City of Toledo
2018 Water Quality Report

Consumers have relied on the City of Toledo to produce and deliver excellent drinking water that meets or exceeds all quality standards for more than 140 years.

In 2018 water treatment professionals at Collins Park Water Treatment Plant produced more than 24 billion gallons of high-quality drinking water for some 500,000 people in Toledo and Lucas County, portions of Fulton and Wood Counties and for South County Water in Monroe, Michigan.

July 1, 2019

Dear Toledo residents and neighbors,

Excellent drinking water is important to our city and region. I am pleased to present the 2018 Water Quality Report with information about our drinking water, the source of our water, testing results that take place throughout the year, and other helpful information.

Construction began in 2018 on ozone technology as an additional water treatment option, which will be in place in 2020 to protect drinking water from harmful algal bloom toxins and other contaminants. Treatment basins are also being modernized to complement the ozone process.

By the end of 2018, 30 percent of the projects at the Collins Park Water Treatment Plant were completed and 43 percent were under construction. The program remains within budget and on schedule for completion in 2022. We invite you to monitor the progress at www.ToledoH2O.com.

A study of the entire water system is underway to consider adding another intake crib in Lake Erie and further ways to enhance the distribution system. We will provide recommendations to the Ohio Environmental Protection Agency by December 2020.

Thank you for supporting these important initiatives to maintain a healthy water system.

Sincerely,

Wade Kapszukiewicz

Wade Kapszukiewicz
Mayor, City of Toledo

2018 Drinking Water Quality Results

The table below shows the results of the Toledo Water Treatment Plant's water quality tests for 2018. The EPA requires regular sampling to ensure drinking water safety. Samples were collected for dozens of different contaminants, most of which were not detected in Toledo's water supply. Those that were detected are included in the table below. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not frequently change.

Regulated Contaminants in Drinking Water

Parameter	Year	Units	Level Found	Range	MCLG	MCL	Violation?	Likely Sources
Chlorite	**2018**	ppm	0.15	0.05 – 0.59	0.5	1	**No**	Byproduct of drinking water disinfection
Fluoride	**2018**	ppm	1.05	0.88 – 1.18	4	4	**No**	Water additive to promote strong teeth
Nitrate	**2018**	ppm	4.25	<0.2 – 4.35	10	10	**No**	Fertilizer runoff; septic tank leaching, sewage; erosion of natural deposits
TTHM[1]	**2018**	ppb	53.3	17.9 – 63.6	0	80	**No**	Byproducts of drinking water disinfection
HAA5[1]	**2018**	ppb	18.9	6.4 – 25	none	60	**No**	Byproducts of drinking water disinfection
Turbidity[2]	**2018**	ntu	0.39	0.02 – 0.39	none	TT	**No**	Soil runoff, suspended matter in lake water
TOC[3]	**2018**	see note[3]	3.10	3.10 – 3.86	none	TT	**No**	Naturally present in the environment
Alpha	**2018**	piC/L	8	na	na	15	**No**	Erosion of natural deposits
Radium	**2018**	piC/L	<1	na	na	5	**No**	Erosion of natural deposits

Parameter	Year	Units	90th	Sites >AL	MCLG	MCL	Violation?	Likely Sources
Copper	**2018**	ppm	0.011	None	1.3	AL=1.3	**No**	Corrosion of household plumbing and erosion of natural deposits
Lead	**2018**	ppb	<4	None	15	AL=15	**No**	Corrosion of household plumbing

Parameter	Year	Units	Level Found	Range	MLDG	MRDL	Violation?	Likely Sources
Total Chlorine	**2018**	ppm	1.23	1.07 – 1.26	4	4	**No**	Additive used to control microbes
Chlorine Dioxide	**2018**	ppm	0.2	<0.2 – 0.2	0.8	0.8	**No**	Additive used to control microbes

1. TTHM stands for Total Trihalomethanes. HAA5 stands for Haloacetic Acids. MCL compliance for both TTHM and HAA5 is based on the highest locational running annual average (shown as level found). The range shows the highest and lowest single detects from quarterly compliance monitoring at twelve different sites in the distribution system.

2. Turbidity is a measure of the cloudiness of the water. We monitor it daily because it is a good indication of the effectiveness of our filtration system. The turbidity limit set by the EPA states that all samples must be below 1 ntu and that 95% of the daily samples must be lower than 0.3 ntu. In 2018, 99.4% of our samples were below 0.3 ntu.

3. TOC stands for Total Organic Carbon. The value reported under "Level Found" for TOC is the running annual average ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1.0) indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of the TOC removal requirements. The value reported under the "Range" for TOC is the lowest monthly ratio to the highest monthly ratio. Toledo remained in compliance with TOC removal requirements.

The tables below show the results from 2018 Unregulated Contaminants Monitoring Rule 4 (UCMR4) Results. These test results will assist USEPA in developing new regulatory requirements to protect the public health and safety. Any contaminant found in the UCMR4 quarterly sampling will not have an MCLG or MCL and will be listed below. For more on the UCMR4 go to www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule.

Unregulated Contaminants in Drinking Water

Parameter	Sample Year	Units	Level Found	Range	Threshold	Likely Sources
Microcystin[2]	**2018**	ppb	nd	nd	0.3 Children under the age 6; 1.6 Anyone 6 or older	Toxins produced by harmful algal blooms

Parameter	Sample Year	Units	Level Found	Range	MCLG	MCL	Violation?
Sodium[1]	**2018**	ppm	32.2	8.7 – 32.2	na	na	**No**

1. This information is provided for those concerned with sodium in their diet; 32.2 mg/l of sodium equates to 7.6 milligrams of sodium per 8 ounce glass of water.
2. Microcystin is a toxin produced by harmful algal blooms. The following thresholds were developed by the USEPA (United States Environmental Protection Agency) based on a 10-day exposure. The 0.3 ppb Do Not Drink Advisory threshold is for children 6 and under. The 1.6 ppb Do Not Drink Advisory threshold is for anyone 6 and older. For information on Harmful Algal Bloom Response Strategy go to http://epa.ohio.gov/Portals/28/documents/HABs/PWS_HAB_Response_Strategy_2018.pdf.

Unregulated Contaminants in the Distribution System

Parameter	Sample Year	Units	Level Found	Range	MCLG	MCL	Violation?
Manganese	**2018**	ppb	0.478	<0.4 – 0.777	na	na	**No**
Haloacetic acid (HAA5)	**2018**	ppb	12.9	5.26 – 17.54	na	na	**No**
Haloacetic acid (HAA6br)	**2018**	ppb	11.22	1.72 – 14.37	na	na	**No**
Haloacetic acid (HAA9)	**2018**	ppb	20.81	9.4 – 26.47	na	na	**No**

Water Quality Terminology

Parts per million (ppm) and parts per billion (ppb) – One ppm can be equated to 4 teaspoons of salt in a standard 24-foot backyard pool. One ppb is like 1 teaspoon of salt in an Olympic-sized pool.
Maximum Contaminant Level (MCL) – The MCL is 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. MCLs are set at very stringent levels by State and Federal governments.
Maximum Contaminant Level Goal (MCLG) – The MCLG is 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 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.
Maximum Residual Disinfectant Level Goal (MRDLG) – The level of 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.
Nephelometric Turbidity Unit (ntu) – A measure of water clarity.
Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in the drinking water.
Contact Time (CT) – Time required to deactivate microbes with chlorine.
Picocuries per liter (piC/l) – Common measurement of radioactivity.
nd – Not detectable.
na – Not applicable.

Source Water Assessment Report

The Ohio EPA has completed a Source Water Assessment for the City of Toledo, which uses surface water drawn from Lake Erie. By their nature, all surface waters are considered to be susceptible to contamination from chemicals and pathogens. The time it would take for a contaminant to travel from our source water to our drinking water intake is relatively short. Although the water system's main intake is located offshore, susceptibility of the source water to contamination may be increased by its proximity to the following: municipal sewage treatment plants; industrial wastewater; combined sewer overflows; septic system discharges; open water dredge disposal operations; runoff from agricultural and urban areas; oil and gas production; mining operations; and accidental releases and spills, especially from commercial shipping operations and recreational boating.

The City of Toledo treats its water to meet and even surpass drinking water quality standards, but no single treatment protocol can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect Lake Erie. More detailed information is provided in the City of Toledo's Drinking Water Source Assessment Report, which can be viewed online at www.toledo.oh.gov/services/public utilities/water-treatment/drinking-water-quality-information or obtained by calling 419-936-2020.

Source Water Protection

The Department of Public Utilities is devoted to safe drinking water *and* clean source water. We work to protect Lake Erie through innovation at our wastewater treatment facility, effective operation of collection systems, and proactive environmental services. Department of Public Utilities employees:

a. Remove nutrients that impair source water quality through award-winning processes at the Bay View Wastewater Treatment Facility

b. Reduce combined sewer overflows through the Toledo Waterways Initiative

c. Decrease urban run-off through green infrastructure projects

d. Provide multi-agency cooperation and training for spill prevention and response (In 2018, training more than 350 city, state, federal, and private industry employees for the 8-Hour OSHA HazWOpER Refresher, HazMAT IQ, and Emergency Response Awareness courses made possible through a grant from the Public Utilities Commission of Ohio)

e. Oversee Industrial Pretreatment and Discharge Compliance, Stormwater Illicit Detection and Elimination Program, Construction Site Runoff Control, and Post-Construction Storm Water Management Monitoring Requirements

f. Partner with community organizations to provide community stream sampling, grant collaboration, educational programming, community outreach, and hazardous waste collections, and

g. Support the Nutrient Source Inventory, a mapping tool that identifies locations of potential pollutant sources that need to be controlled to achieve desired nutrient load reductions.

For additional information on these and other programs, please see the 2018 Annual Report and 2019 Strategic Plan at https://toledo.oh.gov/services/public-utilities/.

For information on what residents can do to protect our source water, please visit www.toledolakeerie.clearchoicescleanwater.org.

What are sources of contamination to drinking water?

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 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: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA 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 contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Federal Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Who needs to take special precautions?

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 infection. 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 (1-800-426-4791).

Cryptosporidium

The City of Toledo Water Department has completed the second round of source water monitoring required by the Long Term 2 Enhanced Surface Water Treatment Rule. Forty-eight (48) samples were collected and tested for Giardia and Cryptosporidium. Only one cell of Cryptosporidium was detected in raw water during the testing period from April 2015 to March 2018. In 2005, 21 samples were taken from Toledo's raw water supply. Cryptosporidium was not detected in any of these samples. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immune-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

Lead Educational Information

Even legally "lead-free" plumbing may contain up to eight percent lead, so it makes good sense to adopt and follow these practices: **Run the cold water *before* use** – If present, lead levels are likely at their highest when water has been sitting in the pipe for several hours. Clear this water from pipes by running the cold water before use. Running the cold faucet until water feels colder allows you to draw fresh water from the main. **Start with cold water for cooking and drinking** – Always cook and prepare baby formula with fresh cold water, because hot water dissolves lead more quickly, resulting in higher levels in water. **Clean aerators** – Aerators are small attachments at the tips of faucets which regulate the flow of water. In locations where lead pipes or fixtures are present, small particles of lead can accumulate in aerator screens. It's a good idea to remove your aerators at least monthly and clean them out. **Learn more at bit.ly/ToledoWaterSafety.**

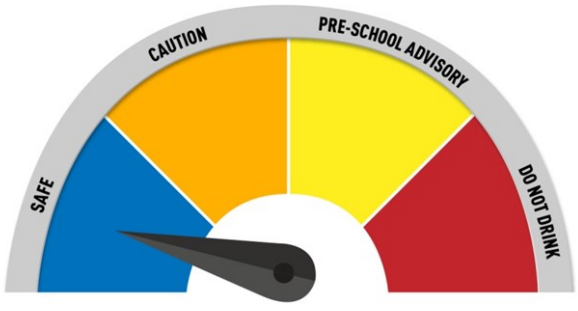
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Toledo is responsible for providing high quality drinking 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 at 800-426-4791or at http://www.epa.gov/safewater/lead.

In 2018 Toledo had an unconditional license to operate its water system.

Toledo's Water Treatment Plant has an outstanding record of success, consistently maintaining compliance with drinking water quality regulations. Its outstanding performance in 2018 was achieved through a proactive commitment by its staff to produce a higher level of drinking water safety and reliability than is currently required by law.

Drinking Water Quality Dashboard

Toledo water professionals test and monitor drinking water quality 24 hours a day, every day of the year. This dashboard is updated by staff at the Collins Park Water treatment plant to provide the public with an accurate drinking water quality status.



SAFE – Toledo tap water meets or exceeds all water quality standards.

REMINDER: Citizens may rely on the dashboard to provide the accurate status of Toledo drinking water quality directly from the Water Treatment Plant. Test results for both tap and raw lake water are posted on the City's website as they are received. Information not verified by the dashboard should be disregarded.

Public Participation Information

Public participation and comment are encouraged at Toledo City Council which meets regularly every other Tuesday at 4 pm at One Government Center. Please visit www.toledo.oh.gov/government/city-council for its calendar, meeting notices, legislation and audio minutes or call 419-245-1050. For more information on your drinking water contact Jeff Calmes at 419-936-2020.