Quality First

Once again, we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Where Does Algonquin’s Water Come From?

The Village of Algonquin currently draws water from nine wells. Wells 5, 6, 7, and 11 are all shallow wells that 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 Trail.

Wells 8 and 9 are shallow wells that 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 that 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 combined design capacity from the three water treatment facilities total 11 million gallons per day.

Community Water Fluoridation

The safety and benefits of fluoride are well documented. For more than 70 years, U.S. citizens have benefited from drinking water containing fluoride, leading to better dental health. Drinking fluoridated water keeps the teeth strong and has reduced tooth decay by approximately 25% in children and adults.

Over the past several decades, there have been major improvements in oral health. Still, tooth decay remains one of the most common chronic diseases of childhood. Community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all members of the community, regardless of age, educational attainment, or income level.

Nearly all water contains some fluoride, but usually not enough to help prevent tooth decay or cavities. Public water systems can add the right amount of fluoride to the local drinking water to prevent tooth decay.

Community water fluoridation is recommended by nearly all public health, medical, and dental organizations in the United States. Because of its contribution to the dramatic decline in tooth decay, the Centers for Disease Control and Prevention (CDC) named community water fluoridation one of the greatest public health achievements of the 20th century. (Courtesy of CDC: cdc.gov/fluoridation)

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 or http://water.epa.gov/drink/hotline.

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 Tuesdays of each month beginning at 7:30 p.m.
For more information about this report, or for any questions relating to your drinking water, please call Jason Meyer, Chief Water Operator, at (847) 658-2754, ext. 4420.

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

For a detailed discussion on the NRDC study results, check out their website at https://goo.gl/Jxb6xG.

Leads in Home Plumbing

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. We are responsible for providing high-quality drinking water, but 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 or at www.epa.gov/lead.

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, 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.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that’s packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you’d pay for bottled water.

For more information about this report, or for any questions relating to your drinking water, please call Jason Meyer, Chief Water Operator, at (847) 658-2754, ext. 4420.

Questions?
Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the United States. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

**Potent Germicide Reduction** in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

**Taste and Odor Reduction** of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

**Biological Growth Elimination** of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

**Chemical Removal** of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

Source Water Assessment

Based on information obtained in a well site survey published in 1990 by the Illinois Environmental Protection Act (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 EPA 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 ground water 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 EPA 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 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.
Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring 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.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

### Test Results

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

<table>
<thead>
<tr>
<th>SUBSTANCE (UNIT OF MEASURE)</th>
<th>YEAR SAMPLED</th>
<th>AL 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>Copper (ppm)</td>
<td>2015</td>
<td>1.3 1.3</td>
<td>1.31</td>
<td>3/30</td>
<td>No</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
<td></td>
</tr>
<tr>
<td>Lead (ppb)</td>
<td>2015</td>
<td>15 0</td>
<td>5.9</td>
<td>0/30</td>
<td>No</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
<td></td>
</tr>
</tbody>
</table>

### Other Regulated Substances

<table>
<thead>
<tr>
<th>SUBSTANCE (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>Iron (ppm)</td>
<td>2017</td>
<td>1.0</td>
<td>NA</td>
<td>0.045</td>
<td>0–0.045</td>
<td>No</td>
<td>Erosion from naturally occurring deposits</td>
</tr>
<tr>
<td>Manganese (ppm)</td>
<td>2017</td>
<td>150</td>
<td>NA</td>
<td>9.3</td>
<td>3–9.3</td>
<td>No</td>
<td>Erosion of naturally occurring deposits</td>
</tr>
<tr>
<td>Radon and Uranium (pCi/L)</td>
<td>2017</td>
<td>15 0</td>
<td>3.07</td>
<td>0–3.07</td>
<td>No</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
<td>70</td>
<td>38–70</td>
<td>No</td>
<td>Erosion of naturally occurring deposits; Used in water softener regeneration</td>
</tr>
</tbody>
</table>

Iron, manganese, and sodium are not currently regulated by the U.S. EPA. However, the state has set MCLs for supplies serving a population of 1,000 or more.