

# Northfield NEWS

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## Annual Drinking Water Quality Report for the Period January 1 to December 31, 2009

*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 drinking water used by Northfield) to provide safe, reliable drinking water.*

The Village of Northfield is committed to providing the highest quality drinking water to its residents. In conjunction with the Illinois Environmental Protection Agency (IEPA) and as required by the Safe Drinking Water Act, the Village is distributing this annual water quality report. **For the period of January 1 to December 31, 2009, we are pleased to report that the Village met or exceeded all State and Federal standards for water quality.** This report summarizes the quality of water provided last year and is also available on our website, [www.northfieldil.org](http://www.northfieldil.org), *Northfield News*, Water Report. More information is available from 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. Recent lake water analyses show no evidence of contaminants that affect the quality of the water supplied to your home. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and groundwater 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. 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 (EPA's) Safe Drinking Water Hotline (1-800-426-4791).

### Contaminants that may be present in source water include:

- (A) Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- (B) 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.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- (D) 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.
- (E) Radioactive contaminants, which can 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, 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.

## 2009 Water Quality Data

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. The Environmental Protection Agency (EPA) and the Center for Disease Control (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).

While the Village of Northfield's most recent lead samples were all below detection limits, lead is an issue for infants and young children who are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels in your home may be higher than at other homes within the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may have it tested by an independent lab of your choice or you may flush your tap for 30 seconds to 2 minutes before using.

Homeowners may also want to know that Radon is a naturally occurring gas that may pose a health risk when the gas is released from the water into the air as occurs during showering, bathing or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in the air. If you are concerned about radon in your home, tests are available. Contact 1-800-767-7236.

*If you have any questions regarding this report or the information contained in it, please contact Dave Zare in the Public Works Department, 847-441-3810. Additional concerns and comments may be heard at the regularly scheduled Village Board meetings on the 3rd Tuesday of each month at 7:00 p.m. at the Village Hall, 361 Happ Road. Call 847-446-9200 to confirm meeting dates and times.*

### Definitions

**MCLG:** Maximum Contaminant Level Goal, or the level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MCL:** Maximum Contaminant Level, or 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.

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

**MRDLG:** Maximum Residual Disinfectant Level Goal, 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.

**Level Detected:** This column represents an average of sample result data collected during the CCR calendar year. In some cases, it may represent a single sample if only one sample was collected. *Note: 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.*

**Range of Levels Detected:** This column represents a range of individual sample results, from lowest to highest, that were collected during the CCR calendar year.

**Date of Sample:** If a date appears in this 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 contaminant was conducted during the CCR calendar year.

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

**ALG:** Action Level Goal, the level of a contaminant in drinking water below which there is no known/expected risk to health. ALG's allow for a margin of safety.

### Abbreviations

**Avg** - regulatory compliance with some MCLs are based on running annual average of monthly samples.  
**n/a** - not applicable.

**ppm** - parts per million or milligrams per liter (mg/l) or one ounce in 7,350 gals. of water.

**ppb** - parts per billion or micrograms per liter(ug/l) or one ounce in 7,350,000 gals. of water.

**ppt** - parts per trillion or nanograms per liter.

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

*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.*

## Village of Northfield Water Data - Regulated Contaminants Detected in 2009

<u>Regulated Contaminant (units)</u>	<u>MCLG</u>	<u>Action Level(AL)</u>	<u>90%</u>	<u># Sites over Action Level</u>	<u>Violation</u>	<u>Date Sampled</u>	<u>Likely Source of Contaminant</u>
LEAD(ppb)	0	15	6.9	1	NO	7/31/08	Corrosion of household plumbing systems; erosion of natural deposits.
COPPER(ppm)	1.3	1.3	0.2	0	NO	7/31/08	Erosion of natural deposits; leaching from wood pres.; corrosion of household plumbing systems.

<u>Reg. Contaminates</u>	<u>MCLG</u>	<u>MCL</u>	<u>High Level Detected</u>	<u>Range of Levels Det.</u>	<u>Unit of Measure</u>	<u>Violation</u>	<u>Likely Source of Contaminant</u>
<b>Disinfectants/Disinfection By-Products</b>							
CHLORINE	4	4	0.8	0.4 - 0.8	ppm	NO	Water additive to control microbes.
HALOACETIC, ACIDS, Total (HAA5)	n/a	60	12	9.0 - 17.3	ppb	NO	By product of drinking water chlorination.
TRIHALOMETH- ANES, Total (TTHMs)	n/a	80	59	20.3 - 59	ppb	NO	By-product of drinking water chlorination.

Collection Date: 2009

*Violations for the Northfield system:*  
No violations were recorded during this CCR reporting period.

**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:**

<u>Regulated Contaminant (units)</u>	<u>MCLG</u>	<u>Action Level(AL)</u>	<u>90%</u>	<u># Sites over Action Level</u>	<u>Violation</u>	<u>Date Sampled</u>	<u>Likely Source of Contaminant</u>
LEAD(ppb)	0	15	7.72	1	NO	10/2/08	Corrosion of household plumbing systems; erosion of natural deposits.
COPPER(ppm)	1.3	1.3	0.216	0	NO	10/2/08	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Collection Date: 2008

<u>Regulated Contaminates</u>	<u>MCLG</u>	<u>MCL</u>	<u>High Level Detected</u>	<u>Range of Levels Det.</u>	<u>Unit of Measure</u>	<u>Violation</u>	<u>Likely Source of Contaminant</u>
<b>Disinfectants/Disinfection By-Products</b>							
CHLORINE	MRDLG=4	MRDL=4	1.2	0.3 - 1.2	ppm	NO	Water additive to control microbes.
HALOACETIC ACIDS, Total (HAA5)	n/a	60	11	5.1 - 10.5	ppb	NO	By-product of drinking water chlorination.
TRIHALOMETH- ANES, Total (TTHMs)	n/a	80	32	19.1 - 44	ppb	NO	By-product of drinking water chlorination.

Collection Date: 7/6/09

<u>Contaminates</u>	<u>MCLG</u>	<u>MCL</u>	<u>High Level Found</u>	<u>Range of Levels Det.</u>	<u>Unit of Measure</u>	<u>Violation</u>	<u>Likely Source of Contaminant</u>
<b>Inorganic Contaminants</b>							
ARSENIC	0	10	1	n/a	ppb	NO	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
BARIUM	2	2	0.021	n/a	ppm	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
FLUORIDE	4	4	1.07	n/a	ppm	NO	Erosion of natural deposits; fertilizer discharge; water additive promoting strong teeth.

Coll. Date: 10/5/09  
Coll. Date: 10/5/09  
Coll. Date: 9/9/09

<u>Contaminates</u>	<u>MCLG</u>	<u>MCL</u>	<u>High Level Found</u>	<u>Range of Levels Det.</u>	<u>Unit of Measure</u>	<u>Violation</u>	<u>Likely Source of Contaminant</u>
<b>Inorganic Contaminants</b>							
NITRATE-NITRITE	10	10	0.1	n/a	ppm	NO	Erosion of natural deposits; runoff from fertilizer use; leaching from septic tanks; sewage.
& NITRATE (AS N)	10	10	0.26	n/a	ppm	NO	
Coll. Date: 10/5/09 & 4/6/09							
<b>State Regulated Contaminants</b>							
SELENIUM	50	50	1	n/a	ppb	NO	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Coll. Date: 10/5/09							
SODIUM	n/a	n/a	7	n/a	ppm	NO	Erosion of natural deposits; used in water softener regeneration.
Coll. Date: 10/5/09							
ZINC	5	5	0.009	n/a	ppm	NO	Erosion of naturally occurring deposits.
Coll. Date: 10/5/09							

**Radioactive Contaminates:** Coll. Date: 1/14/08

Combined Radium	0	5	0.9	n/a	pCi/L	NO	Erosion of natural deposits.
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<u>Turbidity</u>	<u>Limit Treatment Technique</u>	<u>Lowest Monthly % Meeting Limit</u>	<u>Highest Single Measurement</u>	<u>Violation</u>	<u>Likely Source</u>
	0.3 NTU	100	n/a	NO	Soil runoff.
	1 NTU	n/a	0.13	NO	Soil runoff.

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.

**Water Quality Data Table Footnotes**

**Turbidity(NTU)** is a measure of the cloudiness of the water caused by suspended particles. The Village of Winnetka monitors this because it is a good indicator of water quality and the effectiveness of the filtration system and disinfectants.

**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 1.2mg/l.

**Sodium** does not have a State or Federal MCL. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If on a sodium-restricted diet, consult a physician about the level of sodium in the water.

**Total Organic Carbon (TOC)** - The percentage of 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.

**A 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. As indicated by the sensitivity analysis, 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 secondary 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 Lake Michigan watershed is urban, a majority of watershed protection activities in this document are aimed at this purpose. Citizens must be aware that activities around the house may have a negative impact on their source water. The main efforts of 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 (BMP) 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 use of potential contaminants is necessary to keep the Lake a safe reliable source of drinking water is essential. Also, water supply officials from Winnetka are active members of the West Shore 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.