

# 2015 water QUALITY report

CHARTER TOWNSHIP OF PLYMOUTH  
DEPARTMENT OF PUBLIC WORKS



## Plymouth Township's Annual Report

The purpose of this report is to inform you about the source and quality of your drinking water. It is required as part of the annual Consumer Confidence Report (CCR) on water quality and illustrates that we are providing you with a safe and dependable water supply.

## Source Water Assessment

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 Great Lakes Water Authority (GLWA, formally 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 of source water protection area, management approaches for protection, contingency plans, siting of new sources and public

participation. If you would like to know more information about the Source Water Assessment report or a complete copy of this report please, contact GLWA at (313) 964 - 9477.

## The Safe Drinking Water Act - What's in it for you?

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).

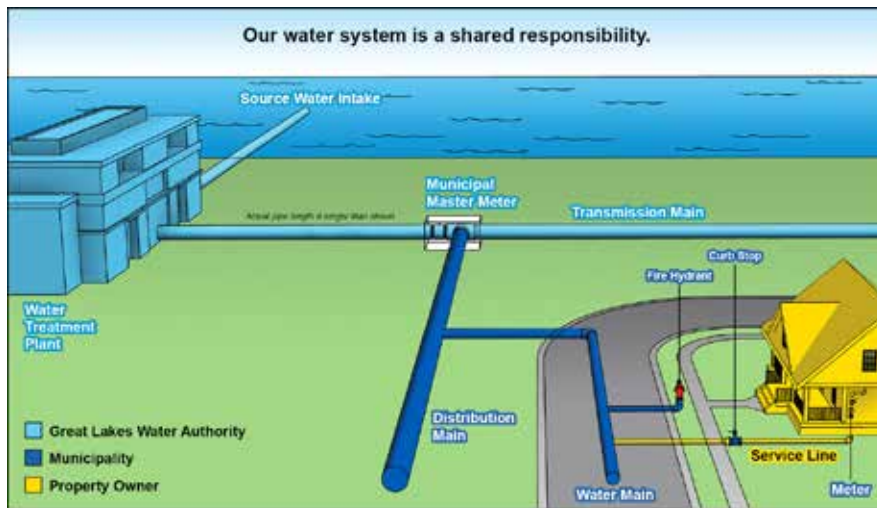
The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick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

## Important information about lead in drinking water



Drinking water quality is important to our community and the region. Plymouth Township and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. Plymouth Township operates the system of water mains that carry this water to your home's service line. This year's Water Quality Report highlights the performance of GLWA and Plymouth Township water professionals in delivering

some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.

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. GLWA 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>.

Plymouth Township and the Great Lakes Water Authority are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with any questions or concerns about your water.

### Key to the Detected Contaminants Tables

Symbol	Abbreviation	Definition/Explanation
>	Greater than	
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 <u>bromoacetic</u> , <u>chloroacetic</u> , <u>dibromoacetic</u> , <u>dichloroacetic</u> , and <u>trichloroacetic</u> acids. Compliance is based on the total.
LRAA	Locational Running Annual Average	
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	
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 <u>chloroform</u> , <u>bromodichloromethane</u> , <u>dibromochloromethane</u> and <u>bromoform</u> . Compliance is based on the total.
µmhos	Micromhos	Measure of electrical conductance of water
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.

## Springwells Water Treatment Plant 2015 Regulated Detected Contaminants Tables

<i>Regulated Contaminant</i>	Test Date	Unit	Health Goal <b>MCLG</b>	Allowed Level <b>MCL</b>	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
<b>Inorganic Chemicals – Monitoring at Plant Finished Water Tap</b>								
Fluoride	05/11/2015	ppm	4	4	0.45	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	05/11/2015	ppm	10	10	0.33	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
<b>Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products</b>								
<i>Regulated Contaminant</i>	Test Date	Unit	Health Goal <b>MCLG</b>	Allowed Level <b>MCL</b>	Highest LRAA	Range of Detection	Violation yes/no	Major Sources in Drinking Water
<del>Total Trihalomethanes (TTHM)</del>	2015	ppb	n/a	80	23.5	11.0 - 31.0	no	By-product of drinking water chlorination
<del>Haloacetic Acids (HAA5)</del>	2015	ppb	n/a	60	12.9	8.6 - 20.0	no	By-product of drinking water disinfection
<b>Disinfectant Residuals – Monitoring in Distribution System by Treatment Plant</b>								
<i>Regulated Contaminant</i>	Test Date	Unit	Health Goal <b>MRDLG</b>	Allowed Level <b>MRDL</b>	Highest RAA	Quarterly Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Chlorine Residual	Jan.-Dec. 2015	ppm	4	4	0.74	0.66-0.79	no	Water additive used to control microbes

2015 Turbidity – Monitored every 4 hours at Plant Finished Water			
<i>Highest Single Measurement Cannot exceed 1 NTU</i>	<i>Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)</i>	Violation yes/no	Major Sources in Drinking Water
0.18 NTU	100 %	no	Soil Runoff
<i>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.</i>			

## Springwells Water Treatment Plant 2015 Regulated Detected Contaminants Tables (Cont'd)

<i>2015 Microbiological Contaminants - Monthly Monitoring in Distribution System</i>					
<b>Regulated Contaminant</b>	<b>MCLG</b>	<b>MCL</b>	<b>Highest Number Detected</b>	<b>Violation yes/no</b>	<b>Major Sources in Drinking Water</b>
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	0	no	Naturally present in the environment.
E.coli Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or E.coli positive.	0	no	Human waste and animal fecal waste.

<i>2014 Lead and Copper Monitoring at Customers' Tap</i>								
<b>Regulated Contaminant</b>	<b>Test Date</b>	<b>Unit</b>	<b>Health Goal MCLG</b>	<b>Action Level AL</b>	<b>90<sup>th</sup> Percentile Value*</b>	<b>Number of Samples over AL</b>	<b>Violation yes/no</b>	<b>Major Sources in Drinking Water</b>
Lead	2014	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2014	ppm	1.3	1.3	0.102	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.

<b>Regulated Contaminant</b>	<b>Treatment Technique</b>	<b>Typical Source of Contaminant</b>
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

### *2015 Special Monitoring*

<b>Contaminant</b>	<b>MCLG</b>	<b>MCL</b>	<b>Level Detected</b>	<b>Source of Contamination</b>
Sodium (ppm)	n/a	n/a	4.74	Erosion of natural deposits

Collection and sampling result information in the table provided by Detroit Water and Sewerage Department (DWSD) Water Quality, ML [www.dwsd.com](http://www.dwsd.com).



## What Precautions Should You Consider?

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).

## Important Notice Regarding Monitoring Requirements

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During February 2015, we did not monitor or test for Disinfectants and Disinfection Byproducts (DDBP's) and, therefore, cannot be sure of the quality of our drinking water during that time.

**What should I do?** There is nothing you need to do at this time. This is not an emergency. You do not need to boil water or use an alternative source of water at this time. Even though this is not an emergency, as our customers, you have a right to know what happened and what we did to correct the situation.

The table below lists the contaminants we did not properly test for, how often we are supposed to sample for these contaminants, how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date we collected follow-up samples.

Contaminant	Required sampling frequency	Number of samples taken	Date all samples were taken	When all samples should have been taken	Date additional samples were (or will be) taken	
TTHM <sup>1</sup>	1 sample per quarter (Feb, May, Aug, Nov)	0	01/29/2015	02/01/2015 to 02/28/2015	05/08/2015	<p>1 TTHM, also known as total trihalomethanes, are tested by collecting one sample and testing that sample for chloroform, bromodichloromethane, dibromochloromethane, and bromoform.</p> <p>2 HAA5, also known as haloacetic acids, are tested by collecting one sample and testing that sample for monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.</p>
HAA5 <sup>2</sup>	1 sample per quarter (Feb, May, Aug, Nov)	0	01/29/2015	02/01/2015 to 02/28/2015	05/08/2015	

**What happened? What is being done?** We inadvertently collected samples on 01/29/2015 which was not within the required sampling period noted above. We are making every effort to assure this does not happen again. Samples taken on 01/29/2015 and since then show that all results met acceptable limits.

For more information, please contact Department of Public Works at (734) 354-3270 Ext. 3 or the Michigan Department of Environmental Quality at 586-753-3755.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by Plymouth Township, Department of Public Works.