



Northwestern Water & Sewer District

2013 Water Quality Report

Middleton Township Area

Together, the City of Bowling Green and the Northwestern Water and Sewer District has prepared the following report to provide information to you, the consumer, on the quality of our drinking water.

The District will notify you immediately if there is any reason for concern about the water.

We have a current, unconditional license to operate our water system.

Source of the District's Water

The City of Bowling Green draws surface water from the Maumee River during periods when the river supply is of high water quality. The water is then stored in the City's 170 million gallon above-ground reservoir to be used at times when the river water quality is less desirable. The reservoir storage provides a means to supply consistently high quality water to the consumer. The water plant's operators work around the clock, 7 days a week to assure the quality of your drinking water meets or exceeds all Federal and State requirements. Your drinking water goes through a continuously monitored, 10 step multi-barrier treatment process that takes several hours to complete.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.**

The source of drinking water and bottled water includes rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive materials, and can pick up substances from the presence of animals or human activity.

Contaminants

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 infections. At risk individuals 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 microbiological contaminants are available from the **Safe Drinking Water Hotline (800-426-4791).**

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 chemicals contaminants*, including synthetic and volatile organic chemicals, which are byproducts 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.

Nitrates in drinking water at levels above 10 ppm are a health risk for infants of 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.

Some people who drink water containing **Trihalomethanes** in excess of the MCL over many years may experience

problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Bowling Green's drinking water contains small amounts of naturally occurring minerals such as calcium and magnesium. The City of Bowling Green adds fluoride is added to protect teeth as required by law.

Lead in Drinking Water

"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 Bowling Green 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 levels in your home's water, you may wish to have your water tested.

Although there is no detectable lead in our drinking water as it leaves the treatment plant, by the time it reaches your tap, lead levels may increase as a result of materials used in your home's plumbing. Infants and young children are typically more vulnerable to lead in drinking water than the general population. Additional information is available from the **Safe Drinking Water Hotline (1-800-426-4791 or at <http://epa.ohio.gov/ddagw/dwbasics.aspx>**

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. It's important to remember that the presence of certain contaminants does not necessarily indicate that the water poses a health risk.

Source Water Assessment

The City of Bowling Green public water system uses surface water drawn from an intake on the Maumee River. For the purposes of source water assessments, in Ohio, all surface waters are considered to be susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens which may rapidly arrive at the public drinking water intake with little warning or no time to prepare. The City of Bowling Green's drinking water source protection area contains potential contaminant sources such as runoff from agriculture, industrial storm water, gas stations, home construction, feed lots, wastewater treatment discharges, airports, cemeteries, auto repair shops, landfills, above ground storage tanks, railroads, roadways, and oil and gas wells.

The City of Bowling Green's public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The potential for quality impacts can be further decreased by implementing measures to protect the Maumee River.

More detailed information is provided in the City of Bowling Green's Drinking Water Source Assessment report, which can be obtained by calling the City of Bowling Green at (419) 878-6986.

Water Treatment Improvements

Two significant improvements have recently been completed at the Bowling Green Water Treatment Plant. A second raw water intake and pumping station allows the City to be more selective in the quality of water it pumps from the river into the reservoir through increased pumping capacity.

A new 3 MGD Microfiltration/Low Pressure Reverse Osmosis system removes over 85% of the total organic carbon present in the water. This total organic carbon reduction will reduce the THM and HAA concentrations in the finished water to meet the Stage 2 Disinfectant and Disinfection By-Products Rule.



City of Bowling Green Water Treatment Plant

ADMINISTRATION, CUSTOMER SERVICE AND OPERATIONS:

NORTHWESTERN WATER & SEWER DISTRICT
12560 MIDDLETON PIKE, P.O. BOX 348
BOWLING GREEN, OH 43402
419.354.9090 OR 1.877.354.9090
E-MAIL: district@nwwsd.org

The following table shows the results of our water-quality analysis. Every regulated contaminant that we detected in the water, even in the most minute traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual source of such contaminants, and a key to the units of measurement. This table does not show the numerous other contaminants we tested for, and did not detect in our water.

2013 Water Quality Data - Middleton Township Area							
CITY OF BOWLING GREEN DATA							
Contaminant (Units)	Violation Y/N	Sample Year	MCL	Detected Level	Range of Detections	MCLG	Likely Source of Contamination
Microbiological Contaminants							
Turbidity (NTU)	No	2013	TT=0.3	0.15	.04 – 0.15	NA	Soil runoff
Turbidity (% samples meeting standards)	No	2013	TT	100%	100 %	NA	
Total Organic Carbon (TOC)	No	2013	TT	2.54	2.54 - 2.85	NA	Naturally present in the Environment
Inorganic Contaminants							
Barium (ppm)	No	2013	2	0.01	NA	2	Discharges from metal refineries, & of drilling wastes; Erosion of natural deposits
Fluoride (ppm)	No	2013	4	1.21	0.81 - 1.21	4	Water additive which promotes strong teeth; Erosion of natural deposits
Nitrate (ppm) (as Nitrogen)	No	2013	10	8.68	0.47 - 8.68	10	Runoff from fertilizer use; sewage; erosion of natural deposits
Unregulated Contaminants							
Chromium (ppb)	No	2013	NA	1.0		NA	
Chromium Hexavalent (ppb)	No	2013	NA	0.72		NA	
Molybdenum (ppb)	No	2013	NA	4.6		NA	
Strontium (ppb)	No	2013	NA	570		NA	
Vanadium (ppb)	No	2013	NA	0.3		NA	
Chlorate (ppb)	No	2013	NA	340		NA	
NORTHWESTERN WATER AND SEWER DISTRICT DATA							
Inorganic Contaminants							
Contaminant (Units)	Violation Y/N	Sample Year	Action Level	90th Percentile	# of Samples Over AL	MCLG	Likely Source of Contamination
Copper (ppm)	No	2011	1.3	0.041	0 sites over action level	1.3	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead (ppb)	No	2011	15	0	0 sites over action level	0	Corrosion of household plumbing systems; Erosion of natural deposits.
Asbestos							
Contaminant (Units)	Violation Y/N	Sample Year	Action Level	Detected Level	# of Samples Over AL	MCLG	Likely Source of Contamination
Asbestos (MFL)	No	2013	7	<LOD	0	7	Decay of asbestos cement water mains; Erosion of natural deposits
Volatile Organic Contaminants							
Contaminant (Units)	Violation Y/N	Sample Year	MCL	Highest Level Detected	Range of Levels Detected	MCLG	Likely Source of Contamination
Total Trihalomethanes - TTHM (ppb)	No	2013	80	38	30.8 - 38.3	No goal for the total	By-product of drinking water disinfection
Haloacetic Acids(HAA5) (ppb)	No	2013	60	21	15 - 21.4	No goal for the total	By-product of drinking water disinfection
Residual Disinfectants							
Contaminant (Units)	Violation Y/N	Sample Year	MCL	Highest Level Detected	Range of Levels Detected	MCLG	Likely Source of Contamination
Total Chlorine (ppm)	No	2013	MRDL 4.0	1.59	0.20 - 1.59	MRDLG 4.0	Water additive used to control microbes
Data presented in this table is from the most recent monitoring done in compliance with regulations.							
Key To Table							
AL=Action Level				ppm = parts per million, or milligrams per liter			
MCL= Maximum Contaminant Level				ppb = parts per billion, or micrograms per liter			
MCLG= Maximum Contaminant Level Goal				TT = Treatment Technique			
MRDL=Maximum Residual Disinfectant Level				NTU = Nephelometric Turbidity Units			
MRDLG=Maximum Residual Disinfectant Level Goal				NR = Not regulated			
< = A symbol that means less than.				NA = Not Available			

Definitions

Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Action Level Goal (ALG): The level of contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

Maximum Contaminant Level: The "Maximum Allowed" (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.

Maximum Contaminant Level Goal: The "Goal" (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 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.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

NTU: A unit of measure to determine the concentration of particles in the water that affect clarity.

Parts per Million (ppm): milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

Parts per Billion (ppb): micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

Treatment Technique (TT): A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

"<" Symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and that the contaminant in that sample was not detected.

The value reported in the table under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of TOC removal requirements.

Turbidity

Turbidity is a measure of the cloudiness of the 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 Bowling Green's highest recorded turbidity result for 2013 was 0.15 and 100% of our samples met the turbidity limits.

Cryptosporidium

In 2010, 3 samples were taken from the raw reservoir water supply. Cryptosporidium was detected in one (1) sample. Cryptosporidium is a microbial parasite 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 and/or finished 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 within a few weeks. However, immune-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.

Effective treatment for the removal of Cryptosporidium from drinking water includes specific filtration equipment. The City of Bowling Green Water Department presently has treatment facilities that are considered effective by the EPA. The City of Bowling Green will continue to operate the filtration equipment in such a method as to ensure the most effective removal of Cryptosporidium as possible. This includes the continual monitoring of filter effectiveness and continued monitoring of Cryptosporidium.

IDSE

Under the Stage 2 Disinfectants/Disinfection By-products Rule (D/DBPR), our public water system was required by the US EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE), and is intended to identify locations in our distribution system with elevated disinfection by-product concentrations. The

locations selected for the IDSE may be used for compliance monitoring under the State 2 DBPR, beginning in 2012. Disinfection by-products are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection by-products are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). The US EPA sets the standards for controlling the levels of disinfectants and disinfectant by-products in drinking water, including both TTHM and HAA5.

Public Participation

The Northwestern Water and Sewer District encourages public interest and participation in our decisions affecting drinking water. The Board of Trustees' meetings are held regularly at 7:30 am every 1st and 3rd Thursday of each month, at the District's Operations Facility located at 12560 Middleton Pike, Bowling Green. The public is welcome to attend these meetings and can ask questions or address their concerns if desired. Find out more about the District on the Internet at <http://www.nwwsd.org>.

