

# Village of Chicago Ridge Water Supply System Consumer Confidence Report 2010

## Annual Drinking Water Quality Report for the period of January 1 to December 31, 2009



### About this Report

This report is intended to provide you with important information about your drinking water and the efforts made by the Chicago Ridge water system to provide safe drinking water. For more information regarding this report, contact: Mr. Doug Koehler, Village of Chicago Ridge, Acting Public Works Director, at 708-425-7700. The Village Board meets every 1st and 3rd Tuesday at 7pm at the Village Hall.

Este informe contiene informacion muy importante sobre el agua que usted bebe. Traduzcalo o hable con alguien que lo entienda bien.

### Special Health Information

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.

### Substances That Might Be in Drinking Water

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

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 material, and can pick up substances resulting from the presence of animals or from human activity. Possible contaminants consist of:

### Source Water Assessment

There have been many studies on the water, sediments, and biota of Lake Michigan. The City of Chicago and the Illinois EPA have had a cooperative agreement to report on the water quality of Lake Michigan since 1977. For a full explanation of the 2002 Illinois Water Quality Report, or a downloadable version of this document, visit Illinois EPA's website <http://www.epa.state.il.us/water/water-quality/index.html>.

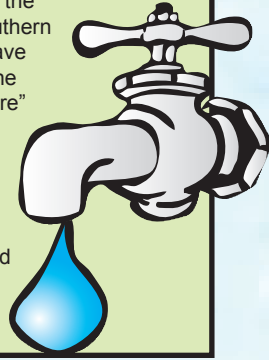
Any water that cannot attain water quality standards with technology based controls alone must be identified in accordance with Section 303(d) of the Federal Clean Water Act. Based solely on fish consumption and beach closings, Lake Michigan has been placed on the draft 2002-303(d). Information pertaining to this program, designated stream segments and this document can be obtained by contacting the Watershed Management Section of the Bureau of Water at 217-782-3362 or <http://www.epa.state.il.us/water/watershed/reports/303d-report/index.html>.

Most water quality fluctuations within the Great Lakes are caused by natural conditions and affect all public water supplies that withdraw from this source. The three major causes of raw water quality fluctuations are wind, water temperature, and rain. A number of microorganisms can affect the taste and odor of water from the Great Lakes, most notably zebra mussels and algae. Chlorophyll is typically used as an indicator of the presence of algae in a body of water.

The prevailing thought is that volatile organic compounds (VOCs) and inorganic compounds, excluding phosphorous and nitrogen, are not as

### Where Does My Water Come From?

The source of drinking water for the Village of Chicago Ridge is Lake Michigan. The Village of Chicago Ridge purchases water from the Village of Oak Lawn and the Village of Oak Lawn purchases water from the City of Chicago. The City of Chicago takes water from Lake Michigan and transfers it to 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. Both Plants have two intakes that draw water from the Lake: one approximately 2 miles offshore, and one "shore" intake. The offshore intakes are between 32-37 feet in depth while the shore intakes are between 13-19 feet in depth. Lake Michigan is the only Great Lake that is entirely contained within the United State. 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.



**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.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

prevalent to offshore drinking water intakes.

The shore intakes may be influenced by groundwater that may carry VOCs and metals, such as arsenic and mercury along with PCBs and other SOCs that are known to accumulate in sediments and tissue of invertebrates and fish. Water samples collected for these parameters by the Illinois PEA since the late 1970s are generally below detection limits and therefore do not pose an immediate threat to public health by means of drinking water. For more information on sample results or contaminant description; see Lake Michigan Water Quality Report 1992-1993 (Illinois EPA, 1997) and the 2002 Illinois Water Quality Report (Illinois EPA, 2002).

The Illinois EPA implemented a Source Water Assessment Program (SWAP) to assist with watershed protection of public drinking water supplies. The SWAP inventories potential sources of contamination and determines the susceptibility of the source water to contamination. Further information regarding our community water supply's Source Water Assessment Program is available by calling City of Chicago, Department of Water Management at 312-744-6635.

The Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems. 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.

Throughout history there have been extraordinary steps taken to assure a safe source of drinking water in the Chicagoland area. From the building of the offshore cribs and the introduction of interceptor sewers to the lock-and-dam system of Chicago's waterways and the city's Lakefront Zoning Ordinance. The city now looks to the recently created Department of the Water Management, Department of Environment and the MWRDGC to assure the safety of the city's water supply. Also, water supply officials from Chicago are active members of the West Shore Water Producers Association. Coordination of water quality situations (i.e., spills, tanker leaks, exotic species, etc.) and general lake conditions are frequently discussed during the association's quarterly meetings. Also, Lake Michigan has a variety of organizations and associations that are currently working to either maintain or improve water quality.

Finally, one of the best ways to ensure a safe source of drinking water is to develop a program designed to protect the source water against potential contamination on the local level. Since the predominant land use within Illinois' boundary of Lake Michigan watershed is urban, a majority of the watershed protection activities in this document area aimed at this purpose. Citizens should be aware that everyday activities in an urban setting might have a negative impact on their source water. Efforts should be made to improve awareness of storm water drains and their direct link to the lake within the identified local source water area. A proven best management practice (BMP) for this purpose has been the identification and stenciling of storm water drains within a watershed. Stenciling along with an educational component is necessary to keep the lake a safe and reliable source of drinking water.

### DEFINITIONS

**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 MCLGs as feasible using the best available treatment technology.

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

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

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a drinking water disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

### ABBREVIATIONS

**ND:** Not detectable at testing limits, **N/A:** Not Applicable, **AL:** Action Level, **MFL:** Million fibers per liter, **TT:** Treatment Technique, **NTU:** Nephelometric Turbidity Units, **mrem/year:** Millirems per year (a measure of radiation absorbed by the body), **pCi/L:** Picrouries per liter (a measure of radioactivity), **ppm:** Parts per million, or milligrams per liter (mg/l), **ppb:** Parts per billion, or micrograms per liter (ug/l), **ppt:** Parts per trillion, or nanograms per liter, **ppq:** Parts per quadrillion, or picograms per liter.

## City of Chicago 2009 Water Quality Data 2009 Regulated Contaminants Detected

### Water Quality Test Results

	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contamination	
Inorganic Contaminants	Barium	2009	0.0208	0.0201-0.0208	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
	Fluoride	2009	1.28	1.24-1.28	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge
	Nitrate (As N)	2009	0.384	0.381-0.384	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. High nitrate levels in drinking water can cause blue bay syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.									
Radioactive Contaminants	Combined Radium 226/228	3/17/08	1.38	1.3-1.38	0	5	pCi/L	No	Erosion of natural deposits
	Gross alpha excluding radon and uranium	3/17/08	.88	0.09-0.88	0	15	ppm	No	Erosion of natural deposits
State Regulated Contaminants	Sodium	2009	7.82	7.43-7.82	N/A	N/A	ppm	No	Erosion of naturally occurring deposits; used in water softener regeneration
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.									
<b>Note: The state requires us to monitor for 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.</b>									

### Turbidity

Limit (Treatment Technique)	Lowest Monthly % Meeting Limit	Highest Single Measurement	Violation	Source
0.3 NTU	99.32		No	Soil Runoff
1 NTU		0.68 NTU	No	Soil Runoff

**Information Statement:** Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

### Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA, unless a TOC violation is noted in the violations section.

### Cryptosporidium

Since April 1993, the Chicago Department of Water Management has conducted monthly analyses on Cryptosporidium in the source water. Cryptosporidium has not been detected in these samples. Treatment processes have been optimized to ensure that if there are Cryptosporidium oocysts in the source water, they will be removed during the treatment process. By maintaining low turbidity and thereby removing particles from the water, the possibility of cryptosporidium organisms getting into the drinking water system is greatly reduced.

## Village of Chicago Ridge 2009 Water Quality Data 2009 Regulated Contaminants Detected

### Lead and Copper

	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2008	1.3	1.3	0	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	2008	0	15	0	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits

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. CHICAGO RIDGE is responsible for providing high quality drinking water, but 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 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>.

### Water Quality Test Results

Disinfectants & Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contaminant
Total Trihalomethanes (TTHMs)	2009	28	16.97-37.7	No goal for the total	80	ppb	No	By-product of drinking water chlorination
Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.								
Haloacetic Acids (HAA5)	2009	13	8.31-11.47	No goal for the total	60	ppb	No	By-product of drinking water chlorination
Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.								
Chlorine	2009	0.7	0.1-0.7	MRDLG=4	MRDL=4	ppm	No	Water additive used to control microbes