

# *Village of Lincolnshire*

## *Annual Drinking Water Quality Report*

### **2010**

#### **INTRODUCTION**

The Village is pleased to present to you this years Annual Drinking Water Quality Report. This report consists of information collected from January 1, 2009 through December 31, 2009. This year, as in years past, your tap water met all United States Environmental Protection Agency and Illinois State drinking water health standards. This report summarizes the quality of water that the Village provided last year, including details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

#### **SOURCE OF WATER**

The Village presently purchases all of your water from the City of Highland Park. The Highland Park Water Plant draws its raw water from a 54" diameter intake pipe which is located one mile from shore, in Lake Michigan. This water intake is about 30 feet deep. Two smaller pipes , 16 and 20 inches in diameter, occasionally supply water into the treatment plant.

#### **WATER DISTRIBUTION**

After treatment and filtration this water is sent to Lincolnshire through two transmission mains, 30 and 18 inches in diameter, which extend from Highland Park to a 2 million gallon tank called the Eastside Reservoir. At this location, chlorine is injected into the water for disinfection purposes and pumps increase the water pressure to approximately 65 pounds per square inch.

In addition to the Eastside Reservoir, the Village maintains a 2.6 million gallon reservoir called the Westside Reservoir. This reservoir provides additional water storage for the Village although its primary use is to supply water for fire protection purposes.

Currently the Village is responsible to maintain 64.5 miles of water main, 845 hydrants and over 1400 valves.

From January to December of 2009 the Village supplied a total of 446,615,000 gallons of water to commercial and residential consumers.

#### **SOURCE WATER ASSESSMENT SUMMARY**

In 2002 Illinois EPA conducted a federally mandated Source Water Assessment of Lake Michigan and Highland Parks susceptibility to potential sources of pollution. IEPA 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 Treatment plants intake pipes with no protection only dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois.

IEPA has determined that because of surrounding developed land use, sources of potential contaminants for Highland Park Water Treatment Plant include; sediment, shoreline erosion, storm water discharge and wet weather sewer overflows. Some of the potential contaminants are; inorganic and organic chemical contaminants.

Further information on our community water supply source water assessment is available on the IEPA web site at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl> or by calling the Groundwater Section of the Illinois EPA at 217-785-4787.

#### **WATER INFORMATION**

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 (1-800-426-4791).

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.

USEPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA'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 human activity. Possible contaminants consist of:

- 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 may 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 may also come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants, which may 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, USEPA 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.

## **DEFINITIONS**

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

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

**MFL**- Million Fibers per liter.

**NTU** - Nephelometric Turbidity Unit, used to measure cloudiness in drinking water caused by suspended particles.

**%<0.3 NTU** - Monthly percent of samples less than 0.3 NTU

**pCi/l** - picocuries per liter, used to measure radioactivity

**MCL** - Maximum Contaminant Level, or the highest level of a contaminant that is allowed in drinking water. *MCL*'s are set as close to the *MCLG*'s as feasible using the best available treatment technology.

**MCLG** - Maximum Contaminant Level Goal, or 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.

**MRDL** - Maximum Residual Disinfectant Level, or the highest level of disinfectant allowed in drinking water.

**MRDLG** - Maximum Residual Disinfectant Level, or 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.

**AL** - Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

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

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

**n/a** - not applicable

In most cases, the “**Level Found**” column represents an average of sample result data collected during the Water Quality Report calendar year. The “**Range of Detections**” column represents a range of individual sample results, from lowest to highest that were collected during the Water Quality Report year. If a date appears in the “**Date of Sample**” 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 Water Quality Report calendar year.

Indicates data collected by Highland Park

\* Indicates Village data collected

### 2009 Water Quality Data

<i>Contaminant(units)</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found</i>	<i>Range of detections</i>	<i>Violation</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
<b><u>Microbial Contaminants</u></b>							
Turbidity ( %<0.3NTU)	n/a	TT=0.30 NTU	<b>100%</b>	<i>n/a</i>	No		Soil runoff
Turbidity (NTU)	n/a	TT=1 NTU	<b>0.07</b>	<i>n/a</i>	No		Soil runoff
<b><u>Inorganic Contaminants</u></b>							
Copper (ppm)	1.3	AL=1.3	<i>*0.241</i> <b>0.334</b>	<i>0 exceed AL</i> <b>0 exceed AL</b>	No	<i>*2008</i> <b>2008</b>	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	0	AL=15	<i>* &lt; 5</i> <b>7.44</b>	<i>0 exceed AL</i> <b>1 exceed AL</b>	No	<i>*2008</i> <b>2008</b>	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrate (As N ) (ppm)	10	10	<b>0.33</b>	<b>0.33 -0.33</b>	No	<b>2009</b>	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride (ppm)	4	4	<b>1.20</b>	<b>1.20 - 1.20</b>	No	<b>2009</b>	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Barium (ppm)	2	2	<b>0.017</b>	<b>0.017 - 0.017</b>	No	<b>2009</b>	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Asbestos (MFL)	7	7	<i>*0.03</i>	<i>0.03 - 0.03</i>	No	<i>*12/9/03</i>	Decay of asbestos cement water mains; Erosion of natural deposits
<b><u>Coliform Bacteria</u></b>							
Total Coliform	0	1 monthly positive	<b>0</b>	<i>n/a</i>	No		Naturally present in the environment
<b><u>Disinfection / Disinfectant By-Products</u></b>							
■ TTHMs [Total Trihalomethanes](ppb)	n/a	80	<i>*16.50</i> <b>16 Avg</b>	<i>16.50 - 16.50</i> <b>12.80-17.00</b>	No		By-product of drinking water chlorination
■ Haloacetic Acids [HAA5] (ppb)	n/a	60	<i>*6.30</i> <b>10 Avg</b>	<i>6.30 - 6.30</i> <b>0 - 14.00</b>	No		By-product of drinking water chlorination
Chloramines (ppm)	MRDLG = 4	MRDL = 4	<i>*1.19</i> <b>1.39</b>	<i>0.08 - 1.19</i> <b>0.04 - 1.39</b>	No		Water additive used to control microbes
<b><u>State Regulated Contaminants</u></b>							
Sodium (ppm)	n/a	n/a	<b>6.90</b>	<b>6.90 - 6.90</b>	No	<b>2009</b>	Erosion of naturally occurring deposits; Used as water softener
Sulfate (ppm)	500	500	<b>27.0</b>	<b>27.0 - 27.0</b>	No	<b>2009</b>	Erosion of natural deposits: Leaching
<b><u>Radioactive Contaminants</u></b>							
Alpha Emitters (pCi/l)	0	15	<b>0.60</b>	<b>0.60 - 0.60</b>	No	<b>4/10/07</b>	Erosion of natural deposits
Radium (combined 226/228) (pCi/l)	0	5	<b>0.10</b>	<b>0.10 - 0.10</b>	No	<b>4/10/07</b>	Erosion of natural deposits

## ■ TABLE FOOTNOTES

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.

### **2009 WATER QUALITY VIOLATION SUMMARY**

No Violations occurred during the 2009 reporting year for either Highland Park or the Village of Lincolnshire.

### **ABOUT THE DATA**

<b><i>Turbidity</i></b>	Turbidity is a measure of the cloudiness or suspended particles in the water. Turbidity has no health effects, but is monitored because it is a good indicator of water quality and the effectiveness of Highland Parks filtration system and disinfectants.
<b><i>Fluoride</i></b>	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.
<b><i>Sodium</i></b>	There is not a state or federal MCL for sodium. Monitoring is required 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><i>Sulfate</i></b>	This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant and therefore monitoring is required

### **TOTAL ORGANIC CARBON**

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

### **WATER HARDNESS**

Hard water is defined as water that is high in mineral content, primarily calcium and magnesium, which dissolves and becomes soluble from natural erosion. Although the mineral content in Lake Michigan slightly varies throughout the year, the average measurement from the Highland Park Water Treatment Plant is 8 grains per gallon.

### **LEAD AND COPPER SAMPLING**

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. The Village of Lincolnshire 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>.

The Water Department wishes to express their appreciation to all the homeowners who have participated in the Lead and Copper Sampling Program. Through your commitment the Village has been in full compliance with USEPA regulations and therefore have been placed on a triennial monitoring schedule. The Village's next scheduled samples for this program

are to be taken between June 1<sup>st</sup> and September 30, 2011.

## **HOW TO PROTECT YOUR WATER SUPPLY**

- Report illegal dumping
- Follow package directions when applying pesticides, herbicides and fertilizers
- Do not apply pesticides when rain is expected

## **HOW TO PROTECT WATER QUALITY WITHIN YOUR HOME**

When water reaches your home, it is clean and meets all state and federal regulations. But without proper precautions, water can be contaminated by a sudden pressure drop within the house plumbing. When this occurs, a vacuum within the piping could possibly develop causing contaminated water to be pulled from your home or yard into your plumbing system. If this happens, you could contaminate the water in your home and possibly your neighbors' homes.

*Here are a few precautions that can be taken to reduce any potential risk.*

- If you have an automatic sprinkler system, make sure that you have a backflow prevention device and that it is working properly and tested annually.
- Do not leave a garden hose connected to a faucet with the other end submerged in any container filled with fluid of any kind. (ex. swimming pool, wash bucket)
- Do not allow garden hoses to be connected directly to containers that consist of pesticides, herbicides or toxic materials of any kind.
- If your water service is disrupted for any reason always flush your cold water faucets for 1 or 2 minutes until the water appears clear. This will allow fresh water to enter your plumbing system.

## **QUESTIONS AND ANSWERS**

*Q. Why does my water taste and/or smell "earthy" at times?*

**A.** All water has its own unique taste and odor characteristics. Highland Park, like many other water suppliers, occasionally experiences taste and odor changes. In the summer and early fall, microscopic organisms, such as algae, in the lake occasionally gives water an earthy taste and odor. This odor may be more noticeable in hot water from your home plumbing. Temperature change and excessive rainfall can also alter the taste of the water. These changes do not affect the safety of your water.

*Q. Why does the water sometimes look brown or yellow?*

**A.** Occasionally your water may be discolored due to infrastructure work such as, water main installation, hydrant flushing, main breaks or system repairs. This color comes from iron and/or mineral deposits inside the pipe that become dislodged during these repairs. Although it is the policy of the water department to flush the mains after the completion of work, it is possible for discolored water to be trapped in your house service. If it is caused by work on water mains, wait until the water is back on and then run a faucet until the water becomes clear. Home plumbing may also be the cause. If discolored water appears frequently, or is usually the first water drawn from your faucet in the morning it is probably caused by the house plumbing.

*Q. Why does my water appear cloudy or milky at times?*

**A.** Cloudy water is often caused by dissolved oxygen being released from the water. Cold water can hold more oxygen than warm. Water saturated with oxygen will release the oxygen as it warms up. This occurs primarily during our winter months, but does not affect the quality of your water. This cloudiness usually will dissipate in about 30 to 60 seconds.

## **CONCLUSION**

This report is presented to you in cooperation with the Illinois Environmental Protection Agency, City of Highland Park

and the American Water Works Association. Additional information may be obtained through the USEPA's Safe Drinking Water Hotline (1-800-426-4791) or the AWWA's internet home page at <http://www.awwa.org>.

The Village Staff strives to provide quality service to our customers. Should you have any questions regarding this report or the quality of your water, please contact Terry Hawkins, Utilities Superintendent, at (883-8600 ext. 2383).