

**2009
CITY OF MANSFIELD
DRINKING WATER
QUALITY REPORT**



Rolling Up Our Sleeves

A safe, sufficient supply of drinking water. . . it's probably not something that crosses your mind very often. That's just fine with the employees in the City of Mansfield's Utility Division. These water professionals are dedicated to providing our residents with the basic health and sanitation services, fire protection and economic benefits associated with a reliable supply of treated water; a supply that you can count on when you turn on the tap.

Did you know that billions of gallons of water are treated, transported and made available to the citizens and customers of our water system every year? As of May 1, 2010, there were approximately 19,000 active water connections. That's a lot of water, for a lot of people.

Conserving water is a crucial component of our long-term water supply strategy. In 2009, the City of Mansfield's daily consumption per person was 162 gallons. We are proud to announce that Mansfield is on course to exceed the five and 10-year goals established in our Water Demand Management Plan. Mansfield's elected representatives, citizens and water professionals have worked together to accomplish this goal, which is a significant accomplishment.

It is important to the City of Mansfield that our customers have confidence in their water supply and the professionals responsible for getting it to their homes and businesses. This report contains information derived from analyses conducted in 2009. As you will see, your drinking water meets or exceeds all federal (EPA) drinking water requirements. Please take a moment to review the data contained within. Also get acquainted with some of the employees in this great city and the things they do on a daily basis to serve our community.

Sincerely,

Joe Smolinski
Director of Utilities
City of Mansfield



Health information for special populations

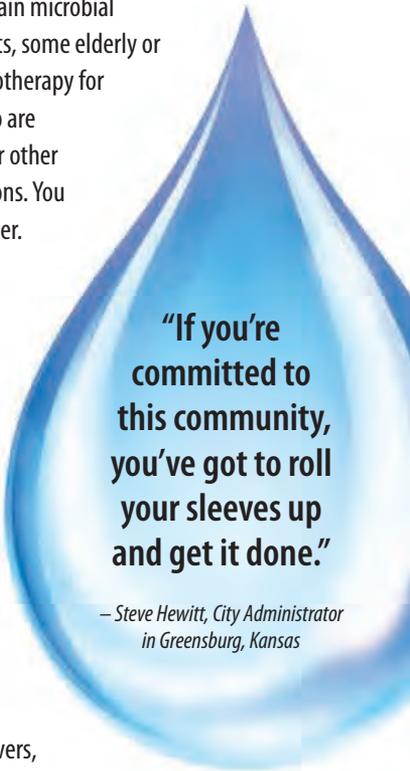
You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly or Immuno-compromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing 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 health provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the **Safe Drinking Water Hotline (800-426-4791)**.

Where does our water come from?

Our drinking water is obtained from surface water sources such as Benbrook Lake, Richland Chambers Reservoir and Cedar Creek Reservoir. Lakes and reservoirs collect rainfall and runoff. The area that drains into a lake or reservoir is called a drainage basin. The drainage basins usually include creeks and rivers that run into the lake. The lake, as well as the creeks and rivers, are impacted by the runoff from the land use in the drainage basin.

The sources of drinking water, 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. It can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water before treatment include: microbes, inorganic contaminants, pesticides, herbicides, radioactive contaminants, and organic chemical contaminants.

The Texas Commission on Environmental Quality (TCEQ) completed a Source Water Susceptibility Awareness (SWSA) study in 2009. The study lists the possible sources of contamination and the level of their severity, for each reservoir. For information about the SWSA study, contact TCEQ at 512-239-4691.



“If you’re committed to this community, you’ve got to roll your sleeves up and get it done.”

*— Steve Hewitt, City Administrator
in Greensburg, Kansas*

All drinking water may contain contaminants

When drinking water meets federal standards there may not be any health-based benefits to purchasing bottled water or point-of-use devices. 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 health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's **Safe Drinking Water Hotline (1-800-426-4791)**.

Definitions and abbreviations

NTU – Nephelometric Turbidity Units

This is used to measure water turbidity (clarity).

MCL – Maximum Contaminant Level

The highest permissible level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG's as feasible using the best available treatment technology.

MCLG – Maximum Contaminant

The level of a contaminant in drinking water below which there Level Goal is no known or expected health risk. MCLG's allow for a margin of safety.

AL - ACTION LEVEL

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

ppm – Parts Per Million

(Equivalent A good comparison of one part per million is one packet of to milligrams per liter) artificial sweetener placed in 250 gallons of iced tea.

ppb – Parts Per Billion

(Equivalent - An example of a part per billion is that same packet of to micrograms per liter) sweetener placed in an Olympic-size swimming pool of iced tea.

ppt – Parts Per Trillion

Nanograms per liter.

ppq – Parts per quadrillion

Picograms per liter.

pCi/L – Picocuries Per Liter

This is a measure of radioactivity in water. One picocurie is the amount of radioactive material that produces 2.22 nuclear transformations per minute.

TT - Treatment Technique

A required process intended to reduce the level of a contaminant in drinking water.

MFL – Million fibers per liter

A measure of asbestos.



2009 Water Quality Report

INORGANIC CONTAMINANTS

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2009	Fluoride	0.84	0.84	0.84	4	4	ppm	Erosion of natural deposits, water additive
2004	Barium	0.043	0.043	0.043	2	2	ppm	Erosion of natural deposits
2009	Nitrate	0.28	0.28	0.28	10	10	ppm	Runoff from fertilizer use
2005	Gross beta emitters	3.6	3.6	3.6	50	0	pCi/L	Decay of natural and man-made deposits.

MAXIMUM RESIDUAL DISINFECTANT LEVEL

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2009	Chloramines	2.58	0.5	3.5	4.0	<4.0	ppm	Disinfectant used to control microbes.

DISINFECTION BYPRODUCTS

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2009	Total Haloacetic Acids	11.9	9.6	14.6	60	N/A	ppb	Byproduct of drinking water disinfection.
2009	Total Trihalomethanes	33.0	20.5	40.4	80	N/A	ppb	Byproduct of drinking water disinfection.

UNREGULATED CONTAMINANTS

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2009	Chloroform	13.5	13.5	13.5	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2009	Bromoform	1.26	1.26	1.26	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2009	Bromodichloro-methane	8.93	8.93	8.93	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2009	Dibromochloro-methane	6.59	6.59	6.59	N/A	N/A	ppb	Byproduct of drinking water disinfection.

LEAD AND COPPER ¹

Year	Substance	90th percentile	# of sites exceeding action level	Action Level	Units	Source
2009	Lead	1.0	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2009	Copper	0.625	0	1.3	ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

SECONDARY CONSTITUENTS ²

Year	Substance	Avg	Min	Max	Secondary Limit	Units	Source
2009	Bicarbonate	92	92	92	N/A	ppm	Corrosion of carbonate rocks such as limestone.
2009	Chloride	11	11	11	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oilfield activity.
2008	Hardness as Ca/Mg	59	59	59	N/A	ppm	Naturally occurring calcium and magnesium.
2009	pH	7.9	7.9	7.9	>7.0	units	Measure of corrosivity of water.
2009	Sodium	21	21	21	N/A	ppm	Erosion of natural deposits; byproduct of oilfield activity.
2009	Sulfate	46	46	46	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oilfield activity.
2009	Total Alkalinity CaCO ₃	92	92	92	N/A	ppm	Naturally occurring soluble mineral salts.
2009	Total Dissolved Solids	203	203	203	1,000	ppm	Total dissolved mineral constituents in water.

TOTAL & FECAL COLIFORMS – REPORTED MONTHLY TESTS FOUND NO TOTAL OR FECAL COLIFORMS ³

TURBIDITY ⁴

Year	Substance	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Units	Source
2009	Turbidity	0.2	100%	0.3	NTU	Soil runoff.

TOTAL ORGANIC CARBON ⁵

Year	Substance	Avg.	Min.	Max.	Unit of Measure	Source
2008	Source Water	8.64	7.71	9.59	ppm	Naturally present in the environment.
2008	Drinking Water	5.3	4.68	5.87	ppm	Naturally present in the environment.
2008	Removal Ratio	1.11	0.88	1.44	% Removal	NA

(1) 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 can not 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 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>. (2) Many constituents (such as calcium, sodium, or iron), which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not EPA. These constituents are not causes for health concerns. Therefore, secondaries are not required to be reported in this document but they may greatly affect the appearance and taste of your water. (3) Total coliform bacteria are used as indicators of microbial contamination of drinking water because they are easily detected in water samples and they are found in the digestive tract of warm-blooded animals. While coliforms are not disease producers, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are harder than many disease-causing organisms; therefore their absence from water is a good indication that the water is bacteriologically safe for human consumption. Fecal coliform bacteria, in particular E-Coli, are a portion of the coliform bacteria group originating in the intestinal tract of warm-blooded animals and are passed into the environment through feces. The presence of fecal coliform in drinking water may indicate recent contamination of the drinking water supply with fecal material. The following table indicates whether total coliform or fecal coliform bacteria were found in the monthly drinking water samples submitted for testing by your water supplier last year. (4) Turbidity has no health effects. However, Turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. (5) Total Organic Carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection byproducts. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAA) which are reported elsewhere in this report.

Rooftops & Rainfall

Citizens Learn How to Conserve

This spring, members of the business community, water professionals, and, most importantly, our residents, came together for the first of many rain barrel classes at the Mansfield Activity Center. Utility Division employees (David Moulton and Keith Hawes) demonstrated to those in attendance how to build rain water collection barrels, which can be used to capture water for future use.

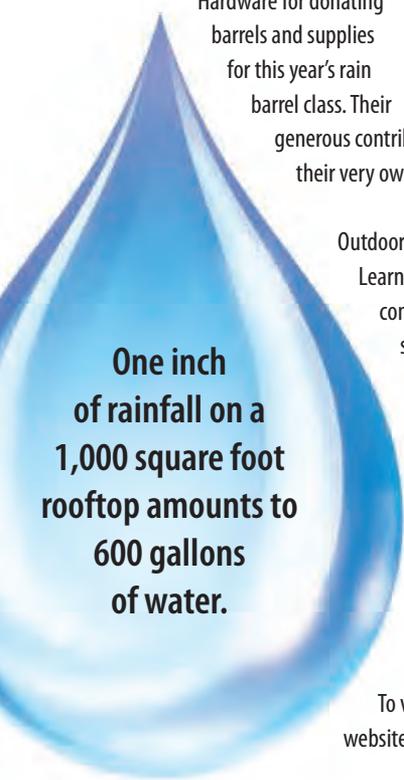
We would like to thank Randy Hendricksen at Chemguard and the staff at Ace Hardware for donating barrels and supplies for this year's rain barrel class. Their

generous contributions made it possible for every participant to build and take home their very own rain barrel.



David Moulton

Outdoor water usage can amount to more than half of summer consumption. Learning how to make efficient use of our available resources is an important component of environmental stewardship. After all, conserving water saves dollars and makes sense.



**One inch
of rainfall on a
1,000 square foot
rooftop amounts to
600 gallons
of water.**

Public participation opportunities

The City of Mansfield City Council meetings are held on the second and fourth Mondays each month. The meetings begin at 7 p.m. in the Council Chambers located at City Hall, 1200 E. Broad St.

To view a meeting schedule or council agenda, please visit the city website at www.mansfield-tx.gov.

Alice Ponder Panthers Think Blue

In May, students at Alice Ponder Elementary School participated in the inaugural "What Water Means to Me" contest. Each student created his/her very own poster with a water-related theme. Five outstanding posters were selected and have been featured in this year's Water Quality Report.

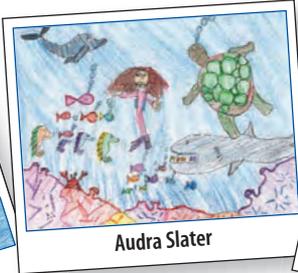
Thanks to Principal Jennifer Stoecker and her staff at Alice Ponder.



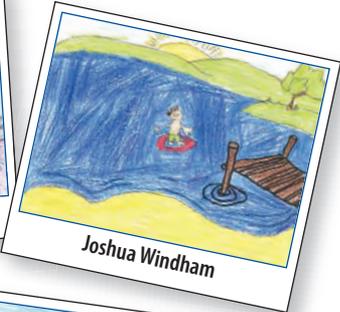
Pictured from left to right: Trinity Mongare, Audra Slater, Joshua Windham, Bailey Gallini and Keyshawn Williams



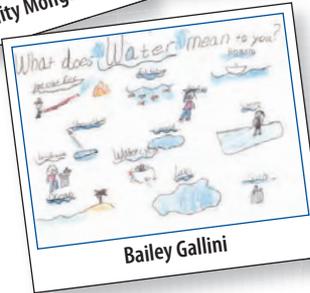
Trinity Mongare



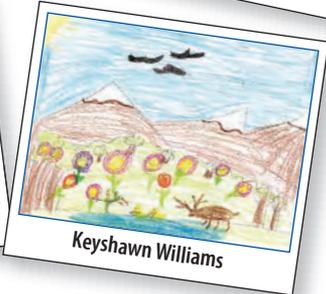
Audra Slater



Joshua Windham



Bailey Gallini



Keyshawn Williams

Mansfield Matters to Me

John D. Woodworth, Laboratory Supervisor
Water Utilities, Employed for 9 years

What Do I Like About My Job?

I have the best job in the world! There is no substance on Earth more critical to our quality of life than clean drinking water. I get to be a part of the team that provides a safe, sufficient supply of drinking water to the best citizens in the world.

What Do I Like About Mansfield?

The people. The citizens I speak with every day, my supervisors, peers, and subordinates create an atmosphere in which public service is a personal pleasure. This is a great place to work and I hope that I have helped to make it a great place to live as well.



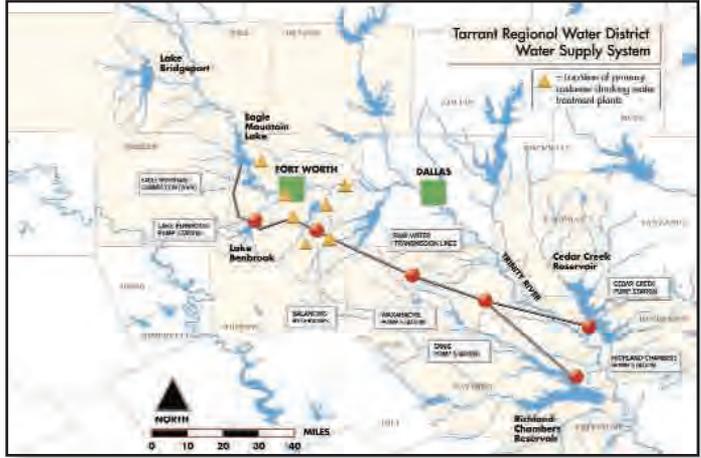
Why Does Mansfield Matter to Me?

From my perspective, this is a community with a common purpose. The citizens, mayor and council, and city staff work vigilantly to create and serve a city I have come to love. Whether you are the Mayor or a Meter Reader, your contribution is felt in the City of Mansfield. As an employee, I have always felt as if my hard work mattered to the citizens I speak with. I have had the good fortune to become an integral part of the most dedicated division in the organization. Mansfield Matters to Me!

Water Quality Frequently Asked Questions

Where does our water come from?

Mansfield is a member of the Tarrant Regional Water District along with Fort Worth, Arlington, Benbrook and Trinity River Authority. TRWD primarily pumps water from Cedar Creek and Richland Chambers reservoirs in east Texas. The TRWD can also supply water from the Benbrook reservoir.



What causes taste and odor in my drinking water?

Hot South Texas summer weather results in a rapid algae growth in our surface water reservoirs. As the algae decay, they release taste and odor compounds. The Mansfield Water Treatment Plant replaced the anthracite coal filter media with GAC (Granular Activated Carbon) in the plant expansion of 1999. As a result, the tastes and odor nuisance was greatly reduced. However, there are times of the year when the algae growths can exceed the GAC's ability to remove the tastes and odors completely. In as much as the problem of taste and odor may be apparent in the water, the water is safe to drink.

Is my water safer with water purification devices?

Water from the City of Mansfield is safe to drink. We recognize that it is your personal choice to purchase water purification devices, they have known to cause problems in the quality of drinking water due to the lack of proper filter replacement. These devices are not tested or regulated by the state or federal government.

Do we have hard water?

Hard water is defined by the amount of calcium and magnesium present in the water. Hard water has a

relatively high level as compared to softwater which has a low level.

Actually our water is not classified as hard or soft. It is medium (hard) and normally has a calcium carbonate hardness content ranging between 90 to 120 mg/l, or in other terms about 5 to 7 grains of hardness.

Why does my water seem cloudy?

Water that is cloudy is often the result of air in the water. To verify the cloudy water is caused by air, fill a clear glass with water from your faucet. Watch the glass closely. If the glass gets clear from the bottom to the top after a few minutes then there is air in the water. While the quality of the water is not affected by presence of air, it could be indicative of a problem in the distribution system. Excessive air in your water should be reported to the Water Department by calling (817)-473-8411 or (817) 477-2248.

What is causing the staining of my plumbing fixtures?

Iron and manganese can cause a brownish orange staining on plumbing fixtures. The level of iron and manganese in our raw water is enough to cause staining problems. Since December of 2003 Mansfield has been using Chlorine Dioxide to reduce iron and manganese.

Outdoor Watering Tips

Let's make conservation a grass roots effort.

Some people say we're obsessed with our lawns in North Texas. That may or may not be true, but watering our lawns does account for half or more of all the water we use at home. And according to the experts, most lawns get twice as much water as they really need. Over watering is a habit that wastes hundreds of thousands of gallons of water each year. Just look around your neighborhood and you'll see all the signs: water gushing down the curb; sprinkler heads that resemble geysers; sprinklers going full blast during a downpour. Now that's a waste we really can't afford. So let's all make an effort to give our lawns as much water as they need – and no more. Here are some tips for saving water on your lawn.



1. Give the sprinkler a rest sometimes. In Texas, we tend to water our lawns much too often for much too long. Leave your lawn alone once in a while and it will do fine – maybe even better.

2. Don't water between 10 a.m. and 6 p.m. Up to 30 percent of the water sprayed on lawns during the heat of the day can be lost to evaporation. So it's much cooler to water when it's cooler.



3. Inch toward conservation. Apply just an inch of water to your lawn once a week during the summer. That will encourage deeper root systems and make for healthier grass.

4. Remember to cut back on your irrigation frequency in the fall and winter. Lawns don't need as much water during the cooler seasons. Applying about an inch every two weeks in the fall, and even less in the winter, should be plenty.

5. Cycle and soak to avoid runoff. It takes a while for water to soak into our North Texas clay soils. Rather than running your spray heads for long periods of time, try running



zones in shorter bursts, with one hour between cycles. That'll give the water time to soak in instead of running off.

6. Be sensitive – use rain and freeze sensors. They will trigger automatic sprinkler systems to shut off during downpours or when temperatures dip near freezing. And they could reduce your outdoor water use by 5 to 10 percent.

7. Turn your system off after a good rain. Why duplicate what Mother Nature just provided for free? Even better – put your sprinkler system in manual mode and water only as needed.

8. Install a "smart" controller: that's an irrigation clock that automatically adjusts run times in response to weather conditions.

9. Check your irrigation system regularly. Fix leaks or damaged sprinkler heads and make sure they're aimed at the landscape, not the street or sidewalk.

10. Don't be a scalper. Taller grass holds moisture better and slows down evaporation. Leaving lawn clippings on your lawn does the same and also returns valuable nutrients to the soil.





City of Mansfield
Municipal Water System
1200 E. Broad St.
Mansfield, TX 76063

POSTAL CUSTOMER

Important information about the quality of your drinking water .

En Español: Este reporte incluye información importante sobre el agua para tomar. Para obtener una copia de esta información traducida al Español, favor de llamar al teléfono (817) 473-8411.

Water Quality Questions: (817) 477-2248
Billing Information: (817) 276-4200