



Continuing Our Commitment

Know your H₂O. Learn where your drinking water comes from and how it compares to federal standards by checking out this report. Fort Collins Utilities remains committed to delivering high-quality drinking water and meeting the challenges of source water protection, water conservation and community education.

2016 REPORT

DRINKING WATER QUALITY

Para más información de este informe de su calidad de agua potable en español, llame Fort Collins Utilities a 970-221-6700, TDD 970-224-6003 o mande preguntas en español a utilities@fcgov.com.



Monitoring and Protecting Our Water Sources

The City of Fort Collins' drinking water supply comes from two water sources, the Cache la Poudre River and Horsetooth Reservoir. Beginning as rain and snow in the mountains, Horsetooth water is delivered from the western slope via the Colorado-Big Thompson Water Project, while Poudre River water originates on the eastern slope, northwest of Fort Collins.

Utilities collaborates with local drinking water providers to monitor and assess water quality in the upper Cache la Poudre and Big Thompson watersheds as well as Horsetooth Reservoir. Through these programs we monitor for over 25 different chemical, physical and microbiological contaminants across more than 35 locations in the source watersheds. We are a member of the Coalition for the Poudre River Watershed (poudrewatershed.org) and the Big Thompson Watershed Forum (btwatershed.org). As in previous years, the City's source watersheds continue to provide reliable, high-quality drinking water.

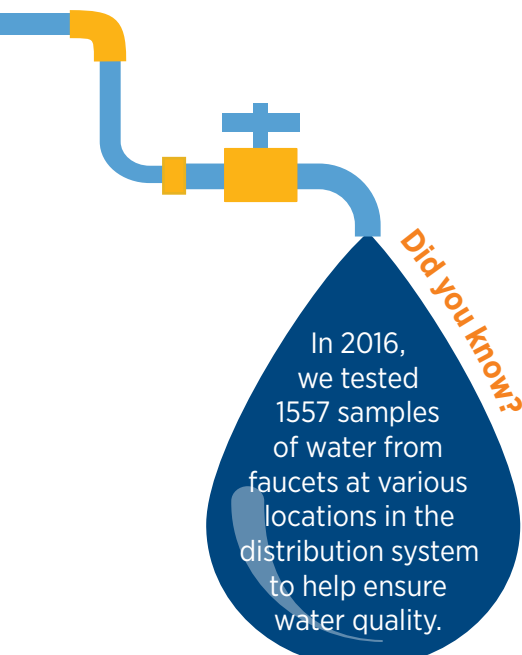
In 2016, the Fort Collins Source Water Protection Plan (SWPP) was completed for the Utilities source water supplies. This assessment characterized and prioritized potential sources of contamination to both the Poudre River and Horsetooth Reservoir and identified key protection or mitigation strategies.

The top two identified threats to source water quality were wildfires and unverified historical mining activity in the watersheds. As follow-up to the SWPP, an Upper CLP Mine inventory and assessment ([SWPP, Appendix H](#)) was completed in September 2016. Results of the water quality study did not find any indication of mine drainage in the Poudre River or tributaries. These findings were consistent with routine Poudre River monitoring data from 2008-2016. Based on these results, it is expected that Fort Collins water supplies are at low risk of contamination from historical mining activity.

In 2016, the Utilities also dedicated funding for Watershed Protection activities aimed at reducing risks to water supplies from wildfires. This work will begin in 2017 and will include completion of the remaining restoration within the High Park Fire burn area to control soil erosion, and conducting forest thinning projects in unburned areas to reduce fuels loads and minimize the risk of large, high severity wildfires.

Since 2013, Utilities has worked collaboratively with the Coalition for the Poudre River Watershed (CPRW) and other stakeholders. In 2016, the CPRW completed the Poudre River Watershed Resiliency Plan, which Utilities will use as a guide for prioritizing watershed protection activities in the watershed.

Additional information about the City's Source Water Monitoring Program and source water quality seasonal updates and annual reports can be found at:
fcgov.com/utilities/what-we-do/water/source-water-protection-plan



In 2016, we tested 1557 samples of water from faucets at various locations in the distribution system to help ensure water quality.

Did you know?



Environmental Leadership

The Water Treatment Facility is committed to protecting the environment by identifying and reducing its environmental impacts in order to increase its operating efficiency. To help achieve this goal, the facility has established a formal Environment Management System (EMS) that has been certified to conform to the International Organization for Standardization (ISO) 14001:2004 standard. The goals of an EMS are to prevent pollution, comply with legal requirements and continually improve environmental performance. The key environmental objectives set by the facility include reduction in greenhouse gas emissions by reducing energy and fuel consumption, and sustainably managing the facility's landscape to minimize risks to public safety, private property and the environment. The ISO 14001 standard was revised in 2015 and the facility EMS team is implementing the requirements of the new standard. The transition to the new standard must be complete by September 2018.

The facility is participating in the Colorado Industrial Energy Challenge (CIEC), which is sponsored by the Colorado Governor's Energy Office and the U.S. Department of Energy (DOE). The CIEC is a voluntary program that supports industrial facilities to overcome barriers in achieving energy efficiency goals.

In addition, the facility participates in the Colorado Environmental Leadership Program (ELP), an environmental recognition and reward program administered by the Colorado Department of Public Health and Environment's Division of Environmental Health and Sustainability. As a result of its continuing environmental stewardship and the successful ISO certification of the EMS, the facility was recognized as an ELP Gold Leader in 2014, 2015 and 2016.

Lastly, a nationwide program that both the water treatment facility and the water distribution system participate in is the Partnership for Safe Water. The Partnership is an alliance of six drinking water organizations including the EPA. In 2016, the water treatment facility and the distribution system each earned Partnership Awards.

The facility earned the Partnership's President's Award, which is part of phase IV of the Partnership, the highest phase in the program. This honor is only awarded to top-tier water facilities that have demonstrated the commitment to operating their facilities in an optimized manner throughout the process and providing superior quality water to their customers, beyond the requirements of the EPA regulations. Only 36 treatment facilities in the nation have achieved this level of performance.

The distribution system was awarded the Partnership's Director's Award for distribution excellence. The award was conferred after a comprehensive, independent review of our citywide water quality by a national panel. The review was based in part on water samples collected throughout the distribution system by the City's Water Quality Lab. Fort Collins Utilities is the first utility in Colorado to receive the new Partnership for Safe Water Director's award for distribution excellence. A short video featuring Barbara Martin (American Water Works Association) discussing the award and Fort Collins' water quality is available here:

www.youtube.com/watch?v=87u14Ym0DSM



Becki Clark (left), Deputy Director at the EPA, presented the Partnership for Safe Water awards to Fort Collins Utilities staff: Andrew Gingerich, Gregg Stonecipher, Andrea Schweitzer, Chris Parton and Mark Kempton.

Cryptosporidium and Giardia

Cryptosporidium and Giardia come from animal and human waste in the watershed and are common in untreated surface water. When ingested, the organisms may cause fever, nausea and diarrhea. They are removed by a well-maintained water treatment process.

In 2016, Utilities tested the untreated source water for the organisms. Giardia was found in the Poudre River samples. Neither organism was found in Horsetooth Reservoir samples.

Treating Source Water

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.

As water travels over the land's surface or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals and humans. To ensure tap water is safe to drink, the CDPHE regulates the amount of certain contaminants in water from public water systems. Source water may contain:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which may be naturally occurring or 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 byproducts of industrial processes and petroleum production. These contaminants also may come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which may be naturally occurring or the result of oil and gas production and mining activities.

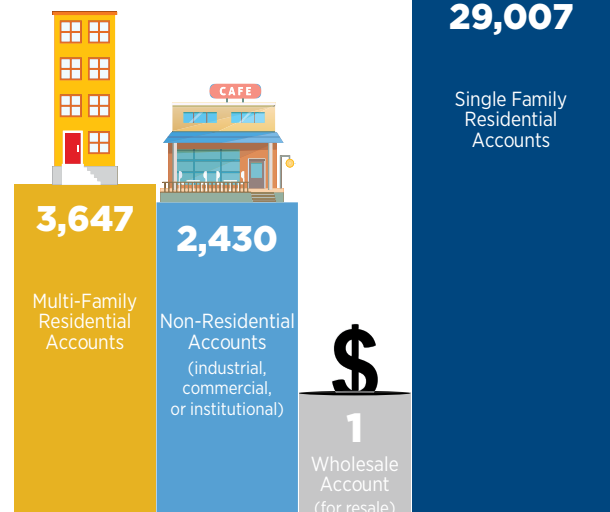
For more information about contaminants and potential health risks, call the Safe Drinking Water Hotline at (800) 426-4791 or visiting epa.gov/safewater.



Measuring streamflow on the Little South Fork

Did you know?

We support over 35,000 water customer accounts.



Where Our Water Originates

Our Water Treatment Facility produces nearly all the water it distributes; however, customers may occasionally receive a blend of water treated by Utilities and the Soldier Canyon Filter Plant (SCFP). Both treatment facilities use Horsetooth Reservoir and the Cache la Poudre River as sources of water. The SCFP is owned by East Larimer County, North Weld County Water District, and the Fort Collins Loveland Water District.

The monitoring results below are representative of water treated by Utilities and the Soldier Canyon Filter Plant (SCFP). In compliance with regulations, the copper and lead data are from monitoring completed during 2014; all other data are from monitoring completed during 2016. Acronym definitions are listed on page 6.

Distribution System

Parameter	Month	Result	Number of Samples Below 0.2 ppm	Sample Size	TT Requirement	Meet Standard?	Typical Sources
Chlorine Residual	April, 2016	Lowest monthly percentage was 97.12%.	3	104	At least 95% of samples per month must have a chlorine residual of at least 0.2 ppm.	Yes	Water additive used to control microbes

Parameter	Highest LRAA	Range	Sample Size	Unit of Measure	MCL	MCLG	Average	Meet Standard?	Typical Sources
Total Haloacetic Acids	23.10	13.9 to 32	32	ppb	60	N/A	N/A	Yes	Byproduct of drinking water disinfection
Total Trihalomethanes	35.70	15.7 to 47	32	ppb	80	N/A	N/A	Yes	
Chlorite	N/A	0.11 to 0.33	36	ppb	1.0	.08	0.22	Yes	

Regulated at the Consumer's Tap—52 Homes Were Tested

Parameter	Monitoring Period	90th Percentile	Number of Samples	Unit of Measure	Action Level	Number of Sample Sites Above Action Level	Meet Standard?	Typical Sources
Copper	08/25/2014 to 09/29/2014	0.08	52	ppm	1.3	0	Yes	Corrosion of household plumbing systems
Lead		2	52	ppb	15	0	Yes	

Raw and Finished Water Ratio

Parameter	Average	Range	Number of Samples	Unit of Measure	TT Minimum Ratio (the higher the better)	Meet Standard?	Typical Sources
Total Organic Carbon Ratio, Utilities	1.28	1 to 1.6	12	Ratio	1.00	Yes	Naturally present in the environment
Total Organic Carbon Ratio, SCFP	1.18	0.94-1.39	12	Ratio	1.00	Yes	Naturally present in the environment

Sampled at the Entry Point to the Distribution System

Parameter	Month	Level Found	TT Requirement	Meet Standard?	Typical Sources
Turbidity, Utilities	January	Highest single measurement: 0.32 NTU	Maximum is 1 NTU for any single measurement	Yes	Soil Runoff
Turbidity, SCFP	November	Highest single measurement: 0.059 NTU		Yes	
Turbidity, Utilities and SCFP	All 12 months	100% of samples were less than 0.3 NTU	In any month, at least 95% of samples must be less than or equal to 0.3 NTU	Yes	

Parameter	Result	Average	Number of Samples	Range	Unit of Measure	MCL	MCLG	Meet Standard?	Typical Sources
Barium, Utilities	0.02	N/A	1	N/A	ppm	2	2	Yes	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Barium, SCFP	0.015	N/A	1	N/A	ppm	2	2	Yes	
Fluoride, Utilities	0.59	N/A	1	N/A	ppm	4	4	Yes	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Fluoride, SCFP	N/A	0.54	4	0.50-0.61	ppm	4	4	Yes	
Nitrate, Utilities	0.09	N/A	1	N/A	ppm	10	10	Yes	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate, SCFP	0.11	N/A	1	N/A	ppm	10	10	Yes	

Parameter	Number of Samples Not Meeting the Standard	Sample Size	Standard	Meet Standard?	Typical Sources
Chlorine Residual	0	2196	TT = No more than 4 hours with a sample below 0.2 ppm	Yes	Water additive used to control microbes
Chlorine Dioxide	0	366	800 ppb	Yes	

Acronym Definitions

AL: Action level - concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

CDPHE: Colorado Department of Public Health and Environment

ELP: Colorado Environmental Leadership Program

EMS: Environmental Management System

EPA: United States Environmental Protection Agency

ISO: International Organization for Standardization

MCL: Maximum contaminant level - 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.

N/A: Not applicable

NTU: Nephelometric turbidity unit - measure of particles in the water or clarity

ppb: Parts of contaminant per billion parts of water, µg/L

ppm: Parts of contaminant per million parts of water, mg/L

SCFP: Soldier Canyon Filter Plant

TOC: Total organic carbon

TT: Treatment technique - a required process intended to reduce the level of a contaminant in drinking water.

Fluoridation

As directed by City Council and our customers, Utilities adds fluoride to the water. This results in levels that range from 0.60 to 0.75 milligrams of fluoride per liter of treated water.

If you or members of your household are sensitive to fluoride or fluoridation-related substances or if you provide our water to an infant younger than six months of age, please consult your physician or another health expert regarding precautions you may want to consider. For more information, visit fcgov.com/water/fluoride.php



Vulnerable Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Particularly at risk are immunocompromised persons, such as those undergoing chemotherapy; those who have received organ transplants; people with HIV/AIDS or other immune-system disorders; and some elderly and infants. These people should seek advice about drinking water from their healthcare providers.

Guidelines to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA/Center for Disease Control.

Did you know?

About ½ of the distribution system is flushed through fire hydrants each year.



Call the Safe Drinking Water Hotline at (800) 426-4791 or visit epa.gov/safewater.

Did you know?

We check approximately 3,500 valves each year to ensure they are operating properly.



Lead

Since 1984, eight years before EPA began regulating lead in drinking water, Utilities has used best management practices to provide conditions that keep lead levels low in our finished drinking water. The Water Treatment Plant operators manage the water quality by raising the calcium level and reducing the corrosiveness of the treated drinking water. As a check to make sure our corrosion control approach is effective, Utilities also monitors lead levels in the drinking water of 50 homes. These tests have shown the level of lead in our drinking water to be substantially below the EPA's action level.

The source of lead in drinking water is primarily the materials and components associated with service lines and home plumbing. Lead service lines have been prohibited by Fort Collins building codes since before the 1950s. Utilities staff report that they have only found three lead service lines in the past 40 years, each of which were connected to very old buildings in the city. Lead service lines are replaced when found. Lead-tin solder was also banned by City Code in 1986. These safeguards limit the potential for lead contamination of drinking water.

While Fort Collins Utilities is responsible for providing high-quality drinking water, we have limited control over the variety of materials used in plumbing components. If your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap from 30 seconds to two minutes, before using water for drinking or cooking. If you have questions or comments related to water quality, contact the City's Water Quality Lab at 970-221-6863.

If present, elevated levels of lead can cause serious health problems, particularly for pregnant women and young children. For more information, testing methods and steps to minimize exposure, call the Safe Drinking Water Hotline at (800) 426-4791 or visit epa.gov/safewater/lead.

View a presentation on the City's approach to keeping lead levels low at fcgov.com/utilities/what-we-do/water/source-water-protection-plan

Chlorine Contact Basin

Construction on a new Chlorine Contact Basin began in 2016 and it was placed into service at the Water Treatment Facility in March 2017.

This \$9 million project includes a 2.5 million gallon baffled tank that provides contact time for disinfection of the city's drinking water supply. Other benefits of the project include delaying the need for new water storage tanks, the provision of emergency water storage and operational flexibility for the Treatment Facility, and improved water quality for Fort Collins Utilities customers.

The basin was constructed using almost 1 million pounds of reinforcing steel and more than 4,500 cubic yards of concrete. Pictures of the basin are shown here.



Community Participation

Community members are welcome to attend Fort Collins Utilities' Water Board meetings, a citizen committee that advises City Council on matters of policy and budget. Please see the schedule and location at fcgov.com/cityclerk/water.php.

Contact

fcgov.com/utilities

utilities@fcgov.com

970-221-6700

V/TDD: Dial 711 for Relay Colorado