

ANNUAL WATER QUALITY REPORT

Reporting Year 2022



Presented By
**Elk River
Municipal Utilities**





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

A Source Water Assessment Plan (SWAP) is now available at our office, or you may search for “Elk River” online at <https://www.health.state.mn.us/communities/environment/water/swp/swa.html>. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

About 90 percent of our drinking water supply management area is considered non-vulnerable; less than 10 percent is vulnerable. Our wellhead protection plan has many items that address limiting or stopping potential contamination.

Where Does My Water Come From?

Elk River Municipal Utilities' (ERMU) wells are supplied from the Mount Simon-Hinckley Aquifer. ERMU maintains eight wells, six water treatment plants, four water towers, over 125 miles of water main, 1,300 fire hydrants, and just under 3,000 valves. In 2022 ERMU pumped over 866 million gallons of water. We are proud to serve over 5,500 water customers.

Important Health Information

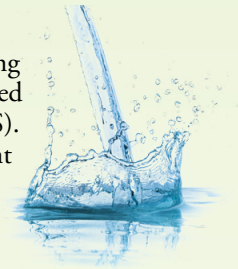
Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants 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://water.epa.gov/drink/hotline>.



PFAS Testing

The U.S. EPA has proposed drinking water standards for six of the recognized per- and polyfluoroalkyl substances (PFAS). It plans to create maximum contaminant level goals (MCLG) and maximum contaminant levels (MCL) to manage water contamination and mitigation. PFAS are not regulated under the Safe Drinking Water Act, and community well systems are not required to monitor them at this time. However, ERMU has voluntarily conducted monitoring in 2022 and determined that our system is below any risk level. We, as always, will be following the required guidelines and testing protocols given by the Minnesota Department of Health (MDH). For more information and an interactive dashboard for PFAS, please visit <https://www.health.state.mn.us/communities/environment/water/pfasmap.html>.



Source Water Protection

It is important to seal unused wells and contact your county or city to update records. Every unused well is a potential pipeline to contamination if left unsealed. The same goes for contaminants that are put on the ground or in water. Substances that are absorbed into the ground or flow to a waterway percolate down to drinking water sources in variable time lines and can alter our drinking water. Please use caution when using chemicals and getting rid of items that may change the environment.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Elk River Municipal Utilities at (763) 441-2020 – Dave Ninow, Water Superintendent. You may review this report online at <https://www.ermumn.com/services/water/water-quality-report>

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;

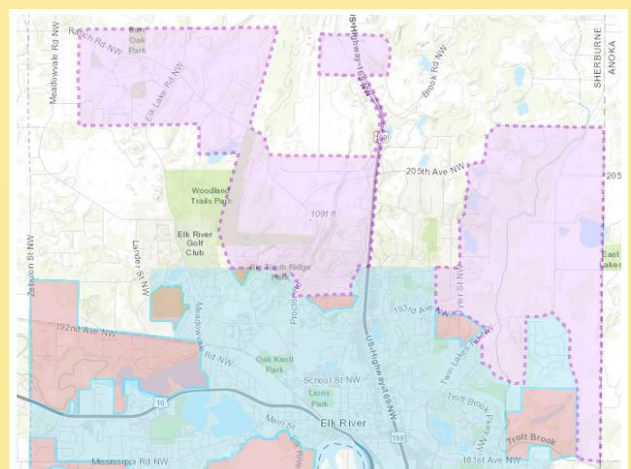
Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

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.

Wellhead Protection Amendment and Urban Services Expansion

We recently completed our Wellhead Protection Amendment, which has been reviewed and approved by MDH. We update and amend our Wellhead Protection Plan every 10 years to identify the changing needs of our water system. ERMU creates action items to address goals and concerns through the plan's 10-year time line. This illustrates our needs to MDH so it can address concerns, adjust, create grants and programs, and better communicate with us and legislators with the foundational knowledge disclosed through the amendment process. Now that the City of Elk River has approved its most recent Urban Services Expansion north of town, ERMU needs to continue to plan ahead and consider growth potential, which will impact water consumption for residential, commercial, and fire protection use.



Map Legend

Blue - Water Territory - Infrastructure Accessible

Red - Water Territory - Infrastructure Not Currently Accessible

Purple - Proposed Future Urban Services Territory

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.



Test Results

Our water is monitored for many 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 detections 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
Barium (ppm)	2018	2	2	0.02	NA	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chlorine (ppm)	2022	[4]	[4]	0.79	0.60–0.84	No	Water additive used to control microbes
Fluoride (ppm)	2022	4	4	0.73	0.64–0.77	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Gross Alpha Particles (pCi/L)	2020	15.4	0	3.6	ND–3.6	No	Erosion of natural deposits
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2022	60	NA	6.70	5.10–6.70	No	By-product of drinking water disinfection
Nitrate (ppm)	2022	10	10	ND–1.40	ND–1.40	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	80	NA	17.60	11.90–17.60	No	By-product of drinking water disinfection
Xylenes (ppm)	2019	10	10	ND	NA	No	Discharge from petroleum factories; discharge from chemical factories

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)	2022	1.3	1.3	0.23	1/30	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2022	15	0	1.37	0/30	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
Manganese (ppb)	2019	0.41	ND–0.81	NA
Sodium ¹ (ppm)	2021	3.58	3.40–3.58	NA
Sulfate (ppm)	2021	7.76	2.95–7.76	NA

¹ In-home water softening can increase the level of sodium in your water.



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.

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).

Irrigation

The number one use of water is irrigation, which is also the easiest way to save - not only for the resource, but for your wallet. So many households and commercial properties use extensive amounts of water to irrigate their lawns. ERMU has assisted many customers in reducing water waste through our SMART irrigation rebates, educating them about how to save money on their yard.

1. If you irrigate, consider a SMART controller. Many can be retrofitted to replace your current system. They are very affordable and can pay for themselves in water savings in a small amount of time.

2. Soak and cycle: the trick to using less water and getting the same great results is to water more frequently but for shorter amounts of time. This is the best feature of most SMART controllers, but similar results can be achieved if you manually move your sprinkler around the yard. If the front yard is Zone A and the backyard is Zone B, it may be best to water for 15 minutes and then rotate to the next zone. You may need to water a zone two or three times in a session, but by breaking up the amount of watering time in each zone, you are allowing better absorption for the roots and reducing runoff. If you irrigate a zone all at once, the water strips the soil of nutrients and runs right past the roots. That's money and a precious resource down the drain. You can often see when there's too much water at the surface of a lawn; it starts to run down the driveway or road or accumulate at the lowest level of the yard. That's not helping to reduce waste.

3. Water during the coolest part of the day, and not in the sunlight. Evapotranspiration happens more in the sun and at higher temperatures. Also, irrigation should follow the seasons. Many people begin irrigating too early in the year. Snowmelt generally leaves soil wet for longer than we realize. Grass is naturally dormant until sunlight and temperatures increase, so hold off watering until it's needed. Minnesota lawns typically do well with moisture in the spring to early summer.

4. Irrigation head replacement can be helpful to reduce excess watering. Moving or redirecting irrigation heads to avoid watering areas with no grass will optimize your water use in the intended areas.

5. Regular irrigation system checks will help you identify issues faster and allow you to get acquainted with your lawn's needs instead of just dousing it. Grass often does not require as much water as you think, and SMART features combined with checks can facilitate savings of both money and water.

These small changes can drastically reduce your watering volume while keeping your lawn lush and healthy, allowing the roots to grow deeper to seek water.

We've had many town/home associations navigate to SMART controllers in the last 15 years, and they have received our SMART rebate. One association was gathering information on SMART controllers for a few years prior to making the leap, and we continued to promote retrofitting its systems to reduce its immense water consumption for multiple sites. It has now been utilizing a SMART controller for just shy of a decade, and the results are amazing!

Water Conservation

Water conservation is perhaps best described as “mindfulness to reduce water waste.” Water resource consideration is imperative for our future. Elk River is on the outskirts of the Twin Cities basin, which is a bowl-shaped water flow system, similar in shape to the metro freeway loop of I-694/I-494. The inner portion of the circle below the center of the Twin Cities has more accessibility to water at depth, meaning the volume of water concentrates at the bottom of the bowl. The center also houses the densest population, which consumes more resources.

There are over three million people who require water in the Twin Cities basin. As we all draw water, the edges of the bowl witness noticeable negative impacts more prominently and more immediately than the middle. Through the arid growing season, wells must pull from greater depths, and some wells run dry as consumption increases and the recharge trickles. It takes a long time for the aquifer to recharge, and we never know how the weather will affect the replenishment rate.

The Department of Natural Resources (DNR) is restricting new nonpotable wells that draw from our primary aquifer. Future potable wells in the Mount Simon-Hinkley Aquifer must be preapproved by the DNR and show a valid need, such as limited access to other drinking water resources. It is our goal to educate consumers on best practices in order to enjoy our limited precious resource. With mindful water consumption we can work together to mitigate potential shortages that may be imminent in the outer communities.

