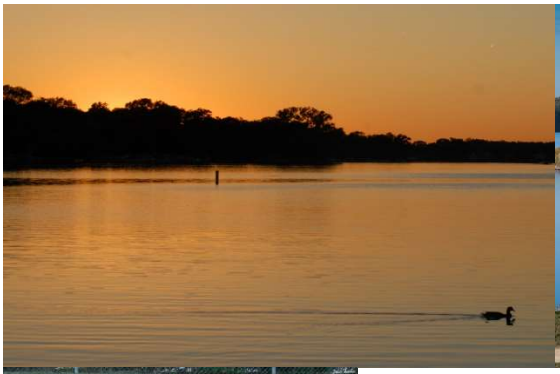
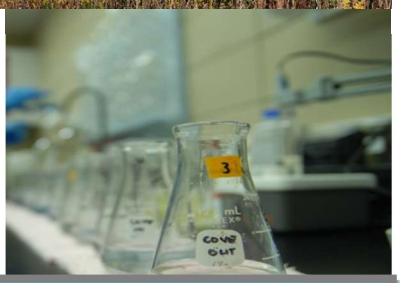




CITY OF
Crystal Lake
ILLINOIS



2023 Annual Water Quality Report

This report is designed to inform you about the quality of the water and services the City provides every day.
Our constant goal is to provide you with a safe and dependable supply of drinking water.

Meeting the Challenge

The City of Crystal Lake Water Division is proud to present our Water Quality/Consumer Confidence Report for the period of January 1 to December 31, 2023. This report is produced each year as mandated by the federal government. We hope it provides you with easy-to-understand educational information regarding Crystal Lake's drinking water.

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo o hable con alguien que lo entienda bien.

The City of Crystal Lake Water Division monitors your drinking water daily for regulated and non-regulated contaminants. In 2023, all detected contaminants were below the Environmental Protection Agency's allowed maximum contaminant level and no health violations were reported. You can be confident the City is providing safe, high-quality drinking water.

Please take the time to look through this report. This year, we have included information regarding frequently asked questions, such as: how drinking water is treated, where your drinking water comes from and how to protect this valuable natural resource.

If you have questions about this report or your water, please contact me directly at (815) 459-2020 x4047, email at spark@crystallake.org, or write to: 100 W. Woodstock St., Crystal Lake, IL 60014.

Sean Park
Public Water Supply Superintendent
Public Water Supply ID# IL1110150

Our Water Is Not A Limitless Resource!

Water seems to be everywhere and it is there when we turn on our tap, but the supply is not endless. Below are some simple water-saving tips to help conserve the water you are using.

Indoors:

- Take shorter showers and turn off the faucet while you brush your teeth or wash your face.
- Install water efficient faucet aerators in your kitchen/bathroom.
- Check toilets and faucets for leaks. A leaking toilet can waste up to 200 gallons of water or much more, per day! Install a high-efficiency model.
- Wash only full loads of laundry and dishes.
- Keep a pitcher of drinking water in the refrigerator instead of allowing water to run to cool it off.

Outdoors:

- Consider watering your lawn no more than twice a week and only if it really needs it. More than 50% of irrigation water use goes to waste due to overwatering, evaporation or runoff. Make sure to follow the City's Water Conservation Ordinance and only water during allowed times.
- Choose native plants. They require less watering and support the local ecosystem.
- Apply organic mulch around plants to retain moisture and prevent weed growth.
- Use a broom to sweep off your driveway and sidewalk instead of using a hose with water.
- Visit www.epa.gov/watersense for more information on ways to use less water.

In 2023, the City of Crystal Lake Water Division distributed 1,347,535,000 gallons of water to its customers!

Notice for Immuno-Compromised Persons

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 people 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 by calling the EPA's Safe Drinking Water Hotline at **800-426-4791**.

Potential for Lead Exposure

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. The City of Crystal Lake 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 your drinking water, testing methods, and steps you can take to minimize exposure is available by calling the EPA's Safe Drinking Water Hotline at **800-426-4791** or **www.epa.gov/safewater/lead**.

What the EPA Says About Drinking Water Contaminants

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 EPA's Safe Drinking Water Hotline at **800-426-4791** or at **www.epa.gov/safewater**.

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 organic chemicals, 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 the result of oil/gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Water Quality Test Result Definitions

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

Action Level Goal (ALG)
The level of a contaminant which in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

90th Percentile
90% of samples are equal to or less than the number in the chart.

Maximum Contaminant Level (MCL)
The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the maximum contaminant level goal as feasible using the best available treatment technology.

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

Maximum Residual Disinfectant Level (MRDL)
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.

mg/l (ppm)
Milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

Maximum Contaminant Level Goal (MCLG)
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Secondary Maximum Contaminant Level (SMCL)
The EPA does not enforce SMCL's. Established only as guidelines to assist public water systems in managing drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health at SMCL.

ug/l (ppb)
Micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

ng/l (ppt)
Nanograms per liter or parts per trillion – or one ounce in 7,350,000,000 gallons of water.

pCi/l
PicoCuries per liter (measurement of radioactivity).

NA: Not applicable

Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

1. Date of Sample: The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.
2. Fluoride: Fluoride is added to the water supply to promote strong teeth. The City is required to maintain these optimal levels by state statute and levels are enforced by the IEPA. The Illinois Department of Public Health (IPDH) recommends an optimal Fluoride range of 0.6 mg/l to 0.8 mg/l.
3. Sodium: There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.
4. PFAS Detections: In 2020, our PWS was sampled as part of the State of Illinois PFAS Statewide Investigation. Results from this sampling indicated PFAS were detected in our drinking water below the health advisory level established by Illinois EPA. Follow up monitoring is being conducted. For more information about PFAS health advisories visit https://www2.illinois.gov/epa/topics/water-quality/pfas/Pages/pfas-healthadvisory.aspx.

Sampling Results

We collect and analyze over a thousand water samples per year for the presence of microbial, inorganic, pesticides, herbicides, radioactive, biological, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the finished water. Raw water data is available upon request. The state requires us to monitor 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 is included, along with the year in which the sample was collected.

Regulated Contaminants Detected

Contaminant	Amount Detected	Range Low-High	Unit	Max Contaminant Level Goal (MCLG)	Max Contaminant Level (MCL)	Date of Sample [1]	Violation	Possible Source(s) of Contamination
DISINFECTANTS / DISINFECTANT BY-PRODUCTS								
(HAA5) Haloacetic Acids	9	5.29 – 9.2	ug/l	NA	60	2023	NO	By-product of drinking water disinfection.
(TTHM) Total Trihalomethanes	40	15.7 – 40	ug/l	NA	80	2022	NO	By-product of drinking water disinfection.
Chlorine	2.2	0.5 - 2.2	mg/l	MRDLG=4	MRDL=4	2022	NO	Water additive used to control microbes.
INORGANIC CONTAMINANTS								
Arsenic	1.08	0 – 1.08	ug/l	0	10	2021	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	0.782	0.0262 – 0.782	mg/l	2	2	2021	NO	Discharge of drilling wastes, metal refineries and erosion of natural deposits.
Chromium	6.09	0 – 6.09	ug/l	100	100	2021	NO	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride [2]	0.96	0.73 – 0.96	mg/l	4	4	2021	NO	Erosion of natural deposits, additive promoting strong teeth and discharge from fertilizer/aluminum factories.
Sodium [3]	342	97.5 - 342	mg/l	NA	NA	2021	NO	Erosion of naturally occurring deposits. Used in water softening regeneration.
VOLATILE ORGANIC CONTAMINANTS								
Cis-1,2-Dichloroethlyene	0.81	0 – 0.81	ug/l	70	70	2023	NO	Discharge from industrial chemical factories.

MCLG	Action Level (AL)	90th Percentile	# of Sites Over AL	Date of Sample[1]	Violation	Possible Source(s) of Contamination
COPPER						
1.3 mg/l	1.3 mg/l	0.865 mg/l	1	2023	No	Erosion of natural deposits; leaching from wood preservatives and corrosion of household plumbing systems.
LEAD						
0 ug/l	15 ug/l	6.5 ug/l	2	2023	No	Corrosion of household plumbing systems and erosion of natural deposits.

PFAS Detections [4]

Contaminant	Unit	Average Level Detected	Range of Detection	Health-Based Guidance Level	Date of Sample[1]	Possible Source(s) of Contamination
PERFLUOROBUTANESULFONIC ACID (PFBS)	ng/L	2.3	0 – 4.9	2,100	2023	Manmade chemical used for water proofing and heat resistance, found in various consumer products.
PERFLUOROHEXANOIC ACID (PFHxA)	ng/L	1.4	0 – 3.8	560,000	2023	Manmade chemical used for water proofing and heat resistance, found in various consumer products.
Perfluorooctanoic acid (PFOA)	ng/L	0.5	0 – 2.0	2	2022	Manmade chemical used for water proofing and heat resistance, found in various consumer products.

Where Your Drinking Water Comes From

The sources of drinking water (both tap 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.

All of the water the City of Crystal Lake supplies to you comes from beneath the ground and is referred to as groundwater. This water originates as precipitation (such as rain or snow), which slowly travels down through the soil and into an aquifer. An aquifer is a geologic formation beneath the earth's surface where groundwater is stored.

The City's source water originates from "shallow" sand and gravel type aquifers at depths of 100' - 250' below land surface, and "deep" sandstone aquifers at depths of 1,000' – 1,450' below land surface. The groundwater in the aquifers is pumped to the surface, treated at the City's water treatment facilities, and then distributed throughout the community via underground water mains.

Source Water Treatment Methods

Your water is treated by using oxidation, fluoridation, ion exchange softening, chlorination disinfection and filtration to remove or reduce harmful contaminants that can come from the source water. Below is a brief description of these treatment methods:

Aeration & Air Stripping – Removal of hydrogen sulfide, volatile organic contaminants and oxidation of iron.
Fluoridation – Controlled addition of fluoride to the source water to reduce tooth decay (optimal levels are enforced by the IEPA).
Ion Exchange Softening – Method to remove iron, barium, radium, manganese, calcium and magnesium in the source water by sending it through an ion exchange filter filled with "resin."
Chlorination – Introduction of chlorine to source and finished water, which destroys disease-causing bacteria possibly contained in water or its transport pipes.
Filtration – Source water is sent through a medium, such as sand, to remove iron before it is treated with an ion exchange softener.

City of Crystal Lake Source Water Assessment

A source water assessment has been completed for the City of Crystal Lake by the Illinois Environmental Protection Agency (IEPA) to assure clean and safe drinking water. The source water assessment includes information on the importance of source water, susceptibility to contamination determination, and documentation/recommendation of source water protection efforts. The City of Crystal Lake's source water assessment is available for viewing at the Municipal Complex or on the IEPA's website at http://dataservices.epa.illinois.gov/swap/factsheet.aspx.

The Illinois EPA considers the City's source water to be susceptible to contamination based upon a number of criteria including: monitoring conducted at the wells, monitoring conducted at the entry points to the distribution system and the available hydro geologic data on the wells. In 2008, Crystal Lake received a Non-Compliance Advisory (NCA) for bacteriological detections in Well #16. This well had recently undergone rehabilitation which may have contributed to the bacteria detections. In addition, the facility reviewed and improved sampling techniques. While the NCA has been resolved at this time, monitoring data is continually being tracked in regards to all active potable wells at the facility, further deficiencies would result in additional enforcement.

It is important to remember the assessments only indicate the ***potential*** for contamination and the ***possibility*** that contaminants can enter down through the ground to the aquifer at the depth at which water is entering the well pump.

Public Meetings

We want our valued customers to be informed about their water quality! You are welcome to attend City Council meetings on the first and third Tuesday of each month at 7:00 pm in the City Council Chambers (100 West Woodstock Street).
For more information visit the City's website at www.crystallake.org.