Annual Water Quality Report

Lake County Illinois Department of Public Works

Fox Lake Hills Water Service Area

2019

Purpose and Background

This is the annual water quality report (or consumer confidence report) for the period of January 1 to December 31, 2018. Each year we will issue this report to provide information about the quality of our drinking water as well as details on the source of our water and what it contains. The reports are being issued in compliance with the requirements of the Safe Drinking Water Act and are also intended to demonstrate our commitment to providing a safe and reliable supply of drinking water.

This report gives you detailed information about the water system serving you. We recommend reading the full report but the bottom line is that there are no violation of standards identified in this report. Your water is sourced from wells owned and operated by Lake County and is delivered through a network of County owned pipes. The water is tested extensively and fully meets all EPA standards.

The Water Source, Treatment and Delivery System

Two wells serve the Fox Lake Hills system, one is located on Lehmann Boulevard and the other on Lincoln Drive. Both wells are drilled into a water bearing sand and gravel aquifer 130 feet below ground. Water treatment is provided to remove excessive natural iron concentration. The distribution system includes 11 miles of water mains which interconnects the two wells sites with a elevated tank that provides 150,000 gallons of water storage capacity.

As part of the County's long-term water sustainability strategies to address water quality and quantity issues related to ground water wells, the Fox Lake Hills water system will be supplied with Lake Michigan water through the Central Lake County Joint Action Water Agency (CLCJAWA) water system. Construction is underway and should be delivering Lake Michigan water by February 2019. Additional information regarding this project can be viewed at lakecountyil.gov/lakemichiganwater.

Water Quality

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 US Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 1-800-426-4791.

To ensure that tap water is safe to drink, the Environmental Protection Agency prescribes limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Your tap water quality is consistently monitored by the County and by the Illinois Environmental Protection Agency (IEPA).

Water quality is judged by comparing your water to USEPA benchmarks for water quality. One such benchmark is called the Maximum Contaminant Level Goal (MCLG). The MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. This goal allows for a margin of safety. Another benchmark is a Maximum Contaminant Level (MCL). An MCL is the highest level of a contaminant that is allowed in drinking water. An MCL is set as close to an MCLG as feasible using the best available treatment technology. The MCL and MCLG are established by the USEPA.

Public Participation… If you have any questions about this report, or about your water system, please contact Austin McFarlane at 847-377-7500 or by email to amcfarlane@lakecountyil.gov. You may also visit the Lake County website at www.lakecountyil.gov to learn about opportunities for public participation at County Board meetings where decisions are made that affect drinking water quality. We always like to hear from our customers.

Contaminants Detected

Compound (Units)	Highest Level Detected	Range of Detection	MCLG	MCL	Viola-tion	Sample Date*	Possible Source of Contaminant
Disinfectants & Disinfectant By-Products							
Chlorine (ppm)	0.95	0.24 - 1.73	MRDLG = 4	MRDL = 4	N	2018	*Water additive used to control microbes*
Total Haloacetic Acids (HAA5) (ppb)	9.43	9.43 - 9.43	No goal for the total	60	N	2018	*By-product of drinking water chlorination*
Total Trihalomethanes (TTHMs) (ppb)	22.3	22.3 - 22.3	No goal for the total	80	N	2018	*By-product of drinking water chlorination*
Inorganic Contaminants							
Arsenic (ppm)	0.0012	<0.001 - 0.0012	n/a	0.01	N	10.9.18	*Erosion of natural deposits*
Barium (ppm)	0.07	0.054 - 0.07	2	2	N	10.9.18	*Erosion of natural deposits*
Chromium (ppm)	<0.005	<0.005 - <0.005	0.1	0.1	N	10.9.18	*Erosion of natural deposits*
Cyanide (ppm)	<0.20	<0.20 - <0.20	0.2	0.2	N	10.9.18	*Erosion of natural deposits*
Fluoride (ppm)	0.73	0.537 - 0.73	4.0	4.0	N	10.9.18	*Added for dental health*
Iron (ppm)	0.56	<0.025 - 0.56	n/a	1.0	N	10.9.18	*Erosion of natural deposits*
Manganese (ppm)	<0.0047	<0.001 - <0.0047	n/a	0.15	N	10.9.18	*Erosion of natural deposits*
Mercury (ppm)	<0.002	<0.002 - <0.002	0.002	0.002	N	10.9.18	*Erosion of natural deposits*
Nitrate as Nitrogen (ppm)	0.264	<0.05 - 0.264	10	10	N	8.8.18	*Erosion of natural deposits*
Nitrite as Nitrogen (ppm)	<0.05	<0.05 - <0.05	1	1	N	8.8.18	*Erosion of natural deposits*
Sodium (ppm)[1]	32.0	28.0 - 32.0	n/a	n/a	N	10.9.18	*Erosion of natural deposits*
Sulfate (ppm)	71	67.0 - 71	n/a	n/a	N	10.9.18	*Erosion of natural deposits*
Zinc (ppm)	<0.006	<0.006 - <0.006	n/a	5.0	N	10.9.18	*Erosion of natural deposits*
Radioactive Contaminants							
Combined Radium (226/228) (pCi/L)	0.2	0.2 - 0.2	0	5	N	1.12.15	*Erosion of natural deposits*
Gross Alpha Emitters excluding radon and uranium (pCi/L)	<0.5	<0.5 - <0.5	0	15	N	1.12.15	*Erosion of natural deposits*

***** Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled during the CCR calendar year. If any of these contaminants were detected the last time they were sampled, they are included in the table along with the date that the detection occurred.

[1] There is not a state or federal MCL for sodium and sulfate. Sodium Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions.

Understanding the Columns

Highest Level Found: Represents the highest sample result collected during the calendar year, unless otherwise noted.
Range of Detections: Represents the range of individual sample results, from lowest to highest that were collected during the calendar year, unless otherwise noted.
Sample Date: Will reflect the date the sample was most recently analyzed.
Violation: Will indicate whether or not a violation occurred with each contaminant that was detected.

Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest Number of Positive	Fecal Coliform or E.Coli Maximum Contaminant Level	Total No. of Positive E.Coli or Fecal Coliform Samples	Violation	Possible Source of Contamination
0	1 positive monthly sample	0	0	0	N	Naturally present in the environment.

Lead and Copper

Compound (Units)	90th Percentile	# of Sites Over Action Level	MCLG	Action Level	Sample Date*	Possible Source of Contamination
Copper (ppm)	0.31	0	1.3	1.3	2018	Erosion of natural deposits; Corrosion of household plumbing.
Lead (ppb)	<5	0	0	15	2018	Erosion of natural deposits; Corrosion of household plumbing.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements.
LRAA (Locational Running Annual Average): The average of all monthly or quarterly samples for the last year at specific monitoring locations.
MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water.
MCLG (Maximum Contaminant Level Goal): The contaminant level.
MRDL (Maximum Residual Disinfectant Level): The highest level 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.
mrem/yr: millirems per year.
N: No.

NA: Not applicable.
ND: Not detectable at testing limits.
NTU (Nephelometric Turbidity Units): A measure of water clarity.
pCi/L (picocuries per liter): A measure of radioactivity.
ppb (parts per billion): Also referred to as micrograms per liter (µg/L). Equivalent to one ounce in 7,350,000 gallons of water.
ppm (parts per million): Also referred to as milligrams per liter (mg/L). Equivalent to one ounce in 7,350 gallons of water.
RAA (running annual average): The average of all monthly or quarterly samples for the last year at all the sample locations.
TT (Treatment Technique): A required process intended to reduce containment levels in drinking water.
Source Water: Primary system/treatment facility that provides drinking water.
System Water: Water that is present within the operating system (distribution pipes, reservoirs, tanks).

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.

Vulnerability Waiver:

Due to favorable monitoring history, aquifer characteristics, and inventory of potential sources of contamination, our water supply was issued a vulnerability waiver renewal. No monitoring for VOCs, cyanide and SOCs is required between January 1, 2017 and December 31, 2019.

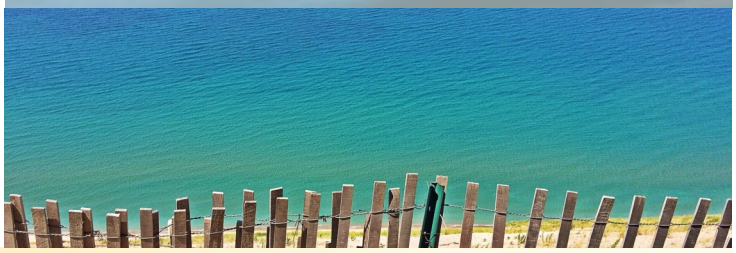
Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- *Eliminate excess use of lawn and garden fertilizers and pesticides, which contain hazardous chemicals that can reach your drinking water source*
- *Pick up after your pets*
- *Dispose of chemicals properly; take used motor oil to a recycling center*

Este es un reporte importante sobre la calidad de su agua. Si usted no cuenta con alguein que pueda traducirle este reporte, llame al Lake County Public Works al 847.377.7500 y con mucho gusto le asistiremos.

Source Water Assessment

To determine Fox Lake Hills Subdivision's susceptibility to groundwater contamination, the following document was reviewed: a Well Site Survey, published in 1989 by the Illinois EPA. Based on the information obtained in this document, there are three potential sources of groundwater contamination that could pose a hazard to groundwater utilized by Fox Lake Hills Subdivision's Community Water Supply. These include a church, a school and a hospital/ clinic. The information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA did not indicate any sites with ongoing remediation that might be of concern. The susceptibility determination for this community water supply is based on a number of criteria including monitoring conducted at the wells, monitoring conducted at the entry point to the distribution system, and available hydrogeologic data on the wells. The Illinois EPA has determined that the Fox Lake Hills Subdivision Community Water Supply's source water is not susceptible to contamination. The land use within the wellhead area was analyzed as part of this susceptibility determination. This land use includes residential properties and open space.



NOTE: Lake County is in full compliance with all State and Federal regulations governing the control of lead and copper within public drinking water supplies. 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. Lake County Public Works 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 about lead in drinking water, testing methods, and steps to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at www.epa.gov/safewater/lead.

Contaminant Sources in Drinking Water

Both tap and bottled water come from rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in untreated water include:

- Microbial contaminants such as viruses and bacteria can be naturally occurring or may come from sewage treatment plants, septic systems and livestock operations.
- Inorganic contaminants such as salts and metals can be naturally occurring or can result from urban stormwater runoff, wastewater discharges, oil or gas production, mining, or farming.
- Pesticides and herbicides come from sources such as agricultural and residential stormwater runoff.
- Organic chemical contaminants including synthetic and volatile organic compounds are by-products of industrial processes and petroleum production but can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

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. The USEPA and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline at 1-800-426-4791.