

# VILLAGE OF NORTHFIELD

## Annual Drinking Water Quality Report

### for the Period January 1 to December 31, 2018

*This report is intended to provide you with important information about your drinking water and the efforts made by the Villages of Northfield and Winnetka (the source of our drinking water) to provide safe, reliable drinking water.*

**For the period January 1 to December 31, 2018, we are pleased to report that the Village's drinking water met or exceeded State and Federal standards.** The Village of Northfield is committed to providing residents with a safe and reliable supply of high-quality drinking water. In conjunction with the Illinois Environmental Protection Agency (EPA) and as required by the Safe Drinking Water Act, the Village is providing this annual water quality report which summarizes the quality of water provided last year. Reports are also available on our website, [www.northfieldil.org](http://www.northfieldil.org), under *Northfield Newsletters*, Water Report. You can also get more information by calling the Safe Drinking Water Hotline, 1-800-426-4791.

### Sources of Drinking Water

The source of drinking water used by Northfield is purchased from the Village of Winnetka whose source is the surface water of Lake Michigan. The water is tested using sophisticated equipment and advanced procedures. Winnetka water exceeds both State and Federal standards. Recent lake water analyses show no evidence of contaminants that affect the quality of the water supplied to your home.

In order to ensure that tap water is safe to drink, the EPA 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. Some people may be more vulnerable to contaminants in drinking water than the general population. 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). 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 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; or Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the 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 Northfield 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, 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

NOTE: Illinois 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. Sodium does not have a

State or Federal MCL. Monitoring is required to provide information to consumers and health officials who are concerned about sodium intake due to a need to observe dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about the level of sodium in the water. Turbidity (recorded as NTU) 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 system and disinfectants.

## Reading 2018 Water Quality Data

The tables on the following pages show the results of our water-quality analyses. Every regulated contaminant detected in the water, even in the minutest 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 and Abbreviations*

**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 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.

**Action Level or 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.

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

**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 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.

**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.

**n/a** - Not Applicable

**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 gallons of water

**ppt** - parts per trillion or Nano grams per liter

**pCi/l** - picocuries per liter (measurement of radioactivity)

**mrem** – millirems per year (a measure of radiation absorbed by the body)

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

### Village of Northfield Water Data - Regulated Contaminants Detected in 2018

#### Lead and Copper Year Sampled: June 22, 2017

<i>Lead and Copper</i>	<i>MCLG</i>	<i>Action Level(AL)</i>	<i>90%</i>	<i># Sites over Action Level</i>	<i>Violation</i>	<i>Date Sampled</i>	<i>Likely Source of Contaminant</i>
LEAD (ppb)	0	15	7.2	0	No	2017	Corrosion of household plumbing systems; erosion of natural deposits.
COPPER(ppm)	1.3	1.3	0.27	0	No	2017	Erosion of natural deposits, leaching from wood preservatives; corrosion of household plumbing systems

**Disinfectants & Disinfection By-Products Sampled: 2017**

<i>Disinfectants and Disinfection By-product</i>	<i>Highest Level Detected</i>	<i>Range of Levels Detected</i>	<i>Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Violation</i>	<i>Likely Source of Contamination</i>
Chlorine 12/31/18	.8	.5 – 1	ppm	MRDLG = 4 MRDL = 4		No	Water additive used to control microbes
Haloacetic Acids (HAA5) 2018	15	11.67 – 15.12	ppb	No goal for the total	60	No	By-product of drinking water disinfection
Total Trihalomethane TThm 2018	45	45 – 45.1	ppb	No goal for the total	80	No	By-product of drinking water disinfection

***Violations for the Northfield system:***

**No violations affecting safe drinking water were recorded during this CCR reporting period.**

The Village of Northfield is proud of its record of delivering high quality water and its compliance with EPA regulations. The Village will continue to work hard to protect the health of its residents and ensure a safe, reliable water supply.

The Village of Northfield purchases its water from the Village of Winnetka. In addition to our own water quality data above, the water quality report for Winnetka is provided below:

**Inorganic Contaminants: 2018**

<i>Contaminants</i>	<i>Highest Level Detected</i>	<i>Range of Levels Detected</i>	<i>Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Violation</i>	<i>Likely Source of Contamination</i>
Arsenic 2018	1	1.4-1.4	ppb	0	10	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium 2018	0.021	0.021-0.021	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride 2018	.8	0.767-0.767	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate 2018 (measured as Nitrogen)	0.47	0.47-0.47	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium 2018	8	8.1-8.1	ppm	n/a	n/a	No	Erosion of naturally occurring deposits; used in water softener regeneration
Zinc 2018	0.009	0.0094-0.0094	ppm	5	5	No	This contaminant is not currently regulated by the USEPA. However, the state regulates. Naturally occurring; discharge from metal

**Regulated Contaminants:**

<i>Disinfectants and Disinfection By-Product</i>	<i>Highest Level Detected</i>	<i>Range of Levels Detected</i>	<i>Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Violation</i>	<i>Likely Source of Contamination</i>
Chlorine 12/31/18	1.0	.7 – 1.0	ppm	MRDLG = 4 MRDL = 4		No	Water additive used to control microbes
Haloacetic Acids (HAA5) 2018	19	0 – 21	ppb	No goal for the total	60	No	By-product of drinking water disinfection
TThm 2018 (Total Trihalomethanes)	41	24.29 – 45.4	ppb	No goal for the total	80	No	By-product of drinking water disinfection

**Radioactive Contaminants Date Sampled: 1/06/14**

<i>Contaminants</i>	<i>Highest Level Detected</i>	<i>Range of Levels Detected</i>	<i>Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Violation</i>	<i>Likely Source of Contamination</i>
Combined Radium 226/228	0.837	0.837-0.837	pCi/L	0	5	No	Erosion of natural deposits

**Lead and Copper Year Sampled: 7/27/2017**

<i>Regulated Contaminant (units)</i>	<i>MCLG</i>	<i>Action Level(AL)</i>	<i>90%</i>	<i># Sites over Action Level</i>	<i>Violation</i>	<i>Date Sampled</i>	<i>Likely Source of Contaminant</i>
LEAD (ppb)	0	15	5.9	0	No	2017	Corrosion of household plumbing systems; erosion of natural deposits.
COPPER(ppm)	1.3	1.3	0.44	0	No	2017	Erosion of household plumbing systems; erosion of natural deposits;

**Turbidity:**

Limit (Treatment Technique): 0.3 NTU	Lowest Monthly % meeting limit: 100%	No	Soil runoff
Limit (Treatment Technique): 1 NTU	Highest Single Measurement Source: 0.11	No	Soil runoff

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.

**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 IEPA, unless a TOC violation is noted in the violations section.

*Source Water Assessment*

Susceptibility is defined as the likelihood for the source water(s) of a public water system to be contaminated at concentrations that would pose a concern. 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, which is the reason for mandatory treatment for all surface water supplies in Illinois. With this in mind, a workgroup from the Great Lakes States was organized to develop a protocol for assessing the Great Lakes. The mission of the Great Lakes Protocol was to develop a consistent procedure allowing the flexibility necessary to properly conduct source water assessments of our Great Lakes drinking water sources. This flexibility will take into account the variability of these sources and site-specific concerns for determination of source sensitivity and susceptibility (Illinois EPA 1999). Sensitivity is defined as the intrinsic ability of surface water to be isolated from contaminants by the physical attributes of the hydrologic or geologic setting (Illinois EPA, 1999). The two factors used for this zone that affect the sensitivity of Great Lakes intakes are the length of the intake pipeline and the water depth of the intake. The shallower, near shore intakes are more sensitive to shoreline influences than the off shore, deep intakes. Using the Sensitivity Analysis from the Great Lakes Protocol and the Winnetka water supply information, the sensitivity for both Winnetka’s active intakes is considered moderate. Because of this, the critical assessment zones have been determined to be the area within 2,000 feet around each of the intakes. Winnetka’s primary intake (IEPA# 01299) is located far enough offshore that shoreline impacts are not considered a significant factor on water quality. However, the second intake (IEPA# 0109) is close enough to the shore and may be influenced by potential sources including the boat launch located within the property of the WTP. In addition, the combination of the land use, storm sewer outfalls and the proximity to the North Shore Channel would add to the susceptibility of both intakes.

At certain times of the year the potential for contamination exists due to wet-weather flows from the North Shore Channel. If the near shore currents are flowing in a northerly direction, contaminants from these flows could migrate to Winnetka’s intakes and compromise water quality. However, it should be stressed that treatment employed by Winnetka’s WTP is protective of their consumers, as noted by the facility’s finished water quality history. The best way to ensure a safe source of drinking water for a water supply 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 the watershed is urban, a majority of watershed protection activities described in this document are aimed at this purpose. Citizens must be aware that activities around their houses may have a negative impact on their source water. The main efforts on the immediate community should be an awareness of storm water drains and the direct link to the Lake within the identified Lake Michigan watershed. A proven best management practice for this purpose has been the identification and stenciling of storm water drains within a watershed. Stenciling, along with an educational component that relates the proper storage, disposal and se of potential contaminants is necessary to keep the Lake a safe reliable

source of drinking water. Also, water supply officials from Winnetka 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 associations' quarterly meetings. Lake Michigan, as well as all the Great Lakes, also has a variety of organizations and associations that are currently working to either maintain or improve water quality.

*We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by Village Hall or contact Bill Wipperfurth in the Public Works Department, 847-441-3810. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility of 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>.*