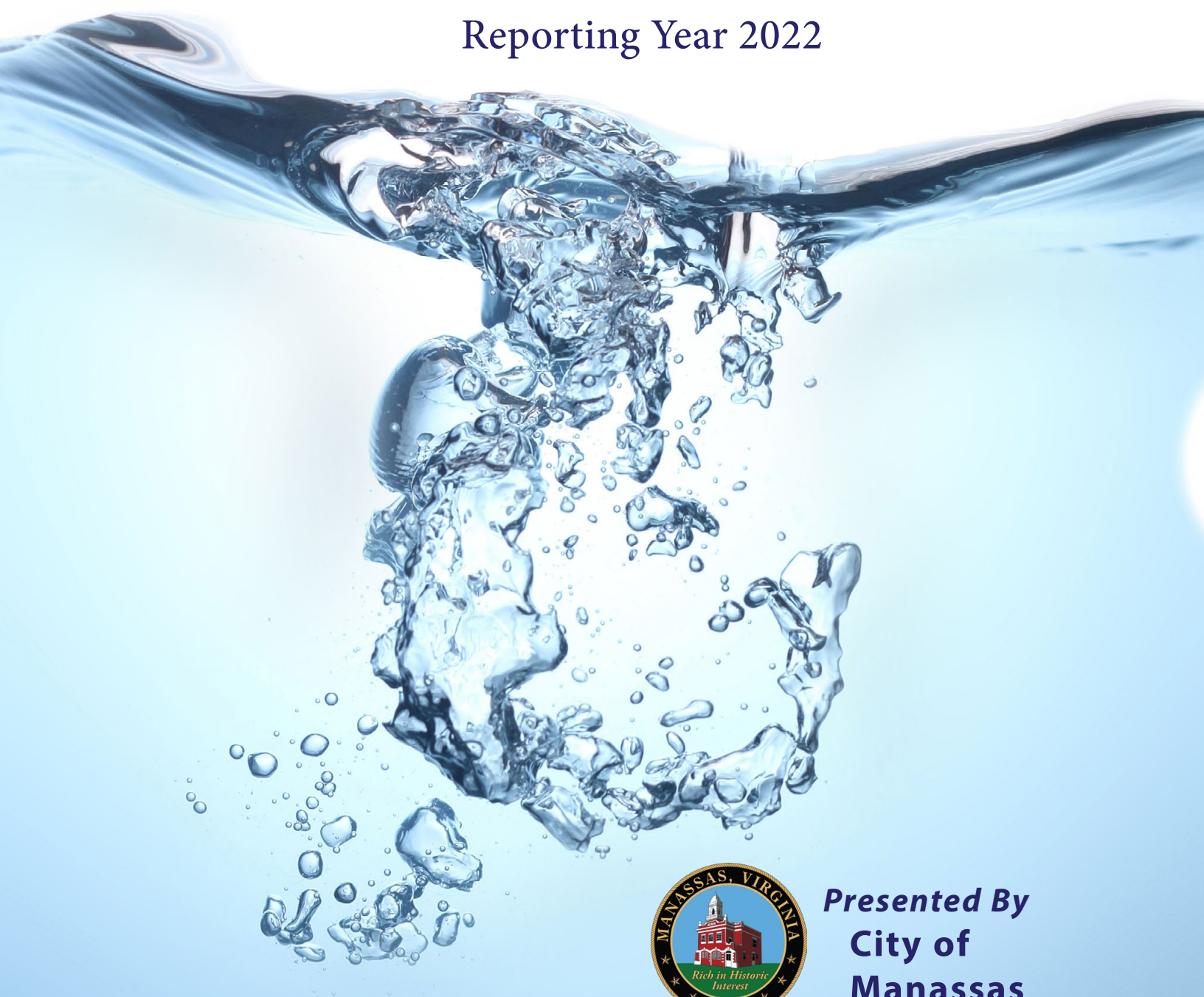


ANNUAL WATER QUALITY REPORT

Reporting Year 2022



Presented By
**City of
Manassas**



Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Source Water Assessment

Under provisions of the Safe Drinking Water Act, states are required to develop comprehensive source water assessment programs to identify the watersheds that supply public tap water and provide an inventory of contaminants present in the watershed. The Virginia Department of Health (VDH) conducted a source water assessment of Lake Manassas in 2020 and found high susceptibility to contamination using the state's criteria in its approved source water assessment program. The VDH report consists of maps showing the source water assessment area, an inventory of known land use activities of concern in Prince William County, and documentation of any known contamination in the last five years. The report is available by contacting the City Water Compliance Officer at (703) 257-8477.

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

You are invited to participate in our Utility Commission meetings if you have any questions or concerns about your drinking water. The Utility Commission meets on the second Thursday of each month at 5:30 p.m. in the City of Manassas Public Works Building. If you would like to attend, please contact the Utility Department at (703) 257-8351.

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 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 at www.epa.gov/safewater/lead.

Where Does My Water Come From?

The City of Manassas has two reliable water supply sources. The primary source is the City of Manassas Water Treatment Plant, which draws water from Lake Manassas, an impoundment on Broad Run in Western Prince William County. The watershed for Lake Manassas covers approximately 74.5 square miles, and the reservoir covers over 880 acres. If needed during peak consumption periods or emergencies, water may be supplied from a second source, the Prince William County Service Authority (PWCSA). Water from the PWCSA is treated at Fairfax Water's northern treatment facility, the James J. Corbalis Plant, which withdraws water from the Potomac River. To learn more about our watershed online, visit U.S. EPA's How's My Waterway at <https://www.epa.gov/waterdata/how-s-my-waterway>.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call the City Water Compliance Officer at (703) 257-8477.

What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit <http://bit.ly/3Z5AMm8>.

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 these simple suggestions. 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 or 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 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. NA 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.

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.

REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|--------------------------------------------------------------------|-----------------|------------------------------------|-----------------|--------------------|-------------------|-----------|---------------------------------------------------------------------------------------------------------------------------|
| Chlorine (ppm) | 2022 | [4] | [4] | 3.01 | 0.26–4.00 | No | Water additive used to control microbes |
| Fluoride (ppm) | 2022 | 4 | 4 | 0.54 | 0.46–0.60 | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Haloacetic Acids [HAAs]–Stage 2 (ppb) | 2022 | 60 | NA | 39.1 | 17.7–67.1 | No | By-product of drinking water disinfection |
| Total Organic Carbon (removal ratio) | 2022 | TT ¹ | NA | 1.29 | 1.15–1.43 | No | Naturally present in the environment |
| TTHMs [total trihalomethanes]–Stage 2 (ppb) | 2022 | 80 | NA | 52.9 | 25.8–78.2 | No | By-product of drinking water disinfection |
| Turbidity² (NTU) | 2022 | TT | NA | 0.099 | 0.03–0.099 | No | Soil runoff |
| Turbidity (lowest monthly percent of samples meeting limit) | 2022 | TT = 95% of samples meet the limit | NA | 100 | NA | No | Soil runoff |

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 | 0.136 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| Lead (ppb) | 2021 | 15 | 0 | 0.36 | 1/30 | No | Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits |

UNREGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|--------------------------------|-----------------|--------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| HAA6Br (ppb) | 2020 | 4.9 | 4.0–5.9 | By- product of drinking water disinfection |
| HAA9 (ppb) | 2020 | 29.7 | 18.4–41.7 | By-product of drinking water disinfection |
| Manganese (ppb) | 2020 | 0.2 | ND–0.4 | Naturally occurring element; Used in steel production, fertilizer, batteries, and fireworks; Drinking and wastewater treatment chemical |
| Sodium (ppm) | 2022 | 24.2 | NA | Naturally occurring; Road salt; Water softeners |
| Total Hardness (ppm) | 2022 | 61 | NA | Calcium and magnesium naturally occurring in water |

¹ The value reported under Amount Detected for TOC is the lowest ratio of the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.

² Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

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 which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.



BY THE NUMBERS

The number of Olympic-sized swimming pools it would take to fill up all of Earth's water.

800
TRILLION

1 The average cost in cents for about 5 gallons of water supplied to a home in the U.S.

The percent of Earth's water that is salty or otherwise undrinkable, or locked away and unavailable in ice caps and glaciers.

99

50 The average daily number of gallons of total home water use for each person in the U.S.

The percent of Earth's surface that is covered by water.

71

330
MILLION The amount of water on Earth in cubic miles.

The percent of the human brain that contains water.

75

