Aerial view of La Crosse Wastewater Treatment Plant

50th Annual W.W.O.A. Conference
October 11-14, 2016
La Crosse Center
Host: La Crosse Wastewater Treatment Plant
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The Clarifier is the publication of the Wisconsin Wastewater Operators’ Association and is intended to inform and educate the membership on issues related to the treatment and control of wastewater. The Clarifier is produced five (5) times each year: February, April, June, September, and December. All members are encouraged to contribute to the mission of the Clarifier.

The Wisconsin Wastewater Operators’ Association is a non-profit organization dedicated to educating, informing, and advancing the wastewater profession. WWOA has approximately 2,000 members divided throughout six regions: Southeast, Southern, Lake Michigan, North Central, Northwest, and West Central.
President’s Message: Short ride but priceless experiences...

Just as it seems I’ve become adjusted to leading on the Board of Directors as President through the direction of some recent (and in my eyes greatest) Presidents, the time is nearing to once again pass the reigns over to another great leader, Sharon Thieszen at the 50th annual conference this October! Like all the great Presidents of the past, I have to say that the time serving on the Board almost seems like a blink of the eye now. Countless memories and so many friends acquired are just a couple of the highlights that have happened while having the honor to be involved in moving this organization forward in the few years involved on the board. I think about just some of the things that have happened in my terms on the Board, and how in the bigger picture they are just a blip in the evolving of the organization heading into the 50th conference. While I have not nearly been able to accomplish my goal of getting out to all the regions, the few meetings I did make were excellent as usual. There are so many things that being involved in this organization provides. From training opportunities to networking to leadership opportunities, this organization offers a diverse array of specialties within the entire Wastewater industry. I encourage everyone to think about their membership status and maybe becoming involved in your region or even possibly stepping up and running of the ranks on the WWOA Board of Directors! Don’t discard the notion if time is your only setback. I can guarantee that everyone on the board deals with conflicts of work and personal scheduling, but that is why there are others on the board for support, advice, and helping in any way they can. It really is a group effort all the way through! Thank you to those involved on the Board from my start, you really have been more like family than a governing body!

I hope everyone is excited and making plans to head on over to La Crosse in October! The conference is all set and arrangements finalized for the 50th Annual Conference the 18th-21st of October. Jeff Bratz has put together the best of the best for a special Keynote address, technical sessions, and entertainment after the awards banquet! A new high number of vendors will fill the exhibit hall and I want to send a big “thank you” out in advance to all them for your support to the organization and the industry! Another heads up to all attendees is that we will be giving away two HD Televisions this year; one at the business meeting and one at the farewell breakfast on Friday. You will be required to be present to win so plan your stay and register accordingly! Local arrangements are still available near the La Crosse center so make your reservations and register for the conference. Don’t forget to pre-order your commemorative 50th anniversary polo that will be available to pick upon check in at the conference!

Last but not least, enjoy the remaining Wisconsin summer as we head into the cool and scenery change of the fall season. It won’t be long and soon it will be snowing - hopefully a lot! Did I ever mention that I really like winter and the snow?! Okay, I do like baseball season too, so winter can wait a little and let’s hope the Twins and Brewers can make the final months look like they can be competitive! I really hope everyone has enjoyed reading and learning a little about me through these Presidents articles! Here’s to the next 50 years of conferences! I hope everyone stays in touch and I’m looking to stay involved and share my experiences as much as I can in the future! ☺

Sincerely,
Lyle Lutz (aka: Prez L)
City of La Crosse Wastewater Treatment Plant

Welcome to the City of La Crosse for the WWOA Annual Conference! The City and all of us serving the La Crosse Sanitary Sewer Utility are pleased to have the privilege of hosting the WWOA organization as we celebrate its 50th Anniversary.

And welcome to the City's wastewater treatment plant………..

La Crosse was founded as a City in 1842. The first sewers in La Crosse were installed in the 1880s and, like most other collection systems of that era, emptied directly into the Black and Mississippi Rivers. La Crosse’s first treatment plant was built in 1936, on the same site as the current facility, and provided primary treatment and disinfection. The primary plant was later expanded in 1958. Finally, in 1972, the City commissioned and completed a major project to double primary treatment capacity and add secondary treatment capability, for the total cost (in 1972 dollars) of $3.8 million. In those days, 80% Federal and State grants covered a large portion of that construction total.

Although the La Crosse Wastewater Treatment Plant in 2016 is a modern facility, reminders of past generations remain. If you look closely you’ll notice the two, rectangular, primary clarifiers and two of the plant’s four anaerobic digesters, which are fully-functional remnants of the original wastewater plant. The ornate, main entrance into the office area (check out the vaulted ceiling in the hallway) is part of the original building; the conference/meeting room with its beautiful cabinets and woodwork was the lab in 1936. With all of its features from the original facility, generations of upgrades and renovations, combined with new equipment and technology, the La Crosse Wastewater Treatment Plant is well-maintained and efficiently operated, which results in excellent performance and effluent quality.

Some general information…………
Wastewater flows to the plant through just over 200 miles of separated sanitary sewer and 26 lift stations, all of which are operated and maintained by the Utility. La Crosse serves as a regional facility so, in addition to flow from properties

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within the City, the existing plant provides sewer service under contract with several other entities, including:
the City of Onalaska;
the Town of Campbell;
the Town of Shelby Sanitary District #2; and
the City of La Crescent, MN.

All told, considering the current population of La Crosse at about 51,000, the regional wastewater plant provides treatment service to an estimated 85,000 – 90,000 people.

The City’s wastewater facility currently has excess treatment capacity. On the basis of flow, as compared to a hydraulic design capacity of 20 MGD, current (2015) flow averages about 11 MGD. Similarly, the annual average BOD loading to the plant is approximately 65% of current design capacity.

The Isle La Plume Wastewater Plant …………..is generally a conventional, activated sludge treatment process. The following flow diagram shows the various plant processes as the facility exists today.

Without going into painful detail to describe every step of the system (if we did that, no one would want to tour the plant during the conference!), what follows is general information to describe the plant and highlight some of the more interesting aspects of the system.

On the liquid side………All flow must be pumped twice to complete its journey to the Mississippi River. Sewage is pumped initially after screening and a second time following primary clarification.

continued from page 4

continued on page 8

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The plant HEADWORKS utilizes a Huber fine screen and dual PISTA grit system to remove solids ahead of primary and secondary treatment processes. Screened materials are hauled and disposed at the La Crosse County Landfill. Washed grit is also transported to the landfill where it is reused as daily cover material.

Five PRIMARY CLARIFIERS are currently available for service; usually only two units are in operation. The “newest” primary clarifiers were installed in 1972 but all units have been fully rehabilitated to almost-like-new condition.

The design of the original secondary treatment process

continued on page 10
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included two, separate, aerated flow trains and a coarse-bubble air diffusion system; the system was upgraded to implement fine-bubble diffusion in the 1980s. In the early-1990s, working directly with Dr. Cliff Randall, plant staff installed an initial BIOLOGICAL NUTRIENT REMOVAL system to pilot the BNR process. The BNR system as it exists today was installed in the late-1990s, based on data provided by the initial system.

In 2012, a project was completed to install high-speed, high-efficiency turbine blowers and enhance D.O. transfer efficiency with an aeration network utilizing membrane-type diffusers.

Four SECONDARY CLARIFIERS are currently available for service with one unit typically not in operation. Similar to the primary tanks, all secondary clarifiers have been fully rehabilitated to almost-like-new condition.

Seasonal disinfection is required. In 1991, the City made the decision to go away a chorine-gas disinfection system, in favor of relatively new (at least at that time) ultraviolet.
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technology. The wastewater plant's first ULTRAVIOLET DISINFECTION SYSTEM, complete with its 1536 lamps, went into operation in 1992. With advancements in technology, the original UV system was replaced in 2004, and then expanded in 2008. The ultraviolet disinfection system operating at the City's wastewater plant today has a total of 180 UV lamps!

The wastewater plant utilizes an extensive SCADA for automated operation of much of the facility. Some of the more interesting INSTRUMENTATION features that are part of the current SCADA system include:

- Real-time, in-line monitors that analyze effluent Ortho-P, TSS and Ammonia and include alarm settings to alert higher than normal results.
- Real-time monitors to analyze Ortho-P in BNR anaerobic zones and Primary Effluent to determine health of the BNR system and determine Phosphorus loading.
- Real-time probes in mixed liquor and RAS to determine concentration of TSS; this information is used to monitor and maintain constant SRT values.

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The wastewater plant utilizes its on-site, certified lab to complete much of the analytical work required for monthly DMR reporting, as well as analyses to diagnose operational challenges.

On the solids side…..
Currently, all solids removed through primary and secondary settling, as well as all waste activated sludge pass through one of two GRAVITY THICKENERS. Similar to all other settling tanks, the 1972-vintage gravity thickeners have been fully rehabilitated to almost-like-new condition.

Four ANAEROBIC DIGESTERS, including one gas holder, process all gravity-thickened solids prior to thickening and storage.

Prior to liquid storage, solids are thickened using one GRAVITY BELT THICKENER. The wastewater plant also has one belt filter press for processing cake biosolids.

The current biosolids storage system at the wastewater plant includes two 3.1 million gallon LIQUID STORAGE TANKS and a CAKE STORAGE BUILDING capable of holding approximately 1600 cubic yards of material.

The Utility uses a contracted service to manage almost all aspects of its BIOSOLIDS PROGRAM. The vast majority of stored biosolids is in liquid form. These materials are transported to and injected in farmers’ fields, generally located east of, and within about 25 miles of the City.

The people who make it happen……..
Staffing at the wastewater treatment plant totals 22 people, including supervisory staff, who undertake and tackle all tasks, and respond to all challenges, related to successful operation, maintenance and oversight of the facility and the sanitary collection system serving La Crosse properties. Staffing includes people with long experience, exceptional mechanical & maintenance skills, and outstanding technical knowledge.
Our well-rounded team has decades of experience as water and wastewater superintendents, treatment operators, engineers and regulators. We don’t stop at planning and design services. Instead, we apply our inside knowledge of what it takes to run a plant to help you keep your water and wastewater systems operating efficiently and safely.

Contact Troy Gallagher to learn more about how we can make your treatment system more efficient.

The Water Environment Federation Announces 2016 WEF Fellows

Congratulations to Ralph “Rusty” Schroedel for being selected as a WEF Fellow. This is an honor bestowed by the Water Environment Federation (WEF) to individuals that have made significant contributions to the water profession.

“WEF Fellows have made significant professional accomplishments toward protecting public health and the environment through sustainable water management,” said WEF Executive Director Eileen O’Neill. A total of 15 members were recognized with this honor for their contributions to design, education, operations, regulation, research, utility management, and leadership.

Rusty will receive recognition of this honor at WEFTEC 2016 in New Orleans.

Make sure to congratulate Rusty when you see him for such an honor.

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The City’s Sanitary Sewer Utility first went into effect in 1991. Prior to that the wastewater plant and sanitary sewer system were part of the City’s tax levy.

The Sanitary Sewer Utility is currently debt-free. All capital improvement projects since the late-1990s have been funded without borrowing. City and contracted customers currently enjoy some of the lowest sewer rates in the Wisconsin.

Like most other facilities, work is underway to plan for compliance with a future, much-lower effluent phosphorus limit.

Please join the tour of the La Crosse wastewater treatment plant as part of the 2016 WWOA Annual Conference, or find someone from the plant staff during the conference. Thanks for your interest in the La Crosse facility…….. ……and CONGRATULATIONS to the Wisconsin Wastewater Operator’s Association on its 50th anniversary!

Other fascinating tidbits……..

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Kaukauna hosts the May 19 WWOA-LMD meeting

The May 19th Lake Michigan District meeting in Kaukauna was another successful meeting with over 80 operators, septage haulers, and DNR personnel in attendance, along with many equipment and process vendors. A special thanks to Mulcahy Shaw Water for sponsoring the treats during the breaks. Dave Casper, Heart of the Valley – Metro Sewerage District Commission President, welcomed everyone to the City.

Following the welcome by the Commission President, Tammy Kuehlmann and Ed Nevers of Donohue & Associates presented Innovative Analysis Replaces WDNR Inflow/Infiltration Reduction Mandate. Tammy and Ed provided background data on the plant and interceptor sewer and reasoning for looking at reducing I/I. Tammy and Ed discussed the goals of the 2003 facility plan amendment. A chart was displayed showing how much peak flow reduction each community discharging flow to HOV WWTP were expected to achieve. In addition, Tammy and Ed discussed flow reduction progress after 7 years for each of the communities involved. The presentation was ended by discussing how there is no substitution for good data.

Next on the agenda was Mike Raynovic of North Central Labs. Mike had a presentation titled Optical DO Meters. Mike first provided a little history of DO measurement. Mike explained the pros, cons, and operation method of the different oxygen sensing technologies currently on the market. In addition, Mike introduced the new technology of optical DO probes. Mike ended the presentation by discussing advantages of using optical DO probes over the previous technologies.

Dustin Jerabek called the WWOA LMD business meeting to order. Last quarter’s minutes and treasurer’s report were approved. Richard Sachs of the WDNR stated the CMOM program submittal deadline is August 1, 2016. The May 4th Operator Certification exams have been sent out and if you had not received yours yet, contact Richard Sachs. Richard stated it’s CMAR time again and let everyone know that the operator and facility subclasses and grade levels have been revised. However, some of the subclasses are not yet available specifically, Collections Systems, Recirculating Media Filters, and Nitrogen Removal.

Tom Fitzwilliams of MSA Professional Services presented on Investigation of Bacterial Communities in a Sequencing Batch Reactor. Tom described how many bacteria cannot be identified visually and that multiple species look identical. In addition, some species shape morph, based on environmental conditions. Tom explained how DNA sequencing can be used for wastewater process troubleshooting. Tom provided a case study done at the Ho-Chunk WWTF where DNA sequencing was conducted for a batch reactor. Tom finished the presentation by showing graph of the DNA sequencing results.

The last presentation was by Larry Henderson of Energenecs. Larry’s presentation was titled Technology Trends in Aeration Systems. The presentation described the history of diffuser technologies and diffuser membranes. Larry described a little about membrane science regarding materials, manufacturing, and perforation. In addition, Larry provided the performance targets for the different membrane materials. The presentation was wrapped up with recommended selection methods to consider when installing or replacing your aeration diffusers.

Kevin Skogman, Director of Operations and Maintenance for the Heart of the Valley Metro Sewage District, gave a walk through presentation on the plant treatment processes and major components. A plant tour followed the presentation.

The next meeting will be in Sister Bay on August 18, 2016. Special thanks to the Heart of the Valley WWTP operators for hosting this meeting.

Minutes submitted by Josh Steffeck, Lake Michigan District Secretary/Treasurer

WWOA is still seeking nominations for the Board of Directors. Currently we have four positions with three nominations.

If you are interested in serving on the Board of Directors, please contact Kelly Zimmer at kzimmer@msa-ps.com. Nomination Form can be found on the WWOA website: www.wwoa.org/organization/directors-and-chairs/.
Kevin Freber welcomed everyone to the Turner Hall of Watertown

The first speaker was Autumn Fisher and she spoke about Soluble Non-reactive Phosphorus 101. She talked about results of phosphorus testing they have done at the Fond du Lac WWTP.

The next speaker was Abigail Cantor and spoke about Implications of the Flint, Michigan Water Crisis. The talk was about Chemical Scale and Biofilms that have built up on the pipe walls over time.

The next speaker was Mark Riedel and he talked about Rock River TMDL. The talk was about clean water act, reasonable assurance, designated uses, soil health / productivity.

The next speaker was Paul Cunningham and he talked about The Ecology of Shallow Lakes. He talked about some of the stable states in Shallow Lakes and things that are misunderstood.

Next was the Southern District Business Meeting. Under new business the next quarterly meeting will be held in Madison. Next was the Treasurers Report and the report was read and approved. There is a balance of 6,809.17 in the account. There was talk about what to do with the money. Some of these ideas were, get a bus to go to WEFTEC, and other ideas were to use the money for college
continued from page 17

fund for someone. At the next meeting, please bring your ideas.

The next speaker was Marty Griffin talk about Wisconsin retirement System Overview. The talk was mostly about Benefits and beneficiaries, payment options and how we calculate them. He also talked about annuity adjustments, returning to provisions and Group Life and Health Insurance.

The final speaker was Bill Erickson from Applied Technologies talked about the Watertown WWTP. He talked about the old and the new plant. Kevin Freber gave the plant tour.

Mark Riedel

Direct Sales Representative - Xylem Pewaukee Branch

We are currently seeking a Sales Representative to be responsible for direct sales of the company’s product line and accessories to the Commercial/Municipal markets within an assigned Wisconsin territory and UP of Michigan.

Ideal candidate will have a Bachelor’s Degree in Business or Engineering with 2+ years of technical sales or sales related experience (pump industry preferred) in the Commercial/Municipal markets.

This position may require overnight travel. Individual must possess a valid driver’s license with good driving record, be highly motivated, have a high mechanical aptitude with solid troubleshooting skills and possess superior customer service, computer and presentation skills. Underground construction experience is a plus.

Experience with pumps, mixers, electrical controls, hydraulics, and ability to read electrical and mechanical schematics is also a plus. This is an exciting opportunity to join Xylem and with people who share in the passion and commitment for facing the world’s most critical water challenges head-of and to solving them.

We offer challenging and rewarding careers for highly motivated individuals and are currently seeking top candidates to become part of our team.

We offer an outstanding compensation and benefits package. So if you are looking for an exciting career with a world class corporation, you deserve to make the move to Xylem! Please email resume to Human Resources c/o: marie.hink@xyleminc.com.

To receive CECs for attending the conference, those with a BARCODE on their badge must be sure to have it scanned at the WWOA conference registration office.

You will need to be scanned when you arrive and when you leave each day. Scanners will be located at the registration office.
From world-class process equipment to professional SCADA system services – partner with us confidently.

Wisconsin
Illinois
U.P. Michigan
Minnesota

www.energenecs.com  800.343.6337
President Steve Skinner called the meeting to order at 8 a.m. on August 3 at the Eau Claire WWTP. There were 54 operators in attendance and 5 vendors on hand with displays. They were Commercial Testing Labs, Energenics, Crane Engineering, Dorner, Synergy and Xylem. Steve thanked Energenics for the morning refreshments. We started off with the business meeting. Steve announced that we are still looking for someone to be nominated for the rookie of the year award. Steve announced that Joe Beaudry of Hudson will be next year’s president and Randy Lindquist from the West Central Biosolids Facility will be the vice chair. Jeff Simpson a director for WWOA talked about the 50th annual meeting which will be held in La Crosse and that scholarships are available so please send in applications. Jeff Pippenger the utilities manager welcomed everyone to the Eau Claire WWTP and then introduced the staff that was on hand. Jeff said that prior to the recent upgrade the wwtp was staffed 24/7 and now that has been reduced to 8 hrs per day. Donohue Engineering was the consultants for this project; the project bid was $39.4 million. Jeff then discussed the history of the plant explaining that the original plant was built in 1872. They now have a design flow of 12MGD and the average for 2015 was 4.8 MGD. Jeff then briefly discussed the projects included in the latest upgrades: Odor Control- the new biofilter removes odors by about 85%, Secondary Treatment- they removed the RBC system and installed activated sludge and nitrifying system that reduces B.O.D. by 98%, T.S.S. removal by 99% along with a biological phosphorus removal. Blower Building- three new ABS turbo compressor blowers were added, Solids Building- 2 GBT were installed, Digester Improvements- new covers and mixers were added, Bio Fuel Generation- 2 new 275 kw gas generators and 2 bio fuel generators were installed, SCADA/ Laboratory- they replaced 86 motors, 40 vdfs, upgraded the SCADA and completely redesigned the laboratory.

Kathy White WWTP Chemist was the next speaker, she informed us that the lab is WDNR Certified and that they run over 16,000 tests annually and the lab was upgraded in 2015. She then went on to discuss the activated sludge system upgrades and the improvements of operational control. She then talked about the new equipment in the lab and how fast they can get the results and make operational changes as needed. Kathy showed some slides of some healthy mixed liquor and things to look for, discussed the probes and sensors in the aeration zone, talked about the in line phosphorus analyzer and showed slides of past and current wwtp trends and results.

The next part of the day was a walking tour of the wwtp. We split up into 3 groups and the tours were led by wwtp staff and Energenics personnel highlighting instrumentation and plant controls.

Brian Akason from Energenecs introduced everyone there from Energenecs. Brian discussed the process and instrumentation drawings and the details of biding projects like this. Tom Robarge talked about the SCADA system upgrade, its components and redundancy they have built into the system, they used the Wonderware operating system. He talked about how the staff at this plant had input in designing the system and displayed some graphs and controls of different areas in the plant.

Bill Marten Donahue and Associates talked about the Eau Claire facility planning process and how the design continued from that. Phase 1 started in 2006 at a cost of $4.5 million, Phase 2 addressed the 20 year planning period. He also talked about key BNR challenges with the secondary clarifier update like getting settled solids out from the bottom of the tank and installing baffles in the tank to keep solids in the tank.

Julia Stevenson Wisc. DNR was our final speaker of the day. Julia said that the CMOMs should be completed by now and also said that EPA has not responded on the proposed phosphorus discharge variances as of yet.
Dear WWOA Members and Associates:

Hard to believe that this will be our 50th Annual WWOA Conference. I hope you will join us in historic La Crosse Wisconsin from October 11th through October 14th for what looks to be a very special conference like no others before. Activities kick off on Tuesday morning with golf, sporting clays or a bike ride. Our Pre-Conference Workshops start on Tuesday afternoon with what looks to be two very educational and entertaining sessions. After all of that, join us Tuesday evening in the South Hall of the La Crosse Center for our annual Meet and Greet for refreshments and what they call a Coulee Region Picnic Buffet; good food, good drinks and definitely good friends.

WWOA President, Lyle Lutz opens the 50th Annual Conference early on Wednesday morning at 8:30 a.m. followed by our Keynote Address. WWOAs own Joe Gehin, Ken Sedmak, and Duane Schuettpelz will take us on a journey through the history of the WWOA with stories of the past that we can all be proud of. We have a fantastic slate of Technical Sessions scheduled for Wednesday and Thursday this year. Training opportunities abound on diverse and different topics. Check out all of the sessions listed in this program. There will be many sessions you will want to attend. Plus, there will be historical displays from the past to the present highlighting the past 50-years of the WWOA that you don't want to miss.

Looking for a pump or some other equipment, look no further than the Exhibit Hall (this year located in the Arena and North Hall). Exhibits will open on Wednesday at 10:00 a.m. and run until 5:00 p.m., with a Vendor sponsored reception on Wednesday afternoon from 4:00 p.m. to 5:00 p.m. in the Exhibit Area. The Exhibit Hall opens back up on Thursday at 8:00 a.m. and is open until 11:45 a.m. We are expecting a record number of exhibitors this year. See what they can do to make your job all that much better. Be sure to stop at the ByTec Booth to view their race car with the special WWOA 50th Anniversary logo on it.

Wednesday will also be the day for the ever popular Operator Competition. Competition starts at Noon in the North Hall. Be there to see your fellow members compete against each other and the clock. The competitors wear hard hats, so beware of possible flying wrenches and repair parts rolling away as you watch this event. Join us for the annual Walk Around Lunch and cheer on your favorite team.

WWOA Operators’ Luncheon and Annual Business Meeting will be on Thursday at Noon in the South Hall Ballroom. All active members are eligible to participate in the election of officers. We will also be presenting some well-deserved awards along with raffling off the Exhibit Hall TV at this meeting. Thursday afternoon offers two different tours this year. The City of La Crosse WWTF will host a tour of their wastewater plant. And, we will have a chance to tour the Dairy Operations at Kwik Trip this year. Both tours are scheduled to begin at 1:30 p.m. Space is limited and will be on a first come, serve basis, so sign-up in advance at the Conference Registration Office will be a must. After all is done on Thursday, join in the fun at the Social Hour and Awards Banquet. We invite everyone to attend the Awards Banquet for a good meal and to honor fellow members as they received well deserved and distinguished awards. After the Banquet, everyone is invited to dance the night away with The Studebaker 7 as they take us back in time with their music. If some of you still want to play cards, there will be tables set up in the halls where you can still listen to the great music and don’t forget the Raffle Prizes.

New WWOA President Sharon Thieszen, will close the 50th Annual Conference on Friday morning with our Farewell Breakfast and speaker, Paul Kent from Stafford and Rosenbaum. What better way to bid adieu to everyone than with a good breakfast, great speaker and another TV raffle?

All of the Conference Information and Registration Forms are in this booklet. PRE-REGISTRATIONS IS STRONGLY ENCOURAGED. On-line registration with credit card is available at www.wwoa.org. On behalf of the Board of Directors, the Technical and Local Arrangements Committee, and the 50th Anniversary Committee, we look forward to seeing all of you in October.
Welcome to the 50th Annual Conference of the Wisconsin Wastewater Operator’s Association

The Board of Directors and the 50th Anniversary Committee have planned some extra special events and festivities to make this special year memorable for all. We hope at the end of the conference that everyone has a better understanding and appreciation for the historical evolution of the “organization” (WWOA) formed by the members for the purpose of educating the members who are involved in wastewater treatment.

The meeting will kick-off with a different twist to the keynote session. The three keynote speakers will highlight the parallel evolution of the organization, treatment technologies and federal/state environmental regulations. Do you know why the original “organization” Wisconsin Sewage Works Operators, was formed? Do you know when the first national water quality standards were set? When the first Wisconsin water quality standards were set? Do you know some of the more popular wastewater treatment technologies first used in Wisconsin and how they evolved to meet the increased water quality standards? Do you understand the relationship between Operator certification, continuing education credits and WWOC/WWOA? All of these questions and more will be covered in the keynote session. Study up on the history behind WWOA and be prepared to participate along with the speaker panel.

A special 50th Anniversary Historical display is being assembled to highlight significant events and accomplishments since the first meeting in 1967 at the Biggars Hotel in Appleton. The information will be displayed in the familiar display board fashion and also in a continuously running presentation on a TV that we will be raffling off at the Friday morning Farewell Breakfast. To add to the personal historical significance of the meeting there will be members present from the original 1967 meeting who love to tell stories of the “good old days”. Can you guess who they are?

Many of you will remember the 25th Silver Anniversary Commemorative magazine from 1991. You can look forward to receiving a 50th Golden Anniversary Commemorative issue in La Crosse. The new edition will contain much of the original content along with updated information and includes messages from all 25 of the WWOC/WWOA Presidents from 1992 forward.

A commemorative 50th Anniversary polo shirt has been designed in the official cobalt blue color of WWOA. It will feature the 2016 conference pin logo design embroidered in gold. You will be able to preorder a shirt and buy them at the meeting. Let’s see how big we can make the “sea of blue”.

Studebaker 7, an “interactive dance band”, has been selected for entertainment after the Awards Banquet. They come highly recommended and will be playing music from the 50’s, 60’s, 70’s and 80’s which should satisfy the majority of the membership. It’s been a long time since we’ve had a dance floor full of people; let’s make it happen in 2016!! For those who prefer a quieter venue, card games will also be available along with the raffles that have been common the last couple of years.

Another unique event this year will be beer made from plant effluent. The company originates from where else but the beer making capital of Milwaukee. We are still finalizing the details of how this will be woven into the conference events, but it is sure to be exciting and the first at an Annual Conference.

So please, do not miss this very special meeting, 50 years of comradery, networking and high quality training is something that should be celebrated and cherished.

50th Anniversary Committee

Chair: Wade Peterson
Leo Templeton, Peter Albers, Dan Bush, Carol Strackbein, Joe Gehin, Ken Sedmak, Roy Lembcke, Kelly Zimmer, Lyle Lutz, Jon Butt, Jeff Bratz, Karen Harter
Order your WWOA 50th anniversary shirt today!

A commemorative 50th Anniversary polo shirt has been designed in the official WWOA blue color.

It will feature the 2016 50th Anniversary logo design in goldenrod color along with an added logo on the sleeve that reads:

Protecting Wisconsin Waters
also in goldenrod color.

Limited quantities of both men’s and women's shirts will be available for sale at the conference.

Port Authority Signature® - Rapid Dry™ Sport Polo Shirt
Men's and Women's Styles
Sizes: Sm to XXXL
Cost: $45

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<th>Men/Women</th>
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Shipping if applicable ________
Total Due __________

If you need us to ship your order to you, the following shipping charges apply, which must be paid for with order.

SHIPPING CHARGES:
1-2 items $  9.95 3-5 items $11.95
6-9 items $14.95 10-14 items $17.95
15+ items - call for shipping estimate

Name on order: ________________________________
Phone (required): ____________________________
Email (required): ____________________________
Address if shipping:__________________________
City:________________________________________
State and Zip:______________________________

Credit card info: (circle one)
VISA    MasterCard    Discover    American Express
Name on card:________________________________
Card #:______________________________
Expiration Date: ____________________________

Make checks payable to: WWOA
Mail order form and payment to:
Karen Harter, WWOA Executive Secretary
PO Box 451, Baraboo WI  53913
Questions?  608-355-3081 or secretary@wwoa.org
Conference schedule at a glance

Tuesday, October 11, 2016
10:00 a.m. Shotgun Start  Golf Outing: Fox Hollow Golf Course, La Crosse, WI
10:00 a.m. Shotgun Start  Sporting Clays: Sparta Rod and Gun Club, Sparta, WI
9:30 a.m.  Bike Ride: La Crosse River State Trail, La Crosse, WI
1:00 p.m. – 4:00 p.m.  Registration Opens: North Hall Registration Booth
1:00 p.m. – 4:00 p.m.  Pre-Conference Workshops: Upper South Hall Rooms Laboratory & Lift Station
4:30 p.m. – 6:00 p.m.  Regional Officers Meeting: Level 2 Skywalk - Zielke Room
6:00 p.m. – 9:00 p.m.  Meet & Greet (beer, wine, soda, cash bar): Upper South Hall
6:00 p.m. – 7:15 p.m.  Dinner buffet w/brats and burgers: Upper South Hall

Wednesday, October 12, 2016
7:00 a.m. – 5:00 p.m.  Registration Opens: North Hall Registration Booth (Scanning In and Out)
8:30 a.m. – 8:45 a.m.  Welcome Address: Upper South Ballrooms A / B / C
                     WWOA President, Lyle Lutz
8:45 a.m. – 10:00 a.m.  Keynote Address: Upper South Ballrooms A / B / C
                       Joe Gehin, Ken Sedmak, Duane Schuettpelz
10:00 a.m. – 5:00 p.m.  Exhibitor Expo: Arena and North Hall
10:45 a.m. – 12:00 p.m.  Technical Sessions: North Hall Rooms Rotifer/Aliquot/Biomass
12:00 p.m. – 1:30 p.m.  Walk Around Lunch: North Hall
12:30 p.m. – 4:30 p.m.  Operators Competition: North Hall
1:30 p.m. – 4:00 p.m.  Technical Sessions: North Hall Rooms Rotifer/Aliquot/Biomass
4:00 p.m. – 5:00 p.m.  Exhibitors Social Hour: Arena Exhibit Area

Thursday, October 13, 2016
7:00 a.m. – 4:30 p.m.  Registration Opens: North Hall Registration Booth (Scanning In and Out)
8:00 a.m. – 11:30 a.m.  Exhibitor Expo: Arena and North Hall
8:00 a.m. – 11:45 a.m.  Technical Sessions: North Hall Rooms Rotifer/Aliquot/Biomass
12:00 p.m. – 1:30 p.m.  Operators’ Luncheon: Upper South Ballrooms A / B
12:30 p.m. – 1:30 p.m.  Business Meeting: Upper South Ballrooms A / B
1:30 p.m. – 4:00 p.m.  Plant Tours Departure: Convention Center Entrance by the South Hall
1:30 p.m. – 4:00 p.m.  Technical Sessions: North Hall Rooms Rotifer/Aliquot/Biomass
6:00 p.m. – 7:00 p.m.  Social Hour: Upper South Hallway
7:00 p.m. – 9:00 p.m.  Awards Banquet: Upper South Ballrooms A / B / C
9:00 p.m. – 11:00 p.m.  Studebaker 7, Dance and Door Prizes (hosted beer & soda) Card Playing

Friday, October 14, 2016
7:30 a.m. – 11:00 a.m.  Registration Open: Radisson Hotel Lobby
8:30 a.m. – 10:30 a.m.  Farewell Breakfast: Radisson Ballroom A
                     Paul Kent
2016 WWOA golf outing

Fox Hollow Golf Course, N3287 Co. Rd OA, La Crosse WI 54301 Golf course phone: 608-786-4653

Date:  Tuesday, October 11, 2016
Time:  10 a.m. “Shotgun Start”
Type:  18 Hole Scramble Format
Prizes:  Flag prizes
Cost:  $65 WWOA Members, Manufacturers, Engineers, Suppliers and Conference Attendees. Includes: ½ motorized cart, 18 holes golf, box lunch. Snacks provided and cash bar during award/prize drawing in club house.

Payment must be received no later than September 24, 2016 with names of foursome or individuals. (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 16, 2016 unless course is closed by decision of club management. Day of event, rain checks would be issued for play, accepted through 2017 season. Appropriate golf attire required.

Name: __________________________________________
Address: __________________________________________
City: __________________________________________
State/Zip: __________________________________________
Email: __________________________________________

Part of a Foursome?  Yes  No

Others in My Foursome:
_________________________________________
_________________________________________
_________________________________________

# paid _______ X $65 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.

2016 WWOA golf outing registration form

Donohue & Associates has been practicing our client-focused brand of engineering services since 1997 with a reputation of expertise, quality, and service.
donohue-associates.com | 888.736.6648

DONOHUE
2016 WWOA bicycle ride and luncheon registration form

Name: ________________________________________________

Address: ________________________________________________

City: ________________________________________________

State/Zip: ________________________________________________

Email address: ________________________________________________

Phone number: ________________________________________________

$30: ________  Bike storage: ____________

T-shirt Size:  S  M  L  XL

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

Ride on La Crosse River State Trail
(packed limestone screenings trail surface)
Start/Finish 3939 Co Rd B, La Crosse

Lunch provided at a pub, bar & grill or any place that looks interesting as we ride along

Date: Tuesday, October 11, 2016

Time: 9:30 a.m. Rider Meeting & Start Leisurely Ride
Determine your own distance
Complete ride: 15 miles out, 15 miles back
Group start, ride at your own pace, turn around as your schedule requires.

Cost:  WWOA Members, Manufacturers, Engineers, Suppliers and Conference Attendees – $30.00

Cost Includes: Snacks and drinks along La Crosse River State Trail, daily trail pass, door prizes, T-shirt. Meal and drinks at establishment along trail for those that do full ride.

Please RSVP early. Payment must be received no later than September 24, 2016.

No refunds after September 16, unless there is inclement weather.

Secure bicycle storage available in La Crosse Center.

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. ☐
2016 WWOA sporting clays

Sparta Rod & Gun Club, 12740 Janus Ave, Sparta WI 54656

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

Date: Tuesday, October 11, 2016

Time: 10:00 A.M. “Shot Gun Start”

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

Cost: $50 per shooter, WWOA Members, Manufacturers, Engineers, Suppliers, and Conference Attendees

Includes: 13 station/50 target shoot, (bring your own shells or purchase at Club). “Cook your own steak, Texas toast, potato salad and beans.” All food included in cost.

Cash bar after shoot. Special door prizes and a novelty shoot. Prizes to include Remington and Benelli guns!

Door prizes and other donations appreciated.

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

Payment must be received no later than Sept. 24, 2016 with names of foursome or individuals. (Committee will assign if not in foursome).

Please RSVP early as we are limited to 80 participants. No refunds after Sept. 16, 2016 unless course is closed by decision of club management.

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.

2016 WWOA sporting clays registration form

Name: ____________________________________________

Address: ____________________________________________

City: ________________________________________________

State/Zip: ___________________________________________

Email: _____________________________________________

Part of a Three/Foursome?  Yes  No

Others in group: ____________________________________________

# paid ______ X $50 each

Register online with a credit card or make check payable to WWOA.
### Pre-Conference Workshops

**Tues., Oct. 6, 1 to 4 p.m.**

<table>
<thead>
<tr>
<th>Room</th>
<th>Workshop #1</th>
<th>Workshop #2A</th>
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<tbody>
<tr>
<td>Upper South Hall</td>
<td>Laboratory, Jake Becken</td>
<td>Lift Station, Aaron Eichhorst</td>
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<tr>
<td>1 to 2:25 p.m.</td>
<td>Fear, No Math Lab</td>
<td>CMOM: Next Steps – O&amp;M and flow monitoring for effective rehabilitation</td>
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**2:25 to 2:40 p.m.**

- Break
- Break

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<th>Room</th>
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<th>Workshop #2</th>
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<tr>
<td>Auditorium</td>
<td>6A &amp; 6B</td>
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<td>2:40 to 4 p.m.</td>
<td>Fear, No Math Lab</td>
<td>CMOM: Next Steps – O&amp;M and flow monitoring for effective rehabilitation</td>
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### Pre-Conference Workshops

**Tues., Oct. 11, 1 to 4 p.m.**

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<td>Auditorium 6A &amp; 6B</td>
<td>Fear, No Math Lab</td>
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**Registration Form**

Name: ____________________________________________

Address: _________________________________________

City: ____________________________________________

State/Zip: ______________________________________

Phone: __________________________________________

Employer: _______________________________________

DNR#: _________________________________________

Workshop #: _____________________________________

Cost: $35 Pre-Registration

- $45 On-Site or after Sept. 24
- No refunds issued after Sept. 16, 2016
- 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

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<tr>
<th>TIME</th>
<th>Session A: Tech - E</th>
<th>Session B: Aeration</th>
<th>Session C: Source Control</th>
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<tr>
<td>Moderator:</td>
<td>Bernie Robertson</td>
<td>Jerry Doriott</td>
<td>John Bond</td>
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<td>Rotifer Room</td>
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<td>Biomass Room</td>
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<tr>
<td>10:45-11:20 am</td>
<td>Lisa Enloe</td>
<td>Jon Butt/Todd Hammond</td>
<td>Jim Kleinschmidt/John Szwedo</td>
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<tr>
<td></td>
<td>Basic Microsoft Excel For Small Systems Operators</td>
<td>Fine Bubble Retrofit Does It Again</td>
<td>Proactive Approach Reduces Chloride Discharges</td>
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<tr>
<td>11:25-12:00 pm</td>
<td>Rick Mealy</td>
<td>Eric Lynne/Don Lintner</td>
<td>Troy Larson</td>
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<td></td>
<td>Interpreting Lab Reports For Dummies/Non-Chemists</td>
<td>Not your Typical Turbo Blower</td>
<td>A Phosphorus Deficit? - Impacts of Soluble BOD5 &amp; Nutrient Supply on a Municipal/Industrial Activated Sludge System</td>
</tr>
</tbody>
</table>

Walk Around Lunch  12:00 pm - 1:30 pm  North Hall  Operators Competition  12:00 pm - 4:30 pm  North Hall - CECs 6 hours Wastewater

<table>
<thead>
<tr>
<th>TIME</th>
<th>Session D: Regulatory</th>
<th>Session E: Biosolids</th>
<th>Session F: Collection System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderator:</td>
<td>Rick Mealy</td>
<td>Troy Larson</td>
<td>Jeff Simpson</td>
</tr>
<tr>
<td>Rotifer Room</td>
<td></td>
<td>Aliquot Room</td>
<td>Biomass Room</td>
</tr>
<tr>
<td>1:30 - 2:00 pm</td>
<td>Lisa Bushby/Danielle Luke</td>
<td>Mark Johnson</td>
<td>Tim Astfalk</td>
</tr>
<tr>
<td></td>
<td>Operator Cert Rules</td>
<td>Replace or Rehab Anaerobic Digesters La Crosse</td>
<td>CS 50 Yrs Old, Now What?</td>
</tr>
<tr>
<td>2:05 - 2:40 pm</td>
<td>Pat Morrow</td>
<td>Bruce Bartel</td>
<td>James Orr</td>
</tr>
<tr>
<td></td>
<td>A Plain English Guide To The Statewide Multi-discharger Phosphorus Variance</td>
<td>Solids Handling Upgrade at New Water</td>
<td>Concrete and H2S In Wetwells &amp; Tanks</td>
</tr>
</tbody>
</table>

Break in Exhibit Area  2:40 pm - 2:55 pm  Arena/North Hall

<table>
<thead>
<tr>
<th>TIME</th>
<th>Session</th>
<th>Session</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:55 - 3:25 pm</td>
<td>Receivin</td>
<td>Biosolids</td>
<td>Lateral lining vs Grouting Wauwatsa</td>
</tr>
<tr>
<td></td>
<td>g Water Quality Credits Phase 2</td>
<td>Program Evaluation &amp; Financial Model Tom Foley</td>
<td></td>
</tr>
<tr>
<td>3:30 - 4:00 pm</td>
<td>Adaptive Management / Watershed Programs</td>
<td>A Case Study for Retrofitting Anaerobic Digestion Facilities at the City of Waukesha</td>
<td>Bryan Lewis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tom Foley/Omkar Ghavi</td>
<td>Case Study in Sustainability Madison MSD Pump Station #18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mike Blazejovsky</td>
<td></td>
</tr>
</tbody>
</table>

Social Hour in Exhibit Area  4:00 pm - 5:00 pm  Arena/North Hall
### WWOA Technical Program Schedule

**Thursday, October 13, 2016**  
CECs: 6.5 Wastewater, 2.5 Waterworks, 6.5 General Septage

<table>
<thead>
<tr>
<th>TIME</th>
<th>Session G: PHOSPHORUS</th>
<th>Session H: PRETREATMENT</th>
<th>Session I: ECONOMICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 8:45 am</td>
<td>Gary Hanson</td>
<td>Kris August</td>
<td>Mark Kane</td>
</tr>
<tr>
<td></td>
<td>Rotifer Room</td>
<td>Aliquot Room</td>
<td>Biomass Room</td>
</tr>
<tr>
<td></td>
<td>Greg Paul</td>
<td>Rick Allen</td>
<td>D. Kim Sorenson</td>
</tr>
<tr>
<td></td>
<td><em>What, How and Why Fractions of P</em></td>
<td><em>Managing Your FOG Producers</em></td>
<td><em>Energy Savings With Air Valves</em></td>
</tr>
<tr>
<td>8:50 – 9:35 am</td>
<td>Bart Sexton</td>
<td>Rick Allen</td>
<td>Tom Fitzwilliams</td>
</tr>
<tr>
<td></td>
<td><em>Spray &amp; Sub-surface effluent irrigation as treatment strategy</em></td>
<td><em>Managing Your FOG Producers</em> (Continued)</td>
<td><em>Cost of Clean 20 Yrs of sewer charge trends in WI</em></td>
</tr>
</tbody>
</table>

**Break in exhibit area 9:35 a.m. to 10:00 a.m.**  
Arena/North Hall

<table>
<thead>
<tr>
<th>TIME</th>
<th>Session J: PHOSPHORUS</th>
<th>Session K: SCADA</th>
<th>Session L: LABORATORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 - 10:50 am</td>
<td>Jeff Smudde</td>
<td>BulBul Ahmed</td>
<td>Kelly Zimmer</td>
</tr>
<tr>
<td></td>
<td>Rotifer Room</td>
<td><em>Treatment Facility Performance Optimization Using Automatic Control and Online Monitoring</em></td>
<td>Biomass Room</td>
</tr>
<tr>
<td></td>
<td>Dave Arnot</td>
<td>Jean Bernius</td>
<td>Mike Raynovich</td>
</tr>
<tr>
<td></td>
<td><em>The Phosphorus Journey - One Plant’s Story</em></td>
<td><em>Working With Your Certified Lab</em></td>
<td><em>Basic Lab Techniques For The 21st Century NCL</em></td>
</tr>
<tr>
<td>10:55 - 11:45 am</td>
<td>Greg Paul &amp; Ben Brooks</td>
<td>Jared Greeno/Mark Kane</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Convert Activated Sludge to BPR</em></td>
<td><em>SCADA/PLC Latest Technology System Control &amp; Reporting</em></td>
<td></td>
</tr>
</tbody>
</table>

**Operators’ Luncheon 12:00pm**  
**Business Meeting 12:30 pm**  
in the South Hall Ballroom A & B

<table>
<thead>
<tr>
<th>TIME</th>
<th>Session M: NUTRIENTS</th>
<th>Session N: LAGOONS</th>
<th>Session O: Poop-er-ee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 - 2:15 pm</td>
<td>Jim Johnson</td>
<td>Don Lintner</td>
<td>Sharon Thieszen</td>
</tr>
<tr>
<td></td>
<td>Rotifer Room</td>
<td>Aliquot Room</td>
<td>Biomass Room</td>
</tr>
<tr>
<td></td>
<td>Jerry Doriot</td>
<td>Marc Salmi</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>BNR At The Danbury SBR WWTP</em></td>
<td><em>Cold Weather Nitrification/ Denitrification in Lagoons</em></td>
<td><em>Operators Trick and Tips</em></td>
</tr>
<tr>
<td>2:20 - 3:05 pm</td>
<td>Nick Bartolerio, Jane Carlson</td>
<td>Rick Allen</td>
<td>Gene Laschenger/Sam Warp</td>
</tr>
<tr>
<td></td>
<td><em>Push It To The Limit LL Phosphorus Pilot At Fond du Lac</em></td>
<td><em>Lagoon Management</em></td>
<td><em>&quot;Disposable&quot; Wipes Pump Clogging &amp; Odor City of Marshfield</em></td>
</tr>
<tr>
<td>3:15 - 4:00 pm</td>
<td>Ben Heidemann</td>
<td>Rick Allen</td>
<td>Wendy Raisbeck</td>
</tr>
<tr>
<td></td>
<td><em>Bio P: Process &amp; Considerations</em></td>
<td><em>Lagoon Management</em> (Continued)</td>
<td><em>What Can I possibly do with This Oversized Aeration System</em></td>
</tr>
</tbody>
</table>

**Social Hour 6:00 pm**  
Upper South Hall  
**Awards Banquet/Entertainment 7:00 pm**  
Upper South Hall Ballrooms A-B-C
WWOA TECHNICAL PROGRAM SCHEDULE
Friday, October 14, 2016
CECs: 1.0 Wastewater, 1.0 hour Municipal Waterworks, 1.0 General Septage

Operators Farewell Breakfast
Radisson Hotel Ballrooms A & B 8:30 am - 10:30 am
NOTE: Conference Registration Office has been moved to the Radisson Hotel Lobby
Moderator: WWOA President Sharon Thieszen
Presenter: Paul Kent
New Developments in Water and Wastewater Regulation: What’s Next

Conclusion of Conference
CURRENT YEAR NAME BADGE REQUIRED FOR ADMISSION TO ALL CONFERENCE FUNCTIONS.

Thank you for joining us at the 50th Annual Anniversary
WWOA Conference Oct. 11-14 La Crosse Center

President Lyle Lutz Director (2017) Jeff Simpson
President Elect Sharon Thieszen Director (2017) Jeff Smudde
Vice President Kevin L. Freber Director (2016) Don Lintner
Past President Kelly Zimmer Director (2016) Jim Johnson
Executive Secretary Karen Harter Director (2017) Kris August

50th Anniversary Committee:
Chair Wade Peterson
Committee Members:
Leo Templeton, Pete Albers, Dan Bush, Carol Strackbein, Joe Gehin, Ken Sedmak, Roy Lembcke, Kelly Zimmer, Lyle Lutz, Jon Butt, Jeff Bratz, Karen Harter

Technical Committee
Chair Jeff Bratz
Committee Members:
Lyle Lutz, Kelly Zimmer, Sharon Thieszen, Jeff Smudde, Bernie Roberston, Jeff Simpson, Karen Harter, Kris August, Jim Smith, John Bond, Mark Zimmerman, Don Lintner, Troy Larson, Rick Mealy, Rusty Schroedel, Kris Gauger, Brian Greffin, Dean Falkner, Gary Hanson

Exhibit & Manufacturers/Consultants Committee
Chair Tom Mulcahy, Co-Chair: Carol Strackbein
Committee Members:
Kevin Freber, Dave Dodge, Karen Harter

MSA
Professional Services
» Permitting
» Facility Planning
» Watershed Nutrient Management
» Sewer System Evaluations
» Pump Stations
» Biological Process Design
» Biosolids Treatment and Management
» Instrumentation and Controls
» Contract Operations
» Utility Rate Studies
» Project Financing

(800) 362-4505
www.msa-ps.com
APPLETON | BARABOO | BEAVER DAM | MADISON
MARSHFIELD | RHINELANDER | RICE LAKE
WWOA 50th Annual Conference Registration

October 11 - 14, 2016 – La Crosse, WI

Registration Form (fill out one registration form for each person attending)

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

Employer/Firm Name (If Manufacturer or Consultant): _______________________________________________

Mailing Address: _____________________________________________________________

Phone: ___________________________ Position/Title: ___________________________ WDNR Certification #: __________________

Regional Affiliation: ___________________________ Member Number: ___________________________

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

Pre-Registration (On or Before September 24, 2016)

WWOA Member - Full Conference [X] $ 100.00

WWOA Member - Wednesday Only (Includes Walk Around Lunch) $ 80.00

WWOA Member - Thursday Only $ 60.00

Non-Member - Full Conference $ 155.00

Non-Member - Wednesday Only (Includes Walk Around Lunch) $ 120.00

Non-Member - Thursday Only $ 100.00

Non-Member plus WWOA Membership (see form following page) (Pre-Registration only) $ 150.00

Retiree - Full Conference (Must be at least 60 years old & retired from wastewater industry) $ 55.00

Student - Full Conference (Must send copy of valid student ID) $ 55.00

Student - Wednesday Only (Must send copy of valid student ID) (Includes Walk Around Lunch) $ 35.00

Student - Thursday Only (Must send copy of valid student ID) $ 25.00

On-Site Registration (After September 24, 2016)

WWOA Member - Full Conference $ 160.00

WWOA Member - Wednesday Only (Includes Walk Around Lunch) $ 140.00

WWOA Member - Thursday Only $ 120.00

Non-Member - Full Conference $ 215.00

Non-Member - Wednesday Only (Includes Walk Around Lunch) $ 180.00

Non-Member - Thursday Only $ 160.00

Retiree - Full Conference (Must be at least 60 years old & retired from wastewater industry) $ 70.00

Student - Full Conference (Must provide copy of valid student ID) $ 70.00

Student - Wednesday Only (Must provide copy of valid student ID - Includes Walk Around Lunch) $ 50.00

Student - Thursday Only (Must provide copy of valid student ID) $ 40.00

SUB-TOTAL

REGISTRATION FORM CONTINUED ON NEXT PAGE
**REGISTRATION FORM CONTINUED**

### Additional Functions

<table>
<thead>
<tr>
<th>Activity</th>
<th>Fee</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>$65.00</td>
</tr>
<tr>
<td>Sporting Clays <em>(Please include separate registration form)</em></td>
<td>$50.00</td>
</tr>
<tr>
<td>Pre-Conference Workshop <em>(Please include separate registration form, enter fee here)</em></td>
<td>$</td>
</tr>
<tr>
<td>Meet &amp; Greet - Tuesday <em>(Please check if planning to attend) NO CHARGE</em></td>
<td># attending</td>
</tr>
<tr>
<td>Operators Business Lunch <em>(Chicken Breast with Honey Mustard Glaze topped with Bacon)</em></td>
<td>$20.00</td>
</tr>
<tr>
<td>Social Hour -Thursday <em>(Courtesy of Manufacturers &amp; Consultants) (free to all paid attendees)</em></td>
<td>No Charge</td>
</tr>
<tr>
<td>Awards Banquet</td>
<td>$35.00</td>
</tr>
</tbody>
</table>

**Circle Meal Choice:** Beef Short Ribs - Asparagus Stuffed Chicken Breast - Wild Rice Crusted Walleye

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

<table>
<thead>
<tr>
<th>Membership Type</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50 regular Membership</td>
<td></td>
</tr>
<tr>
<td>$40 Lifetime Members (25 Year Members)</td>
<td></td>
</tr>
</tbody>
</table>

*(include M & C Registration if applicable)*

**TOTAL ENCLOSED**

**NO REFUNDS WILL BE ISSUED AFTER SEPTEMBER 16, 2016**

*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: SE NW Southern LM NC WC

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 June 30, 2016 – 8’ x 10’
(One conference registration fee included)
$425.00

After June 30, 2016 – 8’ x 10’
(One conference registration fee included)
$625.00

(Add M & C Registration costs to total on page 14)

NO REFUNDS WILL BE ISSUED AFTER SEPTEMBER 16, 2016 (add payment total to page 14)

Exhibit 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 La Crosse Center.

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. 11 - 4:00 PM to 8:00 PM
Wednesday, Oct. 12 - 6:00 AM to 8:30 AM
All exhibits must be set up by 9:00 AM on Wednesday

Show Hours
Wednesday, Oct. 12 - 10:00 AM to 5:00 PM
Thursday, Oct. 13 - 8:00 AM to 11:45AM

Exhibit Teardown
Thursday, Oct. 13 - Not before 11:45AM
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.
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

As everyone should be aware of by now, the WDNR implemented a new electronic CEC tracking system. 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 included 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. 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. We will have special lines set up for scanning purposes. Everyone going on the plant tours will have to return to the La Crosse Center and scan out in order to receive the CECs for that day and for the tour(s). If you plan on attending the Farwell Breakfast Speaker on Friday, you only need to scan out on Friday to receive that sessions CEC hour. The Conference Registration office will be located in the lobby of the Radisson Hotel on Friday. NOTE: We will only scanning 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 11, 2016</td>
<td>1:00 pm to 4:00 pm (pick up registration packets only)</td>
</tr>
<tr>
<td></td>
<td>Pre-Conference Registration will be in the South Hall</td>
</tr>
</tbody>
</table>

Exhibitor/Vendor packets will be available in their booths starting on Tuesday afternoon. However, any Exhibitor/Vendor that has a barcode on their badge will have to pick up their badge at the Registration Office.

<table>
<thead>
<tr>
<th>Date</th>
<th>Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, October 12, 2016</td>
<td>7:00 am to 5:00 pm</td>
</tr>
<tr>
<td></td>
<td>Pick up Registration Packets</td>
</tr>
<tr>
<td></td>
<td>Scan In and Out for CEC Hours</td>
</tr>
<tr>
<td>Thursday, October 13, 2016</td>
<td>7:00 am to 4:30 pm</td>
</tr>
<tr>
<td></td>
<td>Pick up Registration Packets</td>
</tr>
<tr>
<td></td>
<td>Scan In and Out for CEC Hours</td>
</tr>
</tbody>
</table>

**DO NOT FORGET TO SCAN OUT AFTER THE TOUR**

Friday, October 14, 2016    7:00 am to Noon/Registration office will be located in the lobby of the Radisson Hotel
|                             | Scan Out for CEC Hours          |

Everyone that signed up for the Pre-Conference Seminars, check in and check out will be handled in the hallway in the upper level of the South Hall. **On-site Registration for the Pre-Conference Seminars will be at the Conference Registration office in the North Hall.**

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.
South hall – operator business lunch/annual meeting and awards banquet
WWOA Convention Housing Information, October 11—14, 2016

Visit the WWOA website for a listing of all of the hotels, their rates, contact information, etc. PLEASE CONTACT EACH HOTEL DIRECTLY TO MAKE YOUR RESERVATIONS.

HOTELS WITH NO SHUTTLE BUS RUNS

<table>
<thead>
<tr>
<th>Radisson Hotel</th>
<th>Charmant Hotel</th>
<th>Holiday Inn Hotel &amp; Suites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courtyard by Marriott</td>
<td>*Home 2 (opening in July 2016)</td>
<td>Stoney Creek Hotel &amp; Conference Center</td>
</tr>
</tbody>
</table>

HOTELS WITH SHUTTLE BUS RUNS

- SHUTTLE SCHEDULES are for Tuesday, Wednesday and Thursday, October 11, 12, and 13, 2016
- Locations included on Shuttle Run—North to South
- Tuesday, October 11, there will be one Shuttle bus running to all of the hotels on the list below from 5:00 pm to 10:00 pm
- Wednesday, October 12, there will be two early Shuttle buses running from 6:00 am to 8:30 am to the hotels on list below Starting at 9:00 am to 7:05 pm, there will be one Shuttle bus running to all of the hotels on list below
- Thursday, October 13, there will be two early Shuttle buses running from 6:00 am to 8:30 am to the hotels on list below Starting at 9:00 am to 12:05 am there will be one Shuttle bus running to all of the hotels on list below

- Buses are at each stop for 5 minutes and then leaves for the next location stop
- After arrival at last stop/La Crosse Center bus route starts over again starting at stop #1
- Departure times are subject to change based on travel demands. Full buses will go directly to La Crosse Center
- Contact Karen Harter with any questions or concerns prior to the conference during business hours at 608.355.3081
- During the Conference, contact Karen Harter on her cell phone at 608.477.2530
- All bus schedules are listed on the website. All bus schedules will be given to attendee at time of check-in at their respective hotels.

Bus #1  Early Morning (6:00 AM to 8:30 AM)

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>ADDRESS</th>
<th>Trip 1</th>
<th>Trip 2</th>
<th>Trip 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Super 8</td>
<td>1625 Rose Street</td>
<td>6:00 AM</td>
<td>6:55 AM</td>
<td>7:50 AM</td>
</tr>
<tr>
<td>2 Candlewood Suites</td>
<td>56 Copeland Avenue</td>
<td>6:10 AM</td>
<td>7:05 AM</td>
<td>8:00 AM</td>
</tr>
<tr>
<td>3 Hampton Inn &amp; Suites</td>
<td>511 3rd Street North</td>
<td>6:20 AM</td>
<td>7:15 AM</td>
<td>8:10 AM</td>
</tr>
<tr>
<td>4 GrandStay Residential Suites</td>
<td>525 Front Street</td>
<td>6:30 AM</td>
<td>7:25 AM</td>
<td>8:20 AM</td>
</tr>
<tr>
<td>5 La Crosse Center</td>
<td>300 Harborview Plaza</td>
<td>6:40 AM</td>
<td>7:35 AM</td>
<td>8:30 AM</td>
</tr>
</tbody>
</table>

Bus #2  Early Morning (6:35 AM to 8:30 AM)

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>ADDRESS</th>
<th>Trip 1</th>
<th>Trip 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Americas Best Value Inn</td>
<td>2622 Rose Street</td>
<td>6:35 AM</td>
<td>7:40 AM</td>
</tr>
<tr>
<td>2 Settle Inn</td>
<td>2110 Rose Street</td>
<td>6:45 AM</td>
<td>7:50 AM</td>
</tr>
<tr>
<td>3 Econo Lodge</td>
<td>1906 Rose Street</td>
<td>6:55 AM</td>
<td>8:00 AM</td>
</tr>
<tr>
<td>4 Best Western Riverfront Hotel</td>
<td>1835 Rose Street</td>
<td>7:05 AM</td>
<td>8:10 AM</td>
</tr>
<tr>
<td>5 Quality Inn</td>
<td>1830 Rose Street</td>
<td>7:15 AM</td>
<td>8:20 AM</td>
</tr>
<tr>
<td>6 La Crosse Center</td>
<td>300 Harborview Plaza</td>
<td>7:25 AM</td>
<td>8:30 AM</td>
</tr>
</tbody>
</table>
Good news. If you are tired of unexpected call-outs and empty promises, you’ll appreciate this concrete offer. Starting now, we are offering a 24-month clog-free guarantee on Flygt Experior®, covering any Flygt N-pump up to 105 hp equipped with our Flygt SmartRun® Intelligent control. The self-cleaning N-pump solution is optimized to work with our control system, preventing clogging and saving up to 50% on your energy bill. Sound interesting? Contact your local Flygt representative.

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On August 11th, the Village of Union Grove hosted the WWOA's southeast region at the Ironwood Chophouse and Saloon. The morning started off with coffee and doughnuts and a brief greeting by Mike Blazejosky, southeast region Chair. Followed by Mark Osmundson, Village of Union Grove director of public works who welcomed attendees.

The first speaker of the day was Ryan Hennessy from MCO. Ryan began by speaking about the effects of septicity on your collection system and plant. Septicity occurs when bacteria ferment organic matter (BOD) to smaller pieces (organic acids) in the absence of free dissolved oxygen. Some potential sources of septicity are lift stations, collection systems, equalization basins, sludge handling side streams, primary clarifiers, and any other area in which there is food (BOD), bacteria, and no free dissolved oxygen. Organic acids may be formed when septicity occurs, or may also be naturally occurring in certain industrial wastes and septage. Septicity can be a double edge sword. Organic acids (volatile acids) are needed for denitrification and enhanced biological phosphorus removal in order to obtain the desired ORP in the selector area. If selectors designed for these processes are overloaded or not properly designed, organic acids may pass through into the aeration basin causing certain filamentous bacteria and/or zooglobe bacteria to proliferate. In facilities that are not intending to obtain enhanced biological nutrient removal, organic acids are the first “food” taken up in the aeration basin. >100 mg/L of organic acids (volatile acids) are a recognized cause of sludge bulking. Some septicity is going to occur given the nature of wastewater. Problems depend on when the impacts of septicity impact sludge quality to the point where plant performance may be jeopardized. Microscopic evaluation is necessary to diagnose problems. (Ryan offered free microscopic evaluation/ filament ID reports to anyone in attendance). Once a problem is diagnosed, the short term and long term control strategies selected ultimately depend on the urgency of a problem, feasibility, and economic impact. A case study at Plymouth Utilities was presented as in instance in which a long term control strategy (step feed) was implemented to control filamentous bulking of type 0961.

John Condron, audit and quality assurance chemist from the Wisconsin DNR Fitchburg Office, gave the next presentation on How to Avoid Some Common Deficiencies from An On-Site Evaluation of a Typical WWTP Lab. A typical lab defined here as testing wastewater for BOD, TSS, total phosphorous and ammonia. Before your lab evaluation, you should ask yourself did we purchase any new laboratory equipment since the last audit? Whether you purchased new equipment or not you should ask yourself, am I following calibration instruction provided by the manufacturer? All DO meters including the optical or luminescent DO meters must be calibrated each day that they are used for the BOD test. Another question to ask are all the analysts the same? Whether the analysts are the same or not, each analyst must have initial demonstration of capability or (IDC) for the testing they do. Since EPA is not using Standard Methods editions anymore in their format, you must make sure you are using the year of the latest approval year and the correct format if you want to pass a PT sample in January 2017. He also mention the correct Hach colorimetric phosphorus and ammonia formats as well. If you are optimizing your WWTP to attain low level phosphorus, then you need to make sure that you are diluting effluent samples to within the absorbance of the highest calibration standard. A copy of the presentation, can be emailed by contacting John at, john.condron@wisconsin.gov.

After a short break, Lee Haessig from CRETEX gave a presentation about Expanded Polypropylene manhole and catch basin adjusting rings. EPP has been used in the automotive industry since the 1980’s and weighs about 95% less than concrete rings. Round rings are available in 24“, 27” and 31” IDs and height adjustments from ¾” to 6”. Square and rectangle rings are available in IDs of 24“x24”, 24“x36”, 24“x30”, and 30“x30” in heights from ¾” to 4”. CreteX EPP rings are UV resistant and have a 25 year material warranty. The rings are rated for HS-25 wheel loading, are also Wisconsin DOT approved and meet the ASTM C1244 vacuum testing requirements. The rings can be dry stacked to check elevation and then bonded together with construction adhesive in a tongue and groove system to make them watertight.

Up next was the business meeting and DNR update. Mike Blazejovsky began the meeting by introducing the officers. There was a motion made and accepted to adopt the May meeting held in Plymouth. Paul Gages gave the treasures reports which was accepted. Mike recognized Mark Osmundsen, Public Works Director from the Village or Union Grove and presented him with a plaque in appreciation for hosting the August meeting. Then Timothy Thompson then gave a brief DNR update. Mike Penkwitz from Plymouth Utilities was nominated and elected as Secretary for the Southeast region. Nate Tillis from the

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City of Waukesha was nominated and elected the Southeast region Vice Chair position for 2017. The Southeast region is still looking for a collections and process participants to join the team for the operators challenge at the state conference. The business meeting was concluded with a reminder that the state conference is being held in La Crosse October 11th through 14th.

After lunch Doug Snyder from Baxter and Woodman gave a presentation about the history of municipal ion exchange water softening and chlorides in Union Grove. The village added water softening to wells 4 and 5 in 2006 and to well 3 in 2011 to provide radium compliant drinking water. The groundwater supply has less than 10 mg/L of chloride and has low iron and manganese concentrations. The village chose ion exchange softening for the simplicity of operation, smaller footprint, and lower capital and operational cost. Municipal softening reduced the hardness from 18 grains per gallon to approximately 9 grains per gallon. The village has an average daily demand of 0.40 MGD, which is decreasing due to water conservation. In 2006 the village expected to see a sharp increase in chloride loading at the wastewater plant due to municipal softening with a gradual lowering of the loading as time went on. In contrast, the sharp increase in chloride loading did not occur and municipal softening appears to have had a near neutral, or possibly a positive impact, on chloride loading at the wastewater plant since 2006. The chloride loadings appear to be reducing, possibly due to home water softeners being removed from service, water conservation, or both.

Doug noted that the advantages of municipal softening include production of radium and strontium compliant water, the production of soft water at a fraction of the cost of home softening, and the flexibility for the village to further reduce chloride to the wastewater treatment facility at each drinking water treatment facility. The village can optimize the amount of salt used for softening or reduce the amount of chloride discharged to the sanitary sewer from each facility. In the future the village is exploring options to further reduce chloride loadings and may look at options to manage the discharge from each facility, optimize the softener operations, explore brine reuse, and possibly remove a portion of the high strength chloride waste.

Following Doug’s presentation, attendee’s ended the day with a tour at one of the Villages water softening facilities.
Environmental Engineering/Water Resources Seminar Series

**Wednesdays, noon to 12:50PM**
**Engineering Hall (new engineering building)**  
1637 W Wisconsin Ave., Milwaukee Room 221

Professional development hours (PDHs). PDHs will be recorded and an email documenting attendance will be sent to attendees to use towards their Wisconsin Professional Engineer’s license. Each seminar presentation is equivalent to one PDH. It is the responsibility of the PE to retain all records.

<table>
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<tr>
<th>Date</th>
<th>Speaker</th>
<th>Tentative Title</th>
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| Oct. 5 | Dr. Stefan Schnitzer  
Professor, Biological Sciences  
Marquette University | Fundamental ecology (specific title TBD)                                         |
| Oct. 19| Lee Kimbell, MS Student  
Marquette University | Removal of triclosan from water via sorption to biosolid-derived biochar in a continuous flow through column |
| Oct. 26| No Seminar                                          | Emerging Contaminants Short Course                                              |
| Nov. 2 | Anna Avila, MS Student  
Marquette University | Nutrient recovery from wastewater using ion exchange and biochar sorbents      |
| Nov. 9 | Dr. Massanori Fujimoto,  
Research Assistant Professor | A novel approach to link microbial taxa to anaerobic digester functions        |
| Nov. 16| Dr. James Edzwald,  
Professor and Chair of the Dept. of Civil and Environmental Engineering, Clarkson University | Connecting with the world seminar series. Water achievements and challenges: Past, present and future |
| Nov. 23| No Seminar                                          | Thanksgiving break                                                             |
| Nov. 30| Dr. Zhongtian Li,  
CNP-Technology Water and Biosolids Corp | Development of Airpres technology for struvite removal                           |
| Dec. 7 | Patrick Elliot,  
MMSD Water Resources | Flood storage in the KK River watershed                                          |
Utility of the Future awarded to four local utilities

The National Association of Clean Water Agencies (NACWA), the Water Environment Federation (WEF), the Water Environment & Reuse Foundation (WE&RF), and the WateReuse Association collectively known as a partnership of water sector organizations with input from the U.S. Environmental Protection Agency (EPA) announced the recipients of its Utility of the Future (UOTF) Today Recognition Program. This program recognizes utilities that have made progress with widespread adaption of the UOTF business model. More information on this program is available at www.wefnet.org/utilityrecognition.

A total of 61 utilities, public and private, from the U.S, Canada, and Denmark were selected. The highest concentration of recipients is from California. The Midwest region is well represented with a total of 11, lead by Wisconsin with 4 and Illinois with 3. The recipients from Wisconsin include:

- Fond du Lac
- Milwaukee Metropolitan Sewerage District
- NewWater – a brand of the Green Bay Sewerage District
- Stevens Point

These utilities were recognized for their adoption of UOTF principles which include water reuse, watershed stewardship, beneficial biosolids reuse, community partnering & engagement, energy efficiency, energy generation & recovery, and nutrient & materials recovery.

Andrew Sawyers, Director of EPA’s Office of Wastewater Management said, “EPA has been pleased to provide input to the partnering associations on this important new program. We believe it will play an important role in EPA’s efforts to advance effective and sustainable practices that will help utilities across the sector on their journey to becoming the Utility of the Future.”

Congratulations to these recipients.

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Process Equipment Repair Services, Inc.
Arbor Vitae hosts spring North Central Region meeting

The spring North Central Regional meeting was held at the Rueland’s Conference center in Arbor Vitae on June 2nd and was hosted by the Lakeland Sanitary District. Despite there being some confusion about exactly which Rueland’s Conference Center, the meeting did start on time at 8:30 with 37 people in attendance. Steering Committee President Andy Ott officially welcomed everyone to the meeting.

Andy introduced Steve Opatik from Becher Hoppe Engineers who gave the first presentation on the operation of the ATAD system at the Lakeland Sanitary District. Steve started with a brief history of the Lakeland plant and the upgrades it has seen. These upgrades were driven by an increase of flow and loadings to the plant, two to three times the original design capacity. The selection of the ATAD in 1996 was done specifically to address these increased loadings, and the need for a biosolids disposal method other than land application, as farm land is not readily available in the Northwoods.

Steve reviewed the basic operating parameters of the ATAD system, the best temperature range, the size and configuration of the tanks, mixing and odor control systems, and post digestion thickening and storage. The Class A biosolids produced by the ATAD are made available to both the public and to private contractors, and Lakeland has never had a problem finding a home for all of the biosolids it produces. As the system completes its 20th year of operations, Lakeland is well satisfied in its selection of the ATAD system.

The second presentation was by Katie Gruber from B&M Technical Services. Her talk was about using Microsoft Excel for wastewater data management. Katie reviewed all the traditional forms of data collection, from pen and paper to SCADA systems. She covered the ways digital data can be used by ready-made software packages like HACH WIMS and other proprietary services, but her focus was on choosing solutions that make your data work for you, and not the other way around.

Katie presented the Excel spreadsheet as an often used, but underappreciated way to manage large amounts of data. She briefly covered the basics, including design and formatting, mathematical functions, and reports. As spreadsheets are one of the most utilized parts of modern data management, she encouraged everyone to dig a little deeper into their understanding of spreadsheets, and how they can make all of our lives a little easier.

After a short break, Peter Hansen from the Wisconsin Valley Improvement Company gave a presentation about his company’s operation of the dams and reservoirs it maintains on the Wisconsin River. Peter talked about the history of the company and how its focus has changed over the years. Originally established in the 1800s, the focus of the company has switched from the transportation of logs down river to maintaining a consistent flow of water through the Wisconsin River.

An example of a public/private partnership, the Wisconsin Valley Improvement Company is owned by eight members, including the WPS, PSC and PCA. It is licensed by the FERC and regulated by the DNR. With only 24 employees, it manages 21 storage reservoirs, both natural and manmade, and 16 natural lakes. Paul highlighted the seasonal nature of its flow management, and the benefits associated with its operation, including more stable hydroelectric power generation, flood control, water conservation, and water quality.

Steve Ohm gave the DNR update and reminded everyone about the August 1st CMOM deadline. Jack Saltes, who would speak after lunch about CMOM, took notes of those operators with looks of surprise on their faces. Steve also reviewed SSO and TFO reports and how basement backups fit into the mix (document but not necessary to report). Steve briefly touched on a number of ongoing DNR projects including the Wisconsin River TMDL, multi-discharger variance, DNR realignment, and upcoming bacteria criteria changes. He also covered in greater depth a number of financial assistance programs, reviewing the submittal deadlines and application criteria for the CWF Loan program, the CWF Hardship program, and the SDW Loan program.

The business meeting was conducted just before lunch. After lunch Jack Saltes gave a “Brass Tacks” talk about CMOM. With only two months to go before the deadline, Jack focused on the items needed to meet the minimum code requirements found in NR 210.23. Jack directed his talk to those who may not have not started their CMOM and walked us through each section of the code, highlighting the items he and other DNR staff would expect to find during a review.

Jack set aside the training materials he’s been using for the last few years and handed out a single page with the bare

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bones NR 210.23 code on one side. Each major component of the code was highlighted, corresponding to the recommended sections of the traditional CMOM training materials. Jack spoke about how most of these components could probably be addressed with materials already on hand and that at this time the focus should be on filling in the blanks to satisfy the code.

Tom Steinbach from the City of Oconomowoc gave the last presentation of the day with an overview of how the City has used Adaptive Management to meet its ultra-low level phosphors limit. The city operates the only wastewater treatment plant in its section of the Rock River watershed. While many of the tributaries in the watershed are on the 303d list of impaired waters, the Oconomowoc River is not. The City, with a strong connection to the River running through it, wants to keep it that way.

Tom quickly stepped through the Adaptive Management selection process, highlighting the conditions and characteristics of the watershed that make AM a good fit for the City. He talked about the challenges associated with managing a program that inherently relies on the cooperation of the other land owners in the watershed. He also spoke of the success they have had forming a Regional Conservation Partnership Program that promotes private and public stakeholders working together to help fund the parts of the AM program that benefit them all.

At 3:00 attendees were invited to take a tour of the Art Oehmcke Fish Hatchery in nearby Woodruff. Most of those attending made the drive and met at the DNR Fire Station near the hatchery. DNR staff members lead the group through the facility, explaining the hatching and rearing process. The hatchery breeds muskellunge, walleye, lake trout and suckers. A million suckers are bread to feed every 100,000 walleye and 10,000 muskellunge. Breading their own feed stock reduces their cost of operations significantly. The group was walked through the hatching building where dozens of small tanks containing the thousands of small fry were being grown. The Hatchery gets its water from two sources, blending water from the nearby stream and a well located several miles away to better regulate temperature conditions. It operates under its own WPDES discharge permit, discharging the water directly or after stilling ponds as necessary to meet its limits, which change depending on the season and receiving water conditions. The hatchery was a great example of the State regulating itself in the same way all wastewater treatment plants are regulated.

Submitted by Chris Helgestad, NCR Secretary.

North Central business meeting minutes

North Central Region Business Meeting Minuets
Arbor Vitae, WI June 2nd, 2016.

1. President Andy Ott called the business meeting to order at 11:35 AM.

2a. President Andy Ott thanked everyone for attending the meeting, and the speakers for taking the time to share their presentations with the group.

2b. President Andy Ott thanked Lakeland Sanitary District for hosting the meeting, and the DNR for providing the tour of the fish hatchery.

2c. President Andy Ott recognized State WWOA President Lyle Lutz, Past President Kelly Zimmer and Director Jeff Simpson. Jeff spoke briefly about the State Conference, membership renewals, promotional materials, award nominations, and membership promotion.

2d. President Andy Ott called for any questions, comments or changes to the meeting minutes from the last regional business meeting held in Marshfield and posted on the WWOA website. Hearing none the minutes were accepted as posted.

3a. President Andy Ott presented Ken Bloom’s Treasurer’s Report. As of June 6th the region had $744.39 in our escrow account and $2976.00 in our checking account.

3b. President Ott reported on the Steering Committee meeting held on March 10th at the Stage Coach in Mosinee. Topics covered included increasing registration fees for non-members and adjusting vendors’ fees to include one regular registration.

3b. President Andy Ott highlighted upcoming meetings and events, including the Watertown Classic Collection System Seminar on June 9th, the Marshfield Northwoods Collection System Seminar on July 21st, a joint NCL/NCR Laboratory Class on August 11th, the Winter Northcentral Regional Meeting on Wisconsin Rapids on August 30th, and the WWOA Annual Conference in La Crosse on October 11th through the 14th.

4. President Andy Ott skipped mention of the award nominations previously covered by Director Jeff Simpson.

5. President Andy Ott skipped mention of promotional materials previously mentioned by Director Jeff Simpson.

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6. President Andy Ott mentioned the availability of scholarships and tuition aid to WWOA members and their families.

7. President Andy Ott encouraged all non-members to consider the benefits of membership.

8. President Andy Ott encouraged everyone to consider hosting a future meeting.

9. President Andy Ott encouraged everyone to follow us on Facebook and LinkedIn.

10. President Andy Ott opened the floor for new business. There was none.

11. President Andy Ott adjourned the meeting at 11:55 AM.

Recorded and Submitted by Chris Helgestad, NCR Secretary.
Kenny Oyler Joins Enviro-Care

Gurnee, Illinois U.S.A., Date July 13, 2016. Kenny Oyler has joined Enviro-Care Company as the new Eastern Regional Sales Manager. Phil Thompson, President of Enviro-Care explains. “We are pleased to have found an experienced leader to continue growing the Eastern territories. Kenny is a screening expert with 36 years of experience in the municipal headworks market and can immediately step into that leadership role.”

Kenny Oyler’s industry experience is extensive. He spent thirteen years with JWC and twenty plus years with IDI, FMC and Wheelabrator. As a seasoned Sales professional from within the industry, Kenny will be a welcome addition to our sales/marketing team. “We plan to tap into his industry knowledge and experience as we move forward growing Enviro-Care.” stated Thompson. “Kenny is another industry resource that will enable us to train and grow the next generation of screening experts.”

Enviro-Care Company of Gurnee Illinois (previously located in Rockford Illinois) is a headworks company supplying screening and solids/grit management equipment to the water and wastewater industry. Enviro-Care was founded in 1972. In 2009, Enviro-Care became the exclusive North American license partner of SAVI S.r.l. of Mantua Italy. Together they introduced the SAVI Flo-Drum Screen, MultiRake Screens and the “Beast” for Septage, FOG and Sludge screening to the North American market. February 2015 brought another partnership between Enviro-Care and FSM Frankenberger GmbH & Co.

In February of 2015, Enviro-Care Company was acquired by the WAMGROUP® headquartered in Modena, Italy. WAM is a multi-national company that first entered the conveying market in1969. WAM quickly expanded into all facets of bulk solids handling equipment and today is the recognized leader in this important industrial application with thousands of installations worldwide.

In 2013, WAMGROUP’s growing interest in the environmental sector led to the purchase of SAVI® S.r.l located in Mantua, Italy.

Today Enviro-Care Company is the exclusive sales and engineering partner in North America for SAVI S.r.l., SPECO® – the wastewater division of WAMGROUP®, and FSM Frankenberger GmbH & Co. KG of Pohlheim Germany.

Alternative Strategies to Achieve Phosphorus Discharge Requirements

A common belief is that there was no real source of funding for controlling nonpoint pollution and that implementation of water quality standards would force communities with WPDES permits to either fund the pollution control (trading) or spend even more on plant upgrades to achieve compliance. The concept was often repeated at various wastewater presentations.

This concept was reinforced thru the Total Maximum Daily Loading (TMDL) program; Adaptive Management Option; and Effluent Trading. These programs to achieve compliance with the phosphorus water quality standards all relied on a municipality being forced to pay to protect the environment. The catch is, this was all based on limited experience and insights associated with limited exposure to other groups and insights.

This was written to share insights that I was exposed to while serving as a Board Member for the Southeast Wisconsin Fox River Commission, discussion with a variety of people including WDNR and SEWRPC staff. I also wanted to highlight Tom Steinbach’s insights and efforts for adaptive management……where a WWTP is leading the effort to clean-up the water.

Water Quality Monitoring: There is a limited amount of actual monitoring sites to assess rivers and lakes. There are options for volunteers or retirees to perform water quality monitoring, which includes the potential of getting funding to perform the work. Mukwonago WWTP monitoring program identified the fact that the Fox phosphorus concentration decreased downstream from the confluence with the Mukwonago River.

• Water Action Volunteers (WAV): This is a WDNR program providing training to interested individuals to perform for stream assessments. By working with a coordinator, they help you with site selection, biotic monitoring, DO, water clarity, and other skills for information to eventually be added in the WDNR SWIMS data base. http://watermonitoring.uwex.edu/wav/

Mukwonago staff attended a training session and weekly perform total and dissolved ortho phosphorus, water clarity, pH, DO, and temperature and then submit it to the WDNR SWIMS program.

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Additional phosphorus monitoring provided useful insights on phosphorus sources and issues in the river. High acid-hydrolysable phosphorus concentrations helped indicate the issue of soil erosion. Likewise, very low concentration of dissolved ortho-P and high total P demonstrated the issue of algae at another site.

Funding: The original premise of this article was a lack of project funding to address pollution sources leading to water quality impairment. A trick is learning how to link sources to help fully fund projects. Here are examples of opportunities to check on:

- **County Conservation Efforts:** It’s worth checking on whether the County has resources that could be channeled into water pollution control. In addition to the state funds distributed to counties, I have seen Racine County help fund SEWFRC work in Racine.

- **Southeast Wisconsin Fox River Commission (SEWFRC):** Established thru legislation. Contrary to the above belief, that group is funded thru the State Budget to pay for projects to address water quality issues and enhance the recreational opportunities in the Illinois Fox River. This group has channeled $1.25 million of projects to that end. http://sewfrc.org/

- **Legislation:** Securing political support could lead to the formation of an organization similar to SEFRC. If successful, this could provide state funding. Leveraging those funds with other nonpoint pollution funds would pay for more remediation projects.

- **WDNR monitoring grants:** Specific proposals can be submitted each year to request funding to perform sampling and/or analysis to assess the area. http://wiatri.net/cbm/Partnership/

- **WDNR website:** Has a variety of lists available to fund studies and restoration work. The grants include rivers, lakes, etc. as well as the 9 key element plan listed above. http://dnr.wi.gov/topic/nonpoint/9keyelementplans.html http://dnr.wi.gov/Aid/SurfaceWater.html

- **EPA does provide grant money for development of the “9 key element plans” plus can fund remediation projects.** Completing the 9 key element plan opens this as a major funding source for future pollution abatement projects. https://www.epa.gov/hwp/healthy-watersheds-consortium-grant

- **National Resources Conservation Service** provides a wide range of resources, as well as providing grants to help fund projects. http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/

- **Regional Conservation Partnership Program (RCPP)** promotes coordination between NRCS and its partners to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements. http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/farmbill/rcpp/

- **Nonprofit Organizations** represent another option. Groups like The Nature Conservancy exist to improve the environment.

- **Application of restoration strategies:** There is funding for a variety of strategies like: establish a prairie, wet-land enhancement or even wet-land development.

Information exists thru a variety of sources: There really is a variety of information out there to understand what issues exist that could be resources, whether you’re opting to pursue adaptive management, effluent trading, etc.

- **County Land & Water Management Plans:** Each county completes their land & water resource management plan. It’s a comprehensive document for each county, that includes information on soils, assesses erosion, etc. This can provide insights on areas to consider efforts to control erosion going into a river. An example of the plan for Kenosha County is found at: http://www.kenoshacounty.org/DocumentCenter/View/5218

Each county has staff that can help provide insights on the entire issue.

- **Southeastern Wisconsin Fox River Commission:** The SEWFRC was actually created thru legislation to protect the Fox River and to support projects to enhance the recreation uses of the Fox. In addition to the creation of this organization, the WDNR provides funding for remediation and improvement projects. They have funded over $1.2 million in projects over the years. For further details, check their web-site: http://sewfrc.org/

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Lake Michigan District travels to Sister Bay for August meeting

The August 18th Lake Michigan District meeting in Sister Bay was another successful meeting with over 50 operators, septage haulers, and DNR personnel in attendance, along with many equipment and process vendors. A special thanks to Energeneics for sponsoring the treats during the breaks.

Dave Lienau, Village of Sister Bay President, welcomed everyone to the Village.

Following the welcome by the Village President, Eric Lynne of Donohue & Associates presented Sister Bay Project and some other stuff. Eric described the project goals of the Highway 42 reconstruction through Sister Bay. The Village decided to improve the underground utilities prior to the DOT replacing the roadway pavement. The presentation was ended by discussing a phosphorus removal pilot test currently being conducted at the Fond du Lac WWTP.

Next on the agenda was Tom Jenkins of Jen Tech. Tom had a presentation titled How NOT to Conduct an Energy Evaluation. Tom first provided some formulas for calculating electrical power, savings, and payback period. Tom explained what electrical costs consist of and provided many reasons for why WWTP operators have difficulties with electrical costs. In addition, Tom introduced the idea of implementing operational changes like taking unneeded tanks out of service to save electricity. Tom warned operators not to use name plate data and design point performance to calculate actual plant electrical draw because they are worse case scenarios. Tom ended the presentation by discussing why unnecessary levels of details are not required for an energy evaluation because a majority of the data used are best estimates.

Dustin Jerabek called the WWOA LMD business meeting to order. Last quarter’s minutes and treasurer’s report were approved. Dustin stated we only have one team assembled so far for the operator completion during the state conference. Richard Sachs of the WDNR stated the applications for the November 2nd Operator Certification exams have been sent out and the deadline to register is October 5, 2016. If you had not received your application yet, contact Richard Sachs or download the form from the DNR website. Richard stated the study guide for Subclass C: Handling, Processing, and Reuse of Biological Solids and Sludges, has been revised and the updated study guide can be found on the DNR website. A new rule package takes effect to bring Wisconsin rules into compliance with federal rules. Richard explained a few areas where the rules were revised. The first is that whole effluent toxicity (WET) test failures will trigger a WET limit. Second, a slight change will be made to how some daily maximum limits are determined. The third regarding municipal permits, limits need to be expressed as weekly and monthly averages, whenever practicable. Lastly, for industrial permits, limits need to be expressed as daily maximum and monthly averages, whenever practicable. Richard stated these changes should not require any additional monitoring, but will require additional reporting requirements in some situations.

Craig Koch and Eric Finnila of Crane Engineering presented on Laser Alignment.

Craig and Eric described how alignment of equipment shafts is paramount to long equipment and coupling life. In addition, the benefits of laser alignment, in lieu of using an ordinary level, were discussed. Craig and Eric explained how a laser alignment aligns the horizontal, vertical, and the shaft angles. Craig and Eric finished the presentation by performing a laser alignment demo.

The last presentation was by Michael Sobotik of Synergy Sales. Michael's presentation was titled Level Measurement Technologies – The Best Place for the Right Instrument. The presentation described the pros and cons of common wastewater level measurement technologies. Michael explained how the different level measurement technologies are affected by different weather and operation conditions.

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In addition, Michael broke down the cost of ownership of the different level technologies for initial price, installation, setup, and maintenance costs. The presentation was wrapped up with Michael discussing the accuracies/errors and measurement ranges of the different level measurement technologies.

Mike Schell, Utilities Manager for the Village of Sister Bay, gave an introduction of the WWTP history, flows, loadings, seasonal impacts, major processes, and components. A plant tour followed the plant introduction.

The next meeting will be in Hilbert on December 15, 2016. Special thanks to the Village of Sister Bay for hosting this meeting.

Minutes submitted by Josh Stelleck, Lake Michigan District Secretary/Treasurer

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The SEWFRC hired a consultant to assess a section of the Fox River between Waukesha and Waterford to identify soil erosion and invasive species. The report identified opportunities to correct erosion.

- SEWRPC: SEWRPC has a wide range of resources, including GIS maps.
- WDNR surface water viewer is a GIS program, where past monitoring data for water chemistry and biological assessments are there.

EPA 9 Key Element Plan: Unlike the TMDL process and Adaptive Management, an EPA 9 key element plan is a process that assesses issues in a watershed, establishes priorities on projects, and has opportunities for funding the plan and projects. This does not create any discharge limits for anyone!

Grants are available for developing the plan and implementing projects to improve the condition of the water body. Instead of focusing corrective actions on the WWTP, it is focused on developing a prioritized list to fix pollution problems. More information is available on the WDNR website:
http://dnr.wi.gov/topic/nonpoint/9keyelementplans.html

Conclusion: There are things that we can do to help improve the rivers, without putting it on the backs of the rate payers. It may take some time to meet with people, but linking-up various funding sources can help get things done.

As I began this information sheet, I thought almost all of the non-point pollution abatement was being tied to the WWTPs. I just didn't realize what's actually out there.

Rather than having to type in any of the citations, you can request a copy of this document by sending me an email at: falknerd@aol.com

If you are interested in pursuing the idea, I'd be happy answer any questions or direct you to possible contacts that might be able to help you.

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