**

---

**New Membership Option (Registration/Membership Package)**

This package is available to non-members only and is available through pre-registration only.

Package includes: Conference registration and a two-year membership in WWOA for **$150.00**. You must fill out the Membership Application section AND the Conference Registration section. Take advantage of this opportunity to add a WWOA Membership – save $5.00 when compared to non-membership registration and save on registration for next year.

### New Membership Application Form

- **Name (Last, First, M.I.):**
- **Email Address:**
- **Employer:**
- **Company Name:**
- **Mailing Address:**
- **Phone:**
- **Position/Title:**
- **DNR Certification #**
- **Regional Affiliation:**
- **Member Affiliation:**
  - Municipal
  - Consultant
  - Industrial Operator
  - Manufacturer/Sales
  - Educator
  - Septage Operator
  - DNR/EPA
  - Student

This applicant is recommended by:
- **Member Name:**
- **City:**
- **State:**

Send Membership Application along with Conference Registration
Manufacturers & Consultants Registration

Sponsorship Fee (In Addition to Conference Registration)

All Manufacturing, Consultant Firms, Sales Firms, Exhibitors, and Contract Operation Firms *NOT exhibiting at the Annual Conference must pay the Sponsorship Fee (one fee per firm).

Exhibit Fee (Sponsorship Fee Included)

On or Before July 31, 2018 – 8’ x 10’
(One conference registration fee included)

Starting August 1, 2018 – 8’ x 10’
(One conference registration fee included)

(Add M & C Registration costs to total on page 15)

NO REFUNDS WILL BE ISSUED AFTER SEPTEMBER 15, 2018 (add payment total to page 15)

Booth Description

8’ X 10’ space, piped and draped, one 8’ skirted table and two chairs, identification sign, and one 120v AC 500 Watt outlet. Additional electrical connections or supplies may be ordered from the Exhibiting Set-Up Company. All exhibitors will receive a separate set-up packet from the Valley Expo.

Insurance

It is agreed that in no case will WWOA or its officers or directors be responsible for any loss, theft, damage by fire or water, or injury to any person or article as a direct result of their participation in the show.

Liability

Each booth operator assumes responsibility for the space leased during the conference and will keep it free from hazards to persons on the premises. WWOA will not be responsible for any injury that may occur to booth operators, their associates or employees.

Exhibiting Schedule

Exhibit Set-Up
Tuesday, Oct. 16 - 8:00 AM to 6:00 PM
Wednesday, Oct. 17 - 6:00 AM to 8:30 AM
All exhibits must be set up by 9:00 AM on Wednesday

Show Hours
Wednesday, Oct. 17 - 10:00 AM to 5:00 PM
Thursday, Oct. 18 - 8:00 AM to 11:45 AM

Exhibit Teardown
Thursday, Oct. 18 - Not before 11:45 AM
All exhibits must be removed from the exhibit hall by 2:00 PM Thursday

Enter credit card information in box at top of registration form (page 14),

Make checks payable to: WWOA

On-line registration available at www.wwoa.org

Mail registration form(s) and fees to:

Karen Harter
WWOA Executive Secretary
PO Box 451
Baraboo, WI 53913-0451
**WNDR Continuing Educational Credits (CEC) Procedures – WWOA Conference**

WWOA has implemented the following procedure to comply with the WDNR electronic CEC tracking system requirements. In order for those WWOA Conference attendees to receive their required CECs, the following program will be in place for this year’s conference. It is imperative that everyone that has a DNR Operators Certification Number includes it on their registration (no matter how they register – either on-line or by mail-in registration form). If you do NOT know your number, you can find it by going to the DNR website and look it up: [http://dnr.wi.gov/elcpublic/optcertlookup.aspx?pg=opcert](http://dnr.wi.gov/elcpublic/optcertlookup.aspx?pg=opcert). You can find your number and training history here. All of the Certified Operators in attendance will have a special barcode, based on their DNR Operator number, added to their badge for scanning purposes. They will be the only attendees with barcodes.

In order to receive CECs for the Conference, everyone with a barcode on their badge will have to scan in and out on Wednesday, Thursday, and Friday. All barcode scanning will be done at the WWOA Conference Registration Office. There will be special lines set up for scanning purposes. Everyone going on the plant tour will have to check in and out with the WWOA person taking attendance on the bus. You **must register** for the plant tour bus at the WWOA Conference Registration office in advance. Bus sign up is on a first come basis.

**NOTE:** We will only scan one badge per person. You must bring your own badge to the Registration office for scanning. We will NOT scan multiple badges presented by one person.

The WWOA Registration Office will be open the following hours during the convention:

<table>
<thead>
<tr>
<th>Date</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, October 16, 2018</td>
<td>2:00 pm to 4:00 pm (pick up registration packets only) WWOA Conference Registration office by the Grand Ballroom. Pre-Conference Registration will also be at the Conference Registration office by the Grand Ballroom.</td>
</tr>
<tr>
<td>Wednesday, October 17, 2018</td>
<td>7:00 am to 5:00 pm Registration and Pick Up Registration Packets Scan In and Out for CEC Hours</td>
</tr>
<tr>
<td>Thursday, October 18, 2018</td>
<td>7:00 am to 4:30 pm Registration and Pick up Registration Packets Scan In and Out for CEC Hours</td>
</tr>
<tr>
<td>Friday, October 19, 2018</td>
<td>7:00 am to Noon/Registration office (scan in and scan out) WWOA Conference Registration Office— Grand Ballroom area Scan In and Out for CEC Hours</td>
</tr>
</tbody>
</table>

**DO NOT FORGET TO CHECK OUT WITH THE WWOA PERSON TAKING ATTENDANCE ON THE BUS TOUR**

On-site Registration for the Pre-Conference Seminars will be at the Conference Registration office by the Grand Ballroom. Everyone that signed up for the Pre-Conference Seminars, check in and check out will be handled outside of Swinghurst and Galewood seminar rooms.

Every participant will receive CEC’s based upon their scan in and out times. If you scan out early, you will only receive CECs for the time that you are in attendance at the WWOA Conference. There will be signs placed throughout the facilities reminding everyone to scan in and out. Ultimately, this will be the responsibility of each attendee to do so.

Everyone that requires **Professional Development Hours (PDH’s)**, please check in at the **Registration Office**.
CONFERENCE FACILITY LAYOUT/ROOM LOCATIONS
The Lodge Main Level and Conference Center
CONFERENCE FACILITY LAYOUT/ROOM LOCATIONS

The Lodge Upper Level
CONFERENCE FACILITY LAYOUT/ROOM LOCATIONS
The Lodge Lower Level
CONFERENCE FACILITY LAYOUT/ROOM LOCATIONS
The Forum at the Lodge—Social Hour, Awards Banquet and Entertainment
### WWOA Convention Housing Information, October 16—19, 2018

Visit the WWOA website for hotel listing and contact information.

<table>
<thead>
<tr>
<th>Hotel Location</th>
<th>Address</th>
<th>Phone</th>
<th>Email &amp; Website</th>
<th>Rates</th>
<th>Group Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisconsin Waste Water Operators Association Convention</td>
<td>7036 Grand Geneva Way, Lake Geneva, WI 53147</td>
<td>855.833.5345</td>
<td><a href="https://res.windsurfersinc.com/index.aspx?propertyid=13972&amp;nights=1&amp;checkin=10/15/2018&amp;group=75Z32O">details</a></td>
<td><strong>Standard Room</strong> $149.00 per night</td>
<td>WI Wastewater Operators or 75z32o</td>
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<tr>
<td></td>
<td></td>
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<td><strong>Jr. Suite</strong> $240.00</td>
<td>9/14/18</td>
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<td></td>
<td><strong>King Suite</strong> $224.00</td>
<td>9/14/18</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Premier Suite</strong> $274.00</td>
<td>9/14/18</td>
</tr>
<tr>
<td>The Villas at the Grand Geneva</td>
<td>7036 Grand Geneva Way, Lake Geneva, WI 53147</td>
<td>855.833.5345</td>
<td><a href="https://res.windsurfersinc.com/index.aspx?propertyid=13972&amp;nights=1&amp;checkin=10/15/2018&amp;group=75Z32O">details</a></td>
<td><strong>Studio</strong> $309.00</td>
<td>WI Wastewater Operators or 75z32o</td>
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<td><strong>One BR</strong> $399.00</td>
<td>9/14/18</td>
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<td><strong>2 BR</strong> $479.00</td>
<td>9/14/18</td>
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<td><strong>3 BR</strong> $609.00</td>
<td>9/14/18</td>
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<tr>
<td></td>
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<td></td>
<td><strong>2 Bedroom Suite</strong> $249.00</td>
<td>9/14/18</td>
</tr>
</tbody>
</table>

**Check-in time is 4:00 pm on day of arrival.**

**Check-out time is Noon on day of departure.**

One night's room revenue plus tax will be billed for those that do not arrive on scheduled arrival date or canceled in less than 72 hours prior to arrival.
Monroe hosts southern district WWOA May meeting

The May 24 meeting started with an introduction, welcome, and brief history of the City of Monroe from Mayor Louis Armstrong.

Sherri Andregg provided a brief history of Turner Hall. This is not the original Turner Hall. The original was built in 1868, but burned down in 1936. Because the building was so important to the community, reconstruction started almost immediately. A few notable people who have visited the hall include John F. Kennedy, Jack Dempsey, and Lawrence Welk.

Sam Pociask, who is a senior GIS analyst for McMahon Associates, gave a presentation titled Utilizing GIS for Managing Utility Operations. Sam talked about some of the recent GIS trends, including a growing trend for “real time” data, use of “cloud” storage, and web-based platforms. Sam discussed a case study at the Village of Fox Crossing.

The Village previously had all its utility data on hard copy maps. It gathered the physical data and set up Arc GIS online that is used by multiple users in the Village. Sam then provided a real-time demonstration of the Village’s system. He demonstrated how record information can be linked to GIS and incorporated as a separate special layer that allows operators to access electronic versions of record drawings. He demonstrated how customized tools can be built within GIS to fit the unique needs of a community.

He also showed a case study for the Neenah–Menasha Wastewater Treatment Plant where it used GIS to document wastewater treatment plant assets and records. He showed how work order history and asset information (shop drawings, O&M manuals, photos) can be mapped in GIS.

Chris Temple from Centrysis spoke next about centrifuge maintenance. He showed some of the typical wear items on a centrifuge. He discussed typical timeframes for maintaining items on a centrifuge. He said it is preferred to complete significant maintenance back at the shop, not on site. He said it is critical to have a plan for redundancy, whether that is a second unit, or plans to bring in a temporary skid-mounted centrifuge for periods when the main centrifuge will be out of service. Chris suggested greasing the equipment one time per week. He said centrifuges can be power washed, but that the bearings continued on page 44
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should be covered and protected to avoid getting water in them. Extra lubricants, filters, belts, oils, extra bearings and seals, should be kept in spare parts.

Chris also talked about maintenance on a belt press. He said that most of the maintenance needs are diagnosed simply by looking at the various wear items, including the belt rollers and belt. He said a belt should last about 2,000 hours. He suggested keeping an upper and lower belt, hydraulic oil, and seam wire in your spare parts.

Greg Paul from Op2Myz spoke next, delivering a presentation titled The Gut Bug Connection. Greg has worked in wastewater since 1978. Greg provided a brief introduction and history of his time in the wastewater field. Greg explained how he dealt with acid reflux disease and how his efforts to curb it led him to the realization that the human digestive system and a wastewater treatment plant are very similar. He explained that microbes in a human digestive track and those in a wastewater treatment plant are very similar. Greg discussed the parallels between a human digestive tract and a wastewater treatment plant. For example, he described how the teeth are similar to a headworks of a WWTP and how a Supervisory Control and Data Acquisition (SCADA) system is similar to a nervous system in the human body. He also discussed how a human digestive tract can be monitored and regulated similar how a WWTP can be monitored and regulated.

Patrick Ingle of William/Reid LTD presented next about using instrumentation and controls for controlling dissolved oxygen (D.O.), ammonia, total nitrogen, and phosphorus. He started by discussing the various types of aeration control including variable frequency drive control, D.O. control, most open valve control, airflow cascade and most open valve operation, ammonia control, nitrate control, phosphorus, and oxidation reduction potential (ORP) control. Regarding ammonia control, he explained how an ammonia probe can be used to monitor effluent ammonia and adjust aeration so the effluent ammonia remains below the permitted effluent limit, but is not so low that energy is being wasted.

Door prizes were awarded by vendors that attended the meeting.

Cara Carpenter from the Green County Development Corporation briefly discussed how University of Wisconsin-
WWOA needs you!

By: Sharon Thieszen

Have you considered helping lead the Wisconsin Wastewater Operator's Association (WWOA)? I highly encourage anyone interested in leading the WWOA, to submit their nomination papers to run for the Board of Directors. Without the dedicated Board of Directors (BOD) volunteers, the WWOA's membership would not be possible. If you have questions about serving on the BOD, please contact any of the current or past board members for more information and to get their thoughts on what is involved. Serving on the WWOA Board of Directors has been one of the most rewarding aspects of my career! This year there are two Director positions and the Vice President office up for election. The Director offices are both two year terms. The elected Vice President will continue to serve on the WWOA Board of Directors as President Elect, President, and Past President. The elections will take place at the Annual Business Meeting on October 18, 2018 at the 52nd Annual WWOA Conference. Please consider running for the WWOA BOD. If you are interested, please complete the Nomination Form that is located on the WWOA's website under the Organization tab and then the Directors/Chairs tab at https://www.wwoa.org/organization/directors-and-chairs.

WWOA needs you!

By: Sharon Thieszen

Madison students are available for helping Green County Municipalities complete wastewater-related projects. Bernie Robertson from Wisconsin Department of Natural Resources provided a brief update. He mentioned that the collection system exam study guide would likely be out this fall, with the first exam date possible in late 2018. He also indicated that Clean Water Fund grant money will likely go up significantly in State Fiscal Year 2019, with a focus on phosphorus-related projects and regionalization projects. He indicated the intended use plan will be out relatively soon.

Jeff Bratz with WWOA provided a few reminders regarding WWOA including the operator's competition, scholarships available through WWOA, and updates regarding the technical conference to be held in Lake Geneva. The business meeting of the Southern Region was called to order at 11:55. Marc Zimmerman reviewed the treasurer's report. The treasurer's report was approved. The minutes from the previous meeting were approved. Under new business, Josh Voigt requested that if anyone has ways to use the Southern District excess funds for the benefit of Southern Region members to please discuss the idea with him. Under old business, Josh also mentioned that the

continued from page 44
We are committed to providing world-class process equipment and control system integration in an efficient and innovative way. All backed by an unmatched dedication to service.
Southern region is also providing an incentive to teams who sign up for the operator’s challenge. Josh noted that the next meeting will be held in Whitewater on August 29. This will be a joint meeting with the Southeast Region.

Mike Nagel from Environmental Testing and Consulting gave a presentation titled Biomonitoring: Whole Effluent Toxicity (WET) Testing. Mike started by providing a background and history of why WET testing was developed and used in the wastewater world. Organisms used for WET testing are fathead minnows and Ceriodaphnia dubia (also known as water fleas) which are a small aquatic crustaceans. There are two types of WET tests—an acute test and a chronic test. In summary, acute tests are short term and chronic tests are long term. An acute test is designed to replicate the area immediately around an outfall. The chronic test is intended to simulate the area further away from the outfall.

Mike discussed what happens if an initial WET test fails. If failed, two repeat tests must be completed within 90 days. If a repeat test fails, a toxicity reduction evaluation may be required. A permittee may also be placed on an accelerated testing schedule. Mike said common causes of failures include ammonia, high pH, chlorine, and polymers. Mike also provided suggestions on how to help tests go smoothly including, making sure sampling hoses are clean, rescheduling the test in the event of a plant upset, checking grab or composite sample requirements, sampling composite samples over a full 24 hours, and recording the temperature and pH on the chain of custody form.

Alyssa Maloney from Fehr Graham gave the next presentation about Lockout Tagout—Control of Hazardous Energy. Alyssa started by explaining what lockout tagout is and when it is required to be used. Alyssa also explained when lockout tagout is not required.

Alyssa discussed the requirements related to lockout tagout. Requirements include development of a written program, identification of affected and authorized employees, machine-specific written procedures, providing lockout tagout equipment, providing employee training, annual demonstrations of competency, and annual review of written...
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procedures. Requirements for lockout devices and locks were discussed. The 7 steps for lockout tagout presented:
1. Notify affected personnel.
2. Refer to company procedure for type & magnitude of energy
3. Shut down equipment using normal stopping procedures
4. Deactivate the energy sources
5. Lockout energy isolating devices
6. Dissipate stored or residual energy
7. Test the equipment to make certain it will not operate.
Alyssa discussed common mistakes, including not having adequate lockout tagout equipment, not having a written procedure, and employees not using lockout tagout procedures.

The meeting concluded with Tim Bronn of McMahon Associates providing a brief overview of the Monroe WWTP. Because of the significant industry in Monroe, the organic loading is equivalent to a community with a population of about four times that of Monroe. Tim provided a brief overview of the various processes at the WWTP Following the presentations at Tuner Hall, attendees joined the Monroe WWTP staff on a tour of their facilities.

WDNR – Collection System subclass update

Work began on building the new Collection System Study Guide and Exam in March of 2017. The team has been working hard at getting a finished study guide document ready for publication on the WDNR’s Website which will be ready by August of 2018.

As a reminder, if the treatment plant owns the sanitary sewer collection systems associated with it, then at least one person will need to be certified in the collection system subclass. Look for the certification requirement in your WPDES permit reissuance. For satellite sewerage collection systems, this certification will be voluntary. The exam will be ready for the November 7th test date. Special thanks to the Fond du Lac Regional Wastewater Treatment & Resource Recovery Facility staff for hosting nearly all the monthly meetings! Stay tuned for publication on the WDNR’s website this summer!

Team members involved on this project are:
- Larry Claude, Energenecs,
- Dave Flowers, Natural Water Solutions, LLC
- Gary Hanson, SEH
- Joan Hawley, Superior Engineering, LLC
- Lyle Lutz, Village of Plover Wastewater Utility
- Kevin Mraz, Algoma Sanitary District No. 1
- Bernie Robertson, Dept. of Natural Resources, Madison, WI
- Matt Schmidt, NEW Water
- Taylor Steager, Dept. of Natural Resources, Madison, WI
- Sam Warp, Marshfield Wastewater Utilities
- Nathan Wells, Dept. of Natural Resources, Madison, WI
- Tim Zimmerman, Village of Germantown

Special thanks to Jack Saltes for putting together much of the team.
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