

# Consumer Confidence Report

## Water Quality Report

### for 2015



## Introduction

The City of Naperville has developed and distributed this annual drinking water quality report as part of our continued effort to provide our water customers with educational information regarding Naperville's drinking water supply. This report also serves to demonstrate that our Lake Michigan drinking water supply, purchased through the DuPage Water Commission from the City of Chicago, is safe by meeting or exceeding all water quality standards as listed in the Safe Drinking Water Act (SDWA).

The United States Environmental Protection Agency (USEPA) and the Illinois Environmental Protection Agency (IEPA) continually monitor all drinking water utilities to maintain compliance with SDWA regulations. As required by the Consumer Confidence Report (CCR) regulations of the amended SDWA, a water quality report will be distributed to all water customers by July 1 of each year.

**No drinking water quality violations were recorded during 2015 for the City of Naperville. All monitoring and reporting requirements were met.**

We want our valued customers to be informed about their water quality and safety. If you have any questions or comments regarding this report or our water supply system, please contact David Nykiel, P.E., Operations Manager for the Water Supply and Reclamation Division, Department of Public Utilities, at (630) 420-6122. Additionally, this report is available on the City of Naperville website at <http://bit.ly/naperwater2015>.

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

## General Information 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's Safe Drinking Water Hotline (800) 426-4791.

*In order to ensure that tap water is safe to drink, the USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.*

## Contaminants and Sources

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 can dissolve naturally occurring minerals, radioactive materials and pick up substances and contaminants 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 may 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 and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff and septic systems;

**Radioactive contaminants**, which may be naturally occurring or be the result of oil and gas production and mining activities.

## Emergency Wells

The City of Naperville maintains emergency wells in the event of a catastrophic loss of our source water supply from Lake Michigan. The City's emergency wells are tested monthly but are not pumped into the drinking water system. None of the City wells were utilized as a source of drinking water in 2015. Our well water test data is not included in this report's tables but is available upon request at (630) 420-6122.

## Lead and Household Plumbing

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 City of Naperville 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 two minutes before using water for drinking or cooking. If you are concerned about the 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 at (800) 426-4791 or [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Source Water Location

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 and Susceptibility to Contamination

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 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.

Further information on our community water supply's Source Water Assessment Program is available by calling the City of Chicago, Department of Water Management (CDWM) at (312) 744-6635.

## Public Participation

Our City Council usually meets the first and third Tuesday of each month at 7 p.m. at the Municipal Center, 400 S. Eagle St. The public is welcome to attend.

## City of Chicago 2015 Voluntary Monitoring

The City of Chicago has continued monitoring for Cryptosporidium, Giardia and E. Coli in its source water as a 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.

In 2015, CDWM has also continued monitoring for hexavalent chromium, also known as chromium-6. USEPA has not yet established a standard for chromium-6, a contaminant of concern which has both natural and industrial sources. Please address any questions or concerns to CDWM's Water Quality Division at (312) 742-7499. Data reports on the monitoring program for chromium-6 are posted on the City's website which can be accessed at the following address: [http://www.cityofchicago.org/city/en/depts/water/supp\\_info/water\\_quality\\_resultsandreports/city\\_of\\_chicago\\_emergingcontaminantstudy.html](http://www.cityofchicago.org/city/en/depts/water/supp_info/water_quality_resultsandreports/city_of_chicago_emergingcontaminantstudy.html).



# 2015 Water Quality Detected Contaminants for the City of Naperville

## City of Naperville Coliform Bacteria

Maximum Contaminant Level Goal (MCLG)	Total Coliform Maximum Contaminant Level	Highest Number of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total Number of Positive E. Coli or Fecal Coliform Samples	Violation	Typical Source of Contaminant
0	5% of monthly samples are positive	2.3		0	No	Naturally present in the environment.

## City of Naperville Disinfectant By-Products

Contaminant (Units)	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Date	Typical Source of Contaminant
Haloacetic Acids (HAA5) (ppb)	n/a	60	18	6.9 - 25.6	No	2015	By-product of drinking water chlorination.
Total Trihalomethanes (TTHMs) (ppb)	n/a	80	37	17.9 - 48.7	No	2015	By-product of drinking water chlorination.
Chlorine (ppm)	MRDLG=4	MRDL=4	0.8	0.5 - 1.0*	No	2015	Water additive used to control microbes.

\* Highest and Lowest Monthly Averages

## City of Naperville Unregulated Contaminant Monitoring Rule 3 (UCMR3) Compliance Reporting

Contaminant (Units)	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Date	Typical Source of Contaminant
Chromium (ppb)	100	100	0.40	0.23 - 0.40	No	2014*	Naturally-occurring element. Used in making steel and other alloys. Used for chrome plating, dyes and pigments, leather tanning, and wood preservation.
Hexavalent Chromium (dissolved) (ppb)	n/a	n/a	0.23	0.18 - 0.23	No	2014*	Naturally-occurring element. Used in making steel and other alloys. Used for chrome plating, dyes and pigments, leather tanning, and wood preservation.
Molybdenum (ppb)	n/a	n/a	1.1	1.0 - 1.1	No	2014*	Naturally-occurring element found in ores and present in plants, animals, and bacteria. Commonly used form molybdenum trioxide used as a chemical reagent.
Strontium (ppb)	n/a	n/a	130	110 - 130	No	2014*	Naturally-occurring element. Historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-rays.
Vanadium (ppb)	n/a	n/a	0.39	0.24 - 0.39	No	2014*	Naturally-occurring elemental metal. Used as vanadium pentoxide which is a chemical intermediate and a catalyst.
Chlorate (ppb)	n/a	n/a	30	25 - 30	No	2014*	Agricultural defoliant or desiccant; used in production of chlorine dioxide.
4-Androstene-3, 17-dione (ppb)	n/a	n/a	0.00040	0.00032 - 0.00040	No	2014*	Steroidal hormone naturally produced in the human body; and used as an anabolic steroid and a dietary supplement.
Testosterone (ppb)	n/a	n/a	0.00014	0.00014 - 0.00014	No	2014*	Androgenic steroid naturally produced in the human body; and used in pharmaceuticals.

\* Some contaminants are sampled less frequently than once per year. As a result, not all contaminants were sampled during the CCR calendar year.

## City of Naperville Lead and Copper

Contaminant	MCLG	AL	90th Percentile	Number of Sites over AL	Violation	Sample Date	Typical Source of Contaminant
Copper (ppm)	1.3	1.3	0.102	0	No	2015	Corrosion of household plumbing systems; erosion of natural deposits; leaching of wood preservatives.

## 2015 Water Quality Detected Contaminants for the City of Chicago

Contaminant (Units)	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Date	Typical Source of Contaminant
<b>City of Chicago Turbidity Data</b>							
Turbidity (%<0.3NTU)	n/a	TT 95% <0.3NTU	99.7%	99.7%-100.0%	No	2015	Soil runoff. Lowest monthly percent meeting limit.
Turbidity (NTU)	n/a	TT=1NTU max	0.45	n/a	No	2015	Soil runoff. Highest single measurement.
<b>City of Chicago Inorganic Contaminants</b>							
Barium (ppm)	2	2	0.0201	0.0193 - 0.0201	No	2015	Discharge of drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
Nitrate (as Nitrogen) (ppm)	10	10	0.30	0.28 - 0.30	No	2015	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.
Total Nitrate & Nitrite (as Nitrogen) (ppm)	10	10	0.30	0.28 - 0.30	No	2015	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.
<b>City of Chicago Total Organic Carbon</b>							
TOC (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.						
<b>City of Chicago Unregulated Contaminants</b>							
Sulfate (ppm)	n/a	n/a	27.2	18.8 - 27.2	No	2015	Erosion of naturally occurring deposits.
Sodium (ppm)	n/a	n/a	8.48	8.04 - 8.48	No	2015	Erosion of naturally occurring deposits. Used as water softener.
<b>City of Chicago State Regulated Contaminants</b>							
Fluoride (ppm)	4	4	1.01	0.76 - 1.01	No	2015	Water additive which promotes strong teeth.
<b>City of Chicago Radioactive Contaminants</b>							
Combined Radium 226/228 (pCi/L)	0	5	0.84	0.50 - 0.84	No	2014	Decay of natural and man-made deposits.
Gross Alpha excluding radon and uranium (pCi/L)	0	15	6.6	6.1 - 6.6	No	2014	Decay of natural and man-made deposits.
<b>City of Chicago Unregulated Contaminant Monitoring Rule 3 (UCMR3) Compliance Reporting</b>							
Contaminant (Units)	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Sample Date	Typical Source of Contaminant
Chromium (ppb)	100	100	0.3	0.3 - 0.3	No	2015	Naturally-occurring element. Used in making steel and other alloys. Used for chrome plating, dyes and pigments, leather tanning, and wood preservation.
Hexavalent Chromium (dissolved) (ppb)	n/a	n/a	0.19	0.18 - 0.19	No	2015	Naturally-occurring element. Used in making steel and other alloys. Used for chrome plating, dyes and pigments, leather tanning, and wood preservation.
Molybdenum (ppb)	n/a	n/a	1.1	1.0 - 1.1	No	2015	Naturally-occurring elemental found in ores and present in plants, animals and bacteria. Commonly used form of molybdenum trioxides used as a chemical agent.
Strontium (ppb)	n/a	n/a	120	110 - 120	No	2015	Naturally-occurring element. Historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-rays.
Vanadium (ppb)	n/a	n/a	0.2	0.2 - 0.2	No	2015	Naturally-occurring elemental metal. Used as vanadium pentoxide which is a chemical intermediate and a catalyst.



## Definitions:

**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 MCLGs as feasible using the best available treatment technology.

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

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

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

**Highest Level Detected:** This column usually represents the highest result measured. For turbidity, it is the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits for the filtration technology being used. For Disinfectant By-Products, it is the highest locational running annual average.

**ppm:** Parts per million or milligrams per liter or one ounce in 7,350 gallons of water.

**ppb:** Parts per billion or micrograms per liter or one ounce in 7,350,000 gallons of water.

**nd:** Not detectable within testing limits.

**n/a:** Not applicable.

**NTU:** Nephelometric Turbidity Unit, used to measure the cloudiness of water.

**% $\leq$ 0.3 NTU:** Percent samples less than or equal to 0.3 NTU.

**pCi/L:** Picocuries per liter used to measure radioactivity.

## City of Chicago and City of Naperville Water Quality Table Educational Footnotes:

**Turbidity (NTU):** Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of filtration systems and disinfectants.

**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. 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.

**Fluoride:** Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health had recommended an optimal fluoride range of 0.9 mg/L to 1.2 mg/L, until November 2015. As of November 2015, the new recommendation is an optimal level of 0.7 mg/L.

**Sodium:** 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.

