

Pueblo Water

2016 Water Quality Report

For calendar year 2015



A report regarding the quality of water provided by the Board of Water Works of Pueblo, Colorado during 2015.
Board of Water Works of Pueblo, Colorado
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Public Water System ID #CO0151500

Este reporte demuestra a nuestros clientes la calidad del agua, que el Board of Water Works of Pueblo, sirvió a su comunidad durante el año 2015.
Si tiene alguna pregunta sobre éste reporte, llame a 719-584-0250, durante las horas de trabajo.



Water - we treat it right!

The Board of Water Works of Pueblo is proud to present our annual report on the quality of the water we deliver to you. Our mission statement says that we are “committed to providing the highest quality of water at the lowest possible cost.” So it has been for our 142 years of operation, and so it shall continue to be. We constantly work to produce drinking water that meets or exceeds all state and federal drinking water standards. At the same time, we have managed to keep Pueblo’s rates for water well below average for Front Range cities.

For more information about this report, or for any questions relating to your drinking water, please call Don Colalancia, Division Manager, Water Quality, Treating, and Pumping at 584-0265.

Where does our water come from?



Pueblo’s drinking water comes from rivers, lakes, streams, reservoirs and springs fed primarily by high-quality mountain snow runoff. Pueblo Water’s supply is 100 percent surface water that originates from a 4,845 square mile drainage area on both sides of the Continental Divide.

Pueblo’s water sources are the Arkansas River and its tributaries above Pueblo Reservoir and water imported across the Continental Divide from the headwaters of the Roaring Fork, Fryingpan, and Eagle Rivers. (Please see source map for Pueblo Water on next page.)

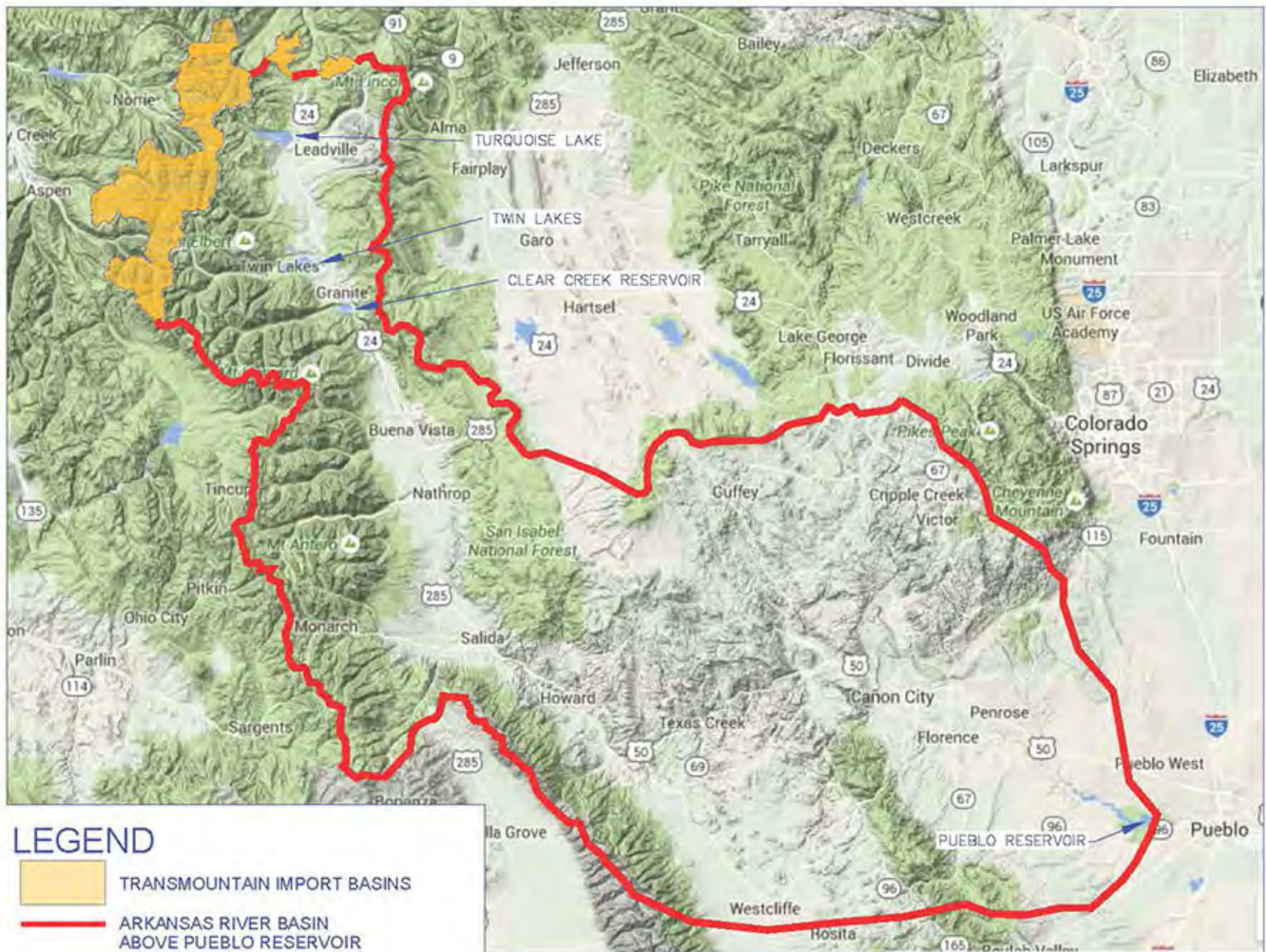


Pueblo stores its source water in four reservoirs — Pueblo, Clear Creek, Twin Lakes and Turquoise. Pueblo Reservoir is the terminal storage reservoir and water is delivered by pipeline from Pueblo Dam to the Whitlock Water Treatment Plant.

After treatment, drinking water is moved via pump stations to our water storage tanks for delivery to Pueblo homes and businesses.



Source Map for Pueblo Water



Source Water Assessment

The Colorado Department of Public Health and Environment (CDPHE) has provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report, please visit <http://wgcdcompliance.com/ccr>. The report is located under "Source Water Assessment Reports," and then "Assessment Report by County." Select PUEBLO County and find 151500; PUEBLO BOARD OF WW. For more information on Source Water Assessment Reports contact the CDPHE by calling 303-692-2000.

The Source Water Assessment Report provides a screening-level evaluation for contaminants that could reach waterways in Pueblo's watershed or the Pueblo Reservoir. It does not mean that the contamination has or will occur. According to the report, potential sources of contamination that may exist are: EPA Areas of Concern (Superfund Sites, Abandoned Contaminated Sites, Hazardous Waste Generators and Chemical Inventory Sites); Permitted Wastewater Discharge Sites; Aboveground, Underground and Leaking Storage Tank Sites; Solid Waste Sites; Existing/ Abandoned Mine Sites; Concentrated Animal Feeding Operations and Other Facilities.

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.

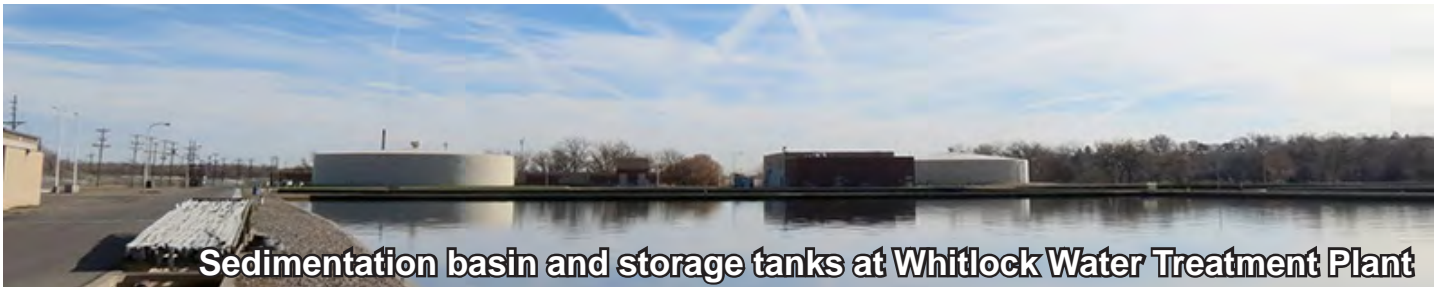
Please contact our Water Resources Division Manager, Alan Ward at 719-584-0235 to learn more about what you can do to help protect your drinking water sources, to learn more about our system, or to attend scheduled public meetings. Please contact our Water Quality, Treating and Pumping Division Manager Don Colalancia at 719-584-0265 with any questions about the Source Water Assessment Report or the Drinking Water Consumer Confidence Report. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

Our Water Treatment Process

Raw water is brought to the Whitlock Treatment Plant via a pipeline from Pueblo Reservoir. The treatment process begins with the addition of activated carbon to remove organic and taste and odor compounds. Bacteria, viruses and other biological contaminants are inactivated using chlorine and ammonia in the disinfection process. Alum and polymers (designed specifically for drinking water treatment) are added to start the coagulation process which removes suspended particulate contaminants and produces clarified water.

The clarified water is brought into our filter plant where it passes through layers of fine granulated anthracite coal and sand producing a clear, turbidity free water. Fluoride occurs naturally in our water, but a small amount of fluoride is also added to the filtered water as necessary to meet state drinking water standards. Finally, the high quality drinking water is pumped from the treatment plant and reaches you through the distribution system.

Quality through the treatment processes is monitored on a twenty-four hour schedule by our Whitlock Treatment Plant operators. Our certified Water Quality Laboratory conducts additional analyses on the drinking water our customers receive to ensure that all state and federal water quality standards are met.



Sedimentation basin and storage tanks at Whitlock Water Treatment Plant

What's In Our Water?

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. 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. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Special Health Issues

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immunocompromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from 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 EPA/CDC (Centers for Disease Control) guidelines on appropriate means to lessen the risk of infections by cryptosporidium and microbiological contaminants, call the **EPA Safe Drinking Water Hotline at (800) 426-4791**.

Substances sometimes found 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 can acquire naturally occurring minerals, and in some cases, radioactive material; and substances resulting from the presence of animals or from human activity.

Substances that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria that 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** that may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.
- **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, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, that can be naturally occurring or be the result of oil and gas production and mining activities.

Detected Contaminants

The Board of Water Works of Pueblo, CO routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table shows all detections found in the period of January 1 to December 31, 2015 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentration 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. The "Range" column in the table below will show a single value for those contaminants that were sampled only once to meet State of Colorado compliance requirements. Please note that only detected contaminants appear in this report. If no table appears in this section, then the Board of Water Works of Pueblo, Colorado did not detect any contaminants in the last round of monitoring. Violations and Enforcement Actions if any, will appear in a separate table following the "Definitions" section. **No violations or enforcement actions occurred in 2015.**

Listed in the tables on the following pages are contaminants detected in Pueblo's drinking water in 2015. All are below allowed levels. For a complete list of all analyses and test results completed in 2015 for Pueblo's drinking water, please visit our website at www.pueblowater.org. Click on "Your Water," then "Water Quality Report," then one of three "Detailed Laboratory Analysis Results" for Treated Water, Raw Water or the Raw Water Pipeline.

To help you better understand the terms used in the table, we have provided the following definitions:

Maximum Contaminant Level (MCL) – The highest level of a contaminant allowed in drinking water.

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

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements

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 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 or 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) – Measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical 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).

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

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

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

Parts per billion = Micrograms per liter (ppb = ug/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.

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 Disinfectants Sampled in the Distribution System						
Contaminant Name	Monitoring Period	Results	Number of Samples	TT Requirement	TT Violation?	Typical Sources
Chloramines	12/1/15 – 12/31/15	<u>Lowest monthly</u> percentage of samples meeting TT requirement: 94.7 %	132	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	Monitoring Period	Results	Number of Samples	MCL*	MCLG*	MCL Violation ?	Typical Sources
Coliform (TCR)	11/1/15 – 11/30/15	1.6%	125	More than 5.0% positive samples per period	0	No	Naturally present in the environment
E. coli	9/1/15 – 9/30/15	1 positive sample	180	Routine and a Repeat Sample are Total Coliform Positive, and One is also Fecal Positive/E. Coli Positive	0	No	Human and animal fecal waste

Lead and Copper Sampled in the Distribution System								
Contaminant Name	Monitoring Period	90 th Percentile	Number of Samples	Unit of Measure	90 th Percentile AL	Sample Sites Above AL	90 th Percentile AL Exceedance?	Typical Sources
Copper	6/3/14 – 8/5/14	0.27	50	ppm*	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	6/3/14 – 8/5/14	9.3	50	ppb*	15	1	No	Corrosion of household plumbing systems; Erosion of natural deposits

*See glossary of terms on preceding page for definitions.

Disinfection Byproducts Sampled in the Distribution System

Contaminant Name	Year	Average of Individual Samples	Range of Individual Samples	Number of Samples	Unit	MCL	MCLG	Highest Compliance Value	MCL Violation?	Typical Sources
Total Haloacetic Acids (HAA5)	2015	13.7	2.90 – 27.5	32	ppb	60	N/A	27.5	No	Byproduct of drinking water disinfection
Total Trihalomethanes (THM)	2015	9.63	2.80 – 24.2	33	ppb	80	N/A	24.2	No	Byproduct of drinking water disinfection

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

Contaminant Name	Year	Average of Individual Samples	Range of Individual Sample Ratios	Number of Samples	Unit of Measure	TT Minimum Ratio	TT Violation?	Typical Sources
Total Organic Carbon Ratio	2015	1.02	0.8 - 1.26	4	Ratio	1.00	No	Naturally present in the environment

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

Contaminant Name	Monitoring Period	Level Found	TT Requirement	TT Violation?	Typical Sources
Turbidity	November	<u>Highest single</u> measurement: 0.15 NTU	Maximum 1 NTU for any single measurement	No	Soil Runoff
Turbidity	December	<u>Lowest monthly</u> 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	Soil Runoff

Radionuclides Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average of Individual Samples	Range of Individual Samples	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Gross Alpha	2014	1.23	1.23	1	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2012	0.35	0.3 – 0.4	2	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2014	1.9	1.9	1	ppb	30	0	No	Erosion of natural deposits

Inorganic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average of Individual Samples	Range of Individual Samples	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources
Barium	2015	0.06	0.06	1	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2014	0.75	0.75	1	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2015	0.29	0.29	1	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2015	4.7	4.7	1	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

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 of Individual Samples	Range of Individual Samples	Number of Samples	Unit of Measure	Secondary Standard
Total Dissolved Solids	2012	246	242 – 250	2	ppm	500

Unregulated Contaminants***

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 below.

Contaminant Name	Year	Average of Individual Samples	Range of Individual Samples	Number of Samples	Unit of Measure
Molybdenum^	2013	5.3	5.2 – 5.5	4	ppb
Strontium^	2013	495	450 – 550	4	ppb
Vanadium^	2013	0.7	0.6 – 1.0	4	ppb
Chromium-6^	2013	0.05	<0.03 – 0.07	4	ppb
Molybdenum	2013	5.2	4.7 – 5.5	4	ppb
Strontium	2013	478	450 – 520	4	ppb
Vanadium	2013	0.7	0.5 – 1.1	4	ppb
Chromium-6	2013	<0.03	<0.03 – 0.09	4	ppb

^ Samples collected from the distribution system.

***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>.

Violations, Significant Deficiencies, and Formal Enforcement Actions

No Violations or Formal Enforcement Actions

Special Information About Lead

The results of lead and copper testing in the preceding data table were obtained from testing 50 homes in the distribution system at highest risk for lead and copper contamination in 2014.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development.

Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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 request to have your water tested by calling Cheri Armstrong, Water Quality Supervisor, at **719-584-0467**. If lead is present in your home's plumbing, flushing your tap for 30 seconds to 2 minutes before using the water for consumption will decrease the amount of lead in the water.

Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.



Twin Lakes Reservoir