

## ISLAND LAKE WATER DEPARTMENT

### *Annual Water Quality Report for the period of January 1 to December 31, 2016*

**This report is intended to provide you with important information about your drinking water and the efforts made by the ISLAND LAKE water system to provide safe drinking water. The Village of Island Lake is committed to providing a safe and reliable supply of high quality drinking water 365 days a year. This year, as in years past, your tap water met all enforceable United States Environmental Protection Agency (USEPA) and state drinking water health standards. This report summarizes the quality of water that we provided last year, including details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. The source of drinking water used by ISLAND LAKE is Ground Water.**

**For more information regarding this report contact: Patrick Stewart or Rick Beaudoin at Phone 847-526-1954.**

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

#### **Source 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, in some cases, radioactive material, and can pickup substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- 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.

#### **Other Facts about Drinking 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.

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 Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, USEPA 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.

#### **Island Lake's Water sources and Treatment Facilities**

The Village of Island Lake Water Department uses ground water provided by five shallow wells drilled (less than 150' deep) into the Illinois Prairie aquifer, one deep well drilled (980' deep) into the St. Peter sandstone aquifer and another deep well drilled (1,330' deep) into the Galesville sandstone aquifer. An aquifer is an underground geological formation that contains water. Wells 5 and 6 are shallow wells located in the Westridge Subdivision. Water is pumped from both wells, blended together, and treated at an iron removal plant. This Facility serves the Westridge Subdivision and a small portion of the original section of town. Wells 4-6 and 4-10 are shallow wells, while wells 8 and 9 are deep wells. These wells are located in the Fox River Shores Subdivision. The water pumped from these wells is blended together and treated at a water softening plant facility. This facility serves the Fox River Shores Subdivision and a large portion of the original section of town. **Well number 2, a well used for emergencies only, was abandoned on May 12<sup>th</sup> 2016.**

#### **Source Water Assessment**

The Illinois Environmental Protection Agency has completed a source water assessment for our supply. If you would like a copy of this information, please stop by the Village Hall or call our water operators at 847-526-1954. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

**An IEPA Source Water Assessment summary is included below for your convenience.**

To determine Island Lake's susceptibility to groundwater contamination, the following document was reviewed: a "Well Site Survey", published in 1991 by the EPA. Based on the information obtained in this document, there are 10 potential sources of groundwater contamination that could pose a threat to groundwater utilized by Island Lake's community water supply. These include 1 auto body shop, 1 hardware store, 1 construction/demolition company, 2 auto repair facilities, 2 dry cleaners and 3 below ground fuel storage tanks. In addition, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated sites with on-going remediation that might be of concern. Based upon this information, the Illinois EPA has determined that Island Lake community water supply's source water from wells #4-6, #4-10, #8 and #9 is susceptible to contamination. The IEPA considers wells #5 and #6 less susceptible to SOC contamination and has renewed a vulnerability waiver for SOCs and Cyanide for the period of January 1, 2017 to December 31, 2019. This determination is based on a number of criteria including: monitoring conducted at the wells, monitoring conducted at the entry point to the distribution system, and the available hydrogeologic data on the wells. The land use within the area around the wells was also analyzed as part of this susceptibility determination. This land use residential, commercial and agricultural properties. In 2009, Island Lake received a Non-Compliance advisory (NCA) for bacteriological detections in Well #8. In 2014, Island Lake received a Non-Compliance advisory (NCA) for bacteriological detections in Well #5. This advisory did not affect the integrity of the finished water reaching the consumers. In 2009, and 2014 the Village collected 132 samples for bacteriological analysis from the distribution system and water treatment plants. All were found to be satisfactory. The well was shock chlorinated and no further detections of bacteria have occurred. Monitoring data is continually tracked in all of the Village's wells.

**2015 Regulated Contaminants Detected (These reports represent treated water samples or the final product that is delivered to our customers)**

**Lead and Copper**

**Date Sampled: July 2015**

Definitions:

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

- 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. We are responsible for providing high quality drinking water, but we 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>.

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	7/2015	1.3	1.3	0.58	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	7/2015	0	15	2.1	0	ppb	N	Erosion of natural deposits; Corrosion of household plumbing systems.

**Water Quality Test Results**

The following tables contain scientific terms and measures, some of which may require explanation.

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.
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 residual disinfectant level goal or 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 or MRDL:	The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
ppm:	milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
ppb:	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
na:	not applicable.
Avg:	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
pCi/L	Picocuries per liter (a measure of radioactivity)

## Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/2016	1.1	1.0-2.0	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5) *	10/4/2016	15.9	6-15.9	No goal for the total	60	Ppb	N	By-product of drinking water disinfection.

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

Total Trihalomethanes (TThm)	10/4/2016	81	16.51-81	No goal for the total	80	ppb	N	By-product of drinking water chlorination.
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Sample results above show a level detected above the Max Contaminant Level(MCL), however a violation did not occur due to the form in which this Contaminant is measured. The reporting level is averaged throughout the course of the year and was below 80 ppb.

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.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
<b>Barium</b>	04/14/14	1.7	0.12-1.7	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
<b>Fluoride</b> - For the past twenty two years, the Water Department has received certificates of commendation from the EPA and Department of Public Health for achieving optimum fluoride levels (0.60 to 0.80 ppm) to enhance public health.	2016	* 0.74	* 0.65-0.74	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
<b>Iron</b> - This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.	04/14/14	0.14	0.092-0.14		1.0	ppm	N	Erosion from naturally occurring deposits.
<b>Manganese</b>	04/14/14	2.3	1.2-2.3	150	150	ppb	N	Erosion from naturally occurring deposits.
<b>Nitrate (measured as nitrogen)</b>	07/11/2016	0.35	0-0.35	10	10	ppm	N	Runoff from fertilizer use, Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Sodium</b> - 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.	04/14/14	130	48-130			ppm	N	Erosion from naturally occurring deposits: Used in water softener regeneration.
<b>Zinc</b>	04/14/14	0.035	0.009-0.035	5	5	ppm	N	Erosion from naturally occurring deposits.

\* Department of Public Health Fluoride sampling occurs monthly

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	2016	1.72	1.72	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	2016	3.46	3.46	0	15	pCi/L	N	Erosion of natural deposits.

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

**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 been set. The purpose of unregulated contaminant monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
<b>Sulfate</b>	04/14/14	59	19-59	N/A	N/A	ppm	No	Erosion from naturally occurring deposits.

Note: If 2016 (without a specific date) appears in the collection date column, monitoring for this contaminant took place throughout the course of the year. The state requires monitoring of 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.

**Raw Water of Well #2 (Backup Well)** – This Well has not been pumped to the Distribution System since November 1996. It is maintained and sampled regularly per EPA requirements. This Well is in place as a backup well and will be used only in the event of a major emergency such as a Natural Disaster. The following data represents raw water (untreated) from well #2. **WELL ABANDONED MAY 12<sup>TH</sup>, 2016**

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
<b>Iron</b> – This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.	09/15/14	1.7	1.7-1.7		1.0	ppm	N	Erosion of natural deposits.
<b>Manganese</b>	09/15/14	23	23-23	150	150	ppb	N	Erosion of natural deposits.
<b>Sodium</b> – 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.	09/15/14	24	24-24			ppm	N	Erosion from naturally occurring deposits: Used in water softener regeneration.
<b>Barium</b>	09/15/14	0.110	0.110-0.110	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
<b>Zinc</b>	09/15/14	0.0072	0.0072	5	5	ppm	N	Erosion from naturally occurring deposits.

**Unregulated Contaminants Raw Water Detections** – A maximum contaminant level (MCL) for this contaminant has not been established by either state or federal regulations, nor has mandatory health effects language been set. The purpose of unregulated contaminant monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
<b>Sulfate</b>	09/15/14	54	54-54	N/A	N/A	ppm	N	Erosion from naturally occurring deposits.

**Raw Water of Well 4-6** – These detects do not represent the final water product that reaches the consumer’s tap. The following data represents raw water (untreated) from Well 4-6.

<b>Contaminants</b>	<b>Collection Date</b>	<b>Highest Level Detected</b>	<b>Range of Levels Detected</b>	<b>MCLG</b>	<b>MCL</b>	<b>Units</b>	<b>Violation</b>	<b>Likely Source of Contamination</b>
<b>MTBE (Methyl Tertiary-Butyl Ether)</b>	2016	3.1	2.6-3.1	N/A	N/A	ppb	N	Exhaust from vehicles; used as an octane booster in gasoline