2019 Consumer Confidence Report

Continuing Our Commitment

The City of Monroe Water Department is pleased to present our 22nd Annual Water Quality Report (Consumer Confidence Report) covering testing performed between January 1 and December 31, 2019. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our best allies.

Important Health Information

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. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791), or http://water.epa.gov/drink/hotline.

Where does my water come from?

The City of Monroe Water Department customers are fortunate because they enjoy an abundant supply of water from an excellent source. The Monroe Water Treatment Plant draws water from the Western Basin of Lake Erie. This Great Lake contains over 116 cubic miles of water. Two intakes gravity feed raw water to our onshore pumping station. From there it is pumped approximately eight miles to our treatment plant. The Monroe Water Treatment Plant was constructed in 1924, and has had major expansions in 1948 and 1972, and provides roughly 2.8 billion gallons of clean drinking water every year. To learn more about our watershed on the internet, go to the U.S. EPA Surf Your Watershed at https://www.epa.gov/waterdata/surf-your-watershed.

Source Water Assessment

Your water comes from the Lake Erie watershed, which includes portions of the Huron River and Stony Creek watersheds. In 2004, the state performed a mandated assessment of our source water to determine the susceptibility or relative potential for contamination. The susceptibility rating is on a seven-tiered scale from very-low to very-high based primarily on geologic sensitivity, water chemistry, and contaminant sources. Our source water was determined to have a high susceptibility. Significant potential sources of contamination include 54 hazardous or solid waste sites and 18 industrial discharge site facilities within the watershed area. In 2012, Real-Time Monitoring equipment was installed at our intake station to monitor raw water quality parameters for assistance in modifying our treatment if necessary. Please note, however, that historically the Monroe Water Treatment Plant has effectively treated our source water to meet all drinking water standards.

Preventing Harmful Algal Blooms

Since 2011, Harmful Algal Blooms (HAB's) have been a major concern to businesses and residents alike that are influenced by Lake Erie. To help educate and raise awareness concerning harmful algal blooms, the U.S. EPA has released two short videos that illustrate the potential causes and effects of nutrient pollution in Lake Erie. As the videos show, Algal blooms not only affect the recreational (fishing, swimming, boating) use of water, but also have a major impact on our drinking water. The algal blooms have been known to produce toxins that, over time, can cause serious illness, and even death. The videos can be viewed at https://youtu.be/WaIrLFq3DGI and https://www.youtube.com/watch?v=vCicSNnKUvM.

Substances That Could Be in 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 can acquire naturally occurring minerals, 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 stormwater 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 stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

How is My Water Treated?

The water treatment process consists of a series of steps. First, raw water is drawn from Lake Erie where a molluscicide is added for zebra mussel control. Once it reaches the treatment plant, ozone (a powerful oxidant) is added for taste and odor control, as well as for microcystin inactivation. The water then goes to mixing tanks where aluminum sulfate (a coagulant) is added. The addition of this chemical causes small

particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. Chlorine is then added for disinfection (we carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste). At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity (an optical quality of the water) disappears and clear water emerges. Finally, fluoride (used to fight tooth decay) and a corrosion inhibitor (used to protect distribution system pipes and to minimize leaching of lead and other unwanted contaminants) are added before the water is pumped to sanitized, underground reservoirs, elevated tanks, and into your home or business.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) has a web site (www.michigan.gov/egle) that provides complete and current information on water issues in our state.

System Improvements

Numerous system-wide improvements are planned for fiscal year 2020-2021, which will extend and maintain the service life of system facilities. At the Water Treatment Plant & Raw Water Intake Facility, we are planning projects to replace boilers and chlorine analyzers along with allocating funding to upgrade, install & replace various pumps, motors, and drives. Distribution system improvements include replacing approximately 2,910 feet of various sized water mains and replacing a dump truck, trencher, air compressor / hydraulic unit in an effort to maintain and improve water service, quality, reliability, flow, pressure, and efficacy.

Additional Information for Lead

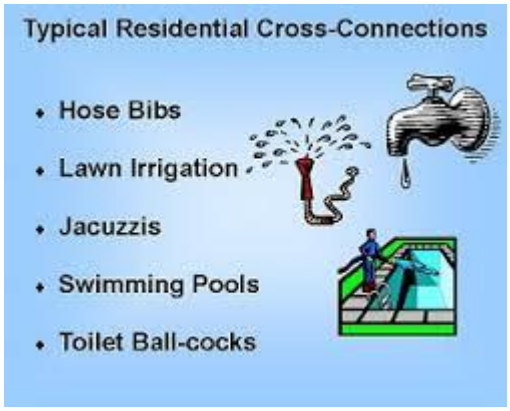
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and children who drink water-containing lead in excess of the AL could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Monroe 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.

The City of Monroe water treatment process includes optimized corrosion control to treated water for addressing system corrosion and elevated lead levels in water. Our water system has approximately 15,271 customer sites within our service area. Approximately 1,275 sites are full or partial lead or galvanized service lines into their homes where approximately 868 sites service material are full or partially unknown requiring field verification. Lead and galvanized service lines can be a source of lead leaching from the pipes. In

June 2018, the Michigan Lead and Copper Rule was signed into law changing how lead in water is handled. Major changes are in material inventory, tier criteria, sampling, action level, water treatment, service replacement, notifications, public education, and transparency which will require significant investment in infrastructure coordination and replacement. The City of Monroe has been in regulatory compliance for all past lead sampling. Customers curious as to their lead levels at the tap can contact the Water Department testing the water for lead and copper. Eliminating lead service lines is the best long-term solution to the problem of lead in drinking water. Lead service line replacement is completed annually in conjunction with street construction and other maintenance projects and otherwise as budget and time permits.

Cross Connection Control Survey

The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross-connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. We are responsible for enforcing cross-connection control regulations and insuring that no contaminants can, under any flow conditions, enter the distribution system. If you have any of the devices listed below please contact us so that we can discuss the issue, and if needed, survey your connection and assist you in isolating it if that is necessary.



- Boiler/ Radiant heater (water heaters not included)
- Underground lawn sprinkler system
- Pool or hot tub (whirlpool tubs not included)
- Additional source(s) of water on the property
- Decorative pond
- Watering trough

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the first and third Monday of each month, beginning at 7:30 p.m., at the Monroe City Hall Council Chambers, 120 East First Street, Monroe, Michigan 48161.

Water Quality Data Table

The tables on the next two pages lists all of the drinking water contaminants that we detected during the 2019 calendar year. Although many more contaminants were tested, only those substances listed below were found in your water. The presence of these contaminants in your water does not necessarily indicate that the water poses a health risk. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done between January 1 and December 31, 2019. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Regulated Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Year Sampled	Violation	Typical Source
				Low	High			
Bromate (ppb)	0	10	1.8	1.5	2.2	2019	No	By-product of drinking water disinfection
Chlorine[1] (ppm)	4	4	0.98	0.83	1.19	2019	No	Water additive used to control microbes
HAA5 Haloacetic Acids (ppb)	NA	60	16	5	29	2019	No	Byproduct of drinking water disinfection
TTHM Total Trihalomethanes (ppb)	NA	80	23	9	33	2019	No	Byproduct of drinking water disinfection
Total Organic Carbon (% Removal)	NA	TT	36	NA	NA	2019	No	Naturally present in the environment
Fluoride (ppm)	4	4	0.65	0.19	0.77	2019	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	10	10	0.80	NA	NA	2019	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium[2] (ppm)	N/A	N/A	22	N/A	N/A	2019	No	Erosion of natural deposits; Leaching
Total Coliform (Total number or % of positive samples/month)	NA	TT	NA	NA	NA	2019	No	Naturally present in the environment
Turbidity (NTU)	NA	0.3	100	NA	NA	2019	No	Soil runoff
100% of the samples were below the TT value of .3. A value less than 95% constitutes a TT violation. The highest single measurement was .06. Any measurement in excess of 1 is a violation unless otherwise approved by the state.								

[1] Sodium is not a regulated contaminant.
[2] The chlorine "Level Detected" was calculated using a running annual average.

Inorganic Contaminant Subject to Action Levels (AL)	Action Level	MCLG	Your Water[1]	Year Sampled	Number of Samples Above AL	Exceeds AL	Typical Source of Contaminant
Copper - action level at consumer taps (ppm)	1.3	1.3	0.20	2019	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	8	2019	3	No	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits

[1]Ninety (90) percent of the samples collected were at or below the level reported for our water.

Additional Monitoring

As part of an on-going evaluation program the EPA has required us to monitor some additional contaminants/chemicals. Information collected through the monitoring of these contaminants/chemicals will help to ensure that future decisions on drinking water standards are based on sound science.

Name	Average Level (ug/l)	Range		Year Sampled	Comments
		Low	High		
Bromochloroacetic Acid	4.72	2.12	9.57	2018	Results of Monitoring are available upon request
Bromodichloroacetic Acid	3.21	1.60	5.73	2018	Results of Monitoring are available upon request
Chlorodibromoacetic Acid	1.26	0.60	1.94	2018	Results of Monitoring are available upon request
Dibromoacetic Acid	1.20	0.70	2.07	2018	Results of Monitoring are available upon request
Dichloroacetic Acid	10.19	3.44	22.30	2018	Results of Monitoring are available upon request
Monobromoacetic Acid	0.78	N.D.	1.41	2018	Results of Monitoring are available upon request
Monochloroacetic Acid	2.18	N.D.	2.18	2018	Results of Monitoring are available upon request
Trichloroacetic Acid	4.71	1.51	9.26	2018	Results of Monitoring are available upon request
Manganese	0.52	N.D.	0.59	2018	Results of Monitoring are available upon request

Terms and Abbreviations	
Term	**Definition**
MCLG	Maximum Contaminant Level Goal: 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.
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.
MRDL	Maximum Residual Disinfectant Level: 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.
MRDLG	Maximum Residual Disinfection Level Goal: 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 contaminants.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
N/A	Not Applicable.
ND	Not Detectable at Testing Limit.
ppm	Parts Per Million, or milligrams per liter (mg/L)
ppb	Parts Per Billion, or micrograms per liter (µg/L)
NTU	Nephelometric Turbidity Units: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

For more information please contact:

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