

Village of Skokie

2016 Water Quality Report



The Skokie Water Distribution System sends an average of 7.7 million gallons a day of pure drinking water to residential and commercial customers. This is enough to cover the entire Village with several feet of water in a year's time. Skokie residents can be confident that every gallon, every glass of their drinking water exceeds the federal standards set by the United States Environmental Protection Agency (USEPA).

For years, Skokie citizens have enjoyed a safe, economical water supply (purchased from the City of Evanston) with no reported water-borne illnesses. Evanston has a long history of drinking water safety. In 1914, when typhoid fever, cholera and dysentery gripped the nation, Evanston was the first community on Lake Michigan to treat its water. In 1947, Evanston became the first city in Illinois to provide **fluoridated*** water. In 1973, Evanston's water treatment plant eliminated all water discharge into Lake Michigan. Today, in addition to over 50 chemical and bacteriological

tests conducted by Evanston water personnel daily, the Village of Skokie's water professionals monitor drinking water for chlorine levels, contaminant levels and **lead**, copper and total **trihalomethanes**. To protect citizens' health, over 70 Village-wide samples are collected each month from the taps of Skokie homes and businesses. The result is that Skokie's drinking water is among the safest in the United States.

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 Skokie 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 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 at www.epa.gov/safewater/lead.

With the publication of this Water Quality Report, Skokie continues the water quality tradition. Not only were there no treatment, monitoring or reporting violations in the reporting period, but every substance detected in Skokie's water was well below federal standards. Over 65 contaminants tested for were totally absent in the drinking water. This includes such major contaminants as **synthetic organic substances** and **radon**. This USEPA-mandated Water Quality Report is an outgrowth of the consumer movement which has successfully championed the public's right to know the impact of water quality on health. ■

** Words in bold are defined in the About the Data section on page four*

Why does Skokie Test the Water Supply?

As water travels over the land surface or through the ground, it dissolves naturally occurring minerals and radioactive material. Water also picks up substances resulting from the presence of animals and human activity. Contaminants that may be present in source water include: 1) microbial contaminants such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; 2) inorganic contaminants such as salts and metals which can be naturally occurring or result from urban storm runoff, industrial or domestic water discharges, oil and gas production, mining or farming; 3) pesticides and herbicides which come from agricultural, storm water runoff and residential uses; 4) organic chemical contaminants, including synthetic and volatile organics which are byproducts of industrial processes and petroleum production and can also come from gas stations, urban storm runoff and septic tanks; and 5) radioactive contaminants which can be naturally occurring or the result of oil and gas production and mining activities. The primary sources of pollution threatening Lake Michigan include air deposition (pollution from the air, rain and snow), runoff and industrial discharge. 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 US Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 1-800/426-4791.

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

All drinking water, including bottled water, may be reasonably expected to contain 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 Water Drinking Hotline at 800/426-4791. ■



Skokie's Drinking Water

Skokie's vast water system includes two 4.9-million-gallon storage facilities and over 2,300 hydrants. A full-time staff of laboratory professionals, public works staff and public health professionals devote themselves to Skokie's water safety.

Skokie's drinking water has received several awards for purity. A State-Certified Water Plant Operator is on duty 24 hours a day at the Evanston plant, and over 50 chemical and bacteriological tests are conducted daily. Skokie water professionals continue the quality vigilance with frequent tests for **chlorine** levels, microbial contamination, **trihalomethanes*** and **copper** and **lead** levels.

The Evanston Treatment Plant, which supplies Skokie's water, is capable of pumping 108 million gallons a day to communities like Skokie. Its raw water pumps bring Lake Michigan water in, while its finished water pumps send water to users. Natural gas engines fuel these pumps so the community never goes without safe drinking water, even during power outages.

Here's how the water is treated:

1. Six centrifugal pumps lift the water from suction wells to begin its

journey through the treatment plant.

2. Chlorine to disinfect, fluoride for dental health and aluminum sulphate and polymers to coagulate suspended solids are added to the water. Carbon is added as necessary to enhance taste and odor.
3. The resulting **floc** sinks to the bottom of settlement basins in four to eight hours.
4. Water inches through filters that contain a layer of anthracite and filter sand, removing the tiniest of particles and bacteria.
5. After postchlorination, water goes to reservoirs where a blended polyphosphate is added to prevent **copper** and **lead** contamination. Water is sampled one more time for quality assurance before being pumped into the distribution system.

Some people may be more vulnerable to contaminants in tap or bottled water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some

elderly persons and infants can be at particular risk for infections. These people should seek advice from their health care providers about drinking water. The EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline at 800/426-4791 or at www.epa.gov/ow.

For specific information about Skokie's Water Division, the community's water quality, a complete water quality report of all tested contaminants, water conservation information, on-source pollutant information or any other water or sewer-related questions, please call 847/933-8277 or visit the Village webpage at www.skokie.org. The Skokie Water and Sewer Division is located at 9050 Gross Point Road in the Public Works building. The public is welcome to attend Village Board Meetings at Village Hall, 5127 Oakton Street, at 8 p.m. on the first and third Mondays of each month. Many decisions regarding Village matters, such as water, are made at these meetings. ■

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Source Water Assessment Summary

The Illinois EPA considers all surface water sources of community water supplies 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 for 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 exist 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. ■

How Much Water Do You Use?

Lake Michigan affords a plentiful supply of water which may cause people not to consider conservation a primary concern. Water conservation means using water intelligently, not just reducing the amount of water consumed.

Before you can conserve water, you need to know how to measure the amount of water you use. Your water bill and water meter are the tools that can help to determine your water consumption and start your own water conservation program. ■

2016 Water Quality Data

Substance	EPA Goal (MCGL)	EPA Highest (MCL)	Results	Min.	Max	Contamination Source
*Turbidity	N/A	TT=monitored by%<0.3 NTU and max allowed is 1NTU	99.7% of samples <.03 NTU	0.06 NTU	0.61 NTU	Soil Runoff
**Chlorine (ppm)	4	4	0.4	0.4	0.6	Water additive used to control microbes
**Coliform Bacteria (% positive/mo)	0	5% of monthly samples are positive	1.3	0	1	Naturally present in environment
**Total Trihalomethanes (ppb)	N/A	80	31	13.61	44.8	By-product of drinking water chlorination
**Total Haloacetic Acids (ppb)	N/A	60	11	6.69	13.4	By-product of drinking water chlorination
*Barium (ppm)	2	2	0.02	0.02	0.02	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
*Flouride (ppm)	4	4	0.7	0.7	0.7	Added to promote dental health
*Nitrate (ppm)	10	10	0.6	0.6	1.0	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits
*Sodium (ppm)	N/A	N/A	8	7.7	7.7	Erosion of natural deposits
*Combined Radium 226/228 (pCi/L)	0	5	0.99 (sampled 1/16/14)	0.99	0.99	Erosion of natural deposits
*Gross alpha excluding radon and uranium (pCi/L)	0	15	0.16 (sampled 1/16/14)	0.16	0.16	Erosion of natural deposits

2016 Water Source Data - Abbreviations Key

* Evanston results.

** Skokie results.

^: Denotes a maximum contaminant level (MCL) for this contaminant has not been established by either state or federal regulations, not has mandatory health effects language been set. The purpose of unregulated contaminant monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

% pos/mo: Percent positive samples per month.

#pos/mo: Number of positive samples per month.

MCLG: Maximum Contaminant Level Goal.

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow a margin of safety.

MCL: Maximum Contaminant Level. The highest level of a substance allowed in drinking water MCL's are set as closely as feasible to the MCLG using

the best available treatment technology.

AL: Action Level.

Concentration of a substance which, when exceeded, triggers treatment or other requirements which a water system must follow.

N/A: Not Applicable

mg/l: Milligrams per liter, also called parts per million (ppm).

NTU: Nephelometric Turbidity Unit. Used to measure cloudiness in drinking water.

%<0.3 NTU: Percent samples less than 0.3 NTU.

ppb: Parts per billion, also called micrograms per liter.

ppm: Parts per million, also called milligrams per liter.

pCi/l: Picocuries per liter. Used to measure radioactivity and infection practices.

TT: Treatment Technique. A required process that reduces a contaminant level.

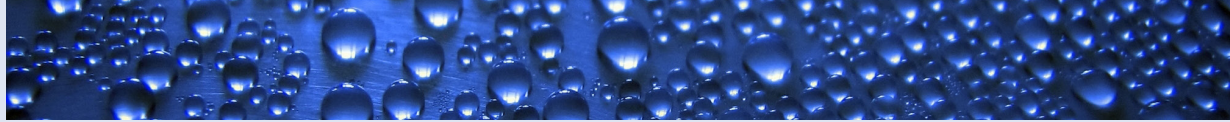
UCMR: Abbreviation for Unregulated Contaminant Monitoring Rule

mrem/year: Abbreviation for millirem. A unit used to measure radioactivity effects.

Lake Michigan, Skokie's Source of Drinking Water

Skokie's tap water comes from Lake Michigan which, like the other Great Lakes, was formed as glaciers retreated north during the last ice age. Lake Michigan is the largest lake in the United States at 118 miles wide and 307 miles long.

Lake Michigan averages 279 feet in depth and reaches 925 feet at its deepest point. The lake's drainage basin, which is approximately twice as large as its 22,300 square miles of surface water, includes portions of Illinois, Indiana, Michigan and Wisconsin. The Great Lakes are one of the world's most valuable sources of fresh surface water. Almost half of all the liquid fresh water in the world is found in the Great Lakes. Most of the world's surface fresh water is locked away in the ice caps around the North and the South Poles, which makes us appreciate the Great Lakes that much more. All 63 miles of Illinois shoreline support drinking water uses. The primary sources of pollution threatening Lake Michigan include air, rain and snow pollution, storm water runoff and industrial discharges. ■



About the 2016 Water Source Data

Chlorine: A byproduct formed when chlorine dioxide is used to disinfect water.

Coliform: Bacteria that are commonly found in the intestines of humans and other vertebrates.

Copper: Copper is a metal found in natural deposits as ores containing other elements. It is widely used in household plumbing materials.

Floc: A mass formed in a fluid through the aggregation of suspended particles.

Fluoridated: Adding a fluorine compound to water helps reduce tooth decay.

Lead: Lead poses a significant danger, especially to infants and young children. It is possible that lead levels in some homes may be higher than at other homes in the community as a result of materials used in household plumbing. If you are concerned about lead levels in your water, you may wish to have your water privately tested.

Nitrate (as Nitrogen): Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural

activity.

Radon: Largely inert gaseous element formed by the radioactive decay of radium.

Sodium: USEPA or IEPA does not regulate sodium, but monitoring is required to provide information about sodium intake due to dietary precautions.

Consult a physician if the level is greater than 20 mg/l and you are on a sodium-restricted diet.

Synthetic Organic

Compounds: A group of compounds not included among the trihalomethanes that may have carcinogenic (cancer causing) potential to humans.

Trihalomethanes: A group of compounds formed from decayed vegetable or animal matter present in most surface and some groundwaters. The EPA regulates the level found in drinking water because of the toxic nature that may produce disease in humans and animals.

Turbidity: A measure of the cloudiness of water. It is monitored by the Village because it is a good indicator of water quality and the effectiveness of the filtration and disinfection systems. ■

What are Non-Point Source Storm Water Pollutants?

Non-point source (NPS) pollution occurs when rain or melting snow carry pollutants such as contaminated soil, fertilizers, salt or animal waste into the sewer system. These pollutants are called non-point source because it is not always possible to identify their origins. While we sometimes want to point the finger of blame at industry, the fact is that we all contribute to non-point source pollution when we dispose of household hazardous wastes through the sewer system, over fertilize our lawns and gardens, leave pet waste unattended or allow our cars to leak automotive fluids onto Skokie streets and parking lots.

What are some more examples?

Pollutants can come from a variety of places both in and around our homes and businesses:

Pollutant: Sand, clay particles, other debris

Source: Construction sites, bare spots in lawns and gardens, wastewater from washing cars and trucks on driveways or parking lots

Pollutant: Nutrients

Source: Overused or spilled fertilizers; pet waste, grass clippings that enter the street sewers and leaves burned in ditches

Pollutant: Diseased organisms

Source: Pet waste and garbage

Pollutant: Hydrocarbons

Source: Vehicle exhaust; leaks/spills of oil and gas; burning leaves and garbage

Pollutant: Pesticides

Source: Spills and leaks or pesticides applied before a rainstorm

Pollutant: Metals

Source: Cars and trucks (tire wear, brakes, exhaust); galvanized metal gutters and downspouts.

Where do these pollutants go?

Skokie has a combination sewer system. The contents of the storm sewers are mixed with the contents of household sewers.

All of the waste is sent to the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) water treatment plant. There, these wastes are treated to lower pollution levels and returned to the river system. Treated wastewater eventually flows into the Illinois River and then into the

Mississippi River and the Gulf of Mexico.

So, what happens in Skokie and other Chicago area communities affects both the quality of river water and the quality of life for other residents of Illinois and the United States.

During severe rainfalls, when the water system backflows, untreated sewage and pollutants can be discharged directly into Lake Michigan, Skokie's source of drinking water. While these backflows are rare, they can occasionally occur.

What happens to pollutants at the water treatment plant?

When pollutants enter the plant, the normal treatment process is slowed down. Particles that would normally disappear after one hour may still remain in the system six to eight hours after arrival. As we all know, time is money. The cost to treat pollutants is high, and this cost is passed on to residents through taxes paid to MWRDGC. ■

MWRDGC 24-Hour Hotline

The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) receives and treats the sewage from the Village of Skokie. The District has established a 24-hour hotline to report the dumping of hazardous material into the sewer system. This number was established in an effort to reduce the possibility of contamination of waterways, poisoned fish and wildlife, and damage to the biological process of the waste water treatment plant. The hotline number is 800/332-DUMP. ■