



**2009 Annual Drinking Water Quality Report**  
**City of Crystal Lake PWSID#1110150**  
100 W. Woodstock Street, Crystal Lake, IL 60014

**We are pleased to present to you the 2009 Drinking Water Quality Report.**



This report is designed to inform you about the quality water and services that 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 that are made 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 2009, the City of Crystal Lake Water Division distributed 1,698,677,000 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.

On December 7, 2009 the City of Crystal Lake mailed a public health notice to all businesses and residents. The notice indicated water test levels of Trichloroethylene (TCE) were 2.9 parts per billion (ppb). TCE test results are included in this year's water quality report. The City has been working with an engineering firm and the Environmental Protection Agency to install treatment to remove the TCE from the finished water. The treatment process was approved by the EPA, and put into operation by the City in the spring of 2010.

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 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 2009 (collected in 2009 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%	0	0	0	No	Naturally present in the environment.

#### Lead and Copper

Lead 1 MCLG	Lead Action	Lead 90th Percentile	# of Sites Over AL	Date of Sample	Violation	Likely Source of Contamination
0 ug/l	15 ug/l	6.97	2	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	Violation	Likely Source of Contamination
1.3 mg/l	1.3 mg/l	0.692	0	2008	No	Corrosion of household plumbing, Naturally Present in the environment.

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. ALGs 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.

**1 Lead:** 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 materials and components associated with service lines and home plumbing. We cannot control the variety of materials used in 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. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in your drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

**2 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.

**3 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.

**4 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 of unregulated contaminants in drinking water, and whether future regulation is warranted.

**5 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.

**6 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.

**7 Barium:** A barium violation occurs when the average of four quarterly samples exceed the MCL.

#### Regulated Contaminants Detected in 2009 (collected in 2009 unless noted)

By-Products	High Level	Range of Levels	Unit of measurement	MCLG	MCL	Violation	Date of Sample	Likely Source of Contaminants
Total Haloacetic acids (HAA5)	0	N/A	ug/l	NA	60*	NO		By-product of water chlorination.
TTHMs (Total Trihalomethanes)	9.6	9.6 - 9.6	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								
Barium <sup>7</sup>	1.5	.036 - 1.5	mg/l	2	2	NO		Discharge of milling wastes; Discharge from metal deposits; Erosion of natural deposits.
Chromium	8.2	0 - 8.2	ug/l	100	100	NO		Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride <sup>6</sup>	1.2	.93 - 1.2	mg/l	4	4	NO		Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Manganese	13	0 - 13	ug/l	150	150	NO		Erosion of natural deposits.
Nitrate - Nitrite	0	NA	mg/l	10	10	NO		Runoff from fertilizer use; Leaching from septic tanks.
Selenium	2.3	0 - 2.3	ug/l	50	50	NO		Discharge from petroleum and metal refineries; Erosion of natural deposits; Erosion of natural deposits.
Zinc	0.014	0 - .014	mg/l	5	5	NO		Naturally occurring; discharge from metal factories.
Radioactive Contaminants								
Combined Radium 226 / 228	1.95	.779 - 1.95	pCi/l	0	5**	NO	2008	Erosion of natural deposits.
Gross Alpha (excluding radon & uranium)	2.9	2.9 - 2.9	pCi/l	0	15	NO		Erosion of natural deposits.
Volatiles Organic Contaminants								
cis - 1,2 - Dichloroethylene	5.8	0 - 5.8	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	2.9	0 - 2.9	ug/l	0	5	NO		Discharge from metal degreasing, alcohols and other factories.
Synthetic Organic Contaminants								
Di (2-Ethylhexyl) Phthalate	0	NA	ug/l	0	6	NO	2008	Discharge from rubber and chemical factories.
State Regulated Contaminants								
Iron <sup>2</sup>	0.12	.014 - .12	mg/l	NA	1000	NO		Erosion from naturally occurring deposits.
Sodium <sup>3</sup>	280	82 - 280	mg/l	NA	NA	NO		Erosion of naturally occurring deposits; used in water softening regeneration.

#### Unregulated Contaminants

Contaminant	Unit	MCL	Level Found	Range of Detection	Date of Sample	Collected in 2009 unless noted	
						Potential Source of Contamination	Violations
Sulfate	mg/l	500	63	4 - 63		Erosion of naturally occurring deposits.	
Methyl Tertiary Butyl Ether (MTBE)	ug/l	9000	0.67	0 - .67		Exhaust from vehicles; Used as an octane booster in gasoline.	