

# Wisconsin Rural Water Journal

Fall 2023

Water Shortage Tanks

GIS Mapping

Partnerships to Assist You

Educating Your Customers

2023 WRWA Outdoor EXPO at a glance

Disinfection Byproducts

15th  
Annual  
Poster  
Contest





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**Dean Bergstrom,**  
*WRWA President, Cumberland*

## Message from the President

**F**all season is upon us, and I hope all of your summer projects have been going as planned as you wrap things up before the seasons change again.

The weather was perfect for this year's Outdoor Expo, and I hope that all who were able to attend enjoyed everything being outdoors. Hopefully you learned valuable information that you could take back to your Utility. This was such a great event, and I would like to thank all the WRWA staff and those that helped to make the day a success.

As you prepare for your winter activities, please remember that you can always rely on the WRWA circuit riders for any assistance you may need. Also, remember that there is equipment to borrow if you should need something. We always appreciate letters and emails sent to our office stating what a benefit WRWA staff has been to you. Most of our funding for our circuit rider programs comes from the EPA and the Federal Government, so it is important to demonstrate that we are benefiting you in the State of Wisconsin.

Have a great fall, good luck to all who hunt and until next time, stay safe.

*Dean*



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### **WRWA Mission:**

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





**Chris Groh,**  
WRWA Executive Director

## Message from the Executive Director

### Standing on the Shoulders of Giants

**W**e all have giants that existed before we came into jobs or careers. Every Fall the National Rural Water Association holds a national conference where we receive training, legislative information and we can visit the exhibit hall and see the most up to date equipment in the water industry. There is also a good bit of showing off to board members from across the nation, regulatory officials from state and federal agencies from Washington D.C., EPA and others that help fund our association and helps continue our mission of serving rural America. At this conference, we reaffirm what we do and who we do it for.

Some people do not need to be reminded of these things. I think the people that work tirelessly on our rural water and wastewater systems have a concern for their customers, families, friends, that keeps them working in the heat, the cold, the rain, at all hours of the night and day. You operations specialists follow a long line of people that have "taken care of", and cared for the important people in your life, and community without undo recognition or glory. Truly unseen giants in the lives of your customers and town.

I have been more and more convinced that we need to start telling our stories and getting some recognition as needed and essential workers that go beyond any normal work to ensure our cities and towns are healthy and happy, our kids grow up to be great adults, and their kids want to come "home" and raise their children there. You operators truly stand on the shoulders of giants.

Some people had dreams and aspirations many years ago to help start Wisconsin Rural Water Association and espoused these virtues. Like a seed that was planted outside in the harsh fields, they started the idea of an association that could help our operators with their goals of taking care of their hometowns; and have assisted and trained our operators to continually do so also without excess recognition or fanfare. Our Circuit Riders, Wastewater Technicians, Sourcewater Specialists, Energy Efficiency Technician, EPA Water and Wastewater Technicians, Trainers and office staff have spent the last 35 plus years growing WRWA into the largest, most important Association for serving rural Wisconsin.

At this year's Operator Expo, 3 giants attended our Expo to see how things were going since their retirements. Dennis Wartgow (former Board President), Roger Freund (former National Board President), and Ken Blomberg (former Executive Director and founder of WRWA). These guys truly blazed a trail for us to follow to realize their vision of what Rural Water should grow into. When they experienced our Expo this year, they all shook their heads and just said **wow**. This is what they were hoping for and now here it is. (By the way, I say **wow** at every event we put on!)

All of us have giants that came before us. My giants are pretty special!

*Chris*



Roger Freund, Dennis Wartgow,  
and Ken Blomberg at the  
**2023 WRWA Outdoor EXPO.**  
See pages 27-29 for more at  
a glance details.



## We get letters and emails!

*We'd love to hear from you...*

Dear George:

I just wanted to thank you for coming out to Amnicon Falls State Park to help us find the water leak this past spring. It is never a good situation for park visitors and campers not to have water available to them during their visit. Thanks to you, we were able to locate the area of the leak, contact a contractor to come and dig down to the main water line and figure out the problem and come up with a solution.

This is a great service you do for customers in this area, and to be honest, I was not aware of it. I am now, and I will be sure to keep you in mind and let others know that have these issues, to contact you.

Thanks again! Have a great summer!

Sincerely,

Gervase M. Thompson, Property Supervisor  
Pattison & Amnicon Falls State Parks

Dear Dan and Andrew.

Thank you for the presentation and the little model. The model was cool. We had so much fun learning how the water goes to your house. Thank you for letting us go to the well. That was very cool. Again, Thanks for the presentation and for the field trip. Thank You!

Mrs. Webster's Class

We wish to make you aware that WRWA is exceptionally helpful with minor, or more major, concerns we may encounter at any time.

WRWA goes above and beyond, to respond to our concerns, whenever we have sanitary waterworks questions. WRWA renders any help that is needed, in a timely fashion.

We support the efforts of WRWA.

Sincerely,

Malinda ("Mindy") McCarthy, SWW Clerk  
Sextonville Waterworks (SWW) Commission:  
Kirk Ghastin - President  
Malinda McCarthy - Clerk  
Karen Kampen - Treasurer  
Dale Servais - Operator

Dear WRWA,

I am concluding my second year as Public Works Director for the village of Winneconne. In my short tenure at Winneconne, I have been to many trainings and webinars that were hosted by WRWA. They have helped me with cell phone negotiations, water leaks, troubleshooting of a pump or finding an obsolete part. Thank you for supporting the small communities.

The biggest thing that sticks out in my mind is we had a water leak and couldn't find it. WRWA sent out a couple guys and we were able to find our watermain break fast. So, thank you, thank you, Thank you.

James Fluette, Village of Winneconne Public Works Dept

I would like to Thank WRWA on there help with our Energy Efficiency. We have updated our Wastewater blower system that aerates our treatment ponds. We are definitely seeing a cut in our energy bill since we have installed our new Inovair high speed blower. I truly believe that WRWA Energy Audits will help other Communities in Wisconsin.

We have also just recently had their Source Water circuit rider out helping us pinpoint good areas to start looking for water. This helps us look for areas to drill and hopefully saved us money by finding the best area to start. Thanks Again WRWA for all your help!!

Thanks,

Chad J Smith, Director of Public Works, City of Owen

Dear WRWA staff,

I would like to extend my thanks for the training sessions that my staff and I have received this year and the years past. If you did not offer these education the industry would not be what it is today.

I would also like to thank you for sending Seth Peterson here to show us the programs available for state and federal funding.

Sincerely,

Wilbur Peters, Superintendent, Lakeland Sanitary District #1

Kelly,

Great class. A lot of information but well worth my time.

I appreciate your efforts in hosting

Stay in touch!

Jon Dircks, Thorp Equipment Inc.



Good morning, Renee,

I will be leaving the Village of Rochester at the end of the month, so your email was timed perfectly.

I have been sporadic at best with utilizing the knowledge base that WRWA offers but the times that I have reached out your answers to my questions have been incredibly helpful.

The contracted service providers have been very complimentary of my management of the sewer system, a large portion of that can be attributed to the help I have received from WRWA. I am very proud of the fact that I am leaving the sewer system in a very good shape with less I&I. A continuing improvement/Upgrading plan for our sewer mains. A series of plans for catastrophic failures due to weather or man made events.

The dues we pay are some of the best money we spend on our system.

Thank you for making me look good!

Christopher J Birkett, DPW Manager

Village of Rochester, Racine County, Wisconsin

To the staff at WRWA,

On behalf of the staff at Mayville Utilities we'd like to thank you for all you do. The last couple of years have been challenging at best and we appreciate all of the support that has been offered.

GIS mapping capabilities, hydrant flushing, new reporting requirements, wellhead protection program and ordinance, training, equipment, PFAS litigation, employee benefits, posting employment opportunities, utility locating, educational outreach at our schools, whole effluent toxicity testing, and mercury requirements are just a few of the items your staff at WRWA has helped us further understand and implement at our utility.

Your continued support allows us to better serve our community and help surrounding communities as well. We appreciate all you do!

Thank You,

Courtney Steger, Director of Utilities

Mayville Water & Wastewater Utilities

Good morning, Renee.

We have been WRWA members for many years. WRWA has helped our community greatly throughout the years.

For the training and classes offered, to the conferences that allow us to network with other operators and vendors, to the services you provide. For example, we had Andrew Aslesen write a Wellhead Protection Plan for us in 2021. That service was provided free of charge from WRWA. Services like that for a small community like ours are invaluable. I can't thank you enough for all the services and knowledge you proved to all the small communities, without you our jobs would be a lot more difficult.

Thank you,

Eric Carley, City of Omro Utilities

Good afternoon, Seth.

Thank you so much for taking the time to meet with us last week. The knowledge, resources, and tools you provided are immensely helpful. We truly appreciate the help.

Thank you again.

Casey Vold - Sanitary Clerk/Assistant Operator

Land O Lakes Sanitary District #1

Dear WRWA Team,

I would like to tell you how much we appreciate all the help you have given us over my time here (9 + years). You have never failed to answer my calls or questions.

I also appreciate all of the training you have brought to our area.

Thanks again,

Todd Griffiths, DPW, Village of Montfort

Kay,

I would like to take this opportunity to let you know how much the Village of Solon Springs appreciates all you have done for us. As you may remember, in the dead of winter, both of our public works employees decided they had enough (of course the snowiest winter ever may have played a part in it) and they departed for greener pastures.

I will never forget how you immediately realized that we had a crisis here as there was no one that even had an inkling of the demands of our wastewater treatment facility. As I remember it, suddenly you appeared out of nowhere on one of the coldest days of January, bundled up to the hilt offering to provide guidance. That was quite a picture!

Since that dismal day I have always appreciated your responsiveness to our questions and your continued collaboration ensuring our wastewater operations keep running well.

Again, I thank you and please know you made a difference.

Carl G. Wahl, Trustee - Village of Solon Springs

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# WATER STORAGE TANKS



**Annetta Von Rueden,**  
*WRWA Water Circuit Rider*

*The main purpose of a water storage facility is to provide an adequate water supply or equalize the daily demands on the water system.*

---

**H**ello to all. Although we experienced a toasty summer, it will be a welcomed reminder for what is ahead of us in the forecast for the winter. I wanted to touch base of the different kinds of water storage tanks in water systems.

The main purpose of a water storage facility is to provide an adequate water supply or equalize the daily demands on the water system. The storage facility should be able to provide water for peak and average demands. Also, the storage facility helps maintain enough pressure throughout the entire system.

Other purposes of water storage include meeting the needs for fire protection, industrial requirements, and reserve storage. During a fire or other type of emergency, enough storage should be available to meet fire demands as well as other demands and maintain system pressures. The amount of storage required will depend on the type of industry and the flow pressure demands of the industry activities of each industrial facility served by the water supply system.

The requirements for a storage facility depend on a system's individual needs. To select an appropriate type of storage facility, the following must be known. What is the maximum day use, what is the maximum hourly use, the type of pressure the system will be required to provide, and maintain throughout the system, lastly, what size storage facility will be necessary to fulfill the requirements for emergencies such as fire flows.

Elevated tanks are elevated above the service zone and are used mainly to maintain adequate and uniform pressures to the service zone. A pump is used to lift water to the elevated tank which provides the head or pressure to the service zone. When the water level falls in the tank, a low level or pressure switch will activate an electric signal to start the pump. The pump then begins the fill cycle. Elevated tanks are used to eliminate the need for continuous pumping, minimize fluctuations in the distribution system water pressures due to short-term shutdowns of power or pumps, equalize water pressure in the



distribution system by proper location of the tank, and provide water for storage per calculated demands such as fire flows.

Standpipes are tanks that stand on the ground and have a height greater than diameter. For example, 10 feet diameter with a height of 30 feet. A standpipe looks very similar to a farm silo or Harvestore. Standpipes may be constructed of steel or concrete. Usually located on high ground at or near a well field. Sometimes at a point in the distribution system where equalizing storage is needed. Standpipes can be favored because they can be easier to maintain, more easily accessible for monitoring and sampling to determine water quality and safer to work around. Standpipes can provide large volumes of water at low pressures. This storage is an advantage for fire protection.

Most reservoirs are constructed of concrete and are rectangular or circular in shape. They may be buried in the ground or located on the ground surface. All reservoirs should be covered to reduce the possibility of contamination. Some reservoirs are built with parks around them. Often contoured into the landscape. These reservoirs are located above the service zone to maintain pressure. These reservoirs are generally located above drainage areas subject to flooding. Care must be taken to make sure that runoff water and debris cannot enter the reservoir and contaminate the water. Overflow air vents are screened so that birds and rodents cannot enter the reservoir, and for proper ventilation to prevent pressure developing when it fills or create a vacuum when it empties.

Usually found in smaller water systems, hydropneumatic tanks work when a water pump is controlled by the air pressure in a tank partially filled with water. Otherwise known as pressure tanks. These tanks are used with a well or a booster pump in systems that do not have a storage reservoir. The tank is used to maintain pressure in the system and to control the operation of the pump.

These are just a few examples of water storage in water systems. Do not forget to check if the recirculation pump is working in your storage tanks for winter operations to prevent freezing.

Have a successful and happy hunt this Fall. Also, ... A bad day of fishing is better than a good day at work! ENJOY the colors of Fall. **Annie**



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# GIS Mapping

**Dan Wundrow,**  
*WRWA Water Circuit Rider*

Over the last few months, I have been taking a bit of time discussing GIS mapping. For those that are unsure of what GIS mapping is, here is a brief description. Geographical Information System (GIS) is a system that creates, manages, analyzes, and maps types of data. This can be used to map buildings, streets, infrastructure, vegetation, and many more things.

Many of us use GIS mapping and we don't really think about it. For those that use onX, HuntWise, or Navionics, these are simplified formats of GIS mapping. Easy to use and helps create historical trends when chasing down that mammoth deer or monster fish. It's a tool that can make a significant difference at the end of the day. Now, how can this help in the day-to-day operations in your community?

For the most part, those that use GIS mapping use it to mark water mains, valves, hydrants, curb stops, water meters, sewer, and the list goes on and on. With this tool you can create layer upon layer, and functions within each layer, to help track historical events and be prepared for anything that can come up.

One of the best parts of GIS mapping is that if you have had your water and wastewater system mapped in the past those points can be uploaded to your current GIS mapping program.

Let's say we have a hydrant layer that marks all hydrants. Now within that layer when you click on a hydrant, we can have fields that can be filled out. For example, the hydrant number, fire flow data, minutes flushed, estimated gallons flushed, date flushed, depth of hydrant, age of hydrant, and really, anything you want to keep track of. Then at this point filters can be added to these layers that can show at a quick glance which hydrants have been flushed and not flushed, the age of hydrants, and fire flows. End of the year reports can be generated to show the overall gallons used to flush hydrants.

When it comes to the water main layer, I find that it is very beneficial to have a secondary layer that works in conjunction with the first layer. The main layer would be "Water Main" and the secondary layer would be "Repairs Made". This will help identify problematic sections of the water main, and aid in creating a capital improvement plan. Some of the most useful fields are the age, depth, size, length, estimated gallons, number of connections, material, and date installed.

The same can be done with sanitary sewers, as well creating a layer for sewer main then creating a secondary layer for sewer main repairs.



Again, adding in the fields for size, age, length, connections, flow elevations, material type, and jetting records. Filters can be added to analyze and show historical data.

Street departments are creating layers for street signs and for the annual PAZOR reports. Then generating heat maps of the roads to show deteriorating streets. Paired with a secondary layer for street maintenance, repairs made, and job estimates, this can aid a city in being proactive to hotspots before they become a bigger issue.

Now if you are following my trend here you can see that we are setting this GIS map up to create a poor man's capital improvement plan. With a few filters added, we can generate a heat map indicating which areas of town need to be looked at first. As data is updated year after year new heat maps can be generated to show the progress or decline of the infrastructure.

Most municipalities that are utilizing some kind of GIS platform are using a lot of the built in layers. One of the most noteworthy is the lead and copper inventory. By the way, the lead and copper inventory are due October of 2024. They are creating secondary layers either on the service layer or the meter layer. Filters can be applied with the simple text of not started, started, and completed. This allows the operator, or the utility manager, to view the real-time data of the progress and allows staff to set goals for completion.

Most platforms of GIS mapping allow you the ability to share a map. Where and why would this be handy? Imagine that you have a contractor coming into paint hydrants. By using a simple filter within your hydrant layer, you can indicate which hydrants need to be painted. This map can be sent to the contractor, for a record of what work needs to be completed. The contractor will not be able to make any changes to this map, so you won't have to worry about a third party altering anything on the maps.



One of the best parts of GIS mapping is that if you have had your water and wastewater system mapped in the past those points can be uploaded to your current GIS mapping program. This also means that if you want to switch platforms at any time you can. Remember if you have had your system mapped once with GIS coordinates, those do belong to you all you need to do is request them.

For those that use GIS mapping already, this may not have been a lot of help to you. This is just a quick and easy description of what GIS mapping could be used for. If you can imagine something, it can be created using GIS mapping. If you do have questions about using a mapping program reach out to us. There are many talented individuals at WRWA to assist you in any way. *Dan*

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# Partnerships to Assist You

**Kelly Thomas,**  
*WRWA Technical Assistance Director*

**Perks of this membership include huge discounts at our continuing ed training, the Annual Conference, and Expo.**

---

**M**any of the water and wastewater systems have taken advantage of WRWA over the years. And why shouldn't they? WRWA partners with nearly 200 businesses in the water and wastewater industry. These partnerships are bonded through membership with WRWA. You see many of these partners (business members) throughout the year at our Annual Technical Conference, at our Annual outdoor Expo, and at many of our continuing education training sessions. That makes WRWA a great resource for your community. These partners (through annual fees) receive a prime location for a booth at our Conference and at our Expo. Discount rates on advertising for this magazine and at events are also perks of membership along with links to their companies' websites, on our web site.

Having these partnerships is a huge asset to WRWA. These partnerships are a great resource when one of our municipal members becomes involved in a compliance issue, maintenance issue, or may have legal questions. Your WRWA representative may utilize these partnerships to help you.

Have you been taking advantage of these perks? Your municipality can also become members of WRWA. 97% of all municipalities are members of WRWA. That is over 600 system members in the water and wastewater industry. Perks of this membership include huge discounts at our continuing ed training, the Annual Conference, and Expo. Using our loaner equipment program is a great benefit of membership. Our circuit rider work tirelessly transporting loaner equipment from one



community to the other. Membership will also get you quarterly publications of this magazine and weekly updates in the WRWA news.

Take advantage of us! Our staff makes an average of over 230 visits monthly to assist our water and wastewater systems in Wisconsin. We assist with many compliance, legal and maintenance issues. We also consult with energy efficiency and will assist in source water ordinances.

Take advantage. We are here to help you. *Kelly*



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**PSC WATER RATE INCREASE ORDERS ISSUED**

6/1/2023 – 8/31/2023

UTILITY NAME	ORDER ISSUED	OVERALL% INCREASE
Wausau Water Utility	6/2/23	63.21%
Kewaunee Municipal Water Utility	6/16/23	13.84%
Blanchardville Municipal Water Utility	6/21/23	40.79%
Dodgeville Water Utility	6/22/23	52.58%
Mineral Point Municipal Water Utility	6/22/23	57.47%
Trempealeau Municipal Electric and Water Utility	6/29/23	26.97%
City of Menomonie Water Department	7/3/23	14.58%
Spencer Municipal Water Utility	7/17/23	110.3%
City of Bloomer Water Utility	7/17/23	192.47%
Cadott Light and Water Municipal Utility	7/25/23	38.78%
Town of Brookfield Sanitary District No. 4	7/27/23	16.84%
Crandon Water and Sewer Utility	7/27/23	44.72%
Port Washington Municipal Water Utility	7/27/23	71.95%
Wauwatosa Water Utility	8/2/23	28.45%
City of Waukesha Water Utility	8/15/23	101.86%

**PSC CONSTRUCTION AUTHORIZATIONS ISSUED**

6/1/2023 – 8/31/2023

UTILITY NAME	ORDER ISSUED	CONSTRUCTION COST
Town of Sheboygan Sanitary District No. 3	6/2/23	\$4,892,600
Winnebago Area Sanitary District	6/9/23	\$1,482,235
Bristol Water Utility	6/22/23	\$5,196,000
City of Neenah Water Utility	6/28/23	\$2,160,000
Milwaukee Water Works	8/29/23	\$25,000,000
Mequon Municipal Water Utility	6/30/23	\$3,406,552
Racine Water Works Commission	7/3/23	\$19,227,000
Wauwatosa Water Utility	7/3/23	\$4,592,589
Village of Plainfield Water Utility	7/19/23	\$69,000
River Falls Municipal Utility	7/21/23	\$5,611,800
Pulaski Water Department	8/2/23	\$233,000
Antigo Milwaukee Water Works	8/9/23	\$931,000
City of West Bend Water Utility	8/21/23	\$6,201,000



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6,001 – 10,000	\$550
Over 10,000	\$615
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Full page	\$430	\$1,555	\$575	\$1,970
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Business card	\$160	\$575	\$200	\$600

Color Advertising	MEMBER		NON-MEMBER	
	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](mailto:rkoback@wrwa.org). \*Must be employed by a WRWA system, associate, or corporate member, retired and state or federal employees

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# Oxidation Reduction Potential

**Tony Roche,**  
WRWA Training Specialist

**H**ello Wisconsin! I hope all you operators had a great summer. Every year it seems to go faster and faster. Back in the day I was enjoying a few barley pops with my grandpa, and he told me that life is like a roll of toilet paper. My initial reaction was, "Dude...what??" But after some discussion I realized just how right he was. When we are young the revolutions seem to take forever, and summer vacations seem to last an eternity. Then as we age the revolutions go faster and faster, and there is never enough time in the day to get all our work done. That being said, we have to be mindful of the time that has been given to us. And what better way to spend time than to discuss oxidation reduction potential (said no one ever)!

Let's start with the basics. All atoms are comprised of protons, neutrons, and electrons. Protons (positively charged particles) and neutrons (neutrally charged particles) make up the nucleus of an atom. The nucleus is very dense and accounts for most of the mass of an atom. Surrounding the nucleus are negatively charged particles called electrons. Electrons are very small and are constantly orbiting the nucleus. We can use our solar system as an analogy for an atom – think of the sun as the nucleus and the planets as electrons. Since protons have a charge of +1 and electrons have a charge of -1, if the atom has an equal number of protons and electrons then the atom is neutrally charged (meaning that there is no charge, neither positive nor negative). If the atom has more protons than electrons, then the atom has a positive charge (referred to as a cation). Some examples of cations include ferrous iron (Fe+2) and ferric iron (Fe+3). If the atom has more electrons than protons, then the atom has a negative charge (referred to as an anion). A very common example of an anion is chloride (Cl-).

Oxidation reduction potential, commonly referred to as ORP on the street, is the tendency of a solution to gain or lose electrons.

To oxidize means to lose electrons and to reduce means to gain electrons.

In chemistry we call these oxidation reduction reactions or redox reactions. To oxidize means to lose electrons and to reduce means to gain electrons. This can really bake your noodle but remember it is all about charge (i.e., when an atom gains an electron, it gains a negatively charged particle so the charge becomes reduced). Oxidizing agents like chlorine (Cl) oxidize substances (e.g., Fe+2 to Fe+3) and in the process gain an electron(s) to become reduced (Cl-). On the flip side reducing agents like glucose (sugar) reduce oxidants and in the process become oxidized. From a wastewater perspective, raw influent typically contains more reducing agents. When wastewater undergoes biological treatment in the presence of oxygen the reducing agents (e.g., sugar) become oxidized.

The oxidation reduction potential (ORP) of a solution is measured with an ORP meter. ORP is measured in millivolts (mV) and can range from less than -300 mV to greater than +300 mV. From a practical standpoint ORP tells you how active microbes are in uptaking oxygen. The more positive the ORP value means the more active microbes are in uptaking oxygen, and the more negative the ORP value means the less active microbes are in uptaking oxygen. In aerobic, or oxidizing, environments (i.e. +100 mV or greater) there is a lot of oxygen available and microbes are very active in uptaking oxygen. In anaerobic, or highly reducing, environments (i.e. -200 mV or less) there is next to no oxygen available and microbes are not active in uptaking oxygen.

As my buddy Chris says, "man it feels like my brain is in a blender." If you feel like your brain is in a blender, then blend one up for Jimmy Buffett. And if that's not your thing maybe go for a cheeseburger in paradise. Rest in peace Jimmy B. You will be missed. Cheers everyone. *Tony*



# OTM/NN Small Water Systems SAMPLE REQUIREMENTS "PFOA and PFOS"

Good Morning,

Today I would like to talk with you about a new sampling requirement that has been a hot topic throughout Wisconsin. PFOA and PFOS. They are a group of human-made chemicals that have been used since the 1950s. These compounds may still be found in almost everyday consumer products, such as grease-resistant paper, nonstick cookware, stain-resistant fabrics cleaning products and other personal care products like shampoo and nail polish.

PFAS are a widely used, long lasting chemicals which break down very slowly over time. Because of their widespread use and their persistence in the environment, many PFAS are found in blood of people and animals all over the world and are at low levels in a variety of food products and in the environment. They can be present in our water, soil, air and food as well in materials found in our homes or workplaces including:

Drinking water-public drinking water systems and private drinking water wells.

Soil and water at or near waste sites- landfills, disposal sites and hazardous waste sites.

Fire fighting extinguishing foam- in aqueous film-forming foams used to extinguish flammable liquid-based fires. Such foams are used in training and emergency response events at airports, shipyards, military bases, firefighting training facilities, chemical plants and refineries.

Manufacturing or chemical production facilities that produce or use PFAS. Like chrome plating, electronics and certain textile and paper manufactures.

Food- fish caught from water contaminated by PFAS and dairy products from livestock exposed to PFAS.

Household products and dust- Stain and water repellent used on carpets, upholstery, clothing and other fabrics, cleaning products, non-stick cookware, paints, varnishes and sealants.

Personal care products like shampoo, dental floss and cosmetics.

Biosolids like fertilizer from wastewater treatment plants used on agricultural lands can affect ground and surface water and animals that graze on the land.

Remember The new MCLS for PFOA/PFOS are set at 70 parts per trillion (ppt) for each contaminant individually or combined and should be tested by Wisconsin Certified PFAS Labs.

I hope this helps with all the questions I have been getting on my travels to small water systems throughout northern Wisconsin. Remember you can always call your local WI-DNR rep or any of our Water Circuit Riders Here at Wisconsin Rural Water Association with any technical assistance issues you may be experiencing. We are always here to help.

Thank you!

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

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# EDUCATING Your Customers

Jesse Hass,  
WRWA Wastewater Trainer

Understanding why a utility does things, how it will affect them, and why it will help them, are major aspects to an educated public.

A question that I think about often is, "What is the best way to educate the public on various aspects of water and wastewater? It is an interesting question to think about. Things wastewater and water operators see as common sense, were probably never discussed in most households or schools. Most people have a very minimal grasp of what an operator does, a utility does, and what things they can do to help a utility. This is a tough obstacle to overcome when thinking about informing people about proper practices to consider that are beneficial to them and the utility. All of us know that sending out public education materials and doing open houses of the plant or utility will only educate a fraction of the desired customers.

Education is key to letting people understand every aspect of a utility. An educated public is a key to helping an operator run a successful utility. Understanding why a utility does things, how it will affect them, and why it will help them, are major aspects to an educated public. A public relations plan to keep the public in the know is also a major thing to consider. Just sending out a mailer will not reach most of the customers. People get their news from a variety of sources, TV, radio, print, and social media have splintered the public. It is a good practice to release information on a variety of platforms. This will be very important to an informed public. If a utility does not have an effective model to deliver pertinent information, then someone from the public will fill the void. Saying nothing is the worst thing a community can say. Get

your information out to the public in a timely manner. You as the utility should be in control of the story. In the event of an emergency, rumors will spread like wildfire, if no official story is offered by the utility. Utilities should consider providing statements on Facebook, Twitter, other social media sources, the city website, and even having a text message signup. This will help a utility get the information to the public from your utility, as the primary source, instead of from hearsay.

On the wastewater side, some things to think about when informing the public are how to keep cooking grease, wipes, plastics, grit, and every other non-organic material out of the sewer. Preventing harmful objects from entering sewer lines is a daunting task. Most plants have installed preliminary treatment processes to remove a lot of these non-organic materials but having preliminary treatment will not solve this problem by itself. An aside from my travels is for operators to be super careful when doing any maintenance or unplugging of pumps or pipes. Raw wastewater is dangerous, and the chances of encountering sharps or needles seems to be on the rise. Make sure you are professionally trained and protected. If you do not feel comfortable call in a company to do the maintenance.

What is the best way to reach someone in the kitchen and explain to him to discard grease in the garbage when it's so much easier to just dump it down the drain? Wipes are also a major problem, especially when some wipes are sold as flushable wipes. No wipe is as degradable, a utility should stress what should be sent to the treatment plant. The





public also needs to understand that all drains in a house end up at the wastewater plant. You would be surprised how many times I have talked to someone who only thought the toilet water was going to the treatment plant. A good slogan I have heard a community use to educate the public I only flush the 3 P's, pee, poo and paper (toilet).

If I were running a utility my plan to educate the public would be a multiple prong approach. I would send out or deliver mailers as a first prong. Some people rely on mail to get their information. Next, I would have an operational website that is easy to post important and timely information on. If you have a tech savvy department, consider developing an app, people are on their phones all the time. I would also post important information on the utility's Facebook page, and the community run Facebook page. Also, I would have a twitter account and I would also promote that to the community. I would consider a signup to send mass text messages, this could be promoted on all the other platforms. Lastly, I would try to talk to the local teachers to get the students to tour the utility every year.

Recently I was able to help a wastewater treatment plant with tours for all the town's kindergarten through 5th grade classes. This is an amazing way to educate the public. If a utility can do this, then each of those children will tour the utility 5 or 6 times in their life. This will allow the utility to get their message out and it's done multiple times. If you are considering this, give me a call. I have helped multiple utilities with school tours. During the tour, the first thing I asked the group was, "What percent of influent wastewater do you think is Solids?" Most said they thought 50 to 75 percent of influent wastewater were solids, they were confused when I told them that influent wastewater is about 1 percent solids. Then I had to explain that toilet flushing is only a small portion of what ends up at the treatment plant. These young students never had made the connection that showers and sinks also came to the plant. I brought up the "3 P's", told them to never flush wipes of any kind down the toilet even "flushable" are not to be flushed. I brought up not flushing wipes 5 to 10 times throughout the tour. I also stated not to send any plastics or cooking grease to the plant through drains or flushing.

Who knows how many were listening, but this may be the only time in these children's lives where someone will tell them what not to put down the drain. In my personal experience, I was never told by anyone what I should and should not flush down the toilet. I learned once I started working as summer help in the public works department. Education is so important, but ways to get out your message is in most cases "hit or miss." If anyone out there has had some luck with any effective public educational strategies I would like to hear how you are dealing with this problem. You can email me at [jhass@wrwa.org](mailto:jhass@wrwa.org) or call at 920-470-2963. *Jesse*

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# Initial Energy Efficiency Tips and Information

**Matt Rettler,**  
*WRWA Energy Efficiency Circuit Rider*

To start off this article, I want to introduce myself. My name is Matt Rettler, and I am the new Energy Efficiency Technician for WRWA. I have spent most of my career in agriculture as an irrigation manager. I have an extensive background in the electrical field dealing with power from 12vdc all the way to 480vac. I instructed many of the electrical classes for new hire technicians and worked closely in the field with any issues that arose. In January of 2022 I left the agriculture industry to have more time to spend with my wife and kids. (In October I will be celebrating my 21st wedding anniversary and have four teenage daughters active in sports, 4-H, cattle shows, and racing karts.) I went to work for the Village of Redgranite Water and Wastewater Department. I started as an assistant, and with the new DNR format of taking tests online, I was quickly able to get through all my classes and subclasses so that I was licensed by January of 2023. In February of this year, I was promoted to Operator in Charge. When I started at Redgranite, I knew it was going to be a quick and steep learning curve to become a great operator. I enrolled in an associate's program at Moraine Park Technical College to get a jump start. I am a full-time student with the online program Water Quality Technology. It has been very beneficial, and I plan to graduate in May of 2024. I heard about the open position for the Energy Efficiency Technician and was hired with a start date of August 2nd. I look forward to meeting all the operators and helping any water or wastewater plant become more energy efficient!

For this issue, I wanted to remind everyone what WRWA has to offer for helping with energy efficiency. I also wanted to make sure everyone knows this is a FREE SERVICE as is all that WRWA has to offer through each of its services. With continual rising costs in repairs, new parts, chemicals, labor, and energy, it is nice to find a way to save a few dollars. The energy that a water or wastewater plant consumes is a great place to save money. Anyone who hasn't recently had an energy assessment done is eligible. The first thing I need for an assessment is a year's worth of energy bills, plant monthly flows, and runtime hours for the major motors in the system. Collecting this information allows me to have a good look at your current energy use and look for areas of improvement. Improvements can come in many forms. I will look over the entire process from billing rate structure, motor efficiency, process efficiency, and potential capital improvements.

I know budgets are tight for every municipality across the state. **The great news is that there are potential cost savings without spending**

**Every energy use whether big or small contributes to your electric bill.**

**any money!** It is important to make sure you are at the best energy rate available from your energy provider. Many times, there is a rate available to the municipality that will save them costs over a conventional rate. Make sure that you are not paying taxes as part of your energy bill! Municipalities are tax exempt and may need to provide that information to the energy provider.

Is the process at your plant as efficient as it could be? Every energy use whether big or small contributes to your electric bill. Electric heaters are big users of energy. As winter approaches make sure that thermostats are turned down to minimum temperatures in non-work areas and that you are using programmable thermostats in other areas. Add insulation or caulk up drafty areas to minimize the use of heat. Make sure that lights are only on when someone is in the building and if bulbs burn out, they are replaced with high efficiency LED lighting. If you are on a rate that involves peak and off-peak times, try to run the motors on off-peak hours as much as possible. These rates are normally much better per kWh than daytime peak hours. Aeration takes most of a wastewater plant's energy use. Depending on the type of aeration used, be sure to keep compressor filters clean, belts tight, pipes sealed, and diffusers clean for the most efficient operating parameters. Also, keep the DO at the lowest level to provide good treatment and not waste energy. Small process changes can lead to big savings with minimal effect to effluent quality.

Capital improvements are also considered in an energy assessment. Sometimes spending money is the best way to save money! I know this sounds counterintuitive, but if you have old equipment that runs a lot, more efficient motors can save thousands of dollars in the long run. VFD's are also another good option to save money. They allow you to have better control of the treatment process and save some kWh's at the same time. During the assessment I explore all these options and try to get an accurate equipment price together to give you an accurate ROI. If an operator has something in mind or is looking at installing some equipment, please let me know at the time of the assessment. I can help investigate available options and give recommendations.

If you have any questions, please feel free to reach out to me. You can call me at 715-498-2664 or email at [mrettler@wrwa.org](mailto:mrettler@wrwa.org) I look forward to working with you in the future.





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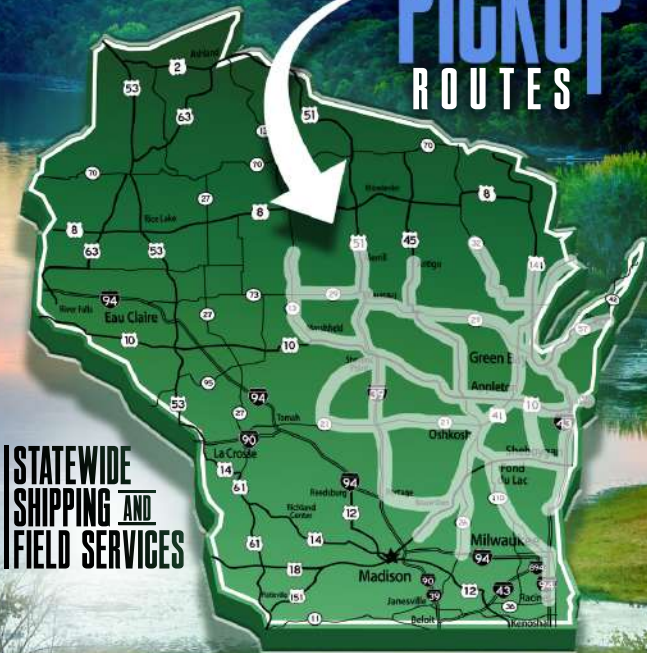
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# A Letter to your Village Board or City Council (and Mayors, Administrators, etc.):

**Kay Curtin,**  
*WRWA Wastewater Trainer*

Operators; please give a copy of this to your decision makers.  
It's for them, not you. Tell them Kay said it was mandatory.

---

Dear Decision-Maker for City/Village of \_\_\_\_\_,

I generally write this column to be directed at operations or public works directors but want to ask you some favors as decision makers for your municipality. I do empathize with the challenges of your position. You must make some big, and sometimes difficult decisions, it's taking up your spare time, the pay stinks, and it's impossible to keep everyone happy. I'm from a town of 400. My father spent one term on the Village Board. He said that other than cancer and his only daughter's teenage years, it was the worst time of his adult life. We attend many board meetings for our operators. We encounter many problems. So... I'm going to give some unsolicited but necessary advice.

1. Although you probably have little extra time, familiarize yourself with what your operators do. Spend some time with them. Educate yourself. Keep up with state regulations if possible. The most successful municipalities that I deal with are the ones with interested, knowledgeable decision-makers. Come to our classes, our conferences, or take online training. My most beloved board members have even become licensed so that they can help out when needed.
2. Please give your operators the tools that they need to be successful and keep your system out of trouble. I'm not only talking about wrenches and pickup trucks; I'm talking about education. There are plenty of classes out there, and some are online. Let them go to conferences and network. Knowing your neighboring operators could come in handy if emergency help was needed.
3. Have more than one licensed operator, or at least one more available if needed. It's just about impossible to hire a licensed water or wastewater operator at a moment's notice these days. We're a rare breed and disappearing fast. The young operators flock to the big cities, where the pay and benefits are much better. It has become somewhat of a crisis in our industry.
4. Right now, there are grants available through low interest loans from USDA Rural Development and the DNR SRF programs. Who knows what will be available in the future? If your wastewater system is ready to collect Social Security, you need to look at a new one or an upgrade. WWTPs are designed for about 20 years of life. You can only duct tape and baler twine things together for so long. Obtaining needed parts is painful if not impossible these days. New regulations, such as extremely low phosphorus limits, require new technology. Call-outs for repairs mean overtime, which drain budgets.
5. I'm certain that you're saying, "How can we afford this?" When was the last time that you raised water and sewer rates? Yes, people will complain, but look at it as though you're running a business. You must stay in the black and have an emergency fund. Do a rate study. It's worth hiring someone but we can also show you how to do it yourself. When citizens complain, I like to ask them "What did you pay for that bottle of water in your hand?"



6. Having industries in your municipality is a huge asset. However, the DNR no longer will assist you or your operators if an industry dumps methyl-ethyl something-or-other into your sewer, killing your plant or causing it to exceed its permit limits. NO operator can successfully meet their permit limits with an industry, commercial establishment, or haulers dumping anything antibacterial, high in BOD, solids, chlorides, phosphorus, heavy metals, or, God forbid, PFOAS. Safety Data Sheets now are allowed to state "Proprietary" or "Trade Secret" so you don't even know what is going into your plant, or the receiving stream.

The new regulations make YOU, the municipality, the governing authority over all discharges into your system. I know, I know; the plant manager is your son-in-law and Aunt Mary works there. You assume that they provide jobs, so you need to protect them. Well, many of the problem industries that we're dealing with have no local employees. The taxpayers end up footing the bill for upgrades, and possible fines from the DNR, just to keep an industry in the town.

7. Speaking of industries, do you have user agreements with them? Do the user agreements conflict with your ordinances? If not, it's time to call your city attorney. You need to protect your municipality. I've seen situations where a very cooperative industry sold out to a nightmare industry, and there were little or no user agreements. They ended up paying much larger attorney fees to make the industry behave. I'm certainly not saying that all discharging industries are bad. It's just that I've been dealing with dozens of the bad ones since the regulation change and witnessed the damages. You can't afford those types of attorney fees.
8. When you do an upgrade, get input from your operator. They're the ones that have to keep the place running 24/7/365. They know what they need or don't need. However, coffee makers are a critical piece of equipment.
9. Respect your employees. You don't want to lose them. See item #3. Have their backs when dealing with local citizens. They deal with an angry public as much or more than you do and get little respect. I wish I had a dollar for every time that I've heard "I pay taxes, so I pay your salary so I want \_\_\_\_\_". And "What do you do all day at that treatment plant?" Grrrrrrr.....
10. Another thing that I hear is "The DNR can't do anything to us if we can't meet the permit limit". Yeah, right. See you in front of the Department of Justice.

Thank you for listening to me. We appreciate your work and dedication. I realize what you do for your community is not easy or fun. You do it because you care about your family and friends in your community. I'm an outside observer, but also close to your situation and on your side. WRWA is looking out for the well-being of your system, and your village or city. I'm also old and grumpy, but know what I'm talking about.

Sincerely,

Kay Curtin, WRWA Wastewater Technician

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# 15<sup>TH</sup> ANNUAL Water Conservation Poster Contest

See pages 24 & 25 for information and contest entry forms.

**Andrew Aslesen,**  
*WRWA Source Water Specialist*

This year's theme is "Imagine a Future With Less Water Waste".

**W**RWA is pleased to announce the 15th annual Water Conservation Poster Contest. This year's theme is "Imagine a Future With Less Water Waste". Imagining what the future could look like is fun, from flying cars to cities on Mars, the beauty of the imagination is that it lets us explore beyond the constraints of our current environment and understanding of reality, into a space where creativity and invention are at their best. If you think about history, most major technological leaps came from someone imagining that something that wasn't currently possible could be possible. The goal of this year's theme is to encourage students to let their brains run wild thinking about the possibilities or seemingly impossibilities for the future of water conservation, and what a world with less water waste might look like.

We invite and encourage all water operators, wastewater operators or other municipal employees or board members to help promote the water conservation poster contest and distribute the informational flyer found in this issue of the journal or on our website. Please consider giving the flyer to the schools in your communities (both public and private schools), or giving it directly to teachers that you know. Additionally, the water conservation poster contest can be a great way for utilities to connect with their local schools. It can provide an opportunity to educate students and the public on issues that utilities face every day and how utilities are working to protect the environment and conserve natural resources. The poster contest is open to public, private & home school students in 2nd through 6th grade anywhere in Wisconsin. Participants are asked to create a poster that depicts a message of water conservation that relates to this year's

theme. As part of the project, teachers have the opportunity to discuss the importance of water resources and water conservation with their students. Additionally, teachers are given the option to have Wisconsin Rural Water Association staff give a groundwater presentation at their school. Posters are submitted to the Rural Water office near the end of February, where they are reviewed and the top 15 posters from each grade are taken to and displayed at our Annual Technical Conference in March. Conference attendees choose the winning posters by voting for their favorite poster from each grade. The top two posters from each grade are awarded first and second prize. First place winners receive a \$100 cash prize and second place winners receive a \$50 cash prize. New this year every participating teacher is placed in a drawing for one of five \$100 amazon gift cards. This incentive allows every teacher who puts the time in to having their students participate in the poster contest to have the chance at getting something regardless of how the posters they submit do in the contest.

In the last fourteen years, the Water Conservation Poster Contest has continued to be an outstanding success. For the 2023 contest there were almost 900 participating students from 31 teachers at 18 different schools. This year we would like to reach even more students, but we need your help to spread the word. Please join us in promoting this year's poster contest by distributing the information on the contest to schools in your community and encouraging them to participate. If you have any questions or need additional entry forms feel free to contact me; Andrew Aslesen, WRWA Source Water Specialist at [Aaslesen@wrwa.org](mailto:Aaslesen@wrwa.org) or calling 715-321-3451. *Andrew*





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# The Wisconsin Rural Water Association Presents The: 2024 Water Conservation Poster Contest

## 'Imagine a Future with Less Water Waste'

The Wisconsin Rural Water Association and water utilities across the state invite teachers to participate in our annual Water Conservation Poster Contest. The contest is open to all 2<sup>nd</sup> – 6<sup>th</sup> grade students in Wisconsin. Two winners are chosen from each grade and both will receive a cash prize. All participating **teachers** are placed in a raffle for 1 of 5 \$100 Amazon gift cards.

The theme for the 2024 contest is "Imagine a Future with Less Water Waste". Imagining what the future looks like is fun, from flying cars to cities on Mars, the beauty of the imagination is that it lets us explore beyond the constraints of our environment and reality, into a space where creativity and invention are at their best. Most of the inventions in history started with imagining that something could be possible. This year's theme encourages students to let their brains run wild thinking about the possibilities or seemingly impossibilities for the future of water conservation, and what a world with less water waste might look like.

### Resources, Thoughts and Fun Facts:

- Project WET Discover Water: <https://www.discoverwater.org/>
- US EPA Water Sense: <https://www.epa.gov/watersense/watersense-kids>
- What do you do as an individual to reduce your water use?
- Why do we need to care about water conservation?
- A person can survive about a month without food, but only 5 to 7 days without water
- Showering and bathing are the largest indoor water use (27%)
- It takes about 1.1 million gallons of water to grow enough food for an average family for a year (Some foods take more water to produce than others).
- 780 million people globally lack clean safe water (water.org).
- Only 1% of the Earth's water is available for drinking water.
- Each person in Wisconsin uses about 60 gallons of water every day.

**All entries must be vertical (portrait) on 11"x17" or 12"x18" paper.**

**Entries must be postmarked no later than Friday February 23, 2024.**

See page 2 for contest guidelines and rules. One first and second place winner will be selected from each grade level 1<sup>st</sup> through 6<sup>th</sup>. Winners will be chosen by attendees at Wisconsin Rural Water Association's Annual Technical Conference March 26-29, 2024. For Further information visit: [www.wrwa.org](http://www.wrwa.org) or Contact Andrew Aslesen, [Aaslesen@wrwa.org](mailto:Aaslesen@wrwa.org) or 715-321-3451

### Prizes

#### First Place

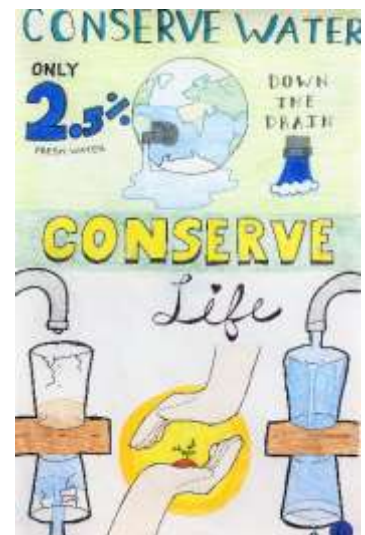
- \$100 Cash Prize

#### Second Place

- \$50 Cash Prize

#### Teacher Prizes

- 5 - \$100 Amazon Gift Cards



2023 Poster Contest: 6<sup>th</sup> Grade 1st Place Winning Poster By: Caroline Bazile, from West De Pere Intermediate School

### Sponsored By:





**Entry Deadline:**  
***Postmarked No Later Than***  
***Monday, March 6, 2023***  
***Questions? Call (715) 321-3451***

**Mail Entries To:**  
***WI Rural Water Association***  
***350 Water Way***  
***Plover, WI 54467***

## Water Conservation Poster Contest Entry Form

### Guidelines

Teachers, please talk with your students about water: where our water comes from, our limited supply, why water conservation is important, and how everyone can conserve and protect water. Then, encourage your students to draw a poster that illustrates one important point based on this year's theme, *"Imagine a Future with Less Water Waste"* winning posters typically use few words, large lettering, heavy lines and strong colors.

### Contest Entry

We ask that teachers **submit the top 3 posters per class** that illustrate this year's theme to represent your class. Teachers who have multiple classes, such as art or science teachers, may submit 3 posters to represent each class they teach, and combination classes may submit 3 posters per grade level. Please make sure to attach one student entry form (Right) to the back of each poster. Then package the posters, along with one class entry form (below) and mail by Friday February 23<sup>rd</sup>, 2024 to: *WRWA 350 Water Way, Plover WI 54467.*

### Rules

1. Participating schools must be located within the State of Wisconsin. Entries will be accepted from public, private & home school teachers.
2. **Posters must be drawn VERTICALLY (portrait) on either 11"x17" or 12"x18" paper.** *Entries that are not the correct size paper or are drawn horizontally will be disqualified.*
3. Students may use crayon, watercolor, poster paint, markers, ink, cut paper, tissue paper or fabric. Please do not use materials that may smear, crack or chip.
4. Students must work on posters independently. Collaborated work (a poster created by 2 or more students) will be disqualified.
5. Only original student artwork will be accepted. Computer generated drawings will not be considered. Reproduction of popular cartoon characters or three-dimensional work will be disqualified.
6. Posters will not be returned and will remain the property of the WRWA and may be displayed publicly, published or reproduced.
7. Each participating teacher will be given one entry into the drawing for one of five \$100 Amazon gift cards.
8. **Package the posters, along with one class entry form (below) and mail to:**

### WRWA-Poster Contest

**350 Water Way,**  
**Plover WI 54467.**

**Questions?** Call:(715) 321-3451 Email:Aaslesen@wrwa.org

#### STUDENT ENTRY FORM

##### ATTACH TO BACK OF STUDENT'S POSTER

Name \_\_\_\_\_ Grade \_\_\_\_\_

Parent/Guardian Name \_\_\_\_\_

School \_\_\_\_\_

Teacher's Name \_\_\_\_\_

*Posters will not be returned. They will remain the property of WRWA and may be reproduced.*

#### STUDENT ENTRY FORM

##### ATTACH TO BACK OF STUDENT'S POSTER

Name \_\_\_\_\_ Grade \_\_\_\_\_

Parent/Guardian Name \_\_\_\_\_

School \_\_\_\_\_

Teacher's Name \_\_\_\_\_

*Posters will not be returned. They will remain the property of WRWA and may be reproduced.*

#### STUDENT ENTRY FORM

##### ATTACH TO BACK OF STUDENT'S POSTER

Name \_\_\_\_\_ Grade \_\_\_\_\_

Parent/Guardian Name \_\_\_\_\_

School \_\_\_\_\_

Teacher's Name \_\_\_\_\_

*Posters will not be returned. They will remain the property of WRWA and may be reproduced.*

#### CLASS ENTRY FORM: SEND ONE WITH POSTERS

Teacher's Name \_\_\_\_\_

School \_\_\_\_\_ Grade \_\_\_\_\_

Email Address \_\_\_\_\_

School Address \_\_\_\_\_

City \_\_\_\_\_ zip \_\_\_\_\_

Teacher Phone # \_\_\_\_\_

Total Entries Submitted (up to 3 per class) \_\_\_\_\_

Total Number of Students who Participated \_\_\_\_\_



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# *A glance at the* **WRWA** **Outdoor Expo 2023**



# WRWA Outdoor Expo Winners

PRIZE	DONATED BY	WINNER(s)
65"TV	Adaptor	Jon Witter
Work Boots	Hy-Test Safety Shoe Service	Brian Abitz
1 Dozen Taylor Made TP5X Golf Balls	Energenecs	Kyle Prey, Nic Lea, Bart Lehman
Milwaukee Charger Radio	First Waterworks	Jesse Landre
WI Badger Pop Up Canopy	MSA	Robert Scheeler
Skil 4 Tool Package	Midwest Meter	Ramon Knudson
\$100 CASH	B & M Technical Services	Bart Lehman
\$50 Menards GC	Ayres	Dean Bergstrom, Don Hart
CASH / KT Card	WRWA Staff	Jay Jochimsem
Skil Impact Wrench	Midwest Meter	Eldon Exner
Igloo Cooler	CBS Squared	Jay Jochimsen
13'X13' pop up canopy	Martelle	Matt Gahn
Milwaukee Rechargeable Hard Hat Headlamp	SEH	Dan Schoenleber
\$50 KwikTrip	SEH	Christopher Massart
Igloo Cooler/Yeti Mugs	Hawkins	Ken Murray
Cooler, Chairs with Beer	Northern Lake Service	Ryan Beyer
Yeti cooler/\$50 Scheels card	Crane Engineering	Jeff Armstrong
\$50 KT gift card	Core and Main	Casey Jakubek, Tony Sterling, Mark Young, Cody Bank, Michael Stoffel, Dave Van Grinsven
Tool set and hats	Copperhead	Lance Wright
Collapsible wagon	Granse/Trio	Pat Kelly
Dewalt Hammer Drill	Visu-Sewer	Brian Kalupa
Ammo box	KLM	Allen Mankiewicz
Bushnell Binoculars	UESMI/HTV	Steve Cleona
\$100 Dicks gift card	American Flow Control	Michael Stoffel ,Jay S. Grimsled
Set of Yeti	Sensus	Brian Abitz
Thermos Mug/ gift card	ISG	Christopher Massart
Milwaukee Packout Package	Water Well Solutions	Steve Cleona
\$100 gift Cabela's gift card	Dorner	Dean Bergstrom
USA Directors Chair	Jim Jolly Sales	Nic Lea
\$100 KwikTrip Gift Card	JWR Inc	Fred Metzler
Yeti cooler/Hat/pocket knife	DSG	Grant Burbach
Coleman Cooler/ \$25 Menards	LAI/Kaeser	Keith Graper
NordicTrack Therapy Gun	ME Simpson	Joe Hoban
Bosch Radio	Rehau	Jeff Armstrong
\$100 Fleet Farm Gift Card	Sealing Systems	Mike Wojtalewicz
\$100 KwikTrip Gift Card	Dixon	David Sweet
\$40 Menards and CAP	Ford Meter Box	Becky Danczyk, Steve Celona
Milwaukee Sawzall (tool only)	Ferguson	Dan Schoenleber
Pair of Lawn Chairs	PJK co	Aaron Goldschmidt
\$50 KwikTrip gift cards	Municipal Well and Pump	Tim Gutjahr, Aaron Torgerson, Christopher Massart, Wendy Anderson
\$50 KwikTrip gift card	Badger Labs	Tony Sterling
\$50 KwikTrip gift card	LW Allen	Wendy Anderson/Todd Stettbacker
\$25 KwikTrip gift card	Robert E Lee	Sam Ziebell





*Thank You*

**WRWA Outdoor Expo sponsors & all those that participated!**



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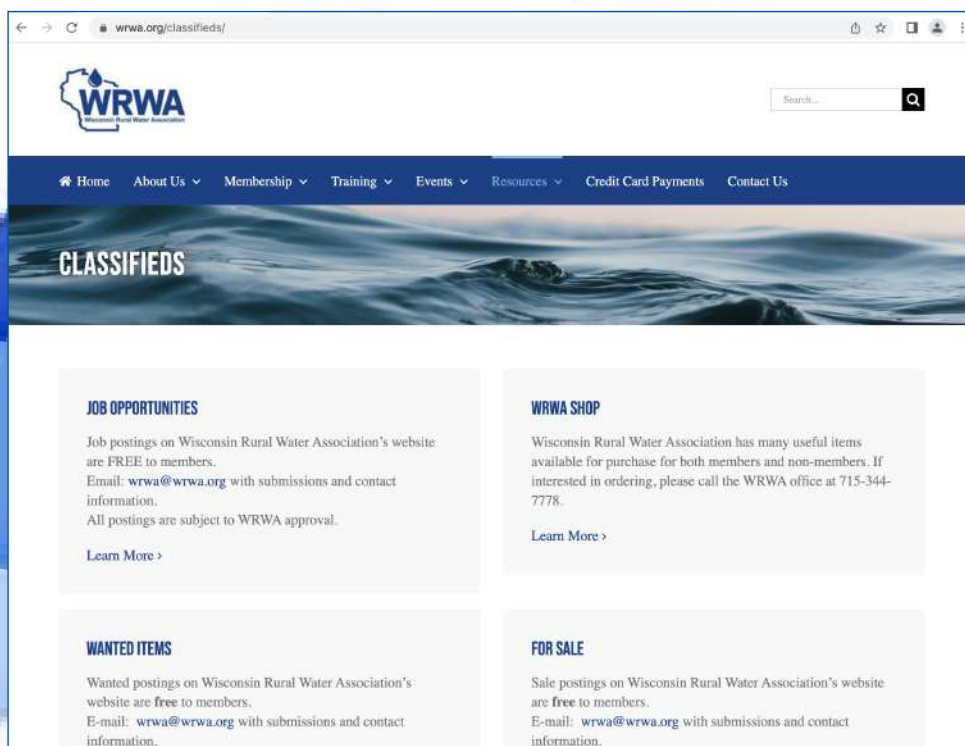
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Vince Matarrese,  
Advanced Safety Technology, Inc.  
President

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**A**re they predicting a lot of snow this winter? It seems like everyone is shorthanded, which means more time behind the wheel. More water and wastewater operators are plowing snow and are exposed to new hazards.

- ✓ Always dress to suit weather conditions and the hazards of being exposed to public vehicle traffic when leaving the vehicle.
- ✓ Wear The Proper Clothing (Class 3 or above) ANSI/ISEA 107 High-Visibility Safety Apparel!
  - Performance Class 3 can offer greater visibility to the wearer in both complex backgrounds and through a full range of body movements by mandatory placement of background, retroreflective and combined-performance materials on sleeves and pant legs (if present). Regardless of the area of materials used, a sleeveless garment or vest alone shall not be considered Performance Class 3.
- ✓ Check all equipment before each use.
  - Inspect the lights, brakes, windshield wipers, defroster, plow bolts and chains, spreader and auger, and other safety equipment.
- ✓ Allow no one to ride outside the cab for any reason.
- ✓ NEVER jump off the equipment, use steps, and handholds. Maintain three-point contact when climbing into cab and exiting cab.
- ✓ Before performing inspection or service operations, park vehicle on level ground.
  - Set parking brake, shut off all power, and make sure all movement has stopped.
  - Dump bodies of all vehicles shall be equipped with a positive means of support that is permanently attached and capable of being locked in position to prevent accidental lowering of the body while maintenance or inspection work is being done or while the vehicle is left unattended.
- ✓ NEVER back up until you have checked to see that the area is clear of personnel, pedestrians and/or obstructions.
- ✓ Power must be shut down to augers and spreaders before cleaning or performing maintenance and servicing.
  - Loose jackets, shirts sleeves or other loose clothing should not be worn because of the danger of catching them in moving parts or controls.
  - If your spreader is equipped with a safety interlock device, this device must be disconnected before the spreader top cover can be opened exposing the auger.
  - Control of hazardous energy procedures must be used.
- ✓ Observe all warning and caution labels. If they are missing or illegible, replace them.
- ✓ Be aware of your surroundings and know your route.
  - Always make sure you know what possible obstacles are within your plowing area like mailboxes, fences, signs, posts, etc.
- ✓ Be brief when using the radio. Report stranded motorists and other emergencies when possible.
- ✓ ALWAYS be tolerant and patient of other drivers or pedestrians around you.
- ✓ Watch your speed! Make sure you are constantly keeping an eye out for ice or obstacles.
- ✓ Obey all traffic laws (i.e. wearing your seatbelt at all times).
- ✓ Make sure before leaving the vehicle after you have done your job, that you cut off all power to the snow plow and spreader.
- ✓ Get a good night's rest before going out to plow.
  - Although this is sometimes impossible to do, make sure that you are not feeling too drowsy or sleepy.

*This is all about going home and enjoying the winter and Holiday's. Vince*







## 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](http://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

---

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

**Chris Groh, Executive Director**  
*Wisconsin Rural Water Association*  
[cgroh@wrwa.org](mailto:cgroh@wrwa.org)  
715.340.2055

**Gary Larimore, President & CEO**  
*Rural Water Financing Agency*  
[g.larimore@krwa.org](mailto:g.larimore@krwa.org)  
270.535.5921

**Nick Roederer, Managing Director**  
*Raymond James (Program Underwriter)*  
[nick.roederer@raymondjames.com](mailto:nick.roederer@raymondjames.com)  
502.741.3686

**Kristen Millard, Director**  
*Raymond James (Program Underwriter)*  
[kristen.millard@raymondjames.com](mailto:kristen.millard@raymondjames.com)  
859.232.8249

**Daniel Olson, Corporate Trust Relationship**  
*Consultant Regions Bank (Program Trustee)*  
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# What I learned from my LOW PRESSURE EMERGENCY



**Seth Petersen,**  
*WRWA Training Specialist*

*It's experiences like this that make Wisconsin Rural Water employees so helpful to you in your daily work.*

One early Friday (of course) March morning in 2022 I was awoken by a text from a co-worker. It was a picture showing the fire department fighting a fire at a local restaurant on Luck's Main Street. While this was alarming, I had the impression that I wasn't needed so I went back to sleep. I was woken up about 30 minutes later with a more urgent text saying the third truck, a snorkel, just showed up and we may want to get in and make sure the two wells were operating properly. For some reason, I decided to take a shower before I left. I turned the water on and waited for it to warm up. As I stepped in the water abruptly stopped, it slowly started flowing and then it stopped again. This happened a few more times. At this point I was moving much faster, I put my clothes on wet and raced out the door to our well houses. Both wells were pumping and there was plenty of water in the tower... In that moment I recorded the image in my brain and went out to tell the fire department what was happening to the water pressure in our water system. As you can imagine by now just about every Luck water customer was calling me. I spoke with a couple firemen who stated that since the snorkel was on site the situation had changed and they were back to using just one or two trucks at a time and, thankfully, had brought in a portable water tank.

Luck Public Works has a very experienced staff of 3 certified operators with over 55 years of combined experience. We slowed down for

a second. I called my buddy Bill, the DPW of Frederic and asked for advice. He reminded me of my Emergency Response Plan. In my plan I had instructions on what to do if we had a system wide pressure loss and a form letter that I needed to post at various locations in the Village, on our website and social media that alerted customers that the Village had issued a boil water advisory. I also made use of our County's CodeRed alert system to send out a text message to everyone that had signed up for it in the Village that it was advised to boil Luck water before drinking it. I personally alerted our school and nursing home which brought in bottled water and local restaurants either used bottled water and bought ice or shut down for the day.

My next phone call was to my former WRWA circuit rider, Jeff LaBell. I quickly told him what happened and what I was doing about it. I think he said, "Sounds good and you better call your DNR rep and tell her what's going on." Which I immediately did.

NR 810.12 describes what a water supplier needs to do if distribution system pressure is lost in an area affecting 25% or more of the overall distribution system. It first requires that system pressure be restored as soon as possible. You then must notify the appropriate regional DNR representative as soon as possible and start emergency disinfection of the water supply if not already disinfected. As soon as adequate pressure is resumed the operator must collect distribution system



water samples from the area of pressure loss. No less than 2 samples must be taken, and an immediate boil water notice must be sent out to consumers as a Tier 1 notice. Please refer to NR810.12 for specifics.

As soon as the fire department was in a good spot with things under control, the utility began flushing hydrants throughout the water system as a precaution. We then took two bacteria samples at two sites in the distribution system. I believe it was from our school and grocery store. Our lab was able to report back to us quickly and within 48 hours the boil water advisory was lifted and we moved on to the next emergency.

A few interesting things resulted from this incident. One is that it took an event like this to realize we had undersized water mains supplying a large portion of the Village. All our "water makers" (the water tower and wells) are on the west side of the Village. Main Street, where the fire was, is located between the water makers and the residential portions to the east. Combine that with the fact that firefighting equipment has added quite a bit of pumping capabilities since the last big fire in Luck over 40 years ago. It explains the reason why the water tower was partially full during the fire fight and the village was left without pressure. The two water mains that supply the Village are too small and the pumpers were using all the water pressure and volume available to fight the fire and left the rest of the water system with none. Luck is planning on upsizing two key water mains that supply water to the Village from 6" to 12" and there were discussions of a new well that may be more productive than our current two wells and located on the other side of the Village.



**Some take aways for Luck from this experience are as follows:**

1. I'm glad I had my Emergency Response Plan up to date. In hindsight, I didn't take my ERP as seriously as I should have. I'm glad I was somewhat prepared. It assisted me during the emergency which in turn kept our customers safe.
2. I'm glad I had my WRWA circuit rider number in my cellphone. LaBell was willing to listen and let me bounce the situation off him. It was reassuring at the time to hear he thought I was doing it right.
3. I'm glad I had a good relationship with the volunteer fire department. When I described the pressure problem we were experiencing they were willing to make adjustments in an emergency that made things better for all of us.
4. I wish I would have been certain of what laboratories will do bacteria samples on weekends before this incident. If we hadn't had our results reported on a Saturday or Sunday, it would have made the rest of the weekend and Monday miserable for our customers.
5. I'm glad I kept an honest and open line of communication with my DNR representative. Regardless of anything, the public's safety is paramount. Following the rules and being proactive reduces the possibility of more problems and increases the potential for a good outcome.

It's experiences like this that make Wisconsin Rural Water employees so helpful to you in your daily work. Please reach out to your Circuit Rider when things pop up for help or at least to discuss the situation with someone who's been through it. *Seth*



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# Disinfection Byproducts

Todd Weich,  
WRWA Water Circuit Rider

What are the health concerns with drinking water containing TTHM or HAA5?

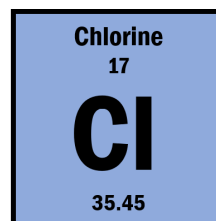
**E**ver since my career started with WRWA, I have given technical assistance to many water operators for their municipalities with taking water samples. Samples ranging from Bacteria, Florida, Lead and Copper, SOC, IOG, and DBP's, also known as Disinfection Byproducts. **Here are some common questions you may have as a water operator.**

**WHAT IS AN EXAMPLE OF A DISINFECTION BYPRODUCT?** Disinfection byproducts (DBPs) are produced when disinfectants, such as chlorine, chloramines, chlorine dioxide, and ozone, react with inorganic or organic matter. Common DBPs produced in drinking water include chlorate, chlorite, bromate, trihalomethanes (THMs), and haloacetic acids.

**WHAT IS DISINFECTION?** When Municipal Water Systems add chlorine to drinking water to kill or inactivate harmful organisms in a process called "disinfection." During this process, chlorine also reacts with

naturally occurring organic matter that may be present in drinking water. Chlorine disinfection byproducts (DBPs) can form during this chemical reaction. However, in many cases disinfection is needed to provide safe drinking water for the community. Believe it or not, there are approximately 55 Municipalities in Wisconsin that don't disinfect their drinking water. These Municipalities still produce safe drinking water and have a plan in place in the event of the water becoming contaminated.

What are the byproducts of chlorination disinfection? An assortment of disinfection by-products (DBPs) are formed such as trihalomethanes (THMs), haloacetic acids (HAAs) and halogenated acetonitriles (HANs) etc.,







when the naturally occurring natural organic matters (NOMs) present in raw water reacts with chlorine that may have an adverse health impact on humans.

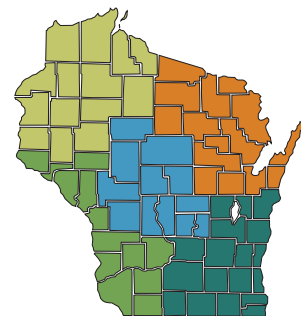
**WHAT ARE THE HEALTH CONCERNS WITH DRINKING WATER CONTAINING TTHM OR HAA5?** According to EPA, some people who drink water containing TTHM or HAA5 in excess of the established MCLs over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer. At present, however, there is no conclusive evidence linking DBPs in water with cancer or other health effects. However, there are at least 600 other DBPs identified in treated drinking water.

**WHAT DETERMINES THE CONCENTRATION OF DBPS FOR A WATER SYSTEM?** The amount of naturally occurring organic matter in your source water largely determines your DBP levels. However, the water system design and the way a system operates can also affect the DBP level. Groundwater systems usually have very low levels of naturally occurring organic matter, so the level of DBPs formed in the water is low. Surface water systems often have more naturally occurring organic matter and can have higher DBPs.

**WHAT CAN A WATER SYSTEM DO TO REDUCE THE AMOUNT OF DBPS FORMED?** Many water systems may be able to reduce the amount of DBPs formed without reducing public health protection by using one or more of the following methods:

- Remove or reduce the organic substances that react with the chlorine to produce DBPs.
- Reduce the contact time or the concentration of chlorine in the distribution system.
- Ensure adequate turnover in storage tanks and eliminate areas of stagnant water.
- Reduce the “water age” (the length of time water is in the distribution system).
- Change the location where they add chlorine or add booster chlorination.
- Use a different type of disinfectant.

Disinfectants other than chlorine have certain advantages and disadvantages and some form other types of DBPs. The ability to implement alternatives depends on the water quality history and resources available to your water system. Some of the other disinfections are Chloramines, Chlorine Dioxide, Ozone and Ultraviolet Radiation, also known as UV treatment. *Todd*



# WRWA

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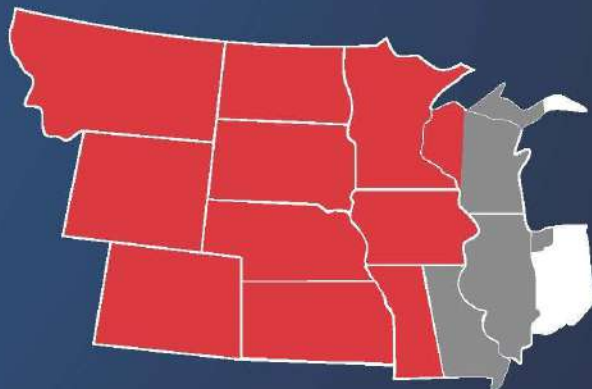
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Do you have a Water Utility Construction Project? Now is the time to act! Rates are at an all time low, and with the current pricing being opportunistic and taking action can result in benefits not only for yourself but for the customer as well. Consider the below items that detail positive reasons to act now that you can present to your governing body.

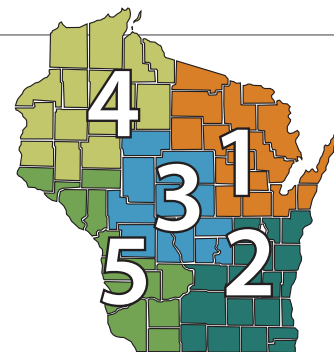
- Interest rates are at an all-time low.
- More project contractors are available, increasing the number of bids, potentially lowering project costs.
- Fuel costs are low, lowering pipe related costs.
- Most material costs for projects are down.
- Shipping costs for many have decreased.
- Road and water projects are easier to schedule due to decreased volume in traffic.
- Low construction costs and available contractors are not guaranteed to last.



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 Krakow Sanitary District #1  
 Lake Tomahawk Sanitary  
 District No. 1  
 Lakeland Sanitary District #1  
 \*\*Lakeland Village  
 Lakewood Sanitary District #1  
 Laona Sanitary District #1  
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 Ledgerview  
 Lena  
 Little Chute  
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 \*Marinette

Marion  
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 Menominee Tribal  
 \*Merrill  
 \*\*Merrill Area Public Schools  
 \*\*Natural Beauty Growers  
 New London  
 Niagara  
 Nichols  
 Oconto  
 Oconto Sanitary District #1  
 Oconto Falls  
 Oneida Nation Utility  
 Peshtigo  
 Phelps Sanitary District #1  
 Pound  
 Pulaski  
 Rhinelander  
 Russell Sanitary District #1  
 Scandinavia  
 Scott  
 Seymour  
 Shawano  
 Shawano Lake Sanitary District #1  
 Shiocton  
 Sister Bay  
 Sturgeon Bay  
 Suamico  
 Suring  
 \*\*Three Lakes Northernaire  
 Sanitary District  
 Three Lakes Sanitary District  
 \*\*Thunder Properties, LLC  
 Tigerton  
 Tomahawk  
 Wabeno Sanitary District No. 1  
 Waupaca  
 Wausaukee  
 Weyauwega  
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 \*\*Wisconsin Veterans Home  
 Wittenberg  
 Wrightstown  
 Wrightstown Sanitary District #1

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 Algoma Sanitary District #1  
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 \*\*Antioch Storage LLC  
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 Ashippun Sanitary District  
 \*\*Autumn Ridge Water  
 System, LLC  
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 \*Beloit  
 Beloit Sewer Department,  
 Town of  
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 \*Brookfield, Town of  
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 Browntown  
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 Cambria  
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 \*\*Cedar Crest Specialties Inc  
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 \*\*Concordia University Wisconsin  
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 \*\*Country Aire Mobile Home  
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 Country Estates Sanitary District  
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 \*Cudahy  
 \*\*Dakota Capital Park  
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 De Forest  
 Deerfield  
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 Delavan  
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 \*\*Don's Mobile Manor Inc  
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 East Troy, Village of  
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Westport	Owen	Glen Flora	<b>DISTRICT 5 (Southwest)</b>	Muscoda
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**Wheel Estates, Inc Mobile Home Park	Pittsville	Glidden Sanitary District	Alma	North Freedom
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*Whitewater	Plover	Grantsburg	Arcadia	Ontario
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# UP THE CREEK

## Getting Older

**Ken Blomberg,**  
*WRWA past Executive Director*

After more than 50 years of collecting worldly possessions, I've been told by my family it's time to downsize. Time has found me in an office and kennel, two hundred feet from our 100-year-old house in the country. An outbuilding built especially for my dogs and me in retirement. Now, after ten years, the office, kennel and attached garage is chuck full of lifetime memories. I knew this time would come. I must have, because years ago I wrote the following column for my weekly outdoor newspaper column;

"For lack of a better term, I'll simply call them things. You know, objects of great importance that one saves for pure personal reasons. For this old hunter, my collection of things is getting out of hand. Guns, knives, books, magazines, decoys, dog collars, hats, hunting vests and coats, framed pictures, photos, mounted deer heads and game birds, old calendars, old shell boxes, dog whistles and bells, and duck and goose calls. The boss affectionately refers to my things as junk. To that end, when I retired three years ago, we moved my things to a new kennel office – built large enough to house my treasured possessions.

Here I sit at my writing desk, surrounded by things that bring me great comfort. Hundreds of books and magazines at my fingertips – some I may never get around to reading. Three gun cabinets housing more guns than a man needs - and as we speak, I search for another vintage double barreled shotgun that's been on my bucket list for years. "What will that gun do that your other ones are incapable of doing?" the boss inquired. "Remember, my car needs new brakes."

My old duck decoy collection numbers 17. I lost track of the number of newer ones - stored elsewhere in the kennel. Oh, and the half dozen stashed in the blind down by our pond. And hunting clothes - vests, coats and hats - hanging throughout the building. Who doesn't need a good assortment of hats? Blaze orange ones, camouflaged ones and all other colors of the spectrum. Nearly 40 framed pictures, plates and plaques decorate the office walls. Select images of favorite bird dogs

from 42 years of ownership. A modest assembly of trophies and ribbons earned by them are on display - collecting dust just as well as several trophy deer heads and mounted gamebirds. And No. 2 son's trophy largemouth bass.

Antlers from over the decades. My first buck – a fork horn shot in the Chequamegon national forest. My two boys' first bucks. Others, too many for the office walls, are displayed alongside posters, fishing poles and license plates on the walls of the adjacent cluttered workshop.

Back in the office are a hodge-podge of tail feathers. Buster, my sidekick cocker spaniel's first grouse tail feathers. No. 1 son's first turkey fan and a woodcock. Sharptail, Hun and pheasant tail feathers from the past and several protruding out of a spent shotgun shell from the latest trip west.

Turkey, predator, deer calls and of course, an assortment of duck calls take residence in my office. I never mastered the highball call of a mallard, but could chuckle a feeding melody with the best of them. And if I could have a dollar for every goose I made turn its head over the years, well, a new used old gun would be in order. Among the calls in my possession is a treasured one that took on new meaning when the local paper announced the untimely death of Byron Herbert Shaw, professor emeritus at our local university. Many described Shaw as a nationally recognized trailblazing expert in water resources and went on to note, "he was also a wine-maker, a friend to hundreds, a wood-worker, farmer, canoeist, camper, hunter, and traveler." I knew Byron on campus back in the 70s, later professionally in the world of water resources and finally as a wood-worker. Several years ago while drooling over one of his handmade wooden canoes, I bought one of his handcrafted goose calls. This work of art remains one of my favorites and will forever bring its maker to mind when I use it or spy it on display.

An old hunter must prepare for the inevitable. A time when the body wears out and moments afield have diminished. A time when a good book will transport his weary body back to the sweet alder, aspen and



dogwood coverts – to the potholes and prairie grasslands he once knew so well. A time when his favorite double gun will only go as far as his lap and recliner – where he'll run an oily rag up and down the barrel, caress the walnut stock, dream of the past and smile.

Until then, this old hunter will continue to collect things made for lasting memories."

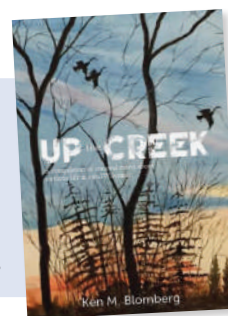
Now, as I sit at my writing desk my wonderful wife and daughter-in-law, bless their hearts, slave away deep cleaning the attached dog kennel. Already, they have cleared out much of the excess stuff. Dusty dog training equipment hanging on one of two wall peg boards will be sorted, stored or sold. They laughed at an old golf club driver resting on a peg board and said, "Must go!" A memory from a brief run on my high school golf team. Of late, it has served to open pocket windows out of reach on the wall over kennel runs. Soon, they and No. 2 son will begin the process of bringing a dozen or more plastic totes full of "things" into my office - one at a time. There, I will decide what must stay and what must go. Oh boy.

One of my favorite outdoor writers, the late Gene Hill wrote, "I am almost through my life and no one has ever asked me what I felt about the lunge of a bass, the flush of a grouse or the sudden appearance of a deer. No one will ever know, but you, how much I still miss my dogs that died. Or how hard I wish for the dream to live a special day or so all over again. Or how much I like to be alone. They don't understand

why I have lined a wall with guns that I almost never use. Why I save old boots and hats and hunting clothes. They don't understand that what is just an old coat is a memory to me. They see a man who is getting old. . .surrounded by old things. A worn-out-man. . . wearing worn-out boots and covered by a worn-out coat."



Autographed copies of Blomberg's *Up the Creek, Letters from Art and Wisconsin Bird Hunting Tales* are available from the author at [eaupleinekennels@gmail.com](mailto:eaupleinekennels@gmail.com).



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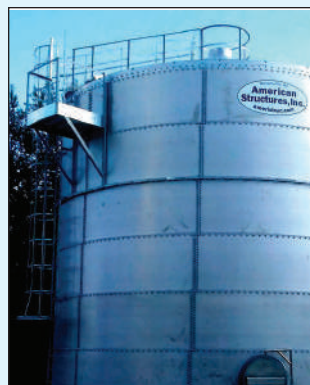
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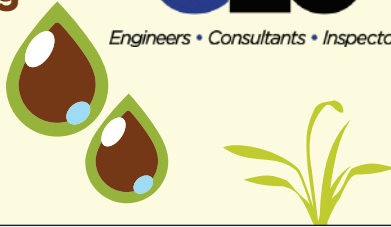
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