

Village of Buffalo Grove
2016 Water Quality
Consumer Confidence Report

Published on July 1, 2017





Consumer Confidence Report for Water Quality

January 1 through December 31, 2016 *Published on July 1, 2017*

Water National Primary Drinking Regulation Compliance

The Village of Buffalo Grove presents a summary of the quality of the water provided during the past year. **The Safe Drinking Water Act (SDWA) requires the Village of Buffalo Grove, as a community water supplier, to issue this annual “Consumer Confidence” report to customers.** This report details where water comes from, what it contains, and how it tests against the standards established by the Federal and State Environmental Protection Agencies.

We encourage public interest and participation in decisions affecting our water supply. The Board of Trustees meets on the **first and third** Mondays of the month, at 7:30 pm, in the Village Hall at 50 Raupp Blvd.

Staff is happy to answer questions about water quality. Contact Dave Haisma, Superintendent of Water Operations at 847-459-2545 between 7:00 am and 3:00 pm. Visit our website at www.vbg.org/ccr.

Water Source

All water delivered to the Village of Buffalo Grove by the Northwest Water Commission is surface water pumped from Lake Michigan. The City of Evanston is the sole supplier of finished, treated water to the Commission. The City of Evanston pumps and treats the lake water at their treatment plant. This plant provides conventional treatment (i.e. mixing, flocculation, sedimentation and filtration) of the raw water from the lake to provide a finished high-quality water product.

The Commission purchases the finished water at the Evanston water plant and then transports it through a 60-inch water transmission main to a 25 million gallon reservoir at the main pumping station. The Commission's main pumping station, in turn, pumps the finished water out into the Commission's distribution system to the Village of Buffalo Grove's four receiving reservoirs.

The chlorine level of the finished water is monitored at each of the four receiving stations and, if necessary, additional chlorine is added to protect against microbial contaminants before it is pumped into our distribution system.

Source Water Assessment

The Illinois EPA 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 intakes with no protection, only dilution, which is the reason for mandatory treatment of all surface water supplies in Illinois. All three of Evanston's intakes are located far enough offshore that shoreline impacts are not considered a factor on water quality. However, at certain times of the year, the potential for contamination exists due to the proximity of the North Shore Channel and wet weather flows. In addition, the proximity to a major shipping lane adds to the susceptibility of these three intakes. Water supply officials from Evanston are active members of the West Shore Water Producers Association. Coordination regarding water quality situations (i.e., spills, tanker leaks, exotic species, etc.) is frequently discussed during the association's quarterly meetings. Lake Michigan, as well as all the great lakes, has many different organizations and associations that are currently working to either maintain or improve the water quality.

Since the Illinois lands bounding the Lake Michigan watershed are predominantly urban, a majority of the watershed protection activities reported in this document are aimed at this purpose.

Taste & Odor of the Water Supply

You may notice a taste or odor in the water during the late summer or early fall. This actually represents an improvement in the clarity of Lake Michigan water. The lake has become clearer, allowing the sun to reach greater depths and increasing the growth of algae. Certain types of algae emit 'Geosmin' and '2-MIB', harmless compounds which nonetheless impart a musty or earthy taste to the water. The City of Evanston Water Treatment Facility continues to address any taste and odor issues.

Required Health 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 Environmental Protection Agency'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 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:

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 runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.



Required Health Information (continued)

Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.

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.

Radioactive contaminants, which can occur naturally, or as the result of oil and gas production and mining activities.

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. 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. 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 for 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).

Explanation of the Water Quality Data Table

This report is based upon the results of water samples collected by the City of Evanston and the Village of Buffalo Grove. Water samples were analyzed by State Environmental Protection Agency Registered Laboratories based on regulatory sampling requirements for some contaminants. Terms used in the Water-Quality Table and in other parts of this report are defined below before each table.

Definitions: The following tables contain the following scientific terms and measures:

- **Level 1 Assessment:** A level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Level 2 Assessment:** A level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs 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.
- **mg/l:** milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.
- **ug/l:** micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.
- **n/a:** not applicable.
- **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.
- **ppt:** parts per trillion, or nanograms per liter
- **ppq:** parts per quadrillion, or picograms per liter
- **pCi/l:** picocuries per liter (a measure of radioactivity)
- **Avg:** Regulatory compliance with some MCLs are based on running annual averages of 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 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.
- **mrem:** Millirems per year (a measure of radiation absorbed by the body)
- **MCL Statement:** The maximum contaminant level (MCL) for TTHM and HAA is 80 ppb and 60 ppb 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.

Note: 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. In most cases, the "Detected level" column represents an average of sample result data collected during the CCR calendar year. The "Range" column represents a range of individual sample results, from the lowest to the highest that were collected during the CCR calendar year. If a date appears in the "Date Tested" 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.

Identification of Sampler

The first column of this report identifies the agency responsible for the results of water samples collected:

1 = Sampled by the Village of Buffalo Grove.

2 = Sampled by the City of Evanston.

It also denotes the substance detected.



Regulated Contaminants Detected in 2015									
Tested by	Substance	Date tested	Unit	Goal (MCL G)	Highest allowed (MCL)	Detected level	Range	Major sources	Violation?
Lead & Copper									
1	Lead	2014	Ppb	0	Action Level 15	90% 2	1 site over action level	Corrosion of household plumbing systems; Erosion of natural deposits	NO
1	Copper	2014	Ppm	1.3	Action Level 1.3	90% 0.00	0 sites over action level	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives	NO

Lead and Copper: Date Sampled: 09/2014, next test scheduled 2017

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, is available from the Safe Drinking Water Hotline or at [http:// www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

Definitions:

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

Turbidity						
Tested by		Date	Limit (Treatment Technique)	Level Detected	Likely Source of contamination	Violation?
2	Highest single measurement	2016	1 NTU	.61 NTU	Soil runoff	NO
2	Lowest monthly % meeting limit	2016	.3 NTU	99.7 %	Soil runoff	NO

Turbidity - Regulated at the Water Treatment Plant - Information Statement: Turbidity is a measurement 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 system and disinfectants.

Additional information about your water						
2	Ph	2007	pH	7.8	7.6 Average	0 -14 pH
2	Hardness	2007	Grains per gallon	n/a	7.7	n/a

Regulated Contaminants Detected in 2016

Coliform Bacteria Tested by	Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of positive	Fecal Coliform or E.Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Likely Source of Contamination	Violation ?
1	0	IF 5% of monthly samples are positive	1.9	Fecal Coliform or E.Coli MCL: If A routine sample and a repeat sample are total coliform positive and one is also fecal coliform or E. coli positive	0	Naturally present in the environment	NO

Disinfectants & Disinfection By-Products State Regulated

Tested by	Substance	Date tested	Unit	Goal (MCLG)	Highest allowed (MCL)	Detected level	Range	Likely Source of Contamination	Violation?
1	TTHMs [Total Trihalo methanes]	2016	Ppb	n/a	80	33	19.54 – 50	By - product of drinking water disinfection.	NO
1	Total Haloactic Acids (HAA5)	2016	Ppb	n/a	60	16	6.5 – 26.6	By - product of drinking water disinfection.	NO
1	Chlorine	2016	Ppm	MRDLG = 4	MRDL = 4	1	0.7 – 1	Water additive used to control microbes.	NO

Inorganic Contaminants State Regulated									
Tested by	Substance	Date tested	Unit	Goal (MCLG)	Highest allowed (MCL)	Detected level	Range	Likely Source of Contamination	Violation?
2	Sodium	2016	Ppm	n/a	n/a	8	7.7 – 7.7	Runoff and natural erosion Used in water softener regeneration	NO
2	Fluoride	2016	Ppm	4	4	.7	.7 – .7	Fluoride is added to promote dental health.	NO
2	Nitrate (measured as Nitrogen)	2016	Ppm	10	10	1	.6 – .6	Runoff from fertilizer use; Leaching from Nitrogen] septic tanks, sewage; Erosion of natural deposits. Discharge of drilling wastes;	NO
2	Barium	2016	Ppm	2	2	.02	.02 – .02	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	NO
2	Chromium	2015	Ppm	100	100	1	.9 – .9	Discharge from steel & pulp mills; Erosion of natural deposits.	NO

Radioactive Contaminants State Regulated									
Tested by	Substance	Date tested	Unit	Goal (MCLG)	Highest allowed	Detected level	Range	Likely Source of Contamination	Violation?
2	Gross alpha excluding radon and uranium	1/16/2014	pCi/L	0	15	.16	.16 – .16	Erosion of natural deposits	NO
2	Beta / photon emitters	2008	mrem /yr	0	50	7.3	7.3 – 7.3	Decay of natural and man made deposits	NO
2	Combined Radium 226/228	2014	pCi/L	0	5	.99	.99 – .99	Erosion of natural deposits	NO



Buffalo Grove Backup Well Sites, State Regulated Contaminants								
Tested by	Inorganic Contaminants							
1	Barium	2015	Ppm	2	2	.061	.034 – .061	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
1	Fluoride	2015	Ppm	4	4	1.15	1.04 – 1.15	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
1	Iron	2015	Ppm	n/a	1	.7	.38 – .7	Erosion of natural deposits
1	Manganese	2015	Ppm	150	150	9.8	6.8–9.8	Erosion of natural deposits
1	Sodium	2015	Ppm	n/a	n/a	24	21 – 24	Erosion of natural occurring deposits: Used in water softener regeneration
1	Zinc	2015	Ppm	5	5	.13	0 – .13	Natural occurring discharge from metal factories

Buffalo Grove Backup Well Sites, State Regulated Contaminants

Radioactive Contaminants									
Tested by	Substance	Date tested	Date teste	Goal (MCLG)	Highest allowed	Detected level	Range	Likely Source of Contamination	Violation ?
1	Combined Radium 226/228	2016	pCi/L	0	5	10.32	5.19 – 10.32	Erosion of natural deposits	NO
1	Gross alpha excluding radon and uranium	2016	pCi/l	0	15	19.2	8.6 – 19.2	Erosion of natural deposits	NO
1	Uranium	2013	Ug/L	0	30	.29949	.27863 – .29949	Erosion of natural deposits	NO

Buffalo Grove Backup Well Sites, Volatile Organic Contaminants

Tested by	Substance	Date Tested	Unit	Goal (MCLG)	Highest allowed	Detected level	Range	Likely Source of Contamination	Violation ?
1	Ethylbenzene	2015	ppb	700	700	0.54	0 – 0.54	Discharge from petroleum refineries.	No
1	Xylenes	2015	ppm	10	10	0.001	0 – 0.0011	Discharge from petroleum factories; Discharge from chemical factories.	No

Not all Regulated Contaminant 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 should occur in the future. 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.

Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water

Abbreviations: NTU = Nephelometric Turbidity Units used to measure cloudiness in drinking water

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.

Violation Summary Table

Violation Types

- **MNR:** Monitoring Violation (failure to monitor)
- **MCL:** Maximum Containment Level Violation (level found exceeded regulated standard)
- **TTV:** Treatment Technique Violation (level found exceeded regulated standard)
- **RPV:** Reporting Violation (failure to submit results/required report by the deadline)
- *****:** State only violation (not a federal requirement)

NO VIOLATIONS WERE RECORDED FOR OUR WATER SUPPLY DURING THIS CCR REPORTING PERIOD.

