

# VILLAGE OF RIVER FOREST 2007 WATER QUALITY REPORT/ CONSUMER CONFIDENCE REPORT (CCR)

The Village of River Forest presents our Annual Water Quality Report for the period of January 1 to December 31, 2007. This report is intended to provide you with important information about your drinking water and the efforts made by the Village of River Forest to provide safe drinking water. If you have questions about this report or regarding the quality of water in River Forest, contact the Village's Public Works Department at (708) 366-8500.

## Where does our water come from?

The City of Chicago utilizes Lake Michigan as its source water via two water treatment plants. The Jardine Water Purification Plant serves the northern areas of the City and suburbs, while the South Water Purification Plant serves the southern areas of the City and suburbs. 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 1,180 cubic miles of water and third largest by area.

## What can we reasonably expect in our water?

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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (1-800-426-4791).

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/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and groundwater wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and in some cases radioactive materials, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewerage 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 stormwater 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 stormwater runoff and residential uses;

- **Organic chemical contaminants**, including synthetic & volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems; and
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Finally, in compliance with the new provisions of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), the Chicago Department of Water Management is currently undertaking monthly source water monitoring for Cryptosporidium, E. Coli, and turbidity, a process that began in October 2006 and will last for two years, ending in November 2008. The goal of LT2ESWTR is to require water systems, whose source water is susceptible to Cryptosporidium contamination, to improve control of the pathogen. Monitoring performed in 2006 did not detect any Cryptosporidium or Giardia in source water samples collected.

### **Source Water Assessment Summary**

The Illinois EPA (IEPA) completed the Source Water Assessment Program (SWAP) for our supply. The IEPA implemented a SWAP to assist with watershed protection of public drinking water supplies. The SWAP inventories potential sources of contamination and determined the susceptibility of the source water to contamination.

The IEPA considers all surface water sources of 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. This is the reason for mandatory treatment for all surface water supplies in Illinois. Chicago's offshore intakes are located at a distance that shoreline impacts are not usually considered a factor on water quality. At certain times of the year, however, the potential for contamination exists due to wet-weather flows and river reversals. In addition, the placement of the crib structures may serve to attract waterfowl, gulls and terns that frequent the Great Lakes area, thereby concentrating fecal deposits at the intake and thus compromising the source water quality. Conversely, the shore intakes are highly susceptible to storm water runoff, marinas and shoreline point sources due to the influx of groundwater to the lake.

Further information on our community's water supply SWAP is available by calling the City of Chicago, Department of Water Management at (312) 744-6635.

### **Were there any violations in 2007?**

**There were no drinking water quality violations recorded in the Village of River Forest or the City of Chicago in 2007.**

### **Definition of Terms (reference Data Tables)**

**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 Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG's as feasible using the best available treatment technology.

**Level Found:** This column represents an average of sample result data collected during the CCR calendar year. In some cases, it may represent a single sample if only one sample was collected.

**Range of Detections:** This column represents a range of individual sample results, from lowest to highest that were collected during the Consumer Confidence Report calendar year.

**Date of Sample:** If a date appears in this column, the IEPA requires monitoring for this contaminant less than once per year because the concentrations do not frequently change. If no date appears in this column, monitoring for this contaminant was conducted during the Consumer Confidence Report calendar year.

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

**Action Level Goal (ALG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

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

**Lead:** Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. More information is available from the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

**n/a:** Not applicable.

**nd:** Not detectable at testing limits.

**ppm:** Parts per million or milligrams per liter.

**ppb:** Parts per billion or micrograms per liter.

**mg/l:** milligrams per litre or ppm – or one ounce in 7,350 gallons of water.

**ug/l:** micrograms per litre or ppb – or one ounce in 7,350,000 gallons of water.

**NTU:** Nephelometric Turbidity Unit, used to measure cloudiness in drinking water

**%<0.5 NTU:** Percent samples less than 0.5 NTU

**% pos/mo:** percent positive samples per month

**pCi/l:** PicoCuries per liter, used to measure radioactivity

**Avg:** Regulatory compliance with some MCLs are based on running annual average or monthly samples

**Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow for a margin of safety.

## **Water Quality Data Table Footnotes**

**Turbidity:** Is a measure of the cloudiness of the water, and is monitored because it's a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

**Unregulated Contaminants:** An MCL for this contaminant has not been established by either state or federal regulations, nor has mandatory health effects language. The purpose for monitoring this contaminant is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water, and whether future regulation is warranted.

**Sodium:** No state or federal MCL for Sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

**Fluoride:** Added to the water supply to help promote strong teeth. The Illinois Dept. of Public Health recommends an optimal fluoride range of 0.9 mg/l to 1.2 mg/l.

## 2007 CITY OF CHICAGO WATER QUALITY DATA TABLE

	<u>MCLG</u>	<u>MCL</u>	<u>Level Found</u>	<u>Range of Detections</u>	<u>Typical Source of Contamination</u>
<u>Microbial Contaminants</u>					
Total Coliform Bacteria (% pos/mo)	0	5%	0.54% in July	n/a	Human & animal fecal waste
Fecal Coliform & E. Coli (# pos/mo)	0	0	2	n/a	Human & animal fecal waste
Turbidity (%<0.3 NTU)	n/a	TT/95%	100%	n/a	Soil runoff. Lowest monthly percent meeting limit.
Turbidity (NTU)	n/a	TT=1NTUmax	0.58	n/a	Soil runoff. Highest single measurement.
<u>Inorganic Contaminants</u>					
Arsenic (ppb)	0	10	0.56	0.52-0.56	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes
Barium (ppm)	2	2	0.018	0.018-0.018	Discharge of drilling wastes and metal refineries, erosion of natural deposits
Nitrate (as Nitrogen) (ppm)	10	10	0.41	0.37-0.41	Fertilizer runoff, leaching sewage, erosion of natural deposits
Total Nitrate & Nitrite (ppm)	10	10	0.42	0.37-0.42	Fertilizer runoff, leaching sewage, erosion of natural deposits
<u>Disinfectants/Disinfections By-Product</u>					
TTHMs [Total Trihalomethanes] (ppb)	n/a	80	16.5*	9.9-24.0	By-product of drinking water disinfection
HAA5 [Haloacetic Acids] (ppb)	n/a	60	8.53*	4.6-12.3	By-product of drinking water disinfection
Chlorine (as Cl <sub>2</sub> ) (ppm)	4.0	4.0	0.77	0.65-0.77	Drinking water disinfectant
TOC [Total organic carbon]: The percentage of TOC removal was measured each month and the system met all TOC removal requirements set by the IEPA.					
* Highest Running Annual Average computed quarterly.					
<u>Unregulated Contaminants</u>					
Sulfate (ppm)	n/a	n/a	20.6	19.1-20.6	Erosion of naturally occurring natural deposits
<u>State Regulated Contaminants</u>					
Fluoride (ppm)	4	4	0.98	0.90-0.98	Water additive which promotes strong teeth
Sodium (ppm)	n/a	n/a	7.40	7.30-7.40	Erosion of naturally occurring deposits, used as a water softener
<u>Radioactive Contaminants</u>					
Beta/Photon Emitters (pCi/l)	0	50	2.000	nd-2.000	Decay of natural and man-made deposits
Date of sample: 11/5/2001					

## 2007 VILLAGE OF RIVER FOREST WATER QUALITY DATA TABLE

	<u>MCLG</u>	<u>AL</u>	<u>90<sup>th</sup> Percentile</u>	<u># of Sites over AL</u>	
<u>Inorganic Contaminants</u>					
Lead (ppb) date sampled 12/31/06	0	15	9.9	1	Corrosion of household plumbing systems, erosion of natural deposits
Copper (ppm) date sampled 12/31/06	1.3	1.3	0.368	0	Corrosion of household plumbing systems, erosion of natural deposits
<u>Disinfectants/Disinfections By-Product</u>					
HAA5 [Total Haloacetic Acids] (ppb) collection date = 10/10/07	<u>MCLG</u> n/a	<u>MCL</u> 60	<u>Violation?</u> No	<u>Range of Detections</u> 8.64-19.38	Highest Level Detected = 19.38 By-product of water chlorination
TTHMs [Total Trihalomethanes] (ppb) collection date = 10/10/07	n/a	80	No	15.69-37.19	Highest Level Detected = 37.19 By-product of water chlorination
Chlorine (ppm) collection date = 12/31/07	MRDLG=4	MRDL=4	No	0.6013-0.694	Highest Level Detected = 0.6 Water additive to control microbes

**Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.**