

OUR WATER

2018 Annual Drinking Water Quality Report FORT WAYNE CITY UTILITIES



2017 – Another Great Year for Water Quality!

The results are in and the news is good! Again in 2017, the drinking water provided to customers by City Utilities met or was better than all state and federal standards require. Drinking water quality and safety is a top priority for City Utilities along with making sure your water supply is reliable. We are pleased to present this annual water quality report for the calendar year 2017, which details the outstanding quality of the eleven-BILLION gallons of water we treated and distributed to customers.

Water Main Replacement Program Working – More Investment Needed

City Utilities' program to replace water mains that are at high risk for failure is showing results. By replacing water mains deemed most vulnerable, City Utilities has been able to reduce the number of water main breaks per year from a high of 528 in 2010 to 255 in 2017. That's still too many. More investment is needed, but rising construction costs mean the available dollars just don't do as much as they once did.

Since 2000 approximately 95 miles of water main has been replaced and the total number of main breaks per year has been trending down. Based on previous main break trends, City Utilities estimates that 353 main breaks have been avoided since increased funding for main replacement was approved in 2012. With an estimated repair cost of \$5,000 per break, the main breaks avoided between 2012 and 2017 resulted in a cost savings for customers of nearly \$1.8 million. Reducing main breaks saves money, avoids traffic interruptions around sites where repairs are taking place, and helps ensure the water is there for you every time you turn on the tap.

On-going investment is needed. City Utilities' water main system includes 1,403 MILES of pipe. About 25% of those mains – or 355 miles – have deteriorated to a point where they have exceeded their useful life and should be replaced. Age of the pipe is not the only factor that determines when a pipe should be replaced. Some

100-year old mains still function well. However, some of the cast iron mains installed between 1940 and 1970 have lots of main breaks. Our Geographic Information System (GIS) is helping analyze the characteristics of every water main in our system so City Utilities can prioritize replacement of the most vulnerable mains as quickly as funding is available.

Adding more customers to help share the costs of operating and maintaining a reliable water main system, along with controlling what we spend allowed City Utilities to avoid increasing water rates in 2016, 2017 and 2018. While our goal was to replace nine miles of water main each year from 2013 – 2018, we have fallen short in the past few years due to construction cost increases, inflation and other factors.

In the next five years, City Utilities hopes to replace around 14 miles of water main each year. To fund that investment, City Utilities will

propose a five-year water rate increase plan in 2018. If approved, the average City Utilities water customer using 4,000 gallons of water each month would see an increase in their monthly water bill each year of between \$1.30 and \$1.70. While no one wants to pay more, the increase is necessary to ensure the northeast Indiana region continues to have a safe, reliable water system that supports business growth and meets the needs of our families.

CITY UTILITIES
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PROVIDING SAFE WATER IN WAYS THAT PROTECT THE ENVIRONMENT

Fort Wayne's Fire Protection Rating Improves

Did you know that the PRIMARY role of a water utility is to provide water for fire protection? Some of the investments we make in the water system are specifically intended to increase water capacity and reliability for fire fighting. Thanks to these investments and to City Utilities' partnership with the professionals at Fort Wayne Fire Department, Fort Wayne has been able to upgrade its ISO fire protection rating from Class 3 to Class 2. A community's ISO rating helps determine what property owners pay for insurance. As a result of the improved rating, Fort Wayne residents can expect to see lower property insurance costs.

Drinking Water and Your Health

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised individuals such as people with cancer who are undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people and infants, can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers.

Cryptosporidium is a microbial pathogen that may be found in surface water such as rivers, lakes and streams throughout the United States. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of the infection include nausea, diarrhea and abdominal cramps. Cryptosporidium oocysts must be ingested to cause disease, and the illness may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people, infants, small children and the elderly are at greater risk for having cryptosporidiosis advance into a life-threatening illness.

Guidelines from the US EPA and Centers for Disease Control and Prevention on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.



In order to guard against any possibility that Cryptosporidium could be present in Fort Wayne's drinking water, City Utilities added a new water disinfection process in 2014 that uses ultraviolet light specifically to deactivate Cryptosporidium and other similar pathogens. To ensure your safety, City Utilities also uses a stringent monitoring program, testing both source water from the St. Joseph River and finished drinking water, to ensure that any Cryptosporidium has been removed or neutralized before the water is sent to you.

In 2017 the highest level of Cryptosporidium found in the river water coming into the water filtration plant before it was treated was 0.545 oocysts per liter of water. To put that into perspective, any two liters of river water that came into the plant during the whole of 2017 (think about the amount in a two-liter bottle of soda) might have contained one Cryptosporidium organism or less. Cryptosporidium was NEVER found in the drinking water that City Utilities sent out to its customers, as is required by federal standards. That means that 100% of the time, City Utilities' water treatment process was able to remove or deactivate these "germs."

Sources of Drinking Water

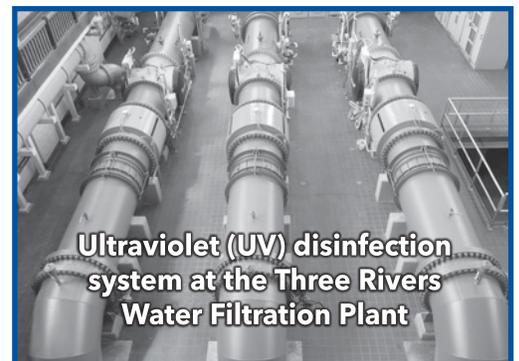
The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances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



Contaminants 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, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or 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 land uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

A variety of methods and technologies are used at City Utilities' Three Rivers Water Filtration Plant to ensure that our water meets or is better than all regulatory standards require. So



Ultraviolet (UV) disinfection system at the Three Rivers Water Filtration Plant

long as water meets these standards, it is safe to drink. The water treatment process includes chemical treatment to kill germs and soften the water, filtration, and disinfection using ultraviolet light. These processes remove, deactivate or significantly reduce contaminants that may be present in water before it is treated.

How to Read the Water Quality Table

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.

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.

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 that a water system must follow.

Detected Level:

The highest level of a contaminant detected for comparison against the accepted level. The detected level could be the highest single measurement or it may be an average, depending on the peak level of a contaminant.

Range:

The lowest to highest values for all samples tested for each contaminant. If only one sample is tested, no range is listed.

HA: Health Advisory level.

NA: Not applicable.

MNR: Monitoring not required but recommended.

ppm: Parts per million or milligrams per liter (mg/L).

ppb: Parts per billion or micrograms per liter (ug/L).

NTU:

Nephelometric Turbidity Units. A measure of water's cloudiness and an indicator of the effectiveness of the water filtration process.

%: Percent of monthly samples that were positive.

Oocyst:

A fertilized gamete of a parasitic organism's sporozoans that is enclosed in a thick wall.



Testing Our Water

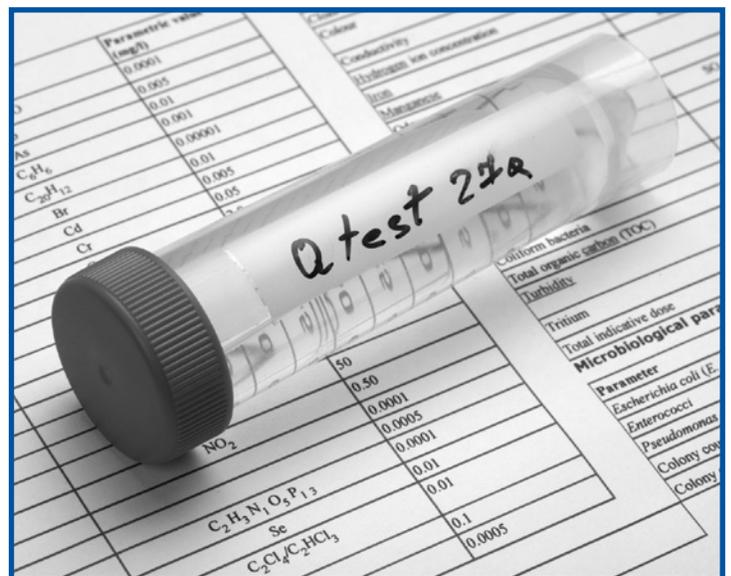
To ensure that tap water is safe to drink, the United States Environmental Protection Agency (US EPA) sets regulations that limit the amount of certain contaminants in water that comes from public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. The US EPA also requires that public water systems make an annual report, such as this one, to all of their customers. Bottled water producers don't face the same requirement to share information regularly.

The US EPA and the State of Indiana require City Utilities to regularly test the drinking water we produce and send out to make sure that it remains safe. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants in drinking water, at a level below the limits set by regulatory agencies, does not indicate that the water poses a health risk.

The table to the right shows substances that are regulated by the US EPA that were detected in Fort Wayne's finished drinking water between January 1 and December 31, 2017. Results of all tests performed in 2017 met or were better than federal and state standards require. City Utilities tests for many other substances, but because they were not detected, they are not reported here. Some tests are required only once per year because the US EPA and State of Indiana have determined that the concentration of these substances does not change frequently. For tests required only once a year there is no range of results in the table.

City Utilities also tests for many substances that are not regulated. Monitoring unregulated contaminants helps the US EPA determine where certain contaminants occur and whether the agency should consider regulating those in the future.

Check the City Utilities website at www.cityoffortwayne.org/utilities for more information.



Water Quality Table

Contaminants	Units	MCLG	MCL	Compliance Achieved	Highest Level Detected in Your Water	Range	Typical Sources
Disinfectants & Disinfection By-Products							
Chlorine	ppm	4	4	Yes	1.89	1.33 - 1.89	Additive used in drinking water treatment process to control bacteria
Chlorine Dioxide	ppb	800	800	Yes	228	38 - 228	Additive used in drinking water treatment process to control bacteria
Chlorite	ppm	0.8	1	Yes	0.924	0.367 - 0.924	By-product of drinking water disinfection
Haloacetic Acids (HAA5)	ppb	NA	60	Yes	26.25 Highest LRAA at site # 2	4.5 - 41.9	By-product of drinking water disinfection NOTE: compliance is based on each location's running annual average (LRAA). The location running annual average for the site with 41.9 was 26.25
Total Organic Carbon (TOC)	mg/L	NA	TT	Yes	The percentage of TOC was measured each month and the system met the TOC removal requirements	NA	Naturally present in the environment
TTHMs (Total Trihalomethanes)	ppb	NA	80	Yes	40.05 Highest LRAA at site # 2	20.1 - 70.3	By-product of drinking water disinfection NOTE: compliance is based on each location's running annual average (LRAA). The location running annual average for the site with 70.3 was 40.05
Inorganic Compounds							
Fluoride	ppm	4	4	Yes	0.86	0.22 - 0.86	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	10	Yes	4.09	0.205 - 4.09	Runoff from fertilizer use; leaching from septic systems; sewage discharge; erosion of natural deposits
Nitrite (measured as Nitrogen)	ppm	1	1	Yes	0.04	0.00 - 0.04	Runoff from fertilizer use; leaching from septic systems; sewage discharge; erosion of natural deposits
Sodium	ppm	0	NA	NA	32	8.9 - 32	Naturally present in the environment
Barium	ppm	2	2	Yes	0.013	0.0071 - 0.013	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	ppm	0.1	0.1	Yes	0.072	0.00 - 0.072	Discharge from steel and pulp mills; erosion of natural deposits
Sulfate	ppm	NA	NA	NA	59	Only one test is required per year	Naturally occurring compound
Microbiological Contaminants							
Total Coliform	% of positive samples monthly	0	5	Yes	1.78	0 - 1.78	Naturally present in the environment
Turbidity	% of samples below 0.3 NTU	100	95	Yes	100%	100 - 100	Soil runoff
Turbidity	Highest single measurement in NTU	NA	TT	Yes	0.23	NA	Soil runoff
Cryptosporidium	oocysts/100 L	0	TT	Yes	0	NA	Human and animal fecal waste
Volatile Organic Compounds							
NA							
Synthetic Organic Compounds							
Atrazine	ppb	3	3	Yes	0.3	0.0 - 0.3	Runoff of herbicide used on row crops
Unregulated Compounds							
Metolachlor	ppb	NA	NA	NA	0.3	0.0 - 0.3	Runoff of herbicide used on row crops
Inorganic Contaminants							
					90th percentile		
Copper	ppm	1.3	90% of samples taken below AL = 1.3	Yes	0.137	Samples taken = 50 samples Exceeding AL = 0	Corrosion of household plumbing systems; erosion of natural deposits
Lead	ppb	0	90% of samples taken below AL = 15	Yes	14.9	Samples taken = 50 samples Exceeding AL = 5	Corrosion of household plumbing systems; erosion of natural deposits

Water Qualities that Matter to You: Taste and Softness

As a customer of City Utilities, you expect the drinking water delivered to you to be safe and to meet all federal and state water quality regulations. You also expect your water to have a certain feel and to be tasteless and odorless. In other words, you care about the aesthetics of your water. So does City Utilities.

City Utilities is committed to providing great water and to making adjustments to the water treatment process as necessary to ensure consistency in water quality. Occasionally substances are found in drinking water that may cause taste, color and odor. These types of problems are not necessarily causes for health concerns. Technicians at the Three Rivers Water Filtration Plant work diligently to anticipate these changes in river water quality and adjust the treatment process to remove as much of the taste and odor as possible from the water. This is done by adding powdered activated carbon to the treatment process and adjusting the balance between various types of disinfecting chemicals being used. For more information on taste, odor or color of drinking water please contact City Utilities by calling 311.



The feel of the water is determined by the softness. The Three Rivers Water Filtration Plant softens the water sent to customers using powdered calcium hydroxide (commonly known as lime). During the water treatment process, the lime causes a chemical reaction that helps to remove calcium and magnesium – the naturally occurring minerals that cause hardness in water. Water hardness is measured in milligrams of calcium and magnesium per liter of water. Very soft water may have from 0 – 75 mg/L of hardness. Hard water has between 150 and 300 mg/L. After softening, Fort Wayne' water had an average hardness of 112 mg/L in 2017 and is considered moderately soft.

With moderately soft water, soaps and detergents create more suds so you can use less. Softer water has also been found to extend the life of water-using appliances such as ice makers and dishwashers by as much as 30% so they can be replaced less often saving you money. Softened water also helps clothing stay brighter and last longer.

City Utilities posts an indicator of current taste and odor of our water at drinkingwater.cityoffortwayne.org.

City Utilities works closely with the Fort Wayne Board of Public Works and the Fort Wayne City Council to plan how the money generated by City Utilities' water customers will be invested. The Board of Works reviews and approves contracts for utility construction projects and for projects that impact how your drinking water is treated. The Board of Public Works meets every Tuesday at noon at Citizens Square, 200 E. Berry Street, Fort Wayne, Indiana. The meetings are open to the public.

Information About Lead in Drinking Water

Water produced by City Utilities and distributed from the Three Rivers Water Filtration Plant met all state and federal limits for lead in 2017 – just as it always has. Lead in drinking water primarily comes from materials and components in water service lines and interior plumbing, therefore lead levels in water may go up because of the kind of pipes and plumbing fixtures present in homes and businesses. City Utilities cannot control the variety of materials used in plumbing components inside homes and businesses. However, when we do water main replacement projects, any water service lines that are found to be made of lead are replaced from the water main to the curb stop on private property.

Testing water samples from around the community is a good way to determine if lead water services or home plumbing fixtures are a source of exposure to lead. Results of sampling and testing for lead done in 2017 were well within the regulatory limit.

When your water has been sitting in your home plumbing for several hours, lead may enter the water from plumbing fixtures. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. You can minimize your potential for lead exposure by letting the water run before using it. Turn on the cold water and let it run for 30 seconds to two minutes before you use the water for drinking or cooking. If you are concerned about the level of lead in your water, you may wish to have your water tested by a private laboratory. Information on lead in drinking water, testing methods, and other steps you can take to minimize exposure to lead is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

City Utilities - Award Winning

The outstanding performance of Fort Wayne City Utilities continues to be recognized annually by the Partnership for Safe Water – a voluntary alliance of five national water industry organizations and the US EPA. For 16 years, City Utilities has received the Partnership Director's Award each year for providing water that is better than national standards and for operating the water utility according to Partnership guidelines.

City Utilities has also won the most national awards in Indiana among municipally owned utilities. We have been recognized for having great tasting water, for operational excellence, sustainability and for employee engagement. We are proud to be a nationally recognized utility of excellence!



FORT WAYNE CITY UTILITIES

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Fort Wayne, IN 46802

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Important Information Sources:

Three Rivers Water Filtration Plant
Vicky Zehr - Water Quality Manager
260-427-8311 or 260-427-1254
www.cityoffortwayne.org/utilities

Indiana Department of Environmental
Management (IDEM)
1-888-233-7745
in.gov/idem/cleanwater/2450.htm

EPA's Safe Drinking Water Hotline
1-800-426-4791
www.epa.gov/drink/

Where Does Fort Wayne's Water Come From?

Water provided to customers of City Utilities comes from the St. Joseph River. Water flows into the river from more than 694,000 acres in north-east Indiana, north-west Ohio and a small part of south central Michigan. The primary land use in the watershed is agricultural.

Fort Wayne draws an average of about 34 million gallons of water each day from the river. This "raw" water is treated, filtered and tested at the Three Rivers Water Filtration Plant before it is distributed to customers.

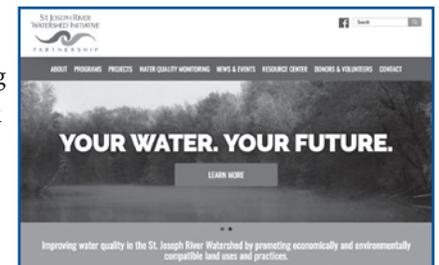
The Indiana Department of Environmental Management (IDEM) has conducted a Source Water Assessment for City Utilities' water supply. The Source Water Assessment has identified potential sources of contamination. The report also analyzes the hydrological conditions that may affect the susceptibility of the water supply to potential contaminants. More information concerning this Source Water Assessment may be obtained by contacting the Water Quality Manager of the Three Rivers Filtration Plant, Vicky Zehr, by calling 260-427-8311.



Protecting Our Water Source

Fort Wayne City Utilities works with partners upstream to protect the quality of water in the St. Joseph River before it gets to Fort Wayne. The St. Joseph River Watershed Initiative is a non-profit watershed planning and protection organization that involves many watershed stakeholders in testing river water quality, developing management plans, implementing best management practices to reduce pollution going into the river and educating property owners.

Do you want to help protect Fort Wayne's drinking water at its source? Check out the St. Joe Initiative's website at www.sjrwi.org for information on ways you can volunteer.



City Utilities' Mission

To support public safety and public health and enhance regional economic development by delivering high quality, affordable water, wastewater and stormwater services in ways that protect the environment.

AVISO IMPORTANTE

Este reporte contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda. En español: 311.