



# elco

# Annual Water Quality Report

2019 Annual Water Quality Report for East Larimer County Water District (PWSID C00135233)

May 2020

## Office Hours and Location

The ELCO office is located at 232 South Link Lane, Fort Collins, Colorado and is open from 8:00 am to 4:30 pm, Monday through Friday. The phone number is 970-493-2044.

## Emergencies

Customers in need of emergency service can call 970-493-2044 after regular office hours. Emergency calls are routed to an answering service which can dispatch on-call personnel.

## For Your Information

This report and other important information about ELCO Water District can be found on the District's website. The address is: [www.elcower.org](http://www.elcower.org)

If you have any questions about information contained in this report or the services provided by ELCO Water District, please contact Randy Siddens at 970-493-2044. You are also invited to attend any regularly scheduled meeting of the District Board. Directors hold their meetings at 5:30 p.m. on the third Tuesday of each month at the offices of ELCO Water District, 232 South Link Lane.

## Introduction

East Larimer County (ELCO or District) Water District has been providing its customers with a reliable source of high quality drinking water since 1962. Last year, ELCO delivered approximately 1.2 billion gallons of water to the 7,322 customer accounts within the District. Rigorous testing of water delivered to ELCO customers last year showed no violation of any of the health-based standards established by regulatory agencies.

Thousands of tests are performed each year on water supplied to ELCO customers. Most tests are performed at the water treatment plant to monitor

the operation and efficiency of the treatment facility. ELCO and treatment plant operators must also collect tests that show compliance with all applicable water quality regulations.

The regulatory test results included in this report are routinely filed with the Colorado Department of Health and the Environmental Protection Agency (EPA). Since 1999, ELCO and all other water suppliers within the United States have been required to provide an annual Water Quality Report to their customers.

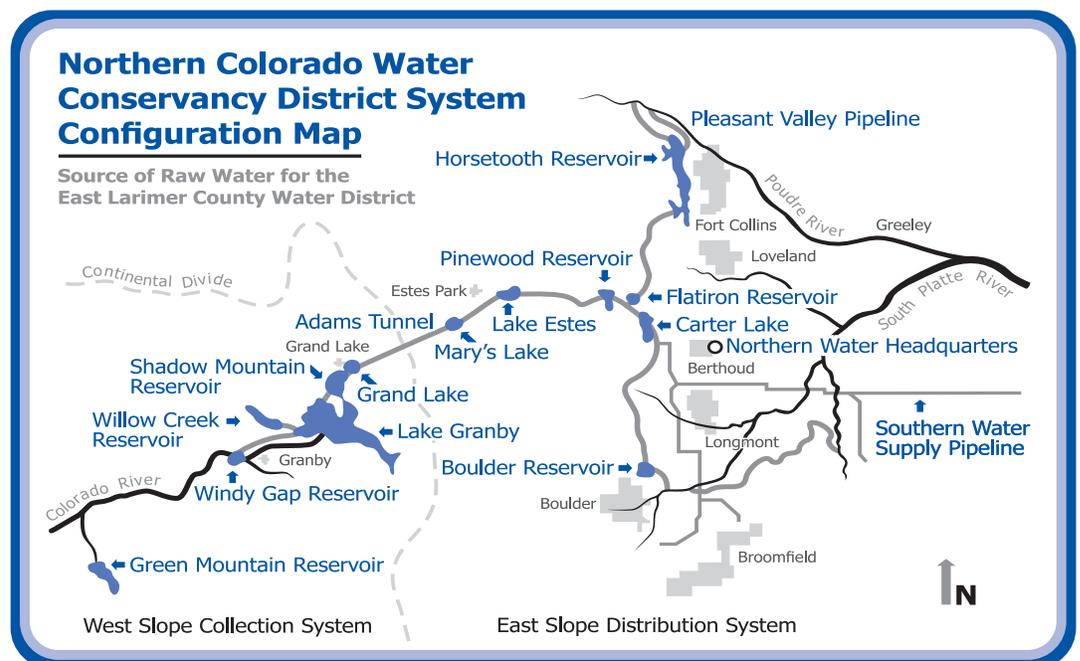
## Where does ELCO's water come from?

ELCO receives treated water from the Soldier Canyon Filter Plant (SCFP), located at the base of the Soldier Canyon Dam on Horsetooth Reservoir. Water treated at the SCFP comes directly out of Horsetooth Reservoir and the Poudre River through the Pleasant Valley Pipeline. Once water rights owned or controlled by the District have been converted from agricultural to municipal use, it is expected that half of the District's water will be diverted from the Poudre River. ELCO's water

distribution system also has connections to the City of Fort Collins' water distribution system and so can receive water from or send water to the City's system. These connections are not normally operated and for the past year were not utilized.

SCFP is owned and operated by the Soldier Canyon Water Treatment Authority (SCWTA), which is jointly administered by ELCO, North Weld County Water District and Fort Collins-Loveland Water

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## Where does ELCO's water come from? ...

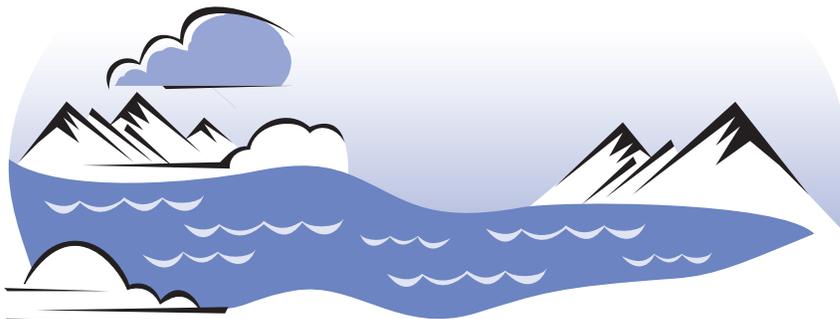
District. These three water districts all receive water from SCFP and supply water to customers in all or parts of the towns and adjacent rural areas of Fort Collins, Windsor, Eaton, Ault, Severance, Timnath, Pierce and Nunn as well as Sunset Water District and portions of the Northern Colorado Water Association. Approximately 75,000 residents of northern Colorado receive their water from SCFP.

Water in Horsetooth Reservoir originates as snow in the upper reaches of the Colorado River basin. Snowmelt is collected in reservoirs on the western slope of the Rocky Mountains and diverted through a series of tunnels and canals for use in northeastern Colorado.

Horsetooth Reservoir is part of the Colorado-Big Thompson (C-BT) Project,

the largest trans mountain diversion project in the state. The C-BT project is administered by the Northern Colorado Water Conservancy District. The Conservancy District oversees the delivery of water for agricultural, municipal, and industrial uses to almost 1.5 million acres

of northeastern Colorado. The map on the front page illustrates the location of some of the reservoirs and canals used by the Conservancy District to deliver C-BT water to the Front Range. Additional information about the Conservancy District can be found at [www.northernwater.org](http://www.northernwater.org).



## Our Water Source(s)

The system's sources of water are: Horsetooth Reservoir and Cache La Poudre River.

ELCO Water Sources	
Source (Water Type - Source Type)	Potential Source(s) of Contamination
Soldier Canyon Filter Plant (SCFP) (Consecutive Connection)	Surface, EPA Hazardous Waste Generators, EPA Chemical Inventory/Storage Sites, EPA Toxic Release Inventory Sites, Permitted Wastewater Discharge Sites, Aboveground, Underground and Leaking Storage Tank Sites, Solid Waste Sites, Existing/Abandoned Mine Sites, Other Facilities, Commercial/Industrial/Transportation, Low Intensity Residential, Urban Recreational Grasses, Row Crops, Fallow, Pasture / Hay, Deciduous Forest, Evergreen Forest, Mixed Forest, Septic Systems, Oil / Gas Wells, Road Miles

The Colorado Department of Public Health and Environment may have provided us with a Source Water Assessment Report for our water supply. You may obtain a copy of the report by visiting <http://wqcd.compliance.com/ccr>. The report is located under "Source Water Assessment Reports", and then "Assessment Report by County". Select LARIMER County and find 135718 SOLDIER CANYON FILTER PLANT or by contacting CHRISTOPHER HARRIS at 970-482-3143.

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 our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Please contact the treatment facility at 970-482-3143 to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Consumer Confidence Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

## How is ELCO's water treated?

Water delivered to the SCFP must go through several stages of treatment before it is delivered to ELCO customers. The first stage of treatment mixes chemicals (oxidizers and coagulants) with the water to create tiny, sticky clumps of particles in a process called **floculation**. The 'floc' captures dirt and debris in the water. The floc grows larger as it passes through the flocculation basins on its way to the

next step of the treatment process called sedimentation.

In the **sedimentation** stage of treatment, floc in the water sinks to the bottom of the sedimentation basins (where it is removed) while the clear water above the settled floc is diverted for filtration. During **filtration**, water passes through layers of anthracite coal, sand and gravel to remove any remaining impurities.

After filtration additional chemicals are added to help stabilize the treated water. **Stabilization** is necessary to reduce the corrosiveness of water supplied to District customers. Finally, small amounts of chlorine and fluoride are added to the water. Chlorine kills any bacteria that may still be in the water. Fluoride helps reduce tooth decay.



## What contaminants might be in drinking water?

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 and, in some cases, radioactive material, and can pick up substances resulting from the 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, and wildlife.

**Inorganic contaminants** such as salts and metals, which can be naturally-occurring or result from urban storm water 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 agricultural, urban storm water runoff, and residential uses.

**Organic chemical contaminants** including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production, and

can also come from gas stations, urban storm water runoff, and septic systems.

**Radioactive contaminants** which can be naturally occurring or be the result of oil and gas production and mining activities.

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

## Is ELCO's water safe for everyone?

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's **Safe Drinking Water Hotline 1-800-426-4791** or by visiting <http://epa.gov>.

### *gov/ground-water-and-drinking-water.*

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 their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the **EPA Safe Drinking Water Hotline at 1-800-426-4791**.

## Lead in Drinking Water?

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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 in your water, 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, testing methods, and steps you can take to minimize exposure is available from the **EPA Safe Drinking Water Hotline at 1-800-426-4791** or at <http://www.epa.gov/safewater/lead>.

## Is ELCO's water hard or soft?

Many industrial and domestic water users are concerned about the hardness of their water. Manufacturers of dishwashers and washing machines sometimes recommend settings that depend on the hardness of water. Hard water requires more soap and synthetic detergents for home laundry and washing, and contributes to scaling in boilers and industrial equipment. Calcium and magnesium dissolved in water are the two most common minerals that make water "hard".

The hardness of water is referred to by two types of measurements: grains per gallon and milligrams per liter (mg/l). The water supplied by ELCO has a hardness

of approximately 35 mg/l or 2 grains per gallon. The following table shows that **ELCO water would be classified as "soft water"**.

Water Hardness Scale		
Grains per Gallon	Milligrams per Liter (mg/l)	Classification
0 - 4.3	0 - 75	Soft Water
4.3 - 8.8	75 - 150	Moderately Hard Water
8.8 - 17.5	150 - 300	Hard Water
Over 17.50	Over 300	Very Hard Water

## Is there fluoride or chlorine in ELCO's water?

Small amounts of chlorine and fluoride are added to the water as it leaves the Soldier

Canyon Filter Plant. Chlorine is added to disinfect the water against any bacteria

that may still be in the water. Fluoride is added to help reduce tooth decay.



## Important Definitions

### **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.

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

**Health-Based** – A violation of either a MCL or TT.

**Non-Health-Based** – A violation that is not a MCL or TT.

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

### **Maximum Residual Disinfectant**

**Level (MRDL)** – 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.

### **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 Goal (MRDLG)** –

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.

**Violation (No Abbreviation)** – Failure to meet a Colorado Primary Drinking Water Regulation.

**Formal Enforcement Action (No Abbreviation)** – Escalated action taken by the State (due to the risk to public health, or number of severity of violations) to bring a non-compliant water system back into compliance.

**Variance and Exemptions (V/E)** – Department permission not to meet a MCL or treatment technique under certain conditions.

**Gross Alpha (No Abbreviation)** – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon-222, and uranium.

**Picocuries per liter (pCi/L)** – Picocuries per liter is a measure of the radioactivity in water.

**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.

### **Compliance Value (No Abbreviation)**

– Single or calculated value used to determine if regulatory contaminant level

(e.g. MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).

**Average ( $\bar{x}$ )** – Typical Value.

**Range (R)** – Lowest value to the highest value.

**Sample Size (n)** – Number of count of values (i.e. number of water samples collected).

**Parts per million (ppm) or Milligrams per liter (mg/L)** – One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter ( $\mu\text{g/L}$ )** – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Not Applicable (N/A)** – Does not apply or not available.

**Level 1 Assessment** – A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment** – A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.



# 2019 Water Quality Test Results for ELCO Water District

The following table shows the results of water quality analyses performed on water supplied by ELCO Water District. Every regulated substance detected in the water, even in the most minute amounts, is listed.

The State of Colorado 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. Violations and Formal Enforcement Actions, if any, are reported in this report. Results are from monitoring performed for the period of January 1 to December 31, 2019, unless otherwise noted. **If a contaminant is not listed below then it has not been detected.**

**Note:** Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

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

Sample Sources	TT Requirement	Level Found	Sample Date / Period	Violation	Likely Source of Contamination
SCFP Turbidity	Maximum 1 NTU for any single measurement.	Highest single measurement: 0.268 NTU	April 30, 2019	No	Soil Runoff
	In any month, at least 95% of samples must be < 0.3 NTU	Lowest Monthly % of samples meeting TT requirement for our technology: 100%	All 12 Months	No	

## Lead and Copper Sampled in the Distribution System

Contaminant	Number Samples	Units	90th Percentile Action Level	90th Percentile	Sample Sites Above Action Level	Sample Period	Violation	Likely Source of Contamination
Copper	30	ppm	1.3	0.2	0	06/18-8/9/2019	No	Corrosion of household plumbing systems; erosion of natural deposits.
Lead	30	ppb	15	3.9	0	06/18-8/9/2019	No	

## Disinfectants Sampled at the Entry Point to the Distribution System

Contaminant	Year	Average	Range (Low -High)	Total Samples Tested	Unit of Measure	TT/MRDL Requirement	TT/MRDL Violation	Source
Chlorine	2019	1.24	1.08 - 1.42	2189	ppm	TT = No more than 4 hours with a sample below 0.2 ppm MRDL=4.0 ppm	No	Water additive used to control microbes.
Chlorine Dioxide	2019	0.00	0.00 - 0.00	365	ppm	MRDL=0.8 ppm MRDLG=0.8 ppm	No	Water additive used to control microbes and manganese.

## Disinfection Byproducts Sampled at the Entry Point to the Distribution System

Contaminant	Year	Average	Range (Low-High)	Total Samples Tested	Unit of Measure	MCL	MCLG	MCL Violation	Likely Source of Contamination
Chlorite	2019	0.47	0.29-0.75	365	ppm	1.0	0.8	No	Byproduct of drinking water disinfection.

## Disinfectants Sampled in the Distribution System

**TT Requirement:** At least 95% of samples per period (month or quarter) must be at least 0.2 ppm OR if sample size is less than 40, no more than 1 sample is below 0.2 ppm  
**Typical Sources:** Water additive used to control microbes

Disinfectant Name	Time Period	Results	Number of Samples Below Level	Sample Size (per month)	TT Violation	MRDL
Chlorine	January - December, 2019	Lowest period percentage of samples meeting TT requirement: 100%	0	20	No	4.0 ppm

## Disinfection Byproducts Sampled in the Distribution System

Contaminant	MCL	MCLG	Units	Number of Samples	Average of Samples	Range of Samples (Low-High)	Year	Violation	Likely Source of Contamination
Chlorite	1.0	0.8	ppb	12	0.44	0.31-0.51	2019	No	Byproduct of drinking water disinfection.
Total Haloacetic Acids (HAA5)	60	N/A	ppb	16	24.91	16.2-31.5	2019	No	Byproduct of drinking water disinfection.
Total Trihalomethanes (TTHM)	80	N/A	ppb	16	38.01	16.9-51.6	2019	No	Byproduct of drinking water disinfection.

# 2019 Water Quality Test Results for ELCO Water District

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

Sample Sources	Number of Samples	Units	Average of Samples	Range of Samples (Low-High)	TT Minimum Ratio	Sample Period	Violation	Likely Source of Contamination
Total Organic Carbon Ratio	13	Ratio	1.23	1.08-1.47	1.0	2019	No	Naturally present in the environment.

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

## Inorganic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant	MCL	MCLG	Units	Sample Size	Average of Samples	Range of Samples (Low-High)	Sample Period	Violation	Likely Source of Contamination
Barium	2	2	ppm	1	0.01	0.01 - 0.01	2019	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride	4	4	ppm	1	0.62	0.62 - 0.62	2019	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate	10	10	ppm	1	0.07	0.07-0.07	2019	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

## Secondary Contaminants Sampled at the Entry Point to the Distribution System

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	Year	Average	Range (Low-High)	Sample Size	Unit of Measure	Secondary Standard
Sodium	2019	11.4	11.4-11.4	1	ppm	N/A

## Violations, Significant Deficiencies and Formal Enforcement Actions

**Soldier Canyon Filter Plant had NO Violations, Significant Deficiencies or Formal Enforcement Actions in 2019.**

**East Larimer County Water District in 2019.**

### Non-Health-Based Violations

These violations do not usually mean that there was a problem with the water quality. If there had been, we would have notified you immediately. We missed collecting a sample (water quality is unknown), we reported the sample result after the due date, or we did not complete a report/notice by the required date.

Name	Description	Time Period
Lead & Copper Rule	Failure to Monitor and/or Report	7/1/2019 - 7/30/2019

### Additional Violation Information

The violations were administrative in nature and did not impact the treated or delivered water quality. The District did not maintain the required number of CDPHE approved backup lead and copper sampling sites and did not have all primary lead and copper sampling site material inventories completed by July 1, 2019. Both of these administrative deficiencies were corrected by July 31, 2019 with submittal to CDPHE of required information. The lead and copper sampling occurred with no Action Level exceedance for either parameter.

## Health Effects Information About the Above Tables

**Note:** If a contaminant is not listed above then it has not been detected.

**Nitrate** in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods-of-time because of rainfall or agricultural activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider.

If **arsenic** is less than the MCL, your drinking water meets EPA's standards. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Infants and young children are typically more vulnerable to **lead** in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the **EPA Safe Drinking Water Hotline at 1-800-426-4791**.