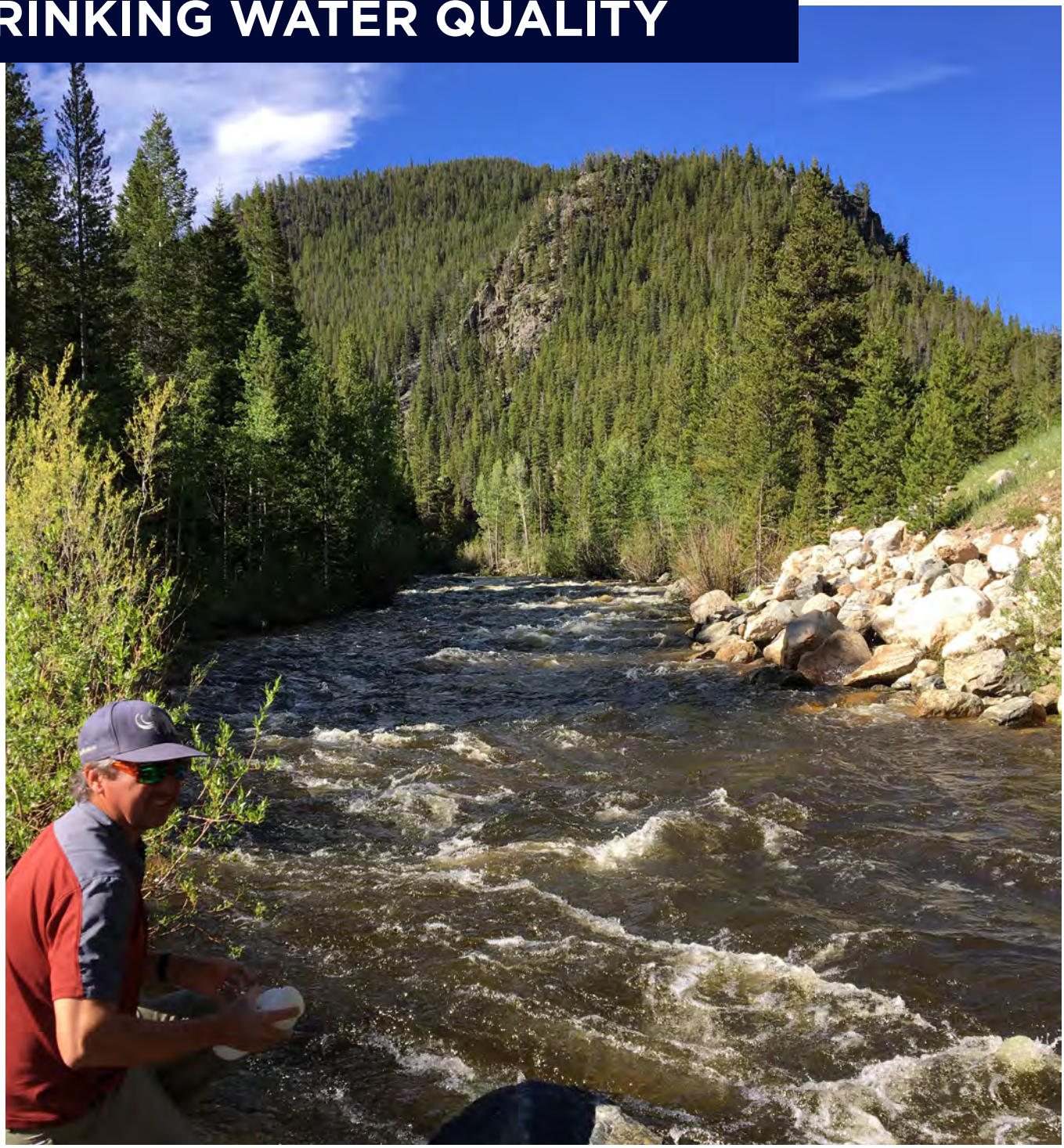
2017 REPORT

DRINKING WATER QUALITY



Continuing Our Commitment

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

Para más información de este informe de su cualidad de agua potable en español, llame Fort Collins Utiliites a 970-212-2900, V/TDD: 711 o mande preguntas en español a ***utilities@fcgov.com***.

City of Fort Collins Utilities

Protecting Our Source Water

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

Utilities collaborates with other local drinking water providers and other water stakeholders to monitor water quality trends in the ***Poudre River***, ***Big Thompson River*** and ***Horsetooth Reservoir***. Monitoring includes more than 25 different chemical, physical and microbiological contaminants at 35 locations throughout our source watersheds. As in previous years, 2017 water quality data indicated that the City's source watersheds continue to provide high-quality water.

Since 2013, Utilities has worked collaboratively with the Coalition for the Poudre River Watershed (CPRW) and other stakeholders to improve the health and resiliency of the Poudre River. In 2016, CPRW completed the Poudre River Watershed Resiliency Plan; the plan is used by Utilities to prioritize watershed protection projects in the watershed. ***The City of Fort Collins' Source Water Protection Plan (SWPP)*** was also completed in 2016. The SWPP summarizes potential major sources of pollution to both the Poudre River and Horsetooth Reservoir and identifies key protection or mitigation strategies. The highest priority threats to our source water quality were identified as past and future wildfires and historical mining.

Utilities continues to allocate funding for collaborative wildfire restoration and mitigation projects to protect its source watersheds. To date, restoration efforts have largely focused on projects within the High Park Fire burn area to control soil erosion. In addition, several forest thinning projects have been successfully completed outside of the burn area to reduce fuels loads and mitigate the future risk of large, high severity wildfires that could impact our source water. The 2017 Elkhorn Creek Forest Health Initiative is a great example of a collaborative project that successfully reduced fuels in a priority area of the Poudre River. The project was completed using funding, labor and equipment from more than a dozen partners, including Fort Collins Utilities. Wildfire risk was significantly reduced with treatments that included: hand thinning, piling and burning; mechanical treatment; and prescribed fire. The successes of this project provide a project implementation template that will be used at a larger scale on several projects in 2018.

An abandoned mine inventory and assessment (***SWPP, Appendix H***) was completed in September of 2016 to determine whether heavy metals from these sites are a risk to our source water in the Poudre River. The study concluded that there is no known mine drainage to the Poudre River or its tributaries, which was consistent with metals data from routine Poudre River monitoring from 2008-2016. Fort Collins' water supplies are currently considered at low risk of contamination from historical mining activity.

Water Quality Monitoring to Protect Our Water Sources

Additional information about the City's Watershed Program and source water monitoring efforts; including seasonal updates, annual and 5-year reports can be found at:
fcgov.com/utilities/what-we-do/water/water-quality/source-water-monitoring

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) 14001:2015 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; sustainably managing the facility's landscape to minimize risks to public safety, private property, and the environment; and managing our solid waste streams so that material is disposed of in the most environmentally friendly manner feasible. The ISO 14001 was revised in 2015 and the facility EMS team successfully transitioned the certification to the new standard this year, nearly a year ahead of the deadline.

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 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, an international 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 2017, 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 city-wide 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. We are the first utility in Colorado to receive the new Partnership for Safe Water Director's award for distribution excellence! A short video about the drinking water distribution system is here:

youtube.com/watch?v=auawfeDSOUk

Lead Operator, Cole Gustafson, receives the Partnership for Safe Water President's Award Plaque on behalf of the Water Treatment Facility

WATER QUALITY TEST RESULTS

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 Soldier Canyon Water Treatment Authority. To determine your water provider, view an *interactive map* of water districts in Fort Collins and surrounding areas.

The monitoring results shown here are representative of water treated by Utilities and the SCFP. All data are from monitoring completed during 2017. Acronym definitions are listed below.

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 — 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

Total Organic Carbon, Raw and Finished Water

Parameter	Average	Range*	Number of Samples	Unit of Measure	Minimum Ratio	Meet Standard?	Typical Sources
Total Organic Carbon Ratio, Utilities	1.31	0.82 to 1.57	12	Ratio	1.00	Yes	Naturally present in the environment
Total Organic Carbon Ratio, SCFP	1.23	0.98 to 1.43	12	Ratio	1.00	Yes	

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

Samples from the Combined Filter Effluent (from within the Treatment Plant)

Parameter	Month	Level Found	Standard	Meet Standard?	Typical Sources
Turbidity, Utilities	Dec.	Highest single measurement: 2.5 NTU	Maximum is 1 NTU for any single measurement	**No,** for more information, please see p. 5.	Soil Runoff
Turbidity, SCFP	Nov.	Highest single measurement: 0.042		Yes	
Turbidity, Utilities	Feb.	Lowest monthly percentage of samples meeting standard: 99%	In any month, at least 95% of samples must be less than 0.3 NTU	Yes	
Turbidity, SCFP	All 12 months	Lowest monthly percentage of samples meeting standard: 100%		Yes	

Turbidity is a measure of the clarity of the water and is a good indicator of the effectiveness of the filtration system.

Sampled at the Entry Point to the Distribution System

Parameter	Result	Number of Samples	Unit of Measure	MCL	MCLG	Meet Standard?	Typical Sources
Barium, Utilities	0.02	1	ppm	2	2	Yes	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Barium, SCFP	0.017	1	ppm			Yes	
Fluoride, Utilities	0.65	1	ppm	4	4	Yes	Erosion of natural deposits; water additive which promotes strong teeth
Fluoride, SCFP	0.74	1	pm			Yes	

Parameter	Number of Samples Not Meeting the Standard	Number of Samples	Standard	Meet Standard?	Typical Sources
Chlorine Residual	0	2190	No more than 4 hours with a sample below 0.2 ppm	Yes	Water additive used to control microbes
Chlorine Dioxide, Utilities	0	365	800 ppb	Yes	
Chlorine Dioxide, SCFP	0	365		Yes	

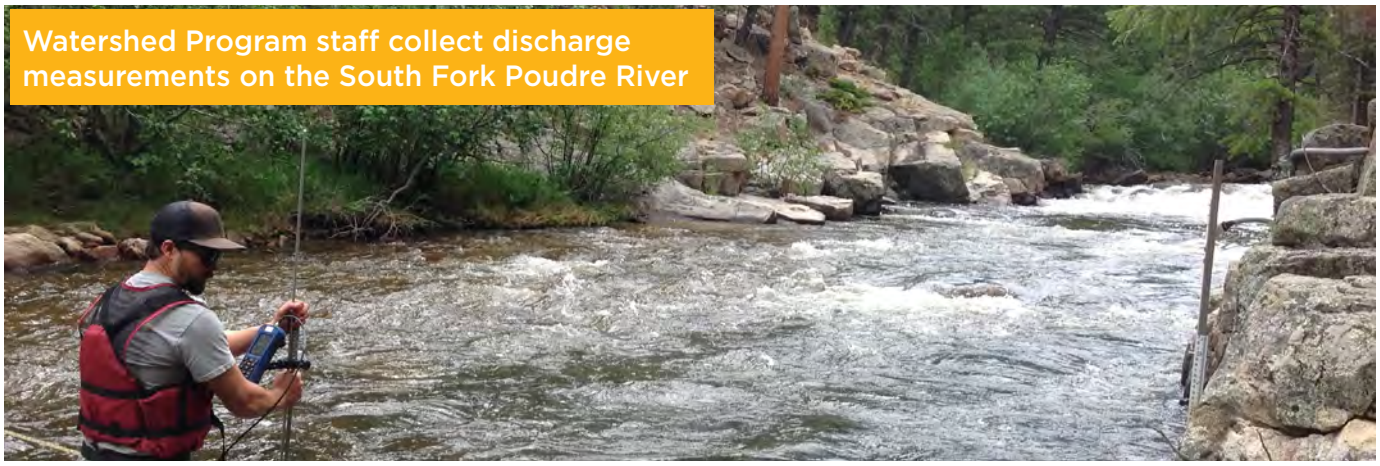
Sampled in the Distribution System

Parameter	Month	Standard	Lowest monthly percentage	Number of Samples Below 0.2 ppm	Number of Samples	Meet Standard?	Typical Sources
Chlorine Residual	June	At least 95% of samples per month must have a chlorine residual of at least 0.2 ppm	99.02%	1	102	Yes	Water additive used to control microbes

Parameter	Month	Standard	Meet Standard?	Typical Sources
Chlorine Residual	All 12 months	All samples must be less than or equal to 4.0 ppm	Yes	Water additive used to control microbes

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	08/05/2017 to 08/14/2017	0.12	53	ppm	1.3	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Lead		3.7	53	ppb	15	0	Yes	

Parameter	Average	Range	Number of Samples	Unit of Measure	MCL	MCLG	Highest Compliance Value	Meet Standard?	Typical Sources
Total Haloacetic Acids	18.05	11 to 24	32	ppb	60	N/A	20.10	Yes	Byproduct of drinking water disinfection
Total Trihalomethanes	29.99	14.2 to 51.1	32	ppb	80	N/A	34.52	Yes	
Chlorite	0.23	0.14 to 0.35	12	ppb	1.0	0.8	0.33	Yes	



Watershed Program staff collect discharge measurements on the South Fork Poudre River

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 visit *epa.gov/safewater*.

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 2017, Fort Collins Utilities tested the untreated source water for the organisms. Giardia was found in the Poudre River samples. Neither organism was found in the Horsetooth Reservoir samples.

We want you to know:

From Feb 1 through May 30, 2017 the City of Fort Collins tested for total chlorine instead of free available chlorine in the distribution system. This happened when the incorrect testing reagent was ordered and used. There were no adverse health effects that resulted from this error. Laboratory and testing procedures have been corrected to protect against this type of error in the future.

On December 14, 2017, due to a lime feed malfunction, the filter process effluent turbidity value exceeded the standard of 1.0 turbidity units for 18 minutes, and the value was not reported to CDPHE within 24 hours. There were no adverse health effects that resulted from this event. In response, the lime feed, which is used to adjust water chemistry, was reduced and the turbidity dropped below 1.0 turbidity unit.

Watershed program staff prepare to collect chemical grab samples and discharge measurements at study sites within the upper Poudre river watershed; Water Quality Laboratory staff perform routine analyses on the treated water.

Fluoridation

As directed by City Council and our customers, Utilities adds fluoride to the water, resulting 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.

Visit *fcgov.com/fluoride* for more information.

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 the EPA/Center for Disease Control. Call the Safe Drinking Water Hotline at 800-426-4791 or visit *epa.gov/safewater*.

How can I learn more about lead in the City of Fort Collins' drinking water?

Since 1984, eight years before EPA began regulating lead in drinking water, Fort Collins 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, Fort Collins Utilities also monitors lead levels in the drinking water of 50 homes annually. These tests have shown the level of lead in our drinking water to be substantially below 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 of service line maintenance; the three lines were connected to very old buildings in the city. Lead service lines are replaced when found. Lead-tin solder was 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 for 30 seconds to 2 minutes before using water for drinking or cooking. If you have concerns about your 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*.

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*.

Contact

fcgov.com/utilities
utilities@fcgov.com
970-221-2900
TDD: 970-224-6003

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