Annual Drinking Water Quality Report for Calendar Year 2017

Lake County Public Water District

Facility #IL0975790

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. This report includes drinking water facts, information on violations (if applicable), and contaminants detected in your drinking water supply during calendar year 2017. Each year, we will provide you a new report. If you need help understanding this report or have general questions, please contact the person listed below.

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Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Before we begin listing our unique water quality characteristics, here are some important facts you should know to help have a basic understanding of drinking water in general.

Sources of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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.

The Lake County Public Water District is located on the East side of the City of Zion. Lake Michigan (surface water) serves as the primary source of drinking water for the Lake County Public Water District's customers, which are the City of Zion, Village of Winthrop Harbor, and the Adeline Jay Geo Karis Illinois Beach State Park.

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 be the result of oil and gas production and mining activities.

Other Facts about Drinking Water

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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which 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.

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

A Source Water Assessment summary is included below for your convenience

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly monthly scheduled board meetings. Regularly scheduled meetings are located at our website http://lcpwd.com. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please contact the Lake County Public Water District at (847) 746-2052 or to view a summary version please go to http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl. Outlined below is information related to the source water assessment.

Susceptibility is defined as the likelihood for the source water(s) 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 contaminates to migrate into the intake with no protection only dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois.

Lake County Public Water District's intake has a moderate sensitivity and therefore has greater protection from shoreline contaminates due to mixing and dilution. While the shoreline contaminates are not perceived as an immediate threat, the combination of the land use, proximity to North Point Marina and storm water discharge from Kellogg Ravine adds to the susceptibility of Lake County Public Water District'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 contaminates. 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 Illinois' boundary of Lake Michigan watershed is urban, a majority of watershed protection activities in this document are aimed at this purpose.

Here are a few definitions and scientific terms which will help you understand the information in the contaminant detection tables.

AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Avg	Regulatory compliance with some MCLs is based on running annual average of monthly samples.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal 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 disinfectant allowed in drinking water.
MRDLG	Maximum Residual Disinfectant Level Goal: The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.
N/A	Not Applicable
NTU	Nephelometric Turbidity Units
pCi/L	picocuries per liter (a measure of radioactivity)
ppb	parts per billion or micrograms per liter (ug/L) - or one ounce in 7,350,000 gallons of water.
ppm	parts per million or milligrams per liter (mg/L) - or one ounce in 7,350 gallons of water.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Coliform Bacteria	MCLG	Total Coliform MCL	Highest Number of Positive Samples	Fecal Coliform or *E. coli* MCL	Total No. of Positive E. coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
	0	MCL: presence of coliform bacteria in > 5% of monthly samples (for systems that collect 40 or more samples/month). > 1 positive monthly sample (for systems that collect < 40 samples/month).	0	Fecal Coliform or E. Coli MCL: A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive	0	N	Naturally present in the environment

Disinfectants & Disinfection Byproducts	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
	Some contaminants are sampled less frequently than once a year; as a result, not all the contaminants were sampled for during the CCR calendar year. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.							
Haloacetic Acids (HAA5)*	2017	15.25	15.25 – 15.25	No goal for the total	60	ppb	N	By-product of drinking water chlorination
*not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.								
Total Trihalomethanes (THHm)*	2017	35.9	35.9 – 35.9	No goal for the total	80	ppb	N	By-product of drinking water chlorination
*not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.								
Inorganic Contaminants								
Arsenic	4/3/2017	< 1.0	< 1.0 – < 1.0	0	10	ppb	N	Erosion of natural deposits; Runoff from orchards, runoff from glass and electronics production wastes
Asbestos	8/6/2012	0	0 - 0	7	7	micron	N	Decay of asbestos cement water mains; Erosion of natural deposits
Barium	4/3/2017	.018	.018 - .018	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	Monthly	0.74	0.64 – 0.74	4	4	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen]	4/3/2017	.42	.42 - .42	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium	4/3/2017	8.8	8.8 – 8.8			ppm	N	Erosion from naturally occurring deposits; Used in water softener regeneration
Zinc	4/3/2017	.006	.006 - .006	5	5	Ppm	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Naturally occurring; discharge from metal.
Radiological Contaminants								
Combined Radium	*1/6/2014	.1895	.1895 – .1895	0	5	pCi/L	N	Erosion of natural deposits
	*Some contaminants are sampled less frequently than once a year; As a result, not all contaminants were sampled for during the CCR calendar year. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.							
Synthetic Organic Contaminants (pesticides and herbicides)								
Di(2-ethylhexyl) phthalate	4/3/2017	< 1.8	< 1.8 – < 1.8	0	6	ppb	N	Discharge from rubber and chemical factories
	*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.							
Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.								

Turbidity				
Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.				
	Limit (Treatment Technique)	**Level Detected**	**Violation**	**Likely Source of Contamination**
Lowest Monthly % Meeting Limit	0.3 NTU	100%	N	Soil Runoff
Highest Single Measurement	1 NTU	**.25**	**N**	Soil Runoff

Total Organic Carbon	
The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA, unless a TOC violation is noted in the violation section.	

Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Cryptosporidium	Monthly	0	0	0	TT	Oocysts	N	Human and animal fecal waste

* ***Cryptosporidium was detected in the source water (Lake Michigan) once during the sampling period of 2009*** *. Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring of source water and/or finished water indicate the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water*

Violation Summary Table

We are happy to announce that no monitoring, reporting, treatment technique, maximum residual disinfectant level, or maximum contaminant level violations were recorded during 2017.

IMPORTANT INFORMATION

It is the public water supply's responsibility to verify that all the required elements of the CCR have been met. Refer to the Sample Collector's Handbook – Chapter 2–CCR, for guidance while compiling your CCR. The Sample Collector's Handbook is available at the following Internet web address: http://www.epa.state.il.us.water.compliance/drinking-water/collectors-handbook/index.html.

In order to meet all of the requirements of the CCR you **must** include the following additional information if it pertains to your water system.

- **If your supply purchases water from another source you are required to include the Regulated Contaminants Detected table from your source water supply.**
- **If your water system had any violations during the CCR Calendar Year you are required to include an explanation of the corrective action taken by the water system, and health effects if applicable.**
- **If your water system is going to use the CCR to deliver a Public Notification, you must include the full public notice and return a copy of the CCR and Public Notice with the Public Notice Certification Form. This is in addition to the copy and certification form required by the CCR Rule.**

RTF Template

In addition to providing each PWS with a personalized CCR, the Illinois EPA has also created a rich text format (rtf) template that can be used instead of the personalized CCR. The Illinois EPA personalized CCR can be hard to edit and/or add information. The rtf template allows for more flexibility when adding or editing information. Using the rtf template is optional; but again, will allow for more flexibility in designing/formatting your CCR.

To use this rtf template instead of the Illinois EPA personalized CCR:

1) You will need your system's specific information and results. If this information is not readily available, it is recommended that you download a copy of your Illinois EPA personalized CCR report that is available on the Internet. This will contain most of the data you need to complete the rtf template. Your Illinois EPA personalized CCR can be downloaded at the following Internet web address:

   http://www.epa.state.il.us/water/drinking-water-watch/

   Click on this blue web link entitled Drink Water Watch. Then, click the CCR Report tab at the bottom left.

2) Transpose (re-type) the information from the Illinois EPA customized CCR to this rtf template. This should allow you the greatest flexibility to edit/add/change information as needed.

When using this rtf template, items in red are "fill in the blank". Your information should replace the red text.