

# **2010 City of Mansfield Drinking Water Quality Report**





# Ready for Growth

2010 was a busy year for the City of Mansfield's Utility Division. Construction activities at the Bud Ervin Water Treatment Plant progressed as planned. New technology and capacity were added to the facility that supplies drinking water to the residents of Mansfield, which is now poised to support current consumption and future demand.

More than 3.5 billion gallons of water were treated and delivered in 2010. Twenty-four hours a day, staff members analyzed water samples and dutifully maintained the safe, sufficient supply of drinking water that our community has come to depend on. It is no small task, and one that the staff takes great pride in performing.

Efforts are underway to obtain future supplies for a growing population in North Texas. City staff is actively participating in these efforts with surrounding communities and the Tarrant Regional Water District. We remain committed to providing Mansfield with the ability to serve its current population and future generations.

Please take a moment to review the data contained within this report. It contains information derived from analyses conducted in 2010. As you will see, your drinking water meets or exceeds all federal (EPA) drinking water requirements. 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. As always, it has been our pleasure serving this community and we look forward to doing so in the future.

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, and can 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**.



**“The quality of water and the quality of life in all its infinite forms are critical parts of the overall, ongoing health of this planet of ours, not just here...but everywhere.”**

— Sir Peter Blake

# 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. MCL's 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.

### **MRDL – Maximum Residual Disinfectant Level**

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.

### **Mrer - millirems**

Millirems per year (a measure of radiation absorbed by the body).

### **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.



# 2010 Water Quality Report

## INORGANIC CONTAMINANTS <sup>1</sup>

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2010	Fluoride	0.18	0.18	0.18	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
2004	Barium	0.043	0.043	0.043	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
2010	Nitrate	0.34	0.34	0.34	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
2005	Beta photon emitters	5.1	5.1	5.1	50	0	pCi/L	Decay of natural and man-made deposits.
2010	Atrazine	0.18	0.18	0.18	3	3	ppb	Runoff from herbicide used on row crops.

## MAXIMUM RESIDUAL DISINFECTANT LEVEL

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2010	Chloramines	2.55	0.9	3.4	4.0	<4.0	ppm	Disinfectant used to control microbes.

## DISINFECTION BYPRODUCTS

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2010	Total Haloacetic Acids	8.3	5.1	11.5	60	N/A	ppb	Byproduct of drinking water disinfection.
2010	Total Trihalomethanes	25.1	21.9	30.6	80	N/A	ppb	Byproduct of drinking water disinfection.

## UNREGULATED CONTAMINANTS

Year	Substance	Avg	Min	Max	MCL	MCLG	Units	Source
2009	Chloroform	7.1	5.2	9.6	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2009	Bromoform	1.3	1.1	1.5	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2009	Bromodichloro-methane	9.1	8.2	10.7	N/A	N/A	ppb	Byproduct of drinking water disinfection.
2009	Dibromochloro-methane	8.0	7.0	8.8	N/A	N/A	ppb	Byproduct of drinking water disinfection.

## LEAD AND COPPER <sup>2</sup>

Year	Substance	90th percentile	# of sites exceeding action level	Action Level	Units	Source
2010	Lead	1.8	0	15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
2010	Copper	0.701	0	1.3	ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

SECONDARY CONSTITUENTS <sup>3</sup>

TOTAL & FECAL COLIFORMS – REPORTED MONTHLY TESTS FOUND NO TOTAL OR FECAL COLIFORMS <sup>4</sup>

TURBIDITY <sup>5</sup>

Year	Substance Measurement	Highest Single	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Units	Source
2010	Turbidity	0.93	99.47%	0.3	NTU	Soil runoff.

TOTAL ORGANIC CARBON <sup>6</sup>

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) The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles. (2) 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>. (3) 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. (4) 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. (5) 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. (6) 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.



## Test Your Backflow Device

Think, for just a moment, about the chemicals you put on your yard to keep it green and pest-free – herbicides (weed killer), pesticides (bug killer), and fertilizer (yeah, we all know what's in fertilizer). Absolutely none of them were intended for human consumption.



If you have a landscape irrigation system, chances are that you have backflow prevention device in the front yard; you're required by law to have one. What you might not know is that the manufacturer of that device wants you to have it tested AT

LEAST annually. Doing so just might keep you from drinking a tall, cool glass of unsweetened fertilizer.

Backflow prevention devices are designed to keep water, which may have become stagnant or contaminated, from being pulled into your home where you or your children consume it. Just as importantly, if installed and maintained properly, it will keep potential contaminants out of the city's water distribution lines – lines that serve nearly 60,000 residents.

If you have a sprinkler system, please call the Water Quality Department for a list of state licensed backflow prevention assembly testers in Mansfield. Schedule your annual inspection today.

## 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](http://www.mansfield-tx.gov).

**"To learn about ways in which you can make a difference and share your passion for a cleaner environment call 817-477-2248 (extension 2003) and ask about volunteer opportunities."**

– David Moulton, City of Mansfield, Water Quality

## The Mud Ducks

With more than 287 miles of drinking water transmission line and 350 miles of sewer main line to patrol, Jesse Fernandez and the Utility Field Operations staff have their hands full.

Jesse is the Utility Field Operations Manager and the Utility Division's Employee of the Year in 2010. With more than 25 years of service to the City of Mansfield, Jesse has a wealth of experience and knowledge to pass along to his staff members; that's exactly what he is doing.

According to Jesse, his individual and departmental success is due to the strength of his supporting cast – a group that affectionately refers to themselves as the Mansfield Mud Ducks. The Mud Ducks repair broken main lines, read



more than 19,000 water meters monthly, and keep the thousands of distribution system valves and hydrants in top shape. Civilized life would cease to exist for the rest of us if these men and women were not hard at work – both day and night.

No, they don't have neatly pressed uniforms – not by the end of the day anyway. And their vehicles aren't shiny and sleek. But the services they provide are ones that we simply cannot live without. So, the next time you see The Mud Ducks on the side of the road or in a hole covered in mud, tip your hat and let them know how much you appreciate their service.



# Mansfield Matters to Me

**Sherry Harden, Meter Reading Supervisor**  
*Water Utilities*

## What do I like about my job?

I enjoy working with such dedicated people. Individuals and departments work hand-in-hand with one another to serve our residents. It can be challenging, but I love it. There is a tremendous sense of responsibility and accomplishment that comes with this job. Mansfield really is a great place to live and work.



## What do I like about Mansfield?

Mansfield still has some of the same small town feel as it use to. Probably because so many of the same families are still living here; families I grew up with and families my grandparents knew. The biggest difference now is that I have more places to shop and I can stay in town to do it, which we all know beats leaving town any day.



## Why does Mansfield matter to me?

Mansfield matters to me because this is where I live. My family is from Mansfield. This is the only home I have ever known. Mansfield is where I plan to retire and spend time with my family. I can't wait to see what the future holds for the City of Mansfield.

# 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?

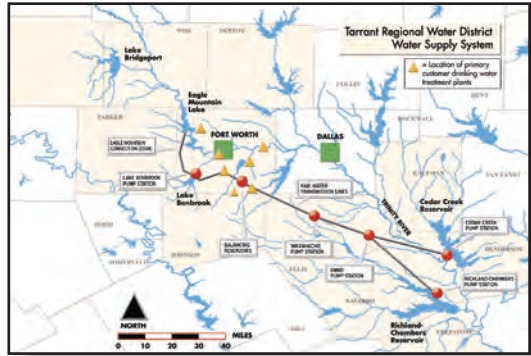
Water from the City of Mansfield is safe to drink. We recognize that it is your personal choice to purchase water purification devices, they have known to cause problems in the quality of drinking water due to the lack of proper filter replacement. These devices are not tested or regulated by the state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

# Sprinklers and Smart Phones?

What do irrigation controllers and smart phones have in common? Most of us have them, but very few of us know how to program them. We take the settings the salesperson gives us and start making phone calls (or watering the lawn). Well, help is available.

The Utility Division offers assistance to residents that are interested in learning more about their landscape irrigation systems. Outdoor water audits and irrigation controller classes are available – AT NO COST – to utility customers. Call Keith Hawes at 817-308-1094 to schedule your first class today.



Outdoor water usage can amount to more than half of summer consumption. Learning how to make efficient use of our available fresh-water resources by using only what you need is an important component of environmental stewardship.



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

PRESORTED  
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U.S. POSTAGE  
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PERMIT NO. 10  
MANSFIELD, TX

POSTAL CUSTOMER



## Important information about the quality of your drinking water .

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

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