



# 2017

Prepared by Bloomfield Township  
Department of Public Works  
June 2018

# Water Quality Report

Bloomfield Township is pleased to inform you that in 2017, as in past years, we have surpassed the water quality standards required by the U.S. Environmental Protection Agency (EPA) and the State of Michigan's Department of Environmental Quality (MDEQ). The 2017 Annual Water Quality Report describes the source of our water, lists our test results, and contains important information about water and health. This report is intended to provide consumer understanding of drinking water and to heighten awareness of the need to protect our precious water resources. For more information on the specific testing results please see the water quality table and definitions as provided. We hope this report addresses any drinking water quality concerns you might have. If you have any questions regarding this report, please contact the Bloomfield Township DPW at 248-594-2800.

## What You Can Do to Help Protect Our Water Resources

Pollutants make their way into our rivers and lakes in a variety of ways. The most common route is through stormwater runoff. When it rains, stormwater flows over roadways and parking lots, picking up pollutants like sediment, oil and heavy metals. It also runs off lawns that can contribute pesticides, fertilizer, leaves, and bacteria from animal waste. This polluted water eventually enters a storm drain or ditch that connects directly to our waterways.

Waterways can be negatively impacted by activities nearby and in areas further away that drain to the river or lake. No matter where you live, actions can be taken to help keep pollutants out of stormwater runoff and protect our sources of drinking water.

### Lawn Care

Lawn care practices are a great place to start. Fertilizer, pesticides and herbicides should be used sparingly and limited to the lawn only. If any of these materials fall on driveways and sidewalks, sweep them back onto the lawn to keep them from washing into storm drains. Avoid using a hose to clean driveways and sidewalks. Mower decks should be set to at least three inches high to limit cutting to one-third of grass length and encourage root growth. Consider having your soil tested to determine your lawn's actual nutrient needs and adjust your lawn care practices accordingly.

### Pet Care and Septic System Maintenance

Animal and human waste can contribute disease carrying bacteria into our drinking water sources. Pick up pet waste promptly from your yard or during a walk and dispose of it in the trash. Homes that use septic systems should focus on proper operation and maintenance to avoid failure and costly repairs. Failing septic systems release bacteria, viruses and toxic chemicals into the ground that eventually reach our waterways.



*Routine actions taken outside and inside your home can help keep pollutants out of our drinking water sources. Even small actions can have a big impact when multiplied by the millions of people that live in our watershed.*

## Car Care

Pollutants are also generated when we wash and service our cars. Wash your car at a commercial car wash or on the lawn to keep oils, grease, phosphates from soap, and heavy metals from washing into the storm drain. Car leaks and drips should be fixed and used fluids, such as oil and antifreeze, should be properly disposed of at household hazardous waste collection events or businesses that accept them.

## Household Hazardous Waste

Many indoor household products are hazardous to our waterways. Cleaning, home improvement, and personal care products, as well as over the counter and prescription medications, should be properly disposed of and never put down a sink, toilet or storm drain. Many products can be disposed of at household hazardous waste collection events. Consider using non-toxic products in place of traditional products. Personal care products that contain microbeads and anti-bacterial agents have been proven harmful to the environment and should be avoided.

## Prevent Cross Connections

A cross connection is a direct or potential arrangement of drinking water piping that is or can be connected to a questionable water source. An example is the common garden hose attached to a outside spigot with the end of the hose submerged in a bucket of soapy water. Cross connections may allow backsiphonage or backpressure backflow to occur. Backsiphonage is a reversal of normal flow in a system caused by negative pressure piping. This can occur during repairs or breaks in water mains or at an increase in demand due to fire fighting. To prevent the most common form of cross connection, the ordinary garden hose, check to make sure your hose is equipped with a Hose Bibb Vacuum Breaker. These are typically about \$5-\$10 from your hardware store. Other backflow prevention devices, such as pressure vacuum breakers commonly found on irrigation systems should be checked and tested regularly by a licensed plumber that is certified with the State.

## Medical Drugs

According to the Mayo Clinic, nearly 70% of Americans take at least one prescription drug. More than half of the population takes two drugs. Antibiotics, anti-depressants, painkilling opioids and drugs to lower lipids are the most commonly prescribed medications. Trace contaminants from these and other drugs get into our waterways from people excreting them, flushing them down the toilet, or washing them off their bodies. Some pharmaceuticals contain endocrine disrupting chemicals (EDCs) that mimic or block the function of natural hormones in the body. So far, scientific evidence has not determined that trace amounts of pharmaceuticals and EDCs in drinking water have an impact on human health. Further research is needed. However, scientific studies have concluded EDCs can affect the growth and development of fish and wildlife. Proper use and disposal of prescription and over-the-counter (OTC) drugs is crucial. The old guideline of flushing expired or unneeded drugs down the toilet is no longer valid.



Prescription medication can be dropped off at the Township Police Department anytime. All medication must be in a sealed container such as a ziplock bag. No needles or over the counter medications are allowed.

The Township also offers an annual drop-off event for expired or unused over the counter and prescription pharmaceutical products. The date of the event fluctuates each year but is generally in April around Earth Day. Check the Township website and newsletter for the exact date each year.

*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 Environmental Protection Agency's Safe Drinking Water Hotline at (800-426-4791).*

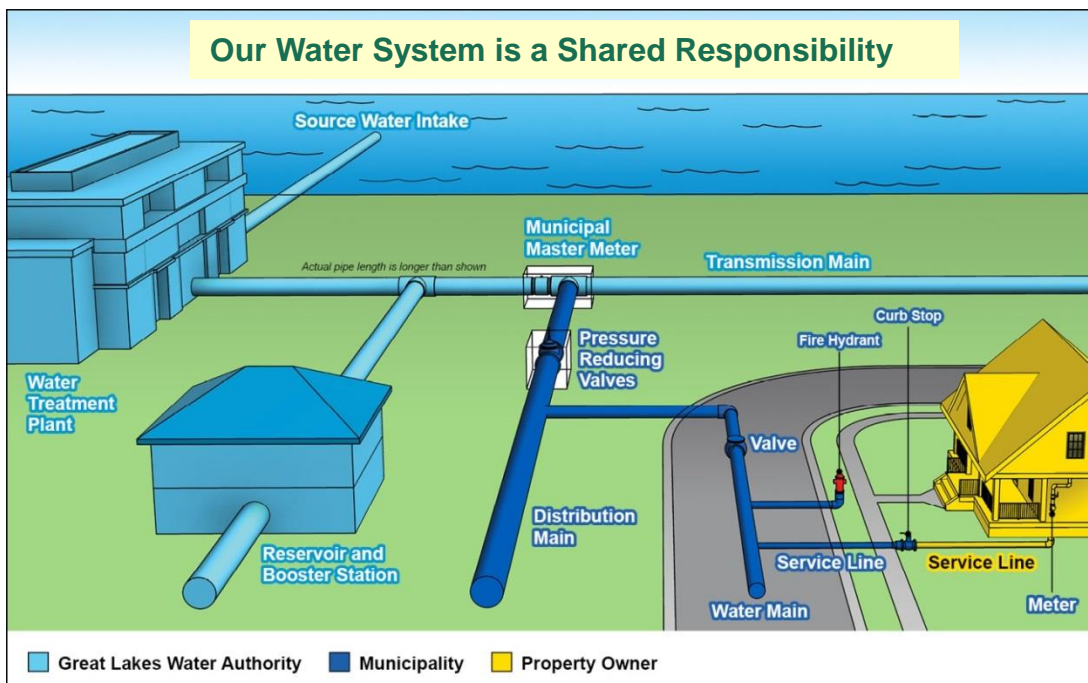
*The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.*

Contaminants that may be present in source water include:

- *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 water 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, urban storm water runoff, and residential uses.*
- *Organic chemical contaminants, including synthetic and volatile organics, which 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 activities.*

*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. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.*

*Some people may be more vulnerable to contaminants in drinking water than is 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. 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 (800-426-4791).*



# Lake Huron Water Treatment Plant – 2017 Regulated Detected Contaminants\*

\* Information and Data supplied by GLWA Water Quality Division & SOCWA

## Terms & Abbreviations – Key to the Detected Contaminants Table

Symbol	Abbreviation for	Definition/Explanation
>	Greater than	
µmhos	Micromhos	Measure of electrical conductance of water
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAAS	Haloacetic Acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
MCL	Maximum Contaminant Level	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.
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial
MRDLG	Maximum Residual Disinfectant level goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
n/a	not applicable	
ND	Not Detected	
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
pCi/L	picocuries per liter	a measure of radioactivity
ppb	Parts per billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
RAA	Running Annual Average	The average of analytical results for all samples during the previous four
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on total.
°C	Celsius	A scale of Temperature in which water freezes at 0° and boils at 100° under

## INORGANIC CHEMICALS – Monitoring at Plant Finished Water Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Lvl MCL	Highest Lvl Detected	Range of Detection	Violation Yes/No	Major Sources in Drinking Water
Fluoride	05/16/17	ppm	4	4	0.72	n/a	No	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	05/16/17	ppm	10	10	0.34	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	05/16/17	Ppm	2	2	0.01	n/a	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

DISINFECTANT BY-PRODUCTS - Monitoring in Distribution System Stage 2 Disinfection By-Products								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Lvl MCL	Highest LRAA	Range of Detection	Violation Yes/No	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2017	ppb	n/a	80	35.73	18.7–52.8	No	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	2017	ppb	n/a	60	13.5	9-19	No	By-product of drinking water disinfection.

DISINFECTANT RESIDUALS – Monitoring in DWS Distribution System by Treatment Plant								
Regulated Contaminant	Test Date	Unit	Health Goal MRDGL	Allowed Lvl MRDL	Highest RAA	Range of Detection	Violation Yes/No	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2017	ppm	4	4	0.75	0.65-0.80	No	Water additive used to control microbes.

2017 TURBIDITY – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot Exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation Yes/No	Major Sources in Drinking Water
0.29 NTU	100%	No	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.			

2017 TOTAL ORGANIC COMPOUND		
Regulated Contaminant	Treatment Technique	Source of Contaminant
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.	Erosion of natural deposits

2017 MICROBIOLOGICAL CONTAMINANTS – Monthly Monitoring in Distribution System					
Regulated Contaminant	MCLG	MCL	Highest # Detected	Violation Yes/No	Major Sources in Drinking Water
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	One Month 0	No	Naturally present in the environment.
E. coli or fecal coliform bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E. coli positive.	Entire year 0	No	Human waste and animal fecal waste.

2014 RADIONUCLIDES							
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Lvl MCL	Level Detected	Violation Yes/No	Major Sources in Drinking Water
Combined Radium Radium 226 & 228	5/13/14	pCi/L	0	5	0.86 + or – 0.55	No	Erosion of natural deposits

## 2017 LEAD AND COPPER MONITORING – at Customer’s Tap

Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90th Percentile Value*	# of Samples Over AL	Violation Yes/No	Major Sources in Drinking Water
Lead	2017	ppb	0	15	6.1	1	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	0.3	0	No	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.

\*The 90<sup>th</sup> percentile value means 90 percent of the homes tested have lead and copper levels below the given 90<sup>th</sup> percentile value. If the 90<sup>th</sup> percentile value is above the AL additional requirements must be met.

## Information about Lead in Drinking Water

Safe drinking water is a shared responsibility. The water that GLWA delivers to our community does not contain lead. However, lead can leach into drinking water through your home’s plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including in your home or business. Bloomfield Township performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to lead.

*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. Bloomfield Township 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 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 (800-426-4791)*

## Unregulated Contaminants

Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. Monitoring helps the U.S. EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

### SPECIAL MONITORING

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.46	Erosion of natural deposits

### 2014 UNREGULATED CONTAMINANTS MONITORING RULE (UCMR:3)

Contaminant	Minimum Reporting Level µg/L	AVG	Range/Variation (Highest result – Lowest result)
Chromium (total)	0.2	0.22	0.16
Strontium	0.3	98.31	15.8
Vanadium	0.2	0.089	0.07
Chromium-6	0.03	0.106	0.055

\*Detection levels are in micro grams per Liter (1µg/L = 1ppb)

## Where Does My Water Come From?

Bloomfield Township purchases water from the Southeastern Oakland County Water Authority (SOCWA) and SOCWA's source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The Michigan Department of Environmental Quality in partnership the Detroit Water and Sewerage Department and several other governmental agencies performed a source water assessment in 2004 to determine the susceptibility or relative potential of contamination. The susceptibility rating is on a seven-tiered scale ranging from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contamination sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

In 2015, GLWA received a grant from the Michigan Department of Environmental Quality (MDEQ) to develop a source water protection program for the Lake Huron water treatment plant intake. The program includes seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment report please, contact the Bloomfield Township DPW at 248-594-2800.

## Why Do We Purchase Water from SOCWA?

In July of 2011, the Township began purchasing water from Southeast Oakland County Water Authority (SOCWA) instead of directly from Great Lakes Water Authority (GLWA – formerly DWSD). The large water storage capacities provided by SOCWA allow them to avoid more costly peak demand charges and provide a more stable rate. For more information about SOCWA, visit their website at [www.socwa.org](http://www.socwa.org)



## SOCWA Water FAQ's

- **What is the hardness of my water?**  
Depending on the manufacturer of your appliance, you need to know the ppm (parts per million) of your water or the "grains of hardness". SOCWA water runs consistently at 100 ppm or 6 grains of hardness.
- **How much sodium (Na) does my water contain?**  
SOCWA water contains about 4 mg/L (milligrams per liter) of sodium year round.
- **How do I know that the water I am using is safe to drink?**  
SOCWA samples 56 sites throughout the service area every week to test for possible contamination. So rest assured, your water is safe.
- **My drinking water looks cloudy when taken from the faucet. Should I be concerned?**  
No. The cloudy water is caused by tiny air bubbles in the water similar to the gas bubbles in carbonated soft drinks. After a while, the bubbles rise to the top and are gone. This type of cloudiness occurs more often in the winter, when the drinking water is cold.
- **Is water with chlorine in it safe to drink?**  
Yes. Many tests have shown that the amount of chlorine found in treated water is safe to drink, although some people object to the taste.
- **Should I buy bottled water?**  
Remember that US bottled water is less regulated than municipal drinking water. You don't need to buy bottled water for health reasons if your drinking water meets all of the federal or state drinking water standards. (Bloomfield Township's water meets those standards). If you want a drink with a different taste, you can buy bottled water, but it costs up to 1,000 times more than municipal drinking water.

## Check for Leaks and Stop Money from Going Down the Drain!

A leaky faucet or toilet can waste hundreds of gallons of water every day. One way to check for leaks is to check the low flow indicator on your water meter. Water meters are typically located in the basement, laundry room or utility closet. The low flow indicator is the red diamond or triangle-shaped indicator (shown in image to the right) equipped on most meters. Make sure all the water is turned off in and outside of the house, then if the low-flow indicator is moving or spinning at all, there is water flowing through the meter which would indicate a leak somewhere in the home.



Having a leak repaired will be less costly in the long run than the amount you will pay for wasted water. Please remember, Bloomfield Township cannot adjust your bill for water wasted through leaks!

### New Rates Effective April 1, 2018

- Water (per 1,000 gal)..... \$5.86
- Sewer (per 1,000 gal)..... \$7.99
- Water Debt (per qtr)..... \$10.90
- Sewer Debt (per qtr)..... \$16.25
- Ready to Serve – Water (per qtr)... \$34.00
- Ready to Serve – Sewer (per qtr)... \$38.00



**Bloomfield Township**  
4200 Telegraph Rd.  
Bloomfield Twp., MI 48302

**Tel: 248 594-2800**  
**Fax: 248 594-2810**  
**Water\_dept@bloomfieldtwp.org**

## 2017 Annual Water Quality

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