

# ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2020

***Presented By***  
**Evergreen Metropolitan District**



## Quality First

We are pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2020. 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.

## Source Water Assessment

The Evergreen Metropolitan District drinking water supply is surface water rather than groundwater. This is an important distinction, as there are different impurities that potentially affect the quality of each type of water source. Bear Creek and Evergreen Lake are potentially susceptible to contamination from many sources. Runoff from roads, mining activity drainage, accidental spills from above-ground fuel storage facilities, runoff from pasturelands, and septic leach field discharges are all potential sources of pollution to our drinking water supply.

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report of our water supply. The Susceptibility Rating for our Source Water Assessment is “Moderately High.” The report may be viewed at <https://www.colorado.gov/pacific/cdphe/swap-assessment-phase> or by contacting Chris Schauder at the Evergreen Metropolitan District at (303) 674-4112.

As recipients and users of the high-quality water that begins in the Mount Evans Wilderness, the district and its customers are all stewards of Bear Creek and must remain vigilant in its protection. Please contact Chris Schauder to learn more about what you can do to help protect your drinking water.

## Information on the Internet

The U.S. EPA (<https://goo.gl/TFAMKc>) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Colorado Department of Public Health and Environment has a Web site (<https://goo.gl/1BBbfu>) that provides complete and current information on water issues in Colorado, including valuable information about our watershed.

## Drought

As stated previously, the water source for Evergreen Metropolitan District is the water flowing from Upper Bear Creek into Evergreen Lake. When the watershed does not get the average snowpack and rainfall during the course of the year, this can cause lower-than-normal flows in Bear Creek. When the flow in Bear Creek gets low enough, the district is required to implement a water conservation plan. Adhering to the water conservation measures will help maintain a continuous flow in Bear Creek.

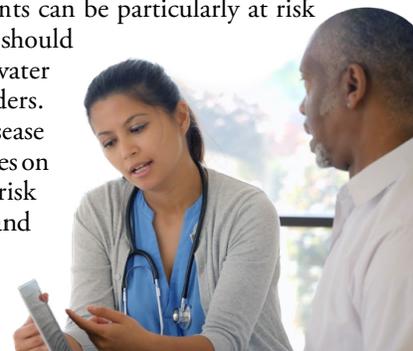
## Community Participation

Community members are always invited to participate in our public meetings and voice any concerns they might have about the drinking water or other issues pertaining to the district. Board meetings are normally scheduled for the fourth Wednesday of each month beginning at 8:30 a.m. The meetings are held at the Gerald C. Schulte Administration Office located at 30920 Stagecoach Boulevard, Evergreen. A complete list of meeting dates for 2021 is available at the Administration Office. It is also available on our website at [www.evergreenmetro.org](http://www.evergreenmetro.org). We invite the public to tour any of our facilities, especially the water treatment facility. Please call (303) 674-4112 to set up a time.

## Important Health Information

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 U.S. Environmental Protection Agency’s (U.S. EPA) Safe Drinking Water Hotline at (800) 426-4791.

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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. 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.



**QUESTIONS?** For more information about this report, or for any questions relating to your drinking water, please contact David Lighthouse, General Manager, at (303) 674-4112.

## Where Does My Water Come From?

The water supply for Evergreen Metropolitan District comes from the Upper Bear Creek Watershed. The watershed begins at the top of the Mount Evans Wilderness area. The water supply is in the form of snowpack, rainfall, and lake storage. Evergreen Lake is located at the base of the Upper Bear Creek Watershed. The lake is about 600 acre-feet, or about 197 million gallons. It is a relatively shallow lake, with an average depth of 15 feet. The Evergreen Metropolitan District Water Treatment Plant draws water from the lake at a point near the dam on the northeast end.

Evergreen Lake provides a high-quality, low-hardness water supply. However, because it is surface water and relatively shallow and small, it is susceptible to impact from periodic high stream flows due to spring runoff and summer rainstorm events. The treatment process used by the district is capable of handling these periodic poor-water-quality events.

The Bear Creek Watershed Association is an organization of groups with significant interest in and responsibility for the health and well-being of the Bear Creek Watershed. The group does a significant amount of water sampling and monitoring within the watershed from Mount Evans to Bear Creek Lake Park. As new points of potential contamination to the watershed are found, additional water sampling is coordinated for those sites. Information regarding the current status of water quality within the watershed can be found at the association's website, [www.bearcreekwatershed.org](http://www.bearcreekwatershed.org).

## Water Stress

Water stress occurs when the demand for water exceeds the amount available during a certain period or when poor water quality restricts its use. Water stress causes deterioration of fresh water resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.). According to the World Resource Institute ([www.wri.org](http://www.wri.org)), the Middle East and North Africa remain the most water stressed regions on earth.

However, several states in the western half of the U.S. are similarly experiencing extremely high levels of water stress from overuse. It is clear that even in countries with low overall water stress, individual communities within a country may still be experiencing extremely stressed conditions. For example, South Africa and the United States rank #48 and #71 on WRI's list, respectively, yet the Western Cape (the state home to Cape Town) and New Mexico experience extremely high stress levels. There are undeniably worrying trends in water quality. But by taking action now and investing in better management, we can solve water issues before it is too late.



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## Substances That Could Be in Water

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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. Contaminants 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.

## 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 at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## 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.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.



### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Alpha Emitters</b> (pCi/L)	2020	15	0	3.5	3.5–3.5	No	Erosion of natural deposits
<b>Barium</b> (ppm)	2020	2	2	0.03	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Chlorine</b> (ppm)	2020	[4]	[4]	1.50	0.89–1.94	No	Water additive used to control microbes
<b>Fluoride</b> (ppm)	2020	4	4	0.78	0.35–1.24	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
<b>Haloacetic Acids [HAAs]</b> (ppb)	2020	60	NA	17	11–20	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2020	10	10	0.2	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2020	80	NA	33	17–57	No	By-product of drinking water disinfection
<b>Turbidity<sup>1</sup></b> (NTU)	2020	TT	NA	0.10	0.02–0.10	No	Soil runoff
<b>Turbidity</b> (lowest monthly percent of samples meeting limit)	2020	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff

## 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

**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.

**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).

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



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)	2020	1.3	1.3	0.35	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2020	15	0	5	2/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bromochloroacetic Acid (ppb)	2020	2.3	1.4–3.1
Bromodichloroacetic Acid (ppb)	2020	3.7	2.2–5.4
Chlorodibromoacetic Acid (ppb)	2020	0.55	0.4–0.7
Dibromoacetic Acid (ppb)	2020	0.3	0.3–0.3
Dichloroacetic Acid (ppb)	2020	11.6	7–13
HAA6Br (ppb)	2019	6.6	4.2–9.5
HAA9 (ppb)	2020	29.3	15.1–45.5
Trichloroacetic Acid (ppb)	2020	11.1	3.2–18.7

<sup>1</sup> 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.

## How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from Evergreen Lake and sent through an intake pipe for volume measurement. Two chemicals are then injected into the water. The first is an oxidizing chemical called potassium permanganate. This chemical reacts with impurities in the water, such as iron, manganese, and organic compounds. The reaction changes these impurities from a dissolved state to a solid-particle state. This will allow the impurities to be removed during subsequent treatment. The second chemical (aluminum chlorohydrate solution) reacts with impurities in the water to form small particles. The water and chemical are slowly mixed and allowed to react for about two hours. The water is then filtered through ultrafiltration membranes. This filtration process will not allow parasites, Giardia, most bacteria, or most viruses to pass through.

Once the water is filtered, it must be disinfected. Chlorine is used for this process. It is necessary to add chlorine because it will remain in the water when pumped to the distribution system. This residual chlorine protects the water and the customer from contaminants that could possibly enter the water system, such as through a cross-connection. Finally, a corrosion-control chemical, called a polyphosphate, and fluoride (to prevent tooth decay) are added before the water is pumped to a sanitized underground distribution system and into your home or business.