

City of Batavia 2007 Water Quality Report

Batavia Water System—Current Events

Spring/Summer 2008

Annual Water Quality Report for the period of January 1 to December 31, 2007

This report is intended to provide you with important information about your drinking water and the efforts made by the BATAVIA water system to provide safe drinking water. The source of drinking water used by BATAVIA is Ground Water.

For more information regarding this report, contact John Dillon, Superintendent at 630-454-2450.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Batavia's Water Meets All Federal & State Regulations

The City of Batavia Water Utility has completed many major improvements during the past several years to bring the City's drinking water into compliance with all Federal and State regulations, including radium in drinking water. The City is also prepared to meet future demands as the population, and water usage, increases. All residents have been receiving water that is compliant with the regulations since the fall of 2006.

The City Water Utility has spent nearly \$17.0 million on major capital improvements including new wells, water towers, water transmission mains, water treatment plant facilities and a high pressure pump station. The majority of the improvements were financed using the State of Illinois Low Interest Loan Program. The City was able to secure the financing from the State at an interest rate of only 2.57%.

Water Quality Issues

With the completion of Batavia's new water treatment facility residents are reminded that there has been some changes to the water quality.



Radium – All residents are now receiving drinking water that complies with the Federal Standard for radium. The City's new water plant has been using a blended supply of deep and shallow well water since October 2006. Batavia received confirmation that the City has successfully passed four (4) consecutive quarters of sampling.



**Do not confuse Radon with Radium. Radon may still be a problem in some homes located throughout Batavia and the Fox Valley area. Radon is an airborne gas that is normally detected in home basements. Radon gas can be mitigated from homes using appropriately designed ventilation systems. Check the Illinois EPA web site www.epa.state.il.us/ for more information on Radon.*

Water Hardness - Levels throughout the City now average approximately 25 grains per gallon (approximately 425 parts per million). Prior water hardness levels averaged between 15 grains and 25 grains of hardness. 25 grains per gallon is considered very hard.

Hard water causes calcium and magnesium scale deposits on glassware (especially from an automatic dishwasher) and can cause buildup of hard water deposits in washing machines, boilers, water heaters, etc.

A recent survey of Batavia's water customers indicated that approximately two-thirds (2/3) of the City's residents have a home water softener, or other water treatment device.

Iron - Iron in drinking water can cause yellow or rusty water in the distribution system. Batavia has an iron removal water plant to remove any iron from the well water. The water plant does such a very efficient job of removing the iron from the water and rusty water is not typically a problem in Batavia.

If you are experiencing any problems with your water, we would like to hear from you. Please feel free to call us at 630-454-2450 or visit the City's web site at www.cityofbatavia.net and search the City Departments to the Water Department link. There is more information available at this location.

Source Water Assessment

A Source Water Assessment summary is included below for your convenience.

Based on information obtained in a Well Site Survey published in 1990 by the Illinois EPA, sixteen potential sources or possible problem sites were identified within the survey area of Batavia's wells. Furthermore, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated several additional sites with ongoing remediations which may be of concern. The Illinois EPA has determined that the Batavia Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data on the wells. Furthermore, in anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that the Batavia Community Water Supply is not vulnerable to viral contamination. This determination is based upon the completed evaluation of the following criteria during the Vulnerability Waiver Process: the community's wells are properly constructed with sound integrity and proper site conditions; a hydrogeologic barrier exists which prevents pathogen movement; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. Because the community's wells are constructed in a confined aquifer, which should prevent the movement of pathogens into the wells, well hydraulics were not considered to be a significant factor in the susceptibility determination. Hence, well hydraulics were not evaluated for this groundwater supply. The Illinois Environmental Protection Act provides minimum protection zones of 200 feet for Batavia's wells. Minimum protection zones are regulated by the Illinois EPA. To further reduce the risk to source water, the facility has implemented a wellhead protection program which includes the proper abandonment of potential routes of groundwater contamination and correction of sanitary defects at the water treatment facility. This effort resulted in the community water supply receiving a special exception permit from the Illinois EPA which allows a reduction in monitoring. The outcome of this monitoring reduction has saved the community considerable laboratory analysis costs. To further minimize the risk to Batavia's groundwater supply, the Illinois EPA recommends that three additional activities be assessed. First, the community may wish to enact a "maximum setback zone" ordinance. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to a fixed distance, normally 1,000 feet, from their wells. Second, the water supply staff may wish to revisit their contingency planning documents. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a community will minimize their risk of being without safe and adequate water. Finally, the water supply staff is encouraged to review their cross connection control program to ensure that it remains current and viable. Cross connections to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all source water protection initiatives provided by the community.

2007 Regulated Contaminants Detected

Lead and Copper Date Sampled: 12/31/2007

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

Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

Lead MCLG	Lead Action Level (AL)	Lead 90th Percentile	# Sites Over Lead AL	Copper MCLG	Copper Action Level (AL)	Copper 90th Percentile	# Sites Over Copper AL	Likely Source of Contamination
0	15 ppb	10 ppb	1	1.3 ppm	1.3 ppm	0.18 ppm	0	Corrosion of household plumbing systems; Erosion of natural deposits

Water Quality Test Results

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

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): 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.

mg/l: milligrams per litre or parts per million - or one ounce in 7,350 gallons of water.

ug/l: micrograms per litre or parts per billion - or one ounce in 7,350,000 gallons of water.

na: not applicable.

Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

Disinfectants & Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contaminant
Chloramines	12/31/2007	0.9	0.6 - 0.9	MRDLG=4	MRDL=4	ppm	No	Water additive used to control microbes
TTHMs (Total Trihalomethanes)	9/5/2007	20.5	N/A	N/A	80	ppb	No	By-product of drinking water chlorination

2007 Regulated Contaminants Detected *(continued)*

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contaminant
Barium	3/7/2005	0.14	0.11-0.14	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	3/7/2005	1	0.88 - 1	4	4	ppm	No	
Nitrate-Nitrite	11/30/2004	0.29	0.05 - 0.29	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate (As N)	5/7/2007	0.23	N/A	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contaminant
Alpha Emitters (Adjusted)	11/30/2006	16.8	11.0722 - 16.8	0	15	pCi/L	No	Erosion of natural deposits
Combined Uranium	1/30/2006	0.2278	0.2 - 0.2278	0	30	ppb	No	Erosion of natural deposits
Combined Radium	5/7/2007	5.3	1.9 - 5.3	0	5	pCi/L	No	Erosion of natural deposits
Alpha Emitters	1/16/2007	4.1	0	0	15	pCi/L	No	Erosion of natural deposits

State Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contaminant
Iron This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.	3/7/2005	130	20 - 130	N/A	1000	ppb	No	Erosion from naturally occurring deposits
Manganese This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.	3/7/2005	7	3 - 7	N/A	150	ppb	No	Erosion from naturally occurring deposits
Sodium 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.	3/7/2005	29	8.2 - 29	N/A	N/A	ppm	No	Erosion of naturally occurring deposits; used in water softener regeneration

Note: The state requires monitoring of certain contaminants less than once per year because the concentration for these contaminants do not change frequently. Therefore, some of this data may be more than one year old.

Source of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

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 can 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 can also come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which 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 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. EPA/CDC 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).

Batavia's Fantastic New Water Towers



Above, Batavia's new 1,500,000 gallon water tower across from Batavia High School on Main Street. Bulldog logo compliments of 2007 Batavia High School Student Council. Left, Batavia's new 750,000 gallon water tower located on South Kirk Road.

Lawn Watering Tips

Let your lawn sleep —

Your lawn may turn brown during the hot summer. This is normal in the cycle of growth. The cooler weather will bring back more color and health.

Lawns grow best in the spring. During the hot summer, the lawn begins a dormancy phase and may turn brown. This is normal but extra care should be used. Water turf once a week with about one inch (1") of water if it has not rained. This may not keep the turf from going dormant, but it will insure that it survives the dry period.

Follow these watering tips for a healthy lawn!

1. Water deeply and less often. Once a week and 1" (one inch) at the most.
2. Water at the right time of day. Watering is allowed between 6 - 9:00 a.m. and 6 - 9:00 p.m. on an odd/even schedule. Evaporation will be at minimum between these hours. More information on Batavia's watering restrictions can be found on our web site; www.cityofbatavia.net.
3. Use the right kind of sprinkler. Sprinklers that shoot low to the ground are far superior to the oscillating fan type of sprinklers that lose much of their water to evaporation and wind drift before it ever hits the lawn.
4. The one inch (1") per week rule applies to lawns that are already well established. New grass seed/sod will require one inch (1") of water 2-3 times per week for the first three weeks after which time you can convert to one inch (1") per week.



Indoor Water Use in the United States

Americans use large quantities of water inside their homes. A family of four can use 400 gallons of water every day, and, on average, approximately 70 percent of that water is used indoors.

The bathroom is the largest consumer of indoor water. The toilet alone can use 27 percent of household water. Almost every activity of daily routine that happens in the home bathroom uses a large quantity of water. For example:

- Older toilets use between 3.5 and 7 gallons of water per flush. However, WaterSense® labeled toilets require 75 to 80 percent less water.
- A leaky toilet can waste about 200 gallons of water every day.
- A bathroom faucet generally runs at 2 gallons of water per minute. By turning off the tap while brushing your teeth or shaving, a person can save more than 200 gallons of water per month.

Outside the bathroom, there are many opportunities to save water. Here are some common water efficiency measures, along with a few solutions to those problems you may not have known existed:

- High-efficiency washing machines can conserve large amounts of water. Traditional models use between 27 and 54 gallons of water per load, but new, energy- and water-conserving models (front-loading or top loading, non-agitator ones) use less than 27 gallons per load.
- Washing the dishes with an open tap can use up to 20 gallons of water, but filling the sink or a bowl and closing the tap save 10 of those gallons.
- Keeping a pitcher of water in the refrigerator saves time and water instead of running the tap until it gets cold.
- Not rinsing dishes prior to loading the dishwasher could save up to 10 gallons per load.

WaterSense, a partnership program sponsored by the U.S. Environmental Protection Agency, seeks to help families and businesses realize that they can reduce water use by 20 to 30 percent by doing just a few simple things, such as upgrading to higher quality, more efficient products. For more information, visit www.epa.gov/watersense.

Stop Flushing Your Money Away!

What happens when a family of four replaces all their toilets with a new high efficiency model? The chart below shows a projection of the difference in water use for the standard non-conserving toilet, 1.6 gallons per flush (gpf) model, and dual flush model. The family would save more than 17,000 gallons of water per year by installing dual flush toilets!



Save 14,000 Gallons Per Year

Water Savings \$52.21

Sewer Savings \$47.17

Total Savings Per Year \$99.38

Water Conservation Tips



Conservation measures you can use inside your home include:

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water saving devices in faucets, toilets and appliances
- Wash only full loads of laundry
- Do not use the toilet for trash disposal
- Take shorter showers
- Do not let the water run while shaving or brushing teeth
- Run the dishwasher only when full

You can conserve outdoors as well:

- Water the lawn and garden during the coolest part of the day: following the water conservation regulations.
- Position sprinklers so all the water lands on the lawn and not the pavement
- Use mulch around plants and shrubs
- Repair leaks in faucets and hoses
- Use water-saving nozzles
- Use water from a bucket to wash your car and save the hose for rinsing