



# VILLAGE OF RIVER FOREST 2016 ANNUAL DRINKING WATER QUALITY REPORT

The Village of River Forest is pleased to present our Annual Drinking Water Quality Report for the period of January 1 to December 31, 2015. This report summarizes the quality of water that River Forest provided in 2015, including details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This year, as in past years, your tap water met all Environmental Protection Agency (EPA) and State of Illinois drinking water health standards. If you have any questions about this report or concerning the quality of drinking water in River Forest, please contact Mark Janopoulos, Supt. of Operations, (708) 366-8500.

The Village wants all of our water consumers to be informed about the quality of our water. If you would like to learn more, please feel welcome to attend any of the regularly scheduled Village Board meetings. Visit the Village's website ([www.vrf.us](http://www.vrf.us)) for the date, time, and location of each meeting.

### **What can we reasonably expect in our 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 materials, and can pick up substances resulting from the presence of animals or from human activity.

### **Were there any violations in 2015?**

There were no drinking water quality violations recorded in the Village of River Forest in 2015.

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 stormwater 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 stormwater runoff and residential uses;
- **Organic chemical contaminants**, including synthetic & volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems;
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

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

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Federal Drug Administration (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/Center for Disease Control 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).

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 River Forest 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>.

**2015 Voluntary Monitoring:** The City of Chicago has continued monitoring for Cryptosporidium, Giardia, and E. coli in its source water as part of its water quality program. To date, Cryptosporidium has not been detected in these samples, but Giardia was detected in 2010 in one raw lake water sample collected in September 2010. Treatment processes have been optimized to provide effective barriers for removal of Cryptosporidium oocysts and Giardia cysts in the source water, effectively removing these organisms in the treatment process. By maintaining low turbidity through the removal of particles from the water, the possibility of Cryptosporidium and Giardia organisms getting into the drinking water system is greatly reduced. Also, in compliance with Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Round 2, the City of Chicago has started the 24 months long monitoring program in April 2015, collecting samples from its source water once per month to monitor for Cryptosporidium, Giardia, E. coli and turbidity. Cryptosporidium and Giardia were not detected in these samples.

In 2015, Chicago's Dept. of Water Management has also continued monitoring for hexavalent chromium, also known as chromium-6. U.S. EPA has not yet established a standard for chromium-6, a contaminant of concern that has both natural and industrial sources. Please address any questions or concerns to (312) 742-7499. Data can be found here: [http://www.cityofchicago.org/city/en/depts/water/supp\\_info/water\\_quality\\_resultsandreports/city\\_of\\_chicago\\_emergincontaminantstudy.html](http://www.cityofchicago.org/city/en/depts/water/supp_info/water_quality_resultsandreports/city_of_chicago_emergincontaminantstudy.html)

#### **Definition of Terms**

**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.

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

**Highest Level Detected:** Represents the highest single sample reading of a contaminant of all the samples collected in 2011.

**Range of Detections:** This column represents a range of individual sample results, from lowest to highest that were collected during the Consumer Confidence Report calendar year.

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

**Action Level (AL):** The concentration of a contaminant that triggers treatment or other required actions by the water supply.

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

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

**n/a:** Not applicable

**nd:** Not detectable at testing limits

**% pos/mo:** percent positive samples per month

**mg/l:** milligrams per litre or ppm—or one ounce in 7,350 gallons of water

**ug/l:** micrograms per litre or ppb—or one ounce in 7,350,000 gallons of water

**Avq:** Regulatory compliance with some MCLs are based on running annual average or monthly samples

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

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected health risk. MRDLGs do not reflect the benefits of using disinfectants to control microbial contaminants.

#### **Unit of Measurement**

**ppm:** Parts per million or milligrams per liter

**ppb:** Parts per billion or micrograms per liter

**NTU:** Nephelometric Turbidity Unit, used to measure cloudiness in drinking water

**%<0.3 NTU:** Percent samples less than 0.3 NTU

**pCi/L:** PicoCuries per liter, used to measure radioactivity

**Water Quality Data Table Footnotes**

**Turbidity:** Is a measure of the cloudiness of the water, and is monitored because it's a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

**Unregulated Contaminants:** An 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.

**Where does our water come from?**

The source of drinking water used by River Forest is purchased surface water from the City of Chicago. The City of Chicago utilizes Lake Michigan as its source water via two water treatment plants. The Jardine Water Purification Plant serves the northern areas of the City and suburbs, while the South Water Purification Plant serves the southern areas of the City and suburbs. Lake Michigan is the only Great Lake that is entirely contained within the United States. It borders Illinois, Indiana, Michigan, and Wisconsin, and is the second largest Great Lake by volume with 1,180 cubic miles of water and third largest by area.

**Source Water Assessment Summary**

The Illinois EPA (IEPA) has completed the Source Water Assessment Program (SWAP) for our supply. The IEPA implemented a SWAP to assist with watershed protection of public drinking water supplies. The SWAP inventoried potential sources of contamination and determined the susceptibility of the source water to contamination. 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 IEPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

**Susceptibility to Contamination**

The IEPA considers all surface water sources of 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 mandatory treatment for 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. Contact Chicago's Dept. of Water Management at (312) 744-6635 for more information.

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## 2015 CITY OF CHICAGO WATER QUALITY DATA TABLE

<u>Turbidity Data</u>	<u>MCLG</u>	<u>MCL</u>	<u>Highest Level Detected</u>	<u>Range of Detections</u>	<u>Typical Source of Contamination</u>
Turbidity (NTU/Lowest Monthly % ≤ 0.3 NTU)	n/a	TT (95%≤0.3 NTU)	(Lowest Monthly %) 99.7%	99.7%-100.0%	Soil runoff. Lowest monthly percent meeting limit.
Turbidity (NTU/Highest Single Measurement)	n/a	TT (1NTUmax)	0.45	n/a	Soil runoff. Highest single measurement.
<b><u>Inorganic Contaminants</u></b>					
Barium (ppm)	2	2	0.0201	0.0193-0.0201	Discharge of drilling wastes and metal refineries, erosion of natural deposits.
Nitrate (as Nitrogen) (ppm)	10	10	0.30	0.28-0.30	Fertilizer runoff, leaching sewage, erosion of natural deposits
Total Nitrate & Nitrite (ppm) (as Nitrogen)	10	10	0.30	0.28-0.30	Fertilizer runoff, leaching sewage, erosion of natural deposits
<b><u>TOC [Total organic carbon]</u></b>					
The percentage of TOC removal was measured each month and the system met all TOC removal requirements set by the IEPA.					
<b><u>Unregulated Contaminants</u></b>					
Sulfate (ppm)	n/a	n/a	27.2	18.8-27.2	Erosion of naturally occurring natural deposits
Sodium (ppm)	n/a	n/a	8.48	8.04-8.48	Erosion of naturally occurring deposits, used as a water softener
<b><u>State Regulated Contaminants</u></b>					
Fluoride (ppm)	4	4	1.01	0.76-1.01	Water additive which promotes strong teeth
<b><u>Radioactive Contaminants</u></b>					
Combined Radium (226/228) (pCi/L)	0	5	.84	.50-.84	Decay of natural and man-made deposits
Gross Alpha excluding radon & uranium (pCi/L)	0	15	6.6	6.1-6.6	Decay of natural and man-made deposits
<b><u>UCMR3 Compliance Reporting</u></b>					
In compliance with the Unregulated Contaminant Rule 3 (UCMR3) as required by the EPA, the City of Chicago has monitored for 28 contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act. The monitoring results were reported to the EPA. The list of UCMR3 contaminants that we have monitored include volatile organic chemicals, metals, perfluorinated compounds, hormones, 1,4-dioxane and chlorate. The contaminants that were detected in this monitoring program are listed below.					
Chromium (ppb)	100	100	0.3	0.2-0.3	Naturally occurring element; used in making steel and other alloys
Molybdenum (ppb)	NA	NA	1.1	1.0-1.1	Naturally occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide
Strontium (ppb)	NA	NA	120	110-120	Naturally occurring element; has been used in cathode-ray tube TVs to block x-ray emissions
Vanadium (ppb)	NA	NA	0.2	0.2-0.2	Naturally occurring metal; vanadium pentoxide is used as a catalyst and a chemical intermediate
Chromium-6 or Hexavalent Chromium (ppb)	NA	NA	0.22	0.18-0.22	Naturally occurring element; used in making steel and alloys
4-Androstene-3, 17-Dione (ppb)	NA	NA	0.19	0.18-0.19	Steroidal hormone naturally produced in the human body; and used as an anabolic steroid and a dietary supplement

## 2015 VILLAGE OF RIVER FOREST WATER QUALITY DATA TABLE

<u>Disinfectants/Disinfections By-Product</u>	<u>MCLG</u>	<u>MCL</u>	<u>Highest Level Detected</u>	<u>Range of Levels Detected</u>	
HAA5 [Haloacetic Acids] (ppb)	No goal for the total	60	16	11.7-20.4	Violation = No By-product of water disinfection
TTHMs [Total Trihalomethanes] (ppb)	No goal for the total	80	36	18.78-49.4	Violation = No By-product of water disinfection
Chlorine (ppm) (collection date 12/31/2015)	MRDLG=4	MRDL=4	0.7	0.5-0.8	Violation = No Water additive to control microbes

Not all of the above 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.

### Lead and Copper

Copper (ppm)      MCLG=1.3      AL=1.3      90<sup>th</sup> Percentile=.142      # Sites over AL=0      Violations= None  
(Date sampled: 2014)      Source: Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems

### UCMR3 Compliance Reporting

In compliance with the Unregulated Contaminant Rule 3 (UCMR3) as required by the EPA, the Village of River Forest has monitored for contaminants suspected to be present in drinking water and the results were reported to the EPA. 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. The contaminants that were detected in this monitoring program are listed below.

Chromium (ppb)	100	100	0.5	0.4-0.5	Naturally occurring element; used in making steel and other alloys
Molybdenum (ppb)	NA	NA	1.1	1.0-1.1	Naturally occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide
Strontium (ppb)	NA	NA	127.1	115.3-127.1	Naturally occurring element; has been used in cathode-ray tube TVs to block x-ray emissions
Vanadium (ppb)	NA	NA	0.3	<.02-.3	Naturally occurring metal; vanadium pentoxide is used as a catalyst and a chemical intermediate
Chromium-6 or Hexavalent Chromium (ppb)	NA	NA	0.21	0.18-0.21	Naturally occurring element; used in making steel and alloys
Chlorate (ppb)	NA	NA	48	<20-48	A disinfection by-product resulting from the use of chlorine dioxide as a disinfectant and for odor/taste control in water.
Cobalt (ppb)	NA	NA	<1	<1	Naturally occurring metal used in steel and alloys.

**Sodium:** 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 the water.

**Fluoride:** 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.