

City of Denton Water Quality Report



Enjoying Our Water

Our goal is not only to meet, but to achieve higher water quality results than all state and federal standards; and our superior rating and awards for **best-tasting drinking water** are clear indications of our ability to deliver superior drinking water. Because of the high quality of our water, there are no health-based advantages to purchasing bottled water, filtration systems, or any other point-of-use devices.

To learn more about our water and how it is supplied, please read the following water quality report. This report includes water quality information from **2015**. As you can see from the Water Quality Table on the next page, we have continued our commitment to providing you and your family with safe drinking water by having no violations in contaminant level or water quality standards.

Denton uses surface water from Lake Lewisville and Lake Ray Roberts for its water supply. Drinking water, both tap and bottled, can come from a variety of sources including rivers, lakes, streams, reservoirs, and springs. As water travels over the land's surface or through the ground, it dissolves naturally occurring minerals and radioactive material and can be polluted by animal or human activity.

Contaminants that might be expected in untreated water include: microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; pesticides and herbicides; organic chemicals from industrial processes or petroleum use; and radioactive materials.

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 risk. More information about contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791.

Water, whether tap or bottled, is regulated for safety. The U.S. Environmental Protection Agency regulates water provided by public water systems while the Food and Drug Administration establishes regulations for bottled water.

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please call Water Production at (940) 349-7525.

It is more responsible, and cheaper and easier, to keep contaminants out of our lakes than it is to remove them once they get in. Excessive or improper use of pesticides/herbicides, improper disposal of used oil and antifreeze, and littering are just a few activities that can lead to pollution in our drinking water supply. Learn more about protecting our water on the following pages, and please do your part to stop pollution.

The Texas Commission on Environmental Quality completed an assessment of your source water and results indicate that some of our sources are susceptible to certain contaminants. The sampling requirements for your water system are based on this susceptibility and previous sample data. Any detections of these contaminants may be found in this report. For more information about source water assessments and protection efforts at our system, contact Kathy Gault, SCADA/Regulatory Supervisor, at (940) 349-7525.

There are a number of options available to learn more about Denton Water Utilities or to participate in decision-making processes. For questions about this report or the quality of our drinking water, call Kathy Gault, SCADA/Regulatory Supervisor, at (940) 349-7525. For participation opportunities, call Utilities Administration at (940) 349-7720 for the Public Utilities Board meeting times and locations. Visit our website at www.cityofdenton.com.

Important Special Notice

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or Immuno-compromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at (800) 426-4791.

Lead/Copper Information

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. This water supply is responsible for providing high-quality drinking water but cannot control the variety of materials used in 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 two 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 www.epa.gov/safewater/lead.

En Español

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español o para recibir una copia de esta información o una traducción en español de estos datos, por favor llame a Servicio al Consumidor al (940) 349-8700.

Listed on the back of this report are the regulated and unregulated contaminants detected in Denton's drinking water. All are below allowed levels. Not listed here are hundreds of contaminants for which we tested that were not detected. This report is based upon the most recent data available to Denton Water Utilities. Terms used in the Water Quality Table and in other parts of this report are defined here.

- **Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers a treatment or other requirements which a water system must follow.
- **LRAA** - Locational Running Annual Average.
- **Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Maximum 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. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **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.
- **NTU** - Nephelometric turbidity units. This is the unit used to measure water turbidity.
- **pCi/L** - Picocuries per liter is a measure of radioactivity in water. A picocurie is 10^{-12} curies - the quantity of radioactive material producing 2.22 nuclear transformations per minute.
- **ppb** - Parts per billion. One part per billion is equal to one packet of artificial sweetener sprinkled into an Olympic-size swimming pool.
- **ppm** - Parts per million. One part per million is equal to one packet of artificial sweetener sprinkled into 250 gallons of iced tea.
- **Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water.
- **Turbidity** - A measure of water's clarity. How clear the water is can indicate how many particles are in it. The goal is to produce water with turbidity levels as low as possible.

WATER QUALITY TABLE

Regulated Inorganic Contaminants

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Major Sources	Violation
Barium	3/23/15	ppm	0.0415	0.039	0.044	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	NO
Fluoride	3/23/15	ppm	0.434	0.424	0.444	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	NO
Chromium	3/23/15	ppb	0.00034	0.0	0.00068	100	100	Discharge from steel and pulp mills; Erosion of natural deposits	NO
Cyanide	3/23/15	ppb	22.75	0	45.5	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories	NO
Nitrate	3/23/15	ppm	0.4175	0.457	0.378	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	NO
Constituent	Date Tested	Unit	Action Level	90 th Percentile	# of Sites Exceeding AL		MCLG	Major Sources	Violation
Lead	2012	ppb	15	1.68	0	N/A	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	YES
Copper	2012	ppm	1.3	0.456	0	N/A	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	YES

Regulated Radioactive Contaminants

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Major Sources	Violation
Gross Beta Emitters	1/25/11	pCi/L	2.25	0	4.5	50	0	Decay of natural and man-made deposits	NO

Regulated Synthetic Organic Contaminants Including Pesticides and Herbicides

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Major Sources	Violation
Atrazine	6/22/15	ppb	0.06	0	0.12	3	3	Runoff from herbicide used on row crops	NO
Simazine	6/22/15	ppb	ND	0	0	3	3	Runoff from herbicide used on row crops	NO

Regulated Disinfectants and Disinfection By-Products

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Major Sources	Violation
TOC ¹ (Total Organic Carbon) Treated Water	2015	ppm	2.79	2.18	3.65	TT	N/A	Naturally present in the environment	NO
TOC ¹ (Total Organic Carbon) Raw Water	2015	ppm	5.65	4.38	7.45	TT	N/A	Naturally present in the environment	NO

¹Total organic carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	MRDL	MRDLG	Major Sources	Violation
Chloramines ²	2015	ppm	3.41	0.80	4.90	4	4	Disinfectant used to control microbes	NO

²Compliance is based on the average level of Chloramines not exceeding the MRDL of 4 ppm.

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Major Sources	Violation
Bromate	2015	ppb	1.61	0	2.30	10	0	By-product of drinking water disinfection	NO
Constituent	Date Tested	Unit	LRAA Max	Minimum Level	Maximum Level	MCL	MCLG	Major Sources	Violation
TTHM (Total Trihalomethanes)	2015	ppb	14.43	6.05	20.50	80	N/A	By-product of drinking water chlorination	NO
HAA5 (Haloacetic Acids)	2015	ppb	11.30	2.90	20.70	60	N/A	By-product of drinking water chlorination	NO

Regulated Microbiological Contaminants

Constituent	Date Tested	Unit	Highest Monthly Percentage of Positive Samples	Action Level			MCLG	Major Sources	Violation
Total Coliform	2015	Samples	0	≥ 5%			0	Naturally present in the environment	NO
Constituent	Date Tested	Unit	Highest Single Measurement	% of samples <0.3 NTU	Turbidity Limits		MCLG	Major Sources	Violation
Turbidity ³	05/15	NTU	0.25	100%	0.3		N/A	Soil runoff	NO
Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level			Major Sources	Violation
Cryptosporidium - Lake Lewisville	12/7/15	oocysts/L	0.010	0.000	0.096		N/A		NO

³Turbidity: *Must be less than 0.3 NTU in 95% of monthly samples. The 0.25 level was the highest single reading for 2015.

Unregulated Contaminants

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	Major Sources
Chloroform	9/15/15	ppb	1.52	0	3.03	By-product of drinking water chlorination
Bromodichloromethane	9/15/15	ppb	2.83	1.79	3.87	By-product of drinking water chlorination
Dibromochloromethane	9/15/15	ppb	2.90	1.96	3.83	By-product of drinking water chlorination

Secondary and Other Constituents Not Regulated

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	Major Sources	Violation
Sodium	2015	ppm	30.65	19.60	41.70	Erosion of natural deposits; By-product of oil field activity	NO

UMCR Detects⁴

Constituent	Date Tested	Unit	Average Level	Minimum Level	Maximum Level	Major Sources	Violation
Molybdenum	2015	ppb	1.37	1.01	1.57	N/A	NO
Strontium	2015	ppb	257.50	188.00	329.00	N/A	NO
Chlorate	2015	ppb	106.05	29.90	175.00	N/A	NO

⁴Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

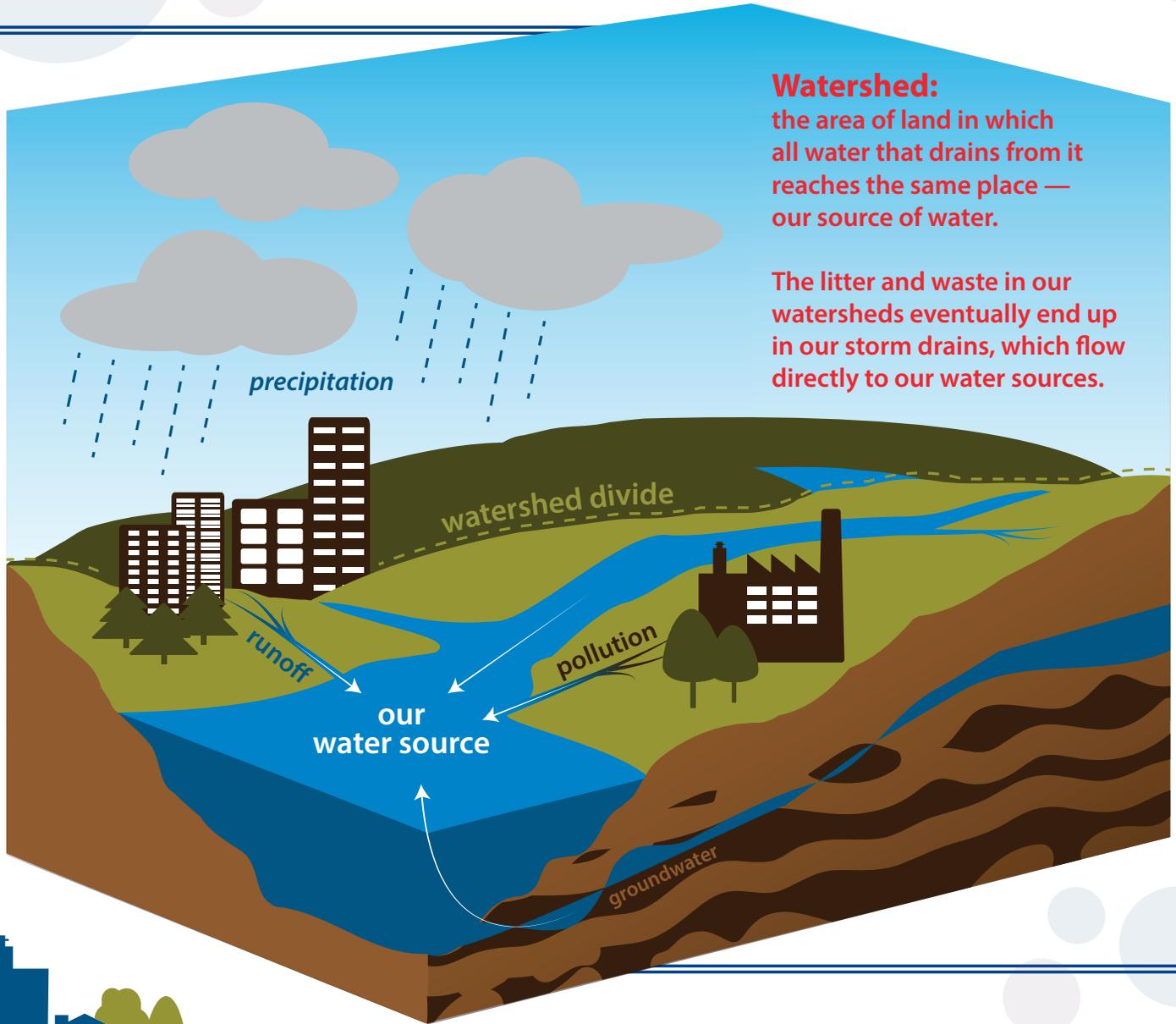
Lead and Copper Rule

The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

Violation Type	Violation Begin	Violation End	Violation Explanation
Follow-up or routine tap M/R (LCR)	1/1/2013	12/31/15	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period. The next sampling for lead and copper will begin June 2016. Although 2015 regulatory testing did not occur, our water is treated to reduce corrosion and prevent lead and copper from leaving your pipes and getting into your drinking water; and, prior to this violation period, the City of Denton test results have been consistently below the Action Level, as demonstrated in the 2012 test results.

Protecting Our Water

The litter and waste in our neighborhoods and on the side of our roads eventually end up in our storm drains, which flow directly to our water sources. When it rains or snows, the area of land that catches the precipitation is called a **watershed**, and this runoff drains or seeps into our waterways and groundwater. So, anything that can be picked up by rainfall runoff or any other drainage will end up in our water, threatening both ecosystems and our resources for water supply and recreation.



Watershed:
the area of land in which
all water that drains from it
reaches the same place —
our source of water.

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Denton is comprised of multiple watersheds, including Pecan Creek, Hickory Creek, Cooper Creek, and Clear Creek. Watersheds can range from acres to hundreds or even thousands of square miles. Watersheds can be subdivided into smaller watersheds, or sub basins, which collectively flow together to form larger watersheds and basins. Some watersheds extend across county, state, and even international borders. Just as creeks drain into rivers, watersheds are nearly always part of a larger watershed. To locate your watershed, visit www.dentonwatersheds.com.

The mission of the **Denton Watershed Protection** program is to maintain the quality of our watersheds, ultimately protecting our water sources and the ecosystems within our watersheds. The program monitors our watersheds, reduces the overall pollutants within our surface waters, and enforces compliance with stormwater regulations. Although the Denton Watershed Protection program plays a significant role, your actions at home and work make the greatest impact to protect our water resources.

Denton was recently recognized by the North Central Council of Governments as the first city in the Metroplex to attain the Integrated Stormwater Management Program's Silver designation. The designation is for communities whose processes address water quality beyond local regulations.

Five Ways You Can Help Protect Our Water

1. **Avoid pollution.** Water pollution originates from surprisingly common sources such as our homes, yards, and vehicles. Properly dispose of used oil, antifreeze, paints, and other household chemicals with the City's free Home Chemical Collection Program, (940) 349-8700.
2. **Pick up and properly dispose of your pets' waste.** Pet waste can contain high levels of bacteria and pathogens that can be harmful to not only aquatic life, but to public health.
3. **Prevent litter** from making its way to our street gutters and storm drains. Bag your trash before placing it in your green cart, and make sure the lids to your carts are completely closed. If you need a larger cart, call (940) 349-8700.
4. **Volunteer for Stream Clean and Great American Cleanup** to help protect and maintain our water sources. To learn more, visit www.cityofdenton.com and www.kdb.org.
5. **Participate in Ten on Tuesday** and join thousands of North Texas residents in preventing litter from reaching our waterways by picking up just 10 pieces of trash every Tuesday. It's easy and effective—if, for just one year, 5,000 residents chunk 10 pieces of litter a week into the trash or recycling, the Metroplex will reduce litter by 2.6 million pieces! Take the pledge at www.reverselitter.org.

Conserving Our Water

The average household uses 320 gallons of water per day.¹ In Denton, at least 40 percent of this goes to lawn irrigation, and this number increases to around 70 percent during the summer months. Approximately 10,000 gallons per household is lost each year from leaking toilets, faucets, and valves.¹

Denton Water Utilities works to conserve water by enforcing high standards for meter maintenance and by keeping conservation in mind when reviewing and improving processes. To achieve Denton's water conservation goals, the City promotes water conservation practices to its residents and businesses, enforces the Lawn and Landscape Irrigation and Water Waste Ordinance, and has adopted the Water Conservation and Drought Contingency plans, which incorporate guidelines and requirements from the Texas Commission on Environmental Quality. Your compliance with the ordinance and plans is key, and non-compliance could result in penalties. Visit www.cityofdenton.com for information about the Lawn and Landscape Irrigation and Water Waste Ordinance and the Water Conservation and Drought Contingency plans.

The key to having a reliable water supply in the future—**use it wisely now**. Follow these tips to conserve water inside and outside your home. To learn more, attend an upcoming "Learn to Conserve" Workshop and, to schedule a home water audit, visit www.sustainabledenton.com.

¹ Statistics provided by the U.S. Environmental Protection Agency. To learn more, visit www.epa.gov.

Five Ways You Can Conserve Our Water - Indoors

1. **Look for the WaterSense label** when replacing fixtures or appliances.
2. **Replace older showerheads** with low-flow high-pressure showerheads to save approximately 15 gallons for every 10-minute shower.
3. **Repair household leaks** for an estimated savings of 800 gallons per month.
4. **Run full loads in the dishwasher or laundry** to reduce water consumption by 300 to 800 gallons per month, and soak or scrape dishes rather than rinsing beforehand.
5. **Replace older toilets** with low-flow models for an estimated savings of 100 gallons per month.



Six Ways You Can Conserve Our Water - Outdoors

1. **Water between the hours of 6 p.m. and 10 a.m.** to maximize water absorption and eliminate the risk of scorching your landscape. From June 1 to Sept. 30, watering outside these times is prohibited, except for hand-watering and the use of soaker hoses for foundations.
2. **Water no more than twice a week** to encourage strong, deep root systems, which are better equipped to withstand the extreme Texas summer heat. To allow for deeper watering that absorbs into the soil, it can be best to cycle through each zone twice when watering.
3. **Do not water paved areas.** Water flow into the road or walkways indicates overwatering or a broken sprinkler head. Water waste can be reported by calling (940) 349-8468.
4. **Install water-wise landscaping.** Choose native plants to reduce your irrigation needs and mulch in landscape beds to retain soil moisture. Visit www.cityofdenton.com/dyno for mulch and composting products.
5. **Use efficient irrigation.** Consider drip irrigation and efficient sprinkler heads to minimize waste. Smart irrigation controllers use weather data to irrigate only when needed.
6. **Check your irrigation system for leaks regularly** and contact a licensed professional to repair broken or leaking irrigation.

Celebrating Our Water

In celebration of our water, the City is sponsoring an upcoming Twilight Tunes and an art show for all Denton elementary school students. Both events are free and open to the public.

Twilight Tunes

Thursday, June 9 from 6:30 to 8 p.m. | Courthouse-on-the-Square lawn, 110 W. Hickory St.

Twilight Tunes is a free concert series presented by the Denton Main Street Association. Bring your blanket or lawn chair to enjoy live, local music; and, while you're there, visit our booths to learn more about how you can help conserve and protect our water resources.

Elementary Art Show

Denton students, kindergarten through grade 5, are invited to participate in an art show presented by the Sustainable Denton and Denton Watershed Protection programs to celebrate the conservation, protection, and enjoyment of Denton's water. One piece from each grade level, and the artist, will receive special recognition at the Twilight Tunes event on June 9. All qualifying entries will be on display June 7-14 at Downtown Denton locations; visit www.sustainabledenton.com.

To qualify for entry, the artwork must be completed by a student (kindergarten through grade 5); be a 2D drawing, painting, collage, mosaic, or photograph that celebrates conserving, protecting, and enjoying our water; be submitted on paper or card stock no larger than 12 x 18 inches; include the student's name, grade, and school on the front, along with the title (grades k-2) and/or a descriptive paragraph (grades 3-5) summarizing the piece. The paragraph may be included within the art or attached (side, top, or bottom) for display. (Please do not attach the paragraph to the back of the artwork.)

Mail or drop off entries by **May 31** to Sustainable Denton, Attn: Conservation Program Coordinator, 215 E. McKinney St., Denton, TX 76201. For more information or questions, email Kathy.Jack@cityofdenton.com or call (940) 349-7733.



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