

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018



Presented By
City of Rockford

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

Community Participation

The public is invited to attend City Council meetings and voice concerns about our drinking water. City Council meetings are on the second Monday of each month at 7:00 p.m. at Rockford City Hall, Seven South Monroe Street, Rockford, Michigan.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Substances That Could Be in Water

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

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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;

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;

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 organic chemicals, 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.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Andy Bilski, Water Plant Superintendent, at (616) 951-7504

Information on PFAS

In April 2018, Rockford's drinking water was tested for per- and polyfluoroalkyl substances (PFAS) at the water plant point of entry into the distribution system. PFAS was not detected. Information on PFAS in Michigan is available through the Michigan DEQ at <https://www.michigan.gov/pfasresponse/>, the Kent County Health Department at <https://www.accesskent.com/Health/PFAS/>, and the U.S. EPA at <https://www.epa.gov/pfas>.

Lead Service Lines

Water service lines in a distribution system can be made of various materials, including copper, galvanized steel, lead, and plastic. The different materials were used by contractors over the course of time; galvanized steel and lead were commonly used before and during the 1980s, and copper and plastic were mainly used after the 1980s until the present day. Rockford's distribution has a total of 2,355 service lines; through new development and water main reconstruction projects, it is estimated that 1,621 of the total lines are made of copper, galvanized steel, or plastic, while the composition of the remaining estimated 734 service lines is unknown. Using building inspection records and field verification, Rockford is developing a preliminary distribution system material inventory report that will be submitted to the Michigan DEQ by January 2020. If any lead service lines are identified during field verification, the property owner will be notified.

"We remain vigilant in delivering the best-quality drinking water"

Where Does My Water Come From?

The City of Rockford customers are fortunate because we enjoy an abundant water supply from three wells located on the southeast side of the city. The Rockford Water Treatment Plant draws water from an aquifer more than 100 feet below ground surface and pumps it directly into the on-site treatment facility.

From the treatment facility, the water then travels into the distribution system. The distribution system is comprised of approximately 35 miles of water mains, over 2,000 water meters, and over 400 fire hydrants. The city has four elevated water storage tanks with capacities ranging from 200,000 to 500,000 gallons. These tanks provide the city with water pressure and ample water for fire suppression. Rockford also operates and maintains a booster pumping station to provide water for the Hightower water tank, water pressure, and fire suppression to the Rockford Highlands. In addition to providing water to the City of Rockford, we also provide water to parts of Algoma, Cannon, and Courtland Townships.

In 2018 the water treatment plant supplied 315 million gallons of water to approximately 7,125 consumers. Our maximum water produced in a single day was 1.827 million gallons, while the minimum amount of water produced in a single day was 329,000 gallons. The average water produced per day was calculated to be 865,000 gallons.



Source Water Assessment

In 2017 the Michigan Department of Environmental Quality (DEQ) performed a source water assessment for the City of Rockford. This is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

According to the Source Water Assessment Plan, the City of Rockford's source water wells have a low susceptibility to contamination based on our source of water and possible sources of contamination within the wellhead protection area. For more information or a copy of this report, please contact the City Office at (616) 866-1537.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 on the U.S. EPA's website at <http://water.epa.gov/drink/info/lead/index.cfm>.

Water Treatment Process



The treatment process starts by pumping raw water from the ground into an aeration unit, where oxygen is introduced into the water. The oxygen oxidizes any dissolved iron found in the water as it travels into a detention tank, where the oxidation process is completed. At this point, the iron is ready to be filtered from the water and is distributed into an anthracite carbon filter bed. Once the water passes through the filter and the iron is removed, the water then enters a clear well.

An ortho-polyphosphate is added to prevent contaminants like lead and copper from leaching into the water as it moves throughout household plumbing and fixtures. Finally, chlorine is added as a primary and secondary disinfectant to protect the water from pathogens as it travels into your home or business. We carefully monitor the amount of chlorine applied, adding enough to protect the safety of your water without compromising taste.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (back pressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back siphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.



Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial and commercial facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

BY THE NUMBERS



The number of Olympic-sized swimming pools it would take to fill up all of Earth's water. **800 TRILLION**

1 CENT The average cost for about 5 gallons of water supplied to a home in the U.S.

The amount of Earth's water that is salty or otherwise undrinkable, or locked away and unavailable in ice caps and glaciers. **99%**

50 GALLONS The average daily number of gallons of total home water use for each person in the U.S.

The amount of Earth's surface that's covered by water. **71%**

330 MILLION The amount of water on Earth in cubic miles.

The amount of Earth's water that is available for all of humanity's needs. **1%**

75% The amount of the human brain that contains water.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2018	[4]	[4]	0.40 ¹	0.11–0.87	No	Water additive used to control microbes
Combined Radium (pCi/L)	2016	5	0	2.15 +/-0.62	NA	No	Erosion of natural deposits
Haloacetic Acids [HAA] (ppb)	2018	60	NA	3.87	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	0.287	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	6.5	NA	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2016	1.3	1.3	0.592	0.028–0.746	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2016	15	0	ND	NA	0/20	No	Lead service lines, corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2018	250	NA	18.7	NA	No	Runoff/leaching from natural deposits
Fluoride ² (ppm)	2018	2.0	NA	0.55	0.34–0.74	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Iron (ppb)	2018	300	NA	32.5 ³	20–40	No	Leaching from natural deposits; Industrial wastes
pH (Units)	2018	6.5–8.5	NA	7.7 ³	7.6–7.8	No	Naturally occurring
Sulfate (ppm)	2018	250	NA	146	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness [CaCO ₃] (ppm)	2018	379 ⁴	365–395	Leaching from natural deposits of calcium
Sodium (ppm)	2018	15.6	NA	Erosion of natural deposits

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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 a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

¹Based on the disinfectant residual running annual average of the bacteriological sample sites.

²The U.S. EPA lowered the standard for fluoride residuals in drinking water to 0.70 ppm. In 2012 the City of Rockford stopped adding fluoride to its drinking water because the city's groundwater source naturally contains fluoride.

³Based on a monthly average.

⁴Based on a monthly average, equivalent to 22 grains per gallon.

