2011 Water Quality Report

Dear Water Customer,

This is your annual water quality report for the period of January 1 through December 31, 2010. 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 Lake Bluff's water quality or other water related questions, contact George Russell, Village Engineer, at 847-283-6884, or Bill Soucie, Central Lake County Joint Action Water Agency (CLCJAWA), at 847-295-7788. Residents are also welcome to visit either the Village's (*lakebluff.org*) or CLCJAWA's (*clcjawa.com*) websites for additional information. Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

The following information addresses common questions concerning the quality of water in Lake Bluff:

Where does our water come from?

The Village of Lake Bluff purchases water from the 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.

How is our water treated?

Our water is pumped from Lake Michigan and treated at CLCJAWA's Paul M. Neal Water Treatment Facility in 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 home plumbing systems.

CLCJAWA is a six-time 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 program, sponsored in part by the United States Environmental Protection Agency (EPA), holds its awardees to higher standards than required by current drinking water regulations.

How is the water delivered to my tap?

All water purchased from CLCJAWA enters the Village's water distribution system at the Village's one-million gallon elevated water tank located on Illinois Route 176. From the tank water is delivered throughout the Village via a network of 39 miles of cast iron and ductile iron watermains. The Village has an ongoing program to remove and replace older watermains to further assure the continued, uninterrupted conveyance of quality drinking water to your tap. Each property owner has their own water service line that extends from each building to the public watermain, which is typically located within the public right-of-way. If there would be a problem with the Village's supply of water, the Village does have emergency interconnections with the City of Lake Forest's water system. Both the Village and the City of Lake Forest have the ability to transfer water across systems should an occasion occur where one community's primary source of supply is unable to provide water.

How is our water's quality assured?

Lake Bluff 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.

How is our drinking water regulated?

To ensure tap water safety, the U.S. EPA prescribes limits on the amount of certain contaminants in our drinking water. Water quality may be judged by comparing our water to U.S. EPA 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.

What regulated compounds are found in our drinking water?

The table below lists all of the regulated compounds detected in our water. The values shown in the "Level Detected" column are those used by the EPA to determine compliance with drinking water standards. This value may be a running average, a 90th percentile, or the maximum single value. The "Sample Date" column indicates the date when the sample was collected. When more than one sample is collected, this column shows the date with the maximum value. *Italicized* compounds were measured by CLCJAWA, all other compounds were measured by the Village. Explanation of MCLG and MCL may be found in the Abbreviation Table below.

Compound (Units)	Level Detected	Range of Levels	MCLG	MCL	Violation?	Sample Date	Primary Compound Sources
Alpha Emitters (pCi/l)	2.6	Single Sample	0	15	No	11/12/08	Decay of natural deposits
Arsenic (ppb)	1	1 - <2	0	10	No	7/19/10	Erosion of natural deposits, runoff
Barium (ppm)	0.021	.018 - .021	2	2	No	7/19/10	Erosion of natural deposits, runoff, metal refinery discharge
Beta/Photon Emitters (mrem/yr)	3.9	Single Sample	0	50	No	11/12/08	Decay of natural deposits
Bromate (ppb)	1.3	<1 - 1.3	0	10	No	10/27/10	By-product of disinfection
Chlorine (ppm)	1.0	0.4 - 1.0	4	4	No	12/1/10	Added for disinfection
Chromium, Total (ppb)	1.4	1.4 - <5	100	100	No	3/3/10	Erosion of natural deposits, runoff, metal refinery discharge
Combined Radium 226/228 (pCi/l)	1.6	Single Sample	0	5	No	11/12/08	Decay of natural deposits
Fluoride (ppm)	1.1	0.9 - 1.1	4	4	No	4/21/10	Added for dental health
Iron (ppm)	0.21	<0.02 - 0.21	0.3	1	No	3/3/10	Erosion of natural deposits, runoff, metal refinery discharge
Nickel (ppb)	3.1	<1 - 3.1	None	100	No	3/3/10	Erosion of natural deposits, runoff, metal refinery discharge
Nitrate (mg/L)	0.35	0.30 - 0.35	10	10	No	4/8/10	Naturally occurring
Sodium (ppm)	14	7.8 - 14	None	none	No	3/3/10	Erosion of natural deposits, runoff
Total Coliform (no. positive)	1	0 - 1	None	1	No	6/2/10	By-product of chlorine
Total Trihalomethanes (ppb)	12	Single Sample	None	80	No	8/12/09	By-product of chlorine
Turbidity (% acceptable)	100%	100%	None	0.3 TT	No	12/31/10	Lake sediment, soil runoff
Turbidity (NTU)	0.08	0.03 - 0.08	None	1.0 TT	No	10/20/10	Lake sediment, soil runoff

Compound (Units)	Level Detected	# Sites Over Action Level	MCLG	Action Level	Violation?	Sample Date	Primary Compound Source
Lead (ppb)	0.14	0	0	15	No	7/08	Household plumbing corrosion
Copper (ppm)	3.9	0	1.3	1.3	No	7/08	Household plumbing corrosion

Abbreviation	Definition
Action Level	The level that triggers special treatment or other required actions by a water supply.
MCL (Maximum Contaminant Level)	The highest level allowed by U.S. EPA in drinking water.
MCLG (Maximum Contaminant Level Goal)	The level of a contaminant below which there is no known or expected health risk.
NTU (Nephelometric Turbidity Units)	A measure of water clarity.
pCi/L (pico Curies per liter)	U. S. 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)	Also referred to as micrograms per liter (µg/L). Equivalent to one oz. in 7,350,000 gal. of water.
ppm (Parts per million)	Also referred to as milligrams per liter (mg/L). Equivalent to one oz. in 7,350 gal. 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 these levels, the IEPA requires CLCJAWA to 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. 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 components associated with service lines and home plumbing. The Village and CLCJAWA are responsible for providing high quality drinking water, but can not control the variety of materials used in your home's 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. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available form the Safe Drinking Water Hotline or at *epa.gov.safewater/lead*.

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:

Turbidity is a measure of 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 every four hours, by hand, in the laboratory.

Was CLCJAWA or the Village of Lake Bluff cited with any drinking water violations this year?

The Village and CLCJAWA were in full compliance with all drinking water regulations this year.

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 U. S. EPA Safe Drinking Water Hotline at 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; and
- 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 IEPA, using the Great Lakes Protocol, completed an assessment in April 2003. If you would like a copy of this information please contact Village Engineer George Russell at 847-283-6884. 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 (NSSD) pumping stations in the immediate area add to the susceptibility of CLCJAWA's intake. NSSD discharges its treated water into the Des Plaines River and not into Lake Michigan.

As 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 use, store, and dispose of all medications and household chemicals properly. Never dump or wash foreign substances onto streets or directly into any storm drains. Visit the Solid Waste Agency of Lake County website for disposal options at *swalco.org*.

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 U.S. EPA and Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the U. S. EPA Safe Drinking Water Hotline at 800-426-4791.

How can I get involved?

The Village Board meets on the 2nd and 4th Mondays of each month, and the public is encouraged to attend any of these meetings. Village President Christine Letchinger is a member of the Board of Directors of CLCJAWA, which meets on the 4th Wednesday of each month. CLCJAWA provides tours of the water treatment facility and facility staff are also available for public speaking engagements. For more information, residents are encouraged to contact Village Engineer George Russell, at 847-283-6884, or Bill Soucie, of CLCJAWA, at 847-295-7788.