

Northwestern Water & Sewer District – Toledo Service Area Drinking Water Consumer Confidence Report For 2016

In 2016 Northwestern Water & Sewer District – Toledo Service Area had an unconditioned license to operate our water system. Together, the City of Toledo and the Northwestern Water & Sewer District have prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

Source Water Information

The City of Toledo uses surface water drawn from an intake located in Lake Erie. The raw water is then transported to the Water Treatment Plant. Continual monitoring of the chemical feeders and raw water by the plant's operators ensures optimal treatment of the water. Lime and caustic soda for softening, alum for coagulation, carbon dioxide for neutralizing excess lime in solution and chlorine for disinfection are the primary parts of treatment.

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 obtained by calling 419-936-3021 or by visiting Toledo.oh.gov/services/public-utilities/water-treatment/drinking-water-quality-information.

Toledo's Water Treatment Plant has an outstanding record of success, consistently maintaining compliance with drinking water quality regulations. Its outstanding performance in 2016 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.

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).

About your drinking water.

The EPA requires regular sampling to ensure drinking water safety.

- The Northwestern Water & Sewer District – Toledo Service Area conducted sampling for bacteria; disinfection byproducts; lead and copper during 2016. Samples were collected for a total of 15 different contaminants most of which were not detected in the Northwestern Water & Sewer District – Toledo Service Area water supply.
- The City of Toledo conducted sampling for inorganics; nitrates; synthetic organics and volatile organics during 2016. Samples were collected for a total of 80 different contaminants most of which were not detected in the City of Toledo water supply.

The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.

Listed below is information on those contaminants that were found in the Northwestern Water & Sewer District – Toledo Service Area and the City of Toledo drinking water.

TABLE OF DETECTED CONTAMINANTS – Northwestern Water & Sewer District – Toledo Service Area

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Residual Disinfectants							
Total Chlorine (ppm)	4	4	1.00	0.83 – 1.08	NO	2016	Water additive used to control microbes.
Disinfection Byproducts							
Total Trihalomethanes TTHMs (ppb)	0	80	57.2	24.3 – 62.7	NO	2016	By-product of drinking water chlorination.
Haloacetic Acids HAA5 (ppb)	0	60	14.5	5.9 – 10.7	NO	2016	
Lead and Copper							
Contaminants (Units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Sample Year	Typical Source of Contaminants	
Lead (ppb)	15 ppb	2	6.45 ppb	NO	2016	Corrosion of household plumbing systems.	
	Two out of 31 samples was found to have lead levels in excess of the lead action level of 15 ppb.						
Copper (ppm)	1.3 ppm	0	0.0158 ppm	NO	2016	Corrosion of household plumbing systems.	
	Zero out of 31 samples were found to have copper levels in excess of the copper action level of 1.3 ppm.						

TABLE OF DETECTED CONTAMINANTS – City of Toledo

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Microbiological Contaminants							
Turbidity (NTU)	NA	TT	0.30	0.05 – 0.30	NO	2016	Soil runoff.
Turbidity (% meeting standard)	NA	TT	99.73%	0-100%	NO	2016	
Total Organic Carbon	NA	TT	3.0	2.60– 4.10	NO	2016	Naturally present in the environment.
Inorganic Contaminants							
Barium (ppm)	2	2	0.010	ND-0.010	NO	2015	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chlorite (ppm)	0.5	1.0	0.241	0.092- 0.263	NO	2016	By-product of drinking water chlorination.
Fluoride (ppm)	4	4	1.03	0.83 – 1.15	NO	2016	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

Nitrate (ppm)	10	10	2.48	<0.2 – 2.48	NO	2016	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits.
Synthetic Organic Contaminants							
Atrazine (ppb)	3	3	0.076	NA	NO	2015	Runoff from herbicide used on row crops.
Simazine (ppb)	4	4	0.053	NA	NO	2015	
Radioactive Contaminants							
Alpha emitters (pCi/l)	0	15	8	NA	NO	2015	Erosion of natural deposits.
Unregulated Contaminants							
Chlorate (ppb)	NA	NA	100	39.6 – 100	NO	2013	Presently, there are no MCL or Action Levels for these contaminants. Unregulated contaminants monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.
Chromium Hexavalent (ppb)	NA	NA	0.232	0.19 – 0.232	NO	2013	
Molybdenum (ppb)	NA	NA	2.11	ND – 2.11	NO	2013	
Sodium (ppm)	NA	NA	26.6	8.8 – 26.6	NO	2016	
Strontium (ppb)	NA	NA	151	86 – 151	NO	2013	
Vanadium (ppb)	NA	NA	0.850	0.423 – 0.85	NO	2013	
Microcystin							
Microcystin (ppb)	0.3 Children under 6 years	ND	NA	NO	2016	Toxins produced by harmful algal blooms.	
	1.6 Anyone 6 or older						

Turbidity

Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported above, the City of Toledo’s highest recorded turbidity result for 2016 was 0.30 NTU and lowest monthly percentage of samples meeting the turbidity limits was 99.73%.

Lead Educational Information

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. Northwestern Water & Sewer District – Toledo Service Area 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 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

Radon

The City of Toledo monitored for radon in the finished water during 2015. One sample was collected and the radon level was 8 pCi/L. Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Major sources of radon gas are soil and cigarettes. Inhalation of radon gas has been linked to lung cancer; however, the effects of radon ingested in drinking water are not yet clear. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, call 1-800-SOS RADON.

Revised Total Coliform Rule (RTCR) Information

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems were required to comply with the Total Coliform Rule from 1989 to March 31, 2016, and begin compliance with a new rule, the Revised Total Coliform Rule, on April 1, 2016. The new rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of total coliform bacteria, which includes E. coli bacteria. The U.S. EPA anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a maximum contaminant level violation for multiple total coliform detections. Instead, the new rule requires water systems that exceed a specified frequency of total coliform occurrences to conduct an assessment to determine if any significant deficiencies exist. If found, these must be corrected by the PWS.

How do I participate in decisions concerning my drinking water?

Public participation and comment are encouraged at regular meetings of the Board of Trustees which meets at 7:30 am every 2nd and 4th Thursday of each month. Meetings are held at the District's Operations facility located at 12560 Middleton Pike, Bowling Green, OH 43402. For more information on your drinking water contact Customer Service at 419-354-9090.

Definitions of some terms contained within this report.

- 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 contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- 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.

- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- Contact Time (CT) means the mathematical product of a “residual disinfectant concentration” (C), which is determined before or at the first customer, and the corresponding “disinfectant contact time” (T).
- Microcystins: Liver toxins produced by a number of cyanobacteria. Total microcystins are the sum of all the variants/congeners (forms) of the cyanotoxin microcystin.
- Cyanobacteria: Photosynthesizing bacteria, also called blue-green algae, which naturally occur in marine and freshwater ecosystems, and may produce cyanotoxins, which at sufficiently high concentrations can pose a risk to public health.
- Cyanotoxin: Toxin produced by cyanobacteria. These toxins include liver toxins, nerve toxins, and skin toxins. Also sometimes referred to as “algal toxin”.
- Level 1 Assessment is a study of the water system to identify the potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- Level 2 Assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
- Parts per Million (ppm) or Milligrams per Liter (mg/L) are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- Parts per Billion (ppb) or Micrograms per Liter ($\mu\text{g}/\text{L}$) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- The “<” symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.
- Picocuries per liter (pCi/L): A common measure of radioactivity.