



At the Heart of Community

PUBLIC WORKS DEPARTMENT

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2019 Drinking Water Quality Report Calendar Year 2018

This is the Annual Water Quality Report for the period of January 1, 2018 to December 31, 2018. This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water. **Este informe contiene informacion muy importante sobre el agua que usted bebe. Traduzcalo o hable con alguien que lo entienda bien.**

This year, your tap water met all USEPA and state drinking water health standards. Our system vigilantly safeguards its groundwater supply and we are able to report that we did not have any violation of a contaminant level or of any other water quality standard in 2018. This report includes details about where your water comes from, what it contains and how it compares to standards set by regulatory agencies.

Water System Information

The Utilities Division of Public Works is located at the Community Services facility, 505 Telser Road. If you have any questions about this report or concerning the Village's water system, please contact Betty Harrison or Steve Schmitt at 847-540-1696. Information regarding the Village's water system may at times be discussed at Village Board meetings. Typically, Board meetings are held on the first and third Monday of each month at 7:00 PM, in the boardroom at the Village Hall. The agenda for each meeting is posted on the Friday prior. These meetings are also broadcast on Comcast local cable access channel 4, AT&T U-verse channel 99 and are available for streaming on the Internet via the Village website. For more information, visit LakeZurich.org.

Drinking Water Information

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 USEPA's Safe Drinking Water Hotline (**1-800-426-4791**).

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 can dissolve naturally occurring minerals and radioactive materials, and pick up substances resulting from the presence of animals or human activity. Possible contaminants consist of:

- [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 may 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 may also come from gas stations, urban storm water runoff and septic systems.
- [Radioactive contaminants](#), which may be naturally occurring or be the result of oil and gas production and mining activities.

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. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (**1-800-426-4791**).

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Should you elect to drink bottled water only, please be aware that most bottled water does not contain fluoride and other minerals recommended for good health. Check with your dentist and/or physician about daily supplements to provide these vital elements.

Water Source

The Village uses groundwater provided by six wells drilled into the St. Peter, Galesville Sandstone portion of the Cambrian-Ordovician Aquifer. All six wells are located within the Village limits. Water is pumped from each well based on a rotational duty cycle and demand. Wells 7, 8, 9, 10 and 12 have Ion Exchange treatment to reduce combined radium levels below EPA limits. Well 11, which does not currently have Ion Exchange treatment, is on emergency use only status. Your home can receive water from any of our well locations but typically the water you receive is a blend from multiple wells.

Source Water Assessment Availability

The Illinois EPA has determined that the Lake Zurich Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data on the wells. A summary version of the completed Illinois EPA source water assessment of our community water supply is available on the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Vulnerability Waiver

Due to the favorable monitoring history, aquifer characteristics, and inventory of potential sources of contamination, our water supply was issued a vulnerability waiver renewal from the Illinois EPA. Monitoring for VOC's and SOC's is not required between January 1, 2017 and December 31, 2019.

Data Abbreviations

USEPA:	United States Environmental Protection Agency
EPA:	Environmental Protection Agency
HIV/AIDS:	Human Immunodeficiency Virus Infection/Acquired Immunodeficiency Syndrome
CDC:	Center for Disease Control
FDA:	Food and Drug Administration
VOC:	Volatile Organic Contaminant
SOC:	Synthetic Organic Contaminant

2018 Regulated Contaminants Detected

Definitions

The following tables contain scientific terms and measures, some of which may require explanation.

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.
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.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant that triggers treatment or other required actions by the water supply.
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.
MRDL	Maximum Residual Disinfectant Level: The highest level of a drinking water disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Avg	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
ppm	Milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.
ppb	Micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water.
pCi/L	Picocuries per liter (a measure of radioactivity).
N/A	Not applicable.
mrem/year	Millirems per year (a measure of radiation absorbed by the body).
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment	A level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
ALG	Action Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

Lead and Copper

Lead & Copper	Date Sampled	MCLG	Action Level (AL)	90 th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Lead	2018	0	15	9.16	3	ppb	No	Corrosion of household plumbing systems; erosion of natural deposits.
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 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 (1-800-426-4791) or at http://www.epa.gov/safewater/lead.								

Disinfectants and Disinfection By-Products

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/2018	0.6 **	0.56 – 0.8	MRDLG = 4	MRDL = 4	ppm	No	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2018	16.7^	2.25 – 16.7	No goal for the total	60	ppb	No	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2018	51 ^	1.21 - 51	No goal for the total	80	ppb	No	By-product of drinking water disinfection.

** Based on the highest annual average calculated for each sample location. ^ Based on the highest Locational Running Annual Average (LRAA).

Inorganic Contaminants

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2018	3.4	0.0985 - 3.4	2	2	ppm	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride	2018	0.98	0.87 – 0.98	4	4.0	ppm	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Iron (2)	2018	0.15	0 – 0.15		1.0	ppm	No	This contaminate is not currently regulated by USEPA. However, the state regulates. Erosion of natural deposits.
Sodium (3)	2018	97.3	39.5 – 97.3			ppm	No	Erosion from naturally occurring deposits; used in water softener regeneration.

Radioactive Contaminants

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium <u>226/228</u>	2018	5	1.4 – 4.8	0	5	pCi/L	No	Erosion of natural deposits.

2018 Unregulated Contaminants

Our water system sampled for a series of unregulated contaminants in 2018. Unregulated contaminants are those that do not yet have drinking water standards set by the USEPA. The purpose of monitoring for these contaminants is to help the USEPA decide whether the contaminants should have a standard. The following table contains information about the unregulated contaminants that were detected.

Unregulated Contaminants Detected

Unregulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	Units	Additional Information
Germanium (4)	2018	0.35	0 – 0.35	ppm	Naturally-occurring element; commercially available in combination with other elements and minerals; a byproduct of zinc ore processing; used in infrared optics, fiber-optic systems, electronics and solar applications.
Manganese (2)	2018	6.7	1.1 – 6.7	ppm	Naturally-occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater chemical; essential nutrient.
HAA5 (5)	2018	7.0	3.0 – 7.0	ppm	By-product of drinking water disinfection.
HAA6Br (4)	2018	2.3	1.6 – 2.3	ppm	By-product of drinking water disinfection.
HAA9 (4)	2018	8.3	4.8 – 8.3	ppm	By-product of drinking water disinfection.

Abbreviations

AL	Action Level
pCi/L	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (ug/l)
ug/l	micrograms per liter, or parts per billion

Footnotes

- (1) The state requires us to monitor for certain 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) This contaminant is not currently regulated by the USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1,000 or more.
- (3) This information is provided 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 the level of sodium in the water.
- (4) A maximum contaminant level (MCL) for this contaminant has not been established by either state or federal regulations, nor has mandatory health effects language been set. The purpose of unregulated contaminants monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.
- (5) HAA5 is currently regulated in drinking water at an MCL of 60 ppm. It appears in the Unregulated Contaminants table since it is part of (and is necessary to determine) the level of HAA9, an unregulated contaminant.