

A close-up photograph of a clear glass pitcher pouring water into a clear glass. The water is captured in mid-pour, creating a dynamic, crystalline stream. The background is softly blurred, showing hints of other glassware and a warm, golden light source. The overall composition is clean and emphasizes the clarity and purity of the water.

ANNUAL
**WATER
QUALITY
REPORT**

WATER TESTING PERFORMED IN 2015

Presented By
Evergreen Metropolitan District

Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. 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 your homes and businesses. 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 of our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

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 Environmental Protection Agency's 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 those with cancer undergoing chemotherapy, those 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.



Community Participation

Community members are always invited to participate in our public meetings and voice any concerns you 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 District Administration Office located at 30920 Stagecoach Boulevard, Evergreen, Colorado. A complete list of meeting dates for the year 2016 is available at the Administration Office. It is also available on our Web site at evergreenmetrodistrict.com. 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.

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 that 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.

Evergreen Lake Sediment Project

For the last couple of years, Evergreen Metropolitan District has been preparing for a project supported by FEMA funding to remove sediment that affected the Evergreen Lake from the September 2013 flooding event. After a long process of document preparation to support the bidding process and following the proper procedures, the District has started the sediment removal process using a contractor. By removing the sediment, the health of the lake will improve, give the aquatic life more area to live, and restore the water storage that was lost due to the sedimentation that occurred during the flooding event. If you have any questions concerning this project, please call the Administration Office 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 resides in the watershed in the form of snow pack, rainfall, and lake storage. Evergreen Lake is located at the base of the Upper Bear Creek Watershed. The lake is about 600 acre-feet in size, 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 a surface water and is relatively shallow and small in size, 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 monitoring within the Watershed. Information regarding the current status of water quality within the watershed can be found at the Association's Web site: www.bearcreekwatershed.org.

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 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 www.epa.gov/lead.

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 and two basic water quality tests: pH and turbidity. 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 change allows the impurities to be removed during subsequent treatment. The second chemical (a poly-aluminum chloride) reacts with impurities in the water to form small particles. The water and chemical are slowly mixed and allowed to react for a period of about 2 hours. The water is then filtered by passing the water through ultrafiltration membranes. The membrane type the District uses has a nominal pore size of 0.035 microns to 0.1 microns. This opening is so small it will not allow parasites, Giardia, most bacteria, and most viruses to pass through it. In 2013, a microscopic particulate analysis of the lake water and the finished water demonstrated a log removal of microorganisms of 6.1, or a >99.9999 percent removal of all microorganisms.

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.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please contact the Administration Office at (303) 674-4112.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation over the past year. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water necessarily bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors but, generally speaking, corrosive water has a pH of less than 7; the lower the pH, the more acidic, or corrosive, the water becomes. (By this definition, many natural waterways throughout the country can be described as corrosive.) While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure in drinking water to elevated levels of the dissolved metals increases adverse health risks. And there lies the problem.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water to make sure that what happened in Flint never happens here. For more information on how corrosivity impacts water quality, download this informative pamphlet: <http://goo.gl/KpTmXv>.

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 report may be viewed at the District's Web site: www.evergreenmetrodistrict.com. You may also obtain a copy of the report by visiting <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 customers are all stewards of Bear Creek and must remain vigilant to its protection. Please contact Chris Schauder to learn more about what you can do to help protect your drinking water.



Is tap water cheaper than soda?

Yes! You can refill an 8 oz. glass of tap water approximately 15,000 times for the same cost as a six-pack of soda pop. And, water has no sugar or caffeine.

How long can a person go without water?

Although a person can live without food for more than a month, a person can only live without water for approximately one week.

When was drinking water first regulated?

The Safe Drinking Water Act (SDWA) of 1974 represents the first time that public drinking water supplies were protected on a federal (national) level in the U.S. Amendments were made to the SDWA in 1986 and 1996.

Seventy-one percent of Earth is covered in water: how much is drinkable?

Oceans hold about 96.5 percent of all Earth's water. Only three percent of the earth's water can be used as drinking water. Seventy-five percent of the world's fresh water is frozen in the polar ice caps.

How much water do we use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. (During medieval times a person used only 5 gallons per day.) It takes 2 gallons to brush your teeth, 2 to 7 gallons to flush a toilet, and 25 to 50 gallons to take a shower.

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often 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)	2012	2	2	0.02	0.02–0.02	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2015	[4]	[4]	1.46	0.23–2.27	No	Water additive used to control microbes
Fluoride (ppm)	2015	4	4	0.74	0.5–1.02	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2015	60	NA	21.1	17.8–24.4	No	By-product of drinking water disinfection
Nitrate (ppm)	2015	10	10	0.08	0.08–0.08	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2015	80	NA	27.8	16.7–33.7	No	By-product of drinking water disinfection
Turbidity ¹ (NTU)	2015	TT	NA	0.21	0.02–0.21	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2015	TT = 95% of samples < 0.3 NTU	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%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2014	1.3	1.3	0.44	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2014	15	0	15	5/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

¹Turbidity 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

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

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.

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.