

# Water Quality Report 2011

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14th Issue



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## City of Aurora Water Production Division

This report is intended to provide you with important information about your drinking water and the efforts made by the City of Aurora Water Production Division to provide safe drinking water.

**Sources of water** for the Aurora Water Treatment Plant include surface water from the Fox River and a blend of water from several shallow wells and deep wells, which draw from the Cambrian-Ordovician Aquifer system.

**Plant Capacity** – The Aurora Water Treatment Plant is capable of fully treating 36.5 million gallons of water per day.

**Treatment and Distribution System** – Well water is pumped to the plant through a collector line where it is combined with Fox River water. The water is then lime-softened, fluoridated, filtered, disinfected and discharged into reservoirs with a total storage capacity of 6 million gallons. From there, the water is pumped into the distribution system by pumps located at the plant. Next, the water travels through a series of pipes ranging in size from 4 inches to 36 inches in diameter on its way to your tap. Nine storage tanks located throughout the city provide 17.5 million gallons of storage and maintain adequate pressure.



**!Este Informe contiene informacion muy importante. Traduzcalo o hable con un amigo quien lo entienda bien.**

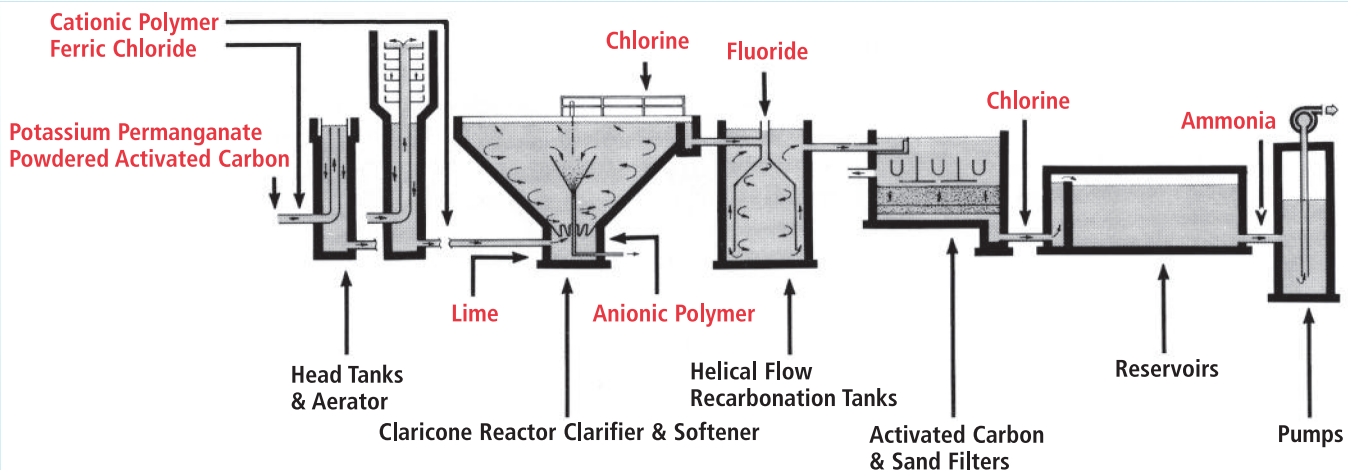
## City of Aurora's Source Water Assessment Summary

The source water assessment for the City of Aurora was completed by the Illinois Environmental Protection Agency (IEPA) in 2003. This assessment, and other informational requests, can be addressed by calling the Water Production Division at (630) 256-3250 between 8 a.m. and 4 p.m. on weekdays. The Fox River water source is considered vulnerable to contamination. IEPA considers all surface water sources of community water supply to be susceptible to potential contamination. Therefore certain treatment processes are mandatory for all surface water supplies in Illinois. These include coagulation, sedimentation, filtration, and disinfection, all of which are provided by Aurora.

IEPA has determined Aurora's shallow well water source is susceptible to volatile organic chemical (VOC) and synthetic organic chemical (SOC) contamination based on the unconfined nature of the sand and gravel aquifer and proximity of potential sources of contamination. The deep well water source is not susceptible to inorganic chemicals (IOC), VOC, or SOC contamination.

## Tap Water Information

- City water has a pH of 8.9-9.2.
- City water has an average hardness of 120-140 mg/liter which is equivalent to 7-8 grains per gallon.
- Fluoride content is 1.0 PPM (1.0 mg/l) as required by the Illinois Department of Public Health.



Process flow diagram for the Aurora Water Treatment Plant.





## CONSERVE WATER, SAVE MONEY! WATER CONSERVATION TIPS:

### In the bathroom

- Don't let the water run when shaving or brushing your teeth; turn the faucet on only as needed and lower the flow setting.
- Install low-flow shower heads and water-saving toilets.
- Don't use the toilet as a wastebasket; use it only for sanitary waste, as intended.

### In the kitchen and laundry

- When hand washing dishes, use wash and rinse basins rather than running water whenever possible.
- When using a dishwasher, do full loads whenever possible. Pre-rinsing dishes before loading is usually not necessary; most modern dishwashers do an excellent job without the need for pre-rinsing.
- For drinking, keep a container of water in the refrigerator. Don't let the faucet run just to get a glass of colder water.

### Outdoors

- Repair leaking hoses and faucets. Use a hose nozzle that can be adjusted for the task at hand.
- Instead of hosing sidewalks and driveways, use a broom or leaf blower to remove debris.
- More information is available: [www.aurora-il.org](http://www.aurora-il.org)



Water Treatment Plant

## Water Quality Report

The Water Production Division staff works around the clock to maintain the high quality and safety of Aurora's award-winning tap water. The U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water supply systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. To confirm that your tap water meets EPA regulations, we regularly submit water samples for laboratory analysis. This report summarizes contaminants found in testing during 2011. The City of Aurora water system was 100% compliant with all chemical and bacteriological contaminant limits.

## CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER:

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 and in some cases, radioactive material. Water can also pick up substances resulting from the presence of animals or from human activity.

**Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

**Microbial contaminants**, such as viruses, protozoa, and bacteria, which may come from wastewater treatment plants, septic systems, agricultural livestock operations, and wildlife.

**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.

**Inorganic contaminants**, such as salts and metals, which may occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

**Radioactive contaminants**, which may occur naturally or result from oil and gas production and mining activities.

In order to ensure tap water is safe to drink, the USEPA prescribes regulations that limit the amount of certain contaminants in

water produced by public water systems. Food and drug (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

## PARTNERSHIP FOR SAFE DRINKING WATER PROGRAM:

The City of Aurora is a volunteer participant in the USEPA's Partnership for Safe Water, a national program designed to achieve operational excellence in water treatment.

In 2010, the City of Aurora Water Treatment Plant was awarded the prestigious Director's Award under the Partnership for Safe Water program. The award honors water utilities for achieving operational excellence, by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals than those required by federal and state drinking water standards. We are proud to report the City of Aurora maintained those standards throughout 2011.

## USEPA WATERSENSE PROGRAM:

The City of Aurora is now a partner in the USEPA's WaterSense program, which is a voluntary nationally recognized program that promotes water conservation and efficiency. The program also provides reliable information on water efficient products and practices. Look for the WaterSense label on products (see below) which will be 20% more efficient and perform as well or better than conventional products. To find more information go to the WaterSense website at <http://www.epa.gov/watersense>.



## WATER QUALITY TEST RESULTS

The following tables contain scientific terms and measures, some of which may require explanation.

### Definitions:

**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 a 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 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.

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**ppm or mg/L:** milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.

**ppb or ug/L:** micrograms per liter or parts per billion – or one ounce in 7,350,000 gallons of water.

**pCi/L:** picoCuries per Liter – measurement of radioactivity.

**NTU:** Nephelometric Turbidity Unit.

**N/A:** not applicable.

**Oocysts/L:** The number of Cryptosporidium organisms per liter of water tested.

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

## 2011 REGULATED CONTAMINANTS DETECTED

### Lead and Copper

Lead and Copper	Date Sampled	MCLG	Action Level	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	6-09 / 9-09	1.3	1.3	0.071	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	6-09 / 9-09	0	15	14.2	6	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

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. Aurora 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 (800 426-4791) or at <http://water.epa.gov/drink/info/lead/index.cfm>.

### Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chloramines	2011	2.7	2.29-2.69	MRDLG = 4	4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)*	2011	12	6-15	No goal for the total	60	ppb	N	By-product of drinking water chlorination.
Total Trihalomethanes (TTHM)*	2011	37	28-47.3	No goal for the total	80	ppb	N	By-product of drinking water chlorination.
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2011	0.12	0.0098-0.12	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2011	0.9	0.85-1.4	4	4	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate [measured as Nitrogen]	2011	2	0-1.61	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium**	2011	51	51-84	N/A	N/A	ppm	N	Erosion from naturally occurring deposits; Used in water softener regeneration.

\* Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.

\*\* There is not a state or federal 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.

### Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1 NTU	0.083 NTU	N	Soil runoff.
Lowest monthly % meeting limit	0.3 NTU	100%	N	Soil runoff.

**Total Organic Carbon:** The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted specifically.

### Raw Water Quality Monitoring

Contaminant	Sample Date	Average Level Detected	Units	Raw Source Water Informational Statement
Cryptosporidium	2011	0.017	Oocysts/L	Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Aurora's monitoring of the Fox River indicates the presence of these organisms. Current test methods do not permit determination of the organisms viability; the ability to cause disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. Immunocompromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infections. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

## 2011 UNREGULATED CONTAMINANT MONITORING

The City of Aurora was required to sample and test for all the contaminants listed in the Unregulated Contaminant Monitoring Rule (UCMR2) from November of 2009 to August of 2010. The results of this monitoring are not included in this report, but are available upon request by contacting the Water Production Division at (630) 256-3250.

## 2011 ADDITIONAL VOLUNTARY UNREGULATED CONTAMINANT MONITORING

The City of Aurora also samples for many other compounds on a voluntary basis that are not regulated. Some of the general categories of data collected include inorganic compounds, volatile organic compounds, synthetic organic compounds, bacteria levels, pharmaceuticals and personal care products, and several others. This data is not included in this report, but is available upon request by contacting the Water Production Division at (630) 256-3250.

## 2011 EMERGENCY BACK-UP WELL MONITORING

The City of Aurora maintains emergency back-up wells. These wells are sampled and tested monthly. This data is not included in this report, but is available upon request by contacting the Water Production Division at (630) 256-3250. None of the City's emergency wells were used for raw water production in 2011.



City of Aurora  
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PRESORT  
STD  
U.S. POSTAGE  
**PAID**  
AURORA, IL  
PERMIT NO. 2

POSTAL PATRON



**More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's SAFE DRINKING WATER HOTLINE 800-426-4791.**

## Lawn Watering Permitted

5 - 9 A.M. and 6 - 10 P.M.  
Odd Addresses on Odd Days  
Even Addresses on Even Days



**In-Ground Sprinklers  
Daily 5 - 9 A.M. Only**

## HEALTH INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The mere presence of contaminants in drinking water does not necessarily represent a health risk.

Some people may be more vulnerable to certain contaminants than the general population. Immuno-compromised people, such as cancer patients undergoing chemotherapy, organ transplant recipients, people with HIV/AIDS or other immune system disorders, and some senior citizens and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers.

USEPA/CENTER FOR DISEASE CONTROL Guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the **SAFE DRINKING WATER HOTLINE 800-426-4791.**

# Is your lawn a water guzzler?

## Every drop counts!

**Did you know...**

more than 50% of commercial and residential irrigation water use goes to waste due to overwatering, evaporation, or runoff?

**You can help by...**

Following your local water usage and restriction ordinance. If your community does not have one, please consider watering your lawn no more than twice a week before 10 a.m. or after 6 p.m.

Thank you for doing your part to help ensure that our community and neighboring communities have a clean and reliable water source now and for future generations!

For more information, visit [www.epa.gov/WaterSense](http://www.epa.gov/WaterSense).

