City of Evanston™

2004 Water Quality Report

We are pleased to bring you Evanston's annual water quality report, an information service for our water customers. The Evanston water utility is committed to providing you with the highest quality of drinking water. In 2004, as in past years, your tap water has met all USEPA and State drinking water health standards and has had no violations to report. Of the hundreds of substances that are monitored, only a handful were actually detected in our drinking water and all substances detected were far below a level at which there is any known health risk!

Your Water Source

Lake Michigan, Evanston's source of water, is not just a major commerce artery and a recreational resource with miles of scenic shoreline; it's also a great source of drinking water! Almost half of the world's fresh water comes from Lake Michigan and the other Great Lakes. According to the United States EPA, the quality of Lake Michigan water has improved dramatically over the past 20 years. The regulations in place restrict industrial and sewage treatment plant effluents from entering Lake Michigan thereby lowering the risk of having these contaminants in the water. All 63 miles of shoreline within Illinois are now considered to be in good condition.

Summary of Illinois EPA Source Water Assessment of Lake Michigan as a Drinking Water Source

The EPA report states that there is concern for Lake Michigan water quality and also water quantity. A 1967 U.S. Supreme Court decree limits the amount of water Illinois may divert from Lake Michigan, and currently Illinois is reaching its limit on that allocation. 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 intakes with no protection, only dilution. This is the reason for mandatory treatment for all surface water supplies in Illinois. Evanston recognized the need for treatment long before these requirements came into effect. In fact, Evanston has operated a water plant for over 100 years!

All three of Evanston's water 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 due to the proximity of the North Shore Channel in wet-weather flow conditions exists. The report further notes the benefit of Evanston's membership in such organizations as the West Shore Water Producer's Association and the coordination regarding water quality issues that takes place between the utilities on the west shore of Lake Michigan.

Capital Improvement Program

In order to ensure that the water we provide to you is safe and reliable, the Evanston Water Utility continually plans improvements to renew and replace our existing infrastructure and improve services. A number of major improvements have just been completed or are in the design/construction phase:

- New garages were installed to provide better facilities for the maintenance and care of the Division's fleet.
- A chlorine scrubber was installed. This unit provides for the safe containment of up to one ton of chlorine in the event of a leak.
- The replacement of one of the existing low lift (raw water) pumping units this fall will improve both reliability and capacity.
- Continual upgrade of our aging infrastructure is critical to the reliable delivery of our water. New water mains scheduled for installation this year are:

  Main Street - Ashland Ave. to Dodge Ave.
  Chicago Ave. - South Blvd. to Howard St.
  Dempster St.- Judson Ave. to Forest Ave.
  Fowler Ave.- Dempster St. to Church St.
  Haven St.- Orrington Ave. to Sheridan Rd.
  Payne St.- Crawford to Prospect

Today, the Water Department's 42 employees continue Evanston's tradition of excellence by working around the clock for your health and safety. We're proud of our water and pledge to continue to provide you with the highest quality water that is humanly and technologically possible.

View the City's web site at www.cityofevanston.org for more information on our water treatment process.

Thank you for the opportunity to serve you.

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2004 Water Quality Report

EVANSTON 2004 WATER QUALITY DATA

Detected Substances

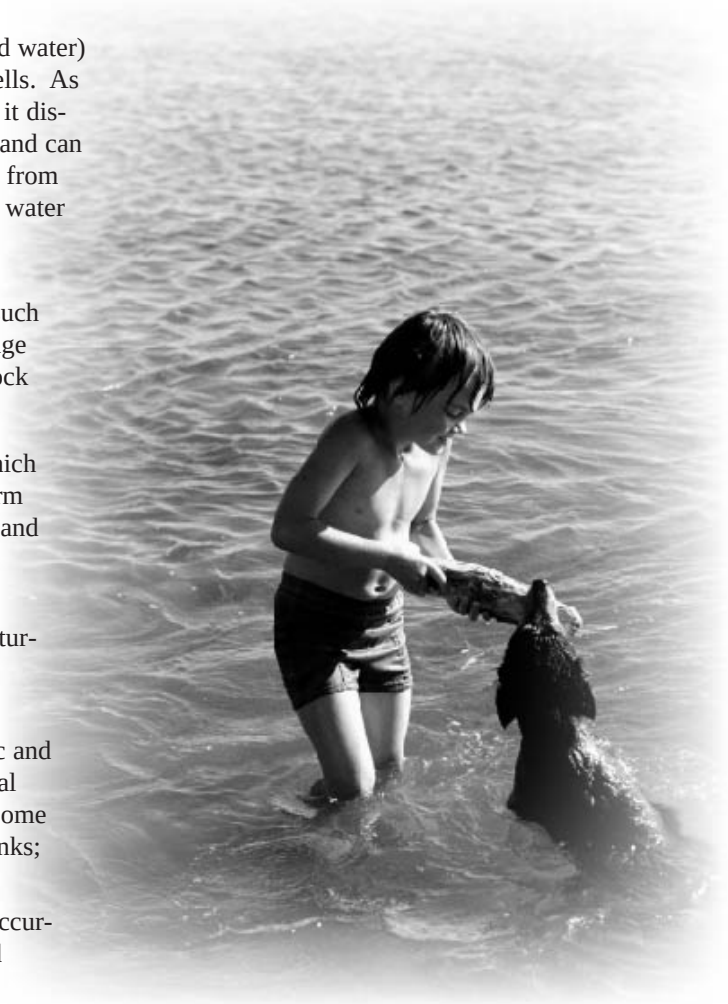
Substance	Goal (MCLG)	Highest Allowed (MCL)	Evanston Result	Evanston Minimum	Evanston Maximum	Source of Contamination
Turbidity (Cloudiness)	NA	TT=Monitored by % Exceeding 0.3 NTU and max allowed is 1 NTU	0% of samples exceeded 0.3 NTU	0.01	0.12	Soil runoff.
Beta/Photon Emitters (pCi/l)	0	50	3	3	3	Erosion of natural deposits.
Coliform Bacterial	NA	5% of monthly samples are positive	1	0	1	Naturally present in the environment.
Nitrate (as N) (ppm)	10	10	0.36	0.36	0.36	Runoff and natural erosion.
Nitrate & Nitrite (ppm)	10	10	0.36	0.36	0.36	Runoff and natural erosion.
Fluoride (ppm)	4	4	1.03	.91	1.18	Fluoride is added to promote dental health.
Lead (ppb)*	NA	Action Level = 15	10	0	14	Corrosion of household plumbing.
DISINFECTION BY-PRODUCTS	**Goal (MCLG)**	**Highest Allowed (MCL)**	**Evanston Result**	**Evanston Minimum**	**Evanston Maximum**	**Source of Contamination**
Total Trihalomethanes (ppb)	NA	80	22.1	14.2	33.0	By-product of drinking water chlorination.
Total Haloacetic Acids (ppb)	NA	60	12.6	8.0	17.2	"
Chlorine	4 MRLDG	4 MRLDG	0.6344	.04	0.6344	Chlorine is added to control microbes.
Substances of Interest (Unregulated)	**Goal (MCLG)**	**Highest Allowed (MCL)**	**Evanston Result**	**Evanston Minimum**	**Evanston Maximum**	**Source of Contamination**
Sodium (ppm)	NA	NA	6.4	6.4	6.4	Runoff and natural erosion.
pH (0-14 pH units)	NA	NA	7.6	7.3	7.9	General Water Chemistry Parameter.
Hardness (as $CaCO_3$)	NA	NA	131	119	152	Calcium or magnesium.
Alkalinity	NA	NA	106	93	118	General Water Chemistry Parameter.

ppm = parts per million or milligrams per liter
ppb = parts per billion or micrograms per liter
pCi/l = picocuries per liter, a measure of radioactivity
NTU = nephelometric turbidity units (measures water clarity)
TT = Treatment Technique, a required process to reduce the level of a contaminant.
Disinfection by-products = Total Trihalomethanes and Total Haloacetic Acids are used to regulate the amount of allowable by-products of chlorination.
MRDL - Maximum Residual Disinfection Level - The highest level of disinfectant allowed in drinking water
MRDLG - Maximum Residual Disinfection Level Goal - 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.
Fluoride = The Illinois Department of Public Health recommends an optimal fluoride range of 0.9 ppm to 1.2 ppm.
Sodium = There is not a state or federal MCL for sodium. Sodium levels below 20 mg/l (ppm) are not considered to be a health issue.
Turbidity = Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration process.
MCLG = Maximum Contaminant Level Goal, the level of a contaminant in drinking water below which there is no known or expected risk to health.
MCL = Maximum Contaminant Level, the highest level of a contaminant that is allowed in drinking water. A MCL is set as close to a MCLG as feasible based on what a water utility can achieve using the best available technology.
Action Level = The concentration of a contaminant which, if exceeded, triggers treatment or other requirements the water system must follow.
Lead = There is no detectable lead in the water provided to the Evanston community. Lead enters the water from lead solder, lead pipes or plumbing fixtures in the home. To minimize contamination resulting from corrosion, the EPA established a lead action level of 15 ppb in 1992. The 90th percentile result of samples analyzed for lead content in homes with lead pipes must be less than the action level of 15 ppb. In 2002, Evanston took water samples from 30 homes with lead service lines and analyzed them for lead content. None of the results exceeded the action level of 15 ppb and the 90th percentile level was 10 ppb.
TOC - The Evanston Water Supply monitored the percentage of Total Organic Carbon (TOC) removal each month and met all TOC removal requirements set by the IEPA.
*last tested in 2002 due to historically low levels

Where do contaminants come from?

City of Evanston
2004 Water Quality Report

In general, people obtain drinking water (both tap and bottled water) from rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and radioactive material and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:



1) microbial contaminants from a variety of sources, 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, stormwater runoff and residential uses;

4) organic chemical contaminants, including synthetic and volatile organics which are by-products of industrial processes and petroleum production and can also come from gas stations, urban storm runoff and septic tanks;

5) radioactive contaminants which can be naturally occurring or be the results 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. 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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in tap or bottled 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 for infections. These people should seek advice about drinking water from their health care providers. The EPA and Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium are available from the Safe Drinking Water Hotline, (800) 426-4791 or visit, www.epa.gov/OW.

For specific information about the Water Department, your water's quality, a complete water quality report of all tested contaminants, or any other water-related question, please contact the Evanston Water Department at (847) 866-2942. The public is welcome to attend Council meetings where decisions related to the water treatment facility are made.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791.

City of Evanston

2004 Water Quality Report

About your water

The Evanston Water Treatment Plant has the capacity to pump up to 108 million gallons a day of pure drinking water to Evanston and the other communities we serve--Skokie, and the Northwest Water Commission comprised of Arlington Heights, Buffalo Grove, Palatine and Wheeling. Evanston's vast water system includes 155 miles of water mains, two multimillion gallon storage facilities and almost 1,300 hydrants.

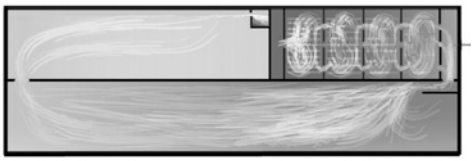
From the raw water pumps that bring water in from Lake Michigan, to the finished water pumps that send the treated water to your home, system redundancies like auxiliary natural gas engines are in place so you'll never go without safe drinking water.

Here's how it's done:

From Lake Michigan...

...to our Pumping Facility...

..."Flash" mixed and disinfected...



...taken through our settling process...

...filtered for purity...

...and brought to your tap!

Drinking Enough Water?

Interesting facts on the importance of water in our daily lives:

- 75% of Americans are chronically dehydrated.
- In 37% of Americans, the thirst mechanism is so weak that it is often mistaken for hunger.
- Even mild dehydration will slow down one's metabolism as much as 3%.
- One glass of water shuts down midnight hunger pangs for almost 100% of the dieters studied in a University of Washington Study.
- Lack of water is the number one trigger of daytime fatigue.
- Preliminary research indicates that 8-10 glasses of water per day could significantly ease back and joint pain for up to 80% of sufferers.
- A mere 2% drop in body water can trigger fuzzy short-term memory, trouble with basic math, and difficulty focusing on the computer screen or a printed page.
- Drinking five glasses of water per day decreases the risk of colon cancer by 45%, can reduce risk of breast cancer by 79%, and makes one 50% less likely to develop bladder cancer.

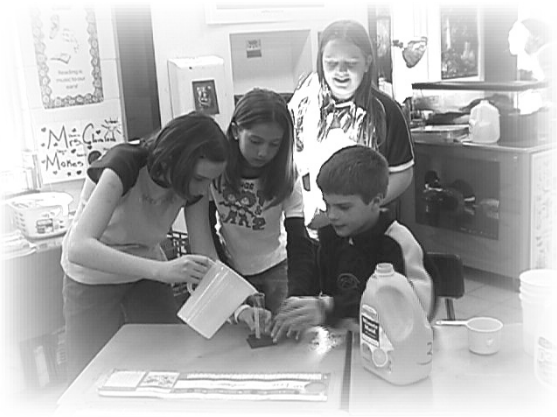
A challenge from some friends at Dewey Elementary School

City of Evanston
2004 Water Quality Report

When you brush your teeth, do you leave the water running? When you run the washing machine without a full load, are you thinking about the people in Africa who survive on 15 gallons of water a day? In this country, 15 gallons is just two flushes of the toilet!

We, the people of Evanston, take water for granted because it's cheap, and we get all we need right from Lake Michigan. We use about 128 gallons per person per day to water our lawns and wash our dishes and take long showers. Just one leaky faucet uses up 2,045 gallons a month--that's enough water to keep a person alive for more than a year!

The United Nations has declared the next ten years the "Water for Life" decade. The goal is to have enough clean water now and for future generations. This is important to the 1.1 billion people in the world who have inadequate access to water and the 2.4 billion without sanitation. In honor of Water for Life, we challenge the City of Evanston to cut its water consumption by 10 percent. That's 13 gallons per person per day. We kids are working hard to do it in our homes -- please do it in yours. Here are some ways how:



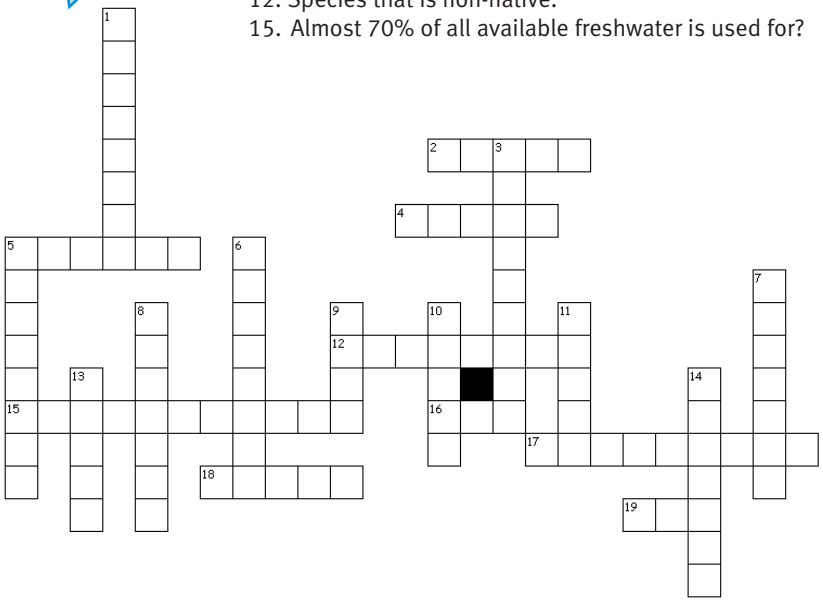
The Dewey School Roots and Shoots Peaceweavers

* *Check your toilet and sink for leaks and do something about them.*
* *Turn off the water while soaping up in the shower.*
* *Take baths in a partially-filled tub.*
* *Use "gray" water for indoor and outdoor plants.*
* *Plant drought-resistant trees and plants and water them only when necessary.*

The water we have today is all we have. We can't create more. Please use this precious resource with care and remember that every person, every action, can make a difference.

--The Dewey School Roots and Shoots Peaceweavers

Puzzle compliments of the Peaceweavers



Across:

2. A person living in this heavily populated island nation uses 77 gallons of water per day.
4. Put this in your toilet to save water.
5. Percentage of the world's fresh surface water contained in the Great Lakes.
12. Species that is non-native.
15. Almost 70% of all available freshwater is used for?
16. Served scrambled or sunny-side up, one serving of this food takes 120 gallons of water to produce.
17. This popular fast food requires 1,300 gallons of water to produce.
18. A person living in this country where the Ganges River is located, uses fourteen gallons of water per day.
19. Country that uses the most water worldwide.

Down:

1. The third-biggest Great Lake.
3. Over 90% of the cost of bottled water is used for this.
5. How many tons of water does it take to produce one ton of grain?
6. A person living in this Chicago suburb uses 128 gallons of water per day.
7. Mass whose movement carved out of the Great Lakes more than a million years ago.
8. Poisoning you can get from eating too much fish.
9. The largest river in the world.
10. 75% of the human brain and 75% of a tree are made up of this.
11. A person living in this African country uses three gallons of water per day.
13. Use this instead of a hose to clean driveways and sidewalks.
14. Activity that uses 180 gallons of water.

Answers Across: 1) Japan 4) brick 5) twenty 12) invasive 15) agriculture 16) egg 17) hamburger 18) India 19) USA
Answers Down: 2) Michigan 3) packaging 5) thousand 6) Evanston 7) glacier 8) mercury 9) Nile 10) water 11) Kenya 13) broom 14) car wash

City of Evanston

2004 Water Quality Report

What you need to know about cross connections

Keep your water safe! During the summer, we use more water. We are out washing the car, filling the wading pool or applying fertilizer with a hose end sprayer. It is important to know how to protect your water system.

Every household plumbing system potentially has a cross connection. Cross connections occur when safe, drinkable water in the household plumbing system connects to any contaminated source. Here is a list of places in the home where cross connections may be located:

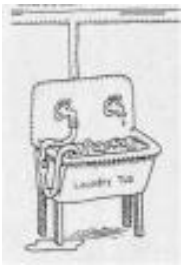
- Laundry sinks and wash basins
- Boilers
- Swimming pools
- Underground sprinkling systems
- Garden hoses connected to fertilizers or placed in buckets or swimming pools

If cross connections are not properly protected and there is a drop in water pressure, polluted water or contamination can be pulled into your household plumbing system and the city water distribution system. This is known as backflow.

Do you realize a tool you use frequently during the summer can cause backflow problems? It is the garden hose. When the hose is submersed in water, while filling up the pool, washing the car or fertilizing the lawn and there is a drop in pressure, pollutants could be sucked through the hose and into your plumbing system. The pollutants include dirt, chemicals from pools, pesticides and herbicides.

Here are things we can do to keep our water safe:

- Do not use a hose to open a plugged drain.
- Do not leave a hose submersed in water while using a bucket or filling a pool.
- Do not leave fertilizer applicators attached to a hose while not in use.



- If you have an underground sprinkling system, make sure the cross connection control device is checked annually by a licensed plumber certified as a cross connection control specialist. A copy of the report must be sent to the Evanston Water Department.
- Hose bib vacuum breakers are simple, inexpensive devices that can be installed to prevent contamination from entering your plumbing system.
- For further protection, consider having a licensed plumber trained in cross connection control check your home.

For more information about cross-connection and backflow prevention contact the Evanston Water Department (847) 866-2942.

Fun Water Facts

- Approximately 1 million miles of pipelines and aqueducts carry water in the United States and Canada. That's enough to circle the earth 40 times.
- The average daily requirement for treated fresh water in the United States is about 40 billion gallons with an additional 300 billion gallons of untreated water used for agriculture and commercial purposes.
- One gallon of water is equal to 3.785 liters of water.
- One cubic foot of water is equal to 7.48 gallons of water.
- Water boils at 212 degrees Fahrenheit or 100 degrees Celsius.
- Water freezes at 32 degrees Fahrenheit or 0 degrees Celsius.
- 75% of the human brain is water, and 75% of a living tree is water.
- 95% of earth's water is in the oceans. Only 3% of the earth's water can be used as drinking water and only 1% of the world's fresh water is suitable for drinking water (75% of the fresh water is frozen and therefore unusable).
- One gallon of water weighs 8.34 pounds.
- A person can live without food for approximately one month. A person can live without water for approximately one week, depending on conditions.