
Wisconsin
Rural Water
Journal
Summer 2025
WRWA
Wisconsin Rural Water Association
The Price Of Experience
Advanced Certification
We All Need To Learn
Your Energy Bills
Working with Food Manufactures
2025 WRWA
Outdoor EXPO
Agenda

34

In Every Issue

FEATURES

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Chris Groh

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Andy Aspinwall

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Kelly Thomas

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Andrew Aslesen

Wastewater Trainer
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OFFICIAL PUBLICATION OF THE WISCONSIN RURAL WATER ASSOCIATION

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NRWA NATIONAL RURAL WATER ASSOCIATION
America's Largest Utility Membership

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Message from the President

Dean Bergstrom,
WRWA President, Cumberland

I hope everyone is enjoying their summer so far and I hope your projects are going as best as possible. As I travel around the state there seems to be construction going on in most of your cities.

This past week the WRWA Board of Directors met for our annual board retreat. We covered a lot of topics from Long Range Plan/Strategic Planning, Succession Planning, and discussion on our expansion to the WRWA Expo Park. There is a lot of things going on with the new expansion and it will be exciting to see it in August at the Expo is which is August 28th. Put that on your calendar, as it is always a great event!

Also, at our meetings it was Chris Jensen from Birnamwood last meeting on the board. Thank you, Chris, for all your years of dedication to WRWA and I hope you enjoy your retirement. It has been a pleasure to work with you.

I would like to say welcome to Ryan James, from Gresham, as your new District #1 representative. We look forward to working with you and thank you for wanting to give back to WRWA.

As always, if you need any help with your systems, remember you can call your WRWA Circuit Riders as they will be there to help you with any issue you may have. If you do get help from WRWA, please send an email to us telling how we help your system's. Your letters help us when we seek funding every year to keep WRWA funded.

Enjoy the rest of your summer and until next time, Stay Safe!

Dean

Message from the Executive Director

Your Public Health Role

Chris Groh,
WRWA Executive Director

I just recently had my yearly physical with my doctor. I've known my doctor for 25 years. I get a kick out of my physicals each year when I go to see him. If you know me, you know that I'm fat. Always been fat, trying not to be fat in the future. My doctor gets annoyed with me because I'm in particularly good health. Aside from a couple "old man" issues, I don't have too many problems that most people my age have. Bad knees are probably the worst thing I suffer from. This annoys my doctor because I should be taking all kinds of medicine and going in for treatments. Apparently, I don't fit the mold for a fat old guy!

This latest physical allowed me to have a great conversation with my doctor friend about health, and specifically public health. He started with a fact that I was well aware of. The biggest advance to public health in the world was the establishment of water treatment and disinfection. The United States went from massive occurrences of disease and death before water was treated to remove or inactivate the bacteria and viruses from drinking water to barely any disease caused by the water that is made available and distributed throughout the population. When is the last time you heard about typhoid, cholera, or Salmonellosis?

After the onset of providing safe water, he went on to say that all he could do was make tweaks. Some of the things that he suggests diagnoses or has concerns about only add a few years of life or makes the last few extra years more comfortable. Barring a major problem like cancer or heart disease, he said my health and longevity are determined by my genes. I went on to say my argument has always included the treatment of wastewater adds just as much to public health by removing the same bacteria, viruses, and pathogenic organisms. He wholeheartedly agreed.

It warmed my heart when I realized I know thousands of people that do all this for Wisconsin and rural America. We do more for public health than all the doctors across these States. That's saying something!

It also pleased me to know that Rural Water is a big part of that work. But let's not make the doctors feel bad…they help too!

Chris

"Like" us on Facebook

We get letters and emails!

We'd love to hear from you…

Chris,

I wanted to write a quick note to thank you for all the help over the years while I was working in Ladysmith and what a great Executive Director you have been since assuming the role.

As my time in this profession has come to a close, I've been reflecting on all the great people who I've met and who have helped me along the way. I learned so much from you. Not only in daily tasks at the plant or lab, but in understanding the meaning of helping fellow operators. Even though I trained a few operators at Ladysmith, it wasn't until helping Johnathon in Hawkins that I truly understood how important it was to pass that knowledge along. During your opening remarks at the conference, you said all the old guys need to mentor the young. That's kinda when it hit me that's exactly what I had done in Hawkins. I didn't feel worthy of my nomination until that statement. The fact the committee chose me over the other very well-deserving operators was just the icing on the cake. Thanks so much.

At this time, I don't know where or even if I will continue as an operator. Hopefully I can find something for a couple hours a week that allows me to stay in this field. If not, I'm ok if this was my last hoorah!

Thanks for all you and your staff do. We couldn't do it without you.

Matt

Hi Chris,

I attended the Advancing Water and Wastewater Systems, Practical Solutions, Technology and Leadership for Operators training held at First Supply in La Crosse on April 10th. Brenda from WRWA and the staff from ISG did a fantastic job of organizing and presenting this class, it was one of the best I have attended. The range of topics provided good information, ideas to take back to our communities and discussion amongst attendees and presenters.

Keep up the good work.

John Hauth, Public Works Director, City of Lancaster

Hi,

I would like to thank WRWA for all that they do to help all the small community give their customers the best service possible. Todd Weich, the circuit rider for my area, stopped in on April 21st to assist us in doing some leak detection. This service is truly helpful and extremely appreciated by our small community.

Thank you,

Eric Carley, City of Omro Utilities

Hey buddy,

I've been meaning to email since conference, but haven't had the words to express how thankful I am for all you did for me, John, and Hawkins. You truly were a blessing. It's a shame there is no award for what you do and the people you help. I just really, really appreciate you. Thank you!

Matt Boehmer, Hawkins Waterworks

Hi Chris,

I would like to thank the WRWA organization and Tony for providing onsite training at the Prairie du Chien Treatment Plant lab. The training included, but not limited to, the generation of a passing calibration curve for total phosphorus using the Hach TNT plus kit as well as the first day testing for the initial MDL study for total phosphorus. Thanks to Tony's great work, the lab has been set up for success on the total phosphorus test.

Having WRWA as an additional resource for labs to reach out to for training is invaluable especially in the current environment where many labs are experiencing significant turnover in staffing. When labs have multiple training interactions (i.e. WRWA onsite training, DNR onsite visits and phone conversations), the lab staff are offered opportunities to get all of their questions answered, resolve existing issues and learn at a greater capacity.

The Laboratory Certification Program will continue to reach out to WRWA when training opportunities come up.

If the WRWA training team is interested, I would love to extend an invitation to have the training staff shadow our auditor Patricia Doerflinger for an onsite audit(s) as a way to increase consistency and exchange of ideas.

Please let me know if this is something that WRWA would be interested it and I would be happy to facilitate.

I look forward to hearing from you. Have a great weekend!

Žana Šijan, Manager, Certification Services

Wisconsin Department of Natural Resources

Good Morning:

I just wanted to drop an email to let you know how appreciative The Village of Elk Mound is with the assistance that Tony Roche and Chris Groh provided while we worked on figuring out a treatment issue at our WWTP. They made multiple trips, checked in weekly, and provided us with resources while we worked to get back on track.

A big shout out to these two and the effort they put in to helping us get back to compliance.

Proud to be a member of WRWA.

Mark Levra, Director of Public Works, Village of Elk Mound

Hi Renee....

Just letting you know that Monday is my last day with RD....so in the future, please send these sort of e-mails to Lisa Paulson as she is the acting CP director.

Could also copy in Steve Opatik as he is our state engineer...he is located here at the state office for now.

I did let Chris, and the staff know last week Monday when they were here for out meeting... but wanted to be sure to reach out to you also.

Thank you SO much for all that you have done for WI RD, and for all you do every day for Rural communities throughout Wisconsin.

It has been a pleasure working with you and I really appreciate all your hard work...it does not go unnoticed.

Take care,

Kathi Firkus, Community Programs Specialist

Rural Development - Community Programs

Kelly,

Thank you for taking the time on May 19th to meet up with me to discuss and advise on updating our system emergency response plan.

As a relatively new operator and administrator for our system of 80 homes, I have been navigating the different state requirements and updating forms over the past year. All of it is new to me. I appreciate the clarification and direction you were able to offer in coming up with a viable, real-world solution to fit our system needs and meet the state requirements.

I also appreciate the info you shared regarding companies and contractors to consider for working on the system when needs arise.

Thank you for making yourself available. You and the WRWA are a great resource and I'm sure I will be calling on you in the future!

Jim Nickel, Operator/Trustee

Sunnyfield Acres Water Association,

Oconomowoc

Mr. Aslesen,

Thank you very much for taking the time to travel to Fontana to give us a fascinating demonstration! It was both educational and entertaining!

We continue to be grateful and humbled by the positive reception our posters receive in your organization's art contest. This achievement will be a great source of pride for the rest of their lives.

We appreciate all the good your organization does.

Thank you again!

Andrew McCanna,

Fontana Jt. 8 School District

Good afternoon, Todd!

Thank you very much for being available to call up and ask questions regarding our system upgrade. It has been very helpful to have someone with knowledge about the system to bounce things off of to double check our direction and plans. Thanks again!

Respectfully,

Larry Swarr, Village of Curtiss Public Works

Good afternoon, Dan!

Thank you for being available for questions relating to our water system upgrade. It has been very helpful to bounce some things off of someone with no conflict of interest. Thanks for your service!

Respectfully,

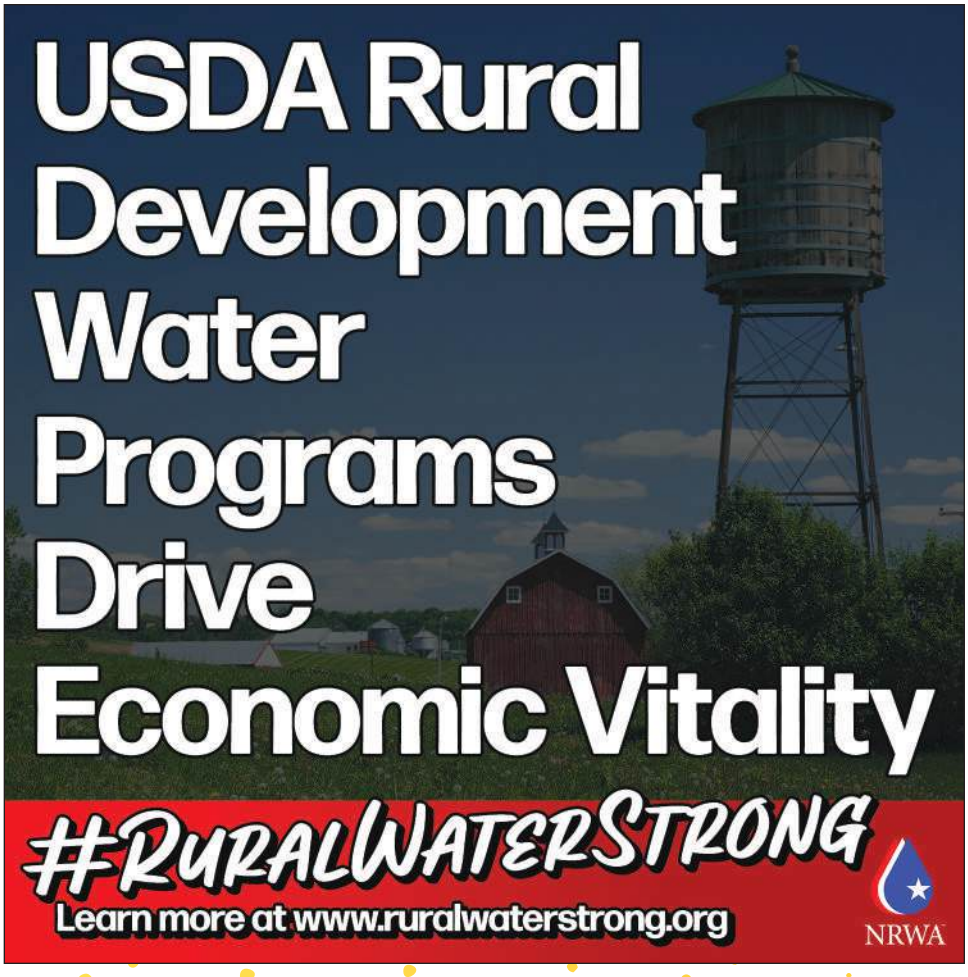
Larry Swarr, Village of Curtiss Public Works

Good afternoon, Andrew!

Thank you very very much for all the work you put into our current water project! It has been great working with you. I look forward to, I am sure, more interaction as we continue working towards getting this across the finish line. All the hours doing the Bedrock surveys, Groundwater Flow Direction, Zone of Influence, Zone of Contribution (Recharge Area), Well siting strategy meetings, Setback requirement info, example land agreements, and much more is very appreciated. This is the first time in at least 20+ years that every test well drilled on a project could be turned into a production well. Our ratios in the past were more like 5-10 test wells per final well. Thank you!

Respectfully,

Larry Swarr, Village of Curtiss Public Works



We All Need to Learn

Kelly Thomas,
WRWA Technical Assistance Director

In the water and wastewater industry, continuing education is not just a professional requirement, it is a critical investment in public health,

In the water and wastewater industry, continuing education is not just a professional requirement, it is a critical investment in public health, environmental protection, and operational excellence. As treatment technologies advance and regulatory standards evolve, operators must stay informed to effectively manage complex systems and ensure compliance with local, state, and federal requirements.

From emerging contaminants such as PFAS to evolving cybersecurity threats and climate-related challenges, the landscape of utility management is rapidly changing. Ongoing training equips water professionals with the knowledge and tools necessary to adapt, respond, and lead. It enhances their ability to maintain system integrity, improve efficiency, and protect the communities they serve.

Continuing education also plays a key role in career development. It supports operator certification, opens pathways for advancement, and helps utilities retain skilled, motivated personnel. In smaller systems, where staffing is often limited, cross-training through continuing education is vital to operational resilience.

By fostering a culture of learning and professional growth, utilities can ensure safe, reliable service today and into the future. Ultimately, continuing education is not just about meeting requirements, it's about elevating the standard of care in one of the most essential public service sectors.

Recently our WRWA staff attended the annual NRWA In-Service in Reno, NV. Our staff plays a vital role in shaping the skills, knowledge, and preparedness of the operator workforce. To be effective educators, we must also engage in ongoing professional development through in-service training. This form of continuing education ensures that our staff stays current with regulatory changes, technological advances, and evolving industry standards.

In-service training equips staff with the latest teaching tools, updated scientific data, and regulatory insights necessary to share accurate and impactful information.

Ongoing development allows our staff to refine our communication and integrate real-world case studies and respond effectively to questions that arise during on-site visits. As WRWA staff, our credibility and effectiveness depend on staying informed and engaged in the industry we serve.

Investing in the continuing education of our staff ultimately improves the quality of operator education, enhances your system's performance, and supports regulatory compliance across the board. Just as operators must learn and grow, so too must our staff be entrusted with sharing pertinent, accurate information—ensuring a resilient and knowledgeable workforce at every level.

Stay safe, stay healthy, *Kelly*

WORKING WITH FOOD MANUFACTURERS

Tony Roche,
WRWA Wastewater Trainer

When we think high strength wastewater we think high amounts of biochemical oxygen demand (BOD).

Howdy folks! I am writing this article on June 9th…summer is finally here! Summertime in Wisconsin is pretty special. The calendar fills up quickly, and every year it seems to go by faster and faster. Summertime in Wisconsin offers many outdoor activities. For example, you can fish nearly every one of our 15,000 lakes, ride your bike to some of our almost 300 different breweries, visit our 50 state parks, and not to mention attend the WRWA Outdoor Expo on August 28th! This year our expo is going to have some exciting new additions! Hope to see you all there! Yeehaw!

Besides our fun recreational opportunities, Wisconsinites also work hard! In my last article I pointed out that some of the biggest employers in this state are in the agriculture and manufacturing industries. If you look at our state flag you will see a plow representing agriculture as well as an arm and hammer representing manufacturing. In the last article I discussed some strategies for working with metal finishers that discharge wastewater. In this article I will focus on food manufacturers and offer some suggestions for how to effectively work with them.

Wisconsin has some of the best farmland in the world and many of the crops grown on our soils are processed into consumer goods. Some examples that come to mind are potato chips, French fries, jams and jellies, cranberry juice, and beer. We are also known as the dairy state and our dairy farmers help supply cheese, milk, and butter to people all across the country. Every single one of the foods I mentioned has a common trait…they produce high strength wastewater!

When we think high strength wastewater we think high amounts of biochemical oxygen demand (BOD). BOD is a biological test and measures how much oxygen is consumed in a wastewater sample over a 5-day period. The oxygen is consumed by microorganisms that metabolize organic matter in the sample. The carbon present in organic matter is used by microorganisms for growth, development, and reproduction. Therefore, products made from high-carbon-containing ingredients can produce very high strength wastewater. Some examples of high-carbon-containing foods are: starchy crops like potatoes that are used to make French fries and potato chips whereas other starchy crops like corn and barley are used to make beer, sweet foods like cranberries, strawberries, and raspberries are used to make juices and candies, even the sugar in milk (lactose) is loaded with carbon and can make for some high strength wastewater!

From a wastewater treatment perspective, it is important to keep an eye on food manufacturing industries like the ones I have described above. The microbiology in your treatment plants need BOD for food, but it is important to know how much BOD your plant can handle. Every wastewater treatment plant has a design load – this should be listed in your plant O&M manual. It is very important to track the BOD loading coming into your plant because your bugs are boring – they like everything the same every single day. If an industry is sending you intermittent slug loads of BOD your plant will not like that and may become upset.

If you have an industry in town that is giving you grief it is a good idea to contact them and inform them of the issues you are experiencing. It is also important to remember to fall back to your sewer use ordinance. Your sewer use ordinance is your best defense for working with problematic industrial users. It should be specific and should spell out fines for users that do not comply with the regulations.

Well, I think that about does it for this article. If you are out and about enjoying some of the many great recreational opportunities that our state has to offer have fun and be safe!

Cheers, *Tony*

CAN YOU HEAR ME?

Vince Matarrese,
President, Advanced Safety Technology, Inc.

Make sure employees understand the importance of using the proper personal protective equipment.

Do you have a "Hearing Conservation Program" that meets 29 CFR 1910.95 OSHA standard? And most important, are you implementing it.

The employer shall administer a continuing, effective hearing conservation program, whenever an employee noise exposure equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels (action level) measured on the A scale (slow response) or, equivalently, a dose of fifty percent.

NEW EMPLOYEES

1. Within 6 months of an employee's first exposure at or above the action level, the employer shall establish a valid baseline audiogram against which subsequent audiograms can be compared.

2. Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by **14 hours without exposure to workplace noise.**

3. The employer shall notify employees of the need to avoid high levels of non-occupational noise exposure during the **14-hour period immediately preceding the audiometric examination.**

4. At least **annually after obtaining the baseline audiogram**, the employer shall obtain a new audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred.

TRAINING

The employer shall train each employee who is exposed to noise at or above an 8-hour time weighted average of 85 decibels in accordance with the requirements of this standard. Employee's exposed to mowers, trimmers, chain saws, chippers, snow blowers, sewer vac's and leaf vac's, etc.

We all experience a decrease in hearing with aging, which usually becomes apparent after age 50. Make sure employees understand the importance of using the proper personal protective equipment.

- The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and
- The purpose of audiometric testing, and an explanation of the test procedures.

CERTIFICATION

The employer shall verify that each affected employee has received and understood the required training through a written certification that contains:

- the name of each employee trained,
- the date(s) of training, and
- that identifies the subject of the certification.

RECORDS

- Noise exposure measurement records shall be retained for two years.
- Audiometric test records shall be retained for the duration of the affected employee's employment.

Remember, it's all about going home and keeping your hearing.

Vince

CORPORATE GOLD MEMBERS

PSC WATER RATE INCREASE ORDERS ISSUED

3/1/2025 – 5/31/2025

UTILITY NAME	ORDER ISSUED	OVERALL% INCREASE
Bagley Municipal Water Utility	11-Mar-25	40.47%
Ledgeview Sanitary District No 2	19-Mar-25	6.99%
Sheldon Municipal Water Utility	26-Mar-25	31.17%
Alma Center Water Utility	31-Mar-25	18.91%
Butler Public Water Utility	31-Mar-25	21.29%
Village of Taylor Water Utility	04-Apr-25	26.20%
Village of Webster Municipal Water Utility	07-Apr-25	36.45%
Footville Water Utility	16-Apr-25	9.28%
Marshfield Utilities	16-Apr-25	12.98%
City of Omro Water Utility	16-Apr-25	55.01%
Brillion Municipal Water Utility	24-Apr-25	25.00%
Wiota Sanitary District Number One	28-Apr-25	57.94%
Bloomington Municipal Water Utility	05-May-25	59.63%
Prairie Du Sac Municipal Electric and Water	06-May-25	38.60%
Delafield Municipal Water Utility	22-May-25	-21.11%
Watertown Water Department	28-May-25	15.28%
Stoughton Water Utility	30-May-25	18.92%

PSC CONSTRUCTION AUTHORIZATIONS ISSUED

3/1/2025 – 5/31/2025

UTILITY NAME	ORDER ISSUED	CONSTRUCTION COST
Multiple Utilities	15-Apr-25	$19,000,000
Hudson Public Utilities	22-May-25	$3,000,000
Kaukauna Utilities	27-May-25	$18,600,000
Medford Water works	26-Mar-25	$2,000,000
Village of Menomonee Falls Water Utility	25-Apr-25	$3,420,997
Mukwonago Municipal Water Utility	22-Apr-25	$8,151,769
New Richmond Municipal Water Utility	26-Mar-25	$6,100,000
City of Oshkosh Water Utility	14-Mar-25	$13,605,500
City of Pewaukee Water Utility	14-Apr-25	$1,929,200
Village of Wheeler Municipal Water Utility	23-Apr-25	$2,829,500

Wisconsin Rural Water Association

WRWA MEMBERSHIP (Annual Fee)

*WIP (individual)	$50
Transient	$70
OTM & NN System	$160
Septage Haulers/Plumbing Co.	$160
Less than 1,000 people served	$340
1,001 – 2,500	$425
2,501 – 6,000	$505
6,001 – 10,000	$575
Over 10,000	$650
Associate	$670
Corporate	$1,660
Corporate Gold	$3,000

JOURNAL ADVERTISING RATES

	MEMBER		NON-MEMBER	
Black & White Advertising	1-Time	Yearly	1-Time	Yearly
Full page	$430	$1,555	$575	$1,970
Half page	$315	$1,130	$395	$1,265
Quarter page	$215	$800	$270	$860
Business card	$160	$575	$200	$600

	MEMBER		NON-MEMBER	
Color Advertising	1- Time	Yearly	1-Time	Yearly
Inside front cover	$670	$2,430	NA	NA
Outside back cover	$800	$2,540	NA	NA
Full page	$575	$1,970	$770	$2,670
Half page	$370	$1,265	$575	$1,965
Quarter page	$270	$860	$400	$1,400
Business card	$200	$600	$335	$1,000

*For information on advertising & the benefits of membership at the different levels, please contact Renee at the WRWA office: 715-344-7778 or rkoback@wrwa.org. *Must be employed by a WRWA system, associate, or corporate member, retired and state or federal employees*

CORPORATE GOLD MEMBERS

Annie Von Rueden,
WRWA Water Circuit Rider

Have copies of the emergency response list in several places, easily accessible to employees, and other appointed staff during the emergency.

Hello to all who have waited for summer to show up. Which seemed like eternity. Now that summer is finally here, it is here to stay. Along with summers, we can get quite nasty weather accompanied by severe storms. And water systems are vulnerable to damage. How prepared is your water system for an emergency? Not just tornadoes and high windstorms, deep cold snaps and ice storms as well. I haven't seen an ice storm in many years. When we were kids, I remember families doubling up during the ice storm of 1976. This past winter, there were two weekends in a row without power due to ice storm and ice on the power lines. As a water operator, emergency preparedness is key to navigating through these events. Hot or cold, weather can turn in a split second. Are you prepared?

Do you have an updated emergency contacts list up to date? This should be updated annually.

Is there back up power available for the wells? Per DNR code, the backup power needs to exercise once per month, under load quarterly.

Do you have a good relationship with the county sheriff's department and emergency management team. And your local law enforcement. Talk with them, make a good connection with them. Get phone numbers where they can be contacted in case cell service or 911 goes down.

Have phone numbers from every contractor in the area willing to assist. Get to know them and know the extent of their capabilities.

Do you have an updated emergency water supply plan.

Make a list of all the utility companies that serve the village or area for gas, electricity, phone, and internet and get local contacts for each.

Identify if a sturdy building can serve as an operations center, that they have a backup generator, and that it is a brick building.

Have copies of the emergency response list in several places, easily accessible to employees, and other appointed staff during the emergency. It is a good idea to also have the emergency call list in the utility vehicles and equipment.

Make it a point to plan for emergencies. Operators should not solely depend on their county's emergency manager. If you are unsure what to do in an emergency, or what it is like to be in an emergency, I have set up, along with our training specialist, Brenda Staudenmeier, a live lunch and learn emergency class in the training center at the WRWA Expo on August 28. Grab your lunch and stop on in. It will be a talk you won't want to miss.

See You there!

Annie

2025 OTM/NN Water Systems Technical Assistance

Good morning,

Today I would just like to remind water operators that we at Wisconsin Rural Water Association are out in the field providing Technical Assistance for all New and Current Water operators throughout Wisconsin. **With New operators becoming certified in the Small Water Systems Field comes with lots of challenges and learning new things.** My onsite technical assistance allows me to give hands-on field training for the new operators. I would like to share some of the Assistance we provide for you to help your Water system Stay in compliance with WI-DNR Regulations.

- **Water Leak Detection** - Walk through entire water system listening for water leaks.
- **Assistance with WI DNR paperwork** - Completion of Any DNR paperwork that needs attention.
- **Water Sampling Assistance** - Any Compliance Sampling that needs to be completed.
- **Lead + Copper/ (WQP) sampling Assistance** - Completion of lead + Copper samples at proper locations
- **Operator Certification** - Operator look-up of credits, Classes that need to be completed. Exams that need to be taken.
- **Distribution System Inspections** - Well house inspection, Inspection of entire water system
- **Operation and Maintenance** - Well house inspection, Inspection of entire water system, Maintenance routines that should be completed.
- **Exam Review Training** - Go through the entire Small Water Systems Study Guide to prepare for exam. Pick which option is best for you. In person or virtual training.
- **Sample Requirements** - Completion of Quarterly and yearly Sampling requirements.
- **Winter Operations** - Getting your water system prepped for the extreme sub- zero winter conditions.
- **Certification Renewal Credits** - Look up credits acquired and obtain additional if needed.
- **Online/In-Person Trainings** - Throughout Wisconsin- Provide in-person training throughout the entire state at various locations. Provide multiple online virtual training courses at your convenience throughout the calendar year.

These are just a few services we can provide for your Small Water Systems. Please don't hesitate to call if your water system has any kind of technical assistance issues. We are more than happy to help and keep your water system in compliance with Wisconsin DNR Regulations.

Thank you! And have a wonderful day!

George Taylor, Small Water System Circuit Rider
715-321-4145 • Gtaylor@wrwa.org

CORPORATE GOLD MEMBERS

Advanced CERTIFICATION

Jesse Hass,
WRWA Wastewater Trainer

There are a lot of factors that could make your facility advanced.

A topic that comes up during many of my visits is advanced certification and what makes a plant an advanced plant. With many wastewater treatment facilities having to meet stricter phosphorus, ammonia, BOD, TSS, and other limits, more plants are being reclassified as advanced plants. NR 114.56 runs down the factors that will make a wastewater plant advanced.

R 114.56 Classification of wastewater treatment plants.

(1) Each wastewater treatment plant shall be assigned a basic or advanced rating. An advanced wastewater treatment plant is one that meets any one of the following criteria:

(a) Is a mechanical plant with an annual average design flow greater than 1.0 MGD.

(b) Has a biochemical oxygen demand (BOD) limit of 10 mg/L or less.

(c) Has surface water limits for total phosphorus or total nitrogen and utilizes a biological nutrient removal process.

(d) Uses a tertiary phosphorus removal process to achieve ultralow phosphorus limits.

(e) Is a municipal treatment plant that receives wastewater from a major contributing industry.

(f) Is a municipal treatment plant that produces Class A biosolids.

(2 Wastewater treatment plants that do not meet any of the criteria in s. NR 114.56 (1) shall be classified as a basic facility.

(3) Wastewater treatment plants that utilize special or unique biological, physical, chemical, or other unique treatment methods shall have an operator certified in subclass U.

As you can see there are a lot of factors that could make your facility advanced. The ones that could affect some of the treatment facilities in the future would be a BOD limit under 10, utilizing biological nutrient removal, and installing tertiary filtration. With many of the plants nearing a 40- or 50-year lifespan and lower limits on the way, just be aware that if you do an upgrade you may need to obtain advanced certification.

First, to be an advanced operator, an operator would have to have passed the basic exam and all the pertinent subclasses for any facility they are working at. Once you have the subclasses passed an operator will need 4 years of experience to become an advanced operator plus six points on the advanced scale. Advanced certification is based on a ten-point scale. The 4 years of experience counts for 4 points of the ten needed to become an Advanced operator. The other 6 points can be obtained in a variety of ways. 2 more points can be obtained by gaining two more years of experience. The maximum number of points that can be gained through experience is 6 points.

So, an operator must choose if they want to obtain their advanced certification in 4 years or 6 years. If an operator has 6 years of experience the most common path is to take the advanced exam which is 100 questions, and an operator would need 75 correct out of 100 questions. The advanced exam is worth 4 points so if the advanced test is passed then an operator with 6 years of experience and the advanced test passed would have 10 points. Once an operator has 6 years of experience and has passe the advanced exam they would need to turn in the experience form found on the Operator Certification portion of the Wisconsin DNR

website. WRWA puts on a terrific course to help operators prepare for the advanced exam. Check the training portion of the WRWA website to see upcoming courses. You can also join our email list to get training updates emailed weekly.

If an operator would like to obtain advanced certification in 4 years, then they would need to either complete a bachelor's degree with 240 hours of wastewater related classes or an associate's degree in a wastewater field. If an operator has a degree in unapproved wastewater field they would not need to pass the advanced exam. If an operator wants to get an advanced certification in 4 years and does not have a degree in a wastewater related field, they will have to complete a course from a DNR approved provider. The courses will give an operator one-half point for every 20-hour course that is completed. The maximum number of points that can be gained is 2 points by doing 80 hours of coursework. All this information can be found on the operator certification section of the Wisconsin DNR website.

I would advise any operator who has over 6 years of experience to consider taking the advanced wastewater exam. It is something that will always follow you and help anyone in the wastewater field. Wastewater plants are already struggling to find operators and there will be more of a need for advanced operators as plants are upgraded and reclassified. The only difference for an advanced operator is they will need to get 24 credits every 3 years instead of 18 credits for a basic operator. *Jesse*

CORPORATE GOLD MEMBERS

The Price of *Experience*

Dan Wundrow,
WRWA Circuit Rider

A seasoned operator who is passionate about their job holds so much information, skills, and instincts that it can almost seem effortless for them to complete their tasks.

In the last few months, we, as staff, attended the National Rural Water Association's (NRWA) annual in-service training. Each morning, we participated in the opening session and listened to a keynote speaker. One of the keynote speakers was Vern Steel, NRWA Deputy CEO. Vern did an outstanding job of keeping the opening session very short and sweet on the last day. However, I think he made a simple yet powerful statement: *"Water is the only utility people consume."* Read that statement again.

That statement hit home hard in my books. Every municipal worker who works with drinking water helps provide the one essential thing for life. Without the dedication of everyone, we would not have access to clean drinking water. Thank you all for all the hard work that you do! Be proud! Now I wish I could end my article with that, but I think Chris might send me back to cleaning port-a-potties at the Outdoor Expo. I want to take a moment to discuss the habitually overlooked value of a seasoned water/wastewater operator, the apparent and unapparent costs associated with hiring new operators, and the importance of retaining existing staff.

Over the last few years, I have had the privilege of meeting many of you and spending time with you, whether searching for water leaks, repairing fire hydrants, working on PSC reports, conducting tower drain downs, or developing GIS maps, among other tasks. I have shared a great deal of knowledge over the past few years, but I have also gained a great deal more from all of you. In my eyes, you are an expert on your water system, and I learn something new about your water system each time. It took most of you years of unsuccessful attempts, sleepless nights, and most likely lots of profanity to learn your system. That is priceless information that cannot be taught but gained through baptism by fire.

A seasoned operator who is passionate about their job holds so much information, skills, and instincts that it can almost seem effortless for them to complete their tasks. That is one of the most overlooked aspects and can easily lead to scrutiny of their job performance. However, unknown to many, this seasoned operator has been contemplating a specific task, weighing dozens of possible outcomes, trusting their instincts, and drawing on past experiences. That is what made that task seem effortless. Unfortunately, we are losing a lot of our seasoned operators. If you have had the chance to read Brooke Klingbeil's latest article, we anticipate losing 30-50% of operators over the next ten years due to retirement. We don't have control over this. It is the nature of the beast. We can control the other percentage through employee retention.

Often, a seasoned operator leaves or is replaced, and a new operator is hired at a lower wage. This frequently appears favorable on the books, but there are always unnoticed costs. There are two main categories when discussing the cost of new hires: apparent and unapparent costs. Several variables influence the apparent cost of hiring a new operator. The most significant variable within this industry is certifications. Does the new hire have all the proper certifications? If not, then the variable cost will increase. When calculating the apparent cost of new hires, here is what should be calculated. Cost of all classes, mileage to classes, hotels (if needed), DNR exams, and hourly rate. Then you have the unapparent costs. These are costs that can be difficult to put a monetary value on, such as employee time away from work, reduced efficiency during training, and other staff covering their workload.

Using a make-believe City of Truth or Consequences, Wisconsin, population 1,500. This city requires three water certifications and six wastewater

certifications. The new hire is allowed to stay overnight. The total hotel lodging cost will be $1,078. Total mileage will cost $ 2,115. Classes will total $1,430. DNR exams will cost $225. Labor cost, including overtime and benefits, will cost $3,738. The total cost to train a new operator in the city of Truth and Consequences, Wisconsin, is $8,361 if everything goes perfectly. This does not account for the unapparent costs and other city training that is required. Before a seasoned operator leaves, figure out how much it will cost to train a new operator. This may not be the easiest thing to read, but if you are willing to pay to train a new operator, you should invest in your current operator.

Retention of current operators is a massive issue across the state. This is no longer a desired industry—overwhelming scrutiny from the public, board members, enforcement agencies, and the dreaded internet keyboard warriors can have a significant impact on an operator's will to stay. In a recent study conducted by the USC Annenberg School for Communication and Journalism in partnership with Staffbase (2024*), a startling truth was uncovered: 61% of employees considering leaving their jobs cite poor internal communication as a factor. Often, community leaders overlook the operator in significant decisions that will have a lasting impact on the operations. This frequently leaves the operator voiceless.

Keeping good people on the team means less time training new hires, more experienced crews on the job, and smoother operations for the community we serve. When we stick together, we work safer, smarter, and stronger. I hope that you have enjoyed this article and wish you all a safe and fun summer!

***https://staffbase.com/en/pressreleases/communication-breakdown-61-of-employees-unlikely-to-stay-in-their-job-cite-poor-communication-among-top-reasons/** *Dan*

CORPORATE GOLD MEMBERS

YOUR *Energy* BILL

Matt Rettler,
WRWA Energy Efficiency Circuit Rider

Understanding how your electric company is billing you and being willing to make process adjustments to lessen the electrical demand is crucial.

Energy bills show up each month and need to be paid or it could result in your electricity being shut off. As an operator, are you looking over each bill or do you even see the bill? Many electric bills end up at the village or city office where a clerk/treasurer pays the bill with no knowledge of the equipment that used the electricity. I encourage every operator to look at their electric bills monthly to get a feel for what their plant uses for the processes being done. I know energy bills can seem confusing at first, sometimes filled with numbers and charges that aren't clearly explained but understanding it can lead to savings in your total electrical needs. Understanding how your electric company is billing you and being willing to make process adjustments to lessen the electrical demand is crucial. This article will try to break down your electric bill and explain what each section means. In the end, if you still have questions, please reach out to me and schedule a site visit to learn more about your bill and look at doing an energy audit to find ways to save energy in your plant.

Every electric company has its own way of producing an electric bill and each may have the information arranged slightly differently. Most bills start with the account information and billing summary. This section gives a quick overview of the account number, service address, and billing period covered by the bill. Most bills will also provide the balance that you owe, the previous month's amount owed, and any payments received. This should be the easy section of the bill as it just informs you of which piece of equipment you are being billed for.

After you have figured out what bill you have in your hand the next section includes the usage details. This section normally starts with showing the rate structure the current account is on. It is important to know that most electric utilities offer multiple rates and if you have changed the way you use electricity, that you verify you are at the best rate possible. Next, a bill normally shows the meter readings, total kWh's used, the number of days in the billing cycle, and sometimes history charts or graphs for past usage.

The next section can be a little more complicated but needs the most understanding. This section is a breakdown of the charges for the total bill amount. This section may include all or some of the following

details. The components of this section are customer charge, cost per kWh of energy, demand charges, delivery charges, fuel adjustment charges, low-income assistance fees, power factor adjustments, and taxes. A customer charge (or meter charge) is an amount that is calculated by a fixed charge determined by the service you are on (single or three phase) or by a fixed charge per day in the billing cycle. The charges for the total kWh's you use can be variable. Many electric utilities have rates that fluctuate with the time of day or season. The rates can be classified as low, regular, and high charges that can include differences for summer and winter times. It is important to understand these times and transfer high loads to low-rate times if possible. Have you been running that 40hp transfer pump every day at 2pm because it is convenient? Running it at 8am instead could save you $0.20 per kWh just because of the time of day. The same is true for the demand charge. The demand is calculated from a 15-minute period with the highest load during peak run times. Starting that same motor at 2pm could raise your demand by 25kW or more. Demand is normally billed at an average of $10 per kW so you are adding $250 to your monthly bill that may have been saved if you started it at 8am. This would be a savings of $3,000 per year. Fuel charges can come and go and may be credit at times. Most electric providers build in an average cost of fuel to produce electricity and depending on market fluctuation may add an additional charge if prices rise or a credit when prices fall. The last part of this section I want to touch on is taxes. Every municipality is TAX-EXEMPT and should not be paying taxes on your electric needs. If you see this on a bill you must contact your service provider and turn in tax-exempt forms to eliminate this from your bill and see if you can recover any of your previously paid taxes.

There may be additional information contained within the bill or another section that provides information such as planned outages, tips for energy conservation, rebate information, or upcoming rate changes. By understanding your bill and viewing it monthly, you can identify patterns and adjust to be more energy efficient. With energy costs rising at an alarming rate, any adjustments to be more energy efficient will benefit your facilities. As always, if you have any questions on your bill, equipment within your plant, or rebates for updates, please don't hesitate to reach out. For an in-depth review and energy saving recommendations please contact me for a FREE energy assessment.

Matt

CORPORATE GOLD MEMBERS

Advances in WATER METERING

Todd Weich,
WRWA Water Circuit Rider

Smart water meters are becoming critical tools in sustainable resource management

Water meters are essential tools used to measure water consumption in residential, commercial, and industrial settings. Installed by water utilities, these devices ensure accurate billing and help manage overall water usage. Traditional water meters record the volume of water passing through a property's supply line and require manual readings, which can be time-consuming and prone to error. By tracking usage, water meters also support conservation efforts and help detect leaks or other inefficiencies in the system.

There are several types of water meters, including mechanical (displacement and velocity) and electronic models. Mechanical meters use moving parts to track water flow, while electronic meters rely on sensors for more precise readings. Mechanical water meters typically fall into two main categories:

1. Positive Displacement Meters (PD meters):

- These are commonly used in homes.
- Water fills and displaces a chamber (like a piston or disk) inside the meter.
- As water flows through the meter, the movement of the chamber translates into a count of water volume.
- The meter records the number of displacements to determine the total usage.

2. Velocity (Turbine or Jet) Meters:

- Common in larger commercial or industrial applications.
- These meters measure the speed (velocity) of the water flowing through.
- As water flows, it spins a turbine or propeller, and the rotation speed is proportional to the flow rate.

While these types of meters have proven long-term reliability that require low maintenance costs, they are prone to wear and tear over time due to the moving parts. They may also become less accurate at both very low and very high flow rates.

Recently, with advancements in technology, the water industry has seen a rapid shift toward smart water meters, which utilize digital technology to collect and transmit data remotely. Unlike traditional mechanical meters, smart meters use electronic sensors and transmitters to provide accurate, frequent, and often wireless readings without the need for manual meter reading. These smart meters frequently rely on radio frequency (RF), cellular networks, or low-power wide-area networks (LPWAN) to send real-time usage information to utility companies and consumers.

The key features of smart water meters are:

- Automated Meter Reading (AMR): Transmits data periodically to the utility without needing someone to visit the site.
- Advanced Metering Infrastructure (AMI): Allows two-way communication between the meter and the utility, enabling updates, remote diagnostics, and real-time alerts.
- Leak Detection: Identifies continuous or unusual usage patterns that may indicate a leak.
- Usage Analytics: Provides detailed, time-stamped water usage reports via apps or web dashboards.
- Remote Shut-Off (optional): Some smart meters can shut off water flow remotely in emergencies.

The introduction of smart metering technology has brought significant advantages. For utilities, real-time data means quicker leak detection, more efficient system management, and reduced labor costs from manual meter reading. For consumers, smart meters offer online dashboards, alerts for abnormal usage, and the ability to track consumption patterns in detail. Some models are even compatible with smartphone apps that notify users of water use spikes or help set conservation goals. With advantages come disadvantages; higher upfront costs compared to the traditional mechanical meters, privacy and security concerns due to the increase of cyberattacks, and can be limited to rural communities due to the requirement of dependable networks.

Smart water meters are becoming critical tools in sustainable resource management. Emerging technologies include ultrasonic and electromagnetic meters, which have no moving parts and offer superior accuracy and durability. Integration with AI and machine learning allows these systems to analyze consumption trends, predict potential issues, and optimize water distribution networks. Some of the well-known and widely used brands include Badger Meter (Milwaukee, WI), Sensus (North Carolina, USA), Kamstrup (Denmark), Neptune Technology (Alabama, USA), Diehl Metering (Germany), Itron (Washington, USA), and Mueller Systems (USA). As cities move toward smart infrastructure, water metering technology will continue to play a key role in building resilient, efficient, and sustainable water systems.

As a refresher and reminder, refer to NR 810 – Operation & Maintenance of Public Water Systems, or reach out to your Circuit Rider. *Todd*

CORPORATE GOLD MEMBERS

WRWA
Wisconsin Rural Water Association

WRWA Mission:
Assisting, educating and representing our members in the Water & Wastewater Industries.

Well No. 4 PFAS Treatment Funded by the Safe Drinking Water Loan Program

City of Adams, WI

Communities across the United States are working diligently to address emerging contaminants in public drinking water systems. "Forever chemicals," including per- and polyfluoroalkyl substances (PFAS), have been identified as threats to our nation's water and wastewater — and historic levels of funding have been appropriated to address their remediation.

PFAS Funding

The Bipartisan Infrastructure Law (BIL) was signed into law in November 2021 and included $5 billion in funding to address emerging contaminants. This BIL funding is a 5-year Capitalization Grant, with fiscal year 2027 being the final year communities in Wisconsin can apply for emerging contaminants (EC)-related assistance. BIL funding is administered through the Department of Natural Resources (DNR) Safe Drinking Water Loan Program (SDWLP).

The deadline to apply for FY2026 funding has recently passed (June 30). Communities interested in pursuing FY2027 funding need to submit their Intent to Apply (ITA) by October 21, 2025 — prior to the program's application deadline of June 30, 2026. All applications submitted by June should be accompanied by an EC Priority Evaluation Ranking Form (PERF), upon which projects will be scored. If awarded, the principal forgiveness (PF) piece of the funding is applied to the project twice, resulting in 50% principal forgiveness of the emerging contaminants project on the first round (up to $500,000) and up to $3.5M on the second round, not to exceed 50% of the total project cost.

PFAS History

PFAS were first developed in the 1940s — a category of thousands of man-made chemicals utilized for a variety of consumer and industrial applications such as oil- and stain-resistant coatings, packaging, non-stick surface agents, adhesives, fire suppressants, and more. By the 1980s, their use was fairly widespread amid growing evidence of potential adverse health and environmental impacts. By the 1990s, public awareness of PFAS began to escalate, driven by the discovery of PFOA — a subcategory of PFAS — in Parkersburg, West Virginia, and subsequent lawsuits and research linking these chemicals to cancer, liver damage, birth defects, and other concerning health effects.

In April 2024, the EPA issued its National Primary Drinking Water Regulation (NPDWR), which established our country's first legally

enforceable federal limits for PFOA, PFOS, and other PFAS in drinking water, with requirements for testing, treating, and monitoring. All communities with public water systems (PWS) are required to complete initial PFAS monitoring by 2027, after which they will need to begin routine compliance monitoring and reports to the public.

In May 2025, the EPA announced that the agency will keep the current NPDWR for PFOA and PFOS at 4 parts per trillion. As part of this action, the EPA also announced its intent to extend the Maximum Contaminant Level compliance deadlines to 2031and establish a federal exemption framework.

While many communities are hustling to meet compliance, there are others who need to be commended for their proactive approach to addressing PFAS in their communities — ahead of EPA standards — because it was just the right thing to do. One such community is right here in Wisconsin.

PFAS Treatment in Adams, WI

The City of Adams chose to voluntarily test both of their municipal wells for per- and polyfluoroalkyl substances (PFAS) in early 2022, and after learning of concerning results, City leaders took immediate action. Water samples from Well No. 4 showed PFAS in excess of the Department of Health Services (DHS) Hazard Index. Within days of receiving news of the results, the DNR was consulted, City officials were notified, and Well No. 4 was taken out of service to protect the health of the community.

The City of Adams' municipal water system dates back to 1935. It currently consists of two groundwater wells and two elevated storage tanks. The City also provides water to the neighboring Village of Friendship through three metered connections, so this project impacts a combined Adams-Friendship population of almost 2,500. Well No. 4 was constructed in 1995 — a sand and gravel well with a pumping capacity of 900 gallons per minute.

Water samples extracted from Well No. 4 have typically shown very good water quality, except for the recent discovery of PFAS. The most concerning test results were collected in September of 2023 when PFHXS was 59.7 parts per trillion, PFOS was 16.5 ppt, and the DHS Hazard Index was 2.5. The current levels of PFAS in Well No. 4 do not exceed any current drinking water enforcement standards. However, the current levels would exceed the proposed PFAS enforcement standards in the NPWDR, which are scheduled to become effective by 2027.

With this PFAS data on hand, the City contracted with MSA to develop a feasibility study to evaluate alternatives and recommend the best path forward. The results of the study recommended water treatment

at Well No. 4 to restore water supply capacity, deliver clean water to the community, and to successfully meet current and future water demand.

City leaders then proceeded to the design phase, which included rapid small-scale column testing to verify treatment effectiveness on

Continued on page 26

Continued from page 25

an accelerated timeline. This testing confirmed that treatment using granular activated carbon (GAC) would be a good long-term solution for the City.

The proposed GAC adsorption system includes a new water treatment building on site at Well No. 4. The process involves water from Well No. 4 passing through two 12-foot-diameter vertical pressure vessels, each 22-feet tall — operated in a series — which each contain approximately 40,000 pounds of granular activated carbon that absorb PFAS compounds. Operation of the two GAC vessels in a series will allow the effluent from the first vessel to be monitored for PFAS, and the GAC media replaced when it reaches concentration levels of regulatory concern.

The City sought funding assistance through the DNR SDWLP by applying in 2023. The PFAS treatment project at Well No. 4 had one of the highest priority ranking scores in the state and received 65% principal forgiveness/grant — the highest percentage in the state awarded for a PFAS project that year.

The project was chosen to receive the 2024 Small Systems Excellence Award from the Wisconsin Section of the American Water Works Association (WI AWWA). It is currently under construction and is expected to be fully operational in late 2025.

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NUTRIENT LIMITS ON A BUDGET: *Low-Cost Approaches to Meet Permit Requirements*

Brooke Klingbeil,
WRWA EPA Wastewater Technician

WRWA's technical assistance team is 100% free to you.

It's shaping up to be a busy summer—my family recently made the jump and bought a fishing boat. It's been a fun way to unwind together, but like any new purchase, it gave us a good reason to take a closer look at our spending and rethink our priorities.

It got me thinking: wastewater utilities, especially small lagoon systems and recirculating sand filters (RSF), are often in the same boat (no pun intended). When you're under pressure to meet tighter phosphorus or nitrogen limits, but there's no money in the bank for a mechanical plant or high-end upgrades, how do you move forward?

For many small communities in Wisconsin, the words "phosphorus limit" or "nitrogen limit" are enough to spark serious stress—especially for systems that were never designed to meet today's tighter water quality standards. And with inflation, limited staffing, and shrinking budgets, upgrading to advanced treatment just isn't in the cards for many. But that doesn't mean you're out of options.

I've been working with a number of small facilities lately that are finding creative, low-cost ways to tighten up performance and gain compliance breathing room without breaking the bank. Here are some practical tools and tweaks that might help your facility do the same.

1. UNDERSTAND AND MANAGE INFLUENT LOADING

Small systems often face fluctuating influent strength, especially those fed by septic tanks. Whether you're running a lagoon or RSF, knowing your influent characteristics is key.

- For lagoons, excessive I&I—especially during stretches like this year's non-stop rainfall—can significantly dilute influent strength and shorten retention time, putting nutrient removal at risk.
- For RSFs, low-strength wastewater may reduce nitrification and phosphorus removal potential.

2. OPTIMIZE FLOW AND DOSING CONTROLS

Even without fancy automation, flow management can make a big difference.

- **Lagoons:** Non-permanent structures like floating curtains installed by operators to improve retention time without changing the treatment train or capacity. (It's good practice to reach out to your regional compliance engineer or provide a sketch or summary of what you want to do. They'll let you know whether it's considered a routine O&M improvement or a project that requires review)
- **RSFs:** Adjust dosing frequency to ensure proper rest and aerobic recovery. Over-dosing can reduce oxygen transfer and impair treatment.

3. MAINTAIN SYSTEM SURFACES

- In lagoons, surface vegetation like duckweed or algae can block sunlight and reduce oxygen transfer. Skimming or raking can improve aerobic conditions.
- In RSFs, surface crusting or algae buildup can lead to ponding and short-circuiting. Periodic raking or light surface disturbance can restore even dosing.

4. DON'T IGNORE SLUDGE AND MEDIA CONDITION

- **Lagoon sludge** can release phosphorus back into the water column, especially under anaerobic conditions. Even if you can't dredge right now, sludge mapping can help plan for future removal and justify funding. Did you know WRWA staff can assist with sludge mapping? We can, and we do!
- **RSF media** can become saturated with phosphorus or clogged over time. If your sand is more than a decade old, performance may benefit from replacement or rejuvenation.

5. PERFORM BENCH-SCALE TESTING BEFORE CONSIDERING CHEMICALS

Chemical addition (like alum or PAC for phosphorus removal) requires WDNR approval for any full-scale or pilot implementation. However, jar testing can help determine if chemical treatment is viable. This is useful for both lagoons and RSFs.

6. TALK TO TA PROVIDERS AND DNR STAFF

There are a lot of free resources out there—but don't overlook one of the most valuable: WRWA's technical assistance team is 100% free to you. Whether it's sludge mapping, troubleshooting treatment issues, or reviewing permit language, we're here to help.

Sometimes, it's not just what you know—but who you know—that makes all the difference. Having the right contacts in your corner can be one of the best tools in your utility's toolbox.

You don't need a big budget to make a big difference. Whether you're running a lagoon or RSF, small changes in operations and maintenance can go a long way toward improving performance and staying ahead of permit requirements. Sometimes the smartest move isn't a new piece of equipment, it's just knowing how to get the most out of what you already have.

Tight lines and straight drives,

Brooke

Neonicotinoids in Groundwater:

Persistent Contaminants and Unresolved Risks

Andrew Aslesen,
WRWA Source Water Specialist

The detection of neonicotinoids in groundwater and elsewhere in the environment has raised concerns about their ecological and human health impacts.

Neonicotinoids are a contaminant of emerging concern. An editorial in the May/June 202 issue of Groundwater by Carla Romano gives a good overview of the issue and I thought it was worth re-publishing it here. Carla recently took the role of Groundwater Section Manager in the Drinking Water and Groundwater Bureau at WI DNR. Prior to working at DNR Carla worked on Neonicotinoids as a Postdoc at the Wisconsin Geological and Natural History Survey and then as a Hydrogeologist at DATCP. I hope you find her editorial interesting and informative.

Many people remember the ban on DDT in the 1970s, but what happened to insecticides after that? The agriculture industry quickly shifted to alternatives, with organophosphates becoming the dominant replacement. By the early 1990s, neonicotinoids emerged as a new class of insecticides, praised for their lower toxicity to mammals, effectiveness at low doses, and systemic action, which allows plants to absorb them for long-term pest protection. In theory, these qualities made neonicotinoids a safer and more efficient alternative. However, nearly 40 years after their introduction, they have emerged as new contaminants in groundwater, raising concerns about their environmental and human health impacts, which remain poorly understood.

The rapid increase in neonicotinoid use since the early 2000s has made them the most widely used insecticides in the United States today. These chemicals are applied to major crops such as corn, soybeans, and specialty fruits, as well as in residential pest control products and flea treatments for pets. While their use extends beyond agriculture, the majority is tied to agricultural applications, where they are primarily applied as seed treatments, but also through in-furrow, soil applications, and foliar sprays. Seed treatments gained favor for their ability to provide targeted, systemic pest protection from germination and minimize pesticide drift into non-target areas. However, this widespread adoption has led to unintended consequences, particularly their persistence in soil and water.

Neonicotinoids are highly mobile in water and can persist in the environment, with degradation times ranging from days to years depending

on the compound and environmental conditions (Pietrzak et al. 2020). Imidacloprid, thiamethoxam, and clothianidin are among the most widely used neonicotinoids, and these compounds have been detected in groundwater across the US. Groundwater quality data from the EPA Water Quality Portal, collected from 1999 to 2024, reveals that at least one of these compounds was detected in wells across 30 of the 50 states (EPA Water Quality Portal 2024). In Wisconsin, detections have been particularly prevalent in areas with sandy soils and shallow groundwater table, such as the Central Sands Region (Senger et al. 2019; Romano et al. 2023). Recent monitoring efforts suggest that these chemicals are now present in groundwater throughout much of the state (Romano et al. 2024).

The detection of neonicotinoids in groundwater and elsewhere in the environment has raised concerns about their ecological and human health impacts. Since the late 2000s, research has documented lethal and/or sublethal effects on a range of organisms, including bees and butterflies, as well as aquatic vertebrates and invertebrates (Schneider et al. 2012; Morrissey et al. 2015; Rundlöf et al. 2015; Eng et al. 2019; Yang et al. 2023). Toxicology and biomonitoring studies have highlighted potential human toxicity, with concerns about impacts on thyroid, neurological, reproductive, and glucose health, along with evidence of exposure among the US population (Han et al. 2018; Buckley et al. 2022). However, the full extent of their health impacts remains unclear, highlighting the need for large-scale epidemiological studies.

Despite these concerns, there are currently no federal regulations addressing neonicotinoid contamination in drinking water. The EPA has not established maximum contaminant levels (MCLs), leaving individual states to set groundwater standards. However, federal regulatory action may be on the horizon. In 2022, the EPA found that clothianidin, imidacloprid, and thiamethoxam threaten endangered species and indicated potential restrictions under the Endangered Species Act. Meanwhile, states like New York, New Jersey, Nevada, Maine, and California have enacted measures such as banning neonicotinoids for lawn use or tightening controls on treated seeds.

These efforts reflect growing recognition of the need to address the widespread impacts of neonicotinoids, particularly their persistence in groundwater. Yet, critical questions remain. If neonicotinoids are phased out, what alternatives will replace them? Can non-chemical pest management strategies provide a viable solution? Or are we simply waiting for the next generation of insecticides to enter the market, and perhaps repeat this cycle decades later? How do we break the pattern of approving chemicals that, over time, prove harmful to our water resources, ecosystems, and human health?

The original article as well as the references cited can be found on the National Groundwater Association's website: *https://ngwa.onlinelibrary.wiley.com/doi/10.1111/gwat.13481* ***Andrew***

2025 Outdoor Expo

EXPO INDIVIDUAL REGISTRATION INFORMATION

August 28, 2025 - WRWA State Office/Technology Center
350/351 Water Way, Plover, WI
East of Highway 39/51 and north of County Highway B

GENERAL INFORMATION
WRWA Outdoor Expo will be held Rain or Shine

Water/Wastewater training CEC's offered
FREE safety T-Shirt with paid attendance

INDIVIDUAL REGISTRATION FORM

System/Firm_____

Attendee Name_____ DNR Cert. # _____

Attendee Name_____ DNR Cert. # _____

Attendee Name_____ DNR Cert. # _____

Attendee Name_____ DNR Cert. # _____

Address_____

City_____ State_____ Zip_____

Phone_____email_____

Cancellation date August 1, 2025

Pre-Registration

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Onsite Registration

Attending ___ x $125 = _____

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2025 Outdoor Expo

WRWA Outdoor Expo 2025 Agenda

Thursday, August 28, 2025 ~ WRWA State Office & Technology Center
350/351 Water Way, Plover, WI 54467
(6 Municipal Water and 6 Wastewater Credits)

Office Building Classroom

8am–9am ~ Basics of Activated Sludge Treatment. Tom Atkinson, *ISG (WRWA Corporate Member)*

9am–10am ~ Basics of Corrosion. Shawn Smith, *McWane Ductile (WRWA Associate Member)*

10am–11am ~ Mitigating the Impact of Non-Dispersible Materials on Pump Station:
The Role of Automatic Vertical Bar Screens. Olivier Monfort, Aqualitec Corp.

11am –12pm ~ Optimizing Blower Filtration for Reliability, Efficiency & Value. Douglas Visnack & Robert Geye

12pm – 1pm ~ Working Lunch & Industry Update

1pm–2pm ~ Using GIS to Make Operations More Efficient. Jon Schwichtenberg, CBS Squared Inc.
(WRWA Gold Member)

Technology Center Classroom

8am–9am ~ Why did I fail lead & copper rule compliance when I am already dosing orthophosphate?
Abigail Cantor, P.E., Process Research Solutions, LLC

9am–10am ~ Beyond Smart Meters – Finding Water Loss You Cannot See! Brad Simms,
DSG & Graham Mattison, Kamstrup *(WRWA Corporate Member)*

10am–11am ~ Regenerable Ion Exchange Approaches for PFAS Removal to meet EPA Drinking Water MCLs
Nick Backman, *Emerging Compounds Treatment Technologies (ECT2)*

11am–12pm ~ Safety for Water Storage Tank Operation. Joseph T. Hoban, Dixon Engineering, Inc.
(WRWA Gold Member)

12pm–1pm ~ Working Lunch & Industry Update

1pm–2pm ~ Tips and Tricks for Proper Installation of Watermain Fittings. Royce Van Roekel
A.Y. McDonald Mfg. Co. (WRWA Associate Member)

THE CUSTOMER IS THE BOSS!

Company Spotlight – A.Y. McDonald Industries

By Royce Van Roekel

Wisconsin Territory Managers-
Royce Van Roekel and Aaron Gilson

When it comes to the waterworks industry, few names carry the weight and legacy of A.Y. McDonald. Known for a long-standing commitment to quality, innovation, and customer satisfaction, we've spent nearly two centuries building strong relationships and dependable solutions. But while many are familiar with A.Y. McDonald Mfg. Co., not everyone realizes the full scope of growth and investment taking place under the broader umbrella of A.Y. McDonald Industries…

A.Y. McDonald Mfg. Co., headquartered in Dubuque, Iowa, has been a respected name in the industry for 169 years. What you may not know is that A.Y. McDonald Industries has been steadily growing over the last 20 years to offer end users more solutions within the waterworks industry—while continuing to deliver the same exceptional customer experience A.Y. McDonald Mfg. Co. is known for.

Cambridge Brass is a 120-year-old brass manufacturer located in Cambridge, Ontario, just two hours west of Niagara Falls, New York. A.Y. McDonald acquired this successful business in 2006, providing greater resiliency to the North American brass industry and reinforcing the commitment to high-quality products—no matter their origin.

Val-Matic, a 59-year-old company based in Elmhurst, IL (just 20 miles west of Chicago), is widely recognized for its variety of valves commonly found in underground infrastructure and treatment facilities. This merger occurred in 2020.

JCM Industries, a 49-year-old company based in Nash, Texas—right on the border of southwest Arkansas and northeast Texas near Texarkana—joined the A.Y. McDonald family in 2024. JCM is well known for its fabricated water main products, including line stops, tapping sleeves, repair clamps, and saddles of all shapes and sizes.

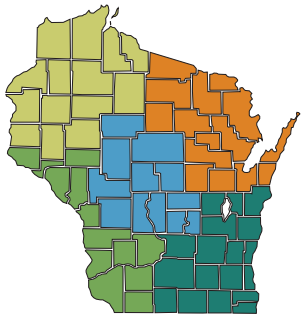
A.Y. McDonald Industries' investments don't stop with acquiring great waterworks companies. Currently under construction is a state-of-the-art foundry in Dickeyville, Wisconsin (just 10 miles from Dubuque), set to open in 2026. This facility will dramatically expand our brass pouring capabilities. Meanwhile, in Bristol, TN—just minutes from Bristol Motor Speedway—a new, larger assembly plant is being built to replace our existing Elizabethton, TN location, where many of our popular meter setters and large-diameter fittings are manufactured.

Always looking ahead to do what's best for our customers, A.Y. McDonald Industries listens to you – our customer, the boss—on how we can continually provide solutions for your everyday needs and remain the greatest resource in the industry. Our free e-learning platform, A.Y. McDonald University (AYU), is available at aymcdonaldu.com to everyone and was created to educate the public on waterworks, plumbing, natural gas, and pump topics. We've recently launched Cambridge Brass University with JCM University soon to follow later in 2025 and Val-Matic University in 2026. Each of these universities are guaranteed to offer a wealth of great content!

Our Municipal Water Group, working closely with Territory Managers across the country, has become a valuable resource for municipal managers and engineers alike. We believe "none of us is as smart as all of us," and our Innovation Team is eager to hear your ideas—especially if it could make your job easier in the field. Simply scan the QR code to share your thoughts or visit aymcdonald.com to learn more. We'd love to help.

Whether it's investing in new companies, building new facilities, developing learning platforms, or generating ideas, A.Y. McDonald Industries is here to serve you in the best way possible—because we believe you, the customer, are the boss.

WRWA
Business Member List



120Water
A.Y. McDonald Mfg Co.
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ADAPTOR INC.
Advanced Drainage Systems Inc.
ADVANCED MICROBIAL SOLUTIONS
ADVANCED SAFETY TECHNOLOGY INC.
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American Ductile Iron Pipe
AMERICAN FLOW CONTROL
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AMERICAN STRUCTURES INC.
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DIXON ENGINEERING INC.
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Rural Water Financing Agency
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SEALING SYSTEMS INC.
SEILER GEOSPATIAL
SENSUS USA, INC.
SERWE IMPLEMENT, LLC.
SHERWIN WILLIAMS
SHORT ELLIOTT HENDRICKSON INC.
Soderholm/Watts
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Strand Associates Inc.
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UP THE CREEK

"Homecomings"

Ken Blomberg,
WRWA past Executive Director

When No. 1 son Erik moved away from home to gain a higher education, we never dreamed his journey would take him back and forth across the country to achieve his goals. First of all he headed east to obtain a masters degree in Rhode Island. Then it was west, to Nevada for a PhD, where he met his wife. Later, they moved east to Maine and they both went to work for the state University.

My wife and I are anchored down in Wisconsin, thanks to Rural Water - and have remained time zones, area and zip codes apart from them for years. Annual get togethers, either here or there are precious indeed. Especially since they have one of our grandsons under their roof. Their visit to Wisconsin this year is a week away as I write this column. No doubt it will add to a long list of wonderful memories.

Like the year Erik visited and he and I traveled upstream from our homestead to a place we'd both been before. A location dear to him, as well as his brother, several close friends and yours truly. A river that flows through our minds and beckons year after year, especially when the leaves turn from green to shades of fall. A river that runs through county, state and federal lands and offers those of us that follow a bounty of fish and fowl.

This outing we were after smallmouth bass with fly and spinning rods on a river that cascades leisurely among a thousand boulders before tumbling swiftly over a falls -- all the time singing the song of water in motion.

We fished above and below the waterfalls and for a while I sat on the high banks and watched as my son handled his fly rod with the skill of a master. He can fling a streamer with precision -- from one boulder eddy to the next. When something like a large rock gets in the river's way, the water is forced to slow down, change direction and whirlpool. He knows fish like that - lying in wait for food to swing by. I watched as he stood high on top of a car-sized boulder -- my son, no longer a boy, but a man of talent, handling life as skillfully as he handles a fly rod.

As I get older, finding pleasure in undemanding tasks becomes easier, like watching from afar as my son fishes in quiet solitude. I felt warm all over, keeping watch as he waded the rocky river, fly rod in hand and camera around his neck. Sitting safely on my perch in the riverbank pines, I found myself envying his strong, young legs, as he deftly maneuvered the boulders.

The sun glistened against the rippling water and I drifted off in reflection. The sky above was blue, the wind gentle and the woods was choked in green and smelled of pine and popple. I paused to write, then looked up and saw he'd caught another bass.

The only sound I heard was from the wind and the river -- their songs competing, as a current of air slipped through the pines and water rolled around the boulders. I wrote down some thoughts and then looked up again to see my son moving upstream, only to stop and cast once more. Sitting in the shade among the waist high bracken ferns, I pondered a question friend Brian once posed: what makes the sound? Was it the wind, or the pine branches holding the needles? Was it the rushing water, or the boulders? Without the boulders, our river would cease to sing. Absent the flowing river, the boulders would lay silent. I stop pondering just long enough to look up again at my son. I whistled and he waved while changing flies.

Together, the wind and needles strike up a conversation with my imagination. A babbling river brings tales from far upstream to my mind's eye. Together, wind, needles, water and boulders sing songs of inspiration.

Again, my son stepped into a stretch of open stream, glanced my way and took a picture.

It was a homecoming of sorts - short, sweet and over in a blink. But in between his arrival and departure, he managed to squeeze in two family get-togethers, a wedding, separate musky and trout fishing trips up north and a very special day with his old man on a river we both know so well.

ANNOUNCING BOOK RELEASE

My fourth book, **COUNTRY JOURNAL - & OLD MAN'S MUSINGS** was released late last year.

In a review by Dan Small, host of Outdoor Wisconsin and contributing editor of Wisconsin Outdoor News, he noted; "In this series of short musings, reminiscent of Aldo Leopold's A Sand county Almanac, Blomberg, with his senses as keen as those of his beloved bird dogs, shares the lessons he has learned from a lifetime of observing the seasonal changes of the natural world."

Country Journal and Old Man's Musings: Publisher - Ten16Press, Waukesha, Wisconsin , 5.5 x 8.5, Paperback , 140 pages, $14.99
Available from Ten 16 Press, **www. ten16press.com**, 140 pages, paper, $14.99.
Also available through Amazon, Barnes and Noble, and can be ordered through Ingram at most independent book stores.

Autographed copies can be purchased for $14.99 plus tax and shipping by contacting the author at: 2099 Mayflower Road, Junction City, WI 54443 or by email at: eaupleinekennels@gmail.com.


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The Salty Truth: Chlorides in Wisconsin Water

Brenda Staudenmaier,
WRWA Training Specialist

The data is clear—chloride levels in Wisconsin groundwater are rising, and preventing contamination is far more cost-effective than cleaning it up.

Winter in Wisconsin requires grit—literally and figuratively. But while we fight snow and ice with salt to keep roads safe, an unintended casualty is quietly accumulating beneath our feet: chloride pollution in our drinking water.

Chloride levels are rising in wells, rivers, and lakes across the state. These elevated levels aren't just seasonal spikes—they reflect a decades-long trend that threatens both our drinking water quality and aquatic ecosystems.

Groundwater supplies drinking water to 75% of Wisconsinites.

The remaining 25%—mostly in cities along Lake Michigan (like Milwaukee and Green Bay) or Lake Superior (such as Superior and Bayfield)—drink treated surface water from the Great Lakes. But for most of the state, drinking water comes from groundwater accessed through public or private wells.

Naturally, Wisconsin's groundwater is low in chloride, typically under 10 mg/L. However, there are exceptions in areas like Green Bay and Superior, where geologic deposits can raise baseline chloride levels. But the bigger concern is what we're adding to the system.

Multiple human activities contribute to the steady rise of chlorides in our drinking water:

- **Road Salt –** Applied heavily in winter on streets, sidewalks, and parking lots.
- **Water Softeners –** Discharge brine into septic systems or sewers, ultimately reaching surface or groundwater.
- **Food Industry Waste –** Brine used in cheese and food production is a significant contributor.
- **Fertilizers –** Some potassium chloride fertilizers also contribute to soil and water salinity.

Unlike nutrients that can be broken down or removed by natural processes, chloride is persistent. Once it enters our water, it stays—accumulating slowly but steadily.

Chloride concentrations are rising in wells across Wisconsin.

For public water systems with long-term testing data, more wells are showing increases in chloride than decreases. And it's not just isolated spikes—these are consistent, upward trends. That's why WRWA is highlighting this issue now.

Want to explore the data for yourself? Hydrogeologist Kevin Masarik of the Center for Watershed Science and Education created a powerful interactive map http://68.183.123.75/wisconsinwater/CHLORIDE_TRENDS/ that tracks chloride levels and trends in public drinking water wells across Wisconsin. It may take a moment to load, but it's well worth the wait.

Salt's Hidden Costs

- Just one teaspoon of salt can permanently pollute five gallons of water.
- Chloride corrodes pipes, bridges, and concrete—costing millions in infrastructure repairs.
- Elevated chlorides harm aquatic life and degrade freshwater ecosystems.
- Removing salt from water is cost prohibitive. Reverse osmosis and ion exchange are expensive and often impractical for municipal systems.

Simple Steps to Salt Smarter

- Pre-treat with brine to prevent ice bonding.
- Shovel early to minimize chemical use.
- Use less – one coffee cup of salt covers 10 sidewalk squares.
- Sweep it up – leftover salt can be reused.
- Avoid using salt below 15°F – switch to sand instead.

Hiring a contractor? Ask about their training, calibration practices, and salt application rates. Salt Wise contractors follow proven best practices that save money and protect water.

Every pound of salt used today can pollute tomorrow's drinking water. The data is clear—chloride levels in Wisconsin groundwater are rising,

and preventing contamination is far more cost-effective than cleaning it up.

Let's fight winter with smarter strategies—not just more salt. Join us this winter for training, protect your community's infrastructure, and help keep Wisconsin's water clean for generations to come.

To protect our water, we need to rethink how we manage snow and ice. That's why WRWA is partnering with WI Salt Wise, a statewide coalition dedicated to reducing salt pollution.

Upcoming Training with WI Salt Wise & Allison Madison

Virtual Training

Wednesday, November 13, 2025 | 9:00 AM – 12:00 PM

In-Person Training

Tuesday, December 9, 2025
DeForest Village Hall, DeForest, WI

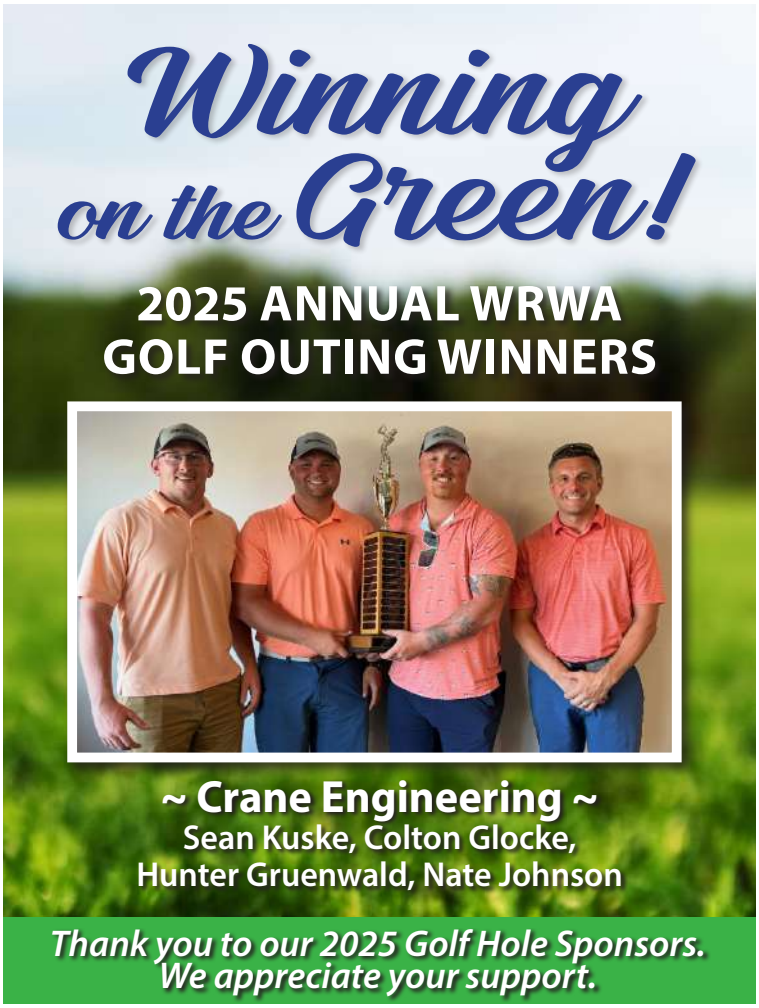
Register at www.wrwa.org

Email: wrwa@wrwa.org | **Call:** (715) 344-7778

Training Highlights Include:

- Winter Ops for Water & Wastewater Systems – Tom Atkinson, ISG
- Tank Circulation in Cold Weather – KLM Engineering
- Cold Weather Pipe Installation – McWane Ductile
- GIS & Mapping for Emergencies – CBS Squared
- Sustainable Winter Salting – Allison Madison, WI Salt Wise
- Locating Underground Assets in Snow – Ferguson Waterworks

~ *Brenda*



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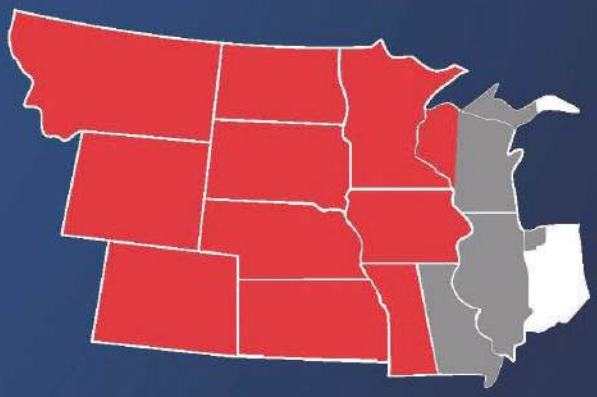

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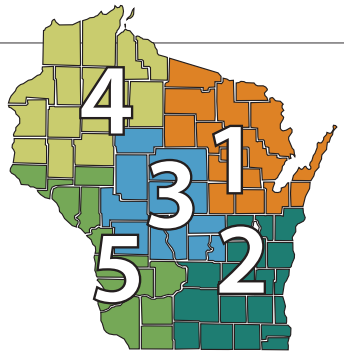

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Antigo
*Ashwaubenon
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Bellevue
Birnamwood
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Hobart
Holland Sanitary District #1
Hortonville
*Howard
Iola
*Kaukauna
Kewaunee
Kimberly
Krakow Sanitary District #1
Lake Tomahawk Sanitary District No. 1
Lakeland Sanitary District #1
**Lakeland Village
Lakewood Sanitary District #1
Laona Sanitary District #1
Lawrence Utility District
Ledgeview
Lena
Little Chute
Luxemburg
Manawa
*Marinette
Marion
Mattoon
Menominee Tribal
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**Natural Beauty Growers
New London
Niagara
Nichols
Oconto
Oconto Sanitary District #1
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Oneida Nation Utility
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Phelps Sanitary District #1
Pound
Pulaski
Rhinelander
Russell Sanitary District #1
Scandinavia
Scott
Seymour
Shawano
Shawano Lake Sanitary District #1
Shiocton
Sister Bay
Sokaogon Chippewa Community
Sturgeon Bay
Suamico
Suring
**Three Lakes Northernaire Sanitary District
Three Lakes Sanitary District
**Thunder Properties, LLC
Tigerton
Tomahawk
Wabeno Sanitary District No. 1
Waupaca
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Weyauwega
White Lake
**Wisconsin Veterans Home
Wittenberg
Wrightstown
Wrightstown Sanitary District #1

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Albany
Algoma Sanitary District #1
Allenton Sanitary District
**Antioch Storage LLC
Arlington
Ashippun Sanitary District
**Asset Development Group Inc.
**Autumn Ridge Water System, LLC
*Beaver Dam
Belgium
Belleville
*Beloit
Beloit Sewer Department, Town of
Big Bend
Black Earth
Bloomfield
Blue Mounds
Brandon
Brillion
Bristol
Brodhead
*Brookfield, Town of
Brookfield, City of
Brooklyn
Brownsville
Browntown
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Caledonia Water Utility District
Cambria
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Cambridge – Oakland Wastewater Commission
Campbellsport
Cascade
Cedarburg
**Cedar Crest Specialties Inc
Cedar Grove
**Cedar Lake Home
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Clinton
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Consolidated Koshkonong Sanitary District
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**Country Aire Mobile Home Park
Country Estates Sanitary District
**Country View Estates
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**Crystal Lake RV Park
*Cudahy
**Dakota Capital Park
Dane
**Dairyfood USA, Inc.
Darien
De Forest
Deerfield
Delafield
*Delafield-Hartland WPCC
Delavan
Delavan Lake Sanitary District
**Don's Mobile Manor Inc
Dousman
Eagle
East Troy, Town of
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Elkhart Lake
Elkhorn
**Erin School District
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*Fitchburg
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Lake Como Sanitary District #1
Lake Geneva
**Lake Meadows Water Trust
Lake Mills
Lannon
Larsen – Winchester Sanitary District
LeRoy Sanitary District #1
Liberty Sanitary District No. 1
Lodi
Lomira
Lowell
*Madison
*Manitowoc
Maple Bluff
Maribel
Marshall
Mayville
Mazomanie
McFarland
*Menasha
Menasha Utility District
Menomonee Falls
*Middleton
Milton
*Milwaukee
Mishicot
Monona
*Monroe
Monticello
Mount Horeb
Mukwonago
*Muskego
**Natural Oven's Bakery Inc.
*Neenah
New Berlin
New Glarus
New Holstein
Newburg
North Fond du Lac
Northern Moraine Utility Commission
*Oak Creek
Oakfield
*Oconomowoc
Omro
Oostburg
Oregon
Orfordville
*Oshkosh
Palmyra
Pardeeville
**Pat's Services, Inc.
*Pewaukee, City of
Pewaukee, Village of
*Pleasant Prairie
Plymouth
**Plymouth Joint School District
Plymouth Town Sanitary District #1
Portage
Poynette
*Racine
**Rainbow Lake Manor
Randolph
Random Lake
Reedsville
Reeseville
Rio
Ripon
**Robert William Park Water Assoc
Rochester Sewer Department
**Rock Prairie Montessori School
**Rock River Leisure Estates Cooperative
Rosendale
S & R Egg Farm, Inc.
**St. Benedict's Abbey
St. Cloud
St. Nazianz
Salem Utility District
Saukville
**Shady Hill Mobile Home Park
Sharon
Sheboygan, Town of
Sheboygan Falls
Sherwood
*Shorewood
Shorewood Hills
Slinger
Somers

*Associate Members (Over 10,000 pop.) **Other Than Municipal

*South Milwaukee
Stoughton
*Sun Prairie
**Sunnyfield Acres Water Assoc.
Sussex
**The Knolls Water Co-Operative
Theresa
**Tremain Mobile Home Park
**Trevor-Wilmont
Consolidated Grade School District
Troy Center Sanitary District #1
**Twin Lakes Park Co. Op. Inc
*Two Rivers
Union Grove
Valders
Verona
Waldo
Walworth
*Walworth County Metro Sewerage District
Waterford
Waterloo
*Watertown
*Waukesha
Waunakee
*Waupun
*Wauwatosa
**Wendorf Enterprises 2 LLC
*West Bend
Westport
Whitelaw
*Whitewater
Williams Bay
Wind Point
Windsor Sanitary District #1
Winneconne
**Winneconne Community School District
Wyocena
**Yorkville

DISTRICT 3 (Central)

Abbotsford
Adams
Alma Center
Almond
Amherst
Athens
Berlin
Biron
Black River Falls
**Brakebush Brothers, Inc.
Brockway Sanitary District #1
Camp Douglas
Cashton
Chelsea Sanitary District
Chili Sanitary District #1
**Clark Co Health Care Center
Colby
Coloma
**Community Water & Sewer
Curtiss
Dorchester
Edgar
Elroy
Friendship
Gilman
Granton
Green Lake
**Green Lake Conference Center
Green Lake Sanitary District
Greenwood
Hancock
Hatfield Sanitary District 1
Hatley
Hixton
Hustler
Junction City
Kendall
Kronenwetter
Little Green Lake Protection & Rehab. District
Loyal
Lyndon Station
Maine
Marathon
Markesan
*Marshfield
Mauston
Medford
Melrose
Merrillan
Milan Sanitary District
Milladore
Montello
Mosinee
Necedah
Neillsville
Nekoosa
Neshkoro
New Lisbon
Northfield Sanitary District #1
Norwalk
Oakdale
**Ocean Spray Cranberries, Inc. - Tomah
Owen
**Pineland Park Enterprises LTD
Pittsville
Plainfield
Plover
Port Edwards
Princeton
Redgranite
Rib Lake
Rib Mountain Sanitary District
Rome
Rosholt Sewer Commission
Rothschild
Schofield
Silver Lake Sanitary District
Sparta
Spencer
Stetsonville
*Stevens Point
Stratford
Taylor
Thorp
Tomah
Union Center
Unity
**Upper Room Properties
Vesper
Volk Field
Warrens
*Wausau
Wautoma
Westboro Sanitary District #1
Westfield
*Weston
Whiting
Wilton
Withee
Wonewoc

DISTRICT 4 (Northwest)

Almena
Amery
Ashland
Baldwin
Balsam Lake
Barron
Bayfield
Bell Sanitary District#1
Birchwood
Bloomer
Boyceville
Boyd
Bruce
Butternut
Cable Sanitary District #1
Cadott
Cameron
Catawba-Kennan Joint Sewage Commission
Centuria
Chetek
*Chippewa Falls
Clayton
Clear Lake
Clover Sanitary District #1
Colfax
Cornell
Cumberland
Dallas
Deer Park WWTP
Downsville Sanitary District
Dresser
Drummond Sanitary District #1
Elk Mound
Emerald – Greenwood Sanitary District #1
Exeland
Fifield Sanitary District #1
Frederic
Glen Flora
Glenwood City
Glidden Sanitary District
Grandview Sanitary District #1
Grantsburg
Hammond
Hawkins
Hayward
Hudson
Hurley
Iron River Sanitary District #1
Joint Water Quality Commission of Danbury & St. Croix Chippewa Indians of WI
Knapp
Knight
Lac Courte Oreilles Public Works Department
Ladysmith
Lake Hallie
Lake Holcombe Sanitary District #1
Luck
Madeline Sanitary District
Manitou Falls Sanitary District #1
Mason
Mellen
*Menomonie
Mercer Sanitary District #1
Milltown
Minong
Montreal
New Auburn
New Richmond
**Northwood School District
Ogema Sanitary District No. 1
Osceola
Park Falls
Phillips
**Pleasant Valley Properties of WI, LLC
Poplar Wastewater
Port Wing Sanitary District
Prentice
Radisson
Red Cliff North
Rice Lake
*River Falls
Roberts
Saxon Sanitary District #1
Sheldon
Shell Lake
Siren
Solon Springs WWTF
Somerset
Spooner
St. Croix Falls
Stanley
Star Prairie
Stone Lake Sanitary District
**Stresau Lab Inc
*Superior Water Light & Power
Superior, Village of
**T.A.P. Investments
Tony
Trade Lake
Turtle Lake
Washburn
Webster
Weyerhaeuser
Wheeler
Winter
**Wisconsin Structural Steel
Woodville

DISTRICT 5 (Southwest)

Alma
Altoona
Arcadia
Arena
Argyle
Augusta
Avoca
Bagley
Bangor
Baraboo
Barneveld
Bay City
Belmont
Benton
Blair
Blanchardville
Bloomington
Blue River
Boscobel
Bridgeport Sanitary District
Campbell
Cassville
Cazenovia
Chaseburg
Cobb
Cochrane
Coon Valley
Cuba City
Darlington
**Dell Creek Estates
Dickeyville
Dodge Sanitary District #1
Dodgeville
Durand
Eastman
Eleva
Ellsworth
Elmwood
Ettrick
Fairchild
Fall Creek
Fennimore
Fountain City
Galesville
Gays Mills
Genoa
Gratiot
Hazel Green
Highland
Hillsboro
Hollandale
Holmen
Independence
Ironton
Kieler Sanitary District #1
*La Crosse
La Farge
La Valle
Lake Delton
Lancaster
Lincoln Sanitary District #1
Linden
Linden Sanitary District No. 1
Edmund
Livingston
Loganville
Lone Rock
Maiden Rock
**Marell Mobile Home Courts
Merrimac
Mineral Point
Mondovi
Montfort
Mount Hope
Muscoda
Nelson
North Freedom
*Onalaska
Ontario
Osseo
Patch Grove
Pepin
Pigeon Falls
**Pinewood Court Inc.
Plain
*Platteville
Potosi-Tennyson
Prairie du Chien
Prairie du Sac
Prescott
Readstown
Reedsburg
Rewey
Richland Center
Ridgeway
Rock Springs
Rockland
Sauk City
Seneca Sanitary District #1
Sextonville
Shelby Sanitary District #2
Shullsburg
Soldiers Grove
South Wayne
Spring Green
Spring Valley
St. Joseph Sanitary District #1
Stoddard
Strum
Trempealeau
Viola
Viroqua
Wauzeka
West Baraboo
West Central Wisconsin Biosolids Facility
West Salem
Westby
Whitehall
Wiota Sanitary District
Wisconsin Dells
Yuba

*Associate Members (Over 10,000 pop.) **Other Than Municipal

RURAL AMERICA RELIES ON RURAL DEVELOPMENT

NRWA NATIONAL RURAL WATER ASSOCIATION

USDA RURAL DEVELOPMENT WATER PROGRAMS ENSURE AFFORDABILITY

AFFORDABILITY FOR RURAL COMMUNITIES

Affordability is the key factor for small and rural communities in their decisions to upgrade and enhance water services for their customers.

Skyrocketing construction costs, disrupted supply chains, and ever increasing regulatory requirements are just a few of the roadblocks rural America faces when financing critical water infrastructure.

Rural Development's Water and Waste Disposal Loan and Grant Program is a lifeline for rural America, funding clean and reliable water systems nationwide.

America has 49,397 community water systems, most of which are small. Small and rural communities lack economies of scale. Passing the costs of unfunded mandates onto customers is not feasible without assistance from USDA Rural Development.

91%
of America's water systems are small

Grant costs can cover up to 75% of total development costs for the most vulnerable communities, which is necessary to provide affordable rates. For the majority of small and rural communities, a grant/loan mix is critical to keep projects affordable. USDA RD needs an adequate amount of baseline grant funding to maintain their mission to serve rural America.

Today's Congressional policies and funding decisions are jeopardizing the ability of every community in rural America to keep water and wastewater services affordable. Budget cuts will leave USDA WEP unable to accomplish its mission. WEP is instrumental in helping rural America maintain affordable and sustainable water access for all rural people.

PROMOTION BY THE NATIONAL RURAL WATER ASSOCIATION

USDA RURAL DEVELOPMENT WATER & ENVIRONMENTAL PROGRAMS (WEP)

For many underserved communities, USDA Rural Development is the lender of first opportunity. RD exclusively serves small and rural communities. Without this program, many rural Americans will lose access to affordable safe and clean water.

In 2023, WEP excelled in their mission to serve rural America:

72% of WEP funded projects benefited communities with populations of 2,500 or less.

45% of WEP funded projects benefited communities with populations of 1,000 or less.

TELL CONGRESS NOW

KEEP RURAL AMERICA STRONG!

Scan the QR Code to learn more about how you can help keep Rural America Strong!

RURAL AMERICA RELIES ON RURAL DEVELOPMENT

NATIONAL RURAL WATER ASSOCIATION
NRWA

USDA RURAL DEVELOPMENT WATER PROGRAMS DRIVE ECONOMIC OPPORTUNITY

ECONOMIC VITALITY FOR RURAL COMMUNITIES

Critical infrastructure, including adequate water service, is a basic requirement for a healthy economy, encourages employment opportunities and makes a community a desired place to live and work. The nearly 45,000 water systems in rural America are anchor institutions in their communities.

In many rural communities water infrastructure is past its useful life. Without adequate water and sanitation services, businesses move out of our rural communities, forcing the next generation to leave to find better opportunities. Those left behind are robbed of hope for a prosperous future.

Rural America's economy is driven by entrepreneurship, and made of a diverse range of operations through over 700,000 businesses. Rural areas produce most of the food we consume, provide lumber and other forest products used to build our homes and furniture, and supply the energy we consume daily.

Rural economies are deeply connected to their urban counterparts

USDA RD WEP not only provides essential services to the families that live in rural America, but also all business activities. These include small businesses, farming, manufacturing, emergency services, and more. In rural America, nearly 85% of all business establishments are small. These small businesses are critical to local economies, employing 54% of workers in their communities. Rural communities need access to funding through USDA RD WEP to thrive.

Today's Congressional policies and funding decisions are jeopardizing the economic vitality of every community in rural America. Budget cuts will leave USDA WEP unable to accomplish its mission. WEP is instrumental in helping rural America increase economic opportunities for all rural people.

PROMOTION BY THE NATIONAL RURAL WATER ASSOCIATION

USDA RURAL DEVELOPMENT WATER & ENVIRONMENTAL PROGRAMS (WEP)

In 2023, USDA RD WEP funded over $1.7 billion in projects to small and rural communities.

The average median household income for communities that received WEP funding was $37,029, half of the national average household income of $74,580.

In 2023, 308 WEP projects addressed health and sanitary challenges and 28,326 new connections provided drinking water to residents for the first time, resulting in over 400,000 individuals and households benefiting from this funding.

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RURAL AMERICA RELIES ON RURAL DEVELOPMENT

NATIONAL RURAL WATER ASSOCIATION
NRWA

USDA RURAL DEVELOPMENT WATER PROGRAMS PROTECT PUBLIC HEALTH

PUBLIC HEALTH FOR RURAL COMMUNITIES

Water is a vital resource and is required for all aspects of daily life, including drinking, cooking, washing, and flushing. In order to protect public health, all Americans should have access to this resource through reliable infrastructure.

Rural America's 46.1 million residents deserve safe drinking water and clean wastewater treatment just as much as urban or metropolitan residents. While access to basic water infrastructure may be taken for granted by many American citizens, it still is not a reality for approximately 146,000 rural households.

Over the last 70 years, through billions of dollars in financial assistance through USDA RD, the U.S. has made great advancements in the standard of living in rural America. Millions now have access to safe drinking water that their parents did not have. Thousands of rural communities now have modern wastewater systems, eliminating millions of failed septic tanks, cesspools, straight pipes, and worse.

For the 27,500 public elementary and secondary schools, approximately 9.8 million students, and 1,810 hospitals in rural America, public health would be immediately jeopardized without safe drinking water and clean wastewater treatment.

Even for established water and wastewater systems, new regulations such as EPA's recent PFAS and Lead and Copper Rules results in costly operational and infrastructure upgrades. USDA RD WEP ensures rural America and its communities have access to funding when they are faced with making these upgrades to remain in compliance.

Today's Congressional policies and funding decisions are jeopardizing the public health of every community in rural America. Budget cuts will leave USDA WEP unable to accomplish its mission. WEP is instrumental in helping rural America ensure public health is protected for all rural people.

PROMOTION BY THE NATIONAL RURAL WATER ASSOCIATION

USDA RURAL DEVELOPMENT WATER & ENVIRONMENTAL PROGRAMS (WEP)

Since 1972, USDA RD WEP has been the consistent source of support for rural communities to complete necessary upgrades to their water and wastewater facilities.

During 2023, WEP obligated more than $1.6 billion in loans and grants, with 73.5% of projects addressing a health and sanitary issue.

The projects funded support more than 1.1 million rural residents, including approximately 28,326 new service connections.

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RURAL AMERICA RELIES ON RURAL DEVELOPMENT

NATIONAL RURAL WATER ASSOCIATION
NRWA

USDA RURAL DEVELOPMENT WATER PROGRAMS CREATE SUSTAINABILITY

SUSTAINABILITY FOR RURAL COMMUNITIES

Small and rural communities rely on access to affordable loan and grant opportunities through USDA Rural Development to make repairs, upgrades, and to build new critical infrastructure for their communities.

While affordable financing is a vital component for these communities, it is not the complete solution. After these projects are completed, the need for training for water and wastewater operators does not go away. Technical assistance ensures the government's and public's investment is secured. For small and rural communities to remain sustainable, they need ongoing training and technical assistance.

Last year, Circuit Riders directly helped to protect the health and safety of 30,721,691 people - 42% of rural America.

1 in 5
Americans Live in a Rural Community

Technical assistance for small and rural communities includes providing training, energy audits, certification, financial management, environmental compliance, governance, and on-site technical assistance necessary to ensure that water and wastewater facilities operate at the highest possible level. Through the grants provided through USDA WEP, these services are provided at no cost through technical assistance providers like NRWA and its State Affiliates. The loss of funding for this essential technical assistance will jeopardize the sustainability of rural water systems and their communities. System managers will be forced to choose between not addressing ongoing operational and management issues or contracting for these services at steep costs.

Today's Congressional policies and funding decisions are jeopardizing the sustainability of every community in rural America. Budget cuts will leave USDA WEP unable to accomplish its mission. WEP is instrumental in helping rural America ensure their communities are sustainable now and into the future.

PROMOTION BY THE NATIONAL RURAL WATER ASSOCIATION

USDA RURAL DEVELOPMENT WATER & ENVIRONMENTAL PROGRAMS (WEP)

State Rural Water Associations in partnership with USDA RD WEP provide the following technical assistance to rural communities:

- Circuit Rider Program
- Disaster Recovery Circuit Rider Program
- Wastewater Technical Assistance and Training Program
- NRWA Apprenticeship Program
- Manufactured Housing Program
- Energy Efficiency Program
- Decentralized Wastewater Technical Assistance and Training Program

TELL CONGRESS NOW

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1st Annual WRWA Sporting Clays

Wednesday, August 27, 2025 at 2:00 P.M.

Ashley Shooting Club - 201111 County Rd. X, Mosinee, WI 54455

Limited to 20 teams with four shooters per team. Shooting will start at 2:00 pm. This will be a shotgun start format. Optional 2-man flurry competition following the Sporting Clay event. Shooters can bring their own shells or purchase them from the Ashley Shooting Club. Prize payouts will be for 1st, 2nd, and 3rd place teams.

Entry Fee..... $300 Per Team Max Four Shooters Per Team

Name(s)

Shooter 1_____ System/Firm_____

Shooter 2_____ System/Firm_____

Shooter 3_____ System/Firm_____

Shooter 4_____ System/Firm_____

Event Sponsorship

_____ **Station Sponsor ($150)** *Includes sponsor name on one of the stations*
*Number of station sponsors*_____

_____ **Pink Flyer Sponsor ($100)** *This sponsorship will go towards a grand prize at the WRWA Outdoor Expo. Only shooters with Pink Flyer tickets are eligible for this prize.*

_____ **Flurry Sponsor ($50)** This sponsorship will be used for the 2-man flurry competition.

Total Amount Enclosed $_____

Vendor Information

Name: _____ **Phone Number**_____

Company Name: _____**Email**_____

Send checks and forms to Wisconsin Rural Water Association, 350 Water Way Plover, WI 54467

For Questions on the event: Contact **Jesse Hass at (920) 470-2963** or visit www.wrwa.org

Rural Water
FINANCING AGENCY

Wisconsin Rural Water Association supports Rural Water Financing Agency

The Rural Water Financing Agency provides interim construction funding to borrowers with a USDA takeout (or other approved permanent lender).

The Agency* has made over $1 billion in interim loans to borrowers with a USDA takeout!

*Includes the Agency's predecessor organization (Kentucky Rural Water Finance Corporation)

STREAMLINED PROCESS

1. Submit an application online via ruralwaterfinance.com
2. Legal document preparation
3. Construction bidding, USDA takeout letter
4. Interim loan closing, funds available for disbursement
5. Construction completion, USDA loan closing/interim loan payoff

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Please reach out to one of the contacts below to learn more.

Chris Groh, Executive Director
Wisconsin Rural Water Association
cgroh@wrwa.org
715.340.2055

Gary Larimore, President & CEO
Rural Water Financing Agency
g.larimore@krwa.org
270.535.5921

Nick Roederer, Managing Director
Raymond James (Program Underwriter)
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502.741.3686

Kristen Millard, Director
Raymond James (Program Underwriter)
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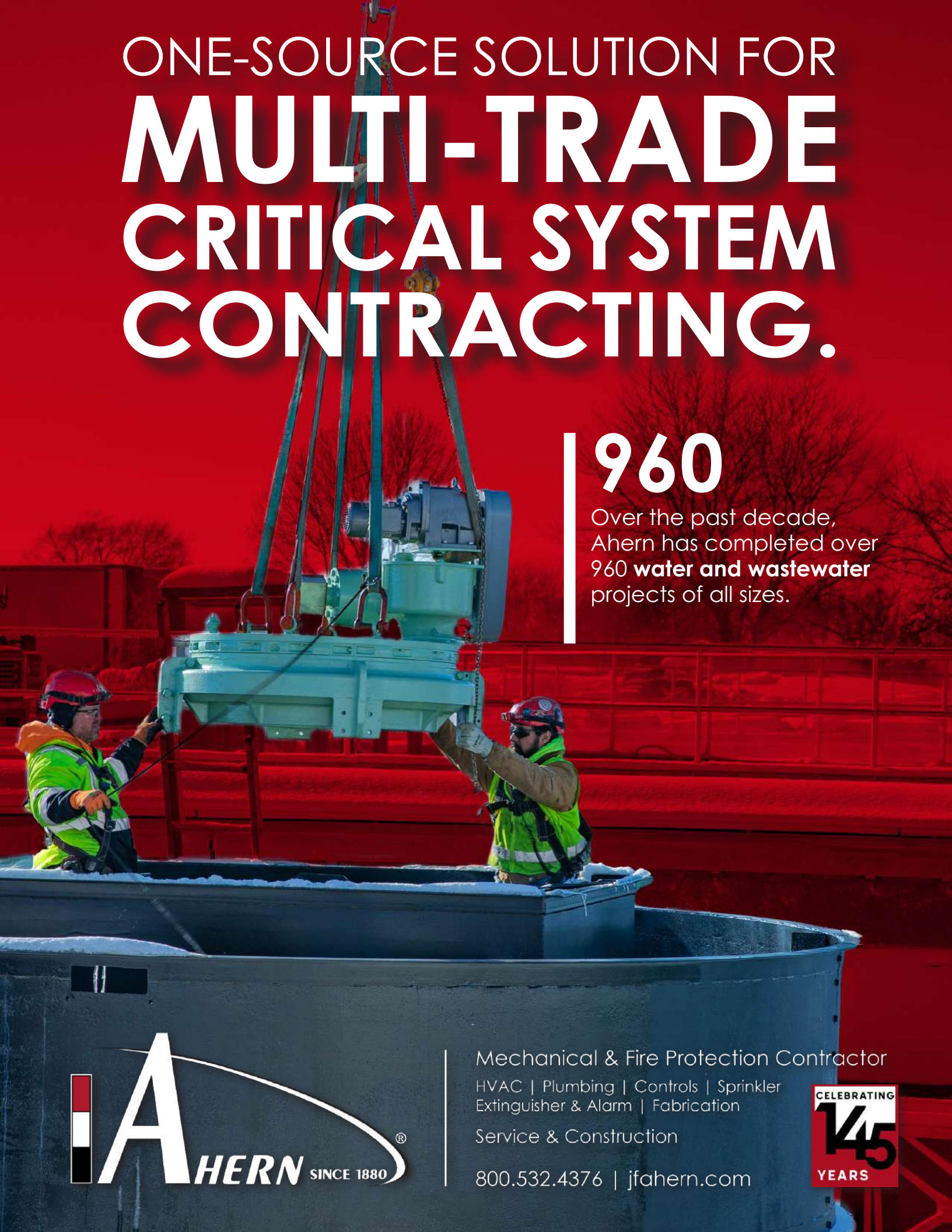
859.232.8249

Daniel Olson, Corporate Trust Relationship
Consultant Regions Bank (Program Trustee)
daniel.olson@regions.com
615.770.4357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Wisconsin Rural Water Association
Advertise Online:

- Include company contact information, logo and link to webpage
- All listings subject to WRWA approval.
- 12 month or monthly terms
- **WRWA Members:** $700 per year or $60 per month
- **Non-Members:** $1,000 per year or $85 per month

If your company would like to sponsor the WRWA weekly E-News or advertise on the WRWA website, please contact:

Rural Water office WRWA@wrwa.org

WRWA Calendar

WRWA Outdoor Expo	August 28, 2025
Office Closed for Labor Day	September 1, 2025
Office Closed for Thanksgiving	November 27 & 28, 2025
Office Closed for Christmas Eve (1/2 Day)	December 24, 2025
Office Closed for Christmas Day	December 25, 2025
Office Closed for New Years Day	January 1, 2026
WRWA Annual Conference (Green Bay)	March 24 - 27, 2026

WRWA Office Hours:
Monday – Thursday 7:00am – 4:00 pm
Friday 7:00am – 11:00am

Follow our Facebook page or check our website for future calendar events and updates.

www.wrwa.org

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