



# Annual Drinking Water Quality Report for Calendar Year 2023

## Fox Lake IL0970200

**This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water. This report includes drinking water facts, information on violations (if applicable), and contaminants detected in your drinking water supply during calendar year 2023. Each year, we will provide you a new report. If you need help understanding this report or have general questions, please contact the person listed below.**

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E-mail: [novaks@foxlake.org](mailto:novaks@foxlake.org)

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

### **ABOUT OUR WATER SYSTEM**

In 1928 the Village of Fox Lake Public Water System was put into service. Today our Water System supplies 500,000 to 1,000,000 gallons of potable water per day for over 11,000 Village residents. As of May 2022, Fox Lake IL0970200 was connected and operating with Fox Lake Plant #2(IL0975780). The systems were combined, and both operate under Fox Lake IL0970200.

Before we begin listing our unique water quality characteristics, here are some important facts you should know to help have a basic understanding of drinking water in general.

### **Sources 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.

Our source of water comes from groundwater which is drawn primarily from shallow sand and gravel aquifers. Wells #1, 4, 5, 6 and 7 supply the Village's treated water. The wells operate through iron removal systems. We add 3 chemicals to our treated water. We add chlorine for disinfection, fluoride to prevent tooth decay, and polyphosphates to sequester iron and provide corrosion control.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, 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, 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.

### **Other Facts about Drinking Water**

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).

### Source Water Assessments

Source water protection (SWP) is a proactive approach to protecting our critical sources of public water supply and assuring that the best source of water is being utilized to serve the public. It involves implementation of pollution prevention practices to protect the water quality in a watershed or wellhead protection area serving a public water supply. Along with treatment, it establishes a multi-barrier approach to assuring clean and safe drinking water to the citizens of Illinois. The Illinois EPA has implemented a source water assessment program (SWAP) to assist with wellhead and watershed protection of public drinking water supplies.

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. The Village Board meets on the second and fourth Tuesdays of each month at 6:30pm at the Village Hall located at 66 Thillen Drive. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by Village Hall or call our staff at 847-587-3506. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at:

<http://dataservices.epa.illinois.gov/swap/factsheet.aspx>

Based on information obtained in a Well Site Survey published in 1992 by the Illinois EPA, twenty-six potential sources or possible problem sites were identified within the survey area of Fox Lake'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 remediation which may be of concern. The Illinois EPA has determined that the Fox Lake's wells #1 and #2 source water is not susceptible to contamination. However, the source water obtained from Well #4 is 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 hydro geologic data on the wells.

### 2023 Regulated Contaminants Detected

The next several tables summarize contaminants detected in your drinking water supply.

Here are a few definitions and scientific terms which will help you understand the information in the contaminant detection tables.

|       |                                                                                                                                                                                                                         |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AL    | Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.                                                                         |
| Avg   | Regulatory compliance with some MCLs is based on running annual average of monthly samples.                                                                                                                             |
| MCL   | Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal 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 disinfectant allowed in drinking water.                                                                                                                       |
| MRDLG | Maximum Residual Disinfectant Level Goal: The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.                                    |
| N/A   | Not Applicable                                                                                                                                                                                                          |
| NTU   | Nephelometric Turbidity Units                                                                                                                                                                                           |
| pCi/L | picocuries per liter (a measure of radioactivity)                                                                                                                                                                       |
| ppb   | parts per billion or micrograms per liter (ug/L) - or one ounce in 7,350,000 gallons of water.                                                                                                                          |
| ppm   | parts per million or milligrams per liter (mg/L) - or one ounce in 7,350 gallons of water.                                                                                                                              |
| ppt   | Parts per trillion or nanogram per liter (ng/L) – or one ounce in 7,350,000,000 gallons of water                                                                                                                        |
| TT    | Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.                                                                                                                |

| Lead and Copper |               |      |                   |                             |                 |       |           |                                                                                                        |
|-----------------|---------------|------|-------------------|-----------------------------|-----------------|-------|-----------|--------------------------------------------------------------------------------------------------------|
|                 | Dates Sampled | MCLG | Action Level (AL) | 90 <sup>th</sup> Percentile | # Sites Over AL | Units | Violation | Likely Source of Contamination                                                                         |
| Copper          | 2023          | 1.3  | 1.3               | 2.2                         | 8               | ppm   | No        | Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems |
| Lead            | 2023          | 0    | 15                | 17                          | 5               | ppb   | No        | 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. Fox Lake is 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 <http://www.epa.gov/safewater/lead>.

| Disinfectants & Disinfection Byproducts                                                                                                                                                                                    | Collection Date  | Highest Level Detected | Range of Levels Detected | MCLG                  | MCL    | Units | Violation | Likely Source of Contamination                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------|--------------------------|-----------------------|--------|-------|-----------|----------------------------------------------------------------------------------------------------------------------------------|
| Chlorine                                                                                                                                                                                                                   | 2023             | 1                      | 1.0 - 1.4                | MRDLG=4               | MRDL=4 | ppm   | No        | Water Additive Used to Control Microbes                                                                                          |
| Haloacetic Acids (HAA5)*                                                                                                                                                                                                   | 2023             | 17                     | 9.2-23                   | No Goal for the Total | 60     | ppb   | No        | By-product of drinking water disinfection                                                                                        |
| Total Trihalomethanes (TTHM)                                                                                                                                                                                               | 2023             | 63                     | 18.6- 132                | No Goal for the Total | 80     | ppb   | No        | By-product of drinking water disinfection                                                                                        |
| 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.                  |                  |                        |                          |                       |        |       |           |                                                                                                                                  |
| Inorganic Contaminants                                                                                                                                                                                                     | Collection Dates | Highest Level Detected | Range of Levels Detected | MCLG                  | MCL    | Units | Violation | Likely Source of Contamination                                                                                                   |
| Arsenic                                                                                                                                                                                                                    | 07/13/2021       | 1.6                    | 0 – 1.6                  | 0                     | 10     | ppb   | No        | Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.                          |
| Barium                                                                                                                                                                                                                     | 2023             | 0.13                   | 0.13 – 0.13              | 2                     | 2      | ppm   | No        | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits                                       |
| Fluoride                                                                                                                                                                                                                   | 2023             | 0.642                  | 0.642- .642              | 4                     | 4.0    | ppm   | No        | Erosion of Natural Deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.       |
| Iron                                                                                                                                                                                                                       | 07/13/2021       | 3.4                    | 0 - 3.4                  |                       | 1.0    | ppm   | No        | This contaminant is not currently regulated by the USEPA. However the state regulates. Erosion of natural deposits.              |
| Manganese                                                                                                                                                                                                                  | 2023             | 11                     | 11- 11                   | 150                   | 150    | ppb   | No        | This contaminant is not currently regulated by the USEPA. However the state regulates. Erosion of natural deposits.              |
| Sodium                                                                                                                                                                                                                     | 2023             | 26                     | 26- 26                   |                       |        | ppm   | No        | Erosion from naturally occurring deposits. Used in water softener regeneration.                                                  |
| Zinc                                                                                                                                                                                                                       | 2023             | 0.012                  | 0.012- .012              | 5                     | 5      | ppm   | No        | This contaminant is not currently regulated by the USEPA. However the state regulates. Naturally occurring; discharge from metal |
| Radioactive Contaminants                                                                                                                                                                                                   | Collection Dates | Highest Level Detected | Range of Levels Detected | MCLG                  | MCL    | Units | Violation | Likely Source of Contamination                                                                                                   |
| Combined Radium 226/228                                                                                                                                                                                                    | 2023             | 2.4                    | 0- 2.4                   | 0                     | 5      | pCi/L | No        | Erosion of natural deposits.                                                                                                     |
| Volatile Organic Contaminants                                                                                                                                                                                              | Collection Date  | Highest Level Detected | Range of Levels Detected | MCLG                  | MCL    | Units | Violation | Likely Source of Contamination                                                                                                   |
| cis-1,2- Dichloroethylene                                                                                                                                                                                                  | 2023             | 7                      | 0 – 6.6                  | 70                    | 70     | ppb   | No        | Discharge from industrial chemical factories.                                                                                    |
| Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old. |                  |                        |                          |                       |        |       |           |                                                                                                                                  |

In 2021, our public water supply was sampled as part of the State of Illinois PFAS Statewide Investigation. Results of this sampling indicated PFAS were detected in our drinking water above the health advisory level established by the Illinois IEPA. Follow-up monitoring is being conducted. For more information about PFAS health advisories please visit the following link:  
<https://epa.illinois.gov/topics/water-quality/pfas/pfas-healthadvisory.html>.

| Semi-volatile Organics-PFAS-PIA                          | Collection date | Highest Level Detected | Range of Levels detected | MCLG              | MCL               | Units | Violation | Likely Source of Contamination                                                                                                                                                                                   |
|----------------------------------------------------------|-----------------|------------------------|--------------------------|-------------------|-------------------|-------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PFOA                                                     | 8/15/2022       | 3.1                    | 3.0 – 3.1                | 0                 | 4.0               | ppt   | No        | Man-made Chemical Compounds                                                                                                                                                                                      |
| PFOS                                                     | 8/15/2022       | 5.3                    | 4.9 – 5.3                | 0                 | 4.0               | ppt   | No        | Man-made Chemical Compounds                                                                                                                                                                                      |
| PFHxS                                                    | 8/15/2022       | 2.4                    | 2.1 – 2.4                | 10                | 10                | ppt   | No        | Man-made Chemical Compounds                                                                                                                                                                                      |
| PFHxA                                                    | 8/15/2022       | 4.0                    | 3.5 – 4.0                |                   |                   | ppt   | No        | Man-made Chemical Compounds                                                                                                                                                                                      |
| Mixture of two or more:<br>PFNA, PFHxS, HFPO-DA and PFBS | 8/15/2022       | .2701                  | 0 – 2.4                  | Hazard Index of 1 | Hazard Index of 1 | ppt   | No        | The Hazard Index (HI) is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the highest level determined not to have risk of health effects. (EPA fact sheet) |

**Violation Summary Table**

We are happy to announce that **no** monitoring, reporting, treatment technique, maximum residual disinfectant level, or maximum contaminant level violations were recorded during **2023**.

**System Flushing**

The Sewer & Water Department flushes the water system and fire hydrants twice a year, once in the spring and again in the fall. This flushing is required to ensure our fire hydrants are working properly and to clean the water mains of sediments that cause red water and odor problems.

**Water Audits**

We are still offering free water audits as a service to our residents. Please contact the Fox Lake Sewer and Water Department at (847)587-3506 to schedule an appointment for a free water audit. A member of our staff will come to your location and check for: leaks, fixture, and meter efficiency, and offer conservation/water saving tips. Audits are available Monday-Friday 7:30a.m.-2:30p.m.

**FOR SEWER and WATER Emergencies please call (847)587-3100**

**If you have a question about your Sewer & Water Bill please call our office at 847-587-3945 or E-mail [martinezl@foxlake.org](mailto:martinezl@foxlake.org)**

**For general information or requests for non-emergency service please call: 847-587-3506 or E-mail [turnert@foxlake.org](mailto:turnert@foxlake.org)**

**For Sewer & Water Locations Before You Dig. Please Call J.U.L.I.E. at 1-800-892-0123**

*It is our commitment to the residents of Fox Lake to provide safe, reliable, and economical sewer and water services.*