Director's Message

Effective water planning means predicting the future. And as Yogi Berra said, "It's tough to make predictions, especially about the future." While we don't have a crystal ball, the Greeley Water and Sewer Department is constantly looking ahead to provide Greeley with a secure water future. Issues such as aging infrastructure, competition for increasingly limited water supplies, and the need for more water storage facilities are common challenges for water utilities.

The Greeley Water and Sewer Department has a plan to meet these challenges. We call it the Four Point Plan. It guides our planning and projects to ensure Greeley's safe and healthy water future.

The plan includes strengthening our water system infrastructure so that our treatment facilities, pumps, and pipes operate efficiently and effectively in delivering water to you. Our crews are constantly at work, inspecting our facilities and making repairs and improvements whenever necessary.

The second area is acquiring new water supply. The water market is competitive and expensive. Greeley takes a balanced approach to acquisition and buys water from willing agricultural sellers. We then lease it back to them for decades to allow them to keep farming.

The Greeley Water and Sewer Department is also working to expand our capacity to store water. Our plan to expand Greeley's Milton Seaman Reservoir is the cornerstone of this effort. Other projects such as a partnership in the Windy Gap Firming Project and adapting local gravel pit storage will bolster our ability to protect Greeley from drought and allow us to capture more spring runoff for use in the summer.

Lastly, Greeley is actively working to improve water conservation. The conservation program in Greeley is one of the largest and most effective programs in the state. We plan to continue our conservation efforts and add new projects and programs to enhance those efforts.

Greeley Water and Sewer is always looking ahead and planning for the future so we have a healthy water system for our community. Our efforts today will ensure our children and grandchildren a secure water future in Greeley.

Jon Monson
Water & Sewer Director

Greeley Drinking Water Sources

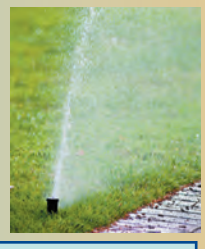
Greeley drinking water comes from surface water located in four river basins: Cache la Poudre River, Laramie River, Big Thompson River, and Colorado River.

Greeley uses six high-mountain reservoirs in the Poudre basin (Barnes Meadow, Comanche, Hourglass, Peterson, Milton Seaman, and Twin Lake) to retain water from spring snowmelt for redistribution during the summer and fall when water demand is high but river flows are low. In addition, the city uses a plains reservoir system (Boyd Lake, Lake Loveland and Horseshoe Lake) to provide storage for summer demands. Greeley owns a portion of the Colorado-Big Thompson (C-BT) and Windy Gap Projects. We store our portion from the C-BT Project in Lake Granby, Horsetooth Reservoir and Carter Lake and can deliver water to either the Poudre or Big Thompson basins to meet water demand.

Greeley treats water at the Boyd Lake Water Treatment Plant in Loveland and the Bellvue Water Treatment Plant located north of Fort Collins. Boyd Lake operates from April to October to accommodate increased demand from lawn watering. The Bellvue facility operates year-round. Treated water is then piped to Greeley where it is distributed to customers or stored in one of three finished water reservoirs.

2010 Watering Restrictions

Greeley allows three days-per-week watering. Water customers must follow the mandatory schedule below and refrain from watering during the heat of the day. Call 970-336-4134 or visit www.greeleygov.com/wc for more information.



Single Family Even Addresses 0, 2, 4, 6, 8	Single Family Odd Addresses 1, 3, 5, 7, 9	Commercial Multi-Family Nonprofit
Tuesday	Monday	Tuesday
Thursday	Wednesday	Friday
Sunday	Saturday	Sunday

No Lawn Watering: Noon - 5 p.m.

Get More Information

If you would like more information about the material covered in this report, you can contact the Greeley Water Department's Regulatory Compliance Coordinator, Colleen Young, at 970-350-9846. To view the report online, visit www.greeleygov.com/ccr. Access information about drinking water in general on the EPA's drinking water web site at www.epa.gov/safewater.

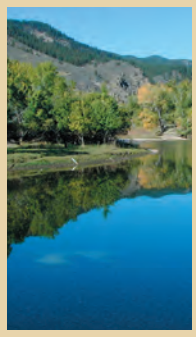
Additionally, the public is welcome to attend meetings of Greeley's Water and Sewer Board, which are usually held on the third Wednesday afternoon of every month at Lincoln Park Annex Nusbaum Room, located at 919 7th Street. For more information on times, dates and locations of the Board meetings, please contact Lory Stephens at 970-350-9812.

Contact Directory

Water & Sewer Department www.greeleygov.com/water water@greeleygov.com	350-9811
Conservation/ Restrictions www.greeleygov.com/wc	336-4134
Water Emergencies (Daytime)	350-9811
Water Emergencies (After Hours)	350-9600
Taste and Odor Concerns	350-9324
Utility Billing	350-9720

City of Greeley Colorado
Great. From the Ground Up.

Protecting Our Water Sources



Source water is untreated raw water from streams, rivers, lakes, or underground aquifers which is used to supply public drinking water. The Colorado Source Water Assessment and Protection (SWAP) Program is designed to provide the public information about the sources of its drinking water, as well as to provide a way to get involved in protecting the quality of drinking water. The SWAP program encourages community-based protection and preventive management strategies to ensure that all public drinking water resources are kept safe from future contamination. The SWAP Program has completed its assessment of Colorado's source waters however, a report from the State has not yet been completed. For information about the program and to view Greeley's source water assessment online, visit www.cdphe.state.co.us/wq/sw/swaphom.html

Xeriscape: Conserving Our Water

As a semi-arid state, Colorado averages only 8 to 15 inches of precipitation annually. Colorado can not support the lush, green, water-intensive urban landscapes found in other parts of the country without vast amounts of supplemental water. The average Colorado household uses over 50 percent of its annual water supply to water the landscape. A well-planned xeriscape can reduce outdoor water consumption by 60 percent.

Xeriscapes are attractive, sustainable, and water efficient landscapes based on sound horticultural practices. Xeriscape reduces water consumption and extends water supplies. Xeriscapes are beautiful and use native, drought-tolerant plants and shrubs, with a variety of colors, textures, and fragrances. Xeriscapes that utilize native plant and shrub species also benefit urban wildlife and often require fewer pesticides. An additional benefit is that a well designed and maintained xeriscape can increase property values up to 15 percent.

The City of Greeley Water Department Xeriscape Garden is located at 2503 Reservoir Road. The garden serves as a living example of water-wise landscaping for northern Colorado. Visit www.greeleygov.com/wc for more information.

CO-0162321

City of Greeley

Annual Drinking Water Report

Reporting Year

2009

June 2010 ***Issue #12***

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. The information in this report covers drinking water information from the City of Greeley public water system for calendar year 2009. The report provides an excellent opportunity for our customers to learn about where their drinking water comes from and the quality of the water they consume.

Esta informacion es importante. Si usted necesita ayuda por favor llamenos y le ayudaremos con gusto. Si tiene alguna pregunta llame al telefono 970-350-9811.

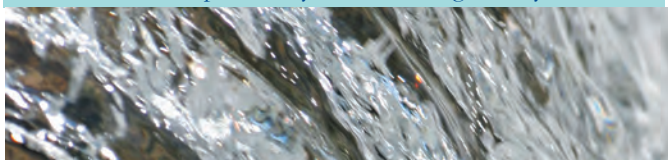
Cross-Connection Control Program

As part of our continuing effort to provide and maintain safe, clean drinking water to our water customers, the Greeley Water Department has a Cross-Connection Control Program. A cross-connection is any connection that could introduce contaminants such as pesticides, fertilizers, used water, fluids, gases, or other contaminants into the water distribution system. Water typically flows out of the public water distribution system under pressure. When a cross-connection exists, a drop in water pressure can cause a reversal of flow, allowing harmful substances to enter the public water system. Some common residential sources of cross-connection contamination include 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 sources of cross-connection contamination are cooling systems, boilers, solvents and chemicals used in manufacturing processes, sprinkler systems, and the sources of residential cross-connection contaminants listed above.

What can you do to protect our public water system?

- Be observant. Check for potential sources of cross connection 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 factors.
- Install backflow prevention assemblies to prevent potential cross-connections and have a certified backflow tester inspect and test your assemblies annually to ensure they work properly. A list of certified backflow testers is available in the office of the Greeley Water Department or www.greeleygov.com/backflow.

The Greeley Water and Sewer Department completed surveys of commercial, industrial and multifamily sites in 2009. Each site's water service system was inspected for potential cross-connection hazards. Commercial and industrial customers must install backflow prevention assemblies on their water service lines, fire sprinkler systems and irrigation systems.



Health Effects

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Similarly, FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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 a health risk.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. 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 a home's plumbing. The Greeley Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about elevated lead levels in your home's water, call the EPA Safe Drinking Water Hotline 800-426-4791 to have your water tested.

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. Certain people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those with cancer undergoing chemotherapy; undergoing organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants are at greater risk of developing illness and are encouraged to consult a doctor regarding appropriate precautions to take to avoid infection.

In 2009, Cryptosporidium was detected in untreated water samples taken from Bellvue Water Treatment Plant's untreated source water out of the Cache la Poudre River. Current test methods do not allow us to determine whether the organisms were dead or capable of causing disease. Cryptosporidium is eliminated from drinking water by an effective treatment combination utilized by the Greeley Water Department which includes coagulation, sedimentation, filtration, and disinfection. Greeley did not detect this microorganism in its treated (finished) water supplies.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791.

Drink Greeley Water

Greeley water starts as pure Rocky Mountain snowmelt, is filtered for added purification, laboratory tested for your protection, and delivered to you. Below are five reasons to drink tap water instead of bottled water.

1. Bottled water costs 1,000 to 10,000 times more than tap water. More than a quarter of bottled water produced comes from municipal tap water.

2. Community water supplies are tested every day. Tap water undergoes far more frequent testing than bottled water.

3. Tap water is delivered to you, 24/7. You don't have to go to the supermarket – just walk over to the nearest tap to get some.

4. Approximately 80 percent of plastic water bottles are not recycled, which adds to the waste going into the landfill.

5. Each year, 1.5 million barrels of oil are used to make plastic water bottles. This is enough to fuel 100,000 cars or power 250,000 homes for a year. Additional fuel is used to transport them to stores nationwide. Greeley tap water is delivered 365 days a year by gravity flow directly to your home.

2009 Drinking Water Quality Results

(Sampling was performed from January 1, 2009, through December 31, 2009, unless otherwise indicated.)

The Safe Drinking Water Act establishes the standards for most drinking water systems in the country, including Greeley's. In 2009, the Greeley drinking water system operated without any exemption. However, our water system did receive a waiver (permission not to test for specific contaminants) from the State of Colorado for cyanide, asbestos, dioxin, and glyphosate. A waiver was provided because it is unlikely that these contaminants would be found in our drinking water. The City routinely monitors for a long list of contaminants in our drinking water according to state and federal laws. The following monitoring data tables identify drinking water contaminants that Greeley detected in the water, the levels detected, and the maximum allowable contaminant levels. As you peruse the tables, you will see that Greeley met all drinking water standards.

Microbiological Contaminants

Contaminant, Units	MCLG	MCL	Percentage of measurements below the limit	Highest single value	Violation?	Source of contaminant in drinking water
Turbidity, NTU	N/A	TT≤ 0.3	99%	0.19	No	Soil runoff
		TT≤ 1.0	100%			
There are two treatment technique standards for turbidity. To meet the treatment technique standard of 0.3 NTU, the reported turbidity must be less than or equal to this value at least 95% of the time. To meet the treatment technique standard of 1.0 NTU, turbidity must never be greater than 1.0 NTU.						
Contaminant, Units	MCLG	MCL	Annual removal ratio and lowest RAA detected		Violation?	Source of contaminant in drinking water
Total Organic Carbon (TOC)	N/A	TT > 1.0	Range: 1.03 – 1.54 Lowest RAA: 1.23		No	Naturally present in the environment
Compliance with the TOC standard is based on how much organic carbon is removed from the raw water. If the annual removal ratio is greater than or equal to 1.0, the water system is in compliance with the TOC treatment technique (TT) standard.						

Disinfectants and Disinfection Byproducts

Contaminant, Units	MCLG	MCL	Range of levels detected and highest value detected	Violation?	Source of contaminant in drinking water
Chlorine Dioxide, ppb	800 (MRDLG)	800 (MRDL)	Range: 0 – 320 Highest: 80	No	Water additive used to control microbes
Chlorite, ppm	0.8	1.0	Range: 0.03 – 0.42 Highest RAA: 0.33	No	By-product of disinfection
Chlorine residual, ppm	4.0 (MRDLG)	4.0 (MRDL)	Range: 0.53 - 1.50 Highest Annual Average: 1.30	No	Water additive used to control microbes
Compliance with the chlorine residual standard is based on a running annual average (RAA) of monthly samples taken throughout the distribution system.					
Haloacetic Acids, (HAA5), ppb	N/A	60	Range: 13 - 45 Highest Annual Average: 27	No	By-product of disinfection
Total Trihalomethanes, (TTHM), ppb	N/A	80	Range: 24-75 Highest Annual Average: 41	No	By-product of disinfection
Compliance with the TTHM & HAA5 standards is based on a running annual average of quarterly samples taken throughout the distribution system. In 2009, we used enhanced treatment to remove the required amount of natural organic material and/or we demonstrated compliance with alternative criteria for control of disinfection by-product precursors. Requirement is TT. Typical sources of disinfection by-product precursors are natural organic material that is present in the environment.					

Inorganic Contaminants

Contaminant, Units	MCLG	MCL	Range of levels detected and highest value detected		Violation?	Source of contaminant in drinking water
Barium, ppm	2	2	Range : 0.040 – 0.014/Highest: 0.014		No	Erosion of natural deposits
Fluoride, ppm	4	4	Range: 0.88 – 0.89/Highest: 0.89		No	Water additive that promotes strong teeth
Selenium, ppb	50	50	Range: ND – 1.8/Highest: 1.8		No	Erosion of natural deposits
Contaminant, Units	MCLG	MCL	90th percentile value	# of Homes exceeding action level	Violation?	Source of contaminant in drinking water
Lead, ppb	0	AL=15	4.0	0	No	Corrosion of household plumbing systems
Copper, ppm	1.3	AL=1.3	0.21	0	No	
The 90th percentile value represents the highest concentration that is exceeded by 10% of the taps sampled. The data presented are from the most recent testing performed in 2008. The State permits monitoring for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. This monitoring period runs from 2008-2010.						

Secondary Contaminants/ Other Monitoring

Contaminant, Units	Collection date	Highest value detected	Range	Secondary standard
Sodium, mg/l	08/2009	26.6	8.7 - 26.6	10,000
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. EPA recommends these standards but does not require water systems to comply.				

Common Drinking Water Contaminants

The sources of drinking water (both tap and bottled) 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 can pick up substances from animal or human activity. Contaminants that may be present in source water include:

Microbiological Contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems; livestock operations; and wildlife. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present.

Inorganic Contaminants such as salts and metals, which can 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 by-products of industrial processes and petroleum production; gas stations; urban stormwater runoff and septic systems.

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

Key to the Tables

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

Exemption: Also known as a 'variance'. Permission to not meet an MCL, MRDL, AL, or a treatment technique granted by the state or EPA.

MCL: Maximum contaminant level. The highest level of a contaminant allowed in drinking water below which there are no known health effects. 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 are no known or expected risks to health. MCLGs allow for a margin of safety.

MRDL: Maximum residual disinfectant level. 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.

MRDLG: Maximum residual disinfectant level goal. The level of a drinking water disinfectant, below which there are no known or expected risks to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A: Not applicable.

ND: Not detected. Lab analysis indicates that contaminant is not present.

NTU: Nephelometric turbidity unit is the measurement of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppm: Parts per million, or milligrams per liter (mg/l).

ppb: Parts per billion or micrograms per liter (ug/l).

RAA: Running annual average

TOC: Total organic carbon. A measure of the total amount of carbon in the water, present as organic molecules.