

# 2007 WATER QUALITY REPORT



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**Special points of interest:**

- Drinking water in the Village of Glen Ellyn is supplied by the DuPage Water Commission which purchases Lake Michigan water from the City of Chicago.
- The Public Works Water Division and the Glen Ellyn Volunteer Fire Company are proud to have served Glen Ellyn for the past 100 years.
- **Effective July 1, 2007, the sewer rate will increase from the current \$3.91 to \$4.30 per 1,000 gallons of water.**

**INTRODUCTION**

The goal of this annual report, which is required by the United States Environmental Protection Agency, is to explain Glen Ellyn's water system and show results of the water quality tests conducted during 2006. This report also includes important information about water and health. We are proud to report that water provided by the Village of Glen Ellyn meets or exceeds established state and federal water quality standards.

**OVERVIEW OF GLEN ELLYN'S WATER SYSTEM**

Lake Michigan is a surface water supply. It is the sole source of water, providing drinking water to the City of Chicago and 123 suburban communities. Lake Michigan, by volume, is the second largest Great Lake and the only one located totally within the United States.

Drinking water in the Village of Glen Ellyn is supplied by the DuPage Water Commission (DWC), which purchases Lake Michigan water from the City of Chicago. Before it is purchased by the DWC, lake water is treated at Chicago's Jardine Purification Plant. After leaving the Jardine Purification Plant, the water is transferred to DWC's metering stations and then sold to Glen

Ellyn. It then goes into either the water distribution system or into a water storage facility. The Glen Ellyn water distribution system consists of 146 miles of water main., 1,368 water main valves and 1,222 fire hydrants. We also have two standby ground wells, 2 one-million gallon reservoirs and 2 elevated storage tanks with a combined 1.25 million gallon capacity. The average daily pumpage to our customers is 2.75 million gallons. This equates to one billion gallons purchased and consumed on an annual basis, or an average of 100 gallons per day per person.

Glen Ellyn delivers high-quality drinking water. Many steps must be taken to attain this goal. Daily monitoring is conducted at all receiving stations. Each week, water samples are collected at representative locations throughout the Village and brought to an independent certified laboratory for microbiological analysis. Sample collection and facility monitoring are performed by Village staff members who are IEPA certified Public Water Supply Operators. Samples are



Water provided by the Village of Glen Ellyn meets or exceeds established state and federal water quality standards.

also collected and analyzed to detect specific Volatile Organic Contaminants in the water as prescribed by federal and state regulation.

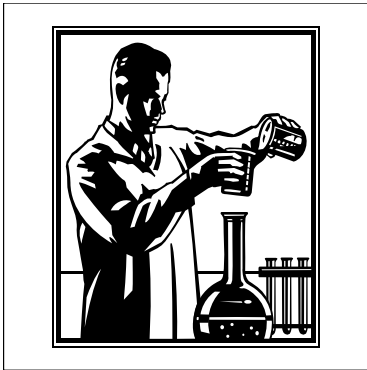
**UNREGULATED CONTAMINANTS**

The Chicago Water Department has conducted monthly cryptosporidium analyses since April 1993. Cryptosporidium has not been detected in these samples. Treatment processes have been optimized to ensure that if there was cryptosporidium cysts in the water source, they will be removed during the treatment process.

The following information is required language as specified by the IEPA.



Jardine Purification Plant



Water quality analyses are based on tests conducted in 2006.

**Definitions and Footnotes for the tables on the following pages:**

The tables inside this report show the results of our water-quality analyses based on tests conducted in 2006. Every regulated contaminant that we 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.

**Definitions:**

**Maximum Contaminant Level (MCL):** The highest level of contaminant allowed in drinking water. Maximum Contaminant Levels 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. MCLGs allow for a margin of safety.

**WATER QUALITY TABLE**

CONTAMINANT (UNITS)	MCLG	MCL	LEVEL FOUND	RANGE OF DETECTION	DATE OF SAMPLE	VIOLATION	TYPICAL SOURCE OF CONTAMINANT
<b>MICROBIAL CONTAMINANTS</b>							
Total Coliform Bacteria (1) (%POS/Mo)	0	5%	0% (0 of 360 samples)	N/A	2006	No	Human and animal fecal waste.
Turbidity (%<0.3 NTU)	N/A	TT/95%	100.00%	N/A	2006	No	Soil runoff. Lowest monthly percent meeting limit.
Turbidity (NTU)	N/A	TT=1NTU max	0.15	N/A	2006	No	Soil runoff. Highest single measurement.
<b>INORGANIC CONTAMINANTS</b>							
Copper (ppm) (1)	1.3	AL=1.3	0.28 (90th Percentile)	0 exceeding AL	12/31/05	No	Corrosion of household plumbing systems; erosion of natural deposits.
Lead (ppb) (1)	0	AL=15	<5 (90th Percentile)	0 exceeding AL	12/31/05	No	Corrosion of household plumbing systems; erosion of natural deposits.
Barium (ppm)	2	2	0.02	0.02-0.02	2006	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Nitrate (as nitrogen) (ppm)	10	10	0.34	0.30-0.34	2006	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrate & Nitrite (ppm)	10	10	0.35	0.30-0.35	2006	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

WATER QUALITY TABLE (CON'T)							
CONTAMINANT (UNITS)	MCLG	MCL	LEVEL FOUND	RANGE OF DETECTION	DATE OF SAMPLE	VIOLATION	TYPICAL SOURCE OF CONTAMINANT
<b>UNREGULATED CONTAMINANTS</b>							
Sulfate (ppm)	N/A	N/A	28.1 (highest value)	27.2-28.1	2006	No	Erosion of naturally occurring deposits.
Boron (ppb)	N/A	N/A	18 (highest value)	14.0-18.0	1/10/06	No	Erosion of naturally occurring deposits. Used in detergents and as a water softener. Used in production of glass, cosmetics, pesticides, fire retardants and for leather.
<b>STATE REGULATED CONTAMINANTS</b>							
Fluoride (ppm)	4	4	0.98	0.89-0.98	2006	No	Water additive which promotes strong teeth.
Sodium (ppm)	N/A	N/A	6.8 (highest value)	6.70-6.80	2006	No	Erosion of naturally occurring deposits; used in water softener regeneration.
<b>RADIOACTIVE CONTAMINANTS</b>							
Beta/Photon emitters (pCi/l)	0	50	2.000	ND-2.000	11/5/01	No	Decay of natural and man-made deposits.
<b>DISINFECTANT / DISINFECTION BY-PRODUCTS</b>							
Haloacetic Acids (HAA5) (1) (ppb)	N/A	60	11.3	9.1-11.3	4/24/06	No	By-product of drinking water chlorination.
Total Trihalomethanes (TTHMs) (1) (ppb)	N/A	80	33.8	14.1-33.8	7/26/06	No	By-product of drinking water chlorination.
Chlorine (as CL <sub>2</sub> ) (ppm)	MRDLG= 4.0	MRDL= 4.0	0.664	0.638-0.664	12/31/06	No	Water additive to control microbes.
Total Organic Carbon (TOC)	The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by the IEPA.						

#### Water Quality Data Table Footnotes:

(1) Results on table based upon samples collected by Village of Glen Ellyn. All other results are based upon tests conducted by the City of Chicago.

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

**(ALG) Action Level Goal** - 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.

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

**NTU Nephelometric Turbidity Units** - Used to measure cloudiness of the water.

**%<0.3 NTU** - Percent samples less than 0.3 NTU.

**#pos/mo** - Number of positive samples per month.

**N/A** - Not applicable.

**pCi/l** - Picocuries per liter (a measure of radioactivity).

**ppm** - Parts per million, or milligrams per liter (mg/l) or one ounce in 7,350 gallons of water.

**ppb** - Parts per billion, or micrograms per liter (ug/l) or one ounce in 7,350,000 gallons of water.

**NTU Turbidity** - Turbidity is a measure 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.

**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.

**Fluoride** - Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of 0.9 mg/l to 1.2 mg/l.

**Sodium** - There is no 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 water.

**AVG** - Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**MRDL Maximum Residual Disinfectant** - The highest level of disinfectant allowed in drinking water.

**MRLDG Maximum Residual Disinfectant Goal** - The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.

**NOTE:** The state requires monitoring of certain contaminants less than once per year because the concentration of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.

## SOURCE WATER INFORMATION

The sources of drinking water (both tap and bottled water) includes 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 that 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 which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses;
- D) 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.
- E) Radioactive contaminants which may be naturally-occurring or be the result of oil and gas production and mining activities.

## SOURCE WATER ASSESSMENT SUMMARY

The Illinois EPA considers all surface water sources of a community water supply to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intake with no protection, only dilution. This is the reason for the mandatory treatment of all surface water supplies in Illinois. 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 offshore cribs and 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 Water Management, Department of the Environment and the Metropolitan Water Reclamation District of Greater Chicago 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.



Stenciled Catch Basin

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 watershed protection activities in this document are 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 the awareness of the 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.

**REQUIRED ADDITIONAL HEALTH INFORMATION**



To ensure that tap water is safe to drink, EPA prescribes regulations that 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 contami-

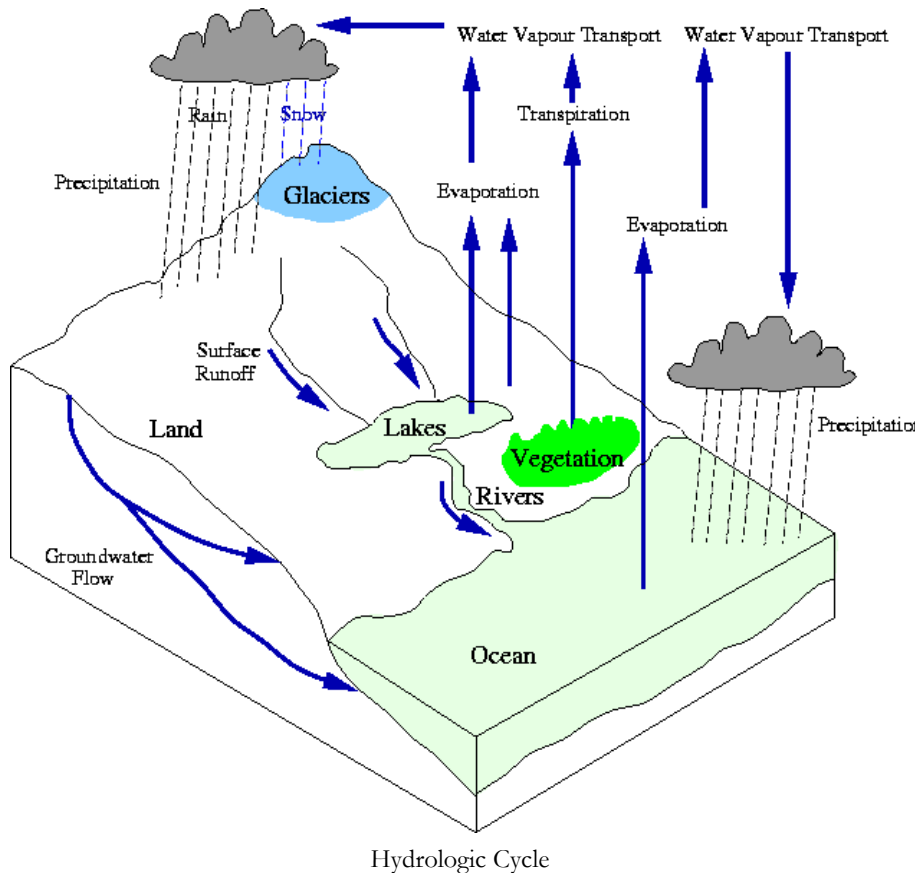
nants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than 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 and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).

**FUN FACTS**

- Water moves around the Earth in a water cycle. The cycle has 5 parts: evaporation, condensation, precipitation, infiltration and surface run-off.
- Water is the only substance found naturally on Earth in 3 forms: liquid, solid and gas.
- The combined amount of water in all its forms has never changed.
- Only 1% of all the water on the planet can be used as drinking water.
- A single mature tree will give off 70 gallons of water per day in evaporation.
- Two-thirds of the water used in the home is used in the bathroom.





**WATER CONSERVATION**

A five-minute shower can use up to 50 gallons of water. A partially filled bath will use less water.

Leaving the faucet running while brushing your teeth will waste up to two gallons of water.

Storing water in a bottle in the refrigerator to keep it cold will save both time and conserve water usage.

**We're on the web:  
www:\glenellyn.org**

**NATIONAL PRIMARY DRINKING WATER  
REGULATION COMPLIANCE**

If you are interested in learning more about our drinking water or have questions, please call the Village of Glen Ellyn Public Works Department at 630-469-6756. Water Quality Data for community water systems throughout the United States is available at [www.waterdata.com](http://www.waterdata.com).

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que to entienda bien.



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GLEN ELLYN, IL 60137

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**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER**