

*Presented By*  
**Kaukauna Utilities**



ANNUAL  
**WATER  
QUALITY  
REPORT**

WATER TESTING PERFORMED IN 2017

## Quality First

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

### Information on the Internet

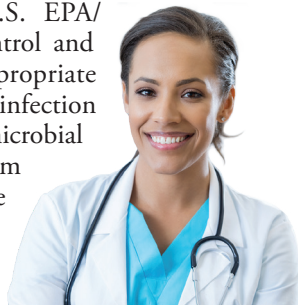
The U.S. EPA (<https://goo.gl/TFAMKc>) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Wisconsin Department of Natural Resources has a Web site ([dnr.wi.gov/topic/drinkingwater](http://dnr.wi.gov/topic/drinkingwater)) that provides complete and current information on water issues in Wisconsin, including valuable information about our watershed.

### 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 to the water before it reaches the filter tank. The addition of these substances oxidizes the iron, causing small particles to adhere to one another (called floc), 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 the iron and also reduces the radium levels in the drinking water. Then we add chlorine to the water for disinfection. 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 people such as those with cancer undergoing chemotherapy, those 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>.



### Water Conservation

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 by 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 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.

### Source Water Assessment

The Department of Natural Resources 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 susceptible to contamination by volatile organic compounds, nitrate, beryllium, and microbes. The system has Moderate susceptibility to contamination by synthetic organic compounds (SOCs). The system has Low susceptibility to ethylene dibromide (EDB). For additional information on the source water assessment, call Jeff Helmuth at (608) 266-5234.

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Kevin Obiala, Water Department Superintendent, at (920) 462-0233.

## Where Does My Water Come From?

The source of Kaukauna Utilities water is five groundwater wells that are located throughout the city. The depths of the wells range from 500 to 850 feet. Our daily pumping averages around 1.2 million gallons a day, which calculates to 438 million gallons of treated water a year. We have the capability of pumping in excess of 4 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 both 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.



## Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

**Potent Germicide Reduction** in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

**Taste and Odor Reduction** of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

**Biological Growth Elimination** of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

**Chemical Removal** of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the third Wednesday of each month beginning at 4 p.m. at Kaukauna Utilities Operations Building, 777 Island Street, Kaukauna, WI.

## Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal law, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operate and maintain equipment to purify and clarify water
- Monitor and inspect machinery, meters, gauges, and operating conditions
- Conduct tests and inspections on water and evaluate the results
- Maintain optimal water chemistry
- Apply data to formulas that determine treatment requirements, flow levels, and concentration levels
- Document and report test results and system operations to regulatory agencies
- Serve our community through customer support, education, and outreach
- So the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

## Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.





## 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 that 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.

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### BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S.

**34**  
BILLION

**1**  
MILLION

The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

**135**  
BILLION

**300**  
MILLION

The number of Americans who receive water from a public water system.

The age in years of the world's oldest water found in a mine at a depth of nearly two miles.

**2**  
BILLION

## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The state recommends monitoring for certain substances less often 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.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

### REGULATED SUBSTANCES

| SUBSTANCE<br>(UNIT OF MEASURE)      | YEAR<br>SAMPLED | MCL<br>[MRDL] | MCLG<br>[MRDLG] | AMOUNT<br>DETECTED | RANGE<br>LOW-HIGH | VIOLATION | TYPICAL SOURCE   |
|-------------------------------------|-----------------|---------------|-----------------|--------------------|-------------------|-----------|--|
| Alpha Emitters (pCi/L)              | 2017            | 15            | 0               | 4.8                | 3.1–4.8           | No        | Erosion of natural deposits  |
| Barium (ppm)                        | 2017            | 2             | 2               | 0.004              | 0.003–0.004       | No        | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits                               |
| Combined Radium (pCi/L)             | 2017            | 5             | 0               | 3.1                | 1.5–3.1           | No        | Erosion of natural deposits  |
| Fluoride (ppm)                      | 2017            | 4             | 4               | 2.0                | 1.9–2.0           | No        | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Haloacetic Acids [HAAs] (ppb)       | 2017            | 60            | NA              | 3                  | 2–3               | No        | By-product of drinking water disinfection  |
| TTHMs [Total Trihalomethanes] (ppb) | 2017            | 80            | NA              | 8.9                | 7.6–8.9           | No        | By-product of drinking water disinfection  |

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

| SUBSTANCE<br>(UNIT OF MEASURE) | YEAR<br>SAMPLED | AL  | MCLG | AMOUNT<br>DETECTED<br>(90TH%TILE) | SITES ABOVE<br>AL/TOTAL<br>SITES | VIOLATION | TYPICAL SOURCE   |
|--------------------------------|-----------------|-----|------|-----------------------------------|----------------------------------|-----------|--|
| Copper (ppm)                   | 2017            | 1.3 | 1.3  | 0.1540                            | 0/30                             | No        | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead (ppb)                     | 2017            | 15  | 0    | 3.40                              | 1/30                             | No        | Corrosion of household plumbing systems; Erosion of natural deposits |

### SECONDARY SUBSTANCES

| SUBSTANCE<br>(UNIT OF MEASURE) | YEAR<br>SAMPLED | SMCL             | MCLG | AMOUNT<br>DETECTED | RANGE<br>LOW-HIGH | VIOLATION | TYPICAL SOURCE   |
|--------------------------------|-----------------|------------------|------|--------------------|-------------------|-----------|--|
| Sulfate (ppm)                  | 2017            | 250 <sup>1</sup> | NA   | 550.00             | 460.00–550.00     | No        | Runoff/leaching from natural deposits; Industrial wastes |

### UNREGULATED SUBSTANCES

| SUBSTANCE<br>(UNIT OF MEASURE) | YEAR<br>SAMPLED | AMOUNT<br>DETECTED | RANGE<br>LOW-HIGH | TYPICAL SOURCE      |
|--------------------------------|-----------------|--------------------|-------------------|---------------------|
| Nickel (ppb)                   | 2017            | 2.5000             | 2.2000–2.5000     | Alloy products      |
| Sodium (ppm)                   | 2017            | 16.00              | 12.00–16.00       | Naturally occurring |

<sup>1</sup>Secondary contaminants are regulated merely to protect the aesthetics of drinking water like taste, appearance, and odor. The U.S. EPA has not established adverse health effects associated with exceedances of SMCLs

## Definitions

**AL (Action Level):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that 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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant Level Goal):** 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.

**NA:** Not applicable

**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):** SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.