Clean Bill of Health for City Water

Terms and Abbreviations

The following definitions will help you understand the terms and abbreviations used in this report:

- **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 (µg/L)** - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
- **Parts per trillion (ppt) or Nanograms per liter (nanograms/L)** - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
- **Parts per quadrillion (ppq) or Picograms per liter (picograms/L)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.
- **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.
- **Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **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 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.
- **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.
- **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.
- **Running Annual Average (RAA)** - An average of monitoring results for the previous 12 calendar months.
- **Gross Alpha, Including RA, Excluding RN & U** - This is the gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222 and uranium.
- **Microscopic Particulate Analysis (MPA)** - An analysis of surface water organisms and indicators in water. This analysis can be used to determine performance of a surface water treatment plant or to determine the existence of surface water influence on a ground water well.
- **N/A** - Not Applicable

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water.

At the city of Northglenn, we are working 24 hours a day to provide quality drinking water every time you turn your faucet on. 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 Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

General Information About Drinking Water

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. 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.

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 presence of animals or from human activity. Contaminants 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 stormwater 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 stormwater 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.

Our Water Source

Source: Standley Lake
Water Type: Surface Water

Northglenn's water supply originates as runoff from snowmelt and rain in the Clear Creek Watershed. Our water travels down Clear Creek and through a network of canals and ditches to Standley Lake where it is stored until treated. Water quality is monitored at each stage of the journey from Clear Creek to Standley Lake, throughout the treatment process and in the distribution system where it is eventually delivered to your home.

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. You may obtain a copy of the report by visiting www.cdphe.state.co.us/wq/sw/swaphom.html or by contacting Ray Reling at 303-450-4049.

Drinking water sources are susceptible to contamination from a wide variety of natural and man-made threats. Potential contaminant sources include anything likely to manufacture, produce, use, store, dispose, or transport regulated and unregulated contaminants of concern. Potential contaminant sources were divided into two groups for this assessment:

- *Discrete contaminant sources* – generally include facility-related operations from which the potential release of contamination would be confined to a relatively small area.
- *Dispersed contaminant sources* – generally include broad based land uses and miscellaneous sources from which the potential release of contamination would be spread widely over a relatively large area.

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 home. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Health Effects Information About Contaminants Tables

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 and would like to have the water in your home tested, contact Tami Moon-Carlson, lead laboratory analyst, at 303-450-4070. You can also flush the tap for 30 seconds to 2 minutes before drinking tap water. Additional information is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791.

Contaminant Sources

Potential discrete contaminant sources in our source water area have been identified as:

- EPA Superfund Sites
- EPA Abandoned Contaminated Sites
- 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

Potential dispersed contaminant sources in our source water area have been identified as:

- Commercial/Industrial/Transportation
- High Intensity and Low Intensity Residential
- Urban Recreational Grasses
- Quarries/Strip Mines/Gravel Pits
- Row Crops
- Fallow
- Pasture/Hay
- Forest
- Septic Systems
- Oil/Gas Wells
- Road Miles

Conservation Tips

The city encourages our customers to use water wisely. Here are a few conservation methods that are easy to implement:

- Watering during the heat of the

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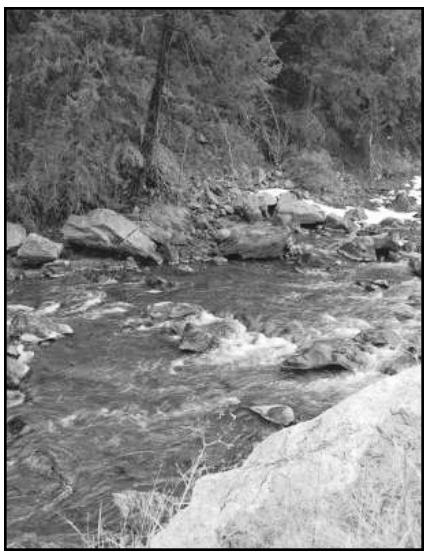
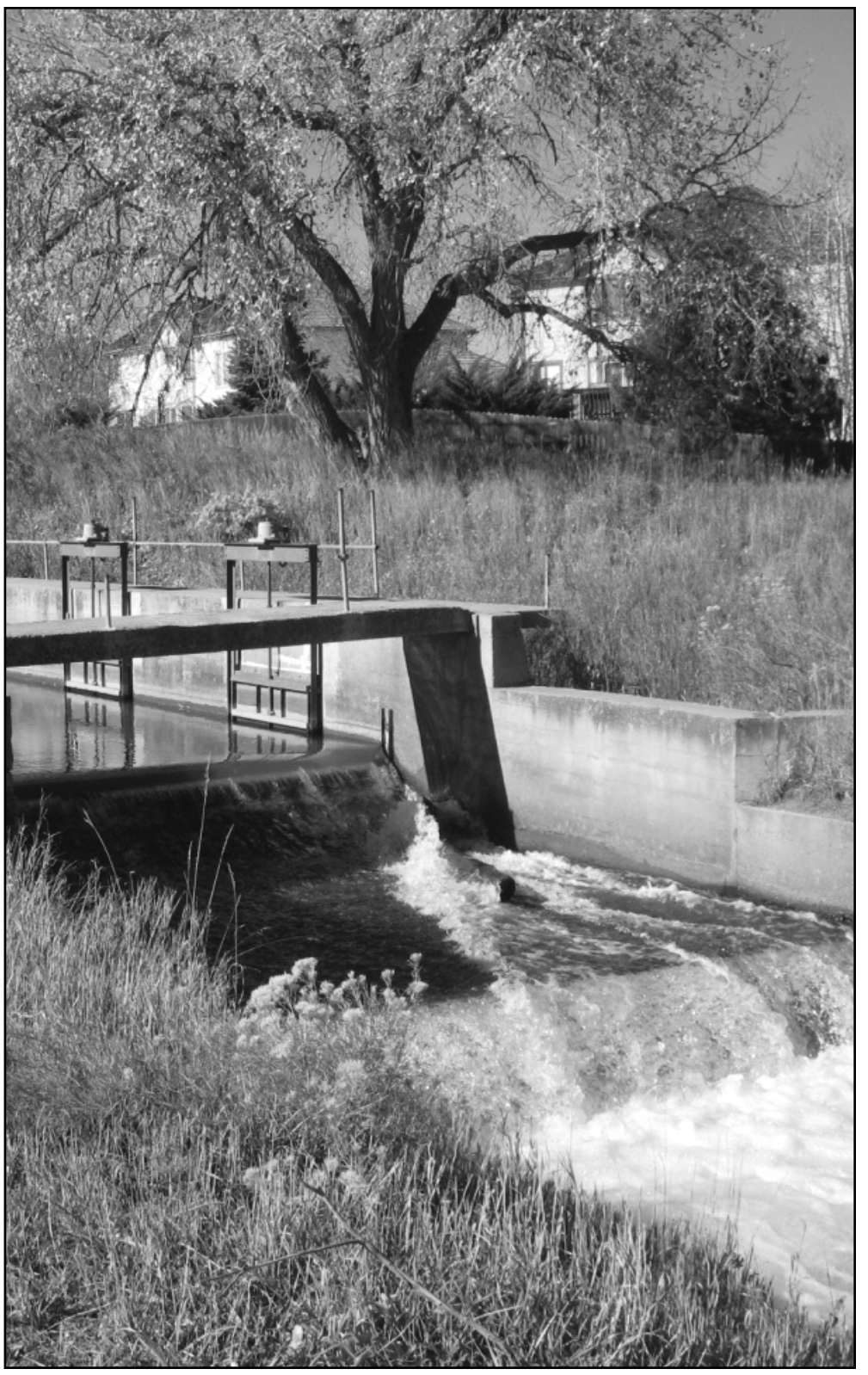
Esta es informacìon importante. Si no la pueden leer, necesitan que alguien se ta traduzca.





Clockwise from top left: Northglenn's water supply starts out in Clear Creek. It is then diverted by a network of canals, such as Farmer's Highline Canal. The water winds up in Standley Lake, which supplies water to Northglenn as well as Thornton, Westminster, and parts of unincorporated Adams County.

Water Contact Phone Numbers

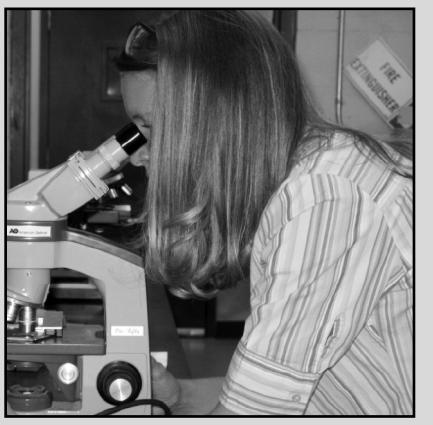
- Water Quality Concerns: 303-450-4070
- Water or Sewer Problems: 303-280-7802
- Water or Sewer Problems - After Hours: 303-451-1289
- Utility Billing: 303-450-8770

Please contact Ray Reling, chief plant operator, at 303-450-4049 if you have any questions about the annual drinking water quality report or to learn more about our system.

If you have questions or concerns about your water or would like your water tested call Tami Moon-Carlson, lead laboratory analyst, at 303-450-4070.

Northglenn City Council provides an opportunity for public input and meets at 7 p.m. on the 2nd and 4th Thursday of each month. Meetings take place in Council Chambers at City Hall, 11701 Community Center Dr.

We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.



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day may cause you to lose up to 50% of your water application to evaporation. To water more efficiently, water between 6 p.m. and 10 a.m. and break the amount of watering time into 2-3 shorter cycles. This will allow water to soak deeper into the soil.

- Regularly check pipes, hoses, valves and faucets for leaks.
- Use a bucket to wash your car. Use a shut-off nozzle on the hose to save water.
- Use drought tolerant plants in your landscaping.
- Mulch your garden to reduce evaporation.
- Set your lawn mower to mow one notch higher. Longer grass means less evaporation.
- Use a broom instead of your hose to clean patios, driveways and sidewalks.
- Reduce your watering in the spring and fall. Your lawn needs less than one third as much water in the fall and spring as it does during the summer.

Visit the city's Web site, www.northglenn.org, for more conservation tips.

Stormwater Management Program

The goal of this program is to reduce the amount of pollutants entering streams, rivers, lakes and reservoirs. Oil, grease, and other fluids from vehicles, soils during construction and other debris on the ground are just a few things that get washed away during storms and into the very water that we use for drinking and recreation. Properly maintaining your vehicle, picking up after your pets, and using lawn fertilizers and chemicals according to the directions are some of the ways you can help to reduce pollution. For more information on how you can make a difference in preventing stormwater pollution, visit www.northglenn.org or call 303-450-8792.

Frequently Asked Questions

What is the Hardness of Northglenn's water?

Hardness in drinking water is caused by calcium and magnesium carbonate, which occur naturally in our water source. When high levels of these two minerals are present in the water supply, making a lather of suds for washing can be "hard" to do. This is where the term "hard water" originates. A level of 50 mg/L or less of these minerals is considered "soft", while a level of 300 mg/L or more is considered "hard." In the distribution system, Northglenn's highest level of hardness in 2008 was 111 mg/L or 6.49 grains per gallon, which falls within the moderate-low range.

Why Does the Water Appear Cloudy at Times?

This seems to happen more often in winter when the drinking water is colder, but may also happen if you have an aerator attached to your faucet. There is no cause for alarm; tiny air bubbles in the water cause the milky or cloudy appearance. If the water is left to stand for a short while, the bubbles will rise to the surface and disappear.

Does Our Water Contain Fluoride?

Fluoride, a mineral that is naturally present in Northglenn's water, can be a benefit to dental health. Many communities add fluoride to their drinking water to help promote good dental health. The EPA has set a maximum level for fluoride of 4 mg/L in drinking water. Some people who drink water that contains fluoride in excess of this level can be at risk for bone disease. A secondary level of 2 mg/L has been set to help protect against dental fluorosis, which can cause stains and pitting in permanent teeth. Children who are under 9 years of age should not drink water that has more than 2 mg/L of fluoride. Our highest detected level of fluoride in 2008 was 0.484 mg/L.

How Much Sodium is in the Water?

At this time, Sodium is not a regulated contaminant in drinking water. The EPA recognizes that on the one hand, high levels of salt are associated with hypertension, but on the other hand, sodium levels in drinking water are usually low and unlikely to contribute to adverse health effects. Most Americans tend to eat between 4000-6000 mg of sodium a day. In a study conducted by the EPA, 75% of the water systems tested had concentrations less than 50 mg/L of sodium. At this level, a 150 lb. adult drinking 8 glasses of water a day would ingest less than 100 mg of sodium per day. Northglenn's water averages around 25 mg/L.

Why Do I Taste Chlorine in my Water?

Chlorine, a disinfectant, is added to the water in its final treatment stage to kill bacteria and viruses. This is the most efficient and cost-effective method available. The amount used is well below a level that would impact humans, but some people are more sensitive to the taste and odor of chlorine than others and may find it objectionable. An inexpensive way to minimize this is to keep a jug of water in the refrigerator for drinking; the colder the water, the less noticeable the taste and odor of chlorine.

What Causes Rusty Colored Water?

Periodically city crews flush every fire hydrant along the 110 miles of water mains in Northglenn to remove debris in the form of sand particles or pipe scale. Small amounts of iron and manganese may temporarily discolor your water during this process, but this is not harmful. If you notice a rusty tinge to your water, open all your faucets at the same time for a few minutes until the water runs clear.

Detected Contaminants

We routinely monitor for contaminants in your drinking water according to federal and state laws. 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. Some of our data, though representative, may be more than one year old. The "Detected Range" column in the tables below will show a single value for those contaminants that were sampled or detected only once. The following tables show the results of our monitoring for the period of Jan. 1 to Dec. 31, 2008, unless otherwise noted.

Microbiological Contaminants – Regulated in the Distribution System

Microbiological	Result	MCL	MCLG	Typical Source
Coliform (TCR)	In the month of June, one sample returned as positive.	Of 40 samples collected per month: No more than 5% positive per month.	0	Naturally present in environment

Inorganic Contaminants – Regulated at the Treatment Process

Regulated Contaminants (units)	Detected Range	Highest Level Detected & Date(s)	MCLG	MCL	MCL Violation?	Typical Source
Antimony (ppb)	0.32	0.32; 05/06/2008	6	6	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	0.40	0.40; 05/06/2008	0	10	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production waste
Barium (ppm)	0.0453	0.0453; 05/06/2008	2	2	No	Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	0.484	0.484; 05/06/2008	4	4	No	Erosion of natural deposits
Selenium (ppb)	0.2705	0.2705; 05/06/2008	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Turbidity - Regulated at the Treatment Process

Turbidity	Sample Date	Level Found	TT Requirement	Violation?	Typical Source
Turbidity (NTU)		Highest single measurement: 0.088; 06/05/2008	Maximum 1.0 NTU for any single measurement	No	Soil runoff
	2008	January through December 100% of samples were below TT requirement for our technology.	In any month, at least 95% of samples must be below .3 NTU	No	

Total Organic Carbon - Regulated at the Treatment Process

TOC	Compliance Factor (measurements should not be lower than this)	Lowest RAA (compliance factor)	RAA Range 2008 (compliance factor)	Violation?	Typical Source
Total Organic Carbon (Removal Ratio)	1.0	1	The RAA January through December was 1	No	Naturally present in the environment

Disinfectants - Regulated in the Distribution System

Disinfectant	Detected Range & Date of Highest Level	Level Detected for Compliance (RAA)	MRDL	MRDLG	MRDL Violation?	Source
Chlorine (ppm)	0.38-1.24; 05/12/08	0.80	4	4	No	Water additive used to control microbes

Disinfectant Byproducts - Regulated in the Distribution System

Disinfectant By-products	Detected Range & Date of Highest Level	Average RAA	Highest RAA	MCL	MCLG	MCL Violation?	Typical Source
Haloacetic Acids (ppb)	19.01-31.97; 08/11/08	24.360	25.54	60	None	No	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	32.07-77.39; 08/11/08	47.665	53.03	80	None	No	By-product of drinking water chlorination

Lead and Copper - Regulated at the Consumers Tap

Lead and Copper	Collection Date	90th Percentile	Action Limit (AL)	Actional Limit Goal (ALG)	Number of Sites Over AL	Violation?	Typical Source
Copper (ppm)	2008	0.033	1.3	1.3	0 out of 30	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	2008	0.90	15	0	0 out of 30	No	Corrosion of household plumbing systems; erosion of natural deposits

Secondary Contaminants – Monitored at the Treatment Process

Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects or aesthetic effects in drinking water. EPA recommends these standards but does not require water systems to comply.

Contaminant	Collection Date	Secondary Standard	Highest Value	Violation?	Typical Source
Sodium (ppm)	05/06/2008	10,000	22.6	N/A	Naturally present in the environment
MPA WTP Raw and Finished (Units)	05/21/2008	N/A	2.2	N/A	Naturally present in the environment

No violations occurred in the calendar year of 2008.