

Special Considerations for Immuno-Compromised Individuals

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).



How Can I Help Protect Greeley's Water Supply?

The 1996 Safe Drinking Water Act Amendments directed that each state develop a Source Water Assessment and Protection (SWAP) Program. This Program is designed to provide the consuming public information about their drinking water, as well as provide the community with a way to get involved in protecting the quality of that drinking water. The concept behind SWAP is that by providing citizens with fundamental knowledge about their drinking water sources, they will be the most effective advocates for protecting it. The State of Colorado will perform the source water assessments for public water supplies across the State. When the assessments are complete in August 2003, the information will be available to the public. For more information on Colorado's SWAP Program, visit <http://www.cdphe.state.co.us/wq/sw/swaphom.html>.

What Contaminants are Common 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 accumulate substances resulting from the presence of animals or from human activity.



Contaminants that may be present in source water include:

- *Microbiological contaminants:* such as virus and bacteria, which may come from sewage treatment plants, septic systems, 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 agriculture, 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; and
- *Radioactive contaminants:* which can be naturally-occurring or be the result of oil and gas production or mining activities.

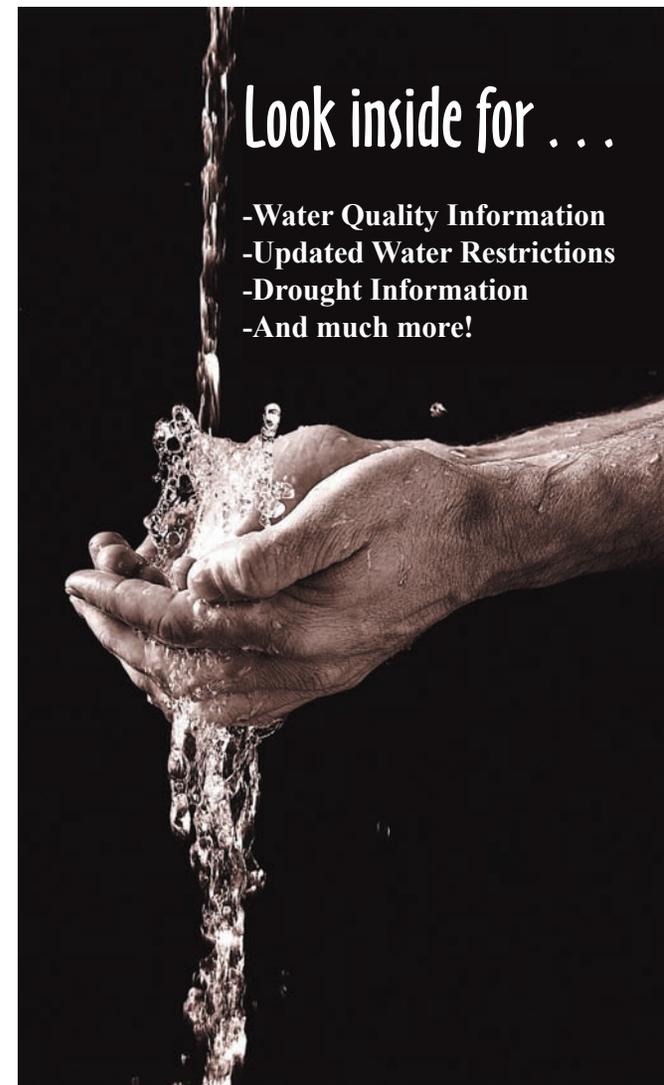
In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency ("EPA") limits the amount of certain contaminants allowed in drinking water provided by public water systems. Similarly, the United States Food and Drug Administration ("FDA") limits the amount of contaminants allowed in bottled water. 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling EPA's Safe Drinking Water Hotline (800-426-4791).

Annual Drinking Water Quality Report

*City of Greeley, Colorado
for Reporting Year 2002*

Look inside for . . .

- Water Quality Information
- Updated Water Restrictions
- Drought Information
- And much more!



Esta informacion es importante. Si usted necesita ayuda por favor llamenos y le ayudare mos con gusto. Si tiene alguna preyunta al telefono 350-9720.

Why am I Receiving This Report?

Congress amended the Safe Drinking Water Act in 1996 to require most drinking water suppliers to provide customers with annual reports on the quality of their drinking water. The first such reports were required for data generated during calendar year 1998. Greeley distributed that report to its customers in the fall of 1999. This, the fifth annual water quality report, covers data from calendar year 2002 for the City of Greeley public water system.¹ The report provides an excellent opportunity for our customers to learn more about the quality of the water they consume.

Where does Greeley Get its Water?

Greeley drinking water comes from surface waters located in three major river basins: the Cache la Poudre River, the Big Thompson River, and the Colorado River. Greeley also uses six high-mountain reservoirs in the Cache la Poudre River basin (Barnes Meadow, Comanche, Hourglass, Peterson, Milton Seaman, and Twin Lake) within the Roosevelt National Forest to retain water from spring snowmelt for redistribution during the summer and fall when there is high water demand, but low-river flows. Finally, Greeley uses a plains reservoir system (Boyd Lake, Lake Loveland, and Horseshoe Lake) to provide storage for peak summer demands.

Greeley treats the water from its various sources at either the Boyd Lake Water Treatment Plant near Loveland, or the Bellvue Water Treatment Plant north of Fort Collins. The Boyd Lake facility normally operates April through October to accommodate increased demand from lawn watering, and the Bellvue plant operates year-round. The treated water is then piped to Greeley where it is directly distributed to customers, or stored in one of three finished water reservoirs prior to distribution.

Greeley also has agreements with neighboring water purveyors whereby Greeley may provide water to, or receive water from, these entities under special circumstances, such as water main repair, unusual demand, or plant shutdown. Pursuant to these agreements,

Greeley received water from the West Fort Collins Water District, the East Larimer County Water District, the North Weld Water District and the City of Loveland, totaling about 85 million gallons. This is a tiny fraction of the 9.1 billion (about 1%) gallons Greeley provided to its customers. Such a small percentage should have no real impact on the data presented in this report. However, if you wish to obtain a water quality report from these entities, please call 350-9209.



¹The State of Colorado and Environmental Protection Agency identify the Greeley public water system with identification # 162321

A Word About Cryptosporidium . . .

Cryptosporidium is a microorganism that is found in rivers and lakes across Colorado. It can cause a severe intestinal disorder in people, and consequently, is receiving increasing attention by drinking water professionals. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people face a greater risk of developing life-threatening illness. We encourage immunocompromised individuals to ask their doctor about appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. In 2002, *Cryptosporidium* was detected in untreated water samples taken from source water supplied by 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, including coagulation, sedimentation, filtration, and disinfection (all of which Greeley does). The City did not detect the organism in treated water supplies.

Important Information About Your Drinking Water

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Due to an oversight during the 2002 dates in the table below, we did not complete all monitoring for chlorite and chlorine dioxide and therefore cannot be sure of the quality of our drinking water at that time. Since chlorite and chlorine dioxide values for the other days of the year were well within the standards, we have every reason to believe that the drinking water was within the standards for the days that monitoring did not occur.

Parameter	Required Sampling Frequency	Dates Samples Not Taken in 2002
Chlorite	Daily and monthly	July 27 th and December 1 st
Chlorine Dioxide	Daily	May 20 th through 31 st and July 27 th



Procedures have been implemented to prevent further occurrences. Please share this information with all other people who drink this water, especially those who may not receive this Annual Drinking Water Quality Report (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this Public Notification in a public place or distributing copies by hand or mail. For further information please contact Angela Miles, Regulatory Compliance Coordinator at 350-9209.

Partnership for Safe Water



In support of our efforts to provide the highest quality drinking water, Greeley Water and Sewer Department is a member of the Partnership for Safe Water. The Partnership is a national volunteer initiative for water suppliers that strives to provide superior drinking water quality. For more information about the Partnership contact Andrew C. Degner at the Bellvue Water Treatment Plant, (970) 482-2446.

Where Can I Get Further Information?

If you would like further information on the material covered in this report, call Angela Miles, Regulatory Compliance Coordinator at (970) 350-9209 or, if you'd like to view this report online you can do so at www.greeleygov.com/water. You can also access information about drinking water in general on EPA's drinking water web site at <http://www.epa.gov/safewater/>. Additionally, interested persons may attend public meetings of the City's Water and Sewer Board, which are usually held on the third Wednesday of every month at the Greeley City Hall. For more information on the times, dates, and location of Water and Sewer Board meetings, call Norma Wegher at (970) 350-9812.

What is the Quality of the Water Delivered to my Tap?

The Safe Drinking Water Act establishes the standards for most drinking water systems in the country, including Greeley's. In 2002, the Greeley public water system operated without exemption (*i.e.*, state or federal permission not to meet a standard under certain conditions). The City routinely monitors for contaminants in your drinking water according to federal and state laws. The table identifies drinking water contaminants that Greeley detected in its water, the contaminant levels detected, and the maximum allowable levels for these contaminants. All such contaminants were detected at levels well below applicable health limits. Sampling was performed between January 1 and December 31, 2002, unless otherwise indicated.

The following definitions will help you understand the information presented in the table:

Maximum Contaminant Level Goal or 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 Contaminant Level or MCL: 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.

Maximum Residual Disinfectant Level or 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 Residual Disinfectant Level Goal or 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.

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

Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Waiver: State permission not to test for a specific contaminant.

In addition to sampling for the following regulated contaminants, Greeley routinely monitors a long list of other contaminants that were *not* detected in your drinking water. (This includes unregulated contaminants for which EPA has not established drinking water standards). The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water. For a complete list of all contaminants monitored but not detected, please contact 350-9209. Greeley detected one unregulated contaminant in 2002: **Sodium**. The range of levels detected were 8.6 – 14.8 ppm; the average of the levels detected were 11.7 ppm. (EPA has not set an enforceable limit on sodium in drinking water. It has identified a non-enforceable guidance level of 20 ppm, which even the Agency admits is probably too conservative.) In 2002, Greeley received a waiver (permission from the state) not to test for nitrite, cyanide, and asbestos, because it is unlikely that these contaminants would be found in our drinking water.

KEY TO THE TABLE

MCL=Maximum Contaminant Level

MCLG=Maximum Contaminant Level Goal

MRDL=Maximum Residual Disinfectant Level

MRDLG= Maximum Residual Disinfectant Level Goal

n/a=Not Applicable

Non-Detect (laboratory analysis indicates that the constituent is not present)

NTU=Nephelometric Turbidity Units (a measure of turbidity or cloudiness)

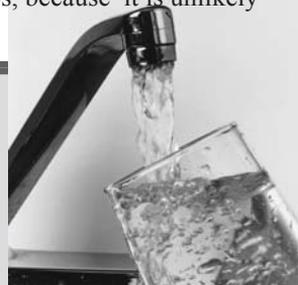
pCi/l=picocuries per liter (a measure of radioactivity)

ppm=parts per million, or milligrams per liter (mg/l) (one ppm corresponds to one minute in two years or a single penny in \$10,000)

ppb=parts per billion, or micrograms per liter ($\mu\text{g/l}$) (one ppb corresponds to one minute in 2,000 years, or a single penny in \$10,000,000)

TT=Treatment Technique

WTP=Water Treatment Plant





2003 Watering Restrictions

As of April 16, 2003, Drought Level 1 is in effect. In mid June City staff will reevaluate snowpack levels and conservation goals. If necessary, Drought Level 2 will be implemented. Residents will be notified if and when Drought Level 2 is activated. If you need more information and/or would like to report a violator, please visit, www.greeleygov.com/drought or call the hotline at 336-4134.

You are Residential Even if your house, trailer, duplex address ends in 0, 2, 4, 6 or 8.

You are Residential Odd if your house, trailer, duplex address ends in 1, 3, 5, 7 or 9.

Commercial / Industrial are addresses where residents do not control the sprinkler system (i.e. apartments, HOAs, and Multi-family units.) This category also includes businesses in Greeley.

Contaminant (Units)	MCLG	MCL	Level Detected in Finished Water	Violation Yes/No	Major Source of This Contaminant in Drinking Water
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MICROBIOLOGICAL CONTAMINANTS

Turbidity (NTU) ^(A)	n/a	TT	Highest Single Value: 0.28 Lowest single monthly percentage of samples meeting the turbidity limits: 100%	No	Soil Runoff
Total Organic Carbon ^(B)	n/a	TT	Running Annual Average ^(C) 1.07 (Boyd Lake WTP) 1.11 (Bellvue WTP)	No	Naturally present in the environment

INORGANIC CONTAMINANTS

Barium (ppm)	2	2	Range: 0.019 – 0.03	No	Discharge of drilling wastes; erosion of natural deposits.
Copper (ppm)	1.3	Action Level= 1.3	90 th percentile value: 0.14 ^(D) Sites exceeding action level: 0 out of 40	No	Corrosion of household plumbing systems.
Fluoride (ppm)	4	4	Range: 0.79 – 0.94	No	Erosion of natural deposits; water additive that promotes strong teeth.
Lead (ppb)	0	Action level = 15	90 th percentile value: 3 ^(D) Sites exceeding action level: 0 out of 40	No	Corrosion of household plumbing systems.
Selenium (ppb)	50	50	Range: Non detect to 2	No	Erosion of natural deposits.

RADIOLOGICAL CONTAMINANTS

Alpha emitters (pCi/l) ^(E)	0	15	Range: Non detect to 5	No	Erosion of natural deposits
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VOLATILE ORGANIC CONTAMINANTS

Chlorine (ppm)	MRDLG 4	MRDL 4	Running Annual Average: 0.7 Range: 0.02 – 1.42	No	Water additive used to control microbes.
Chlorine Dioxide (ppb)	MRDLG 800	MRDL 800	Highest Average: 60 Range: Non detect - 475	No ^(F)	Water additive used to control microbes.
Chlorite (ppm)	0.8	1	Highest Average: 0.54 Range: 0.05 – 0.62	No ^(F)	By product of drinking water chlorination
HAA5s (Haloacetic Acids) (ppb)	n/a	60	Running Annual Average: 23.82 Range: 11.6 – 47	No	By product of drinking water chlorination
TTHMs (Total Trihalomethanes) (ppb)	n/a	80	Running Annual Average: 38.78 Range: 21.5 – 80.0 ^(G)	No	By product of drinking water chlorination

(A) Turbidity is a measure of the cloudiness of the water. The City monitors turbidity because it is a good indicator of the effectiveness of our filtration system.

(B) Total Organic Carbon is the total amount of carbon in water that is present as organic molecules. It is used as a surrogate measurement for disinfection byproducts.

(C) These values represent the ratio of how much organic carbon is removed to how much organic carbon is required to be removed. The ratio must equal or exceed 1 for compliance.

(D) This statistical expression is used to measure compliance. It indicates that 90% of all sample results were equal to or lower than this value.

(E) The data presented are from the most recent testing performed (August 2001). The State permits monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently.

(F) As noted on the reverse side of this report, we did not complete all required monitoring for chlorite and chlorine dioxide in 2002.

(G) Compliance is based on a running annual average of samples taken throughout the entire water distribution system. The range of values shows that one sampling location had a TTHM value at the MCL. However, the running annual average remained well under the MCL.

Drought Level 1

Level 1	Residential Even Watering Day(s)	Residential Odd Watering Day(s)	Comm/Ind/ HOA Watering Day(s)
January 1- April 15	No lawn watering	No lawn watering	No lawn watering
April 16- May 15	Sunday	Saturday	Friday
May 16- September 15	Sunday & Thursday	Saturday & Wednesday	Friday & Tuesday
September 16- October 15	Sunday	Saturday	Friday
October 16- December 31	No lawn watering	No lawn watering	No lawn watering

Drought Level 1

No lawn watering on Mondays

No watering from 10:00 a.m. to 6:00 p.m.

New lawns by variance. Trees, shrubs, flower and vegetable gardens are allowed anytime by hand or on your watering day.

No hosing paved surfaces.

Home car washing allowed w/ restrictive nozzle hose and bucket.

Drought Level 2

Drought Level 2	Level 2	Residential Even Watering Day(s)	Residential Odd Watering Day(s)	Comm/Ind/ HOA Watering Day(s)
No lawn watering on Mondays	January 1- April 15	No lawn watering	No lawn watering	No lawn watering
No watering from 8:00 a.m. to 7:00 p.m.	April 16- May 15	Sunday	Saturday	Friday
New lawns by variance.	May 16- June 30	Sunday & Thursday	Saturday & Wednesday	Friday & Tuesday
Trees, shrubs, flower and vegetable gardens are allowed anytime by hand or on your watering day.	July 1 - August 31	No lawn watering	No lawn watering	No lawn watering
No hosing paved surfaces.	September 1- October 15	Sunday	Saturday	Friday
No home car washing allowed.	October 16- December 31	No lawn watering	No lawn watering	No lawn watering

Fines for both drought levels

Offences	Residential	Commercial
First	\$100	\$250
Second	\$250	\$500
Third	\$500	\$1000
Fourth	\$500 + flow restrictor	\$1000 + flow restrictor