Annual Water Quality Report

Water testing performed in 2007

Presented By:

Village of Algonquin

PWS ID#: 111-00-50
Community Participation

The public is encouraged to attend Algonquin Village Board meetings, which are held at the Village Board Room, 2200 Harnish Drive, Algonquin. The meetings are held on the first and third Tuesday of each month beginning at 8:00 p.m.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Lead in Drinking Water

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 may be higher than at other homes in the community as a result of materials used in your home’s plumbing.

If you are concerned about elevated lead levels in your home’s water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

Where Does Algonquin’s Water Come From?

The Village of Algonquin currently draws water from nine wells. Three water treatment plants treat the water for public use. Wells 5, 6, 7, and 11 are all shallow wells at less than 150 feet and are located on the east side of the Fox River. These wells provide the water that is treated at Water Treatment Plant 1, which is on Souwanas Drive.

Wells 8 and 9 are shallow wells at less than 220 feet; they provide water to Water Treatment Plant 2, which is on Wynnfield Drive on the west side of the Fox River in Willoughby Farms Subdivision. Well 10 is a deep well (approximately 1,300 feet) that also provides water for treatment at Water Treatment Plant 2.

Wells 13 and 15 are shallow wells at less than 150 feet; they provide water to Water Treatment Plant 3, which is on the corner of Square Barn Road and Academic Drive on the far west side of town. The total combined design capacity from the three water treatment facilities is 12 million gallons per day. The village is in the planning process to expand Water Treatment Plant 3, which will receive water from deep well sources.

Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2007. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

“WELL-INFORMED CUSTOMERS ARE OUR BEST ALLIES.”
Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 dissolves naturally occurring minerals and, in some cases, radioactive material and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater 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 stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the U.S. EPA’s Safe Drinking Water Hotline at (800) 426-4791.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

- Turn off the tap when brushing your teeth.

- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.

- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

For more information about contaminants and potential health effects, call the U.S. EPA’s Safe Drinking Water Hotline at (800) 426-4791.
Should I Put a Brick in My Toilet Tank to Save Water?

Toilet flushing uses a lot of water: about 40% of a household’s total water usage. Putting something in the toilet tank that takes up space, like a toilet dam or a water filled jug, is a good idea. But putting a brick in the tank is not a good idea; bricks tend to crumble and might damage your toilet.

Is It Safe to Drink Water from a Garden Hose?

Substances used in vinyl garden hoses to keep them flexible can get into the water as it passes through the hose. These chemicals are not good for you, nor are they good for your pets. Allow the water to run for a short time in order to flush the hose before drinking or filling your pet’s drinking containers. Hoses made with food-grade plastic will not contaminate the water. Check your local hardware store for this type of hose.

How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

About Our Violation

In August 2007, the Village of Algonquin received a reporting violation from the Illinois EPA. The reporting violation stemmed from the failure of the Village of Algonquin from publishing a Public Notice within the one year prescribed public notification period. The Public Notice stems from an incidence occurring in 2006. The Village of Algonquin has taken the appropriate steps to correct this issue and to prevent a re-occurrence from future reporting violations.
Source Water Assessment

Based on information obtained in a well site survey published in 1990 by the Illinois EPA, 12 possible problem sites were identified within the survey area of Algonquin. Furthermore, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated several additional sites with ongoing remediation that may be of concern.

The Illinois EPA has determined that Algonquin Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data on the wells.

The Illinois Environmental Protection Act provides minimum protection zones of 200 feet for Algonquin's wells. The Illinois EPA regulates minimum protection zones. To further minimize the risk to Algonquin's groundwater supply, the Illinois EPA recommends that three additional activities be assessed.

First, the village 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. Algonquin has recently adopted its own set wellhead protection zone ordinance.

Second, the water supply staff may wish to revisit their contingency planning documents, if available. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a village will minimize its risk of being without safe and adequate water. Algonquin has a current contingency plan document on file.

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 village. This past year, the Algonquin Water Department has reviewed and updated our cross-connection control program. This ensures that our water system is receiving the best possible protection from contaminants that could be introduced to our system by backpressure or backsiphoning.

To receive a copy of the source water assessment, contact the Algonquin Village Water Department at (847) 658-2754.
Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

### Regulated Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Unit of Measure</th>
<th>Year Sampled</th>
<th>MCL (MrdL)</th>
<th>MCLG (MRDLG)</th>
<th>Amount Detected</th>
<th>Range Low-High</th>
<th>Violation</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic (ppb)</td>
<td></td>
<td>2006</td>
<td>10</td>
<td>0</td>
<td>1</td>
<td>NA</td>
<td>No</td>
<td>Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes</td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td></td>
<td>2006</td>
<td>2</td>
<td>2</td>
<td>0.1</td>
<td>NA</td>
<td>No</td>
<td>Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits</td>
</tr>
<tr>
<td>Chlorine (ppm)</td>
<td></td>
<td>2006</td>
<td>[4]</td>
<td>[4]</td>
<td>0.8596</td>
<td>0.5544–0.8596</td>
<td>No</td>
<td>Water additive used to control microbes</td>
</tr>
<tr>
<td>Combined Radium (pCi/L)</td>
<td></td>
<td>2007</td>
<td>5</td>
<td>0</td>
<td>3.2</td>
<td>1.07–3.2</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Fluoride (ppm)</td>
<td></td>
<td>2006</td>
<td>4</td>
<td>4</td>
<td>0.65</td>
<td>NA</td>
<td>No</td>
<td>Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories</td>
</tr>
<tr>
<td>Haloacetic Acids [HAA] (ppb)</td>
<td></td>
<td>2006</td>
<td>60</td>
<td>NA</td>
<td>1.4</td>
<td>NA</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Nitrate (ppm)</td>
<td></td>
<td>2007</td>
<td>10</td>
<td>10</td>
<td>1.38</td>
<td>0.65–1.38</td>
<td>No</td>
<td>Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits</td>
</tr>
<tr>
<td>Nitrite (ppm)</td>
<td></td>
<td>2007</td>
<td>1</td>
<td>1</td>
<td>0.28</td>
<td>0.23–0.28</td>
<td>No</td>
<td>Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits</td>
</tr>
<tr>
<td>TTHMs [Total Trihalomethanes] (ppb)</td>
<td></td>
<td>2007</td>
<td>80</td>
<td>NA</td>
<td>1.5</td>
<td>NA</td>
<td>No</td>
<td>By-product of drinking water chlorination</td>
</tr>
<tr>
<td>Total Nitrate + Nitrite (ppm)</td>
<td></td>
<td>2007</td>
<td>10</td>
<td>10</td>
<td>1.38</td>
<td>0.92–1.38</td>
<td>No</td>
<td>Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits</td>
</tr>
</tbody>
</table>

Tap water samples were collected from 31 sample sites throughout the community

### Other Regulated Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Unit of Measure</th>
<th>Year Sampled</th>
<th>MCL (MrdL)</th>
<th>MCLG (MRDLG)</th>
<th>Amount Detected (90th%tile)</th>
<th>Sites Above Action Level</th>
<th>Violation</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (ppm)</td>
<td></td>
<td>2004</td>
<td>1.3</td>
<td>1.3</td>
<td>0.721</td>
<td>0</td>
<td>No</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives</td>
</tr>
<tr>
<td>Lead (ppb)</td>
<td></td>
<td>2004</td>
<td>15</td>
<td>0</td>
<td>15.3</td>
<td>4</td>
<td>No</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
</tr>
</tbody>
</table>

### Definitions

**AL (Action Level):** The concentration of a contaminant that triggers treatment or other required actions by the water supply.

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

**MCLG (Maximum Contaminant Level Goal):** 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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).