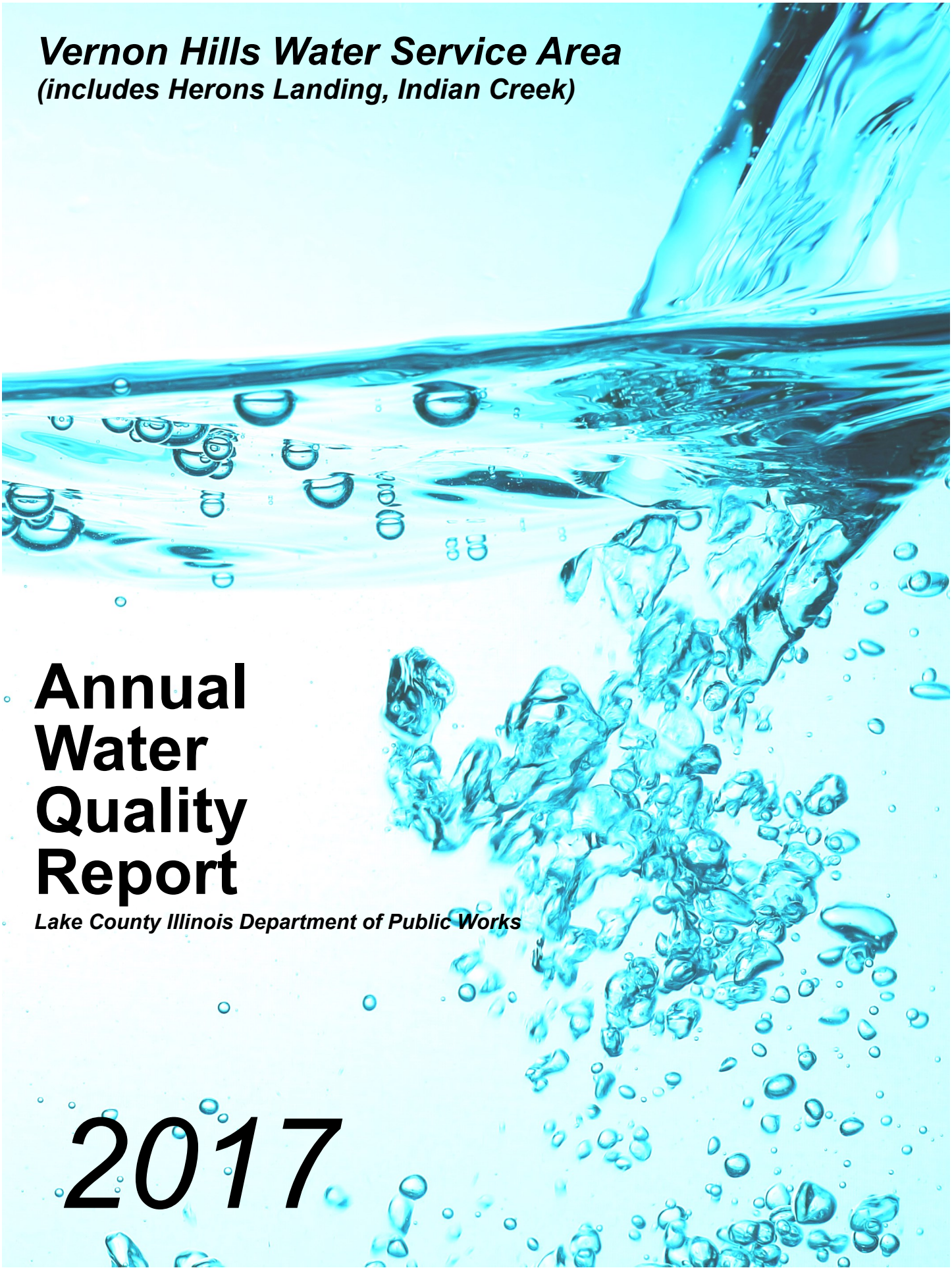


Vernon Hills Water Service Area
(includes Herons Landing, Indian Creek)

Annual Water Quality Report

Lake County Illinois Department of Public Works

2017

Purpose and Background

This is the annual water quality report (or consumer confidence report) for the period of January 1 to December 31, 2016. 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.

The Water Source, Treatment and Delivery System

Your community is served by Lake Michigan water supplied by the Central Lake County Joint Action Water Agency (CLCJAWA).

CLCJAWA treated and supplied more than 750 million gallons of water to 8,000 customers in Vernon Hills last year. The delivery system includes 90 miles of water main and 6 storage reservoirs holding 3.8 million gallons, or twice our daily demand. As added reliability in an emergency, there is an interconnection available to back up the Lake Michigan supply.

Water treated by CLCJAWA at the Paul M. Neal Water Treatment Facility in Lake Bluff is pumped from Lake Michigan and then undergoes a treatment process designed to assure constant contaminant removal and production of clean, safe drinking water that is also aesthetically pleasing. There are two primary features of the treatment process that provide unique capabilities. First, water from Lake Michigan goes through a primary disinfecting step using ozone, which has been found to be highly effective in removing contaminants and in deactivating disease-causing pathogens. And, finally, the treated water passes through filters of granular activated carbon which remove any remaining contaminants and particles from the water and have also proven to be proficient in eliminating problems sometimes encountered with unpleasant tastes or odors.

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.

Source Water: CLCJAWA Contaminants Detected

Compound (Units)	Highest Level Detected	Range of Detection	MCLG	MCL	Viola-tion	Sample Date*	Possible Source of Contaminant
Disinfectants & Disinfectant By-Products							
Bromate (ppb)	1.3	0 - 1.3	0	10	N	7.15.16 Quarterly	*By-product of drinking water chlorination*
Total Haloacetic Acids (HAA5) (ppb)	7	see system data	No goal for the total	60	N	8.17.16 Quarterly	*By-product of drinking water chlorination*
Total Trihalomethanes (TTHMs) (ppb)	17	see system data	No goal for the total	80	N	8.17.16 Quarterly	*By-product of drinking water chlorination*
Chlorine (ppm	0.8	see system data	MRDLG =4	MRDL =4	N	Monthly	*Water additive used to control microbes*
Total Organic Carbon	The % of TOC removal was measured each month & the system met all removal requirements set by the IEPA					Monthly	*Decaying natural organic matter*
Inorganic Contaminants							
Turbidity (NTU) Highest single measurement	0.06	0.02 - 0.06	None	1 NTU	N	11.2016 Monthly	*Erosion of natural deposits*
Turbidity (NTU/lowest monthly % <0.3 NTU)	100% below 0.3 NTU	100%	None	0.3 NTU	N	Monthly	*Erosion of natural deposits*
Arsenic (ppb)	0.712	single sample	0	10	N	7.15.16	*Erosion of natural deposits*
Barium (ppm)	0.0171	single sample	2	2	N	7.15.16	*Erosion of natural deposits*
Fluoride (ppm)	0.6	0.5 - 0.6	4.0	4.0	N	7.15.16 Monthly	*Erosion of natural deposits*
Nitrate as Nitrogen (ppm)	0.554	single sample	10	10.0	N	4.4.16	*Erosion of natural deposits*
Sodium (ppm)[1]	9.94	single sample	NA	NA	N	7.15.16	*Erosion of natural deposits*
Radioactive Contaminants							
Combined Radium (226/228) (pCi/L)	0.92	single sample	0	5	N	4.13.15	*Erosion of natural deposits*
Gross Alpha Emitters excluding radon and uranium (pCi/L)	0.39	single sample	0	15	N	4.13.15	*Erosion of natural deposits*

System Water 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)	1.0	0.35 - 1	MRDLG =4	MRDL =4	N	2016	*Water additive used to control microbes*
Total Haloacetic Acids (HAA5) (ppb)	6.50	4.44 - 6.5	No goal for the total	60	N	2016	*By-product of drinking water chlorination*
Total Trihalomethanes (TTHMs) (ppb)	22.30	8.28 - 22.3	No goal for the total	80	N	2016	*By-product of drinking water chlorination*

***** 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.

System Water **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.

System Water **Lead and Copper**

Compound (Units)	90th Percen-tile	# of Sites Over Action Level	MCLG	Action Level	Sample Date*	Possible Source of Contamination
Copper (ppm)	0.133	0	1.3	1.3	6.2014 - 8.2014	Erosion of natural deposits; Corrosion of household plumbing.
Lead (ppb)	<1.6	0	0	15	6.2014 - 8.2014	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 (CLCJAWA).
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.

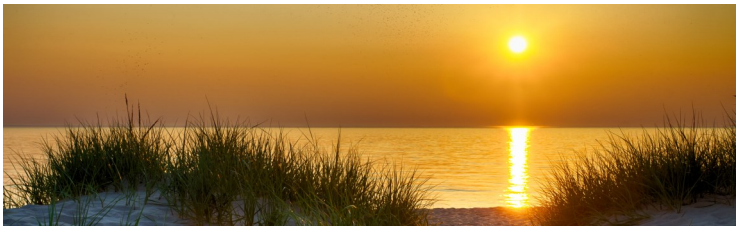
Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- ***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

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 a 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 only dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois. CLCJAWA's intake is moderately sensitive to potential pollution, although there are no potential sources within the intake's critical assessment zone, there are several within the immediate source water area. While the shoreline contaminants are not perceived as an immediate threat, the combination of the land use, storm sewer outfalls, and the proximity of NSWRD pumping stations add to the susceptibility of CLCJAWA's intake. However, it should be stressed that the treatment employed by CLCJAWA is protective of their consumers as noted by the facility's finished water history.



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.