JULY 2023 | Osceola Water Works

QUENCH

news by the glassful

HALF A CENTURY OF *Rural Water Service in Iowa*

CONTENT

ON THE COVER

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

QUENCH
news by the glassful

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QUENCH Magazine is published 2 times per year by the Iowa Rural Water Association (IRWA). The magazine is distributed by mail to IRWA members' consumers.

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2022 WATER QUALITY REPORT

This report contains important information regarding the water quality in our water system. The source of our water is surface water.
Our water quality testing shows the following results:

CONTAMINANT	MCL (MCLG)	COMPLIANCE		DATE SAMPLED	VIOLATION (Yes/No)	SOURCE
		TYPE	VALUE (RANGE)			
Total Trihalomethanes (ppb) [TTHM]	80 (N/A)	LRAA	28.00 (19 - 42)	01/12/2022	No	By-products of drinking water chlorination
Total Haloacetic Acids (ppb) [HAA5]	60 (N/A)	LRAA	23.00 (11 - 40)	01/12/2022	No	By-products of drinking water disinfection
Copper (ppm)	AL=1.3 (1.3)	90th	.12 (ND - 0.17)	2021	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	AL=15 (0)	90th	.002 (ND - .01)	2021	No	Corrosion of household plumbing systems; erosion of natural deposits
950 - DISTRIBUTION SYSTEM						
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	2.9 (2.11 - 3.7)	12/31/2022	No	Water additive used to control microbes
Total Coliform Bacteria	TT (TT)	RTCR	2 sample(s) positive	11/30/2022	No	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other waterborne pathogens may be present, or that a potential pathway exists through which contamination may enter the drinking water.
01 - S/EP FROM WEST LAKE						
Sodium (ppm)	N/A (N/A)	SGL	27	07/13/2022	No	Erosion of natural deposits; Added to water during treatment process
Turbidity (NTU)	N/A (N/A)	TT	.34 100% of samples meet turbidity limits	8/1/22	No	Soil runoff
Fluoride (ppm)	4 (4)	SGL	.74 (.50 – 1.02)	09/01/2022	No	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Atrazine (ppb)	3 (3)	SGL	<.001	01/05/2022	No	Runoff from herbicide used on row crops
Nitrate [as N] (ppm)	10 (10)	SGL	<0.125	2022	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon TOC ppm	N/A	TT	1.4 (1.05 – 1.86)	2022	No	Naturally present in the environment

NOTE: Contaminants with dates indicate results from the most recent testing done in accordance with regulations.

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Continued from page 3

DEFINITIONS

- **Maximum Contaminant Level (MCL)** — The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Maximum Contaminant Level Goal (MCLG)** — The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **ppb** — parts per billion.
- **ppm** — parts per million.
- **pCi/L** — picocuries per liter
- **N/A** — Not applicable
- **ND** — Not detected
- **RAA** — Running Annual Average
- **Treatment Technique (TT)** — A required process intended to reduce the level of a contaminant in drinking water.
- **Action Level (AL)** — The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Maximum Residual Disinfectant Level Goal (MRDLG)** — The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Maximum Residual Disinfectant Level (MRDL)** — The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **SGL** — Single Sample Result
- **RTCR** — Revised Total Coliform Rule
- **NTU** — Nephelometric Turbidity Units

GENERAL INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water posed a health risk. More information about contaminants or potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. OSCEOLA WATER WORKS is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

COLIFORM ASSESSMENT

During the past year we were required to conduct1 Level 1 assessment to determine the cause of bacteria in our distribution system. Corrective actions have been taken to address these issues. No heath concerns were identified.

A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

SOURCE WATER ASSESSMENT INFORMATION

This water supply obtains water from one or more surface waters. Surface water sources are susceptible to sources of contamination within the drainage basin.

Surface Water Name	**Susceptibility**
West Lake	High

OTHER INFORMATION

Turbidity is an indicator of treatment filter performance and is regulated as a treatment technique.

CONTACT INFORMATION

For questions regarding this information or how you can get involved in decisions regarding the water system, please contact OSCEOLA WATER WORKS at 641-342-1435. Decisions are made at the water board meetings held on the 1st Thursday of each month at 5:30P.M. The meetings are at the Water Works office located at 208 West Jefferson Street in Osceola and the public is encouraged to attend. You can receive a printed copy of this information at the Water Works office. Copies are also available online at osceolawaterworks.com

YOU CAN MAKE A DIFFERENCE: Water Conservation Tips

Next to air, water is the most important element for the preservation of life. Water is a finite commodity which, if not managed properly, will result in shortages in the near future. Water conservation can go a long way to help alleviate these impending shortages.

LEAKS CAN BE COSTLY

- Check your toilet for leaks. This test is easy. You just add a few drops of food coloring in your toilet tank. If, without flushing, the coloring begins to appear in the bowl, you have a leak that may be wasting in excess of 100 gallons of water a day.
- Check faucets and pipes for leaks. Leaks waste water 24 hours a day, seven days a week Even a small drip can waste 50 or more gallons of water a day.
- Finding leaks elsewhere: Check for leaks in outdoor hoses faucets and couplings
- Leaks outside the house are easier to ignore since they don't mess up the floor or keep you awake at night. However, they can be even more wasteful than inside water leaks especially when they occur on your main water line.

SPEEDY CLEAN

IN THE BATHROOM:

- Take shorter showers. A typical shower uses five to ten gallons of water a minute. Limit your showers to the time it takes to soap up, wash down and rinse off.
- Install water-saving shower heads or flow restrictors. Your hardware or plumbing supply store stocks inexpensive shower heads or flow restrictors that will cut your shower flow to about three gallons a minute instead of five to ten. They are easy to install, and your showers will still be cleansing and refreshing.
- Take baths. A partially filled tub uses less water than most showers.
- Turn off the water while brushing your teeth. Before brushing, wet your brush and fill a glass for rinsing your mouth.
- Turn off the water while shaving. Fill the bottom of the sink with a few inches of warm water in which to rinse your razor.

IN THE KITCHEN:

- Cut water use while cooking and washing dishes. Don't let the faucet run while you clean vegetables. Instead, rinse your vegetables in a bowl or a sink full of clean water.
- Use your automatic dishwasher for full loads only. Running your dishwasher less often saves water and money. (This goes for automatic laundry washing machines as well)
- If you wash dishes by hand, don't leave the water running for rinsing.
- If you have a two-tub sink, fill one side with soapy water and the other with rinse water, avoiding the constant run of the faucet.
- If you have a one-tub sink, first gather all your washed dishes in a dish rack within the tub basin, then rinse them quickly with a spray device or a pan of water.

WEED OUT LAWNCARE WASTE

- Water your lawn during the cool parts of the day. Early morning is better than dusk since it helps prevent the growth of fungus.
- Plant drought-resistant trees and plants. Many beautiful trees and plants thrive without irrigation.
- Put a layer of mulch around trees and plants. Mulch slows the evaporation of moisture.
- Broom off driveways, sidewalks and steps. Using a hose wastes hundreds and hundreds of gallons of water.

Have Questions?

If you have questions or would like to talk to a Water Works representative, please feel free to call: (641) 342-1435 or go to www.OsceolaWaterWorks.com or email: osceolawater4@windstream.net

OSCEOLA WATER WORKS

From The Lake To Your Glass

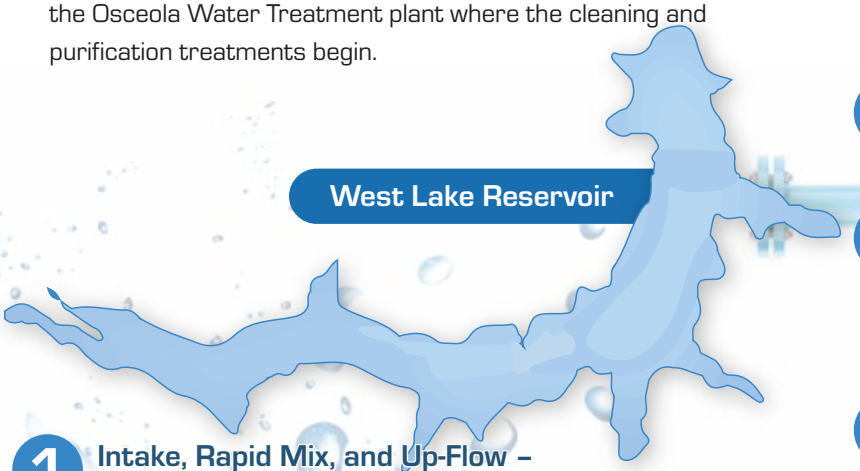
and Everything In Between...

On a hot day there's nothing better than a cool, clean glass of water. Throw in a couple ice cubes and it's pretty close to perfect – perfect for hydration, for taste, for health, and refreshment. **But did you ever stop to think about HOW the water you get from the tap actually gets there?**

Thanks to the crew at your Osceola Water Works, you're able to partake in some of Iowa's highest quality water without buying a single bottle, or pesky filters or softeners.

West Lake Is Where It All Starts

The water has to come from somewhere, right? Well, in Osceola's case, West Lake is the source. "Raw" water is drawn from **West Lake Reservoir**, which is fed by Squaw Creek just northwest of the city. At 306 acres, considered a fairly small reservoir to most cities, West Lake provides a water storage pool of 3,800 to 4,200 acre-feet. To give you an indication of how much water that is, **1 acre-feet is equal to 325,851.4 US gallons.** Intakes at 12" and 20" below the normal pool feed into the Osceola Water Treatment plant where the cleaning and purification treatments begin.



3 Million Gallons of Water per day

Once the water is drawn to the treatment plant, it's taken through an involved sanitizing and purification process. Up to 3 Million Gallons per Day runs through dozens of levels of treatments and filters. For your convenience we have broken the major stages down into the following six steps:

1 Intake, Rapid Mix, and Up-Flow –
Initially there is an Addition of ferric sulfate at a rapid mix in the raw water line to remove phosphorous and impurities. And at the two Up-flow Clarifiers, Chlorine Dioxide and Cationic polymer are injected to start the reactions necessary to effectively clarify the water

2 8 High-Tech Gravity Filters -
Water is then sent on and filtered through eight dual-media gravity filters containing one-foot sand and two and one half foot granulated carbon. Much like water filters you can attach to your faucets or other systems, this is a proven quality filtering system that can handle the millions of gallons sent through it each day.

3 Clear Wells – In two mid-way sections called "Clear Wells," chlorine is added to further adjust for pH levels before sending the water on to the Ground Storage Reservoir.

4 On To Ground Storage Reservoir (GSR) –
Here, ammonium sulfate is added after the contact chamber within the GSR to convert to chloramines in order to reduce the potential for trihalomethane production in the distribution system. Fluoride is added after the GSR.

5 Transfer To Storage –
Plant storage includes an existing 60,000-gallon clear well, a new 80,000-gallon clear well and a 1.5 million gallon ground storage reservoir. There are three transfer pumps from each clear well to the ground storage reservoir and three high service pumps to pump water from the GSR to the distribution

6 Distribution – While most of the previous process goes unnoticed, you've probably seen the following pieces looming high over town. Two elevated storage tanks serve Osceola's distribution system - a 300,000 gallon tank in the center of the town and a 500,000 gallon tank located in the Industrial Park on the west side of town. The water is pumped from the treatment plant up town to the residents and the towers. The same pipe that pumps the water to the towers also feeds the water coming back out to the residents. Once the towers are full, the pump shuts off and gravity takes care of the rest. And with over 1.3 Million gallons of water being used by Osceola residents on a daily basis, that's one heck of a cycle to manage.

OSCEOLA WATER WORKS

208 W Jefferson St., Osceola, Iowa 50213

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Have Questions?

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or go to **www.OsceolaWaterWorks.com**
or email: **osceolawater4@windstream.net**

Turn On The Tap!

So, go ahead. Get that cool, clear drink of water. You can do it knowing that the Osceola Water Works has you covered. The water you drink is taken from everyday lake water to that clean, clear, refreshing drinking water right in your glass. The water you use to bathe, the water for lawns and for other various needs will be there, thanks to the Osceola Water Works and their dedicated team.

Water Works Fact:

Osceola Water Works cares for over 300,000 feet of water main and delivery lines in the distribution system. Pipes range in size from 2" all the way to 16". This massive grid of iron carries the water to over 5,000 Osceola residents, hundreds of businesses, and keeps the water flowing for emergencies and other demands. Osceola water works maintains 347 fire hydrants and approximately 990 gate valves.

Water Works Board Lowers Conservation Restrictions; *Voluntary Monitoring Necessary*

(OSCEOLA, IA – MAY 12, 2023) The Osceola Water Works Board met for their regular monthly meeting and determined that the West Lakes water level which is now at 1069.83, where 1,072 MSL (Mean Sea Level) is considered "Full Pool," the Board decided to exit Section 2 and enter Section 1. Conservation Ordinance Section 1 asks the community to voluntarily monitor and conserve water as much as possible.

"We want to make sure everyone is aware we're still asking our customers to watch their water usage and to reduce waste, but some of the restrictions have been lightened until further notice," said Brandon Patterson, Osceola Water Works Superintendent.

WATER WATCH – Voluntary Conservation Measures Include:

A. Reduced watering lawns, shrubs, or gardens, including automatic sprinklers

B. Reduced outdoor watering of all types between the hours of 8:00 A.M. and 10:00 P.M.

C. Reduced car washing

D. NO Water should be used to wash streets, parking lots, driveways, sidewalks, or building exteriors

E. NO water should be used for nonessential cleaning of commercial and industrial equipment, machinery, and interior spaces.

F. Water should be served at restaurants upon request

G. Voluntary reduction of water uses of all types is encouraged.

The possibility of reverting back to Section 2 conservation is still on the table due to a drier March and April. *"For reference, predictions indicate May rainfall should be closer to five inches," said Patterson.*

Another significant factor influencing the Board's decision to exit Section 2, was the information obtained when divers from Liquid Engineering Corporation, Billings, MT, entered West Lake to evaluate the intakes for Osceola's water supply.

"The dive team reviewed the West Lake intakes and determined the upper intake was functioning at capacity," said Patterson.

While additional work still needs to be done to shore up the overall intake efficiencies, the team is optimistic on maintaining good flow at both intake levels.

Some of the additional efforts to increase raw water flow to the treatment plant include valve replacements and a review of possibly raising the lower intake to improve water quality.

If you have questions or comments, please contact Brandon Patterson, Osceola Water Works Superintendent, 208 West Jefferson Street, PO Box 515, Osceola, Iowa 50213,
PHONE: 614-342-1435
EMAIL: osceolawater2@windstream.net

HALF A CENTURY of Rural Water Service in Iowa

By Gregory Huff

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.

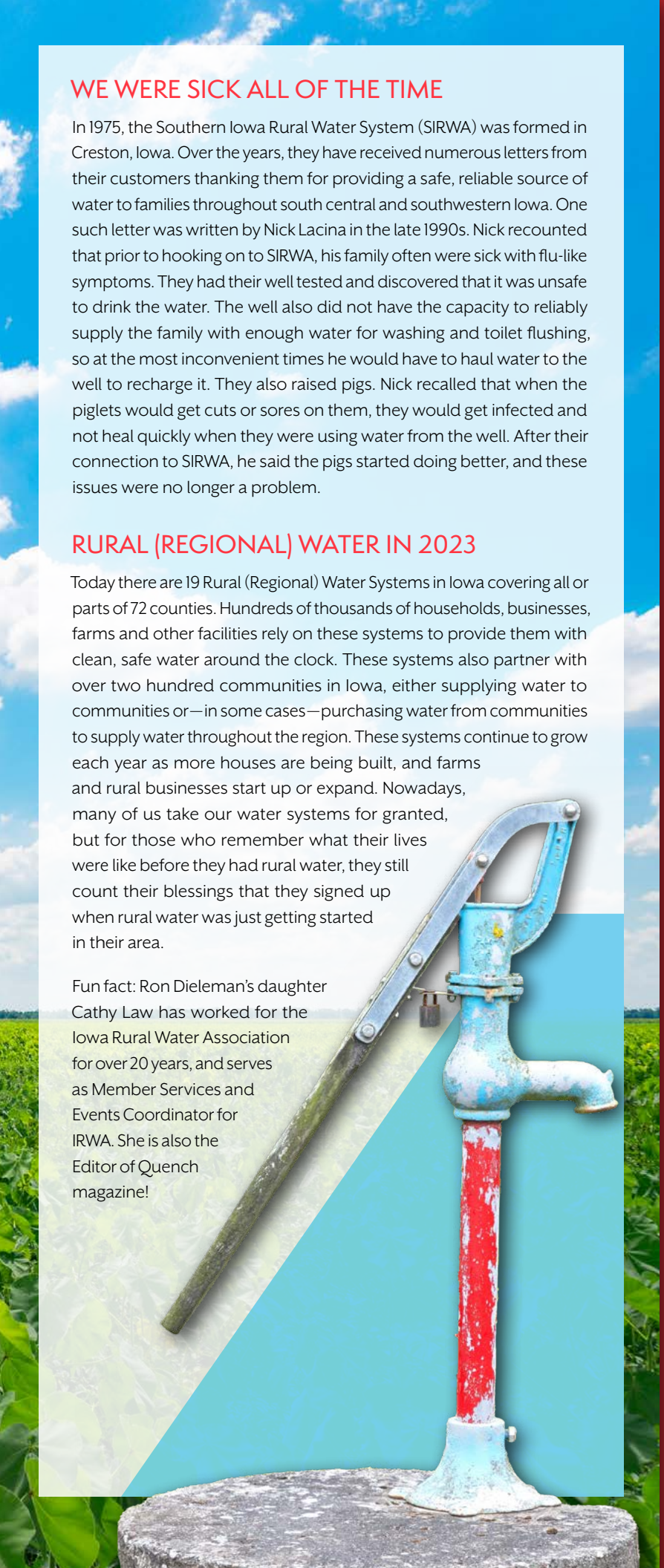
WE WERE SICK ALL OF THE TIME

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 Associaiton	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?

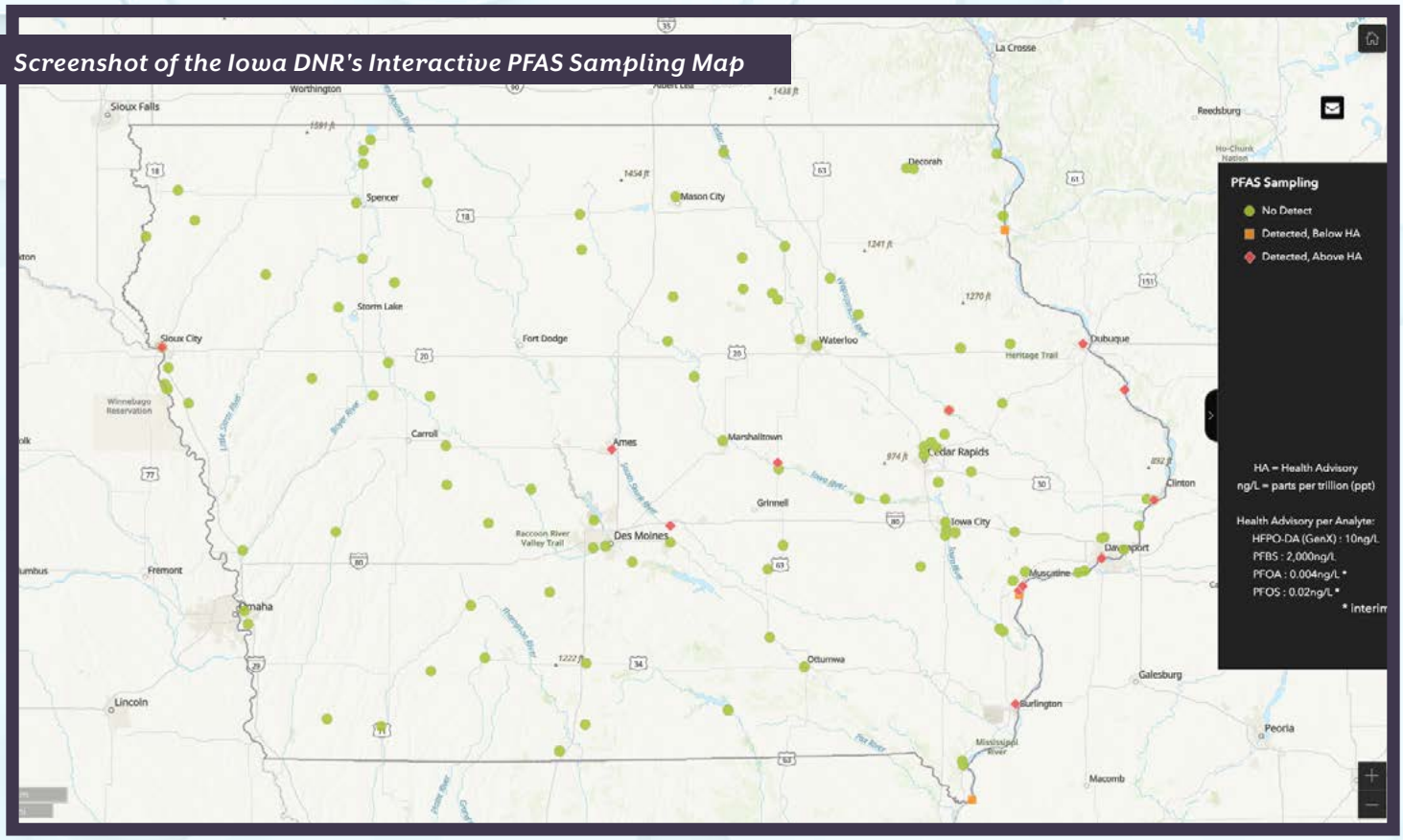
SO, WHAT IS PFAS?

"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.

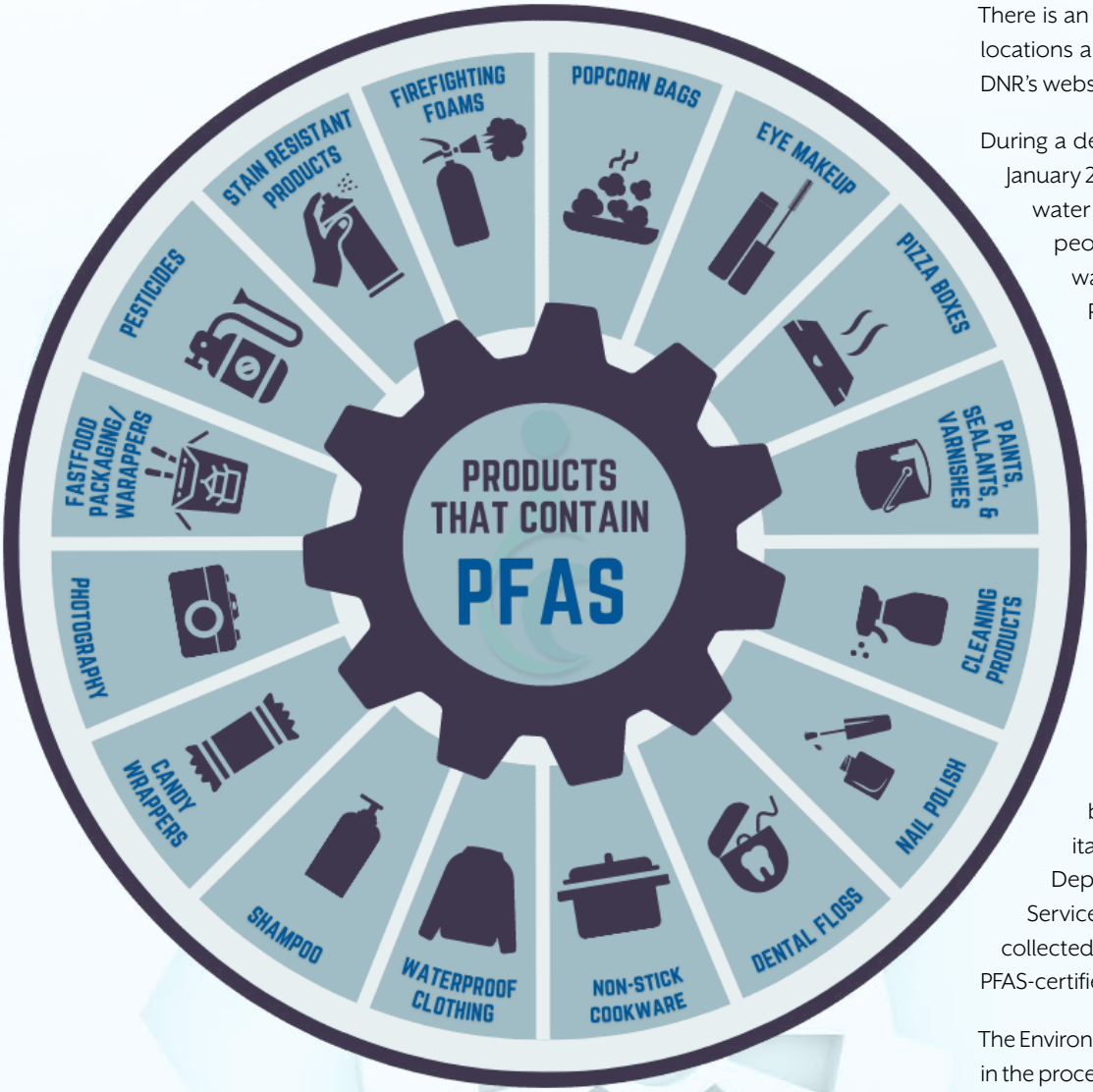
WHY SHOULD I BE CONCERNED?

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

Osceola Water Works
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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.