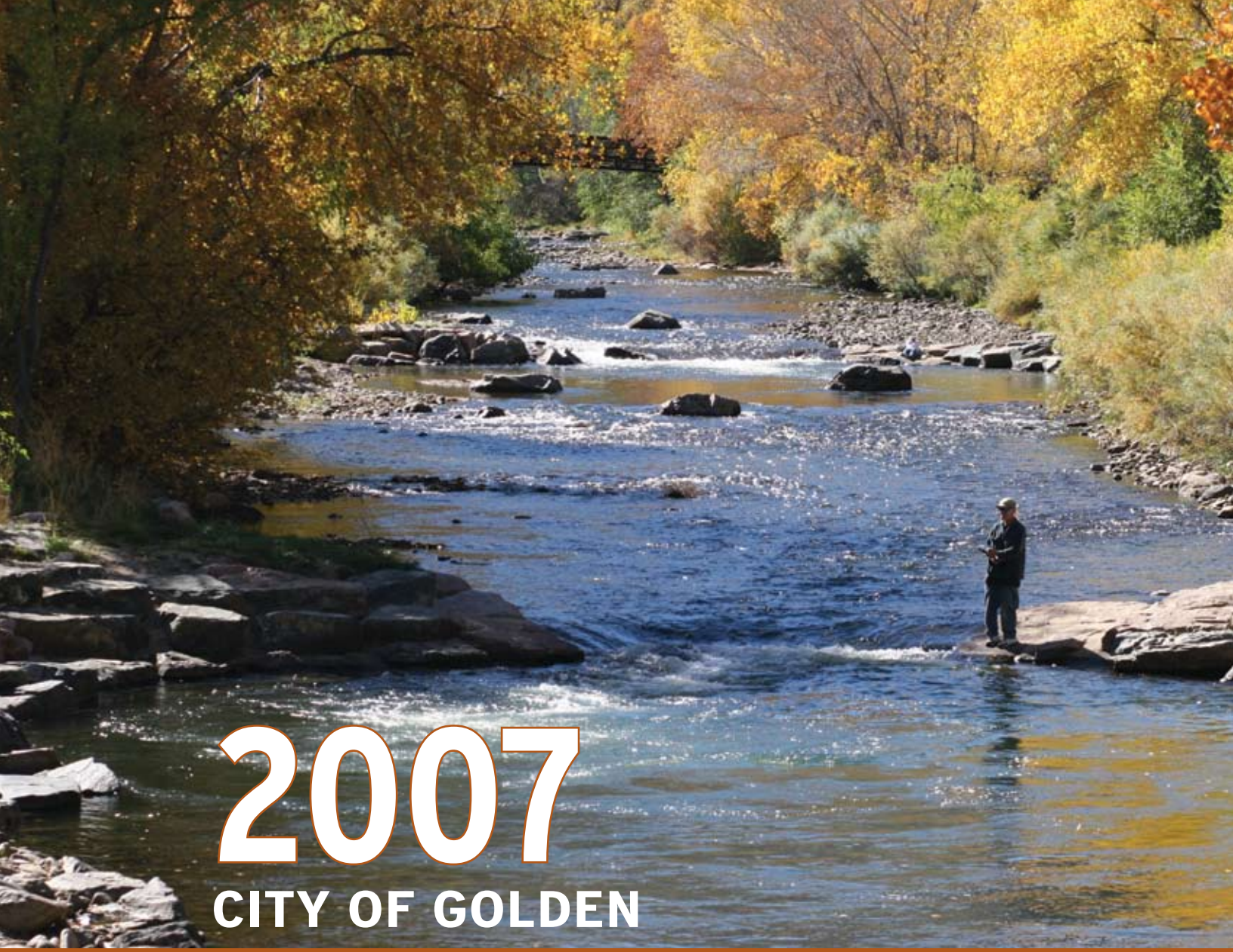


2007

CITY OF GOLDEN

Water Quality Report

WHAT is this & WHY do we do it?

The City of Golden is pleased to provide you with your Annual Water Quality Report. This report summarizes information about the quality of the water provided to customers in 2007. It contains important data and facts about drinking water, where it comes from and how it is treated. There were no violations in the levels of substances detected in Golden's drinking water during 2007. Informed Golden consumers are the best advocates for safe drinking water and we welcome your input and feedback. The Environmental Services Division can be reached at 303-384-8181 or esdiv@cityofgolden.net. Learn more online at www.cityof golden.net.

Clear Creek – Our Drinking Water Source

Golden's drinking water source is exclusively Clear Creek and its tributaries. As it flows through the watershed, it dissolves naturally occurring minerals and, in some cases, radioactive material from rock surfaces and the riverbed. Water quality in Clear Creek may also be influenced by rock or land slides, animal activity or substances that are a result of human activity such as construction and highway operations or mining and remediation projects.

Potential contaminants that may be present in our raw water source in Clear Creek include:

- bacteria and viruses from wastewater treatment plants, individual septic systems and wildlife.
- salts and metals from highway/road maintenance and construction operations, mine waste piles, active and abandoned mines or mine clean up sites and storm water runoff.
- organic contaminants from petroleum spills from gas stations or leaking above ground or underground storage tanks.
- Radioactive contaminants that are naturally occurring or the result of mining activity.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment has set regulations that limit the amount of certain contaminants in water provided by public water systems such as Golden's. CDPHE has also provided consumers with a Source Water Assessment Report that is specific to our raw water supply. The report is not an indication of the current quality of our water source but provides information on possible impacts to Clear Creek and rates the potential susceptibility to those sources. Information from the report can help Golden in developing and implementing water management strategies to optimize treatment and protect the quality of our drinking water.

The report is available online at www.cdphe.state.co.us/wq/sw/swaphom.html or may be obtained by contacting the City of Golden Environmental Services Division at 303-384-8181.

Protecting Clear Creek

Golden recognizes the value in protecting the water quality of Clear creek for use for drinking water, integrity of habitat and as a community amenity.

In the early years of the Clean Water Act, industrial sources of pollution were targeted. Discharges from industrial plants and wastewater treatment plants were, at the time, the leading cause of degraded water quality.

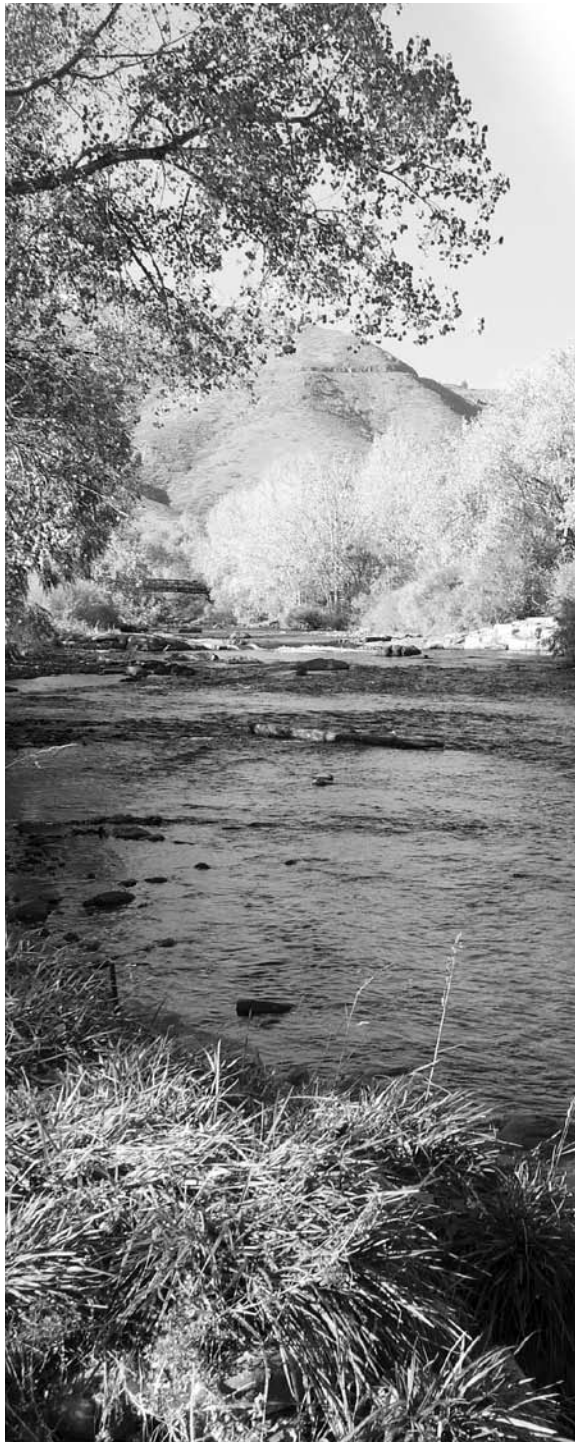
The more recent focus of water quality impairment is from non-point sources, or stormwater runoff. Pollutants are transported in stormwater as rain and snowmelt flow across surfaces such as lawns, roads and parking lots, picking up substances such as fertilizers, pesticides, oil and antifreeze before entering Clear Creek.

Treatment for stormwater does not occur in the typical manner of a treatment plant. Instead, we must rely on educating the public about practices that minimize pollutants – fixing an oil leak from the car, picking up after pets, using fewer chemicals on the lawn applied at the optimal time for them to be utilized.

We also have requirements for controlling erosion and sediment from construction – when vegetation is removed for construction, bare soil can be easily transported by rain and snowmelt. There is a direct correlation between soil and other pollutants such as heavy metals and excess nutrients. We know if we control sediment, we minimize pollutants; if we control erosion, we minimize sediment.

Finally, we do "treat" stormwater in the sense that we work to minimize imperviousness of new construction and have requirements to contain, infiltrate and slowly release stormwater to minimize pollutants and to minimize instability of stream channels.

Contaminants that enter the creek degrade the quality of our drinking water source and fish and wildlife habitats. Therefore, care must be taken to ensure that stormwater runoff does not jeopardize the quality of Clear Creek. Please do your part – visit www.cityofgolden.net or call 303-384-8188 for more information.



Contaminant Monitoring Results

Detected Regulated Substances

Monitored leaving the treatment plant

Substance	Sample Date	Average	Range Found	MCL	MCLG	No Violations	Common Sources
Barium, ppm	4-30-07	0.033	n/a	15	0		Natural Erosion
Fluoride, ppm	monthly	0.59	0.26 - 0.82	4	4		Natural Erosion
Nitrate, ppm	5-25-07	0.15	n/a	10	10		Fertilizer Run-off
Total Organic Carbon (TOC), ratio *(TOC, reported as a ratio, must remain above 1.0 for optimal water treatment.)*	monthly - RAA	1.4	1.11 - 1.73	TT	TT		Naturally present in the environment
Copper, ppm	4-30-07	0.006	0.006	AL=1.3	n/a		Corrosion of household plumbing

Substance	Sample Date	Result	Treatment Requirement	No Violations	Common Sources
Turbidity, NTU *(Measure of the cloudiness of water. It is a good indicator of the effectiveness of our filtration system)*	12-4-07	highest single 0.111ntu	Maximum of 1.0 ntu at any time		Natural Run-off
	Monthly averages must be less than 0.3 NTU for 95% of the time. In Golden, 100% of all turbidity measurements were less than 0.3 NTU for 2007.				

Monitored leaving the treatment plant

Substance	Sample Date	Average	Range Found	Highest RAA	MCL	MCLG	No Violations	Common Sources
Total Trihalomethanes, ppb	quarterly RAA	46.5	22. - 92.9	46	80	n/a		By-product of Chlorination
Total Haloacetic Acids, ppb	quarterly RAA	22	6.99 - 55.3	23	60	n/a		By-product of Chlorination
Chlorine (free), ppm	quarterly RAA	0.89	0.62 - 1.0	n/a	MRDL - 4	MRDLG - 4		Drinking Water Disinfectant

Substance	Sample Date	Result	MCL		No Violations	Common Sources
Coliforms, total	9-2007	1 out of 35 samples taken returned as positive (result determined to be false-positive due to faulty sample faucet)	Systems that collect less than 40 samples per month are allowed 1 positive sample	0		Naturally present in the environment

Monitored at consumer taps**

Substance	Sample Date	Average	Range Found	AL	MCLG	No Violations	Common Sources
Lead, ppb	2005-2007	0	0	15	n/a		Corrosion of household plumbing
Copper, ppm	2005-2007	0.044	0	1.3	n/a		Corrosion of household plumbing

The requirement to monitor for lead and copper at consumer taps has been reduced to once every 3 years.

Detected Unregulated Substances

Monitored leaving the treatment plant

Substance	Sample Date	Average	Range Found	MCL	SMCL	Common Sources
Potassium	4-30-2007	3.3	n/a	n/a	None	Erosion of Natural Deposits
Zinc	4-30-2007	0.174	n/a	n/a	5	Erosion of Natural Deposits
Sodium, ppm	4-30-2007	28	n/a	n/a	None	Erosion of Natural Deposits
Chloride	5-25-2007	9.6	n/a	n/a	250	Erosion of Natural Deposits
Sulfate	5-25-2007	37.4	n/a	n/a	250	Erosion of Natural Deposits

Other Substances Detected (unregulated but of public interest)

Monitored in the distribution system

Substance	Sample Date	Average	Range Found	MCL	SMCL		Common Sources
Manganese, ppm	monthly	0.011	0.001 - 0.04	n/a	0.05		Erosion of Natural Deposits
Iron, ppm	monthly	0.017	0.015 - 0.07	n/a	0.3		Erosion of Natural Deposits

Glossary of Terms and Definitions

Action Limit (AL): The concentration, which if exceeded, triggers a treatment modification. 90% of households tested must be below the AL.

C/100ml: Counts per 100 milliliters

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set at close to the MCLGs as feasible using the best available treatment technology.

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 (MRDL): The highest level of a disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known health risk.

n/a: - not applicable

NTU: nephelometric turbidity unit, used to measure water clarity

pCi/L: picocuries per liter, used to measure radioactivity

ppb: part per billion - corresponds to 1 inch in 16,000 miles

ppm: part per million - corresponds to one inch in 16 miles

Running Annual Average (RAA): Annual average based on weekly or quarterly monitoring.

Secondary Maximum Contaminant Level (SMCL): Non-enforceable levels that primarily affect the aesthetic quality of drinking water.

Secondary Maximum Contaminant Level Goal (SMCLG): The desirable goal, but not enforceable.

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

We constantly monitor for various substances in our water supply in order to meet all our regulatory requirements. Due to weather and other circumstances, the sampling window for Microscopic Particulate Analysis Sampling was missed in December. A makeup sample was taken 3/5/08 and was found to comply with and exceed requirements for particulate removal. This does not pose a threat to the quality of our water supply.

If You Have Special Health Concerns:

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 water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals, such as persons undergoing chemotherapy, persons who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk for infection. 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 guidelines to lessen the risk of infection by Cryptosporidium and other microbiological contaminants, contact the EPA Safe Drinking Water Hotline toll free at 1-800-426-4791.

The Benefits of Chlorination...

Filtration and chlorination are the major factors in the elimination of deaths attributable to drinking water. Both are necessary and work hand-in-hand. The U.S. Centers for Disease Control cite water treatment as one of the most significant advancements of the past century. Between 1900 and 1908 where filtration was installed, the deaths from typhoid, hepatitis and cholera were cut in half, but there was something missing. Around 1908 chlorination was added which immediately helped and by the late 1940s the toll from typhoid alone dropped to 0 according to the CDC. Golden uses a very efficient process which includes chemical treatment, filtration and disinfection using a free chlorine residual. Still to this day, according to the CDC and U.S. EPA, there is nothing that works better to prevent water born disease.

What About Lead?

Young children and pregnant women 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. The City of Golden is responsible to provide you with high quality drinking water but cannot control the variety of materials used in water service lines and home plumbing components. You can minimize your exposure by flushing your tap for 30 seconds to 2 minutes before using water for cooking or drinking. If you are concerned about levels of lead in your home, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize your exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791.

Ensuring Safe Irrigation Systems

Irrigation systems for watering your lawn, garden or shrubbery make landscaping maintenance much more convenient than hand watering with a garden hose. But when an irrigation system is installed, it creates a potentially dangerous situation. The chemicals, pesticides, fertilizers and animal waste that is on the lawn or in the mulch around your plants become a potentially life threatening source of contamination to your drinking water. By installing an irrigation system, a direct cross-connection between these contaminants and your plumbing system is created. Should a backflow event occur, the contaminants may be drawn backward from the lawn into the house or, if the event lasts long enough, even into the City's distribution system. Once the event is over, the contaminants in the plumbing system will come out somewhere, such as in a glass of water from your kitchen sink or in your neighbor's house.

Anytime an irrigation system is installed, a plumbing permit is required. By obtaining a permit, or insisting that your contractor obtain a permit, the City can make sure that the proper protection is installed as part of the irrigation system. Once the proper backflow preventer is installed, it must be inspected and maintained to ensure that it functions properly. Keeping the water safe is everyone's responsibility. If you have an irrigation system, please make sure it is properly isolated and the backflow preventer is properly maintained.

If you have any questions about backflow prevention on your system you may contact the City's Cross-Connection Control Program Administrator at backflow@cityofgolden.net or by calling 303-384-8178.

MEASURING WATER HARDNESS

Water hardness can be measured 2 ways:
In grains per gallon (gpg) or Milligrams per liter (mg/L).

To convert gpg to mg/L - multiply by 17.12.

5 grains per gallon equals about 86 milligrams per liter of hardness.

DID YOU KNOW?

The U.S. EPA and the Colorado Department of Public Health and Environment set standards for water that is provided by public drinking water systems such as Golden.

The Federal Food and Drug Administration regulates and sets standards for bottled water manufacturers.

Continuing Upgrade to the Water Treatment Plant

The water treatment plant is well underway with the upgrades of the Supervisory Control and Data Acquisition (SCADA) system. The human machine interface (HMI) was upgraded to ease existing operations and prepare for future upgrades of the hardware system planned for this year. The telemetry system for the distribution system was also upgraded to improve the reliability of communications and reduce operational costs. The entire project is planned as a three year project and is entering year two.

ESPAÑOL

Este informe contiene información importante sobre su agua de beber. Si no puede leer, por favor busque la ayuda de alguien que lo puede traducir.

For more information, contact:

City of Golden
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