



## 2008 Annual Water Quality Report

City of Crystal Lake

PWSID#1110150

100 W. Woodstock Street, Crystal Lake, IL 60014

### We're pleased to present to you this year's Annual Water Quality Report.



This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo o hable con alguien que lo entienda bien.

In 2008, the City of Crystal Lake Water Division distributed 1,803,462,000 gallons of water to our customers. Our water source is groundwater pumped from eleven wells, which are located throughout the city.

Your water is treated by using oxidation, chlorination disinfection, softening, fluoridation and filtration to remove or reduce harmful contaminants that come from the source water.

The City of Crystal Lake's source water assessment has been completed and is available at City Hall for public viewing.

The Illinois EPA determined the source water to be susceptible to contamination based upon a number of criteria including: monitoring conducted at the wells, monitoring conducted at the entry points to the distribution system and the available hydrogeologic data on the wells.

If you have any questions about this report or concerning your water utility, please contact Andrew Resek, Water Division Superintendent by calling (815) 459-2020 ext. 4041 or by writing to this address: PO Box 597, Crystal Lake, IL 60039-0597. We want our valued customers to be informed about their water utility. You are welcome and encouraged to attend City Council Meetings on the first and third Tuesday of each month at 7:30 p.m. in the City Council Chambers (100 West Woodstock Street). Also, you can visit our web site at [www.crystallake.org](http://www.crystallake.org).

### **The U.S. Environmental Protection Agency (EPA) wants you to know:**

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 (1-800-426-4791).

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.

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. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Regulated Contaminants Detected in 2008 (collected in 2008 unless noted)						
Coliform Bacteria						
Microbiological Contaminants	Total Coliform Maximum Limit	Highest No. of Positive Total	Fecal Coliform or E. Coli Maximum Limit	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	<5%	2.3	0	0	No	Naturally present in the environment
Lead and Copper						
Lead MCLG	Lead Action	Lead 90th Percentile	# of Sites Over AL	Date of Sample 5	Violation	Likely Source of Contamination
0 ug/l	15 ug/l	6.97	2	6/9/2008	No	Corrosion of household plumbing, Naturally Present in the environment.
Copper MCLG	Copper Action	Copper 90th Percentile	# of Sites Over AL	Date of Sample 5	Violation	Likely Source of Contamination
1.3 mg/l	1.3 mg/l	0.692	0	6/9/2008	No	Corrosion of household plumbing, Naturally Present in the environment.

**Regulated Contaminants Detected in 2008 (collected in 2008 unless noted)**

Disinfectants and Disinfectant By - Products	Highest Level	Range of Levels	Unit of measurement	MCLG	MCL	Violation	Date of Sample 5	Likely Source of Contaminants
Total Haloacetic acids (HAA5)	24.1	24.1 - 24.1	ug/l	NA	60*	NO	7/10/2006	By - product of water chlorination.
THM5 (Total Trihalomethanes)	34.5	34.5 - 34.5	ug/l	NA	80*	NO		By - product of water chlorination.
Chlorine	2.1	.1 - 2.1	mg/l	MRDLG=4	MRDLG=4	NO		Water additive used to control microbes.
Inorganic Contaminants								
Arsenic	0.55	0 - .55	ug/l	NA	10	NO	4/5/2006	Erosion of natural deposits; Runoff from orchards; Runoff from electronics production wastes.
Barium 7	0.211	.211 - .211	mg/l	2	2	NO	1/10/2007	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride 6	1.2	.95 - 1.20	mg/l	4	4	NO	4/4/2006	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge.
Nitrate - Nitrite	0	NA	mg/l	10	10	NO	1/9/2007	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Radioactive Contaminants								
Combined Radium Alpha Emitters	2.1	.1 - 2.1	pCi/l	0	5**	NO		Erosion of natural deposits.
	2.9	0 - 2.9	pCi/l	0	15	NO		Erosion of natural deposits.
Volatile Organic Contaminants								
cis - 1,2 - Dichloroethylene	4.4	0 - 4.4	ug/l	70	70	NO		Discharge from industrial chemical factories.
Dichloromethane	0	NA	ug/l	0	5	NO		Discharge from pharmaceutical and chemical factories.
Trichloroethylene	3.5	0 - 3.5	ug/l	0	5	NO		Discharge from metal degreasing sites and other factories.
Synthetic Organic Contaminants								
Di (2-Ethylhexyl) Phthalate	0	NA	ug/l	0	6	NO		Discharge from rubber and chemical factories.
State Regulated Contaminants								
Iron 2	84	0 - 84	ug/l	NA	1000	NO	4/4/2006	Erosion from naturally occurring deposits.
Sodium 3	110	110 - 110	mg/l	NA	NA	NO	4/5/2006	Erosion of naturally occurring deposits; used in water softening regeneration.

**Footnotes:**

- 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. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).
- Iron:** This contaminant is not currently regulated by the USEPA. However, the state has set an MCL for this contaminant for suppliers serving a population of 1,000 or more.
- Sodium:** There is not a 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.
- Unregulated Contaminants:** A maximum contaminant level (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 or unregulated contaminants in drinking water, and whether future regulation is warranted.
- Date of Sample:** The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.
- Fluoride:** Fluoride is added to the water supply to promote strong teeth. The Illinois Department of Public Health recommends an optimal Fluoride range of 0.9mg/l to 1.2mg/l.
- Barium:** A barium violation occurs when the average of four quarterly samples exceed the MCL.

Unregulated Contaminants 4	CCR 2008	Level Found	Range of Detection	Collected in 2008 unless noted	Potential Source of Contamination
Sulfate	500	58.2	0 - 58.2	4/4/2006	Erosion of naturally occurring deposits.
Additional Contaminants	Unit	MCL	Range of Detection	Date of Sample 5	Potential Source of Contamination
Methyl Tertiary Butyl Ether (MTBE)	ug/l	9000	0 - .69		Exhaust from vehicles; Used as an octane booster in gasoline.

**Water Quality Test Results Definitions:**

**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.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the maximum contaminant level goal 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. MCLG's allow for a margin of safety.

**mg/l:** milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

**ug/l:** micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

**pCi/l:** picocuries per liter. (measurement of radioactivity)

**NA:** not applicable.

**90th Percentile:** 90% of samples are equal to or less than the number in the chart.

**avg.** Regulatory compliance with some MCL's are based on running annual average of 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.

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 (800-426-4791).

\*Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of cancer.

\*\*The actual MCL for Beta Emitters is 4 milligrams per year. The Illinois EPA states that this converts to approximately 50 pCi/l.

Our water system was required to monitor for the contaminants required under the Unregulated Contaminant Monitoring Rule (UCMR). Results may be obtained by calling the contact listed on the first page of this report.