

ANNUAL WATER QUALITY REPORT

Reporting Year 2021



Presented By
The Village of Algonquin



Quality First

Once again, we are proud to present our annual water quality report covering the period between January 1 and December 31, 2021. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at all hours—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

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 located on the east side of the Fox River. These wells provide the water that is treated at Water Treatment Plant #1, located on Souwanas Trail.

Wells 8 and 9 are shallow wells that provide water to Water Treatment Plant #2, located 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, located on the corner of Square Barn Road and Academic Drive on the far west side of town. The combined capacity from the three water treatment facilities is 11 million gallons per day.

Lead 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 we 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 two 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 at (800) 426-4791 or online at: www.epa.gov/safewater/lead.



PFAS Sampling Initiative

In 2021 our public water system was sampled as part of the State of Illinois PFAS Statewide Investigation. Results from this sampling indicated per- and polyfluoroalkyl substances (PFAS) were detected in Well 15 at 35 nanograms per liter (ng/L). Given the results that we received from our lab, we have since placed this well on standby even though the test results are well below the health-based guidance level established by the Illinois EPA. Follow-up monitoring is being conducted. For more information about PFAS health advisories, visit <https://www2.illinois.gov/epa/topics/water-quality/pfas/pages/pfas-healthadvisory.aspx>.

“
When the well is dry, we
know the worth of water.

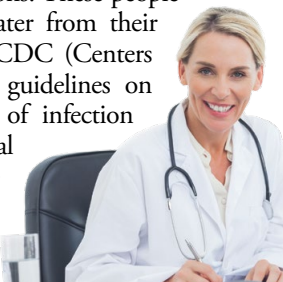
—Benjamin Franklin

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 7:30 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 or online at: <http://www.epa.gov/drink/hotline>.



QUESTIONS? 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.

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.

Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

For each substance listed, compare the value in the Amount Detected column against the value in the MCL (or AL, SMCL) column. If the Amount Detected value is smaller, your water meets the health and safety standards set for the substance.

Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

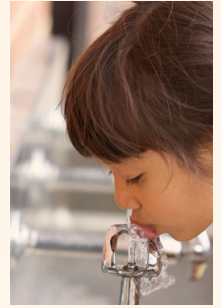
If there is an ND or a less-than symbol (<), that means that the substance was not detected (i.e., below the detectable limits of the testing equipment).

The Range column displays the lowest and highest sample readings. If there is an NA showing, that means only a single sample was taken to test for the substance (assuming there is a reported value in the Amount Detected column).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Typical Source.

Water Conservation Tips

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.

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.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not 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.

The percentage of total organic carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set by Illinois EPA.

| REGULATED SUBSTANCES | | | | | | | |
|--|--------------|------------|--------------|-----------------|----------------|-----------|---|
| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
| Barium (ppm) | 2021 | 2 | 2 | 0.14 | 0.14–0.14 | No | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits |
| Chlorine (ppm) | 2021 | [4] | [4] | 2 | 2–2 | No | Water additive used to control microbes |
| Fluoride (ppm) | 2021 | 4 | 4 | 0.596 | 0.596–0.596 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Haloacetic Acids [HAAs]–Stage 2 (ppb) | 2021 | 60 | NA | 31 | 8.31–33.6 | No | By-product of drinking water disinfection |
| Manganese¹ (ppb) | 2021 | 150 | NA | 4.9 | 4.9–4.9 | No | Erosion of naturally occurring deposits |
| Nitrate (ppm) | 2021 | 10 | 10 | 2 | ND–1.6 | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Sodium² (ppm) | 2021 | NA | NA | 23 | 23–23 | No | Erosion of naturally occurring deposits; Used in water softener regeneration |
| TTHMs [total trihalomethanes]–Stage 2 (ppb) | 2021 | 80 | NA | 67 | 15.7–70.1 | No | By-product of drinking water disinfection |

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

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | AMOUNT DETECTED (90TH %ILE) | SITES ABOVE AL/TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|-----------------------------|--------------|-----|------|-----------------------------|----------------------------|-----------|---|
| Copper (ppm) | 2021 | 1.3 | 1.3 | 1.1 | 2/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead (ppb) | 2021 | 15 | 0 | 4.1 | 0/30 | No | Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits |

| PFAS | | | | |
|--|------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| CHEMICAL ABSTRACT SERVICES REGISTRY NUMBER | PFAS ANALYTE | ACRONYM | HEALTH BASED GUIDANCE LEVEL (NG//L) | DATA HEALTH ADVISORY ISSUED/REVISED |
| 375-73-5 | Perfluorobutanesulfonic acid | PFBS | 2,100* | April 16, 2021 |
| * Health-Based Guidance Level per April 16,2021 PFBS Health advisory Update. | | | | |
| THE VILLAGE OF ALGONQUIN PFAS RESULTS | ACRONYM | HEALTH BASED GUIDANCE LEVEL (NG//L) | DATA HEALTH ADVISORY ISSUED/REVISED | |
| Perfluorobutanesulfonic acid | PFBS | 35 ng/L | 10/21/21 @ 8:56 | |

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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 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.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

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).

¹ Manganese is not currently regulated by the U.S. EPA. However, the state has set an MCL for supplies serving a population of 1,000 or more.

² Sodium is not currently regulated by the U.S. EPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1,000 or more.



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 and 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 of ensuring 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 are 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 Village 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.

