

**Northwestern Water & Sewer District – Middleton Twp.
Drinking Water Consumer Confidence Report For 2018**

In 2018 we had an unconditioned license to operate our water system. Together, the City of Bowling Green and the Northwestern Water & Sewer District – Middleton Twp. 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 Bowling Green water treatment plant obtains its water from the Maumee River. The system's treatment capacity is approximately 6.0 million gallons per day, but current average production is 4.8 million gallons per day. Water is pumped from the Maumee River to an up-ground reservoir. The City of Bowling Green's water treatment system consists of coagulation, lime softening, flocculation, sedimentation, stabilization, granular activated carbon (GAC) filtration, filtration, and fluoride.

For the purposes of source water assessments, all surface waters are considered to be susceptible to contamination. By their nature surface waters are accessible and can be readily contaminated by chemicals and pathogens, with relatively short travel times from source to the intake. Based on the information compiled for this assessment, the City of Bowling Green drinking water source protection area is susceptible to runoff from agriculture, industrial storm water, gas stations, home construction, and feed lots; waste water treatment discharges, airports, cemeteries, auto repair shops, landfills, above ground storage tanks, railroads, roadways, and oil and gas wells.

It is important to note that this assessment is based on available data, and therefore may not reflect current conditions in all cases. Water quality, land uses and other activities that are potential sources of contamination may change with time. While the source water for the City of Bowling Green Public Water System is considered susceptible to contamination, historically, the City of Bowling Green Public Water System has effectively treated this source water to meet drinking water quality standards.

The source water assessment report prepared for the City of Bowling Green can be accessed at Ohio EPA's website. Utilizing the Interactive Web Map located at <http://epa.ohio.gov/ddagw/swap.aspx> and selecting "Source Water Protection Areas" under the "Quick Links". When the map appears, you can search by water system name or by the 7-digit PWS ID number which is OH8700311 for the City of Bowling Green. You may request a copy by contacting the City of Bowling Green by calling 419-878-6986.

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 – Middleton Twp. conducted sampling for bacteria and disinfection byproducts during 2018. Samples were collected for a total of 13 different contaminants most of which were not detected in the Northwestern Water & Sewer District – Middleton Twp. water supply.
- The City of Bowling Green conducted sampling for bacteria; inorganic; synthetic organic and volatile organics during 2018. Samples were collected for a total of 80 different contaminants most of which were not detected in the City of Bowling Green 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 – Middleton Twp. and the City of Bowling Green drinking water.

TABLE OF DETECTED CONTAMINANTS: Northwestern Water & Sewer District - Middleton Twp.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Disinfectant and Disinfectant By-Products							
Total Chlorine (ppm)	MRDL = 4	MRL = 4	1.31	0.72 - 1.6	No	2018	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	9.4	9.4 - 9.4	No	2018	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	NA	80	47.3	47.3 - 47.3	No	2018	By-product of drinking water disinfection

Lead and Copper						
Contaminants (units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled	Typical source of Contaminants
Lead (ppb)	15 ppb	0	0 ppb	No	2017	Corrosion of household plumbing systems; erosion of natural deposits
	0 out of 10 samples were found to have lead levels in excess of the lead action level of 15 ppb.					
Copper (ppm)	1.3 ppm	0	0.02 ppm	No	2017	Erosions of natural deposits; leaching from wood preservatives; Corrosions of household plumbing systems
	0 out of 10 samples were found to have copper levels in excess of the copper action level of 1.3 ppm.					

TABLE OF DETECTED CONTAMINANTS: City of Bowling Green

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Microbiological Contaminants							
Turbidity (NTU)	NA	TT	0.16	0.06 - 0.16	No	2018	Soil runoff.
Turbidity (% meeting standard)	NA	TT	100%	0 - 100%	No	2018	
Total Organic Carbon	NA	TT	2.8	2.8 - 3.4	No	2018	Naturally present in the environment.
Inorganic Contaminants							
Barium (ppm)	2	2	0.012	NA	No	2018	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	1.05	0.87 - 1.28	No	2018	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	10	10	5.9	0.4 - 5.9	No	2018	Run off from fertilizer use, Leaching from septic tanks, sewage; Erosion of natural deposits

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 samples analyzed each month and shall not exceed 1 NTU at any time. As reported above, the City of Bowling Green's highest recorded turbidity result for 2018 was 0.16 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.

What is the Unregulated Contaminant Monitoring Rule?

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the US Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The Unregulated Contaminant Monitoring Rule (UCMR) provides EPA and other interested parties with scientifically valid data on the occurrence of contaminants in drinking water. This national survey is one of the primary sources of information on occurrence and levels of exposure that the Agency uses to develop regulatory decisions for contaminants in the public drinking water supply.

The "Revisions to the Unregulated Contaminant Monitoring Rule (UCMR 4) for Public Water Systems and Announcement of Public Meeting" was published in the Federal Register on December 20, 2016 (81 FR 92666).

UCMR 4 monitoring will occur from 2018-2020 and includes monitoring for a total of 30 chemical contaminants: 10 cyanotoxins (nine cyanotoxins and one cyanotoxin group) and 20 additional contaminants (two metals, eight pesticides plus one pesticide manufacturing byproduct, three brominated haloacetic acid [HAA] disinfection byproducts groups, three alcohols, and three semivolatile organic chemicals [SVOCs]).

Unregulated Contaminants					
Contaminants (Units)	Sample Year	Average Level Found	Range of Detections	Sample Location	Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In 2018 the City of Bowling Green participated in the fourth round of the Unregulated Contaminant Monitoring Rule (UCMR 4). For a copy of the results please call the Bowling Green Water Treatment Plant at 419-878-6986.
Total Organic Carbon	2018	6453	6360 - 6621	Source Water	
Bromide	2018	41.7	38.7 - 43.7	Source Water	
Haloacetic Acids (HAA5) (ppb)	2018	13.2	8.1 - 18.7	Distribution	
Haloacetic Acids (HAA6Br) (ppb)	2018	7.4	6.0 - 8.5	Distribution	
Haloacetic Acids (HAA9) (ppb)	2018	20.1	13.2 - 29.5	Distribution	

Nitrate Educational Information

Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

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 – Middleton Twp. 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>.

Cryptosporidium Information

The City of Bowling Green monitored for Cryptosporidium in the source water during 2018. Cryptosporidium was detected in 1 of 9 collected from the source water. 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 percent removal. Our monitoring of source water indicate 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 within a few weeks. However, immunocompromised people are at greater risk of developing a life threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Revised Total Coliform Rule (RTCR) Information

All water systems were required to 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.

Additionally, the City of Bowling Green encourages public interest and participation in our community's decisions affecting drinking water. Board of Public Utilities meetings are held regularly at 5:00 p.m. on the second and fourth Mondays of each month at the City Administrative Services Building located at 304 North Church Street in the City Council Chambers. The public is welcome to attend these meetings to ask questions or express concerns as a lobby visitation if desired. Find out more about the City of Bowling Green on the internet at <http://www.bgohio.org/departments/utilities-department/water-treatment-plant>.

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".
- 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 (µg/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.

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