

2019 Water Quality Report

This is your annual water quality report for the period of January 1 through December 31, 2018. Each year the Village of Lindenhurst issues this report to provide you information about the quality of our drinking water, the source of our water, how it is treated, and the regulated compounds it contains. These reports are issued in compliance with the Safe Drinking Water Act. For more detailed information about our water's quality, including test results for unregulated compounds, contact Vicki VanSlochteren at 847-356-8252 or Melissa Olenick at CLCJAWA at 847-295-7788, email at molenick@clcjawa.com, or visit their web page at www.clcjawa.com. *Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.*



FROM THE SOURCE

Villages purchase water from the Central Lake County Joint Action Water Agency. CLCJAWA is an inter-governmental cooperative, directed by the communities it serves: Grayslake, Gurnee, Lake Bluff, Lake Villa, Libertyville, Lindenhurst, Mundelein, Round Lake, Round Lake Beach, Round Lake Heights, Round Lake Park, Volo, Wauconda and Lake County representing the unincorporated areas of Knollwood and Rondout, Vernon Hills, Wildwood, Grandwood Park and Fox Lake Hills.

THE TREATMENT PROCESS

Our water is pumped from Lake Michigan and treated at CLCJAWA's Paul M. Neal Water Treatment Facility in the Village of Lake Bluff. The enhanced water purification process used by CLCJAWA is unique. First, the water is treated with ozone to kill organisms and break down contaminants. Ozone is produced on-site from air, bubbled into the water, and then converted back into oxygen. The water is then mixed with coagulant to remove sediment and other material from the water. Once clarified, the water is further refined as it passes through filters containing activated carbon and fine sand to remove any remaining cloudiness or turbidity. Turbidity is then measured to determine water clarity. Treatment facilities monitor turbidity because it is a good indicator of water quality and the effectiveness of their filtration and disinfection systems. At CLCJAWA, turbidity is checked every ten seconds in numerous locations by automatic monitoring equipment, and twice a day, by hand, in the laboratory (see results on page 3).

The water is treated with ultraviolet light to inactivate any remaining organisms. Finally, the purified water is treated with chlorine to protect it as it travels through the water main, fluoride for dental health, and a small amount of an often used food additive called phosphate. Phosphate protects the water from the metals, such as lead and copper, found in home plumbing systems.

CLCJAWA received the Excellence in Water Treatment award for the last 13 years. CLCJAWA was the third facility in the nation to achieve this distinction presented by the Partnership for Safe Water. This voluntary water quality program, sponsored in part by the United States Environmental Protection Agency, holds its awardees to higher standards than required by current Federal and State drinking water regulations.

CLCJAWA was in full compliance with all State and Federal drinking water regulations in 2018.

DELIVERY TO YOUR TAP

CLCJAWA utilizes over 50 miles of pre-stressed concrete, ductile iron and PVC water main to deliver water to your community. Lindenhurst Public Works Department, in turn, maintains its own water distribution system that delivers the water to homes, schools and businesses in the community.



Figure 1: New drinking water pipeline prior to installation that now delivers water to Lake Villa and Fox Lake Hills residents.

LAKE MICHIGAN EXPOSURE TO CONTAMINANTS

The Illinois EPA, using the Great Lakes Protocol, completed source water assessment in April 2003. Lake Michigan is a surface water source and like all surface waters, is susceptible to potential contaminants. The very nature of surface water allows contaminants to migrate to the intake with no protection, only dilution. CLCJAWA's intake is ranked as moderately sensitive to potential contaminants. There are no potential contamination sources within the intake's critical assessment zone. However, the combination of land use, storm sewer outfalls, and the proximity of North Shore Water Reclamation District (NSWRD) pumping stations in the immediate area add to the susceptibility of CLCJAWA's intake. NSSD discharges their treated waste water to the Des Plaines River and not into Lake Michigan. Access the following website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl> to view a summary of the source water assessment.

We are all participants in the water cycle. Our individual activities impact the rivers and lakes in our watershed and those into which our waste water plants discharge. Please properly use, store, and dispose of all medications and household chemicals. Visit the

Solid Waste Agency of Lake County website for disposal options and information at www.swalco.org.

LEAD AND DRINKING WATER

Elevated levels of lead can cause serious health problems, especially in pregnant women and young children. Some homes with old lead service lines, lead plumbing, or copper plumbing with lead solder, may have lead and copper in their water. To minimize these levels, the Illinois EPA requires that CLCJAWA add phosphate to our water at a concentration of 0.3 ppm orthophosphate. This commonly used food ingredient thinly coats the inside of your premise plumbing.

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. For the best quality and to minimize the potential for lead and copper exposure, you may flush your tap until the water is cool or for 30 seconds to 2 minutes before using the water for drinking or cooking. To know with certainty whether you have lead or copper in your drinking water, have your water tested at a certified laboratory.

As of January 16, 2017, all schools kindergarten through 5th graders, as well as day care facilities, must test all water sources used for cooking and drinking for the presence of lead. Any facilities constructed after 2000 are not required to complete the testing at this time. Schools should notify parents of the results, if any levels exceed 5 ppb at any location, as well as any actions the schools are taking to reduce the levels. Water providers are currently generating an inventory of all known lead service lines in use, and are issuing public notification to homeowners of local water main construction or repair work that might increase the risk of lead exposure.

For more information on lead in drinking water, testing methods and steps you can take to minimize exposure, contact the Safe Drinking Water Hotline at 1-800-426-4791 or go to <http://www.epa.gov/safewater/lead>

ABOVE AND BEYOND

Our tap water quality is consistently monitored by the Village, by the Illinois Environmental Protection Agency (IEPA), in the CLCJAWA Water Quality Lab, and by other independent labs. This aggressive water quality assurance program is thorough: bacteriological tests are conducted six times more often than required, water clarity is monitored every 10 seconds, and our water is checked for over three hundred contaminants annually.

Water Quality Contaminants Detected in 2018

Contaminant (unit of measure) Typical Source of Contaminant	Highest Level Detected	MCLG	MCL	Range of Detection	Violation	Date of Sample
MICROBIAL CONTAMINANTS						
Total Coliform Bacteria (% Pos/Month) Naturally present; human and animal fecal waste	0	0	1 per month	none	In Compliance	Monthly
E. Coli (% Pos/Month) Naturally present; human and animal fecal waste	0	0	0% per month	none	In Compliance	Monthly
Turbidity (NTU/Lowest Monthly % < 0.3 NTU) Lake Sediment; soil runoff	100% below 0.3 NTU	none	0.3 NTU	100%	In Compliance	Monthly
Turbidity (NTU/Highest Single Measurement) Lake Sediment; soil runoff	0.049	none	1 NTU	0.02 – 0.049	In Compliance	1/8/2018 Monthly
INORGANIC CONTAMINANTS						
Nitrate as nitrogen (ppm) Runoff from fertilizer; leaching from septic; natural erosion	0.4	10	10	Single Sample	In Compliance	11/6/2018
Barium (ppm) Discharge of drilling wastes & metal refineries; natural erosion	0.018	2	2	Single Sample	In Compliance	11/6/2018
Copper (ppm) Corrosion of household plumbing systems; natural erosion	0.61 90 th Percentile	1.3	AL=1.3	0 Sites over AL	In Compliance	2018
Lead (ppb) Corrosion of household plumbing systems; natural erosion	2 90 th Percentile	0	AL=15	2 Sites over AL	In Compliance	2018
DISINFECTANT/DISINFECTION BY-PRODUCTS						
HAA5 Haloacetic Acids (ppb) By-product of drinking water disinfection	10	None	60	0 – 13.06	In Compliance	Quarterly
TTHMs Total Trihalomethanes (ppb) By-product of drinking water disinfection	31	None	80	0 – 45.8	In Compliance	Quarterly
Bromate (ppb) By-product of drinking water disinfection	7.30	0	10	0 – 7.30	In Compliance	8/9/2018 Quarterly
Chlorine (ppm) Drinking water disinfectant	0.9	4	4	0.3 – 1.0	In Compliance	Monthly
TOC (Total Organic Carbon)	The % of TOC removal was measured each month & the system met all removal requirements set by IEPA					
STATE REGULATED CONTAMINANTS						
Fluoride (ppm) Water additive that promotes strong teeth; natural erosion	0.7	4	4	0.5 – 0.7	In Compliance	8/9/2018 Monthly
Sodium (ppm) Erosion of naturally occurring deposits; water softener	8.0	none	none	Single Sample	In Compliance	11/6/2018
RADIOACTIVE CONTAMINANTS						
Combined Radium 226/228 (pCi/L) Decay of natural and man-made deposits	0.92	0	5	Single Sample	In Compliance	4/13/15
Gross Alpha Emitters (pCi/L) Erosion of natural deposits	0.39	0	15	Single Sample	In Compliance	4/13/15

The table above lists all of the regulated compounds detected in our water. Bolded compounds were sampled by the Village; all other compounds were sampled by CLCJAWA. The values shown in the level detected column are those used by the EPA to determine compliance with drinking water standards. Because each compound is regulated differently, this value may be a running average, a 90th percentile or a maximum single value. The sample data column indicates the date when the sample was collected. When more than one sample is collected, this column shows the date of the maximum value.

Units of Measure:

ppm: parts per million or milligrams per liter
 ppb: parts per billion or micrograms per liter
 pCi/: picocuries per liter used to measure radioactivity
 NTU: nephelometric turbidity unit that measures clarity in drinking water

Definition of Terms:

Action Level (AL): level that triggers special treatment or other required action by water plants.
 Maximum Contaminant Level (MCL): the highest level of contaminant that is allowed in drinking water.
 Maximum Contaminant Level Goal (MCLG): level of a contaminant below which there is no known or expected health risk
 Treatment Technique (TT): required process used to reduce contaminants in drinking water.



Drinking water, including bottled water, may reasonably be expected to contain 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 may be obtained by calling the US Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 1-800-426-4791.

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 materials 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 result from urban storm water runoff, wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides come from sources such as agricultural and residential storm water 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 storm water runoff and septic system.
- Radioactive contaminants can be naturally occurring or be the result of oil, gas and mining activities.

REGULATORY AGENCIES

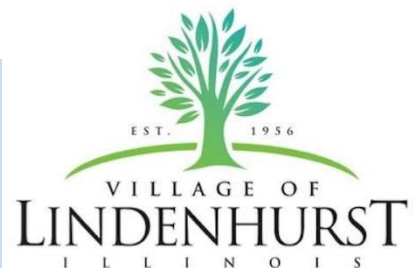
To ensure tap water safety, the U.S. Environmental Protection Agency (USEPA) prescribes limits on the amount of certain contaminants in our drinking water. Water quality may be judged by comparing our water to USEPA benchmarks for water quality. One such benchmark is the Maximum Contaminant Level Goal (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 the 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.

Some people may be more vulnerable to drinking water contaminants than the general population. Immune 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 from their health care providers about drinking water. 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.

FOR MORE INFORMATION

The Village Board has a monthly meeting schedule, and the public is always welcome to attend any of these meetings. Our Mayor is also a member of the Board of Directors of CLCJAWA, which meets regularly. Please visit the website at www.clcjawa.com for the current meeting schedule. CLCJAWA provides tours of the water treatment facility, and staff members are also available for public speaking or for school visits. Please contact the Village or CLCJAWA for more information.

Village of Lindenhurst
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VILLAGE OF LINDENHURST

IEPA FACILITY NO. IL0971000

2018

ANNUAL DRINKING WATER QUALITY REPORT

REPORTING PERIOD FROM
JANUARY 1, 2018 TO DECEMBER 31, 2018

www.lindenhurstil.org/2018waterreport



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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. The source of drinking water used by Lindenhurst is Purchased Surface Water. For more information regarding this report contact Ms. Vicki VanSlochteren at 847-356-8252. Este informe contiene informacion muy importante sobre el agua que usted bebe. Traduzcalo o hable con alguien que lo entienda bien.

This year, as in years past, your tap water met all United States Environmental Protection Agency (USEPA) and Illinois Environmental Protection Agency (IEPA) drinking water health standards. We vigilantly monitor our groundwater supply and are able to report that the water department had no violation of a contaminant level, or of any water quality standard in the previous year. This report summarizes the quality of water that we provided last year, including details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

Source of Drinking Water

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 and, in some cases, radioactive material; and can pick up substances resulting from the presence of animals or from human activity.

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.

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 (1-800-426-4791).

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 (1-800-426-4791).

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. The Village of Lindenhurst 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 and 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 or at <http://www.epa.gov/safewater/lead>.

Source Water Assessment

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to contact the Village Hall, or attend a regularly scheduled Village Board Meeting (2nd & 4th Mondays each month at 7:00 p.m. at the Village Hall) for additional information or concerns that you may have. The source water assessment for our supply has been completed by the Illinois Environmental Protection Agency. If you would like a copy of this information, please stop by the Village Hall or contact us at 847-356-8252.

To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois Environmental Protection Agency website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Source of Village Water: CENTRAL LAKE COUNTY JAWA (CLCJAWA). 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 Environmental Protection Agency 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 of 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; and 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 NSSD pumping stations add to the susceptibility of CLCJAWA's intake. However, it should be stressed that treatment employed by CLCJAWA CWS is protective of their consumers, as noted by the facility's finished water history.

Lead and Copper

DEFINITIONS: *Action Level Goal (ALG):* 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.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2018	1.3	1.3	0.61	0	ppm	N	Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.
Lead	2018	0	15	2	2	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits.

Water Quality Test Results

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

Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

Level 1 Assessment: 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 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.

Maximum Contaminant Level (MCL): 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.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

mrem: Millirems per year (a measure of radiation absorbed in the body)

ppb: Micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

ppm: Milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

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

2018 Regulated Contaminants								
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	0.9	0.3 - 1	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2018	10	0 - 13.06	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2018	31	0 - 45.8	No goal for the total	80	ppb	N	By-product of drinking water disinfection.
Inorganic Contaminants								
Arsenic	2018	4.3	0 - 4.3	0	10	ppb	N	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	2018	0.086	0.04 - 0.086	2	2	ppm	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	2018	13	0 - 13	100	100	ppb	N	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	2018	1.06	0.672 - 1.06	4	4.0	ppm	N	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Selenium	2018	5.8	0 - 5.8	50	50	ppb	N	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Sodium	2018	39	21 - 39			ppm	N	Erosion from naturally occurring deposits: Used in water softener regeneration.
The following Inorganic Contaminants are not currently regulated by the USEPA. However, the State regulates them.								
Iron	2018	1.5	0.36 - 1.5		1.0	ppm	N	Erosion of natural deposits.
Manganese	2018	17	5.7 - 17	150	150	ppb	N	Erosion of natural deposits.
Zinc	2018	0.042	0.0084 - 0.042	5	5	ppm	N	Naturally occurring; discharge from metal.
Radioactive Contaminants								
Combined Radium 226/228	2018	2.01	0 - 2.01	0	5	pCi/L	N	Erosion of natural deposits.
Violations Table								
The Public Notification Rule helps to ensure that consumers will always know if there is a problem with their drinking water. These notices immediately alert consumers if there is a serious problem with their drinking water (e.g., a boil water emergency).								
Violation Type	Violation Begin			Violation End			Violation Explanation	
PUBLIC NOTICE RULE LINKED TO VIOLATION	08/15/2018			08/27/2018			We failed to adequately notify you, our drinking water consumers, about a violation of the drinking water regulations.	