

# THE CITY OF LAKE FOREST ANNUAL WATER QUALITY REPORT CALENDAR YEAR 2011

We are pleased to present a summary of the quality of the water provided to you during the calendar year 2011. The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence Report" (CCR) to its customers, in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. We are committed to providing the safest and most reliable water supply. Informed consumers are our best allies in maintaining safe drinking water. The drinking water supplied by the Lake Forest Water Plant meets or surpasses all Federal and State drinking water standards. During the 2011 calendar year, the Water Plant produced 1.338 billion gallons of water and placed 1,516 feet of new pipe into the distribution system. The Water Plant is supplied by surface water from Lake Michigan drawn through 42-inch and 24-inch intake pipelines.

## WATER QUALITY DATA TABLE

The table shows the results of the Lake Forest 2011 water quality analyses. Every regulated contaminant that was detected in the water, even in the smallest traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Definitions of MCL and MCLG are important.

**Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

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

**Action Level:** The concentration of a contaminant that triggers treatment or other required actions by a water system.

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

**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 CCR calendar year.

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

AL = Action Level

ppm = parts per million, or milligrams per liter (mg/l)

ND = Not Detectable at testing limits

MCLG = Maximum Contaminant Level Goal

ppb = parts per billion, or micrograms per liter (ug/l)

MRDL = Maximum Residual Disinfectant Level

MCL = Maximum Contaminant Level

TT = Treatment Technique

MRDLG = Maximum Residual Disinfectant Level Goal

NTU = Nephelometric Turbidity Units

N/A = Not Applicable

pCi/L = picocuries per liter (measure of radioactivity)

## WATER QUALITY TABLE

Contaminants	Date of Samples	MCL	MCLG	Level Found	Range of Detections	Major Sources of Contamination	Violation
<i>Inorganic Contaminants</i>							
Copper (ppm)	7/27/11	AL = 1.3	1.3	0.13	0 Exceeded AL	Corrosion of plumbing systems, erosion of natural deposits, leaching from wood preservatives.	NO
Barium (ppm)		2	2	0.02	0.02-0.02	Discharge of drilling wastes, metal refineries, and erosion of natural deposits.	NO
(1) Lead (ppm)	7/27/11	AL = 15	0	6.18	1 Exceeded AL	Corrosion of household plumbing, erosion of natural deposits.	NO
Fluoride (ppm)		4	4	1.00	1.00-1.00	Water additive to promote strong teeth, discharge from fertilizer factories.	NO
Nitrate as N (ppm)		10	10	1.00	0.82-0.82	Runoff from fertilizer, sewerage, natural deposits.	NO
<i>Radioactive Contaminants</i>							
Combined Radium 226/228 (pCi/L)		5	0	0.505	0.505-0.505	Erosion of natural products.	NO
<i>Microbiological Contaminants</i>							
Turbidity (NTU)		TT = 1	N/A	0.04	N/A	Soil runoff	NO
Turbidity (%<0.3 NTU)		TT	N/A	100	100-100	Soil runoff	NO
Coliform bacteria		> 1pos/mo	0	1	N/A	Naturally present in the environment	NO
<i>Disinfectants/Disinfection By-Product</i>							
(2) TTHMs (ppb) (Total Trihalomethanes)		80	N/A	33	27-43	By-product of drinking water chlorination	NO
Total Haloacetic Acids (ppb)		60	-	14	8.4-18.5	By-product of drinking water chlorination	NO
Chlorine (ppm)		MRDL= 4	MRDLG = 4	1.2	1.0136-1.476	Water additive used to control microbes	NO
<i>State-Regulated Contaminants</i>							
Sodium (ppm)		N/A	N/A	16	16-16	Erosion of naturally occurring deposits, used as water softener	NO
Thallium (ppb)		2	0.5	1.5	1.5-1.5	Discharge from electronics, glass, and leaching from ore - processing sites; drug factories	NO

## WATER QUALITY TABLE FOOTNOTES

(1) 30 homes were sampled for lead in 2011 and 1 home exceeded the MCL of 15 ppb. (2) 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 increased risk of getting cancer.

## SOURCES OF DRINKING WATER

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 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: **a)** Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. **b)** 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. **c)** Pesticides and herbicides come from sources such as agriculture, urban storm water runoff, and residential uses. **d)** Organic chemical contaminants including synthetic and volatile organic chemicals are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems. **e)** Radioactive contaminants 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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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* are available from the Safe Drinking Water Hotline (800.426.4791).

## 2010 SOURCE WATER ASSESSMENT

Lake Michigan is the source for drinking water in The City of Lake Forest. In August 2003 the Illinois Environmental Protection Agency completed a Source Water Assessment to determine the potential for contamination at or around our intake pipelines that draw raw water from Lake Michigan. A copy of the Source Water Assessment is available at the Lake Forest Library by calling 847.234.0636. Further information on Source Water Assessment is available on the web at [www.epa.state.il.us/water/groundwater/source-water-assessment/index.html](http://www.epa.state.il.us/water/groundwater/source-water-assessment/index.html).

The report shows that Lake Forest's intakes are moderately sensitive to potential pollution. Although there are no sources within the critical assessment zone, there are several within the immediate source water area. The combination of land use, sewer lift stations and outflow from storm sewers into the ravines adds to the susceptibility of Lake Forest's intakes. The Lake Forest Water Plant constantly monitors raw water quality and has a long history of providing clean drinking water to its customers.

**Turbidity:** Turbidity is a measurement of the cloudiness of the water caused by suspended particles. It is monitored because it is a good indicator of water quality and the effectiveness of the filtration system and disinfectants.

**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).

**Sodium:** There is not a State or Federal MCL for sodium. Monitoring is required to provide information to consumers and health officials who are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician.

**Fluoride:** Fluoride is added to the water to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of .9 mg/l to 1.2 mg/l.

**Nitrate and Nitrite:** Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby 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 advice from your health care provider.

**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 the USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

**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 violation section).

## REQUIRED ADDITIONAL HEALTH INFORMATION

To ensure that tap water is safe to drink, the EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled 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 USEPA's Safe Drinking Water Hotline at 800.426.4791.

## NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE

The City of Lake Forest welcomes your questions about the Lake Forest Water Plant and water quality. Call Ramesh Kanapareddy, City Engineer, at 847.810.3552 or John Gulledege, Chief Water Plant Operator at 847.810.4650.

We encourage public interest and participation in our community's decisions affecting drinking water. Regular City Council meetings occur on the first and third Mondays of each month at 7:30 p.m. at the Lake Forest City Hall (220 East Deerpath). Agendas for these meetings can be viewed at the bulletin boards located in the train depots, the Municipal Service Building (800 North Field Drive), City Hall and on the web at [www.cityoflakeforest.com](http://www.cityoflakeforest.com).