

# 2024 WATER QUALITY REPORT



This is your annual water quality report for the period of January 1 through December 31, 2024. Each year the Village 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, please contact Marty Wittrock, Deputy Director of Public Works, at 847-362-3434 or head to [www.libertyville.com](http://www.libertyville.com), call or email Melissa Olenick at 847-295-7788 ([molenick@clcjawa.com](mailto:molenick@clcjawa.com)), or go to [www.clcjawa.com](http://www.clcjawa.com). *Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.*



The Village of Libertyville & CLCJAWA maintained compliance with all State and Federal Drinking Water Regulations in 2024

The Village Board has a monthly meeting schedule and the public is always welcome to attend any of these meetings. Your Mayor is also a member of the Board of Directors of CLCJAWA, which meets regularly. Please visit the website at [www.clcjawa.com](http://www.clcjawa.com) for the current 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 Libertyville

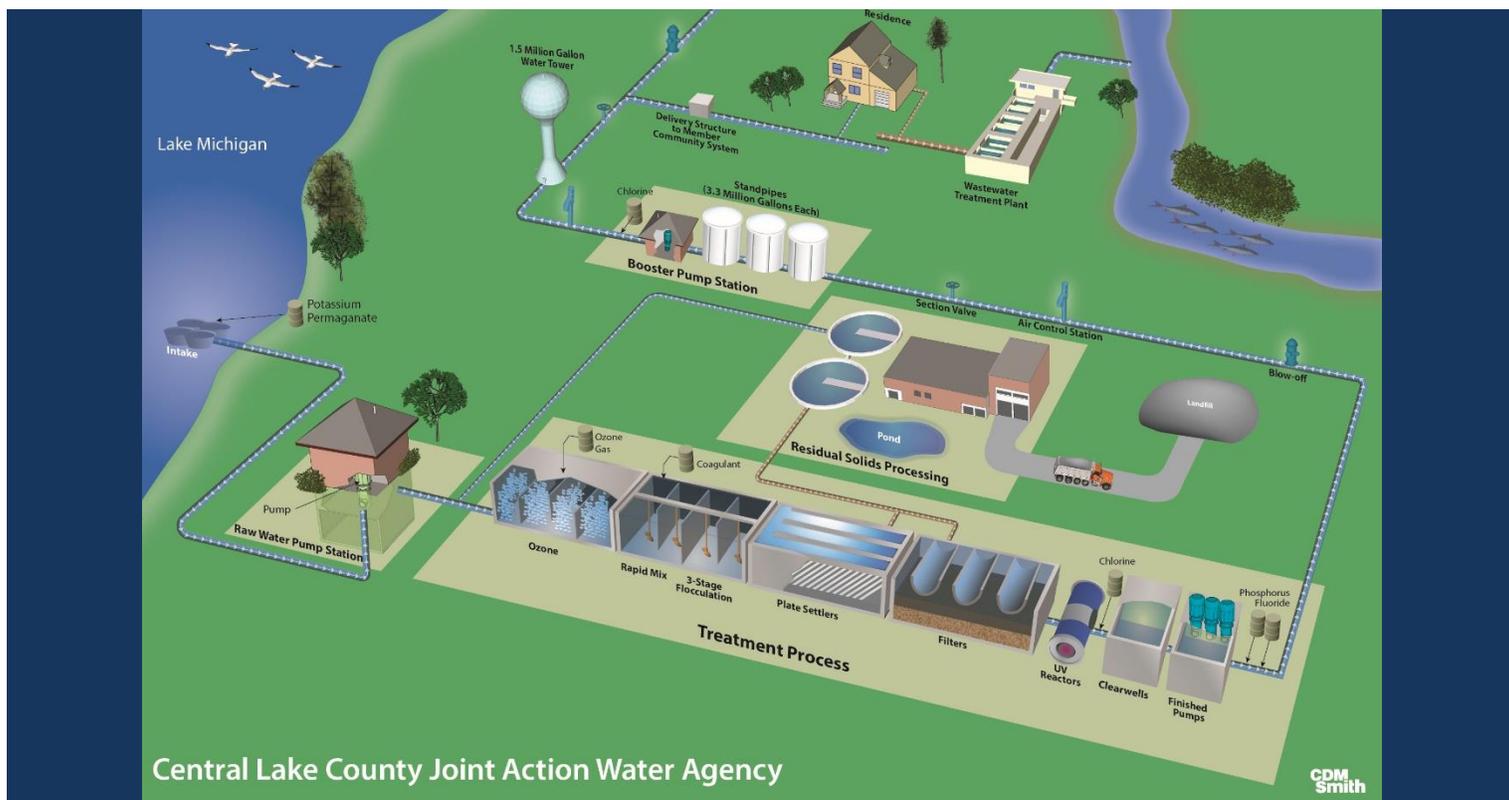
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## Lake Michigan Comprehensive Quality Monitoring

Lake Michigan is the sole water source for the Central Lake County Joint Action Water Agency (CLCJAWA). More than 20% of the world's fresh water is contained in the Great Lake and Lake Michigan is the only Great Lake that is entirely contained within the United States. It borders Illinois, Indiana, Michigan, and Wisconsin, and is the second largest Great Lake by volume with 1.3 quadrillion gallons. It is approximately 118 miles wide and 307 miles long. To lower the lake level by just one inch, you would need to drain 400 billion gallons.

CLCJAWA is required under state and federal law to monitor water quality. While we carefully do so, we go above and beyond by voluntarily monitoring for hundreds more compounds. Basic water chemistry is continuously monitored with automatic instrumentation or manually tested at our laboratory by our certified lab analysts. Emerging contaminants such as PFAs, pharmaceuticals and hormones have been monitored since 2008 and are tested independently by certified testing laboratories. We test both the raw water entering our system from Lake Michigan, as well as the finished water leaving our system.



### 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, ozone is added to the water to kill organisms and break down contaminants. The ozone is made on-site from air, bubbled into the water, and then turns back into oxygen. Next, a coagulant is mixed in to help remove sediment and other particles. The water is then filtered through activated carbon and fine sand to remove any remaining turbidity. We measure how clear the water is to check quality and to assure the treatment is working optimally. After that, ultraviolet (UV) light is used to kill any leftover organisms. Finally, the water is treated with:

- ◆ Chlorine to keep it safe as it travels through pipes,
- ◆ Fluoride to help protect teeth, and
- ◆ Phosphate to prevent metals like lead and copper from getting into the water from home plumbing.



To ensure tap water safety, the U.S. Environmental Protection Agency (USEPA) prescribes limits on the level 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.

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 and chlorine concentration are monitored continuously, and our water is checked for over two hundred contaminants annually.

The table on the next page lists all the regulated compounds detected in our water in 2024. 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 90<sup>th</sup> 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. Below are definitions and units of measure used in the table.

**Definition of Terms:**

Action Level (AL)	level that triggers special treatment or other required action by water plants
Action Level Goal (ALG)	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.
Maximum Contaminant Level (MCL)	the highest level of contaminant that is allowed in drinking water
Maximum Contaminant Level Goal (MCLG)	contaminant level below which there is no known/expected health risk
Maximum residual disinfectant level (MRDL)	highest level of a disinfectant allowed in drinking water. There's convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum residual disinfectant level Goal (MRDLG)	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.
Treatment Technique (TT)	required process used to reduce contaminants in drinking water

**Units of Measure:**

ppm: parts per million or milligrams per liter	pCi/L: picocuries per liter to measure radioactivity
ppb: parts per billion or micrograms per liter	NTU: nephelometric turbidity unit measures water clarity
ppt: parts per trillion or nanograms per liter	na: not applicable

## 2024 REGULATED WATER CONTAMINANTS DETECTED

Contaminant (unit of measure) Typical Source of Contaminant	Highest Level Detected	MCLG	MCL	Range of Detection	Status	Date of Sample
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### MICROBIAL CONTAMINANTS

<b>Total Coliform Bacteria (% Pos/Month)</b> Naturally present; human and animal fecal waste	0	0	1 per month	None detected	In Compliance	Monthly
<b>E. Coli (% Pos/Month)</b> Naturally present; human and animal fecal waste	0	0	0 per month	None detected	In Compliance	Monthly
<b>Turbidity (NTU/Lowest Monthly % &lt; 0.3 NTU)</b> Lake Sediment; soil runoff	100% below 0.3 NTU	none	0.3 NTU	100%	In Compliance	Monthly
<b>Turbidity (NTU/Highest Single Measurement)</b> Lake Sediment; soil runoff	0.054	none	1 NTU	0.01 – 0.054	In Compliance	Monthly

### INORGANIC/ORGANIC CONTAMINANTS

<b>Nitrate as nitrogen (ppm)</b> Runoff from fertilizer; leaching from septic; natural erosion	0.36	10	10	Single Sample	In Compliance	4/23/24
<b>Barium (ppm)</b> Discharge of drilling wastes, metal refineries; natural erosion	0.022	2	2	Single Sample	In Compliance	7/16/24
<b>Combined Radium 226/228 (pCi/L)</b> Decay of natural and man-made deposits	0.94	0	5	Single Sample	In Compliance	5/5/21

### DISINFECTANT/DISINFECTION BY-PRODUCTS

<b>HAA5 Haloacetic Acids (ppb)</b> By-product of drinking water disinfection	8	None	60	4.61 – 10.3	In Compliance	Quarterly
<b>TTHMs Total Trihalomethanes (ppb)</b> By-product of drinking water disinfection	41	None	80	13.93 – 52	In Compliance	Quarterly
<b>Bromate (ppb)</b> By-product of drinking water disinfection	3	0	10	0 – 11	In Compliance	10/14/24 Quarterly
<b>Chlorine (ppm)</b> Drinking water disinfectant	0.8	4 (MRDLG)	4 (MRDL)	0.7 - 1	In Compliance	Monthly
<b>TOC (Total Organic Carbon)</b>	The % of TOC removal was measured each month & the system met all removal requirements set by IEPA					

### STATE REGULATED CONTAMINANTS

<b>Fluoride (ppm)</b> Water additive that promotes strong teeth; natural erosion	0.6	4	4	0.5 – 0.6	In Compliance	4/23/24 Monthly
<b>Sodium (ppm)</b> Erosion of naturally occurring deposits; water softener	10	none	none	Single Sample	In Compliance	7/16/24

### LEAD AND COPPER CONTAMINANTS

Contaminant (unit of measure) Typical Source of Contaminant	90 <sup>th</sup> Percentile	MCLG	AL	# of Sites Over AL	Range of Sample Results	Status	Sample Date
<b>Copper (ppm)</b> Corrosion of household plumbing systems; natural erosion	0.108	1.3	1.3	0	0.002-0.892	In Compliance	2023
<b>Lead (ppb)</b> Corrosion of household plumbing systems; natural erosion	6.06	0	15	1	0.0-92.3	In Compliance	2023

To obtain a copy of our lead tap sampling data, please contact Marty Wittrock, Deputy Director at (847) 362-3434. The Village of Libertyville’s water supply has developed a service line material inventory. To obtain a copy of our service line inventory, please go to our website at [Libertyville.com](http://Libertyville.com) or contact Marty Wittrock at (847) 362-3434.

## Lead in Drinking Water



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 drinking water supplier is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standard Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water, you may wish to have your water tested, contact your Public Works Department. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

## PFAs in Drinking Water



CLCJAWA has been proactively testing for PFAs since 2008, and we test on a quarterly basis. In 2024, both PFOA and PFOS were present just above the detection limit of 2 parts per trillion. See the table below for our latest test results. The US EPA has established legally enforceable, maximum contaminant levels for PFOA and PFOS.

CLCJAWA currently meets all US EPA regulations for PFAS and will continue to comply with all EPA drinking water standards in order to provide the highest quality of water to our customers.

For more information, please visit the links:

<https://www.epa.gov/pfas/pfas-explained>,  
<https://epa.illinois.gov/topics/water-quality/pfas.html>  
 and <https://www.clcjawa.com/water-quality/in-the-news>.

Contaminant (unit of measure) Typical Source of Contaminant	Highest Level Detected	Range of Detection	MCLG	MCL	Status
PFOA Perfluorooctanoic acid (ppt) Produced during production of chemicals that are heat and chemical resistant.	2.4	1.9 – 2.4	0	4	In Compliance
PFOS Perfluorooctanesulfonic acid (ppt) Ingredient in firefighting foam and was an ingredient in Scotch Guard fabric protector.	2.3	2.0 – 2.3	0	4	In Compliance
PFBA Perfluorobutanoic acid,(ppt) Breakdown product of other PFAS used in stain-resistant fabrics, paper food packaging, carpets, and consumer products	2.0	<1.9 – 2.0	NA	NA	Not Regulated
6:2 FTS 6:2-fluorotelomersulfonic acid (ppt) Key ingredient in aqueous film forming foams and used in chromium plating industry	1.9	<1.9 – 1.9	NA	NA	Not Regulated

## Unregulated Contaminant Monitoring

Our system collected samples under the U.S. EPA Unregulated Contaminants Monitoring Rule (UCMR) for 29 PFAS compounds and Lithium in 2024. None of the compounds were detected at or above the minimum reporting level in all of our samples. For more information on the results of this testing, please contact Martin Wittrock at (847) 362-3434 or [mwittrock@libertyville.com](mailto:mwittrock@libertyville.com).

Central Lake County Joint Action Water Agency (CLCJAWA) has received the Excellence in Water Treatment award for the last 20 years and was the 3<sup>rd</sup> 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 5<sup>th</sup> in the nation to be honored with the Partnership for Safe Water Distribution System Presidents Award. This is a significant achievement towards ensuring the delivery of safe, high-quality water to the community.



## The Delivery Process

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

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.

Our system contains approximately 125 miles of water main in sizes ranging from 4" to 24" in diameter. The distribution system includes five water storage tanks with a total capacity of 4.1 million gallons. There are approximately 1,295 water main operating valves and 1,500 fire hydrants, all of which are operated and flushed annually. The Village is continually improving and maintaining the water distribution system. These improvements include fire hydrant and valve replacements, residential water meter upgrades and the replacement of aging water mains as the budget allows. The improvements further assure the continued and uninterrupted conveyance of quality drinking water to your tap. Our water system provides an average of 2,000,000 gallons of water daily to our customers.

## Emergency Back Up Wells

All members of CLCJAWA are required to have an emergency backup plan. Communities may have emergency backup wells or interconnections to other water treatment systems. Emergency wells are routinely tested in accordance with all IEPA regulations. If you would like a copy of the data, please contact Libertyville Public Works at (847) 362-3434.



## Assessing our Source

The Illinois EPA, using the Great Lakes Protocol, completed a 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. NSWRD 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](http://www.swalco.org).

## Lake Michigan Susceptibility to Contaminants

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, urban 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.

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, persons 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.



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