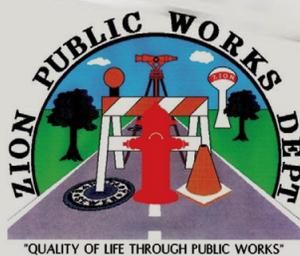


ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019



Presented By



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, 2019. 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

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the first and third Tuesday of each month at 7:00 p.m. at City Hall, 2828 Sheridan Road, Zion.

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 two 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 at www.epa.gov/safewater/lead.

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>.

Source Water Assessment

Susceptibility is defined as the likelihood for the source water of a public water system to be contaminated at concentrations that would pose a concern. The Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intake with no protection beyond dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois.

LCPWD's intake has a moderate sensitivity and therefore has greater protection from shoreline contaminants due to mixing and dilution. While the shoreline contaminants are not perceived as an immediate threat, the combination of land use, proximity to North Point Marina, and stormwater discharge from Kellogg Ravine adds to the susceptibility of LCPWD's intake. Also, the proximity of Illinois Beach State Park adds to the protection of the intake by acting as a natural buffer from shoreline contaminants.

The best way to ensure a safe source of drinking water for a water supply is to develop a program designed to protect the source water against potential contamination on the local level. Since the predominant land use within the Illinois boundary of the Lake Michigan watershed is urban, a majority of watershed protection activities in this document are aimed at this purpose. Citizens must be aware that activities around the house may have a negative impact on their source water. The main efforts of the immediate community should be an awareness of stormwater drains and the direct link to the lake within the identified Lake Michigan watershed. A proven best management practice for this purpose has been the identification and stenciling of stormwater drains within a watershed. Stenciling, along with an educational component that relates to the proper use, storage, and disposal of potential contaminants, is necessary to keep the lake a safe, reliable source of drinking water. Finally, Lake Michigan, as well as all the Great Lakes, has a variety of organizations and associations that are currently working to either maintain or improve water quality.

A copy of the Source Water Assessment Report can be reviewed by contacting our office during regular business hours.

Where Does My Water Come From?

The City of Zion's customers are fortunate because we enjoy an abundant water supply from Lake Michigan. The City of Zion purchases all its water from Lake County Public Water District (LCPWD). For more information about water treatment, please contact Donald White at (847) 746-2052.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Victor Ransom, Superintendent of Operations, at (847) 746-4054.

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.

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 only 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.

The percentage of total organic carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set by IEPA.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.



REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	City of Zion		Lake County Public Water District (LCPWD)		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Arsenic (ppb)	2019	10	0	NA	NA	<1.0	<1.0–<1.0	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Asbestos (MFL)	2012	7	7	NA	NA	0	0–0	No	Decay of asbestos cement water mains; Erosion of natural deposits
Barium (ppm)	2019	2	2	NA	NA	0.019	0.019–0.019	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2019	[4]	[4]	1.1	1.1–1.1	NA	NA	No	Water additive used to control microbes
Combined Radium (pCi/L)	2014	5	0	NA	NA	0.1895	0.1895–0.1895	No	Erosion of natural deposits
Di(2-ethylhexyl) Phthalate (ppb)	2019	6	0	NA	NA	<1.8	<1.8–<1.8	No	Discharge from rubber and chemical factories
Fluoride (ppm)	2019	4	4	NA	NA	0.76	0.63–0.76	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
HAA5 [Haloacetic Acids] (ppb)	2019	60	NA	20	2.2–29.6	18.6	18.6–18.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2019	10	10	NA	NA	0.41	0.41–0.41	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Coliform Bacteria (Positive samples)	2019	TT	NA	1	NA	NA	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	2019	80	NA	62	20.6–66	20.7	20.7–20.7	No	By-product of drinking water disinfection
Turbidity ¹ (NTU)	2019	TT	NA	NA	NA	0.95	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2019	TT = 95% of samples meet the limit	NA	NA	NA	99.8	NA	No	Soil runoff

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)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.186	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

STATE REGULATED SUBSTANCES ²

				City of Zion		Lake County Public Water District (LCPWD)			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Sodium (ppm)	2019	NA	NA	NA	NA	8.8	8.8–8.8	No	Erosion of naturally occurring deposits; Water softener regeneration
Zinc (ppb)	2019	5,000	NA	NA	NA	<0.006	<0.006–<0.006	No	Naturally occurring; Discharge from metal factories

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4) ³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Anatoxin-a (ppb)	2019	0.030	NA
Cylindrospermopsin (ppb)	2019	0.090	NA
Microcystin-LA (ppb)	2019	0.0080	NA
Microcystin-LF (ppb)	2019	0.0060	NA
Microcystin-LR (ppb)	2019	0.020	NA
Microcystin-LY (ppb)	2019	0.0090	NA
Microcystin-RR (ppb)	2019	0.0060	NA
Microcystin-YR (ppb)	2019	0.020	NA
Microcystin, Total (ppb)	2019	0.300	<0.300–0.300
Nodularin (ppb)	2019	0.0050	NA

¹ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

² These substances are not currently regulated by the U.S. EPA. However, the state has set MCLs for supplies serving a population of 1,000 or more.

³ No maximum contaminant level (MCL) or mandatory health effects language has been established for these substances by either state or federal regulations. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

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 percent of our lead and copper detections.

AL (Action Level): The concentration of a contaminant that triggers treatment or other required actions by the water supply.

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.

MFL (million fibers per liter): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

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

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

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

