

City of Northville

2016 Consumers Annual Report on Water Quality

What is the purpose of this report?

Northville Public Works Department wants you to know that your tap water is safe to drink and that it *meets or surpasses* all 2016 Federal and State monitoring and reporting standards for quality and safety.

The City of Northville's source water comes from the Detroit River, situated within Lake St. Clair, Clinton River, Detroit River, Rouge River, Ecorse River in the U.S., and parts of 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 (now known as the Great Lakes Water Authority or GLWA), 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 Pollution Discharge Elimination System permit discharge program and has an emergency response management plan. GLWA voluntarily developed and received approval in 2016 for a source water protection program (SWIPP) 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 this report or for a complete copy of this report, please visit www.ci.northville.mi.us/services/publicworks or contact the Department of Public Works at 248-449-9930.

What do you mean by "contaminants"?

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. Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring helps the EPA to determine where certain contaminants occur and whether it needs to regulate them. Beginning in July 2008-April 2009, monitoring began for unregulated contaminants under the Unregulated Contaminant Monitoring Rule (UCMR2). 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 organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- *Radioactive contaminants*, which are naturally occurring or the result of oil and gas production and mining activities.

"Northville's tap water meets or surpasses all 2016 Federal and State standards for quality and safety."

NORTHEAST AND SPRINGWELLS WATER TREATMENT PLANTS

2016 Regulated Detected Contaminants Tables

The Great Lakes Water Authority monitored for Cryptosporidium in our source water (Detroit River) from our Southwest Water Treatment Plant during 2016. Cryptosporidium was detected twice in our source water samples. A follow-up water sample was collected from the treated water and Cryptosporidium was not found to be present. Cryptosporidium is 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. 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, immunocompromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-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.

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation Yes/No	Major Sources in Drinking Water
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Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap

Fluoride	5/10/2016	ppm	4	4	0.50	n/a	NO	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate	5/10/2016	ppm	10	10	0.34	n/a	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection Byproducts

Total Trihalomethanes (TTHM) ¹	2016	ppb	n/a	80	Highest LRAA 36.5	<21uq/L-48uq/L	NO	By-product of drinking water chlorination
Haloacetic Acids (HAA5) ²	2016	ppb	n/a	60	Highest LRAA 18	<4.2uq/L-22uq/L	NO	By-product of drinking water disinfection

Disinfectant Residuals - Monitoring in Distribution System by Treatment Plant

Total Chlorine Residual	Jan-Dec 2016	ppm	Health Goal MRDGL 4	Allowed Level MRDL 4	Highest RAA 0.74	0.67 - 0.81	NO	Water additive used to control microbes
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2016 Turbidity – Monitored Every 4 hours at Plant Finished Water Tap

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.

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
0.33 NTU	99.7%	NO	Soil Runoff

Microbiological Contaminants – Monthly Monitoring in Distribution System

Contaminant	MCLG	MCL	Highest Number Detected	Violation Yes/No	Major Sources in Drinking Water
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	in one month 0	NO	Naturally present in the environment.
<i>E. coli</i> or Fecal Coliform Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E. coli</i> positive.	entire year 0	NO	Human waste and animal fecal waste.

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.

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 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 Disinfectant 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.
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.

Is the water tested for lead?

If present, elevated levels of lead can cause serious health problems, especially for pregnant woman and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Northville 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 at (800) 426-4791** or at <http://www.epa.gov/safewater/lead>

Other steps to take include:

- * Anytime your water has not been used for more than six hours, run your water for 30 seconds to two minutes.
- * Always use cold water for drinking, cooking, or making baby formula.
- * Use faucets and plumbing material that are either lead free or will not leach unsafe levels of lead into your water.

Who is responsible for safe drinking water?

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of specific contaminants in water provided by public water systems. In turn, the City annually tests the water to ensure the regulations are being met. Additionally, the Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which provide the same protection for public health.

Lead and Copper Testing								
Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90th Percentile Value*	Number of Samples Over AL	Violation Yes/No	Major Source In Drinking Water
Lead	2016	ppb	15	15	3.24 ppb	0	NO	Corrosion of household plumbing systems; erosion of natural deposits.
Copper	2016	ppb	1300	1300	226 ppb	0	NO	Corrosion of household plumbing Systems; erosion of natural deposits; leaching from wood preservatives.

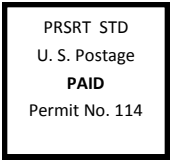
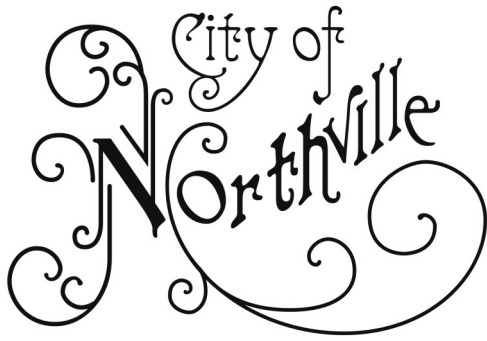
*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL, additional requirements must be met.

2016 SPECIAL MONITORING				
Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.66	Erosion of natural deposits

Should I be concerned about drinking the City's 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. However, 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

The Northville Department of Public Works will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies of this report are available at Northville City Hall, 215 W. Main Street, Northville, Michigan 48167 or at www.ci.northville.mi.us. The City of Northville invites public participation in decisions that affect drinking water quality. Please refer to the City's website, www.ci.northville.mi.us for meeting dates and agendas of the City Council. For more information about your water, or the contents of this report, contact the Public Works Department at (248) 449-9930. For more information about safe drinking water, visit the U. S. Environmental Protection Agency at www.epa.gov/safewater.



Postal Customer ECRWSS

Concerns About Lead?

The United States Environmental Protection Agency (EPA) and the City of Northville are concerned about lead in your drinking water. Although most homes may have very low levels of lead in their drinking water, some homes in our community (mostly because of their age) may have lead levels above the EPA action level of 15 parts per billion (ppb). Under Federal law, we are required to have a program in place to minimize lead in your drinking water. Since 1996 the Detroit Water and Sewerage Department, now called the Great Lakes Water Authority, has provided corrosion control treatment for our drinking water, and whenever Northville DPW encounters a lead water service line to a home, we remove it and replace it with copper or plastic lines.

Keep in mind that elevated lead levels, if detected, are primarily from piping materials. This includes the service line to your home and all the plumbing in your home. Lead is colorless, odorless and tasteless. If you are interested in testing your water for lead, you can contact the Department of Public Works (248) 449-9930 to obtain a list of local labs who can do this for you for a fee.

The Michigan Department of Environmental Quality at (586) 753-3700, the Oakland County Health Division at (248) 858-1280, or Wayne County Health Department at (734) 727-7000 can provide you with information about the health effects of lead and how you can have your child's blood tested.

This report contains important information about your drinking water. If you have difficulty understanding anything in this report, have someone translate it for you, or speak with someone who understands it. This notice is being sent to you by the City of Northville Department of Public Works at 248-449-9930.

¹ *TTHM, also known as total Trihalomethanes, are tested by collecting one sample and testing that sample for chloroform, bromodichloromethane, dibromochloromethane, and bromoform.*