

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

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Annual WATER QUALITY REPORT

Reporting Year 2013



Presented By
Village of Willowbrook

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IL001996-1

PWS ID#: IL0431100

Dear Willowbrook Water Customer:

The Consumer Confidence Report (CCR) rule requires all community water systems to provide reports to their customers on the quality of their drinking water. In this report, the Village of Willowbrook, in conjunction with the DuPage Water Commission, City of Chicago, and the Illinois Environmental Protection Agency (IEPA), is providing the required information pertaining to source water monitoring for the period January 2013 through December 2013.

The Village of Willowbrook has provided water that meets all the requirements of the United States Environmental Protection Agency (U.S. EPA) and the Illinois Environmental Protection Agency (IEPA) drinking water standards. The following report is being provided to help you better understand the quality of the water you consume and use on a daily basis. Consumers with medical conditions may use the water quality analysis provided here to request a City of Chicago complete water analysis, to use when consulting with their family doctors. Others may learn ways to better protect their children from the effects of lead in our environment or how to conserve water in our daily lives. A well-informed consumer is the best ally the Village has in providing clean, safe water to its customers.

Sincerely,

Frank A. Trilla, Mayor
Village of Willowbrook

Source Water Assessment Summary

The Illinois EPA implemented a Source Water Assessment Program (SWAP) to assist with watershed protection of public drinking water supplies. The SWAP inventories potential sources of contamination and determined the susceptibility of the source water to contamination. The Illinois EPA has completed the SWAP for our supply. Further information on our community water supply's SWAP is available by calling the City of Chicago, Department of Water Management, at (312) 742-7499.

Lead in Home 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. We are 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 www.epa.gov/safewater/lead.

How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria before it was filled with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water.

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please contact Tim Halik, Village Administrator, at (630) 920-2261.

Sampling Results

During the past year, hundreds of water samples have been taken in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES ¹							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2008	15	0	0.88	0.09–0.88	No	Erosion of natural and man-made deposits
Arsenic (ppb)	2013	10	0	0.77	0.519–0.767	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2013	2	2	0.0205	0.0204–0.0205	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2013	4	4	1.02	0.85–1.02	No	Water additive used to control microbes
Combined Radium (pCi/L)	2008	5	0	1.38	1.30–1.38	No	Erosion of natural and man-made deposits
Fecal coliform and <i>E. coli</i> (# positive samples)	2013	0	0	0	NA	No	Human and animal fecal waste; Naturally present in the environment
Fluoride ² (ppm)	2013	4	4	0.9	0.856–0.922	No	Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories; Erosion of natural deposits
Haloacetic Acids [HAA]–Stage 1 (ppb)	2013	60	NA	17.1	12.1–17.1	No	By-product of drinking water disinfection
Selenium (ppb)	2013	50	50	2.48	ND–2.48	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2013	80	NA	33.4	24.7–33.4	No	By-product of drinking water disinfection
Total Nitrate + Nitrite (ppm)	2013	10	10	0.362	0.351–0.362	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Turbidity ³ (NTU)	2013	TT	NA	0.18	0.0–0.18	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	100%	NA	No	Soil runoff

UNREGULATED SUBSTANCES				
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium ⁴ (ppm)	2013	7.84	7.42–7.84	Erosion of naturally occurring deposits; Used as water softener
Sulfate ⁵ (ppm)	2013	11.9	ND–11.9	Erosion of naturally occurring deposits

¹The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA.

²Fluoride 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 ppm to 1.2 ppm.

³Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

⁴There is not a state or federal maximum contaminant level (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.

⁵A 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 the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water, and whether future regulation is warranted.

Definitions

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

Description of the Water Treatment Process

Your water is treated in a “treatment train” (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called “floc,” which attract the dirt particles. Flocculation (the formation of larger flocs from smaller ones) is achieved using gentle, constant mixing. The heavy particles settle naturally out of the water in a sedimentation basin. The clear water then moves to the filtration process where the water passes through sand and gravel filters that remove even smaller particles. A small amount of chlorine is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community.

Where Does My Water Come From?

The City of Chicago uses 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 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.

The Village of Willowbrook purchased approximately 395 million gallons of Chicago water from the DuPage Water Commission through a 20-inch supply main connected directly to the DuPage Water Commission supply grid. This connection provides all the water required by the Village’s local and retail customers. This water is received into a water storage standpipe and pumping station complex and is then pumped to the Village’s local and retail customer base. The water is sampled and chlorinated as required to maintain the quality as delivered by the DuPage Water Commission from the City of Chicago.

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 at (312) 742-7499.

Throughout history, there have been extraordinary steps taken to assure a safe source of drinking water in the Chicagoland area. From the building of the offshore cribs and the introduction of interceptor sewers to the lock-and-dam system of Chicago’s waterways and the Metropolitan Water Reclamation District of Greater Chicago to assure the safety of the city’s water supply. Also, water supply officials from Chicago are active members of the West Shore Water Producers Association. Coordination of water quality situations (e.g., spills, tanker leaks, exotic species, etc.) and general lake conditions are frequently discussed during the association’s quarterly meetings. Also, Lake Michigan has a variety of organizations and associations that are currently working to either maintain or improve water quality.

Finally, one of the best ways to ensure a safe source of drinking water 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 the watershed protection activities in this document are aimed at this purpose. Citizens should be aware that everyday activities in an urban setting might have a negative impact on their source water. Efforts should be made to improve awareness of storm water drains and their direct link to the lake within the identified local source water area. 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 is necessary to keep the lake a safe and reliable source of drinking water.

Testing for *Cryptosporidium*

The City of Chicago has continued monitoring for *Cryptosporidium* in its source water as part of its water quality program. To date, *Cryptosporidium* has not been detected in these samples. Treatment processes have been optimized to provide effective barriers for removal of *Cryptosporidium* oocysts 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* organisms getting into the drinking water system is greatly reduced.