Village of Skokie

2008 Water Quality Report

Lake Michigan, Skokie's Source of Drinking Water

In general, people obtain drinking water from rivers, lakes, streams, ponds, reservoirs, springs and wells. This is true for both tap water and bottled 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.

How often do you turn on your water faucet for a glass of drinking water? The answer is probably very often, as the Skokie Water Distribution System sends an average of 8.5 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.

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.

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: pesticides and herbicides, microbial contaminants, organic chemical contaminants, inorganic contaminants and radioactive contaminants.

In order to ensure that tap water is safe to drink, USEPA 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 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 Safe Water Drinking Hotline at 800/426-4791.

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

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. However, water conservation is more than just reducing the amount of water consumed. Water conservation means using water intelligently.

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.

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 water 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 each day. Skokie water professionals continue the quality vigilance with frequent tests for chlorine levels, microbial contamination, **trihalomethanes*** and copper and lead levels at Skokie homes and businesses.

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 coal 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, contact the Skokie Water Division at 847/933-8277 or visit the Village's Web site 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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2008 SourceWater 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.

According to the sensitivity analysis, all three of Evanston's intakes are located far enough off shore that shoreline impacts are not considered a factor on water quality. However, at certain times of the year the potential for contamination exists due to the proximity of the North Shore Channel and west-weather flows. In addition, the proximity to a major shipping lane adds to the susceptibility of these three intakes. Coordination regarding water quality situations (i.e. spills, tanker leaks, exotic species, etc.) is frequently discussed during the association's quarterly meetings.

2008 Water Source Data - Abbreviations Key

% 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 for 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. The 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.

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

Year 2008 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	% of samples <0.3 NTU	0.06 NTU	0.14 NTU	Soil runoff
^Chlorine (ppm)	4	4	0.4	0.3865	0.5024	Water additive used to control microbes
^Coliform Bacteria (% postive/mo)	0	5% of monthly samples are positive	1.3	0	1	Naturally present in environment
^Copper (ppb)	1.3	Action level = 1.3	0.171	No sites exceeded AL		Corrosion of plumbing and erosion of natural deposits
^Lead (ppb)	0	Action Level = 15	<detection level	1 site exceeded AL		Corrosion of household plumbing and erosion of natural deposits
^Total Trihalomethanes (ppb)	N/A	80	29.00	24.62	33.80	By-product of drinking water chlorination
^Total Haloacetic Acids (ppb)	N/A	60	13.00	8.04	14.35	See Total Trihalomethanes
*Sodium	N/A	N/A	8.0	7.7	7.7	Erosion of natural deposits
*Beta/photon emitters (pCi/L)	N/A	50	7.3	7.3	7.3	Decay of natural and man-made deposits
*Combined Radium 226/228 (pci/L)	0	5	0.82	0.82	0.82	Erosion of natural deposits
*Gross alpha excluding radon and uranium (pCi/L)	0	15	3.9	3.9	3.9	Erosion of natural deposits

^ Skokie results *** Evanston Results**

*Notes: *MCL Statement: The maximum contaminant level (MCL) for TTHM and HAA5 is 80 ppm and 60 ppm respectively. Some people who drink water containing Trihalomethanes in excess of the MCL over many years, experience problems with their livers, kidneys, central nervous systems, and may experience increased risk of cancer.*

About the 2008 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 drinking water for the purpose of reducing 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*:** A radioactive, 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 (including Total Haloacetic Acids, Bromoacetic Acids, Chloroacetic Acids, Dibromoacetic Acids, Dichloroacetic Acids, and Trichloroacetic Acids) 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.

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.

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: Car and truck exhaust; leaks and 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 you through taxes paid to MWRDGC. One way of reducing taxes is to reduce the amount of pollutants entering the sewer system.

How can I reduce NPS pollution?

Reducing non-point source pollution can be easy. Visit www.skokie.org to learn tips and ideas on how you can help reduce non-point source pollution in and around your home or business.

Why is my Water Cloudy?

The cloudiness is attributed to millions of harmless tiny air bubbles that are not a health concern. Water in the Skokie water distribution system is under pressure, causing the air present to be dissolved in the water until the pressure is released at the tap. If the amount of dissolved air is low, water may appear to sparkle or have small bubbles. If there is a greater amount of dissolved air in the water, millions of very tiny bubbles will appear when the pressure is released, giving the water a cloudy, white or milky appearance. It may take several minutes for the air to escape. As it does, the water will clear from the bottom of the glass upward.

Water Hardness Level

Hardness is a measure of the concentration of calcium and magnesium in water. Water is considered to be soft if it is less than 17.1 parts per million and hard if over 180 parts per million. The Village of Skokie water hardness level is medium (averaging 7.5 to 8.5 grams or 130 to 140 parts per million). Learn more about water hardness levels at www.skokie.org.

Skokie Offers Online Payment Option for Water Bills

The Village has a new, convenient online payment program for water bills, parking tickets and other non-moving violations, miscellaneous invoices and vehicle license renewals (see page one for details).

Payment may be made online using American Express, Debit, DiscoverCard and Visa cards. The Village does not charge a fee for this service. To make a payment or learn more about online payments and Automatic Bank Payment, please visit www.skokie.org.