



CITY OF
Bloomington
ILLINOIS



2016 Annual Consumer Report on the Quality of Tap Water

The City of Bloomington Water Department is committed to providing residents with a safe and reliable supply of high-quality drinking water. We test our water using sophisticated equipment and advanced procedures. The City of Bloomington Water Department's water meets state and federal standards for both appearance and safety. This annual "Consumer Confidence Report," required by the Safe Drinking Water Act (SDWA), tells you where your water comes from, what our tests show about it, and other things you should know about drinking water.

Overview

We at the Bloomington Water Department are grateful for the opportunity to provide safe drinking water to our customers. In order to ensure that your water is the best quality possible, the City is continually making improvements to our treatment facilities and is actively engaged in reservoir and watershed management.

The City performs monitoring for the Illinois Environmental Protection Agency Clean Lakes Program for the Lake Bloomington and Evergreen reservoirs. Information on the conditions of the reservoirs, sources of possible contamination, and plans for improving our reservoirs will be part of the study reports. We are or have been actively engaged in research projects with McLean County Soil and Water Conservation District, Illinois State University, the University of Illinois, the Nature Conservancy, Friends of Everbloom and many other agencies. The goal of these projects is to lessen the impact that farming, construction and other activities on the land that drains into our reservoirs have upon water quality.

If you would like to learn more about the decision making process that affect drinking water quality, please feel welcome to attend any of the regularly scheduled council meetings. The City Council meets on the 2nd and 4th Mondays every month in the City Hall Council Chambers on the 2nd Level. All City Council meetings are open to the public and are handicap accessible.

Water Source

The City of Bloomington obtains water from two man-made reservoirs, the Lake Bloomington reservoir and Evergreen Lake reservoir. The Lake Bloomington reservoir is fed by runoff from 70 square miles of land while the drainage area for the Evergreen Lake reservoir is 41 square miles.

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AN EXPLANATION OF THE WATER-QUALITY DATA TABLE

The table shows the results of our water quality analyses. Every regulated contaminant that we detected in the water, even the minutest 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 sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Definitions of MCL and MCLG are important. The data presented in this report are from the most recent testing done in accordance with regulations.

TABLE OF DEFINITIONS AND ABBREVIATIONS

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

Highest Level Detected: In most cases, the "Highest Level Detected" is the annual average of all samples collected during the calendar year. It may represent a single sample, if only one sample was collected. For contaminants monitored quarterly, a quarterly average is calculated using all routine/confirmation samples collected during the quarter. For chloramines, a running annual average is calculated each month by adding the monthly averages and dividing by twelve. For disinfection by-products, a running annual average is calculated for each location by adding the quarterly results and dividing by four. The highest average of all locations is used in the table.

Maximum Contaminant Level or 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 technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking-water below which there is no known or expected risk to health. MCLGs allow for margin of safety.

Maximum Residual Disinfectant Level or MRDL: The highest level of 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 or MRDLG: The level of disinfectant in drinking water 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.

NA: Not applicable

NTU (Nephelometric Turbidity Units): Unit of turbidity (cloudiness) measurement.

pCi/L (picoCuries per Liter): Measurement of the natural rate of disintegration of radioactive contaminants in water.

ppm (parts per million): One part substance per million parts water or milligrams per liter (mg/L).

ppb (parts per billion): One part substance per billion parts water or micrograms per liter (µg/L).

Range of Detections: The range of individual sample results, from lowest to highest that were collected during the sample period. It may represent a single measurement if only one sample was collected.

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

Year Sampled: While most monitoring was conducted in 2016, certain substances are monitored less than one per year because the levels do not change frequently.

2016 Table of Detected Contaminants

Contaminant	Year Sampled	Unit	MCLG	MCL	Highest Level Detected	Range Of Detections	Violation
Inorganic Contaminants – Measured in the water leaving the drinking water treatment plant							
Barium	2016	ppm	2	2	0.037	Single measurement	No
	Typical sources: Discharge of drilling wastes, metal refineries; erosion of natural deposits.						
Fluoride	2016	ppm	4	4	0.91	0.608-0.91	No
	Typical sources: Water additive which promotes strong teeth						
Iron	2016	ppm	NA	1	0.017	Single measurement	No
	Typical sources: Erosion from naturally occurring deposits.						
Nitrate (as Nitrogen)	2016	ppm	10	10	5 Highest quarterly average	0.42-6.1	No
	Typical sources: Runoff from fertilizer wastes, leaching from septic tanks, sewage; erosion of natural deposits. Quarterly averages are calculated using all routine and confirmation samples collected during a quarter.						
Sodium	2016	ppm	NA	NA	10	Single measurement	No
	Typical sources: Erosion of naturally occurring deposits; used in water softening						
Disinfection/Disinfectant By-Products – Measured in the water distribution system							
Chloramines	2016	ppm	MRDLG=4	MRDL=4	3.3*	3-3.6	No
	Typical sources: Water additive to control microbes.						
*For chloramines, a running annual average is calculated each month by adding the monthly averages and dividing by twelve. The highest annual average of all months is listed. Some data from the previous year is used in this calculation.							
Total Haloacetic Acids	2016	ppb	NA	60	31* Highest locational running average	1.5-47.4	No
	Typical sources: By-product of drinking water chlorination.						
Total Trihalo-methane	2016	ppb	NA	80	35* Highest locational running average	25.5-40.6	No
	Typical sources: By-product of drinking water chlorination.						
*For disinfection by-products, a running annual average is calculated for each location by adding the quarterly results and dividing by four. The highest locational running annual average of all locations is listed. Some data from the previous year is used in this calculation.							
Radiological Contaminants – Measured in the water leaving the drinking water treatment plant							
Combined Radium 226/228	2013	pCi/L	0	5	1.075	Single measurement	No
	Typical sources: Erosion of natural deposits.						
Gross Alpha emitters	2013	pCi/L	0	15	0.941	Single measurement	No
	Typical sources: Erosion of natural deposits.						

Lead and Copper - Measured in the water distribution system							
Contaminant	Year Sampled	Unit	MCLG	AL	90 TH Percentile	# Sites over AL	Violation
Copper	2014	ppm	1.3	1.3	0.078	0	No
	Typical sources: Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.						
Lead	2014	ppb	0	15	2.1	0	No
	Typical sources: Corrosion of household plumbing systems; erosion of natural deposits						
Turbidity - Measured in the water leaving the drinking water treatment plant							
	Date Tested	Limit (TT)	Level Detected	Violation			
Turbidity Highest single measurement	2016	1 NTU	0.45 NTU	No			
	Typical sources: Soil runoff						
Lowest monthly % meeting limit	2016	0.3 NTU	98%	No			
	Typical sources: Soil runoff						
Total Organic Carbon – Measured in the untreated water and the water leaving the water treatment plant							
The percentage of Total Organic carbon (TOC) removal was measured each month and the system met all TOC removal requirements.							

COMMON WATER QUALITY PARAMETERS FOR BLOOMINGTON WATER		
Parameter / Units	Minimum – Maximum level	Average Level
Total Alkalinity (as CaCO ₃)/(ppm)	40-90	60
Total Hardness (as CaCO ₃)/(ppm)	90-140	110
Calcium Hardness (as CaCO ₃)/(ppm)	60-100	80
Magnesium Hardness (as CaCO ₃)/(ppm)	8-30	20
pH /(units)	8.8-9.1	9.0
ppm = parts per million		



ABOUT THE DATA

Nitrate: 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 for advice from your health care provider.

Sodium: This contaminant is not currently regulated and there is no MCL for sodium. Monitoring is required to provide information to consumers and health officials who are concerned about sodium intake due to dietary precaution. If you are on a sodium restricted diet, consult a physician about this level.

Turbidity: Turbidity is a measure of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants. As a treatment requirement, turbidity levels of water leaving the water treatment plant cannot be greater than 0.3 Nephelometric Turbidity Units (NTU) in more than 5% of our routine measurements and is never to exceed 1.0 NTU.

Cryptosporidium monitoring: 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. Treatment processes have been optimized to maintain low turbidity and remove particles from water to greatly reduce the threat of cryptosporidium cysts getting through the treatment process and into the drinking water system. In 2016, monitoring of the untreated source waters indicated the presence of this organism. A level of 0.178 oocysts per Liter was detected in one of 24 source water samples collected and analyzed in 2016. In the remaining 23 source water samples analyzed in 2016, no cryptosporidium organisms were detected. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of cryptosporidium infection (cryptosporidiosis) include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water, such as poor sanitation practices.

Lead Monitoring: Due to consistently low results, the IEPA placed lead and copper sampling for our system on a reduced schedule. Our next round of sampling is scheduled for summer 2017. 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 Bloomington 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 cold 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 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Required Additional Health Information: To ensure that tap water is safe to drink, the US Environmental Protection Agency (USEPA) prescribes limits on the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water. 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 USEPA's Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap 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 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 storm 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, storm water runoff, and residential use.

Organic chemical contaminants, including synthetic and volatile organics, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining.

Some people may be more vulnerable to contaminants in drinking-water than the general population. Immuno-compromised persons such as those 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. These people should seek advice about drinking water from their health care providers. US Environmental Protection Agency/ Communicable Disease Control (USEPA/CDC)

guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Other Monitoring: In addition to the required testing of our water system for regulated contaminants, the Bloomington Water Department performs voluntary tests for additional substances and microscopic organisms to make certain our drinking water is safe and of high quality. If you are interested in more detailed information, contact Rick Twait, Superintendent of Water Purification, or Jill Mayes, Laboratory Manager, at (309) 434-2150.

Source Water Assessment Summary: The Illinois EPA has compiled source water assessments for all community water supplies including the City of Bloomington. Illinois EPA considers all surface water sources of public water supply to be susceptible to potential pollution problems. Hence the reason for mandatory treatment of all public water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration and disinfection. Primary sources of pollution in Illinois lakes can include agricultural runoff, land disposal (septic systems) and shoreline erosion. The Illinois EPA Source Water Assessment Program (SWAP) for our water supply is available upon request by calling Rick Twait at 309-434-2150 or by accessing the Illinois EPA website: <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>

Water Supply Protection and Planning: The City of Bloomington is actively involved in watershed protection and lake management activities. An oversight committee holds regular meeting to implement watershed and lake management plans for both reservoirs. The committee members are from the City the Town of Normal, McLean County, various agriculture agencies and citizen organizations. Long term water supply planning includes management of our existing resources and development of new sources. Our interim water supply plan is linked at the City of Bloomington website: <http://www.cityblm.org/water>.

Security: The City of Bloomington Water Department is working to continually improve the security of our water system. Since our water supply and distribution system is large, we ask all of our customers to be aware of any suspicious activities involving the water system. If anything suspicious is noted, please call the Water Department at (309) 434-2426.

**The 2016 Water Quality Report for Bloomington may be viewed online at
URL: www.cityblm.org/waterquality**

DEMONSTRATING INNOVATION AND COLLABORATION

We rely upon Lake Bloomington and Evergreen Lake to supply water to over 80,000 people. The City, along with many partners, continues to develop and implement the source water protection program that began in the mid 1980's. Our long time partnership with the McLean County SWCD and a good working relationship with landowners and producers in the watershed are important to the success of the program.

Our source water protection vision is to achieve the highest possible water quality in our reservoirs through cooperative actions with landowners, citizens and local governments to improve conditions in the catchments, streams and lakes. In addition to providing excellent source water, our lakes will support premier fisheries and provide recreational and educational opportunities to residents and visitors.

Our source water goals are to reduce nitrate nitrogen, sediment and phosphorus loadings to the reservoirs to acceptable levels. Lower phosphorus and nitrate concentrations in both reservoirs will decrease the occurrence and severity of excessive algal growth. Reducing sediment loading will increase the longevity of the reservoirs as water supplies by decreasing the rate of storage loss to sedimentation.

Our action plans for both reservoirs can be found in the watershed plans written by local watershed committees. The actions described in the plans range from storm water best management practices, lawn care practices and onsite waste system education for urban areas to nutrient management programs, stream restoration, lake shoreline stabilization, lake destratification, wetland construction and other activities in the drainage basin and in the lakes.

We are fortunate to be partnering with many different groups. The Nature Conservancy (TNC) and our long term partner, McLean County Soil and Water Conservation District (SWCD), are working on a project involving the installation of constructed wetlands and other nutrient reduction practices. Illinois State University is a major partner, with data collection and active research projects, by both students and faculty in many different departments, particularly Hydrogeology, Sociology and Economics. We work with The Friends of EverBloom (FOE) to stabilize the lake shorelines and the streams that feed our reservoirs. The FOE obtained grants to install rock riffle structures and stone toe protection in a tributary stream to Evergreen Lake, and for fish habitat that was incorporated into a shoreline stabilization project on Lake Bloomington. We are also fortunate to have good representation within state, federal and local agencies (especially McLean County Parks) and citizen groups in our program. One of the most innovative characteristics of our program is the extreme diversity of the partners. The ability of all the varied interests to pull together in one direction is truly remarkable.