

Protecting Water Sources

The Colorado Department of Public Health and Environment has provided Greeley with a Source Water Assessment Report for our water supply. Call Colleen Young, at 970-350-9846 or visit greeleygov.com/ccr for a copy of the report.

The Source Water Assessment Report provides a screening-level evaluation of potential contamination that could occur. It does not mean that the contamination has or will occur. We can use this information to evaluate the need to improve current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Beware of Cross Connections

As part of our continuing effort to provide and maintain safe, clean drinking water, the Greeley Water Operations Department has a Cross-Connection Control Program. A cross-connection is any connection that could introduce contaminants such as pesticides, fertilizers, used or dirty water, fluids, gases, or other contaminants into the water system. Water normally flows out of the public water distribution system under pressure. When a cross-connection exists, a drop in pressure can cause a reversal of flow, allowing harmful substances to enter the public water system. Common residential cross-connection contamination include but are not limited to irrigation systems, fertilizer injection systems, hoses connected to chemical spray bottles, chemicals in water beds, hot tubs, swimming pools, water features, aquariums, and swamp coolers. Examples of commercial or industrial cross-connection sources include cooling systems, boilers, solvents and manufacturing chemicals, sprinkler systems, and the same sources listed above under residential contamination sources.

What can you do to protect our public water system?

- Be observant. Check for potential contamination sources around your home, business or industrial site. Never leave hoses in buckets, pools or sinks.
- If you suspect a cross-connection, contact a qualified plumber who is familiar with cross-connections, hydraulics and pollution.
- Install backflow prevention assemblies to prevent potential cross-connections and have a certified backflow tester inspect and test your assemblies annually to ensure they are working properly.

For more information and/or a list of certified backflow testers please visit <http://bit.ly/GreeleyWaterQuality>.



Get More Information

Please contact Colleen Young at 970-350-9846 with any questions about this report or for public participation opportunities that may affect water quality. To view the report online, visit greeleygov.com/ccr. Access information about drinking water in general on the EPA's drinking water web site at epa.gov/safewater.

Connect to Your Water

Water & Sewer Department

970-350-9813

water@greeleygov.com

greeleygov.com/water

Water Conservation

970-336-4134

conserve@greeleygov.com

greeleygov.com/wc

facebook.com/greeleywater

twitter.com/greeleywater

Water Emergencies

970-350-9813 (daytime)

970-350-9600 (after hours)

Utility Billing

970-350-9720

Water Taste or Odor

970-350-9324

Water Pressure

970-350-9320

Water Restrictions & Violations

970-336-4134

Utility Line Locates

811



CO0162321



— GET TO KNOW YOUR —

Water



2017

Greeley's
Water
Sources

Facts About
Your Water

2016 Water
Quality
Results



Este informe contiene información importante sobre la calidad del agua incluyendo de donde viene, qué hay en ella, y cómo es tratada y distribuida. Si desea esta publicación impresa en español la puede encontrar en (insert web address) o llamando al 970-336-4288.

Call 970-350-9813 to get a copy of this report in Braille.

Greeley Drinking Water Sources & Uses



Cache la Poudre River



Laramie River



Colorado River



Big Thompson River

6 high-mountain reservoirs

- Barnes Meadow
- Comanche
- Hourglass
- Peterson
- Twin Lake
- Milton Seaman

Plus direct flow rights

1 - tunnel project

Laramie-Poudre Tunnel
17% ownership of project

2- large water projects

Colorado-Big Thompson (C-BT) Project
7% of C-BT System

Windy Gap Project
9% of Windy Gap Water

3- Irrigation/Water Companies

- Boyd Lake
- Lake Loveland
- Horsetooth Reservoir

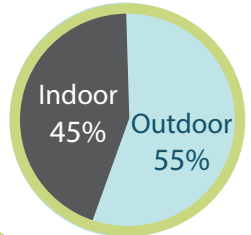
Bellvue
established 1907
operates year round

32 million
gallons per
day capacity

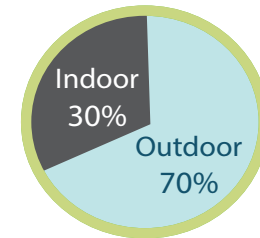
Boyd Lake
established 1964
operates April - October

38 million
gallons per
day capacity

Year Round Residential Use



Summer Residential Use



Raw (not treated) Water Lines

8 Miles

Transmission Lines
(brings treated water to the city)

155.5 Miles

Distribution Lines
(brings treated water around the city)

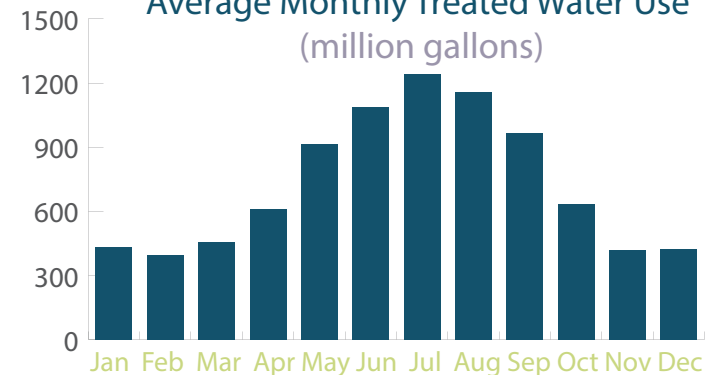
461 Miles

0 100 200 300 400 500

Miles of Pipeline



Average Monthly Treated Water Use (million gallons)



2016 Drinking Water Quality Results

In compliance with the Colorado Primary Drinking Water Regulations, the Greeley Water and Sewer Department is pleased to present our annual Drinking Water Quality Report for the calendar year 2016. Our constant goal is to provide you with a safe and dependable supply of drinking water. Greeley routinely monitors for contaminants in your drinking water according to federal and state laws. The following table shows all detections found in the period from January 1 to December 31, 2016, unless otherwise noted. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Only detected contaminants sampled within the last five years appear in this report.

Summary of Disinfectants Sampled in the Distribution System

Contaminant Name	Month	Results	Sample Size	TT Requirement	TT Violation	Typical Sources
Chlorine	March, 2016	Lowest period percentage of samples meeting TT requirement: 98.9%	91	For any two consecutive months, At least 95% of samples (per month) must be detectable	No	Water additive used to control microbes

Microorganism Contaminants Sampled in the Distribution System

Contaminant Name	Time Period	Results	Sample Size	MCL	MCLG	MCL Violation	Typical Sources
Coliform (TCR)	Aug	1.06	94	More than 5.0% positive samples per period (If sample size is greater than or equal to 40) OR More than 1 positive sample per period (If sample size is less than 40)	0	No	Naturally present in the environment

Lead and Copper Sampled in the Distribution System

Contaminant Name	Time Period	90th Percentile	Sample Size	90th Percentile AL	90th Percentile AL Exceedance	Typical Sources
Copper	7/9/2014 to 7/28/2014	0.26 ppm	30	1.3	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	7/9/2014 to 7/28/2014	1.9 ppb	30	15	No	

Disinfection Byproducts Sampled in the Distribution System

Name	Year	Average	Range Low – High	Sample Size	MCL	MCLG	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2016	24.84 ppb	14.1 to 42.9	32	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2016	47.43 ppb	20.4 to 86.2	32	80	N/A	No	
Chlorite	2016	0.18 ppb	0.13 to 0.27	12	1.0	.8	No	

Total Organic Carbon (Disinfection Byproducts Precursor) Removal Ratio of Raw and Finished Water

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	TT Minimum Ratio	TT Violation	Typical Sources
Total Organic Carbon Ratio	2016	1.28	0.59 to 1.61	19	Ratio	1.00	No	Naturally present in the environment

*If minimum ratio not met and no violation identified then the system achieved compliance using alternative criteria.

Disinfectants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Number of Samples Above or Below Level	Sample Size	TT Requirement	TT Violation	MRDL	Typical Sources
Chlorine/Chloramine	2016	0	3168	TT = No more than 4 hours with a sample below 0.8 MG/L	No	4.0 ppm	Water additive used

All 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 the water poses a health risk.

Cryptosporidium is a microbial pathogen found in source water in Colorado. It must be ingested to cause disease and may be spread through means other than drinking water. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. Cryptosporidium is eliminated from drinking water by effective treatment.



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 of infections. These people should seek advice about drinking water from health care providers. Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria that may come from wastewater treatment plants, septic systems, agricultural livestock, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from 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, stormwater runoff, and residential landscapes.
- *Radioactive contaminants*, that can be naturally occurring or be the result of oil and gas production, and mining activities.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, storm water runoff, and septic systems.

For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency and the U.S. Centers for Disease Control guidelines on appropriate means to lessen the risk of infection

Chlorine Dioxide	2016	0	366	N/A	No	800 ppb	to control microbes
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by cryptosporidium and other biological contaminants call the EPA Safe Drinking Water Hotline at 1-800-426-4791 or visit water.epa.gov/drink/contaminants.

Summary of Turbidity Sampled at the Entry Point to the Distribution System

Contaminant Name	Sample Date	Level Found	TT Requirement	TT Violation	Typical Sources
Turbidity	Apr	Highest single measurement: 0.18 NTU	Maximum 1 NTU for any single measurement	No	Soil runoff
Turbidity	Dec	Lowest monthly percentage of samples meeting TT requirement for our technology: 100%	In any month, at least 95% of samples must be less than 0.3 NTU	No	

Lead in Drinking Water

If present, elevated levels of lead can cause health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead, you may wish to have your water tested. 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. Additional information on lead in drinking water is available from the Safe Drinking Water Hotline 1-800-426-4791 or at epa.gov/safewater/lead.

Inorganic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low-High	Sample Size	MCL	MCLG	MCL Violation	Typical Sources
Antimony	2016	0.7 ppb	0 to 1.4 ppb	2	6	6	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Barium	2016	0.04 ppm	0.02 to 0.07 ppm	2	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2016	0.64 ppm	0.45 to 0.75 ppm	11	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Selenium	2016	1.15 ppb	0 to 2.3 ppb	2	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Terms and Abbreviations

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

Maximum Contaminant Level (MCL): The 'Maximum Allowed' is 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.

Maximum Contaminant Level Goal (MCLG): The 'Goal' is 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.

Maximum Residual Disinfectant Level (MRDL) - Highest level of a disinfectant allowed in drinking water, based on convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Nephelometric Turbidity Unit (NTU): Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Parts per million (ppm): One part per million corresponds to 1 milligram per liter (mg/l), a very dilute concentration of substance.

Parts per billion (ppb): One part per billion corresponds to 1 microgram per liter (µg/l), a very dilute concentration of substance.

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

Violation: Failure to meet a Colorado Primary Drinking Water Regulation.

Cryptosporidium and Raw Source Water E. coli

Contaminant Name	Year	Number of Positives	Sample Size
Cryptosporidium	2016	1	18
E. Coli	2016	13	18

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Secondary Contaminants**

**Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

Contaminant Name	Year	Average	Range Low - High	Sample Size	Unit of Measure	Secondary Standard
Sodium	2016	18.75	8 to 29.5	2	ppm	N/A

Unregulated Contaminants***

Contaminant	Year	Average	Range Low-High	EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR3 sampling and the corresponding analytical results are provided. ***More information about the contaminants that were included in UCMR3 monitoring can be found at: http://www.drinktap.org/water-info/whats-in-my-water/unregulated-contaminant-monitoring-rule.aspx . Learn more about the EPA UCMR at: http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule or contact the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/contact.cfm .
Strontium	2014	72	68.0 - 76.0 ppb	
Vanadium	2014	0.20	0.20 ppb	
Hexavalent Chromium	2014	0.035	0.03 - 0.04 ppb	
Chlorate	2014	58.50	39.0 - 78.0 ppb	

