

Why Conserve Water?

Drinking water is a valuable natural resource, and even though Minnesota is blessed with an abundance of lakes and rivers, freshwater is still a limited resource even here, as past droughts have shown. So, conserving our freshwater resources is definitely something we need to be concerned about.

Our summer water use can be more than 2 ½ times as much as our winter water use. By far the largest component of this significant increase is the watering of lawns. So, if we seriously want to conserve our freshwater resources, doing things to make our irrigation water use more efficient and effective is an excellent place to start.

Lawns don't need to be watered daily. In reality, watering them daily is bad for them as the grass plants develop very shallow root systems, which means they become less drought tolerant, need more frequent watering and have access to fewer soil nutrients. By watering less frequently and more deeply, grass plants develop deeper roots, require less frequent watering and are healthier. So, by requiring less frequent watering we are actually helping build healthier lawns.

The City of Burnsville has implemented the following water use restrictions from April 1 through September 30:

MIDDAY WATERING RESTRICTIONS: All watering of lawns is prohibited between 11:00 A.M. to 3:00 P.M.

ODD-EVEN SPRINKLING: The odd-even restrictions allow property owner addresses that end in an odd number (1,3,5,7,9) to water only on calendar numbered days that end in an odd number and those property owner addresses that end with an even number (0,2,4,6,8) are allowed to water only on calendar numbered days that end in an even number. In the case of multi-family residences or businesses with multiple addresses, or where a structure does not have an apparent address, the site should water on odd numbered days. On the 31st day however, watering is available to everyone.

For properties with automatic irrigation systems which cannot water their whole site during the single day, the system should set up to water approximately ½ of the site each day, but not water any specific area more frequently than once every other day. Residents and businesses with this situation need to notify the City and receive approval prior to implementing this watering system.

EXCEPTIONS: Exceptions to odd-even watering restrictions include lawns with new seed, new sod or new landscaping, plant materials that require daily watering such as golf greens and tees, certain athletic fields with special soil conditions, flower pots and baskets, and vegetable gardens.

The City's hope is to gain compliance with these water conservation restrictions through education; however, the City feels it necessary to establish a fee system for those who choose to not comply with these restrictions.

The following fees for non-compliance will be assessed and included on the property owner's water bill: in the first case of non-compliance within a calendar year the property owner shall be given a warning, the second a \$25.00 fee, third a \$50.00 fee, fourth a \$100.00 fee, and fifth and beyond a \$250.00 fee. A door knocker and a follow-up letter will be provided to property owners to notify them for each documented incident of non-compliance.

If you have any questions about these restrictions, please call the Burnsville Public Works Department at 952-895-4550.

What's Your Water Saving Score?

Saving water can be easy. Choose the answer that best describes your family's water use habits to learn your water saving score and learn tips to help you be water-wise.

1. When washing dishes by hand, fill one sink with wash water and the other with rinse water.
 Often Sometimes Never
2. Run the dishwasher only when full.
 Often Sometimes Never
3. Keep a pitcher of water in the refrigerator instead of running the tap for cold water.
 Often Sometimes Never
4. When doing laundry, match the water level to the size of the load.
 Often Sometimes Never
5. Turn off the water while brushing your teeth or shaving.
 Often Sometimes Never
6. Drop used tissues in the trash instead of flushing them.
 Often Sometimes Never
7. When washing your hands, don't let the water run while you lather.
 Often Sometimes Never
8. Use a broom to clean the driveway or sidewalk.
 Often Sometimes Never
9. Don't let the water run while washing the car; use a bucket.
 Often Sometimes Never
10. Turn water faucets off tightly.
 Often Sometimes Never
11. Fix a leaky faucet as soon as it's discovered.
 Often Sometimes Never

Totals: Often _____ Sometimes _____ Never _____

HOW DID YOU SCORE?

Mostly "often".
Great job! You're on your way to saving hundreds of gallons of water each month.

Mostly "sometimes".
You're off to a great start! Take additional steps to save indoor and outdoor water usage.

Mostly "never".
You have room for improvement. To save water and money, start water conservation measures today.

Contact Information

City Internet Site: www.burnsville.org
Utilities Department Phone: 952-895-4550
Utility Billing Phone: 952-895-4480

Website Links

City of Burnsville – www.burnsville.org

Minnesota Department of Health -
<http://www.health.state.mn.us/>

Minnesota Pollution Control Agency -
<http://www.pca.state.mn.us/oea/>

Environmental Protection Agency -
<http://www.epa.gov/>

CITY OF BURNSVILLE

DRINKING WATER REPORT

2010

Spanish: Información importante.
Si no la entiende, haga que alguien se la traduzca ahora.

Hmong: Daim ntawv no tseem
ceeb heev. Yog koj tsis to taub,
nrhiav tus neeg pab txhais rau koj
sai.

City of Burnsville
100 Civic Center Pkwy
Burnsville, MN 55337

PRESORT STANDARD
US POSTAGE
PAID
PERMIT NO. 44
Burnsville, MN

*** ECRWSS ***
Postal Customer

WATER QUALITY INFORMATION

The Burnsville Surface Water Treatment Plant (SWTP) Project is an innovative Public-Private Partnership. The cities of Burnsville and Savage, the State of Minnesota, and Kraemer Mining and Materials, Inc. are the partners in this project. Rapid growth within the southern Minneapolis and Saint Paul metropolitan area has stressed regional groundwater aquifers to meet the increased demand for potable water to the point of endangering other natural groundwater resources including two very rare calcareous fens and a spring fed trout stream.

The Burnsville Water Treatment Plant conserves at least four million gallons of groundwater per day and increases the groundwater head conditions at the fens helping them to maintain and possibly expand their rare and protected plant species while meeting the increased water demand needs within Burnsville and Savage.

There have been many issues and concerns since going online with the blended surface water and groundwater in August 2009. As can be seen in this report, Burnsville water meets or exceeds all United States Environmental Protection Agency (US EPA) standards. With that being said, you may be experiencing taste, odor, and color issues that are unpleasant to you. The water is safe to drink. The blended water is the same coming out of each tap; however, each person's sensory perception varies greatly. Certain substances can be detected by human senses as low as three parts per trillion, this is equivalent to three seconds out of every hundred thousand years. The following information describes each issue in detail:

Swampy, Musty, Earthy, Fishy Taste or Smell

The cause of this issue is organic compounds from algae. Surface water is exposed to the elements. Sunny, warm weather is a major contributor to this issue. The City is feeding Powdered Activated Carbon to aid in the removal of these organics. The carbon absorbs the taste and odor and is filtered out in the backwash process. A layer of Granular Activated Carbon has been installed in each filter to polish the water as it passes through the filter.

Chlorine Taste or Smell

This has been an ongoing issue throughout the period of placing the surface water plant online. The issue seems to be greater in homes that are serviced by non-looped water mains or are at the far end of the distribution system. In the past this has generally happened in late winter and early spring when we are not using very much water in the system. We only use about six million gallons of water per day during winter months compared to an average of 16 million gallons per day in summer months. Therefore, the water that normally is used as fast as we can pump it in the summer is sitting in the mains longer and using up the majority of the chlorine we must keep as a residual for disinfection purposes. We are working with our consultants to find a solution to this issue.

The US EPA regulates and Minnesota Department of Health enforces drinking water standards in the United States and Minnesota. They allow chlorine dosage amounts up to 4.0 parts per million (ppm) for safe drinking water disinfection. The chlorine content we must feed into the system to keep the residual at the end of the system at the required level is between 1.5 ppm and 1.7 ppm. As soon as the water enters the distribution system chlorine is being used up for continued disinfection purposes to destroy any bacteria that naturally occur as the water travels through the system.

If you are experiencing a taste and odor that is unpleasant to you here are a few suggestions:

- As soon as chlorine is exposed to the atmosphere it drastically dissipates. Pour a glass of water and let it sit for a minute. The taste and odor will dissipate.
- Charcoal filters help control chlorine taste and odor. Pur and Britta

type filters are available for installation on your water faucet or there are pitchers you can store in your refrigerator.

- If your skin is sensitive to chlorine you can purchase charcoal filters for your shower head that will remove the chlorine as you shower. These can be purchased at your local hardware store or home center.

Brown or Rust Colored Water

This has always been an issue with Burnsville water.

- Over the years iron and manganese naturally accumulate on the interior of water mains. Occasionally some of the accumulation will come off the pipe wall and be transported down the line. If you turn your tap on at the same time it is passing by it will seek the path of least resistance and enter your home. Running your showers and tubs for about 20 minutes or so will usually clean up your system.
- Another source is a water main break that has not surfaced yet. The water is leaking out of the pipe therefore changing the normal flow of the water in the main. This will scour the main causing brown water.
- Unauthorized opening of a fire hydrant may also cause discolored water. When we do our routine flushing it is done systematically to cause the least amount of discolored water entering homes. If a hydrant is opened by an unauthorized person it can stir up the flow in the system causing black or brown water to get stirred up in the main. The colored water is safe to drink; it just doesn't look good or taste good. That is why we tell people to run as much water as possible through their system to clear it up.
- Late winter and early spring are the lowest consumption periods for water usage. Because of this the water rests in the pipe for longer periods of time. The water may take on some of the iron and manganese in the pipe and will settle out because of the slow movement. You may also notice a smell similar to rotten eggs or sulfur. This is a by-product of the iron. This happens in every city from time to time. As with colored water, opening taps to move a greater volume of water through your pipes will help with the taste and odor.

What is the City of Burnsville Doing to Head-Off Future Taste and Odor Issues?

- The City is now working with a national consulting engineering firm known for expertise in surface water treatment and water quality issues.
- On February 16, 2010, the City Council authorized staff to proceed with purchase and installation of a Powered Activated Carbon (PAC) feed system. We have been using PAC in our surface water treatment system since October, 2009. This system will drastically increase taste and odor removal by adding an additional 30 minutes of contact time for the PAC to remove taste and odor. Staff will be able to feed up to three times more PAC than is currently allowed by the existing system. This project is expected to be completed by mid-July.
- We will continue to do our annual spring hydrant flushing of the City each April thru mid-May. This spring we will put in place a Unidirectional Hydrant Flushing (UDF) program. This is accomplished by isolating small areas of the distribution system by closing valves and forcing the water in a different direction to scour the mains to remove any mineral deposits that have accumulated over the years. We will be able to perform this activity spring, summer, and fall. This is an extremely slow process that could take two to three years to complete.

Unfortunately issues of this magnitude cannot be resolved overnight. Our solutions must be done step by step and this takes time. This may not be the answer everyone wants to hear but please know that we are working tirelessly to provide good tasting drinking water to all of our customers. Thank you for your patience during this trying time. If you have further questions please call the maintenance facility at 952-895-4550.



AESTHETIC WATER QUALITY

Hardness - 23 grains per gallon
Iron - Less than .05
Manganese - .02 mg/l
pH - 7.5

Understanding the Water Quality Table

The *Average Result* is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all the detected values. If it is an average, it may contain sampling results from the previous year. Regulated substances have Maximum Contaminant Levels (*MCLs*) set by the EPA. This is the highest level of a contaminant that is allowed in drinking water. Some contaminants also have Maximum Contaminant Level Goals (*MCLGs*). It is the level of a substance below which there is no known or expected health risk. MCLGs allow for a margin of safety. MCLs are set as close to MCLGs as feasible using the best available treatment technology. The MCL for lead and copper is known as the Action Level (*AL*).

This is the concentration of a contaminant which, when exceeded, triggers treatment or other requirement which a water system must follow. Water from several Burnsville homes is monitored for lead and copper levels; ninety percent of the samples tested must be less than the action level for compliance. *MRDL*: Maximum Residual Disinfectant Level. The Treatment Technique (*TT*) is a required process intended to reduce the level of a contaminant in drinking water. A Nephelometric Turbidity Unit (*NTU*) is used to measure clarity in drinking water. *MRDLG*: Maximum Residual Disinfectant Level Goal. *90th Percentile Level*: This is the value obtained after disregarding 10 percent of the samples taken that had the highest levels. (For example, in a situation in which 10 samples were taken, the 90th Percentile Level is determined by disregarding the highest result, which represents 10 percent of the samples.) Note: In situations in which only 5 samples are taken, the average of the two with the highest levels is taken to determine the 90th Percentile Level. **ppm**: Parts per million **ppb**: Parts per billion **N/A**: Not Applicable (does not apply) **pCi/l**: PicoCuries per liter (a measure of radioactivity).

DRINKING WATER TESTING RESULTS FOR 2009						
Contaminant (unit) <i>date</i>	MCLG	MCL	Range of Detections	Average Result	Meets or Exceeds Standards	Source of Contaminant
Alpha Emitters (pCi/l) <i>(2/4/08)</i>	0	15.4	N/A	8.6	✓	Erosion of natural deposits.
Combined Radium (pCi/l) <i>(2/4/08)</i>	0	5.4	N/A	4.9	✓	Erosion of natural deposits.
Fluoride (ppm)	4	4	1.2-1.3	1.25	✓	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen) (ppm)	10	10	N/A	0.19	✓	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Total Trihalomethanes (TTHM) (ppb)	0	80	N/A	3.2	✓	By-product of drinking water disinfection.
Turbidity is a measure of the clarity of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.						
Turbidity (NTU)	N/A	TT	95% of samples <.06	Highest Single Measurement: .99	✓	Soil runoff.
Chlorine (ppm)	MRDLG: 4	MRDL: 4	Lowest-Highest Monthly Avg.: .2-.8	Highest Quarterly Avg.: .43	✓	Water additive used to control microbes.
Copper (ppm)	N/A	AL: 1.3	90% Level: .22	# Sites Over AL: 0 out of 30	✓	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb)	N/A	AL: 15	90% Level: 6	# Sites Over AL: 0 out of 30	✓	Corrosion of household plumbing systems; Erosion of natural deposits.
Some contaminants do not have Maximum Contaminant Levels established for them. These unregulated contaminants are assessed using state standards known as health risk limits to determine if they pose a threat to human health. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL has been exceeded; the water system must inform its customers and take other corrective actions. The unregulated contaminants that were detected are below.						
Sodium (ppm) <i>4/3/07</i>	No Established EPA Limit	N/A	11	✓	Erosion of natural deposits.	
Sulfate (ppm) <i>4/3/07</i>	No Established EPA Limit	N/A	19.3	✓	Erosion of natural deposits.	

Results of Monitoring

The City of Burnsville is issuing the results of monitoring done on its drinking water for the period from January 1 to December 31, 2009.

The purpose of this report is to advance consumers' understanding of drinking water and heighten awareness of the need to protect precious water resources. No contaminants were detected at levels that violated federal drinking water standards. However, some contaminants were detected in trace amounts that were below legal limits. The table on the opposite page shows the contaminants that were detected in trace amounts last year. (Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for in 2009. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred).

Burnsville's Water System

Burnsville is fortunate to have a reliable source of drinking water from the Jordan, Mt. Simon, Prairie du Chien-Jordan, and Franconia-Mt. Simon aquifers. Surface water is also drawn from the Kraemer Quarry. The Utilities Department operates 17 wells ranging in depth from 265 to 1030 feet. This water is pumped to our water treatment plant where much of the iron and manganese are removed. Chlorine is added to the water for disinfection and fluoride for dental protection. Potassium permanganate is added to oxidize iron for removal. The water is then pumped through the distribution system which includes 300 miles of water mains, three water towers and two underground reservoirs. It takes eleven pressure zones to keep our water pressures within an acceptable range, which makes our system one of the most complex in Minnesota.

Information from the EPA

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

including, 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

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

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, and can also come from gas stations, urban stormwater runoff, and septic systems.

Monitoring for unregulated contaminants as required by US Environmental Protection Agency rules (40 CFR 141.40) was conducted in 2009. Results of the unregulated contaminant monitoring are available upon request from Cindy Swanson, Minnesota Department of Health, at 651-201-4656.

If you have questions about the City of Burnsville's drinking water or would like information about opportunities for public participation in decisions that may affect the quality of the water call the City of Burnsville at 952-895-4552.

What do Parts per Million and Parts per Billion mean?

In the media we often hear the term parts per million (ppm) and parts per billion (ppb) when drinking water is referenced in a story. PPM or PPB is the concentration of one part of a particular chemical or contaminate per unit volume of water.

The City of Burnsville was in the news in early 2008 after being identified as a city with a fire department that used Aqueous Film Forming Foam (AFFF), also known as Class B Firefighting Foam, near city wells. Seven of Burnsville's seventeen wells were tested. Two wells had an estimated trace amount of 0.02 ppb of perfluorochemical. What do these terms mean in words the average person can understand?

Parts per Million, a very small concentration, means one part in one million:

- *One inch in 16 miles
- *One second in 11,5 days

- *One minute in two years
- *One car in bumper-to-bumper traffic from Cleveland to San Francisco
- Parts per Billion** is an even smaller concentration, one part in one billion:
- *One silver dollar in a roll stretching from Detroit to Salt Lake City
- *One sheet in a roll of toilet paper stretching from New York to London
- *One second in nearly 12 years
- *One pinch of salt in 10 tons of potato chips

Source: Minnesota Rural Water publication *Today*, Summer 2008.

Drinking Water Quality

The water provided to customers may meet drinking water standards, but the Minnesota Department of Health has also made a determination as to how vulnerable the source of water may be to future contamination incidents. If you wish to obtain the entire source water assessment regarding your drinking water, please call 651-201-4700 or 1-800-818-9318 (and press 5) during normal business hours. Also, you can view it online at: www.health.state.mn.us/divs/eh/water/swp/swa.

Special Health Information

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, persons 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/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

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 the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

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

Common Questions about Tap and Bottled Water

Drinking water often looks cloudy when first taken from my faucet and then it clears up. Why is that?

The cloudy water is caused by tiny air bubbles in the water similar to the gas bubbles in carbonated soft drinks. After a while, the bubbles rise to the top and are gone. This type of cloudiness occurs more often in the winter, when the drinking water is cold.

Is tap water safer in one area of a community as compared to another?

No. All tap water must meet all federal, state, or provincial requirements. In cities with a single source of water, everyone gets the same. Other communities have more than one source, so different parts of town get different quality water, but all water must be safe to drink. The condition of the pipes and the flow patterns of water may be different in different areas, and this may cause some differences in water quality, although it does not affect water safety. To keep the distribution pipes clean, a water utility will flush them periodically. This practice may cause a temporary change in water quality. If you notice a change in water quality, you should notify the City of Burnsville.



I want to store some water for a possible emergency. Is bottled water okay to store?

No. Bottled water is a good source of drinking water during emergencies, but it does not store well. Because it generally doesn't contain a disinfectant, microbes grow in it over time. Tap water, which does contain a chemical disinfectant, should be stored in proper containers for an



emergency, although even it will not last indefinitely.

If your water stops during an emergency, remember the water in your hot water tank, melted ice cubes, and the water in your toilet tank reservoir can be used. If you have the ability to do so, boiling these sources of water is always a good idea before drinking.

Should I buy bottled water?

Remember that US bottled water is less regulated than municipal drinking water. You don't need to buy bottled water for health reasons if your drinking water meets all of the federal, state, or provincial drinking water standards, as Burnsville's water does. If you want a drink with a different taste, you can buy bottled water, but it costs up to 1,000 times more than municipal drinking water. Of course, in emergencies bottled water can be a vital source of drinking water for people without water.

The US Food and Drug Administration (FDA) now requires bottled water quality standards to be equal to those of the US Environmental Protection Agency for tap water, but the quality of the finished product is not government-monitored. Bottlers must test their source water and finished product once a year. Currently, any bottled water that contains contaminants in excess of the allowable level is considered mislabeled unless it has a statement of substandard quality. Although recent tests have not found lead in dozens of brands of bottled water, studies have shown that microbes may grow in bottled water while on grocers' shelves.

Source: Symons, Dr. James M. *Plain Talk About Drinking Water: questions and answers about the water you drink*. Denver, CO: American Water Works Association, 1997. Print.



Is it true that tap water quality is getting worse?

It might seem that way from what you read and hear, as chemists and microbiologists are able to find more contaminants than ever before, but actually the opposite is true. Water suppliers must meet many more rules today than they did a few years ago, and standards for many of the regulated chemicals and microbes are more strict than they were a few years ago. Tap water quality is improving, although it is being talked about more because the general public is more aware of water quality issues and is demanding more information.

How do federal regulatory agencies choose the standard for a chemical in drinking water?

Federal regulatory agencies choose a standard for a chemical in drinking water based on "reasonable risk." Reasonable risk is determined for most potentially cancer-causing chemicals as follows: If 1 million people drank water for a period of 70 years with the amount of chemical in it equal to the standard, no more than one additional person would probably get cancer from the drinking water- a very small risk. Scientists at the National Toxicology Program of the federal government test a chemical in question by feeding rats and mice for a two-year period to determine its effects. Because rats and mice digest their food in the same way humans do, they are affected by toxic chemicals in the same way humans are.

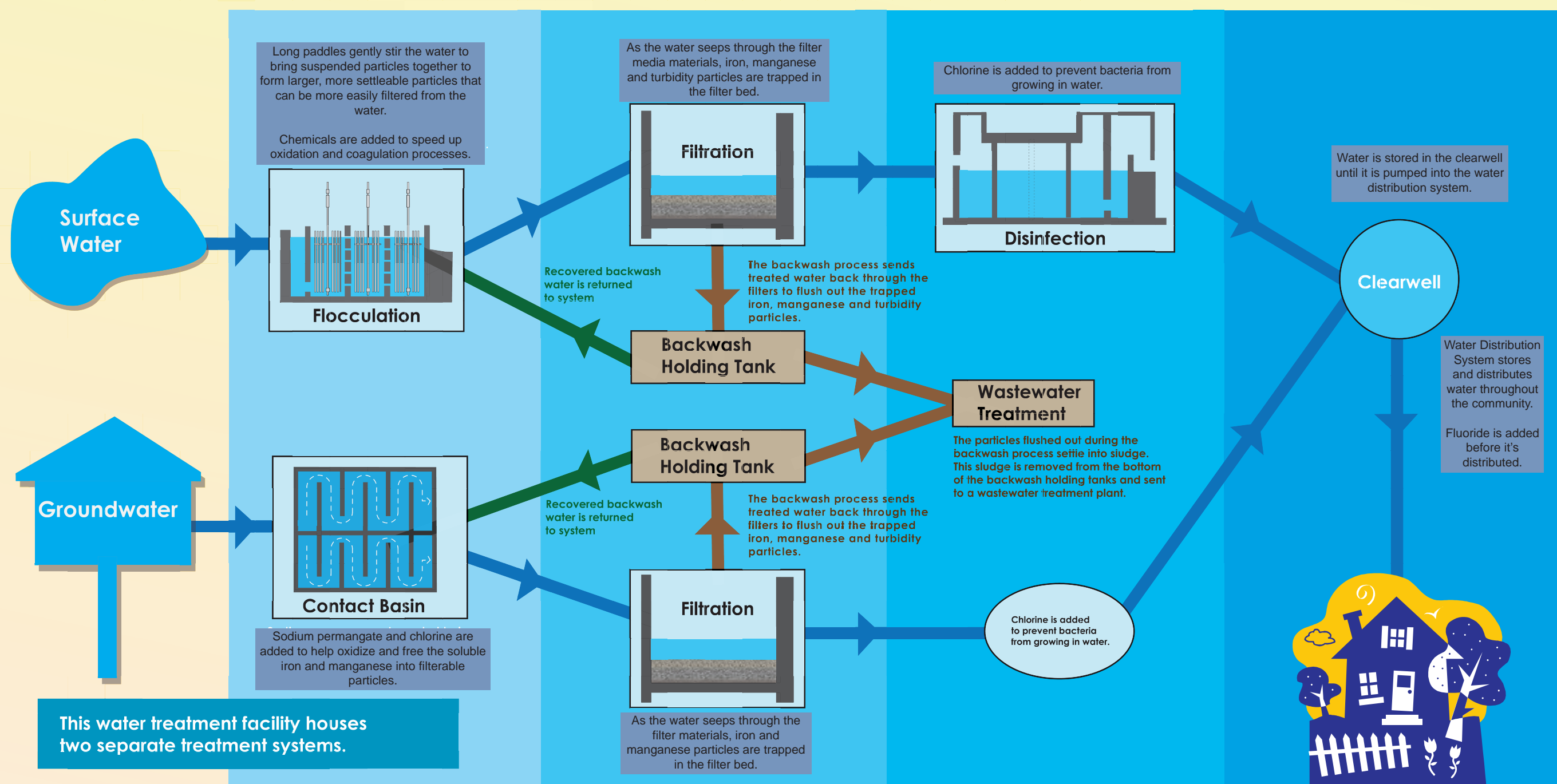
How is my water tested and who tests it?

Federal regulations state that all water suppliers must test the treated water for microbes and chemicals (a list of 80 in the United States) a specified number of times each year. The tests for microbes are done most often; the frequency varies depending on the population served by a water supplier. Federal regulations in the United States also state that these tests must be conducted in federally certified laboratories using federally approved methods, some of which are quite complex. Private wells are frequently tested in connection with the sale of a home.

Source: Symons, Dr. James M. *Plain Talk About Drinking Water: questions and answers about the water you drink.* Denver, CO: American Water Works Association, 1997. Print.

The Water Treatment Process

disinfects and removes iron, manganese and turbidity from water



A word about lead in your drinking water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Burnsville is responsible for providing high quality drinking water, but cannot control the variety of materials used in your home plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water hotline or at: <http://www.epa.gov/safewater/lead>.