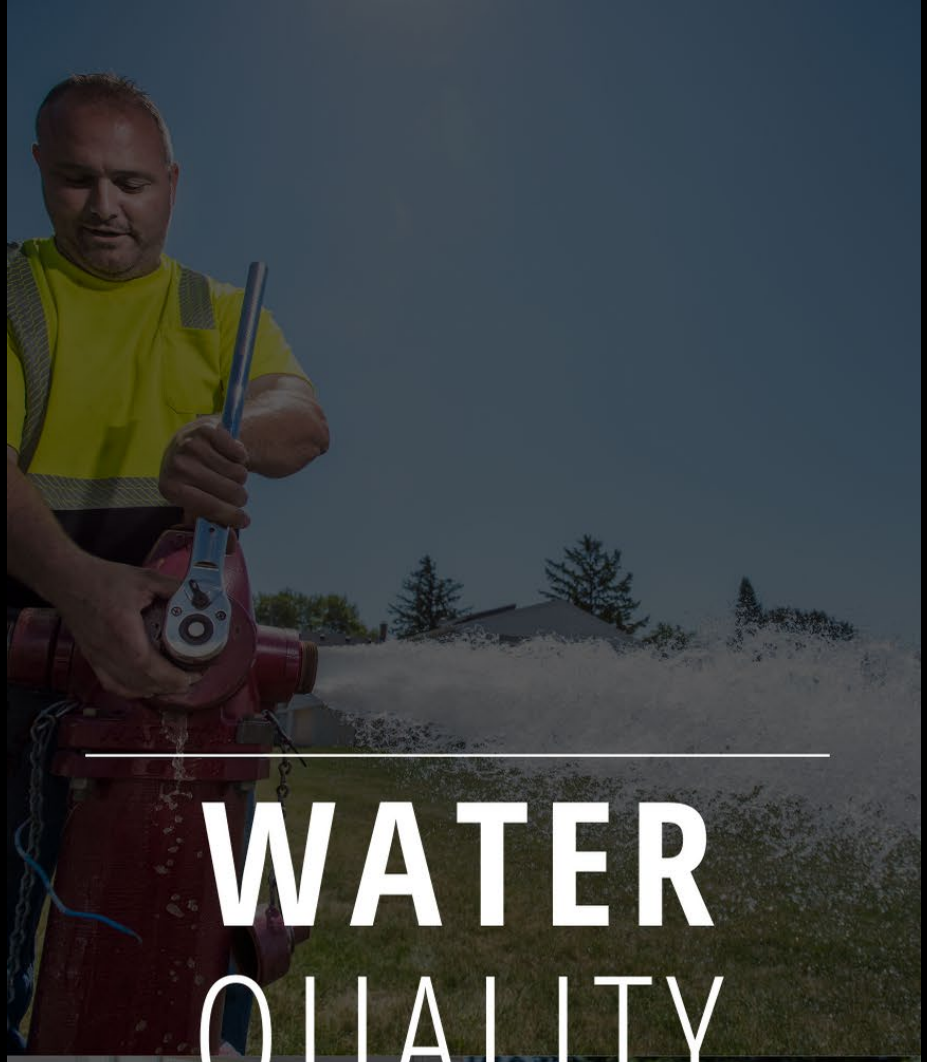
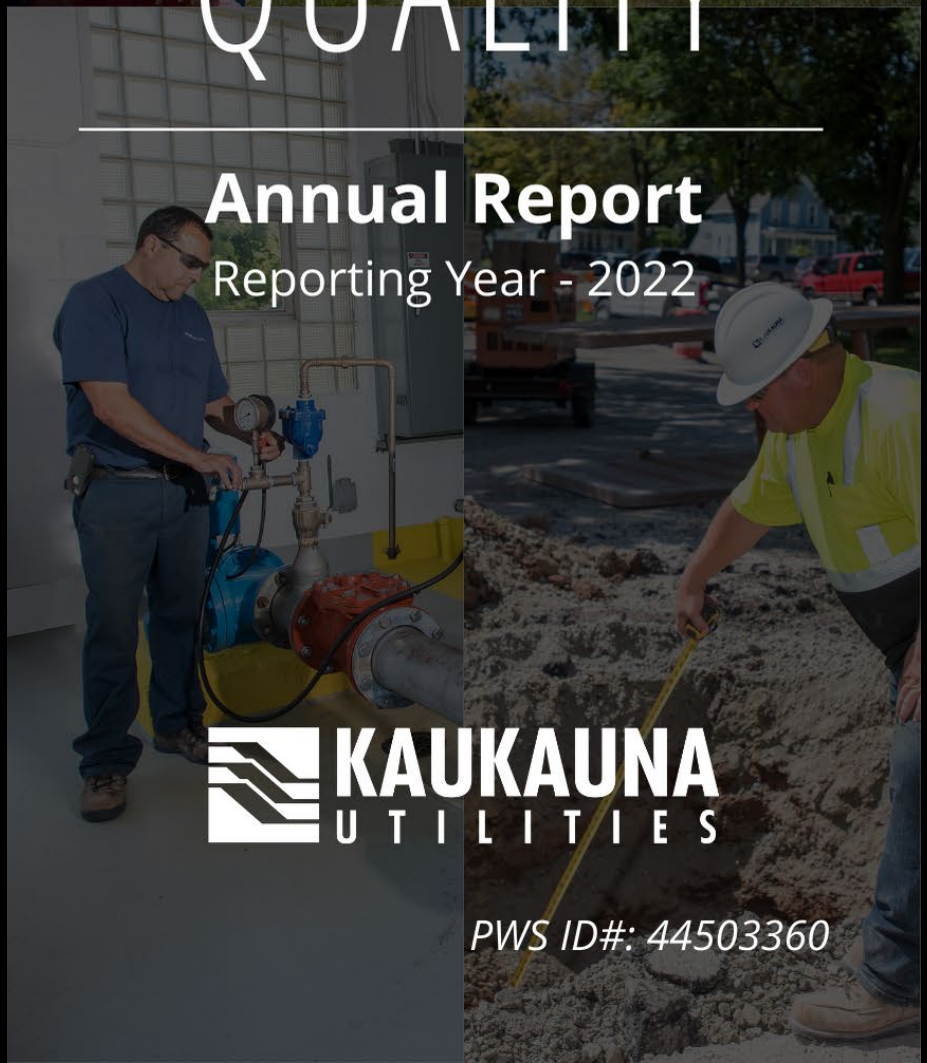


WATER QUALITY

Annual Report

Reporting Year - 2022



KAUKAUNA UTILITIES

PWS ID#: 44503360

We Are Striving for Record High Customer Satisfaction

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Our mission, to enhance the quality of life and strengthen the communities we serve, is at the forefront of our drinking water system. We are dedicated to producing safe drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you and improving the drinking water system infrastructure. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

In 2022 we implemented a new and improved water treatment method by changing the chemical used in the water treatment process from sodium silicate to a polyphosphate-orthophosphate blend. This change will gradually improve the overall water quality while reducing iron staining and calcium buildup on plumbing fixtures and improving disinfection, resulting in less chlorine introduced into the system.

In 2023 we will complete a system-wide study that will evaluate alternative drinking water treatment methods and sources and expansion of the drinking water system. This study will drive our efforts to improve the water system over the next 5 to 10 years.

Please remember that we are always available should you ever have any questions or concerns about your water.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air-conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection. For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water is needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water is used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred sixty-four gallons of water is required to produce one quart of milk, and 4,200 gallons of water is required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet, twice the global per capita average. With water use increasing sixfold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish. To check out your own water footprint, go to www.watercalculator.org.

> "Thousands have lived without love, not one without water."
>
> —*W.H. Auden*

Community Participation

You are invited to attend our Utility Commission meetings and provide feedback about your drinking water. We meet the third Wednesday of each month at 4:00 p.m. at Kaukauna Utilities Commission Chambers, 777 Island Street.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Andy Vanden Heuvel, Water Department Superintendent, at (920) 858-9180. Additional information can be found on our website, https://www.kaukaunautilities.com/about-ku/water-department/.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is pumped from our wells and sent to the filter plant, where we add potassium permanganate and manganese sulfate. The addition of these substances oxidizes the iron, causing small particles (called floc) to adhere to one another, which makes the particles big enough to be filtered out as the water passes through the layers of anthracite and manganese greensand in the filter tank. This process removes iron and also reduces radium levels. After that process, we add chlorine for disinfectionand a polyphosphate-orthophosphate blend for corrosion control. Finally, the water is pumped to the distribution system.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Source Water Assessment

The Wisconsin Department of Natural Resources (WDNR) conducted assessments for all drinking water sources across the state. The purpose of the assessments was to determine the susceptibility of each drinking water source to potential contaminant sources and establish a relative susceptibility rating of high, moderate, or low for each source. The Kaukauna Utilities system is moderately susceptible to contamination by volatile organic compounds, nitrate, beryllium, and microbes. The system has moderate susceptibility to contamination by synthetic organic compounds and low susceptibility to ethylene dibromide. For additional information on the source water assessment, call Jeff Helmuth at (608) 266-5234.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 two 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

For each substance listed, compare the value in the Amount Detected column against the value in the MCL (or AL) column. If the Amount Detected is smaller, your water meets the health and safety standards set for the substance. **We are pleased to report that your drinking water meets or exceeds all federal and state requirements.**

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MAXIMUM AMOUNT DETECTED	MCL	MCLG	KU RANGE OF DETECTIONS LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2022	5.6	15	0	3.2–5.6	No	Erosion of natural deposits
Barium (ppm)	2020	0.008	2	2	0.002–0.008	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Combined Radium (pCi/L)	2022	1.9	5	0	0.6–1.9	No	Erosion of natural deposits
Fluoride (ppm)	2020	1.8	4	4	1.8–1.8	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2022	3	60	NA	3–3	No	By-product of drinking water disinfection
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2022	2	60	NA	2–2	No	By-product of drinking water disinfection
Nickel (ppb)	2020	2.8000	100	100	2.4000–2.8000	No	Naturally occurring
Nitrate (ppm)	2021	0.05	10	10	ND–0.05	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2020	1	50	50	ND–1	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	12.0	80	NA	12.0–12.0	No	By-product of drinking water disinfection
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2022	6.8	80	NA	6.8–6.8	No	By-product of drinking water disinfection
Uranium (ppb)	2021	0.4	30	0	0.3–0.4	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED (90TH %ILE)	AL	MCLG	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2020	0.1030	1.3	1.3	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	10	15	0	2/30	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

SECONDARY SUBSTANCES [1]							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MAXIMUM AMOUNT DETECTED	SMCL	MCLG	KU RANGE OF DETECTIONS LOW-HIGH	VIOLATION	TYPICAL SOURCE
Sulfate (ppm)	2020	550.00	250	NA	440.00–550.00	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES				
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MAXIMUM AMOUNT DETECTED	KU RANGE OF DETECTIONS LOW-HIGH	TYPICAL SOURCE
1,2,4-Trimethylbenzene (ppb)	2018	0.75	0.75–0.75	NA
Sodium (ppm)	2020	16.00	11.00–16.00	NA

[1] The following table lists contaminants which were detected in your water and have a secondary maximum contaminant level (SMCL). There are no violations for detections of contaminants that exceed the SMCL. SMCLs are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Where Does My Water Come From?

Kaukauna Utilities' water comes from five groundwater wells located throughout the city. The depths of the wells range from 500 to 850 feet. Our daily pumping averages around 1.2 million gallons, which calculates to 438 million gallons of treated water a year. We have the capability of pumping in excess of four million gallons a day. The distribution system consists of approximately 100 miles of water main ranging from 6 to 16 inches in diameter. We have three iron filters, which serve the dual purpose of removing iron and radium from the water. We have two water towers, one on the north side and one on the south side of the city, each with a capacity of 500,000 gallons. We also have three underground reservoirs with a combined capacity of 600,000 gallons of water.

WDNR Sanitary Survey Uncorrected Deficiencies

We were informed by WDNR on July 1, 2022, that three significant deficiencies had been identified during the WDNR Sanitary Survey conducted on June 15, 2022. We have implemented a corrective action plan that includes preparing project specifications and soliciting proposals to make repairs to correct these deficiencies. As outlined in our corrective action plan and prescribed by the WDNR, a contractor will be selected and the work will be scheduled by May 31, 2023.

Significant Deficiency 1. The sides of all vents on storage structures shall totally cover any screens when viewing the vent from the side in order to prevent debris, dust, and insects, carried by wind or rain, from entering the clear well. The screening on the Ann Street elevated tower vent is visible from the side.

Significant Deficiency 2. Open construction between the side walls and the roof of the water storage structure may not act as a vent per Section NR 811.64(8), Wis. Adm. Code. Commonly referred to as an "access tube gap," these are primarily found on Chicago Bridge and Iron's spheroid pedestal towers, such as the Ann Street Tower.

Significant Deficiency 3. Vents on elevated water storage facilities shall be constructed to exclude insects and dust to the extent possible. During the inspection, the department became aware that the screen openings on the Industrial elevated tower vents are larger than the required four-mesh.