

# The City of Lake Forest Annual Water Quality Report

Calendar Year  
2006



*Dear Water Customer:*

*We are pleased to present a summary of the quality of the water provided to you during the calendar year 2006. The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence" report 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.*

*We encourage public interest and participation in our community's decisions affecting drinking water. Regular City Council meetings occur on the first Monday and the third Monday each month starting at 7:30 p.m. at City Hall. Agendas for these meetings can be viewed at the bulletin boards located in the train depots, the Municipal Services Building, City Hall, and on the web at [www.cityoflakeforest.com](http://www.cityoflakeforest.com).*



*The drinking water supplied by  
the LAKE FOREST WATER PLANT  
meets or surpasses all Federal  
and State drinking-water standards.*

## OVERVIEW

During the 2006 calendar year, the Water Plant produced 1.433 billion gallons of water and placed 636 feet of new pipe into the distribution system.

## WATER SOURCE

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 which follows shows the results of the Lake Forest 2006 water quality analyses. Every regulated contaminant that was detected in the water, even in the most minute 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. Water Plant Operators also perform 12,000 yearly tests of samples taken in the treatment process and the distribution system to ensure high-quality drinking water.

- **Maximum Contaminant Level or 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.
- **Maximum Contaminant Level Goal or 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.
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water. The data presented in this report is from the most recent testing done in accordance with regulations.
- **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.

# WATER QUALITY TABLE

Contaminant	Date of Samples	MCL	MCLG	Level Found	Range of Detections	Major Sources of Contamination	Violation
<i>Inorganic Contaminants</i>							
Copper (ppm)	7/18/05	AL = 1.3	1.3	0.045	0 Exceeded AL	Corrosion of plumbing systems, erosion of natural deposits, leaching from wood preservatives	NO
Barium (ppm)	4/17/06	2	2	0.021	N/A	Discharge of drilling wastes, metal refineries, erosion of natural deposits	NO
Nitrite & Nitrate (ppm)	4/17/06	10	10	0.51	N/A	Runoff from fertilizer, sewage, erosion of natural deposits	NO
Nitrate (as N) (ppm)	4/17/06	10	10	0.51	N/A	Runoff from fertilizer, sewage, erosion of natural deposits	NO
(1) Lead (ppb)	7/8/05	AL = 15	0	3.40	0 Exceeded AL	Corrosion of household plumbing, erosion of natural deposits	NO
Fluoride (ppm)	4/17/06	4	4	1.1	N/A	Water additive to promote strong teeth, discharge from fertilizer	NO
<i>Microbiological Contaminants</i>							
Turbidity (NTU)	2006	TT = 1	N/A	0.05	N/A	Soil runoff	NO
Turbidity (%<0.3 NTU)	2006	TT	N/A	100	100–100	Soil runoff	NO
(2) Coliform bacteria	2006	0	5%	0	N/A	Naturally present in the environment	NO
<i>Disinfectants/Disinfection By-Product</i>							
(3) TTHMs (ppb) (Total Trihalomethanes)	11/6/06	80	N/A	33.3	19–33.3	By-product of drinking water chlorination	NO
Total Haloacetic Acids (ppb)	4/17/06	60	—	15.8	0–15.8	By-product of drinking water chlorination	NO
Chlorine	12/31/06	MRDL=4	MRDLG=4	1.11	.90–1.11	Water additive used to control microbes	NO
<i>State-Regulated Contaminants</i>							
Sodium (ppm)	4/17/06	N/A	N/A	12	N/A	Erosion of naturally occurring deposits, used as water softener	NO
Manganese (ppb)	5/2/05	150	N/A	3	N/A	This contaminant is not currently regulated by USEPA. However, the state has an MCL for this contaminant for supplies serving a population of 1,000 or more	NO

## WATER QUALITY TABLE FOOTNOTES

- (1) 30 homes were sampled for lead in 2005 and 0 homes exceeded the MCL of 15 ppb.
- (2) If greater than 5% of the monthly samples are positive.
- (3) 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.

## KEY TO TABLE

- AL = Action Level
- MCLG = Maximum Contaminant Level Goal
- MCL = Maximum Contaminant Level
- NTU = Nephelometric Turbidity Units
- ppm = parts per million, or milligrams per liter (mg/l)
- ppb = parts per billion, or micrograms per liter (ug/l)
- TT = Treatment Technique
- N/A = Not Applicable
- ND = Not Detectable at testing limits
- MRDL = Maximum Residual Disinfectant Level
- MRDLG = Maximum Residual Disinfectant Level Goal

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 runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- (D) Organic chemical contaminants, including synthetic and volatile organics, which 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, 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, 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 is the general population. Immunocompromised 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).

## NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE

The City of Lake Forest welcomes your questions about the Lake Forest Water Plant and water quality. Call Michael Thomas, Superintendent of Public Works, at 847.615.4265 or Bill Hensel, Chief Water Plant Operator, at 847.615.4277 at any time.

## MEMBERSHIP IN THE FOLLOWING ORGANIZATIONS

West Shore Water Producers Association  
American Water Works Association

## 2006 SOURCE WATER ASSESSMENT

Lake Michigan is our 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 our customers.



## REQUIRED ADDITIONAL HEALTH INFORMATION

To ensure that tap water is safe to drink, 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 Environmental Protection Agency's Safe Drinking Water Hotline (800.426.4791).

## ABOUT THE DATA

### TURBIDITY

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of our 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 & 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 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 violations section.

