

JULY 2023 | Southern Iowa Rural Water Association

QUENCH

news by the glassful



HALF A CENTURY OF
Rural Water Service in Iowa

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ON THE COVER

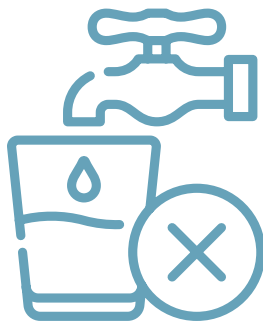
Hand-operated water pump and water well in rural America.

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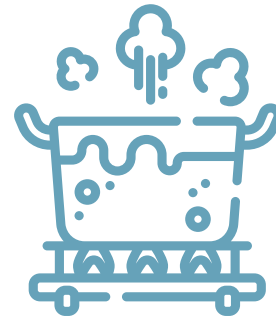
DRINKING WATER ADVISORIES

Drinking water advisories let people know that tap water could be contaminated and make them sick. Advisories tell people and entities about the situation and how to take immediate action, if necessary. Water systems in Iowa, upon direction of the Iowa Department of Natural Resources, issue these advisories when they have concerns about potential water contamination.



BOIL WATER ADVISORY

Issued when there is potential for bacterial contamination. Recommends to not drink the water without boiling it first or to use an alternative source. Boiling kills bacteria and other organisms in the water. Water may still be used for bathing and other similar purposes.



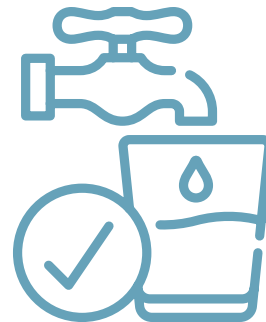
BOIL WATER ORDER

Issued when water may have the potential for bacterial contamination and high levels of nitrate, nitrite or manganese. Recommends using an alternative source for drinking or to boil water before using. Boiling water can make the nitrates, nitrite or manganese more concentrated because they remain behind when the water evaporates. Under this advisory, infants under 6 months old should not be given the water, even if boiled, or use it to make infant formula.



BOTTLED WATER ORDER

Issued when the levels of manganese may be above the Health Advisory Level. Water should not be used for drinking or cooking and recommends the use of bottled water or alternative source. Boiling water does not reduce the manganese level, it makes it more concentrated as it remains behind when the water evaporates. Do not give water to infants, children or adults.



ADVISORY LIFTED

There are specific sampling protocols that must be followed once an advisory has been issued. When samples have passed all criteria, customers will be notified that the advisory has been lifted. This can take anywhere from just a few days to several days depending on the level of contamination.



SOUTHERN IOWA RURAL WATER ASSOCIATION

2023 Annual Meeting Recap

Southern Iowa Rural Water Association (SIRWA) held their 48th annual meeting on Wednesday, April 19, 2023, at the Supertel Inn & Conference Center located in Creston. Coffee and cookies were served to the 20 members in attendance.

Ben Winters with Forge Financial & Management Consulting presented the audit of the 2022 financial statements. An unmodified report was issued citing no significant deficiencies or material weakness.

SIRWA concluded 2022 with assets of \$173,763,163 and liabilities of \$137,293,497. Liabilities increased roughly \$32,535,376 from the prior year due to interim financing draws for the water treatment plant project. 2022 operating revenues were \$12,913,355 with total expenses of \$9,170,381. The year end net position was \$90,569,209, an increase of just under \$3 million when compared to 2021. (FIGURES 1-2)

(FIGURE 3) SIRWA's service area covers an area 90 miles by 90 miles, providing service to 11,600 water customers, 7 bulk communities and 1,378 wastewater customers. Year end system totals reflected an increase in rural customers and a slight decrease in numbers for both city and wastewater customers. In total, 1,363,453,149 gallons of water was sold, up nearly 60 million gallons from 2021. SIRWA tracks water loss according to gallons supplied, gallons billed and gallons associated to leaks and flushing to determine unaccountable water loss. Unaccountable water loss for 2022 was 92,524,453 gallons or roughly 7.99%.

FIGURE 1

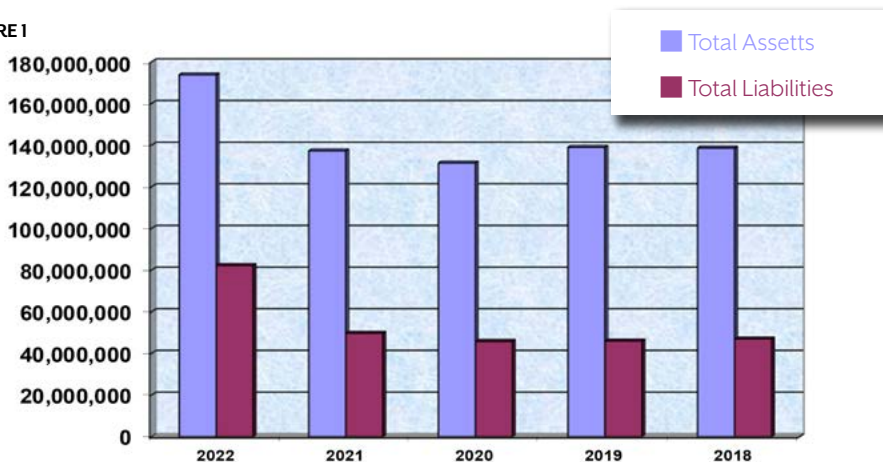
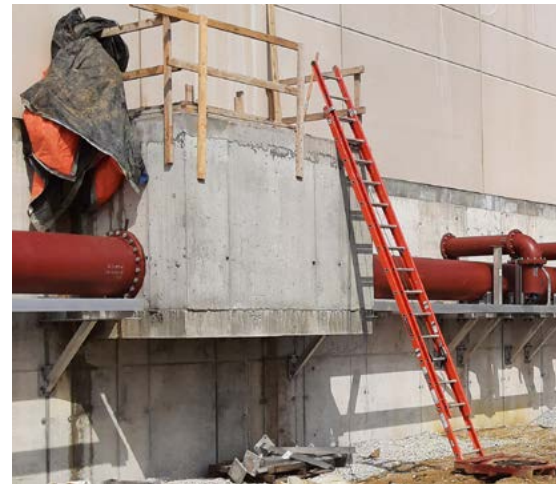
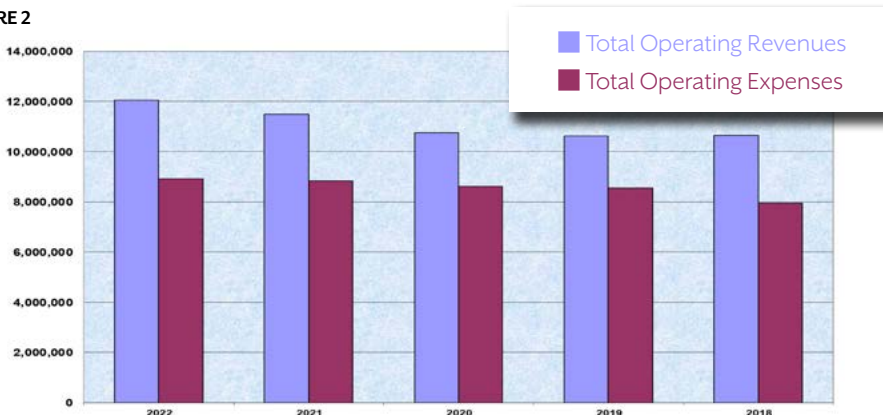


FIGURE 2



Several pump stations have gone through piping upgrades from PVC to ductile iron piping. System pressure will increase once the new, 1-million-gallon water tower comes online later this year. Pumps, control valves and electrical are also being updated as needed. These upgrades will ensure that the affected pump stations will withstand the additional pressure, making them safer and more reliable.

In the fall of 2021 work began on the new, 6 MGD water treatment plant east of Creston. The plant consists of approximately 20,600 square feet of precast concrete panels, 130,000 square feet of structural wall forming, 40,000 square feet of structural deck forming, 1,400 tons of rebar and 12,500 cubic yards Concrete. The plant will have 4 up-flow clarifiers and 6 granular activated carbon and sand filters. There is approximately 11,400 linear feet of site piping and over 65,000 linear feet of electrical conduit. A 2-million-gallon, ground storage reservoir is included in the plans along with a four-cell lagoon system. The new plant will draw water from 3-Mile Lake and can be expanded to produce 8 MGD for future growth.

The 1-million-gallon water tower included with the treatment plant project has been erected. The tower will be sandblasted and painted in 2023, and will be sterilized and filled when we are closer to plant start up.

Along with the new tower, 4.2 miles of 24" water main and 4.8 miles of 20" water main will be installed to complete the project.

SIRWA continues to work with the DNR on plans for rehabilitation of 3-Mile Lake. Improvements are to included watershed management,



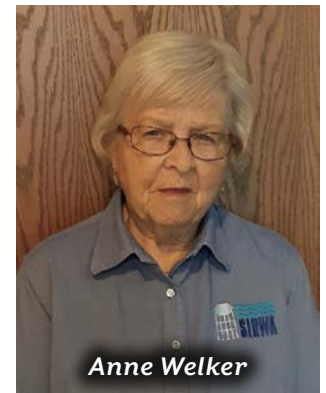
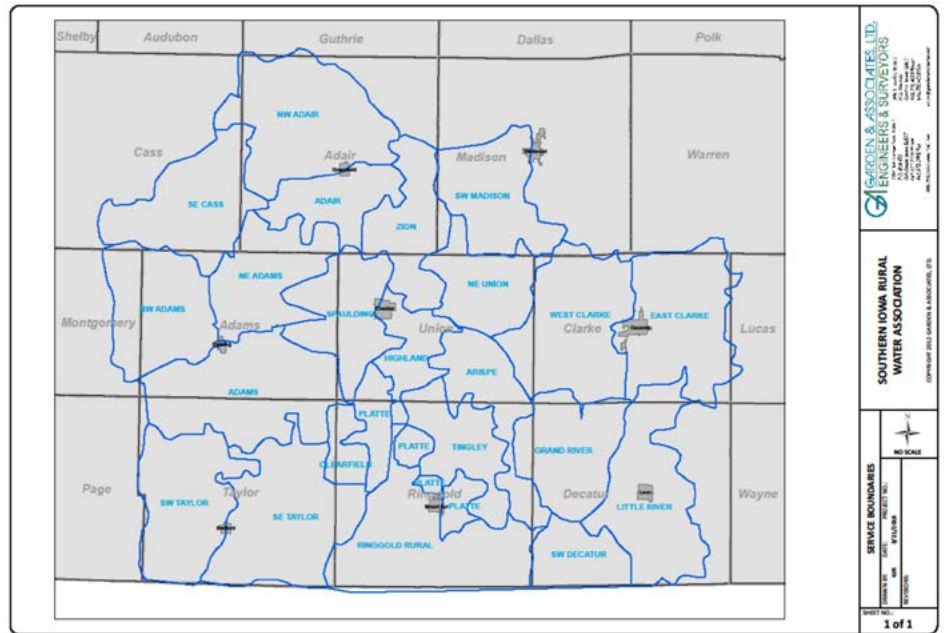
in lake restoration, shoreline armoring, wind/wave protection at the dock area, shoreline fishing access and fish habitat. The total cost of the project is \$3.3 million and SIRWA has contributed \$50,000 to date.

The Clarke County Reservoir Commission was formed in the early 1990s to explore the construction of a lake in Clarke County for water supply. The majority of the preliminary work has been completed and all of the necessary land for the 789-acre lake has been purchased. The Commission is currently working to secure Federal and State funding for the project.

Three Board member seats were up for election at this year's annual meeting; Adams and Montgomery Counties, Clarke, Lucas and Warren Counties and Ringgold County. The incumbents for all three seats were re-elected to fill these positions for a 3-year term. Tony Mullen will remain on the Board representing Adams and Montgomery Counties. Anne Welker will continue to represent Clarke, Lucas and Warren Counties and Joan Jackson will remain on the Board representing Ringgold County.



FIGURE 3



SAVE WATER IN THE YARD THIS SUMMER

As temperatures rise in the summer, so does our outdoor water use, mostly on lawns and landscapes.

29 billion gallons of daily household water use across the U.S.

9 billion gallons come from daily residential outdoor water use, mainly for landscape irrigation.

Water use spikes in the summer!

Depending on the region, homeowners use **30-60%** of their water outdoors.

50% of that is wasted, in part, due to overwatering.

Average family's water use: **320 gallons per day**

During the summer, can be up to **1,000 gallons per day**

Some even use up to **3,000 gallons per day**

—equal to leaving a garden hose running for nearly **8 hours!**

Simple Things We Can All Do

Step on it:

Step on the lawn: if the grass springs back, it doesn't need water.

Leave it long:

Longer grass promotes a more drought-resistant lawn, reduced evaporation, and fewer weeds.

Take a sprinkler break:

Grass isn't really meant to be bright green in the summer.

Simple Things Irrigation System Owners Can Do

Homes with automatic irrigation systems can use about **50%** more water outdoors.

Timing is everything:

Plan to water in the early morning or evening to beat daytime evaporation.

Go with a pro:

Contractors certified through a WaterSense labeled program can audit, install, or maintain home irrigation systems so no water is wasted.

Look for the label:

If your system uses a clock timer, consider upgrading to a WaterSense labeled controller that acts like a thermostat for your lawn, using local weather data to determine when and how much to water. They can reduce irrigation water use by 15%, saving nearly **8,800 gallons** of water per year.

Tune up your system:

Inspect irrigation systems, and fix leaks and broken or clogged sprinkler heads.

Make sure you're watering the lawn, not the sidewalk or driveway!

Just 1 broken sprinkler head could waste up to **25,000 gallons** of water and **\$90+** over a 6-month irrigation season — the cost of about 300 daffodil bulbs.



WaterSense, a partnership program by the U.S. Environmental Protection Agency, seeks look for to protect the future of our nation's water supply. For more tips on reducing outdoor water use, visit www.epa.gov/watersense/outdoor.

RURAL WATER – The Hydraulic Truth

As customers look at the vast infrastructure of SIRWA water lines that cover southern Iowa, many believe that if there is a water line there, there should be plenty of water to meet their demand. This is far from the hydraulic truth. All new services are subject to hydraulic analysis before being permitted and installed.

SIRWA's piping system is best described as a tree. It starts with the largest diameter piping at the trunk, getting smaller as it branches out. This eliminates water from becoming stagnant at the ends of the lines with fewer customers, forcing SIRWA to flush the water onto the ground and wasting a valuable resource. The size of the pipe is factored into the analysis of potential supply.

Elevation also comes into the hydraulic analysis of whether another service may be added to our system.

For every 2.31 feet of elevation drop, 1 pound of water pressure is created. Five customers on the same water main could all have different amounts of pressure according to their elevation. If all five are taking water at the same time, the customer at the top of the hill could experience very low pressure. In a worst-case scenario, if system pressure is not adequate for the number of customers on that line, pressure could drop to unsafe levels which is 20 pounds as mandated by the IDNR.

SIRWA's Application for Water Service asks what the requested water service will be used for; existing home, new home, livestock or other. Your answer will determine the amount of monthly usage which is also used in when determining if the system is adequate to supply your particular location.

Existing customers should call our office with any planned increases in future water usage. An increase in usage other than what was originally applied for could impact your neighbor's safety and water supply if outside of what the system can handle in your area.

The hydraulic truth is that much more goes into your water supply than installing pipe and turning on the faucet.

SUMMER

Corn on the Cob

While corn on the cob, a little salt and butter make a perfect pair, we think it's time to liven things up this summer! Try any (or all!) of these delicious variations on your standard corn on the cob. This is not your mama's corn on the cob anymore!

2. BASIL + PARMESAN

Think sweet grilled corn on the cob, brushed with a layer of basil pesto, then coated with freshly grated Parmesan cheese. Sweet summer perfection!

Basil Vinaigrette

- 1 shallot, roughly chopped
- ½ tsp red pepper flakes
- 2 cups tightly packed fresh basil leaves, stems removed
- ½ cup olive oil
- 2 TBL red wine vinegar
- 1 clove garlic
- 1 tsp salt

Combine all the ingredients in blender and blend for about 60 seconds until very smooth.

Preheat grill to high heat. Pull the husk down and keep it on to use for holding. Grill the corn until charring starts. Remove from grill. Brush the basil vinaigrette onto the corn and then sprinkle with parmesan cheese. Serve immediately.

4. SRIRACHA + BEER BUTTER

Whether you use an IPA, or prefer to stick with your favorite lager or wheat beer, Sriracha beer butter sounds like the ultimate grilled corn topping

Sriracha Beer Butter

- ½ cup unsalted butter, cubed
- 3 TBL IPA beer
- 1 tsp sriracha
- ½ tsp garlic powder
- ¼ tsp kosher salt.

In a stand mixer fitted with a paddle attachment beat the butter until light and fluffy. Add the beer, sriracha, garlic and salt. Beat until well combined. Place butter mixture onto plastic wrap, roll tightly into a log and refrigerate at least 1 hour. Preheat grill. Brush corn with olive oil and sprinkle with salt and pepper. Grill on all sides until lightly charred and tender, about 8–10 minutes. Remove from grill and top with several slices of butter and sprinkle with some chopped cilantro.

1. MEXICAN-STYLE

Top corn on the cob with chili powder, cotija cheese, cilantro, lime juice, and a touch of mayo (you can also substitute butter), to make this Mexican-style street food at home.

Mexican Corn on the Cob

- 2 tsp chili powder
- ¼ cup grated cotija cheese
- lime juice
- ¼ cup freshly chopped cilantro leaves

Preheat oven to 350°F. Place corn, in its husks, directly on the oven rack. Roast until tender and cooked through, about 40–45 minutes. Peel down the husks.

Rub each ear of corn with 1 TBL mayo (or butter). Sprinkle the chili powder, cotija, cilantro and lime juice. Serve immediately.

3. CHIPOTLE + HONEY + BACON

Give your corn on the cob a true Iowa flair by adding bacon!

Chipotle Honey Glaze

- ¼ cup canned chipotle peppers
- ¼ cup honey
- ¼ cup butter, melted.

In food processor or blender, pulse peppers until smooth. In a bowl, combine pureed peppers, honey and butter. Wrap bacon around each corn and secure with toothpicks. Liberally brush bacon wrapped corn with chipotle-honey glaze. Spray grill grates with cooking spray and set on medium. Grill corn, turning every 2 to 3 minutes and basting regularly with glaze, for about 20 to 25 minutes. Serve immediately.

Just a few fun summer recipes to try! One more idea, you can make your own honey butter to serve with grilled corn by mixing a little unsalted butter, honey, olive oil and parsley flake. And remember, corn is not just for the cob! Search online for a great Watermelon Corn Salsa or Roasted Corn Guacamole.

Information credit to:
<http://www.thekitchn.com/5-must-try-delicious-ways-to-liven-up-grilled-corn-tips-from-the-kitchn-205793>

HALF A CENTURY

By Gregory Huff

OF RURAL WATER SERVICE IN IOWA

1968 was a historic year. Some of the year's events were tragic, such as the assassinations of Martin Luther King, Jr. and Robert F. Kennedy, as the war in Vietnam raged on. There were also historical highlights: the Olympic Games were held in Mexico City, Led Zeppelin first performed live, and on Christmas Eve Apollo 8 carried humans around the moon for the first time.

While all of that was going on, a small group of farmers in Sioux County, Iowa began forming the first rural water system in Iowa, which to this day is known as Rural Water System #1 (RWS#1). The founders of RWS#1 saw a need and began a door-to-door grassroots campaign to convince their neighbors that building a rural water system in the area would solve their water quality and quantity issues.

This concept soon spread to other northwestern counties in Iowa, and throughout the southern counties as well. For the most part, these areas were dealing with shallow alluvial aquifers that were highly susceptible to dry spells, and/or the quality of the water from existing supplies was not desirable. Rural (sometimes also referred to as regional) systems had already been formed in other midwestern states, and the Iowa rural water pioneers had a vision that this "long-pipe" type of system could be the solution for them.

As more local groups began to form, they followed the same process, going door to door visiting with their neighbors, asking them to fill out an interest survey and pay a \$25 fee to help fund the initial system expenses. They also reached out to the USDA Farmers Home Administration (FmHA) for funding. A decade earlier, in 1961, federal legislation had been passed authorizing the establishment of the Water and Waste Disposal Program. In order to receive funding, 80 percent of eligible households within the planned service area had to sign up. The start-up rural water systems also had to hire an engineering firm to develop a Preliminary Engineering Report (PER) to determine the potential feasibility of the project and estimated costs.

FILLING A NEED

In 1970 Paul and Karla Gunzenhauser were newlyweds who built a home and began farming north of the City of Garden Grove in Decatur County. This area in south central Iowa had a history of difficult water issues. They drilled a shallow alluvial well 30 feet deep on the property. Unfortunately, they soon discovered that the well would run dry after pumping around 300 gallons. They would then have to wait for the well to recharge (fill with water again). To expedite the process, especially during dry weather, Paul would have to drive to the nearby City of Humeston and buy 300 gallons of water once or twice a week and refill the well to speed up the recharging process. It became more difficult with the arrival of two children, and Paul said it was hard for them to have guests overnight due to the shortage of water. Additionally, the natural water from the well was mineralized, which made it unpleasant to use.

Paul heard about an effort to form a regional water system in nearby Appanoose, Monroe, Lucas and Wayne Counties to the east. In 1974 he approached the Rathbun Regional Water Association (RRWA) to see if they would be willing to add Garden Grove Township in eastern Decatur County to the project. He was told that if he could get his neighbors to sign up, they would be added. Paul recalls that it wasn't hard to get sign-ups as his neighbors were in the same predicament he was. A couple of years later Rathbun water started flowing to his farm, first from the Humeston reservoir, and eventually from Lake Rathbun when the treatment plant was completed. Paul fondly remembers that one of the first things he did was wash his new truck with Rathbun water.

A year or so later, he began watering his approximately 100 beef cows with Rathbun water. They had previously used a farm pond for the cows. Paul now lives in Humeston and owns The Old Print Shop mini mall in the same building where his grandparents printed the local newspaper when he was young. For Paul and his family, getting Rathbun water was lifechanging.

A RELIABLE SOURCE

In 1974, Ron Dieleman and his wife Carolyn purchased his father's farm where Ron grew up. They grew row crops and farrowed around 20 sows every month. Located a mile-and-a-half from the South Skunk River in northern Mahaska County, the farm had a 120-foot well that produced hard water. Prior to 1947, they had to hand-pump the water from the well. In 1947 the REA from Pella began providing electricity to the farm. Unfortunately, their farm was near the end of the service area, so they were susceptible to any power outage that occurred along the line.

Luckily for them, the same year they purchased the farm, the Mahaska Rural Water System (MRWS) was formed in Oskaloosa, the Mahaska County Seat. They signed up when they heard about rural water, and several years later when the MRWS treatment plant was completed north of Oskaloosa, the piped water began flowing to their farm. They used the water for their household and for mixing herbicides. Ron recalls the herbicides were much more effective without the iron from the well, and MRWS's water was also easier on the equipment.

Ron also mentioned that their water supply became much more reliable—even if the power was out, the water was still available from the Mahaska Rural Water System. Ron now lives in Pella, but remembers MRWS with great appreciation for the service it provided to his home and farm.

WE WERE SICK ALL OF THE TIME

In 1975, the Southern Iowa Rural Water System (SIRWA) was formed in Creston, Iowa. Over the years, they have received numerous letters from their customers thanking them for providing a safe, reliable source of water to families throughout south central and southwestern Iowa. One such letter was written by Nick Lacina in the late 1990s. Nick recounted that prior to hooking on to SIRWA, his family often were sick with flu-like symptoms. They had their well tested and discovered that it was unsafe to drink the water. The well also did not have the capacity to reliably supply the family with enough water for washing and toilet flushing, so at the most inconvenient times he would have to haul water to the well to recharge it. They also raised pigs. Nick recalled that when the piglets would get cuts or sores on them, they would get infected and not heal quickly when they were using water from the well. After their connection to SIRWA, he said the pigs started doing better, and these issues were no longer a problem.

RURAL (REGIONAL) WATER IN 2023

Today there are 19 Rural (Regional) Water Systems in Iowa covering all or parts of 72 counties. Hundreds of thousands of households, businesses, farms and other facilities rely on these systems to provide them with clean, safe water around the clock. These systems also partner with over two hundred communities in Iowa, either supplying water to communities or—in some cases—purchasing water from communities to supply water throughout the region. These systems continue to grow each year as more houses are being built, and farms and rural businesses start up or expand. Nowadays, many of us take our water systems for granted, but for those who remember what their lives were like before they had rural water, they still count their blessings that they signed up when rural water was just getting started in their area.

Fun fact: Ron Dieleman's daughter Cathy Law has worked for the Iowa Rural Water Association for over 20 years, and serves as Member Services and Events Coordinator for IRWA. She is also the Editor of Quench magazine!



Iowa's Rural/Regional Water Systems

Year Founded/Incorporated

Cherokee County Rural Water District	1972
Iowa Lakes Regional Water	1977
Iowa Regional Utilities Association	1977
Lyon & Sioux Rural Water System	1970
Mahaska Rural Water System	1974
Marion County Rural Water District	1979
Osceola County Rural Water System	1978
Poweshiek Water Association	1977
Rathbun Regional Water Association	1972
Regional Water	1972
Rock Valley Rural Water District	1982
Rural Water System #1	1969
Southern Iowa Rural Water Association	1975
Southern Sioux County Rural Water System	1977
Southwest Regional Water District	1980
Wapello Rural Water Association	1973
Warren Water District	1978
West Central Iowa Rural Water Association	1970
Xenia Rural Water District	1978

What Do I Need to Know About PFAS?

By Aaron Schroeder – Source Water Specialist – Iowa Rural Water Association

As an ever-increasing hot topic, you might've heard mention of "PFAS" contamination in drinking water in the past few years. High-profile PFAS contamination events continue to occur, and as a result, there have been many films and documentaries about the subject recently. Unsurprisingly, PFAS has also been a subject of discussion at numerous water industry events and trainings. But in the last couple of years, "PFAS" is a term that more and more members of the public have at least heard. But for those who don't know — what exactly is PFAS?

SO, WHAT IS PFAS?

"PFAS" is an acronym for Per- and Polyfluoroalkyl Substances. These Per- and Polyfluoroalkyl Substances are a group of chemicals that are used in, or a by-product of the manufacturing of a multitude of products — many that are used every day. PFAS containing products range from water resistant clothing and non-stick cookware to fire-fighting foams and pesticides. PFAS has been used in the manufacturing of

consumer products since the 1940's, so as you might imagine, completely avoiding PFAS containing products would be difficult. PFAS molecules are held together by a bond of carbon and fluorine atoms, which does not break down easily. As a result, PFAS chemicals tend to "bioaccumulate" — meaning they accumulate in living organisms at a rate faster than they are excreted. For these reasons, you might have heard the term "Forever Chemical" used to describe PFAS.

WHY SHOULD I BE CONCERNED?

High levels of PFAS have been found to have adverse health effects in humans including increased cholesterol levels, increased risk of cancers such as kidney and testicular cancer, changes in liver enzymes, and issues for pregnant women including high blood pressure and low birth weight. Further research into the health effects of PFAS is ongoing.

As mentioned, PFAS chemicals don't break down easily and can originate from a variety of everyday products and sources. According to the Centers for Disease Control and Prevention (CDC), there are currently over 9,000 (and growing) known PFAS chemicals.

Screenshot of the Iowa DNR's Interactive PFAS Sampling Map





A 2015 report by the CDC concluded that PFAS can be found in the blood of 97% of Americans. As regulations and lawsuits take hold, specific chemicals are taken out of use, and often are simply replaced by a new PFAS chemical.

WHAT IS CURRENTLY BEING DONE?

Research dating back to the 1960's correlates PFAS exposure to negative health effects on humans. The known health effects are typically related to high levels of exposure,

however, PFAS exposure for most individuals is relatively low. Currently, research is being done into the health effects of low-level exposure over long periods of time.

From October 2021 to December 2022, the Iowa Department of Natural Resources (DNR) tested 116 public water supplies statewide, accounting for around 46% of Iowa's population. Both raw and finished water were tested for twenty-five PFAS chemicals, four of which currently have established health advisory levels. Twelve percent of the finished water samples reported concentrations above the health advisory levels.

There is an interactive map showing testing locations and results available on the Iowa DNR's website.

During a designated 12-month period from January 2023 to December 2025, all public water supplies serving 3,300 or more people will monitor their drinking water for 29 of the most common PFAS chemicals. Additionally, 18 randomly selected small systems in Iowa will perform the same PFAS monitoring by the end of 2025. In addition to EPA's PFAS sampling efforts, the Iowa DNR will continue to sample for PFAS at small alluvial systems in Iowa over the next two years.

Private wells in Iowa are eligible for funding for PFAS testing through the Grants-to-Counties program. Funding requests must be submitted by the county sanitarian and approved by the Iowa Department of Health and Human Services. Private well samples must be collected by trained staff and analyzed by PFAS-certified laboratories.

The Environmental Protection Agency (EPA) is in the process of establishing legally enforceable Maximum Contaminant Levels (MCLs) for six PFAS compounds nationwide. This would require monitoring, public notification, and reduction of these compounds by the public water supply should they exceed the established MCLs. The regulations are expected to be finalized by the end of 2023.

As mentioned, the water industry and water utilities in Iowa are at the forefront of detection and notification of PFAS chemical presence. It is important to reiterate that PFAS can be traced to many different sources, and water is only one of the ways PFAS can enter the human body.

THE FOLLOWING IOWA DNR AND EPA RESOURCES WERE USED IN DEVELOPING THIS ARTICLE

- <https://www.iowadnr.gov/About-DNR/DNR-News-Releases/ArticleID/4446/Iowa-Department-of-Natural-Resources-releases-summary-of-PFAS-sampling>
- <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>
- <https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas>
- https://www.iowadnr.gov/Portals/idnr/uploads/water/pfas-files/PFAS%20Summary%20March2023_New.pdf



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WATER MATTERS: Trash It, Don't Flush It

When inappropriate items are flushed down the toilet or poured down the drain, it damages your community wastewater treatment facility. Our facilities are not designed to remove items other than human wastes. Flushing certain household products, instead of tossing them in the trash, can clog drainpipes, contaminate the water system, or even cause environmental damage. Please flush wisely by only putting toilet paper, water, number one and number two in your toilet for disposal.

Here is a Top Five list of "What NOT to Flush":

1. "Flushable" Wipes

Although the package might state otherwise, flushable wipes are NOT flushable. Just because they can go down the toilet does not mean they should go down the toilet. Wipes are not made of materials that break down quickly, they can easily get stuck in drains and cause clogs. They also wreak havoc on treatment plant filtration systems. If you wish to use wipes, keep a lined trash can in your bathroom and dispose of wipes there instead.

2. Paper Towels and Tissues

If you've run out of toilet paper, paper towels and facial tissues are not a suitable substitute. These paper products were designed to absorb water, not dissolve in it like toilet paper, so they're more likely to block up your pipes. Always dispose of paper towels and tissues in the garbage, not the toilet.

3. Medications and Other Hazardous Materials

To help prevent water pollution, never flush medications or potentially hazardous household materials (such as paint and some cleaning products, including cleaners for ovens, windows, and tile) down the toilet. According to the Food and Drug Administration, the best way to dispose of unused or expired medicine is to drop it off at a drug take-back site. For household hazardous waste, the Environmental Protection Agency suggests locating a collection program in your community that can help you recycle or dispose of the materials safely.

4. Fingernail Clippings and Nail Polish

Just because fingernails are an organic matter, doesn't mean it won't hurt the environment. Unfortunately, it does. Similar to dental floss, nail clippings can form with other things and create a giant ball of blockage in the sewage network trapping unwanted odors in your plumbing or clogging up a filtration system. Nail polish is another substance that does not dissolve in water but hardens causing serious blockage potential. In addition, it is a hazardous material that contaminates the environment.

5. Kitty Litter

Unlike human variety, feline waste should never go in the toilet. Flushing cat litter or waste down the toilet can introduce potentially harmful parasites into the water supply, while the litter can absorb water and clog pipes. Always bag and dispose of cat litter and waste in the trash.

It's important to remember that a toilet is not a replacement for your garbage can. Protect your plumbing and your wastewater treatment plants by following these guidelines.