

**YOUR WATER QUALITY.** EMWC buys all of the water we sell to our members from the City of Bloomington Utilities (CBU). CBU pumps all of its water from Monroe Reservoir and treats it before releasing it to its customers. Federal guidelines require the state of Indiana to issue Source Water Assessments (SWA) in order to identify significant or possible sources of contamination. Information concerning Monroe Reservoir's SWA is available by contacting City of Bloomington Water Quality Office.

All of Monroe Reservoir's water is sourced from rainfall which has traveled either over or through the ground to the reservoir. On its transit to the reservoir, the water dissolves naturally occurring minerals, and possibly radioactive materials, as well as substances resulting from animal or human activity. Contaminants that may possibly be found in surface water include: microbial contaminants derived from biological wastes or from soil activity; inorganic contaminants (i.e. salts and minerals that can be naturally occurring or the result of industrial or agricultural activity); pesticides and herbicides from agricultural or residential usage; organic chemical products resulting from industry, septic systems, and runoff water from such commercial as gas stations; and naturally occurring radioactive materials. Treated water may also contain contaminants resulting from the disinfection process. Chlorine and other compounds used as disinfectants also interact with organic materials to produce small amounts of byproducts (haloacetic acids, HAA5 and trihalomethanes, THM) that may pose a health risk when consumed over long periods of time.

**2017 WATER QUALITY RESULTS.** The following table (back of this page) lists water quality testing results for 2017 as conducted by CBU. EMWC conducted its own testing in 2017 for chlorine and for disinfectant byproducts (THM and HAA5). We also tested for copper and lead in 2016. Our results were as follows (all were within the EPA's highest acceptable levels):

Copper	0.016 ppm	(90th percentile)	
Lead	1.0 ppb	(90th percentile)	
Chloramines (as chlorine)	3.90 ppm	(highest value recorded)	
Total THM	42.75 ppb	(average)	range 28.3 to 65.7 ppb
Total HAA5	30.63 ppb	(average)	range 22.7 to 37.6 ppb

**A NOTE ABOUT WATER 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. These people should seek advice about drinking water from their health care providers. U.S. Environmental Protection Agency and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

**Detected Contaminants Table**

Substance	Highest Level Allowed (EPA's MCL*)	Highest Level Detected	Ideal Goals (EPA's MCLG's*)	Sources of Contamination
<b>Microbiological Contaminants</b>				
Total Coliform Bacteria	5 percent	1.2 percent	0	Naturally present in the environment
Heterotrophic Plate Count	Treatment Technique (TT)*	85 CFU/ml	None	Natural lake bacteria, wildlife, septic systems
Total Organic Carbon (TOC)	minimum 35% removal	35.7% removal average <sup>1</sup>	None	Naturally present in the environment
Turbidity	Treatment Technique	0.17 turbidity units <sup>2</sup>	None	Soil runoff
<b>Inorganic Contaminants</b>				
Barium	2 ppm*	0.017 ppm	2 ppm	Erosion of natural deposits
Copper	TT; Action Level* = 1.3 ppm	0.026 ppm (90th Percentile)*	1.3 ppm	Corrosion of household plumbing systems; erosion of natural deposits
Chloramines (as Chlorine)	4.0 ppm (MRDL)*	3.00 ppm	4 ppm (MRDLG)*	Water additive to control microbes
Fluoride	4 ppm	0.95 ppm <sup>3</sup>	4 ppm	Water additive which promotes strong teeth
Lead	TT; Action Level = 15 ppb*	5.5 ppb (90th Percentile)	0	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate (as Nitrogen)	10 ppm	0.1 ppm	10 ppm	Runoff from fertilizer use; leachate from septic systems, sewage; erosion of natural deposits
<b>Organic Contaminants</b>				
Total Trihalomethanes (TTHM)	80 ppb	41.6 ppb average <sup>4</sup>	0	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	60 ppb	31.3 ppb average <sup>5</sup>	0	By-product of drinking water disinfection
Atrazine	3 ppb	0.2 ppb	3 ppb	Runoff from herbicide used on row crops
Hexachlorocyclopentadiene	50 ppb	0.1 ppb	50 ppb	Discharge from chemical factories
LISTED ABOVE are 14 contaminants detected in Bloomington's drinking water during 2017. All are within allowable levels. Not listed are the over 60 primary contaminants for which we tested that were not detected.				

**\*DEFINITIONS:**

**90th Percentile** - Ninety percent of samples had lower values than the value indicated.

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

**CFU/ml** - Colony forming units per milliliter.

**Colony Forming Unit** - An area of visually distinct bacterial growth which may result from a single bacterium or pairs, clusters or chains of bacteria.

**Locational Running Annual Average (LRAA)** - Average of sample data at a given sampling site over the four most recent quarters of sampling.

**Maximum Contaminant Level (MCL)** - 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 (MCLG)** - The level of 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 a 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 contamination.

**pCi/l** - Picocuries per liter is a measure of radioactivity in water. A picocurie is 10<sup>-12</sup> curies and is the quantity of radioactive material producing 2.22 nuclear transformations per minute.

**ppm** - parts per million. Equivalent to milligrams per liter (mg/l).

**ppb** - parts per billion. Equivalent to micrograms per liter (ug/l).

**Total Organic Carbon (TOC)** - a measurement of natural and man-made organic material in the water. TOC reacts with disinfectants to form disinfection by-products.

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

**ADDITIONAL INFORMATION:**

**1** Total Organic Carbon (TOC) removal percentages ranged from 28.3% to 38.4%.

**2** Turbidity levels ranged from 0.02 to 0.17 with an average of 0.06 turbidity units. The lowest level of compliance on a monthly basis was 100%.

**3** Fluoride levels ranged from 0.48 to 0.95 with an average of 0.74 ppm.

**4** Total trihalomethane levels ranged from 23.3 to 69.6 ppb. The highest Locational Running Annual Average for any sampling site was 41.6 ppb. Some people who drink water containing trihalomethanes in excess of the MCL over many years could experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.

**5** Haloacetic acids (HAA5) levels ranged from 16.0 to 75.9 ppb. The highest Locational Running Annual Average for any sampling site was 31.3 ppb. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.