2000 Dallas

Drinking Water Quality Report

dallas water utilities
city of dallas

En español

Este documento contiene información importante sobre su agua potable. Para obtener una copia de esta información en español, por favor llame al número 214/651-1441.

Dallas, the City that Works: Diverse, Vibrant and Progressive

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Your participation is welcome

Dallas Water Utilities is a not-for-profit department of the city of Dallas and is governed by the Dallas City Council. The City Council meets weekly on Wednesdays. For information about meetings and how to register as a speaker, contact the City Secretary's office at 214/670-3738. Following are other helpful telephone numbers:

- Questions or concerns about water quality - 214/670-0900;
- To request a speaker for your group - 214/670-4022;
- Questions about your bill - 214/651-1441;
- For inquiries about public participation in DWU projects - 214/670-4022;
- For brochures on water conservation or pollution prevention - 214/670-3861.

Free water treatment plant tours are available for groups on weekdays during the daytime. Tours are restricted as to size, age and number of participants. Please call in advance to schedule (214/670-0900).

This report was mailed to all Dallas Water Utilities customers.
The report is available in Dallas public libraries and recreation centers and is on the city of Dallas website www.dallascityhall.org

City of Dallas

For additional copies or to comment on this report, call 214/670-3861 or write: Dallas Water Utilities Planning Division, 1500 Marilla, Room 5AS, Dallas, TX 75201

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Providing quality drinking water

Dallas has a history of ensuring that when customers turn on the tap, they get safe, dependable, high-quality drinking water. Dallas customers receive water that meets or exceeds all state and federal water quality requirements. The Texas Natural Resource Conservation Commission rates Dallas water a "Superior Public Water Supply," the highest rating given by the State of Texas. Over the past 11 years, Dallas also has been recognized by state and national agencies for its high-quality drinking water.

Dallas' system met and overcame several challenges in 2000. A March 9 gasoline spill contaminated Lake Tawakoni with Methyl Tertiary-Butyl Ether, a gasoline additive. Use of the lake was suspended until Dallas was sure the water posed no health risks to its customers. Installation of the Lake Ray Hubbard emergency pipeline helped Dallas ensure its customers needs were met during the disruption.

Dallas never wavered in the delivery of water to its customers, and water quality standards remained high, even while meeting record customer water demands in the midst of a drought. Water use hit an all-time high on Sept. 4, when 789.6 million gallons of water was used. This high-usage was compounded by a Sept. 4 break of a damaged water main in downtown Dallas.

This report provides information about the sources of Dallas water, the content of Dallas water, answers to your water quality questions and tips for conserving water and preventing pollution. If you need more information, please call our water quality information line at 214/670-0900.

Improving your water system

Dallas participates in the Texas Optimization Program (TOP) sponsored by the Texas Natural Resource Conservation Commission and the Partnership for Safe Water Program, a U. S. Environmental Protection Agency (U.S. EPA) program. Both TOP and the Partnership for Safe Water focus on improving treatment plant operations to ensure the best possible performance and involve outside experts in reviewing treatment plant operations. Participation in the voluntary programs helps improve water quality.

Dallas began several capital improvement projects in 2000 to improve and upgrade water treatment plant performance and the water system:

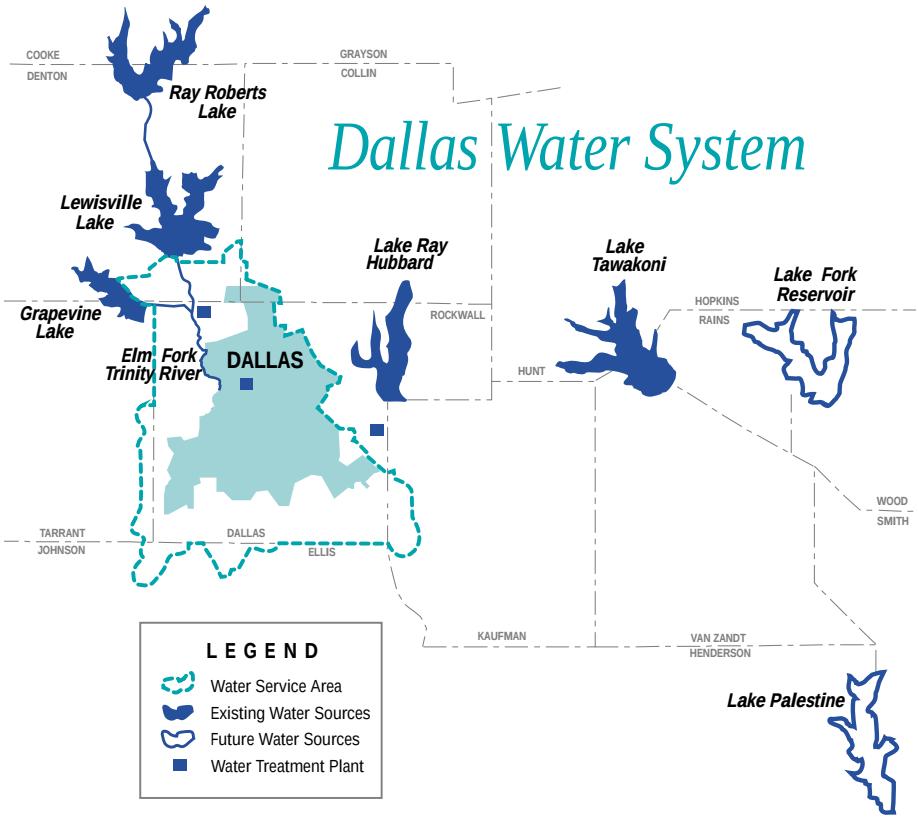
- Clear well and basin improvements at Bachman Water Treatment Plant;
- Lake Ray Roberts Growth Management Plan (a joint project between the cities of Dallas and Denton);
- New Trinity Heights elevated storage tank;
- Long Range Water Supply Plan update;
- Risk Management Plan (for all facilities that use chlorine and ammonia);
- Renovation of South Cliff Reservoir and Pump Station;
- Construction of Lake Ray Hubbard Operations Control Building;
- Lake Fork pipeline designed and first-phase construction awarded by City Council;
- Constructed water transmission line from Forney Pump Station to East Side Water Treatment Plant;
- East Side Water Treatment Plant process improvements and capacity increase to 440 million gallons a day.

Your water sources

Dallas uses surface water from six sources: the Elm Fork of the Trinity River and Lakes Ray Roberts, Lewisville, Grapevine, Ray Hubbard and Tawakoni. In addition, Dallas has water rights in Lakes Fork and Palestine to meet future needs. To address issues such as future water use, the city of Dallas regularly reviews its Long Range Water Supply Plan.

DWU has an active Watershed Management Program that performed more than 8,000 tests on the water quality in the rivers, streams and reservoirs in 2000. In addition, the city of Dallas' storm water quality and industrial pretreatment programs help prevent pollution.

As water travels over the surface of the land, it dissolves and carries naturally occurring minerals and can be polluted by animals or human activity. The presence of any of these pollutants in the untreated water does not necessarily pose a health risk in your drinking water. Dallas' current treatment techniques have proven effective in removing these pollutants. The city of Dallas will continue to commit the resources needed to ensure proper treatment and delivery of high-quality drinking water to its customers.



Treating your drinking water

Dallas water is purified through chemical treatment, settling, filtration and disinfection.

Water treatment chemicals including lime, ferric sulfate, chloramines (chlorine and ammonia), powdered activated carbon, polymers, ozone, carbon dioxide and fluoride are added to water to remove impurities, kill harmful viruses and bacteria, eliminate tastes and odors and help prevent tooth decay.

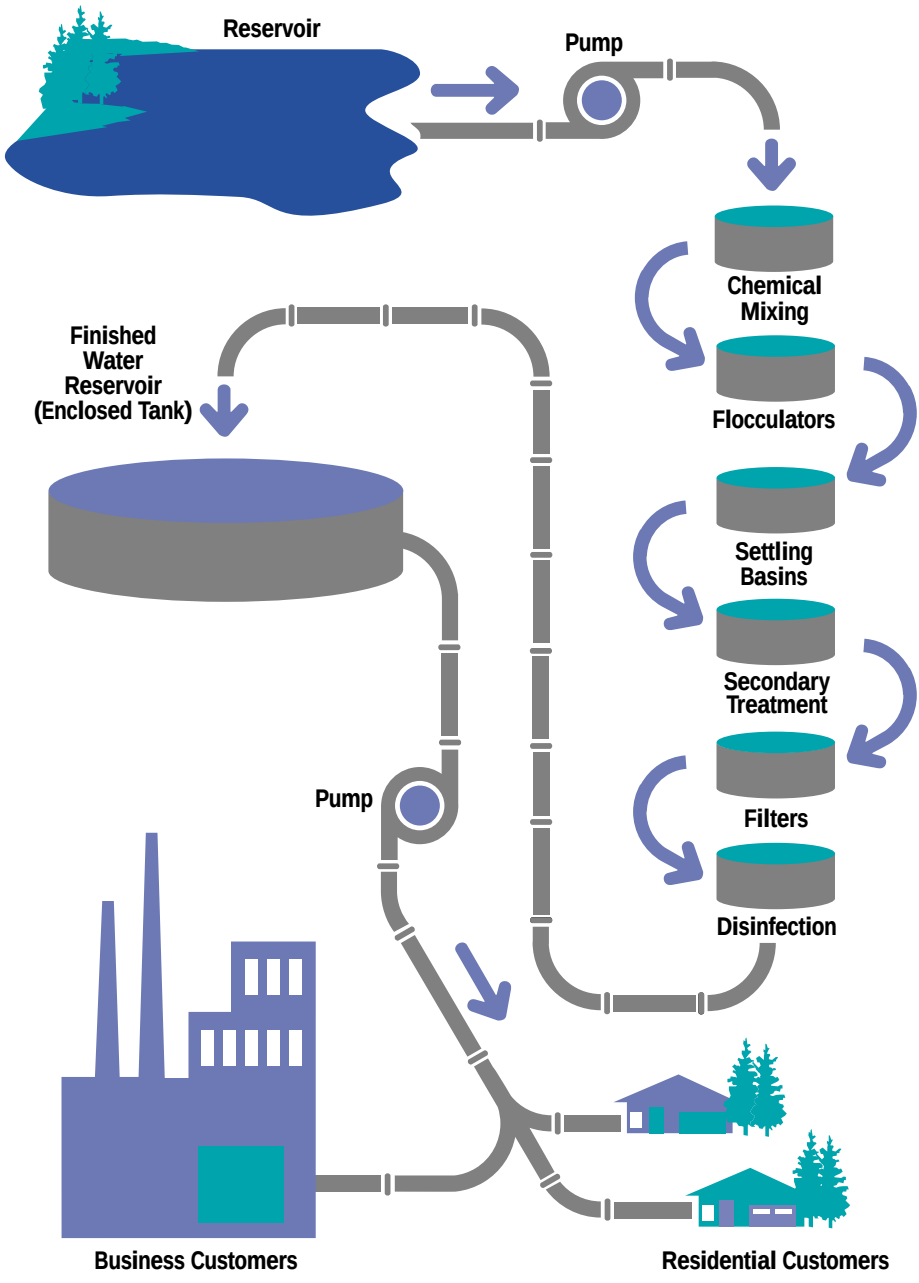
After chemicals are mixed in the water, the water moves to "flocculators," basins where large, paddles stir the water to keep chemicals in suspension while they do their job. Most of the unwanted material in untreated water consists of tiny particles, so light they float or are in suspension. Under the gentle mixing, the chemicals cause the small particles to group together and grow in size until they are large and heavy enough to sink.

Next, the water passes into a settling basin where it flows slowly for four to eight hours to allow the enlarged particles, silt and other suspended matter to settle to the bottom and out of the water.

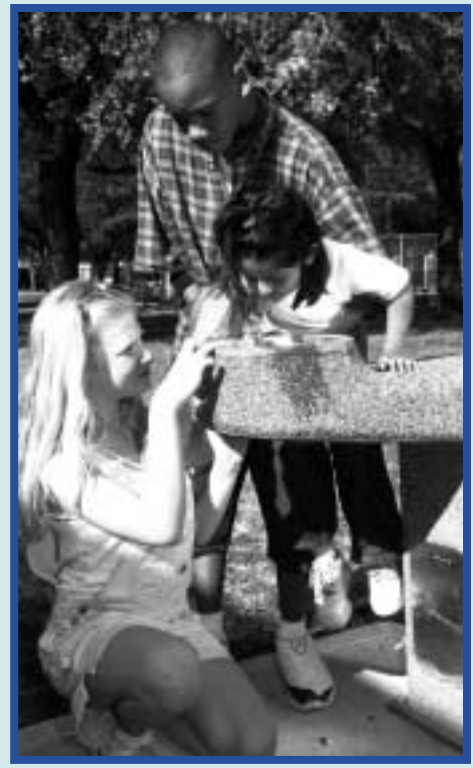
The cycle is repeated in a secondary treatment phase — the addition of chemicals, mixing and final settling. At this point, most of the chemicals added to the water have settled out, taking with them the impurities that were originally in the untreated water. In fact, although it appears that substances are being added to the water, the reverse is actually happening.

Another step in purification is filtration, the passing of water through filters consisting of a bed of anthracite coal, sand and gravel. As the water trickles through, any remaining small suspended particles are caught in the filters and removed.

The final step in the treatment process is disinfection. Disinfection to kill bacteria takes place in one of two ways: at the Bachman and East Side Water Treatment Plants, a combination of chlorine and ammonia (called chloramines) is used; the Elm Fork plant uses state-of-the-art ozone disinfection along with chloramines. Dallas uses these methods to lessen the formation of trihalomethanes (THMs) and other by-products of chlorine disinfection.



What you should know about taste and odor



Dallas water, like others, has its own unique taste and odor characteristics. And like many other water suppliers, DWU occasionally experiences taste and odor changes. In the summer and early fall, microscopic organisms, such as algae, in area lakes occasionally give water an earthy taste and odor. The odor may be more noticeable in hot water from your pipes. Temperature change and excessive rainfall and flooding also can alter the taste of the water. These changes do not affect the safety of the water.

You may detect a difference in taste after returning home from an extended trip. This is caused when the water is stored in the house plumbing for a long time. The taste should return to normal when normal use of internal plumbing resumes.

Questions and Answers

Q. Why does the water sometimes look brown or yellow?

A. On rare occasions, your water may be discolored because of main breaks and repairs. The color comes from iron or mineral deposits inside the pipe that become dislodged during the repairs. Home plumbing may also be the cause. If discolored water appears frequently, or is usually the first water drawn in the morning, or occurs only in one section of the house, it is probably caused by the home plumbing. If it is caused by work on water mains, wait until the work is completed and then run the faucet until the water is clear.

Q. Is chlorine used in my water?

A. Dallas uses chlorine and ammonia together to form chloramines to kill germs as water is pumped through the distribution system for use by customers. DWU uses chloramines instead of chlorine alone because chlorine can react with organic matter in water to create THMs (trihalomethanes), a suspected carcinogen. Dallas water has levels of THMs below the limits set by the state and federal governments.

Q. Is Dallas water hard or soft?

A. Hardness refers to the calcium and magnesium content. Dallas' water is considered moderately hard.

Q. Is there lead in my water?

A. Dallas' water purification plants send lead-free water to customers. More than 20 years ago, Dallas began eliminating lead service lines and pipes that could leach lead into the water. There are no lead pipes in Dallas' system. Also, Dallas' water treatment process employs a technique designed to prevent leaching of lead into water from solder joints and plumbing fixtures. Your home plumbing may have lead pipes or solder. If you think you have a lead problem, let the water run for about a minute if the tap has not been used for three or more hours (save this water and use it to water plants or for some other household activity). Letting the water run may not get all of the lead out of the water, but it will improve the situation. Also, insist on lead-free materials when having plumbing work performed in the home. If you think you have a problem, you may call DWU at 214/670-0900 for a free water test.

Q. Why does my water appear cloudy or milky at times?

A. Cloudy water is often caused by dissolved oxygen being released from the water. Cold water can hold more oxygen than warm water. Water saturated with oxygen will release the oxygen as it warms. This release makes the water appear milky or cloudy, but it does not affect the safety of the water. The cloudiness usually will disappear in about 30 seconds.

Q. How much fluoride is in my water?

A. Fluoride occurs naturally in our water at a concentration of 0.3 to 0.4 parts per million. A 1966 referendum passed by Dallas citizens led to an action to add to and control the existing fluoride level as a dental health measure. We now maintain a typical level of 0.8 parts per million, which is within the guidelines recommended by the U.S. EPA, the Texas Natural Resource Conservation Commission and the American Dental Association.

Q. Do I need to use bottled water or a home water filter?

A. No, not in Dallas. If you have special needs, you may want to talk to your doctor about those alternatives. DWU provides services vital to the health and safety of Dallas citizens and our customers, and we take our job seriously. Dallas water meets or exceeds all standards set by the state and federal governments. To ensure this high quality, an average of 50,000 tests are performed on Dallas water every month.

Q. What happens after water goes down the drain?

A. “Used” water goes through your sewer pipes to the wastewater collection system, which carries the water to a wastewater treatment plant. Wastewater is treated to strict environmental standards before it is released to the Trinity River. From there, it flows downstream.

Water quality monitoring results

As the charts on these pages show, the levels of contaminants in Dallas water meet or are better than the amounts allowed by law. The charts list contaminants detected in Dallas drinking water in 2000 and the amounts allowed by the state and federal governments (maximum contaminant level). Definitions of terms are listed below.

Dallas regularly tests drinking water for more than 180 contaminants. About 50,000 tests are conducted each month on Dallas water to ensure that it is clean and meets all water quality requirements. To request a complete list of contaminants tested for and the results, please write and send a self-addressed, stamped business-size envelope to Dallas Water Utilities, 1500 Marilla, Room 4AN, Dallas, TX 75201.

Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) - The highest level of a contaminant allowed in drinking water. MCLs are set as 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.

mrem/year - Millerems per year (measure of radiation absorbed by the body).

ND - Not detected.

Nephelometric Turbidity Units (NTU) - Measure of turbidity in water.

ppm - Parts per million. One part per million equals one packet of artificial sweetener sprinkled into 250 gallons of iced tea.

pCi/L - Pico-curies per liter (a measure of radioactivity).

ppb - Parts per billion. One part per billion is equal to one packet of artificial sweetener sprinkled into an Olympic-size swimming pool.

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

Turbidity - A measure of the clarity of drinking water. The lower the turbidity, the better.

Unregulated Characteristics*

Contaminant	Amount Detected Average	Amount Detected Range	Possible Source
Detected Inorganic Contaminants			
Sodium (ppm)	28	8 - 39	Natural contaminant
Total Hardness (ppm)	131	108 - 179	Natural contaminants
Total Alkalinity (ppm)	77	48 - 106	Natural contaminant
Detected Volatile Organic Contaminants			
Chloromethane (ppb)	ND	ND - 3.4	Chlorine reaction with untreated water
Detected Disinfection By-Products (DBPs)			
Total Haloacetic Acid (HAA5) Annual Running Average (ppb) in Distribution System	21.8	4.4 - 49.3	By-product of drinking water chlorination
Bromate (ppb)	2.52	ND - 5.6	Ozonation by-product

** Unregulated characteristics do not have MCL or MCLG.*

Regulated Characteristics

Contaminant	Maximum Contaminant Level Goal (MCLG)	Maximum Contaminant Level (MCL)	Amount Detected Average	Amount Detected Range	Possible Source
Detected Inorganic Contaminants					
Barium (ppm)	2	2	0.030	0.014 - 0.046	Erosion of natural deposits; Discharge of drilling wastes or metal refineries
Fluoride (ppm)	4	4	0.67	0.2 - 1.0	Water additive to promote strong teeth
Lead (ppb)	0	AL = 15	4	3 - 51	Corrosion of household plumbing
Copper (ppm)	1.3	AL = 1.3	0.007	ND - 0.021	Same as lead
Nitrate as Nitrogen (ppm)	10	10	0.60	0.12 - 0.80	Runoff from fertilizer use; Leaching from septic tanks, sewage, erosion of natural deposits
Nitrite as Nitrogen (ppm)	1	1	0.01	ND - 0.03	Same as nitrate
Detected Organic Contaminants					
Atrazine (ppb)	3	3	0.41	0.2 - 0.7	Herbicide runoff
Simazine (ppb)	4	4	0.22	ND - 0.71	Herbicide runoff
Detected Microbial Contaminants					
Total Coliform Bacteria	0	5% of monthly samples	0.35%	0% - 0.96%	Naturally present in the environment
Detected Radioactive Contaminants					
Beta Emitters (pCi/L)†	0	50	4.3	ND - 4.8	Decay of natural and man-made deposits
Disinfection By-Products					
Total Trihalomethanes (ppb)	N/A	100*	30.3	1.2 - 70.8	By-product of drinking water chlorination
Treatment Requirements					
Turbidity - plants effluents, NTU	N/A	TT AL = 0.5	0.07	0.04 - 0.28	Soil runoff

† *50 pCi/L = 4 mrem/year*

** MCL is based on average of four quarterly samples in the distribution system.*

All drinking water may contain contaminants

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 U.S. EPA's Safe Drinking Water Hotline (1/800/426-4791).

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

Special notice for the elderly, infants, cancer patients, people with HIV/AIDS and other immune problems

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, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the U.S. EPA's Safe Drinking Water Hotline (1/800/426-4791).

Cryptosporidium

Cryptosporidium is a tiny intestinal parasite found naturally in the environment. It is spread by human and animal waste. If ingested, it can cause flu-like symptoms. Some of the ways cryptosporidium can be spread include drinking contaminated water, eating contaminated food that is raw or undercooked, exposure to the feces of infected individuals or animals (such as changing diapers without washing hands afterward), or exposure to contaminated surfaces. Not everyone exposed to the organism becomes ill.

DWU began monitoring for cryptosporidium in 1993. During 2000, Dallas continued monthly testing for cryptosporidium in both untreated and treated water. It has been found only in the untreated water supply lakes. Cryptosporidium has never been found in Dallas' treated drinking water. To protect your drinking water, Dallas works to protect the watershed from contamination and optimizes treatment processes. Although Dallas' water treatment process removes cryptosporidium, immuno-compromised persons should consult their doctors regarding appropriate precautions to take to avoid the risk of infection.

To request more information on cryptosporidium, please call the U.S. EPA's Safe Drinking Water Hotline (1/800/426-4791).

Help protect your water quality

You can protect our untreated water resources:

- Report illegal dumping;
- Use the least toxic alternatives for managing pests and diseases in landscapes;
- Follow package directions when applying pesticides, herbicides and fertilizers;
- Do not apply pesticides or fertilizers when rain is expected;
- Recycle or properly dispose of toxic chemicals in your home. For more information on free drop-off locations for household chemicals, call the Dallas Area Household Hazardous Waste Network at 214/904-3017.

You can protect the water after it reaches you:

When Dallas water reaches your home, it is clean and meets or is better than all state and federal water quality requirements. But without proper precautions, water can be contaminated if a sudden pressure drop in the pipes causes contaminated water to be pulled from your home or yard into your plumbing. If this happens, you could contaminate the water in your home and possibly your neighbors' homes.

To protect water quality once it reaches you:

- Do not leave a garden hose connected to a faucet with the other end submerged in a swimming pool, bucket, dog's bath water… anything.
- Make sure all new plumbing is installed properly and inspected as required.
- Do not allow garden hoses to be connected directly to pressurized tanks that contain pesticides, herbicides or toxic materials of any kind. Insist that an air gap be maintained between the water source and tank when the tank is being filled.
- Do not leave your kitchen sink spray nozzle submerged in the sink.
- If you have the typical, older-style toilet that fills from the bottom, be cautious about putting toilet bowl cleaners in the tank. If the water pressure drops and the fill valve in the toilet tank is leaking, water from the tank can be drawn back into the water lines, especially if there is a faucet open in the house at the time.
- If you have an automatic sprinkler system, make sure that you have a backflow prevention device and that it is working properly.

Help conserve our water resources

The average household in Dallas uses an average of 8,300 gallons of water a month. It just makes sense to protect our water supply. You can help us do that by preventing pollution and using the conservation tips that follow.

Conserving water indoors

- Check for and repair toilet leaks.
- Install an ultra-low flush toilet (1.6 gallons per flush), or modify yours to use less by installing a toilet dam or plastic jug.
- Install a low-flow showerhead (one that dispenses less than three gallons per minute).
- Reduce the level of water in your bath.
- Take shorter showers.
- Only wash full loads in the washing machine and dishwasher.
- Fix dripping faucets (a slow drip can waste 15 to 20 gallons a day).
- Turn water off when brushing your teeth or shaving.

Conserving water outdoors

Proper irrigation saves water and money outdoors

Spring and summer usher in a season of growth, fun in the sun and record water use. In Dallas, water use can double or triple during these seasons. Where does all that water go? Well, much of it is wasted through improper landscape watering.

Understanding how to water your lawn

- *Water your lawn properly.* Watering deeply and infrequently is the key to creating a healthy root system that is better equipped to withstand heat and drought. Deep refers to applying an inch of water, which will soak in four to six inches into the soil; infrequent is when your grass signals it needs it. One to one-and-a-half inches of water per application will usually soak into the ground four to six inches, even in the heavy clay soils in Dallas.
- *Put the water where it's needed without wasting it.* Don't apply too much water too fast or too often. When not applied properly, water is lost to runoff and evaporation. Improper watering may harm your plants and your lawn.

Knowing when to water your lawn

- *Don't water your grass if it doesn't need it.* Apply this simple test to determine if your lawn needs water. Walk across your lawn. If your footprints remain visible, the grass is in stress, and it is time to water. Grass that springs back doesn't need water. Another sign that signals the need for water is wilting or yellowing grass.
- *Early morning watering is preferred.* You can lose up to 50 percent of your landscape water to evaporation if you water during the heat of the day.

Use efficient irrigation

- Consider zoning your landscape based on its irrigation needs.
- A regular watering zone can be used for established plants that require water once a week or more in the absence of rainfall. This generally applies to grass and annual flowers.
- An occasional watering zone can be set-up for established plants that only need water once every two to three weeks in the absence of rainfall. This method works best for perennial flowers, tender woody shrubs and vines.
- You may also want to plan a natural watering zone for established plants that can survive on natural rainfall alone. Try this method on woody shrubs, vines and trees.

There are several ways to irrigate

- Whether you use an automatic or hose-end sprinkler be sure to properly maintain your equipment. With automatic sprinkler systems, remember to check for nozzle blockages, foliage that may be interrupting spray patterns and any worn parts. Avoid watering in the rain. To keep your automatic system from coming on when it is raining, turn it on manually or consider equipping it with a rain sensor or a system override device.
- Drip irrigation is perhaps the best way to irrigate. Water applied this way has very little chance of being lost to evaporation or runoff, and it is applied directly to the plant's roots.

Additional ways to conserve water in the landscape

- *Raise the height on your lawn mower.* Gradually increasing your mower height to three inches or more will allow for longer leaf blades on the grass. Longer leaf blades act as a living mulch that protects the roots from the sun and helps retain moisture.
- *Don't forget to mulch.* Research at Texas A&M University has shown that unmulched soil may lose twice as much water to evaporation as mulched soil.
- *Begin converting your traditional landscape to a xeriscape.* Xeriscape landscapes are beautiful landscapes that conserve water and protect the environment. Using the principles of xeriscape in your landscape can reduce your water usage by half.

Dallas water meets or exceeds all state and federal water quality standards.

Read inside for more information.

Customer Service
214/651-1441

Water Quality
Information
214/670-0900

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Dallas Water Utilities
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Dallas, TX 75201

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