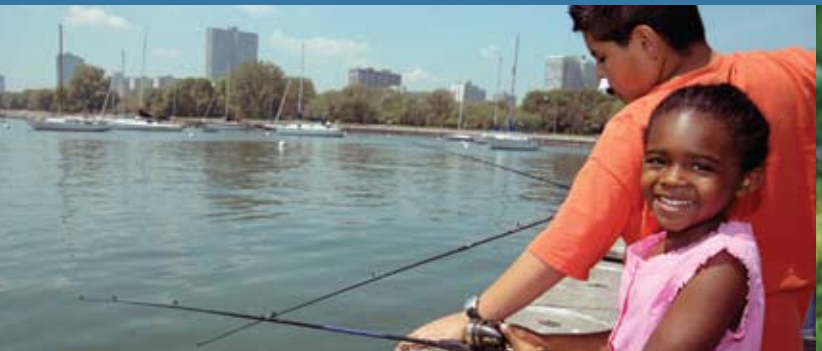
City of Chicago

2008 Water Quality Report

RICHARD M. DALEY, MAYOR

DEPARTMENT OF WATER MANAGEMENT • JOHN F. SPATZ, JR., COMMISSIONER



CONTACT INFORMATION

Water in the Street or Basement	Call 311
Water Quality Questions	(312) 744-8190
Water Bill Questions	(312) 744-4H2O TTY (312) 744-2968
E-mail and Internet	E-mail: water@cityofchicago.org www.cityofchicago.org/watermanagement
When e-mailing always include your name, account number & call back number.	
EPA's Water Resource Center	(800) 832-7828
EPA's Safe Drinking Water Hotline	(800) 426-4791
EPA's Regional Offices (Illinois)	(312) 353-4919
EPA's General Information Line	(312) 353-2000 TTY (312) 886-4658

Things You Should Know and Can Do:

- The adult body is comprised of about 70% water.
- The recommended daily amount of water is about 8 cups per day from all food and beverage sources.
- A person in good health can consume three gallons of water per day.
- When too much water is consumed too quickly it can cause water intoxication. This can occur when large quantities of water dilute the sodium level in the blood stream and cause an imbalance of water in the brain.
- More substances are dissolved by water than any other liquid.

PLEASE VISIT OUR WEBSITE FOR MORE INFORMATION
www.cityofchicago.org/watermanagement

Save Money; Save Water

For years, Department of Water Management has been urging you to help conserve and protect Lake Michigan—our great natural resource.

In an effort to encourage even greater participation, we have developed a new program called "MeterSave." This program allows non-metered customers to have meters installed in their single family homes and two-flats. Most non-metered customers will save money by volunteering for a meter. We are even providing a 7-year guarantee that your water bills will not exceed what you would have paid as a non-metered customer.

With a meter (installed free-of-charge), you will only be billed for the water that you use. People will also be more thoughtful in their use of water. While serving the federal government's water accountability agenda, MeterSave truly makes sense for family finances, and for our stewardship of the environment.

We strongly encourage you to take part in this program and take advantage of the saving now. The program is open to all single family and 2-flat home owners living in the following Wards: 9, 12, 13, 14, 18, 19, 21, 22, 23, 24, 28, 29, 30, 31, 34, 36, 37, 38, 39, 41 and 45. If you live outside these wards you can still call or go on-line to be placed on the waiting list for next year when the program will go city wide.

Simply call 3-1-1 and tell the call taker that you are interested in the MeterSave program. Or, go on-line at www.metersave.org to sign-up.

Volunteering for a water meter is easy—and it is in your interest. Make the call today.

Definition of Terms

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 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 (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health.
Highest Level Detected: This column represents the highest single sample reading of a contaminant of all the samples collected in 2007.
Range of Detection: This column represents a range of individual sample results, from lowest to highest, that were collected during the CCR calendar year.
Date of Sample: If a date appears in this column, the Illinois EPA requires monitoring for this contaminant less than once per year because the concentrations do not frequently change. If no date appears in the column, monitoring for this contaminant was conducted during the CCR calendar year.
Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
Lead: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home might be higher than other homes in your community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home, flush your tap for 30 seconds to 2 minutes before using tap water, or you may wish to have your water tested. Additional information is available from the EPA's Safe Drinking Water Hotline at (800) 426-4791.

2008 Water Quality Data: Detected Contaminants

Contaminant (unit of measure) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detection	Violation	Date of Sample
Microbial Contaminants						
TOTAL COLIFORM BACTERIA (% pos/mo) Naturally present in the environment.	0%	5%	0.3%	n/a	–	–
Fecal Coliform and E. Coli (# pos/mo) Human and animal fecal waste	0	*	3	n/a	–	–
TURBIDITY (%<0.3 NTU) Soil runoff.	n/a	TT/95%	100.000%	n/a	–	–
TURBIDITY (NTU) Soil runoff.	n/a	TT=1NTUmax	0.14	n/a	–	–
Inorganic Contaminants						
BARIUM (ppm) Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	2	2	0.0194	0.0191 - 0.0194	–	–
COPPER (ppm) Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.	1.3	AL=1.3	<0.003 (90th percentile)	0 sites exceeding AL		06/01/06 to 08/24/06
LEAD (ppb) Corrosion of household plumbing systems; Erosion of natural deposits.	0	AL=15	6.10 (90th percentile)	0 sites exceeding AL	–	06/01/06 to 08/24/06
NITRATE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	10	10	0.320	0.304 - 0.320	–	–
NITRATE & NITRITE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	10	10	0.320	0.304 - 0.320	–	–
Disinfectant\Disinfection By-Products						
TTHMs [TOTAL TRIHALOMETHANES] (ppb) By-product of drinking water disinfection.	n/a	80	19.500**	9.100 - 29.600	–	–
HAA5 [HALOACETIC ACIDS TOTAL OF 5] (ppb) By-product of drinking water disinfection.	n/a	60	9.00**	3.100 - 14.000	–	–
CHLORINE (as Cl2) (ppm) Drinking water disinfectant.	4 MRDLG	4MRDL	0.74	0.63 - 0.74	–	–
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 the IEPA.						
Radioactive Contaminants						
COMBINED RADIUM (226, 228) (pCi/L) Decay of natural and man-made deposits.	0	5	1.38	1.300 - 1.380	–	–
GROSS ALPHA (pCi/L) excluding radon and uranium Decay of natural and man-made deposits.	0	15	0.88	0.090 - 0.880	–	–
State Regulated Contaminants						
FLUORIDE (ppm) Water additive which promotes strong teeth.	4	4	1.05	0.920 - 1.05	–	–
SODIUM (ppm) Erosion of naturally occurring deposits; Used as water softener.	n/a	n/a	8.85	8.13 - 8.85	–	–
Unregulated Contaminants						
SULFATE (ppm) Erosion of naturally occurring deposits.	n/a	n/a	28.900	27.700 - 28.900	–	–

* A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive.

** The highest level detected represents the running annual average for the Chicago distribution system. The range includes data from the Initial Distribution System Evaluation (IDSE) study, part of the stage 2DBPR promulgated on January 2006.

2008 Violation Summary Table

The following table(s) lists all violations that occurred during 2008. We included a brief summary of the actions we took following notification of the violation.

Contaminant or Program	Violation Type	Monitoring Period Start Date – End Date	Violation Explanation
Individual Filter Effluent Turbidity Monitoring	Minor Routine Monitoring (ISWTR/LT1)	12/01/08 - 12/31/08	We failed to complete all the required tests of our drinking water for the contaminant and period indicated.
Health Effects (if applicable)	None		
Actions we took:	The Department of Water Management will provide additional training and purchase portable turbidity monitoring equipment. This will ensure continuous filter effluent turbidity monitoring without interruption.		

Unit of Measurement

ppm
Parts per million, or milligrams per liter

ppb
Parts per billion, or micrograms per liter

ppt
Parts per trillion, or nanograms per liter

NTU
Nephelometric Turbidity Unit, used to measure cloudiness in drinking water

%<0.3 NTU
Percent samples less than 0.3 NTU

% pos/mo
Percent positive samples per month

pCi/L
picocuries per liter, used to measure radioactivity

nd
Not detectable at testing limits

n/a
Not applicable

< = less than, > = greater than

Water Quality Data Table Footnotes

TURBIDITY: Turbidity is a measure of the cloudiness of water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

FLUORIDE: Fluoride 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 mg/l to 1.2 mg/l.

SODIUM: There 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.

UNREGULATED CONTAMINANTS: A MCL for this contaminant has not been established by either state or federal regulations, nor has mandatory health effects language. 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.

City of Chicago, Department of Water Management
Important Information About Your Drinking Water

On December 28, 2008 at our Chicago South Water Purification Plant we experienced a series of voltage drops caused by the local electrical utility. These voltage drops caused various filter effluent turbidimeters which monitor for turbidity in drinking water, to go off-line at varying times. 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 system and disinfectants.

All affected individual filter effluent turbidimeters were returned to normal operations in less than 24-hours. During this time period data was not continuously monitored by our individual filter effluent turbidimeters in accordance with United States Environmental Protection Agency's (USEPA) regulations. However, monitoring was manually performed regularly on the combined filter clearwells as well as the finished water leaving the treatment plant via the outlets by our on-duty Water Chemist.

These tests showed that we remained within the USEPA parameters and guidelines and that there was no change in water quality during the time that the individual filter effluent turbidimeters were off-line.

In summary, the Illinois Environmental Protection Agency has determined that because the filter effluent turbidimeters remained off-line for various times in a less than 24 hour period a monitoring violation occurred requiring public notification. Based upon this notification, there is nothing you need to do at this time. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct. The Department of Water Management will provide additional training, and purchase portable turbidity monitoring equipment. This will ensure continuous filter effluent turbidity monitoring without interruption.

For more information, please contact
Alan Stark, Water Quality Manager
at 312-742-7499

Chicago Department of Water Management
Water Quality Division
1000 East Ohio Street
Chicago, Illinois 60611
Attn.: Alan Stark

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

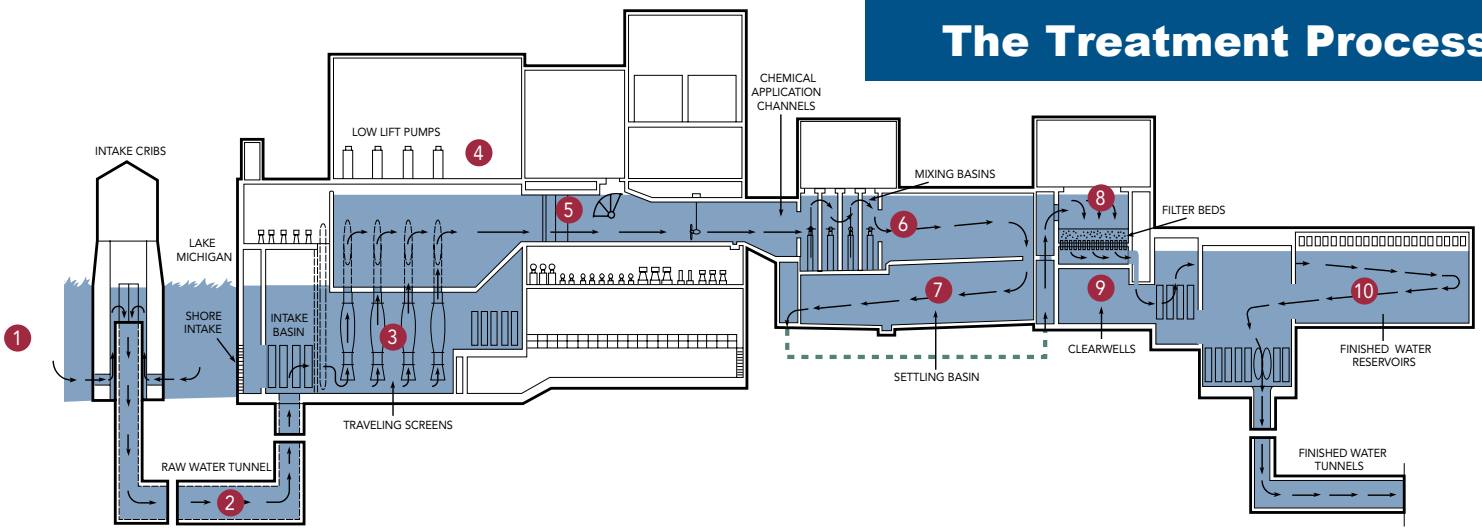
This notice is being sent to you by:
The City of Chicago,
Department of Water Management
Water System ID# IL0316000.
Posted: June 15, 2009–June 30, 2009

Hydrant Inspection

During the month of September and into October the Chicago Fire Department will be conducting its annual inspection of fire hydrants in Chicago to insure that they are working properly. During the inspection the hydrants are opened and closed. This action can cause sediment to become dislodged from inside the water main system causing your tap water to become discolored or rusty in appearance.

The simplest and quickest way to resolve the issue is to flush your tap. This can be accomplished by allowing you cold tap water to run until clear. If after 30 minutes your tap water has not cleared you should call the Water Quality Surveillance Section at 312-744-8190 during regular business hours or 311 if it is after hours.

The Treatment Process



1. Water from Lake Michigan enters the intake crib at depths of 20 to 30 feet.
2. Water enters the purification plant's intake basin through a tunnel beneath the lake bed.
3. Water is filtered through eight traveling screens to catch debris.
4. Water is pumped by low lift pumps up 25 feet for the first chemical treatment.
5. Water flows from the chemical application channels.
6. Water flows through mixing basins to begin the flocculation process.
7. Flocculation water passes into settling basins to sit for four hours allowing floc to settle.
8. Water is filtered through precisely graded sand and gravel performing a "natural polishing."
9. Filtered water flows into clearwells for its final chemical application.
10. From finished water reservoirs water flows to the distribution system.

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 determines the susceptibility of the source water to contamination. The Illinois EPA has completed the Source Water Assessment Program for our supply.

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.

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 at 312-744-6635.

EDUCATIONAL STATEMENTS REGARDING COMMONLY FOUND DRINKING WATER CONTAMINANTS

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 (1-800-426-4791).

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 (1-800-426-4791).

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 can dissolve naturally occurring minerals and radioactive materials, and pick up substances resulting from the presence of animals or human activity.

Possible contaminants consist of:

- 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 storm water 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 storm water 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 storm water runoff and septic systems; and
- Radioactive contaminants, which may be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, 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.

Cryptosporidium: No Cryptosporidium has been detected in our source water since we started monitoring in April 1993.

Message from

Mayor Richard M. Daley

Dear Water Customer,

I am pleased to offer you this year's annual Water Quality Report. This Report highlights our efforts and programs to maintain and improve the delivery of pure, fresh drinking water to Chicago and our suburbs.

Providing safe, pure drinking water is not measured in just the financial costs of production. It also requires vigilant effort to ensure that the water meets or exceeds all regulatory standards. These standards are always rising as we develop new testing methods and monitoring protocols.

We are also proud of our efforts to renew Chicago's infrastructure with the installation of new water and sewer mains, the advance of Automatic Meter Reading (AMR) efforts and the introduction of our new MeterSave program, which can save you money and conserve water.

I encourage you to review this report carefully and to participate in the conservation programs that will benefit you and your family. With your help, we can ensure the ongoing supply and high quality of our water for future generations of Chicagoans.

Sincerely,

Richard M. Daley
Mayor

Para obtener el informe de la calidad del agua 2008 en español, por favor llame a nuestro centro de información al numero (312) 744-4H2O (744-4426).

WATER: The Pure Facts

- There are 7.48 gallons of water in one cubic foot.
- One gallon of water weighs 8.34 pounds.
- Water is comprise of 2 atoms of Hydrogen and one 1 atom of Oxygen bonded together.
- Water is the only substance that is found naturally on earth in three forms: liquid, gas, solid.
- The water is in a constant in cycle of evaporation, transpiration, condensation and precipitation.
- Over 90% of the fresh water on Earth is in Antarctica.
- The total volume of water on the Earth is about 344 cubic miles; this includes ground water, surface water, the polar caps, clouds, and all living things.
- Every day the Sun will evaporate a trillion tons of water.
- The overall amount of water on our planet has remained the same for two billion years.
- To make the most of the water you use on your lawn water early in the morning or in the evening when it is cooler, and avoid watering when it is windy. In this way you will lose less water to evaporation.
- In the home two thirds of the water is used in the bathroom.
- Dripping faucets can waste about 2,000 gallons of water each year. Leaky toilets can waste as much as 200 gallons each day.
- It takes about 120 gallons or 450 liters to produce one egg.
- It takes about 6,800 gallons or 25,700 liters of water to grow one day's food for a family of four.
- To refine one barrel of crude oil requires 1,850 gallons or 7,000 liters of water.
- Over 400 million people live in areas with severe water shortages.
- Drinking water today meets over a hundred different standards for water quality.
- By eliminating all new sources of contamination, it is estimated that in 10 years 98% of groundwater would be pollution free.

City of Chicago
Richard M. Daley, Mayor

The Department of Water Management
Jardine Water Purification Plant
1000 East Ohio Street
Chicago, Illinois 60611