

# Village of Libertyville Drinking Water Quality Report

2006 Reporting Year

Dear Water Customer,

This is your annual water quality report for the period of January 1 through December 31, 2006 which applies to properties within the village limits of Libertyville. 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 what it contains. These reports are issued in compliance with the requirements of the Safe Drinking Water Act. For specific information about our water's quality or any other water related question, contact Larry Thomas, Water System Supervisor 847-362-3434 or CLCJAWA at 847-295-7788. Or, visit our web page at [www.libertyville.com](http://www.libertyville.com) or the CLCJAWA web page at [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.

## ***Where does our water come from?***

Our Village purchases water from the Central Lake County Joint Action Water Agency (CLCJAWA). CLCJAWA is an intergovernmental cooperative, formed by the communities it serves: Grayslake, Gurnee, Lake Bluff, Libertyville, Mundelein, Round Lake, Round Lake Beach, Round Lake Heights, Round Lake Park, and Lake County representing the unincorporated areas of Knollwood, Rondout, Wildwood and Vernon Hills.

In the unlikely event CLCJAWA is unable to deliver water, the Village has retained several wells (formerly used as our water supply), which are operated, flushed and sampled for bacteriological quality on a quarterly basis to ensure reliability. The water system also includes a number of pumps and valves, which operate four separate pressure zones in the Village.

## ***How is our water purified?***

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. Next, 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 found in your home's plumbing system.

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

## ***How is the water delivered to my tap?***

The Village of Libertyville's water system provides an average of 2,991,000 gallons of water daily to our customers. The system contains approximately 125 miles of underground water main in sizes ranging from 4" to 24" in diameter. The distribution system also includes five water storage tanks with a total capacity of 4.1 million gallons. There are approximately 1,350 water main valves and 1,350 fire hydrants, all of which are operated and flushed annually by water maintenance staff. The Village is continually improving and maintaining the water distribution system. These improvements include: fire hydrant and valve replacements, residential water meter upgrade/repair, and the replacement of aging water mains. These improvements further assure the continued, uninterrupted conveyance of quality drinking water to your tap.

There are five water storage tanks with a total capacity of 4.1 million gallons. Garfield water tower painting project was completed and the tower is displaying the new village logo.

## ***How is our drinking water regulated?***

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.

## ***How is our water's quality assured?***

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 hundreds of contaminants.



**What regulated compounds are found in our drinking water?**

The table below lists all of the regulated compounds detected in our water. The table lists the compound detected, the highest level found, the range of detection, the ideal goal for public health (MCLG), the highest level allowed by regulation (MCL), and other information. If the range of detection column indicates a "single sample", then there was only one sample analyzed during the year. Italicized compounds were measured by CLCJAWA, all other compounds were measured by the Village.

Compound (Units)	Highest Level Found	Range of Levels	MCLG	MCL	Violation?	Sample Date	Primary Compound Sources
<i>Barium ( ppm)</i>	0.024	0.020 – 0.024	2	2	No	7/12/06	Erosion of natural deposits
<i>Beta/Photon Emitters (pCi/l)</i>	3	Single Sample	0	50	No	5/14/02	Decay of natural deposits
<i>Bromate ( ppb)</i>	9	6 – 9	0	10 TT	No	7/14/06	By-product of ozone disinfection
<i>Chromium (ppb)</i>	7	<5 – 7	100	100	No	7/12/06	Naturally occurring, metal industry
Chlorine (ppm)	1.0	0.5 - 0.6	4	4	No	12/11/06	Added for disinfection
<i>Fluoride (ppm)</i>	1.09	0.89 – 1.09	4	4	No	9/6/06	Added for dental health
<i>Nitrate (ppm as Nitrogen)</i>	0.55	0.31 – 0.55	10	10	No	4/12/06	Naturally occurring
<i>Nitrate + Nitrite (ppm)</i>	0.55	0.31 – 0.55	10	10	No	4/12/06	Naturally occurring
<i>Nickel (ppb)</i>	2	2 - < 25	100	100	No	7/12/06	Naturally occurring, metal industry
<i>Sodium (ppm)</i>	8.1	7.9 – 8.1	none	none	No	7/12/06	Erosion of natural deposits, runoff
Total Haloacetic acids (ppb)	9.08	5 – 9	none	60	No	4/6/06	By-product of chlorine disinfection
Total Trihalomethanes (ppb)	31.8	18 – 32	none	80	No	10/24/06	By-product of chlorine disinfection
<i>Turbidity (% acceptable)</i>	100%	100%	none	0.3 TT	No	12/31/06	Lake sediment, soil runoff
<i>Turbidity (NTU)</i>	0.09	0.03-0.09	none	1 TT	No	12/31/06	Lake sediment, soil runoff

Compound (Units)	90 <sup>th</sup> Percentile	# Sites Over Action Level	MCLG	Action Level	Violation?	Sample Date	Primary Compound Source
Lead (ppb)	5.9	1	0	15	No	08/24/05	Corrosion of household plumbing
Copper (ppm)	0.103	0	1.3	1.3	No	09/14/05	Corrosion of household plumbing

Abbreviation	Definition
AL	Action Level is the level that triggers special treatment or other required actions by a water supply.
MCL	Maximum Contaminant Level is the highest level allowed by EPA in drinking water.
MCLG	Maximum Contaminant Level Goal is the level of a contaminant below which there is no known or expected health risk.
NTU	Nephelometric Turbidity Units. Turbidity is a measure of water cloudiness.
pCi/L	pico Curies per liter. EPA considers 50 pCi/L to be a level of concern for beta particles.
pos/month	The maximum number of positive samples collected in a calendar month.
ppb	Parts-per-billion is also referred to as micrograms per liter (µg/L). Equivalent to one ounce in 7,350,000 gallons of water.
ppm	Parts per-million is also referred to as milligrams per liter (mg/L). Equivalent to one ounce in 7,350 gallons of water.
TT	Treatment Technique refers to a required process intended to reduce contaminant level drinking water.

### **Lead and Copper:**

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 this contamination, the Illinois EPA requires that CLCJAWA add phosphate to our water at a concentration of 0.3 ppm orthophosphate. This commonly used food ingredient coats the inside of your plumbing with a thin film. The film reduces lead and or copper levels that may have otherwise leached from your plumbing into your water.

### **Sodium:**

There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers in case you are concerned about sodium intake for dietary reasons. If the sodium level in our water was greater than 20 ppm, and you were on a sodium-restricted diet, you would be advised to consult a physician.

### ***Turbidity & Hardness:***

Turbidity is a measure of water cloudiness. 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 by automatic monitoring equipment and every four hours, by hand, in the laboratory. Hardness of Lake Michigan water is 8 grains per gallon (or 137 mg/l as CaCO<sub>3</sub>), which is considered moderately hard.

### ***Was the Village cited with any drinking water violations this year?***

In the month of September, the Village was sited for failure to collect the required number of coliform samples and also failed to monitor for the chlorine residual. These samples were collected and results mailed on time but were lost in the mail. According to the Federal E.P.A. this is still a violation even though it was outside of our control.

### ***Where do water contaminants come from?***

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 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 systems.
- Radioactive contaminants can be naturally occurring or be the result of oil, gas, and mining activities.

### **Has Lake Michigan been assessed to determine how susceptible it is to potential contamination?**

The Illinois EPA, using the Great Lakes Protocol, completed an 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 Sanitary District pumping stations in the immediate area add to the susceptibility of CLCJAWA's intake.

We also must be aware that our own activities may have a negative impact on rivers and lakes, including Lake Michigan. Storm water drains flow directly to these surface waters. Please properly use, store, and dispose of potential contaminants.

### ***Cross Connection Control***

A cross connection occurs when a drinking water supply pipe connects to a water supply source of unknown or questionable quality. Libertyville Municipal Code Section 25-26 prohibits cross connections and requires commercial and industrial properties to install and maintain backflow prevention devices. Additionally, all properties that have fire suppression systems and/or irrigation systems or properties that handle potentially hazardous chemicals must have backflow prevention devices. These devices must be properly maintained and tested annually by a plumbing contractor certified to perform this type of work. Upon completion, all test results must be forwarded to the Village's Plumbing Inspector at 200 East Cook Avenue 847-918-2019.

Backflow prevention devices are like safety belts, protecting you and the public water system from events that may never happen. So if you have a backflow prevention device on your property, please do your part by making sure that your device is tested annually. Questions may be answered by calling the Public Works Department at 847-362-3434.

### ***What precautions should immune compromised persons take?***

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.

### ***How can I get involved?***

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 on the fourth Wednesday of each month. 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.



## 2006 Drinking Water Quality Consumer Confidence Report



Village of Libertyville  
Public Works Department

Village of Libertyville  
118 West Cook Avenue  
Libertyville, IL 60048-2090

Public Works Department  
Phone: 847-362-3434  
[www.libertyville.com](http://www.libertyville.com)  
vol@libertyville.com

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