

Safe Drinking Water Act

Under the Safe Drinking Water Act (SDWA), the United States Environmental Protection Agency (USEPA) is responsible for setting national limits for hundreds of substances in drinking water and also specified various treatments that water systems must use to remove these substances. Similarly, Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Each agency continually monitors for these substances and reports directly to the USEPA if they were detected in the drinking water. USEPA uses this data to ensure that consumers are receiving clean water and verify that states are enforcing the laws that regulate drinking water.



CITY OF LIVONIA
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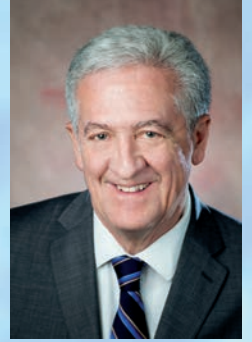
POSTAL CUSTOMER

CALENDAR YEAR 2017 WATER QUALITY REPORT
(NOTE TO BUSINESSES: PLEASE POST IN YOUR LIVONIA WORKPLACE)

DEAR WATER CUSTOMER,

We all have a right to expect safe drinking water. The City of Livonia Calendar Year 2017 Water Quality Report shows that Livonia's drinking water has met or exceeded all government standards set for water quality and safety last year.

We are proud of that fact and it's not something we take for granted.



As a City, our goal is to continue delivering the safest and highest quality water to all its customers by working closely with our supplier, the Great Lakes Water Authority. The Michigan Department of Environmental Quality is responsible with overseeing the operation of municipal water systems.

The report included here was produced to provide you with important information about your drinking water, in compliance with Federal legislative requirements of the Safe Drinking Water Act.

We are committed to providing residents with information about our water supply, because informed customers are our best allies in supporting improvements needed to maintain the highest drinking water standards.

If you have any questions after reading the report, please contact Thomas Wilson, Water Supervisor of Public Services, at (734) 466-2632.

Sincerely,

Dennis K. Wright
Mayor, City of Livonia

Information on Source Water

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), 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 the 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 and education. If you would like to know more information about the source water report or a complete copy of this report, please contact your water department at 734-466-2632.

How is The Water Treated?

The treatment plant operates 24 hours a day, seven days a week. The treatment process begins with disinfecting the source water with Chlorine to kill microorganisms that can cause illness. Next, a chemical called Alum is mixed with the water to remove the fine particles that make the water cloudy or turbid. Alum causes the particles to clump together and settle to the bottom. Fluoride is also added to protect our teeth from cavities and decay.

The water then flows through fine sand filters called beds. These filters remove even more particles and certain microorganisms that are resistant to Chlorine. Finally, a small amount of Phosphoric Acid and Chlorine are added to the treated water just before it leaves the treatment plant. The Phosphoric Acid helps control any lead that may dissolve in water from household plumbing systems. The Chlorine keeps the water disinfected as it travels through water mains to reach your homes.

In addition to a carefully controlled and monitored treatment process, the water is tested for a variety of substances before treatment, during various stages of treatment and throughout the

distribution system. Hundreds of samples are tested each week in the GLWA's certified laboratory (20 samples per month are taken from various locations in the Livonia distribution system).

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems.



What's In My Water?

The State and EPA require that water be tested on a regular basis to ensure its safety. We have met all monitoring and reporting requirements for 2017. We are also pleased to report that during the past year, the water delivered to your homes or businesses complied with, or did better than, all State and Federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in our drinking water and the last year in which the test was conducted. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by U.S. EPA, and therefore not expected to cause any health risks, we feel it is important that you know exactly what was detected and how much of each substance was present in the water.

**Springwells Water Treatment Plant
2017 Regulated Detected Contaminants Tables**

| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Allowed Level MCL | Highest Level Detected | Range of Detection | Violation yes/no | Major Sources in Drinking Water |
|---|------------|------|---------------------|----------------------|---------------------------|-----------------------|---------------------|---|
| Inorganic Chemicals – Monitoring at Plant Finished Water Tap | | | | | | | | |
| Fluoride | 05/16/2017 | ppm | 4 | 4 | 0.63 | n/a | no | Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| Nitrate | 05/16/2017 | ppm | 10 | 10 | 0.38 | n/a | no | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |
| Barium | 05/16/2017 | ppm | 2 | 2 | 0.01 | n/a | no | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits. |

| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Allowed Level MCL | Highest LRAA | Range of Detection | Violation yes/no | Major Sources in Drinking Water |
|--|-----------|------|---------------------|----------------------|--------------|-----------------------|---------------------|---|
| Disinfection By-Products – Monitoring in Distribution System Stage 2 Disinfection By-Products | | | | | | | | |
| Total Trihalomethanes (TTHM) | 2017 | ppb | n/a | 80 | 31.00 | 14-59 | no | By-product of drinking water chlorination |
| Haloacetic Acids (HAA5) | 2017 | ppb | n/a | 60 | 11.66 | 3.5-22 | no | By-product of drinking water disinfection |

| Regulated Contaminant | Test Date | Unit | Health Goal MRDLG | Allowed Level MRDL | Highest RAA | Quarterly Range of Detection | Violation yes/no | Major Sources in Drinking Water |
|--|----------------|------|----------------------|-----------------------|-------------|------------------------------------|---------------------|---|
| Disinfectant Residuals – Monitoring in Distribution System by Treatment Plant | | | | | | | | |
| Total Chlorine Residual | Jan.-Dec. 2017 | ppm | 4 | 4 | 0.71 | 0.65-0.74 | 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 |
| 0.24 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 Microbiological Contaminants – Monthly Monitoring in Distribution System | | | | | | |
|---|------|--|--|----------------------------|---------------------|---------------------------------------|
| Regulated 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 | | 0 | No | Naturally present in the environment. |
| <i>E.coli</i> Bacteria | 0 | A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E.coli</i> positive. | | 0 | No | Human waste and animal fecal waste. |

| 2017 Lead and Copper Monitoring at Customers' Tap | | | | | | | | |
|---|-----------|------|---------------------|--------------------|--|---------------------------------|---------------------|--|
| Regulated Contaminant | Test Date | Unit | Health Goal MCLG | Action Level AL | 90 th Percentile Value* | Number of Samples over AL | Violation yes/no | Major Sources in Drinking Water |
| Lead | 2017 | ppb | 0 | 15 | 0.5 ppb | 0 | No | Corrosion of household plumbing system; Erosion of natural deposits. |
| Copper | 2017 | ppm | 1.3 | 1.3 | 0.1 ppm | 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 | 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 |

2017 Special Monitoring

| Contaminant | MCLG | MCL | Level Detected | Source of Contamination |
|--------------|------|-----|----------------|-----------------------------|
| Sodium (ppm) | n/a | n/a | 4.96 | Erosion of natural deposits |

Substances Expected To Be 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 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 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.

People With Special Health Concerns

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).

Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us; in our food; on our skin; in our bodies; and in the air, soil and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because they indicate that the water may be contaminated with other organisms that can cause disease. Throughout 2016, the City of Livonia tested 240 samples (20 samples every month) for coliform bacteria. In the entire year, there were no samples found to contain these nuisance bacteria.

Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Safe drinking water is a shared responsibility. The water that the Great Lakes Water Authority (GLWA) delivers to our community does not contain lead. Lead can leach into drinking water through home plumbing fixtures, and in some cases, customer service lines. Corrosion control reduces the risk of lead and copper from leaching into your water. Orthophosphates are added during the treatment process as a corrosion control method to create a protective coating in service pipes throughout the system, including in your home or business. The City of Livonia performs required lead and copper sampling and testing in our community. Water consumers also have a responsibility to maintain the plumbing in their homes and businesses, and can take steps to limit their exposure to lead. 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 (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

In 2017, the MDEQ issued a reporting violation to our system for failure to submit a sample copy of the Consumer Notice of Lead Results in Drinking Water (CNL) along with a certification that the CNL has been distributed. This certification is required to be submitted to the MDEQ by December 30, 2017. The CNL was distributed to consumers who participated in the lead and copper testing program on December 15, 2017 but the certification to the MDEQ was not submitted until February 28, 2018. We apologize for this administrative oversight and our staff are making every effort to assure future reporting compliance.

Drinking water quality is important to our community and the region. The City of Livonia and the 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. The City of Livonia 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 the GLWA and City of Livonia 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.

How Will I Know If There Is A Problem With My Water?

If the amount of a contaminant exceeds a predetermined safe level in your drinking water (MCL, Action Level, etc.) the City of Livonia Department of Public Works will notify you via newspapers, radio, TV and other means as soon as possible. With the notification, you will be instructed on what appropriate actions you can take to protect you and your family's health.

Cryptosporidium

Cryptosporidium is a disease-causing parasite that lives in the intestinal tract of many animals including dogs and cats. Symptoms of infection include diarrhea, abdominal cramps, headaches, nausea and vomiting. The disease is typically spread through contact with feces of an infected animal or person and consuming contaminated food or water. Cryptosporidium can be introduced into bodies of water by way of surface water runoff containing animal waste and sewage discharge. The Detroit Water and Sewerage Department completed a five year testing program for Cryptosporidium and did not detect it in any of the source water supplies.

For More Information

For information about this report, or for questions relating to your drinking water, please contact Tom Wilson, Water Supervisor of Public Service at twilson@ci.livonia.mi.us or (734) 466-2632.

Information regarding water treatment and regulations is available at the USEPA web site at www.epa.gov, or by calling their Safe Drinking Water Hotline at 1-800-426-4791.