



# Annual Drinking Water Quality Report

*This report covers the drinking water quality for the Village of Grosse Pointe Shores, for the calendar year 2017 {Jan. 1 - Dec. 31}. This information is a snapshot of the quality of the water that we provided to you in 2017. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.*

## **About our system**

The Village of Grosse Pointe Shores is one of 126 communities that receive its water from the Detroit Water and Sewage Department, which provides drinking water to approximately 4.2 million people. The system uses water drawn from two intakes in the Detroit River: one to the north near the mouth of Lake St. Clair and one to the south near Lake Erie. The water is directed to (4) large water treatment plants for processing. A fifth water treatment plant located in St. Clair County uses surface water from Lake Huron. The four plants that treat water drawn from the Detroit River service Detroit area customers.

## **Detroit River Intakes**

Your source water comes from the Detroit River, situated within the Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River, in the U.S. and parts of the Thames River, Little River, Turkey Creek and Sydenham watersheds in Canada. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential 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. The susceptibility of our Detroit River source water intakes were determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards.

GLWA has initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in a National Pollutant Discharge Elimination System permit discharge program and has an emergency response management plan. In 2015, GLWA received a grant from The Michigan Department of Environmental Quality to develop a source water protection program for the Detroit River intakes. 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 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 your water department (313)886-0020.

**Mandatory language regarding contaminants reasonably expected to be found in drinking 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 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.”

**Warning about the vulnerability of some populations to contaminants in drinking water.**

“Some people may be more vulnerable to contaminants in drinking water than is 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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).”

**Required 2008 Cryptosporidium language for one or more of the following water plants; Water Works Park, Northeast, Springwells, and Southwest.**

Cryptosporidium a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Cryptosporidium was detected once, during a twelve-month period at our Detroit River intake plants. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, compromised-compromised people, infants and small children, and the elderly are at risk of developing life-threatening illness. We encourage immune-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

**New LCR CCR requirements covering the year 2009 water supplies must include information about lead, even if lead is not detected.**

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. Grosse Pointe 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 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).

We are pleased to provide you with this information to keep you fully informed about your water. We will be updating this report annually, and will also keep you informed of any water problems that may occur throughout the year, as they may happen.

If you have any questions, please call the Village of Grosse Pointe Shores Public Works at 313-886-0020. The Grosse Pointe Shores Council meets the 3<sup>rd</sup> Tuesday of each month at 7:00pm. At the Village Municipal building located at 795 Lakeshore Drive.

<b>2017 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap</b>								
<b>Regulated Contaminant</b>	<b>Test Date</b>	<b>Unit</b>	<b>Health Goal MCLG</b>	<b>Allowed Level MCL</b>	<b>Highest Level Detected</b>	<b>Range of Detection</b>	<b>Violation yes/no</b>	<b>Major Sources in Drinking Water</b>
<b>Fluoride</b>	5-16-2017	ppm	4	4	<b>0.66</b>	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
<b>Nitrate</b>	5-16-2017	ppm	10	10	<b>0.44</b>	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
<b>Barium</b>	5-16-2017	ppm	2	2	<b>0.01</b>	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

2017 Disinfection By-Products – Monitoring in Distribution System, Stage 2 Disinfection By-Products								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest LRAA	Percentage of Violation	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2017	ppb	n/a	80	.0481	.0481	NO	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2017	ppb	n/a	60	.018	.018	NO	By-product of drinking water disinfection
2017 Disinfectant Residuals – Monitoring in Distribution System by Treatment Plant								
Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest RAA	Quarterly Percentage of Violation	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan-Dec 2017	ppm	4	4	0.78	0.66-0.82	no	Water additive used to control microbes

2017 Turbidity – Monitored every 4 hours at Plant Finished Water				
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
0.18 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 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Action Level AL	90 <sup>th</sup> Percentile Value*	Number of Samples over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2017	ppb	0	15	3.19 ppb	0	NO	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	199.35 ppb	0	NO	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.								

Regulated Contaminant	Treatment Technique 2017	Typical 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 quarter and because the level was low, there is no TOC removal requirement	Erosion of natural deposits

Special Monitoring 2017				
Contaminant	MCLG	MCL	Level Detected 2017	Source of Contamination
Sodium (ppm)	n/a	n/a	4.85	Erosion of natural deposits

Great Lakes Water Authority voluntarily monitors for the protozoans Cryptosporidium and Giardia. The December 2017 untreated water sample collected at the Belle Isle intake contained 1 Giardia cyst. All other samples collected in the year 2017 were absent for the presence of Cryptosporidium and Giardia in the untreated water. Systems using surface water Like GLWA must provide treatment so that 99.9 percent of Giardia lamblia is removed or inactivated.

## Key to the Detected Contaminants Table

Symbol	Abbreviation	Definition/Explanation
>	Greater than	
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	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 contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRLDG'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 milligram.
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 quarters.
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 the total.
µmhos	Micromhos	Measure of electrical conductance of water