

**2017 Table of Contaminants**  
Regulated Monitoring at Treatment Plant

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	HIGHEST LEVEL DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Turbidity 2017	NTU	0.04 – 0.06	0.06	TT=1	n/a	0	Lake sediment
Total Organic Carbon	ppm	1.45 – 2.0	2.0	TT	n/a	0	Naturally present in the environment
Fluoride	ppm	0.45 – 0.85	.85	4.00	n/a	0	Added to promote strong teeth
Barium 2017	ppm	0.00 - 0.02	0.02	2.00	n/a	0	Discharge from drilling waste

**Regulated Monitoring in the Distribution System**

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	HIGHEST LEVEL DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Total Trihalomethanes	ppb	19 - 53	53	80	n/a	0	By-product of drinking water chlorination
Haloacetic Acids	ppb	9.2 – 39	39	60	n/a	0	By-product of drinking water chlorination
Chlorine	ppm	0.46 – 1.8	1.8	4	n/a	0	Drinking water chlorination

**Regulated Monitoring in the Customer's Tap**

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	90 <sup>th</sup> PERCENTILE	HIGHEST LEVEL ALLOWED AL	IDEAL LEVELS AL	VIOLATION OR NUMBER OF SAMPLES EXCEEDING AL	POSSIBLE SOURCES OF CONTAMINANT
Copper** 2017	ppb	0-422	0.1	1300	1300	0	Corrosion of household plumbing & erosion of natural deposits
Lead** 2017	ppb	0-38	4	15	0	1	Corrosion of household plumbing & erosion of natural deposits

**Unregulated/Special Monitoring**

SUBSTANCE	UNITS	RANGE OF LEVELS DETECTED	HIGHEST LEVEL DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Sodium 2017	ppm	n/a	10	n/a			Erosion of natural deposits. Ice and snow removal
***Chlorate							Results of monitoring are available upon request
*** Hexavalent Chromium							Results of monitoring are available upon request
*** Total Strontium							Results of monitoring are available upon request
*** Total Vanadium							Results of monitoring are available upon request
*** Total Molybdenum							Results of monitoring are available upon request

**Microbial Monitoring**

SUBSTANCE	UNITS	NUMBER OF POSITIVE SAMPLES DETECTED	HIGHEST LEVEL ALLOWED MCL OR TT	IDEAL LEVELS MCLG	VIOLATION OR NUMBER OF SAMPLES EXCEEDING MCL	POSSIBLE SOURCES OF CONTAMINANT
Total Coliform Bacteria	each	0	Less than 1 positive monthly sample or less than 5% of monthly samples positive	0	0	Naturally present in the environment
Fecal Coliform and E. coli	each	0	Routine and repeat sample total coliform positive, and one is also fecal or E. coli positive	0	0	Human and animal fecal waste

\*\*Results computed using the 90<sup>th</sup> percentile level. Monitoring period January 1, 2017 – December 31, 1017

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



# ANNUAL CONSUMER CONFIDENCE REPORT

DEPARTMENT OF PUBLIC WORKS  
WATER AND SEWER DIVISION

*Matt Anderson, Superintendent*  
2017 Report

We are pleased to present you with the Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water delivered to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. The Muskegon Water Filtration Plant treats water from one of the highest quality surface water sources in the world, Lake Michigan. The City of Norton Shores used over 982 million gallons of water in 2017.

Last year, as in years past, your tap water met all Environmental Protection Agency and State drinking water health standards. The Muskegon Filtration Plant and the Norton Shores Water Division vigilantly safeguards its water supply. We are pleased to report that our drinking water meets and exceeds Federal and State requirements.

This report is designed to give you detailed information which will assure you of the quality of your drinking water.

If you have any questions concerning this report or your water utility, please contact Water Superintendent, Matt Anderson, at (231) 799-6804. We want our valued customers to be informed about their water utility. If you want to learn more, please stop in our office, located at the Norton Shores City Hall, 4814 Henry Street.

The Muskegon Filtration Plant and the Norton Shores Water Division routinely monitor for contaminants in your drinking water according to, and in excess of, Federal and State laws. The following table shows the results of our monitoring for the period of January 1, 2017 through December 31, 2017. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk. It is just as important to understand that a contaminant, as defined in this report, includes natural elements and compounds as well as man-made compounds manufactured every day, many of which we all use in our daily activities. Even distilled water is not "pure" water because most distilled water has very small quantities of "contaminants".

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.

## What does all of this mean?

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters per day for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 microbiological contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791.

The Department of Environmental Quality 2003 Source Water Assessment is completed. A copy of our Source Water Assessment Plan is available by contacting City of Norton Shores Water and Sewer Division at (231) 799-6804.

The source 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 can pick up substances resulting from the presence of animals or from human activity.

In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system. The costs of these improvements will be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

Thank you for allowing us to continue providing your family with clean, quality water this year.

In order to assure that tap water is safe to drink, the 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.

## Consumer Awareness of 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 action level could experience delays in their physical or mental development. Children could show slight defects 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 home plumbing. City of Norton Shores 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 of 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>.

Please call our office at (231) 799-6804 if you have questions.

*In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions.*

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 can 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 and residential uses.
- **Radioactive contaminants**, which are naturally occurring or a result of oil and gas production and mining activities.
- **Organic chemical contaminants** (including synthetic and volatile organic chemicals) which are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.

- **Not- Detected (ND)** - laboratory analysis indicates that the contaminant is not present.

- **Parts per million (ppm) or Milligrams per liter (mg/l)** - one part per million corresponds to one minute in two years or a single penny in \$10,000.

- **Parts per billion (ppb) or Micrograms per liter** - one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

- **Picocuries per liter (pCi/L)** - picocuries per liter is a measure of the radioactivity in water.

- **Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

- **Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment of other requirements which a water system must follow.

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

- **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.

- **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** - 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 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.

- **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.

