

A close-up, high-speed photograph of water being poured into a clear glass. The water is captured in mid-pour, creating a dynamic, flowing shape with many small bubbles and ripples. The lighting is bright, highlighting the clarity and movement of the liquid. The background is a soft, out-of-focus white.

ROCHESTER HILLS

ANNUAL

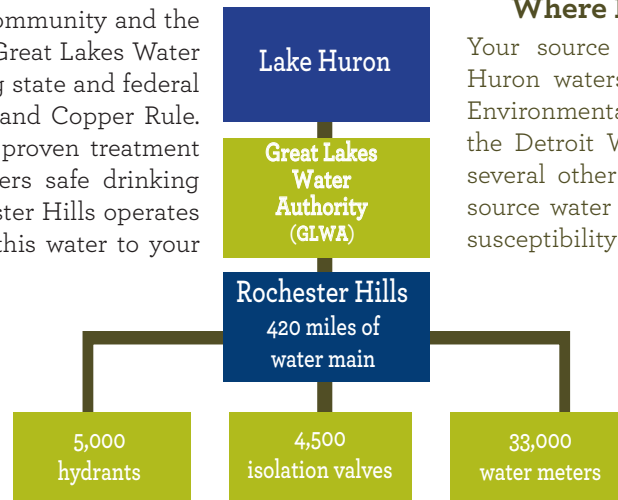
WATER QUALITY REPORT

**WATER TESTING
PERFORMED
IN 2017**

City of Rochester Hills 2017 Water Quality Report

Drinking water quality is important to our community and the region. The City of Rochester Hills and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With Lake Huron as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. The City of Rochester Hills operates and maintains the water system that carry this water to your property's service line.

This year's Water Quality Report highlights the performance of the City of Rochester Hills and the GLWA 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.



Where Does Our Water Come From?

Your source water comes from the lower Lake Huron watershed. The Michigan Department of Environmental Quality (MDEQ) in partnership with the Detroit Water and Sewerage Department and several other governmental agencies performed a source water assessment in 2004 to determine the susceptibility or relative potential of contamination.

The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

What's in Our Drinking Water?

Drinking water, including bottled water, may reasonably be expected to contain some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and 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, or wildlife.

Pesticides and Herbicides, which may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Organic Chemical Contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

To ensure tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Lead and 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. Rochester Hills is responsible for providing high quality drinking water, though the variety of materials used in plumbing components varies. You can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking and cooking. If you are concerned, 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://epa.gov/safewater/lead>.

In 2015, GLWA received a grant from the Michigan Department of Environmental Quality to develop a source water protection program for the Lake Huron Water Treatment Plant intake. The program includes seven elements: 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.

Important Health Information

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 are available from the Safe Drinking Water Hotline at 1-800-426-4791.

We invite participation in discussions that affect drinking water quality.

The City of Rochester Hills and the Great Lakes Water Authority are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. We want our customers to be informed about their water quality and involved in discussions pertaining to our water.

We will update this report annually and will keep you informed of any problems that may occur through the year, as they happen. For more information about your water, or the contents of this report, contact the Department of Public Services at 248-656-4685 or by email at dps@rochesterhills.org.

Lake Huron Water Treatment Plant 2017 Regulated Detected Contaminants Tables

2017 Inorganic Chemicals – Monitoring at the Plant Finished Water Tap								
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
Fluoride	5-16-2017	ppm	4	4	0.72	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	5-16-2017	ppm	10	10	0.34	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5-16-2017	ppm	2	2	0.01	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	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Total Trihalomethanes (TTHM)	2017	ppb	n/a	80	41	21-75	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	2017	ppb	n/a	60	20	9.3-25	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
Total Chlorine Residual	Jan-Dec 2017	ppm	4	4	0.75	0.65-0.80	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	
0.29 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 th Percentile Value*	Number of Samples over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2017	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2017	ppm	1.3	1.3	0	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

Radionuclides 2014								
Regulated contaminant	Test date	Unit	Health Goal MCLG	Allowed Level	Level detected	Violation Yes/no	Major Sources in Drinking water	
Combined Radium 226 and 228	5-13-14	pCi/L	0	5	0.86 + or - 0.55	no	Erosion of natural deposits	

Contaminant	MCLG	MCL	Level Detected 2017	Source of Contamination
Sodium (ppm)	n/a	n/a	4.46	Erosion of natural deposits

Glossary: n/a-Not applicable, >-Greater than, ND- Not detected

MCLG (Maximum Contaminant Level Goal) - The level of contaminant in drinking water below which there is no known expected risk to health.

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.

MRDLG (Maximum Residual Disinfectant Level Goal) - The level of a drinking water disinfectant below which there are no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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.

ppb (Parts per Billion) - The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.

TI (Treatment Technique) - A required process intended to reduce the level of a contaminant in drinking water.

Mmhos (Micromhos)- Measure of electrical conductance of water.

pCi/L-Picocuries per liter

ppm (Parts per Million)-The ppm is equivalent to milligrams per liter. A milligram= 1/1000 gram.

NTU (Nephelometric Turbidity Units) - Measures cloudiness of water.

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 the trichloroacetic acids. Compliance is based on the total.

TTHM (Total Trihalomethanes) - Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on total.

LRAA- Locational Running Annual Average

RAA- Running Annual Average

Visit the
City of Rochester Hills
www.rochesterhills.org
Bryan K. Barnett, Mayor

A Message from Mayor Bryan K. Barnett

The City of Rochester Hills is honored to provide you with the 2017 Annual Water Quality Report. This report contains important information about water, health, and ways to use water responsibly.

On occasion, the City is notified of Water Boil Advisories which are caused by events like water main breaks. We would like to remind residents of the opportunity to be notified immediately when emergency situations like this occur. Our **NOTIFY ME** program sends out an emergency alert text message and/or email notice as soon as the emergency event is announced.

To enroll, visit www.rochesterhills.org and click NOTIFY ME in Quick Links section of the home page, enter mobile the phone and/or email addresses to which notifications should be sent. The City is constantly looking for ways to make communication with constituents easier, faster, and more efficient and the NOTIFY ME technology does just that. While there, you can also sign up to receive text and/or email alerts regarding other City news and activities, like City Council meetings, construction updates, events in our parks, and planning and economic development information. I encourage you to enroll today.



RIPPLE Effect

Representing Innovative People and Promotions that Lead to increased water Efficiency

You can play a role in conserving water and save yourself money in the process by becoming a conscientious consumer of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- The City Ordinance requests that property owners with automatic watering system to only water lawns between midnight and 5:00 am to reduce water purchase costs. Watering your lawn and garden during these hours will minimize evaporation as well.
- The City also asks businesses and residents to delay the start of their watering systems by 15, 30 and 45 minutes past the top of the hour to avoid sudden water pressure drops that have been detected on the hour.
- Turn your sprinkler system off during or after a rainstorm and leave it off until the plants need to be watered again. Or install a rain sensor on your sprinkler system so it automatically shuts off when it's raining.
- Water your lawn only when it needs it. If you leave footprints on the grass, it is usually time to water. Also, avoid watering your lawn on windy days.
- Remember to check your sprinkler system valves periodically for leaks and keep sprinkler heads in good shape. Adjust sprinklers so that only your lawn is watered and not the house, sidewalk, or street.
- Don't over-water your plants. Learn how much water they need and how best to apply just the right amount.
- Turn the faucet off while you shave, brush your teeth, lather your hands and wash dishes.
- Run your washer and dishwasher only when they are full. You can save up to 1,000 gallons a month. When buying new appliances, consider those that offer cycle and load size adjustments. They're more water and energy efficient.
- Plant in the fall when conditions are cooler and rainfall is more plentiful.
- Adjust your lawn mower to a higher setting. A taller lawn shades roots and holds moisture better than if it is closely clipped.
- Use a hose nozzle or turn off the water while you wash your car. You'll save up to a 100 gallons every time.
- Report broken pipe, open hydrants, and errant sprinklers to the property owner or to your water provider.
- Monitor your water bill for unusually high use. Your bill and water meter are tools that can help you discover leaks.
- Check out our Water Conservation page under "Living In" on the Rochester Hills website.



Rochester Hills, in partnership with the City of Auburn Hills, the Township of Orion and the Oakland County Water Resources Commissioner (representing the City of Pontiac) created the North Oakland County Water Authority (NOCWA) in 2014.



NOCWA has provided more reliable water service and marginalized water rate increases to the four communities through maximizing the utilization of existing underutilized assets. It has also increased overall efficiency by operating as a small regional district rather than four individual communities.

A Final Word About Water Safety

Safe drinking water is a shared responsibility. The water that 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 Rochester Hills 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.