



# Watershed Protection in Denton County

Blake Alldredge  
Upper Trinity Regional Water District



# How Much Water Does It Take?



One cup of coffee =  
34 gallons of water



One glass of beer =  
19.5 gallons of water



One glass of wine =  
32 gallons of water

# How Much Water Does It Take?



One pound of beef =  
1,230 gallons of water



One pair of shoes =  
2,100 gallons of water



One pair of jeans =  
1,800 gallons of water



# Upper Trinity Regional Water District

- Created in 1989
- Provides regional water & wastewater services for 29 communities
- Serves Denton & Collin Counties



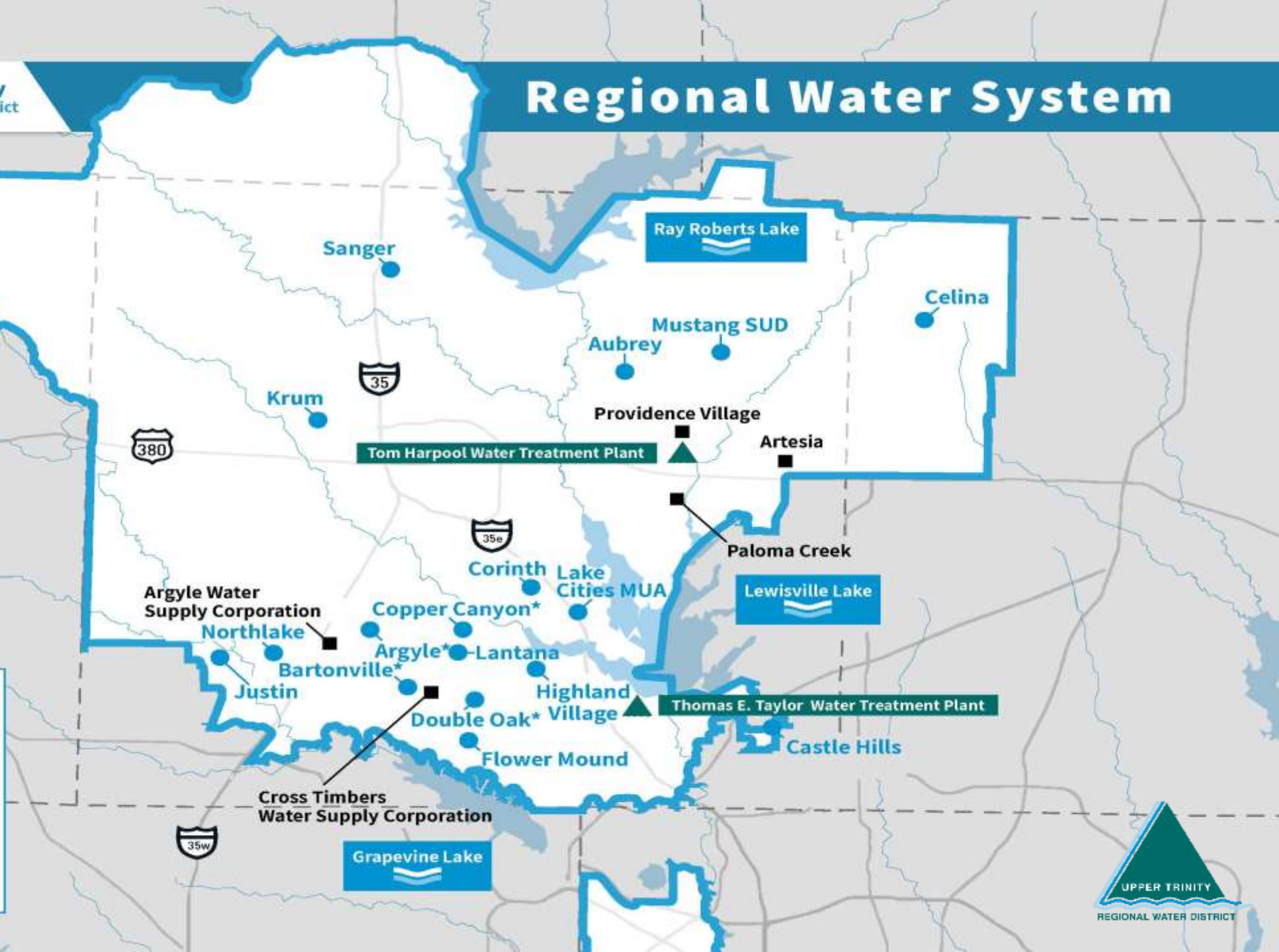
▲ Water Treatment Plant

● Members | \*Served indirectly

■ Customer Cities/Utilities:

Lake water is drawn from:

- Lewisville Lake  
(by contract with cities of Dallas and Denton)
- Ray Roberts Lake  
(by contract with cities of Dallas and Denton)
- Jim Chapman (Cooper) Lake  
(by contract with City of Commerce)



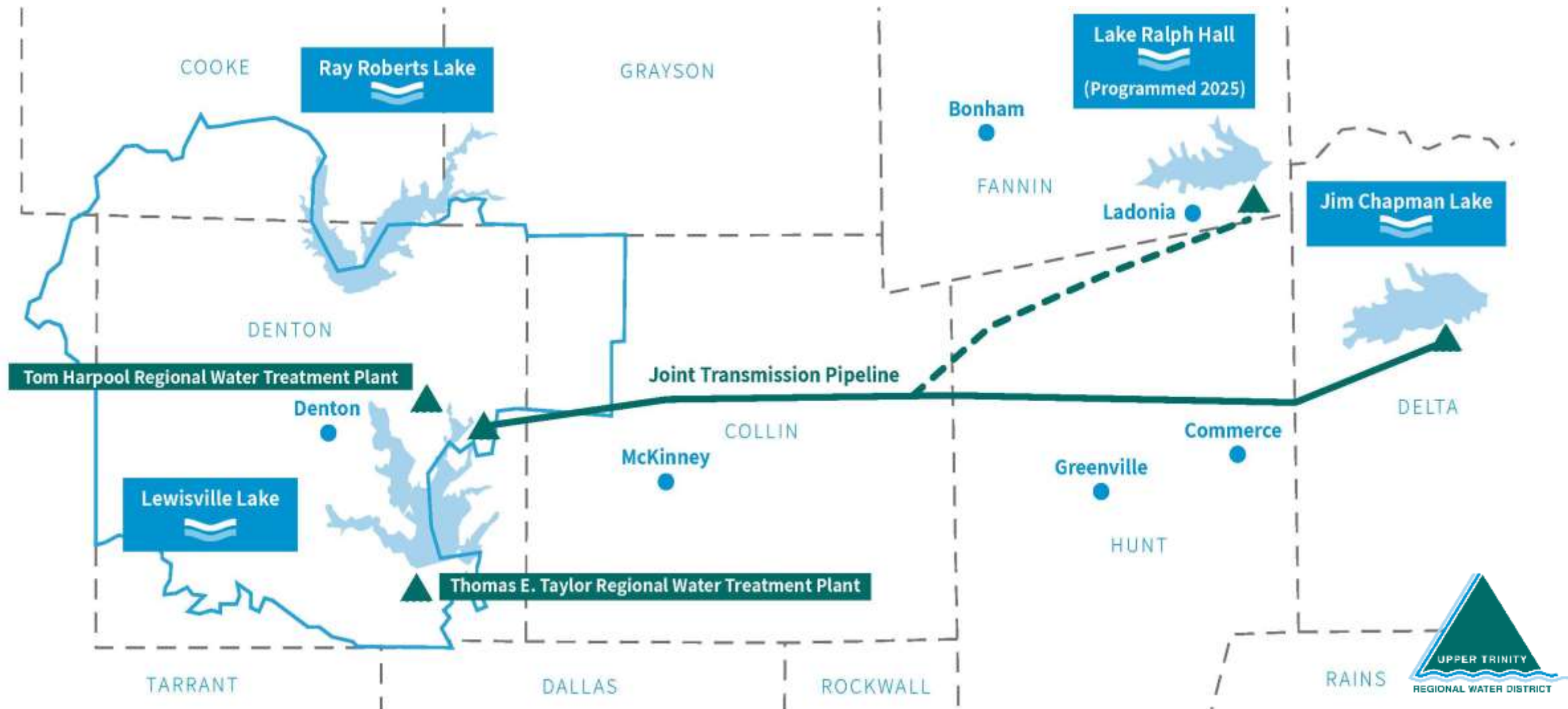
# Taylor Regional Water Treatment Plant



# Lakeview Water Reclamation Plant



# UTRWD Water Sources

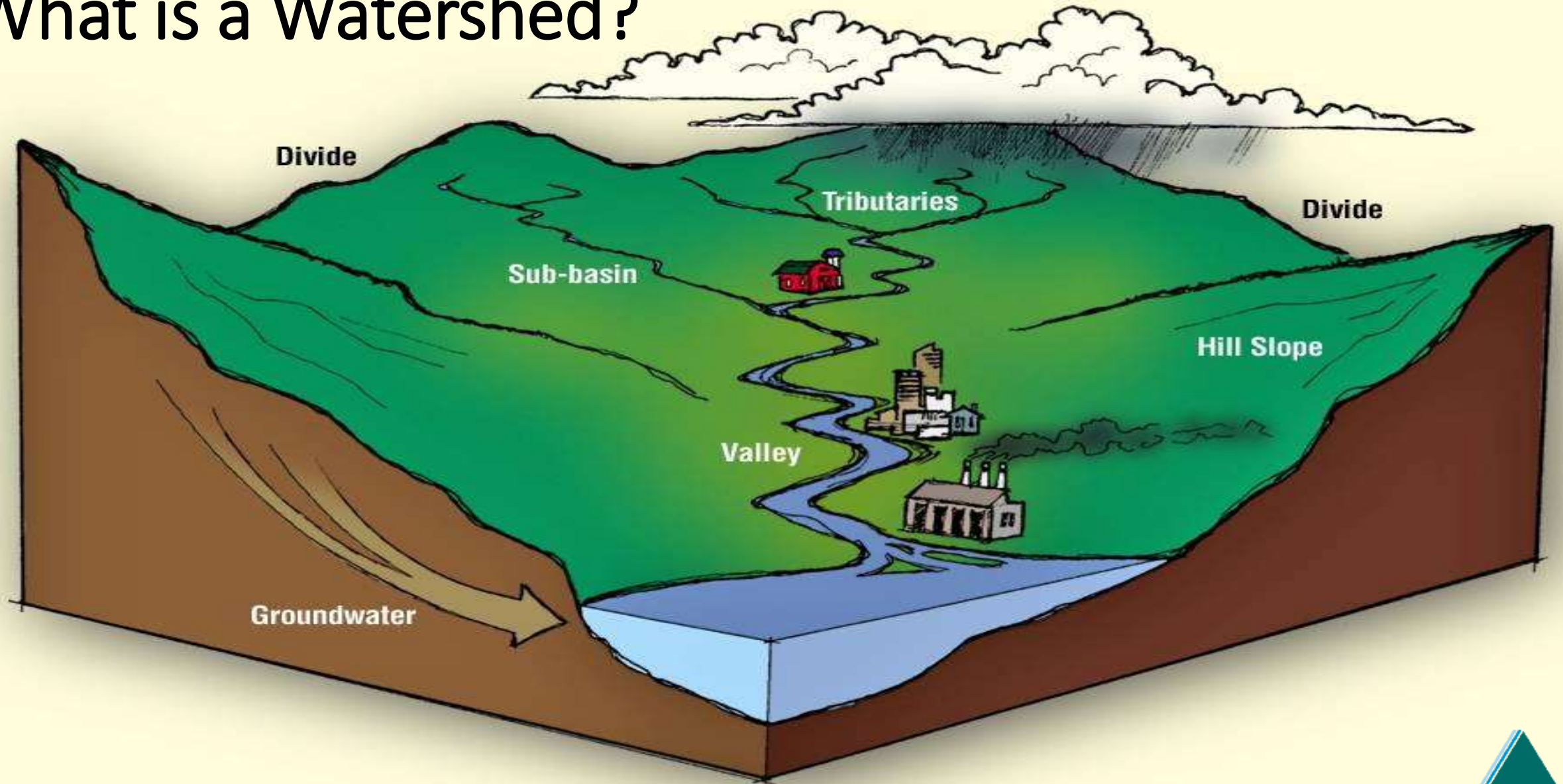


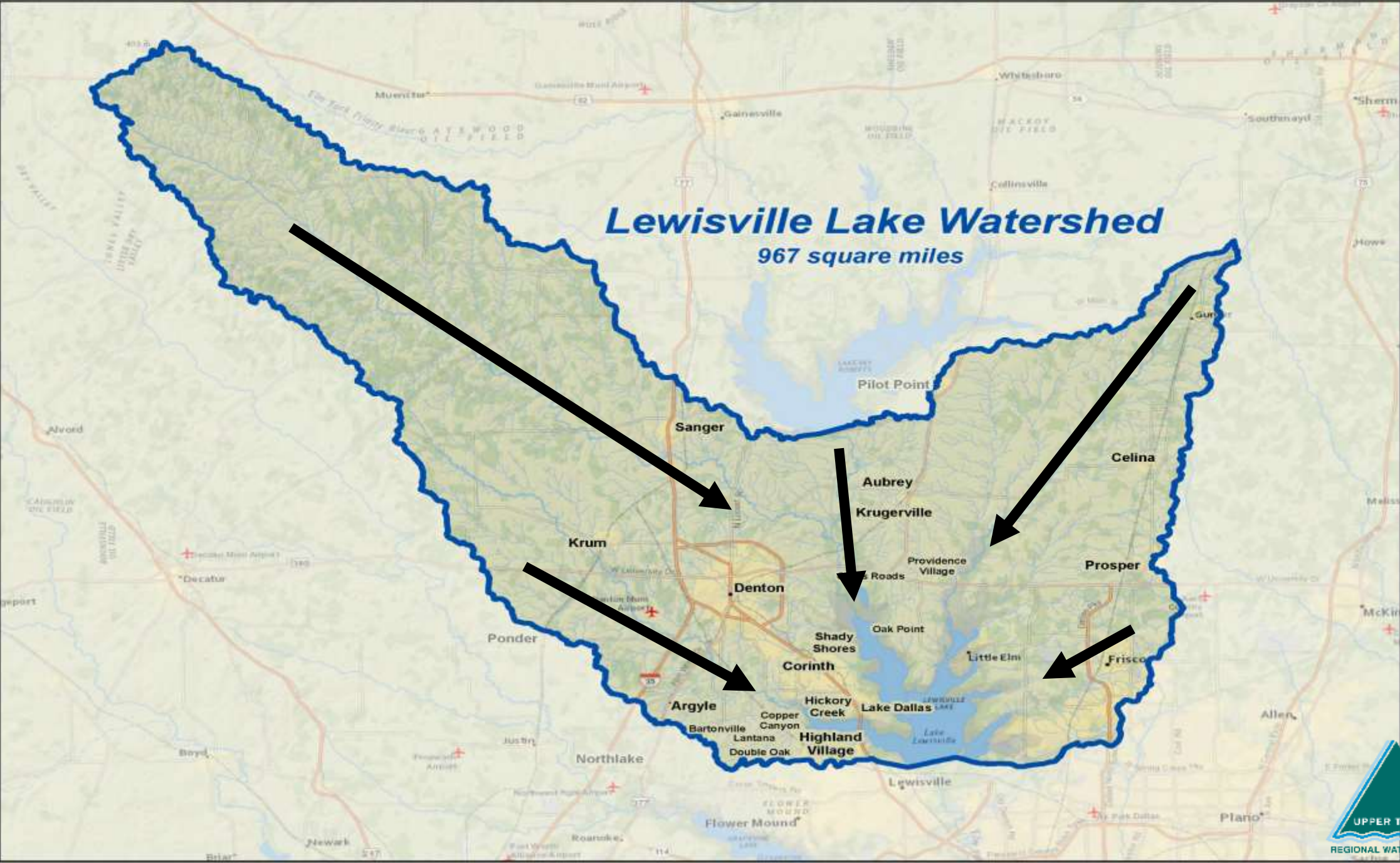
# As North Texas grows . . .

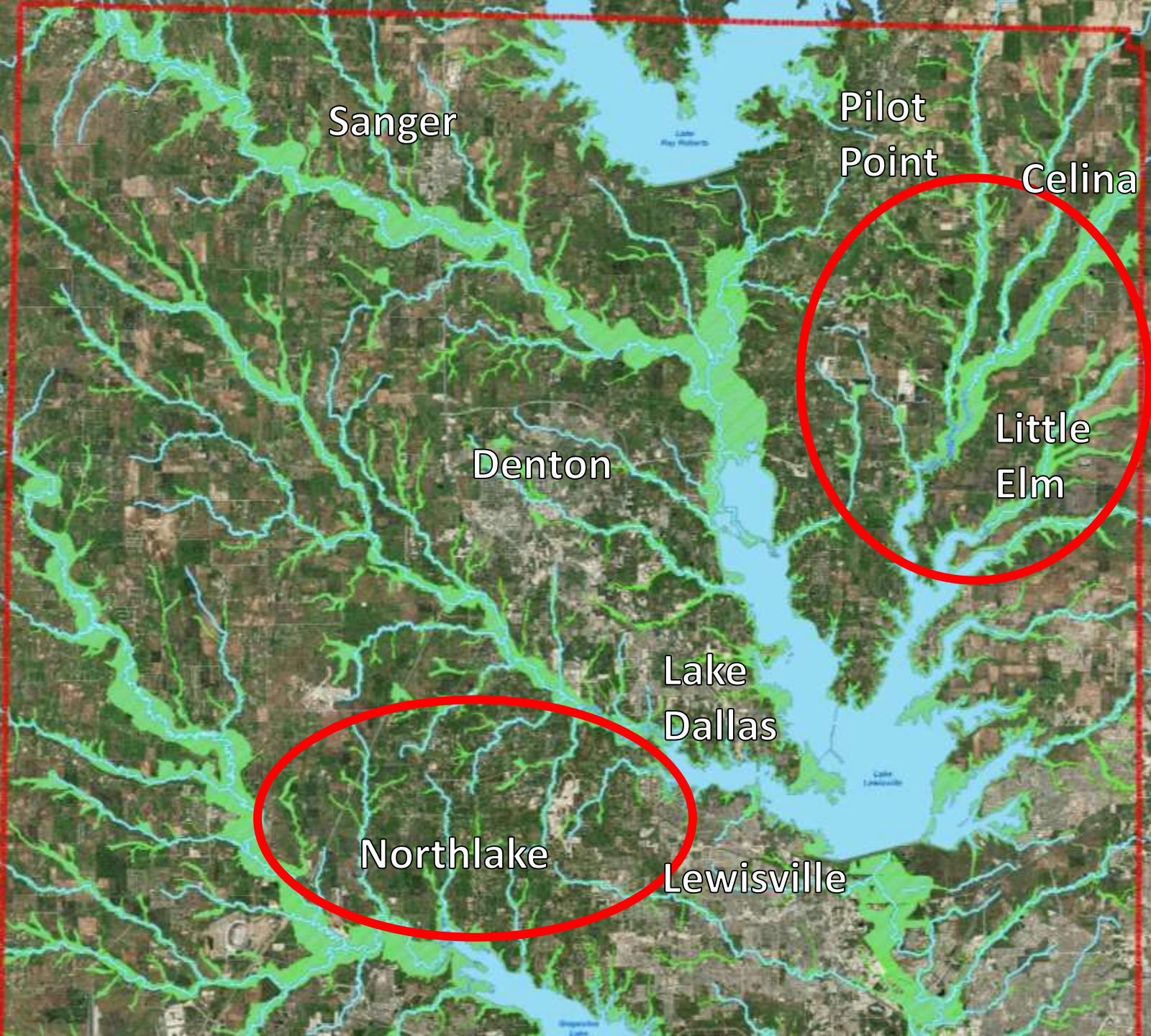


**Our region will add over 1 million people by 2030!**

# What is a Watershed?







# Our Waterways

- Thousands of miles of streams and creeks
- Three major water supply reservoirs
- Hundreds of miles of hike/bike trails

Watersheds are  
influenced by:

- Rainfall / Drought
- Topography
- Soil Types
- Vegetation
- Land Uses

# What is Your Watershed Address?

**Everyone lives in a watershed.**

**Each citizen needs to get to know their personal watershed, like they know their street.**

**Install Watershed signs to inform the public.**

**Signs are available at no cost from Upper Trinity.**



# Water Quality & Quantity

- Water pollution & impact on drinking water treatment
- Sedimentation impact on Texas reservoirs
- Dredging vs. New Reservoirs?
- Hickory Creek WPP & other studies

# Why is Watershed Management Important?

- Protects Drinking Water Sources
- Protects Human Health / Aquatic Life
- Recreational / Economic Benefits



# 'Do not drink, do not boil' water: Crisis closes out second day with little information

Midway through day 2 of Toledo's water crisis, residents who get water from the city of Toledo are still being told not to drink water which comes out of the tap.

Author: WTOL Staff

Published: 2:39 AM EDT August 4, 2014

Updated: 12:25 AM EDT July 21, 2018



# Poll Question

Which of these is not characteristic of a healthy watershed?

1. Captures & stores rainfall
2. Good soil health
3. More erosion
4. Balanced creek systems

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# Healthy Watersheds:

- Capture Rainfall
  - Filter Water
  - Good Soil Health
  - Abundant Vegetation
  - Productive Land
  - Balanced Creek Systems
- = Clean Water**

# Unhealthy Watersheds:

- Lose Rainfall
  - More Erosion
  - Poor Soil Health
  - Degraded Vegetation
  - Damaged Creek Systems
- = **Polluted Water**



Water  
Catchment

Water Shed



# How Does Land Use Affect Water Quality & Quantity?



# Poll Question

Which of these is not a common pollutant?

1. Sediment
2. pH
3. Nutrients
4. Bacteria

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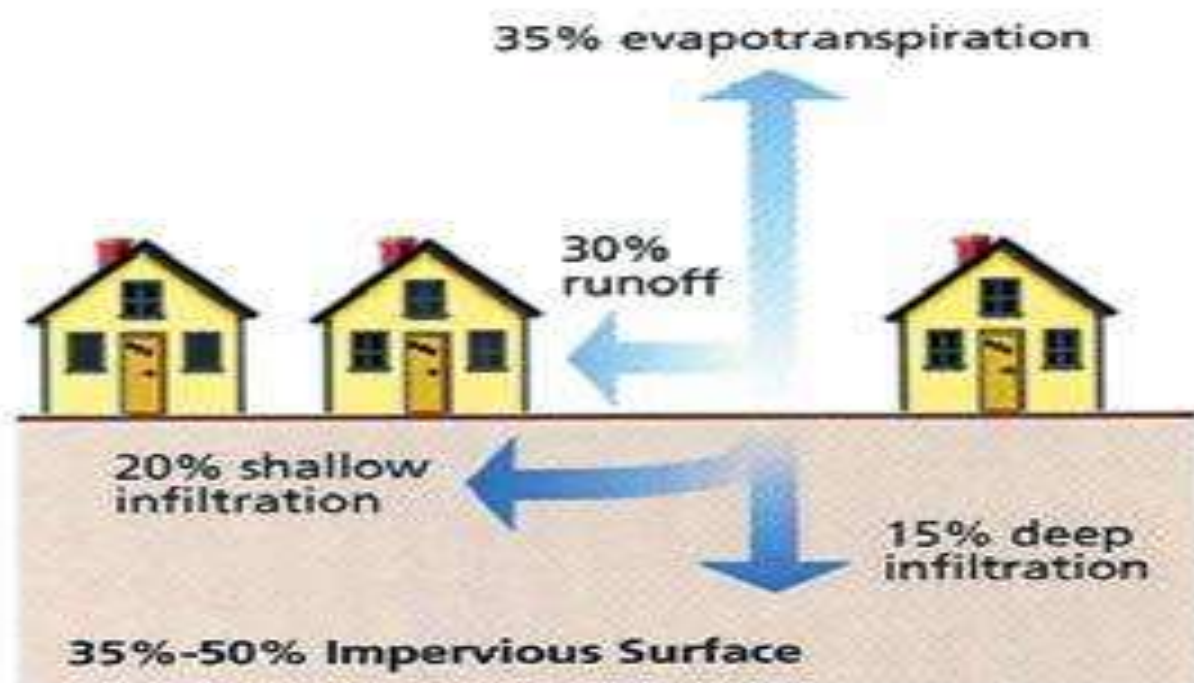
# Pollutants

- Nutrients (N & P)
- *Bacteria*
- Sediments
- *Toxic and Hazardous Substances*



# Sources

- Fertilizers / Lawn Chemicals
- *Grass Clippings / Leaves*
- Pet / Livestock / Wildlife Waste
- *Failing Septic Systems*
- Trash / Litter
- *Stormwater / Erosion*
- Household Chemicals
- And more!







## Riparian Vegetation is Key

- Stabilizes streambank soil
- Dissipates floodwater energy
- Filters water

An aerial photograph showing a large, irregularly shaped greenbelt of dense trees and shrubs. This greenbelt acts as a buffer, separating several large, brown, tilled agricultural fields. In the background, there are more green fields, some farm buildings, and a small pond. The horizon is visible under a clear sky.

# Greenbelts are Buffers

An aerial photograph of a suburban neighborhood. A dense, winding greenbelt of trees and grass runs through the center of the image, separating two residential areas. The houses are mostly single-story with grey roofs. Some houses have swimming pools. The sky is blue with some clouds.

# Greenbelts are Buffers

# Upper Trinity Conservation Trust



- Established in 2010
- 501 (C)(3) Non-Profit Land Trust
- Preserve Riparian Areas and other Key Watershed Features
- Focuses on Lakes Lewisville, Ray Roberts and Grapevine Conservation Easements
- Landowner Outreach and Education



# Watershed Partners Program

*Increasing awareness & fostering partnerships to help protect our watersheds.*

## Founding Partners



## Sustaining Partners

City of Corinth  
City of Denton  
Carollo Engineers

## Contributing Partners

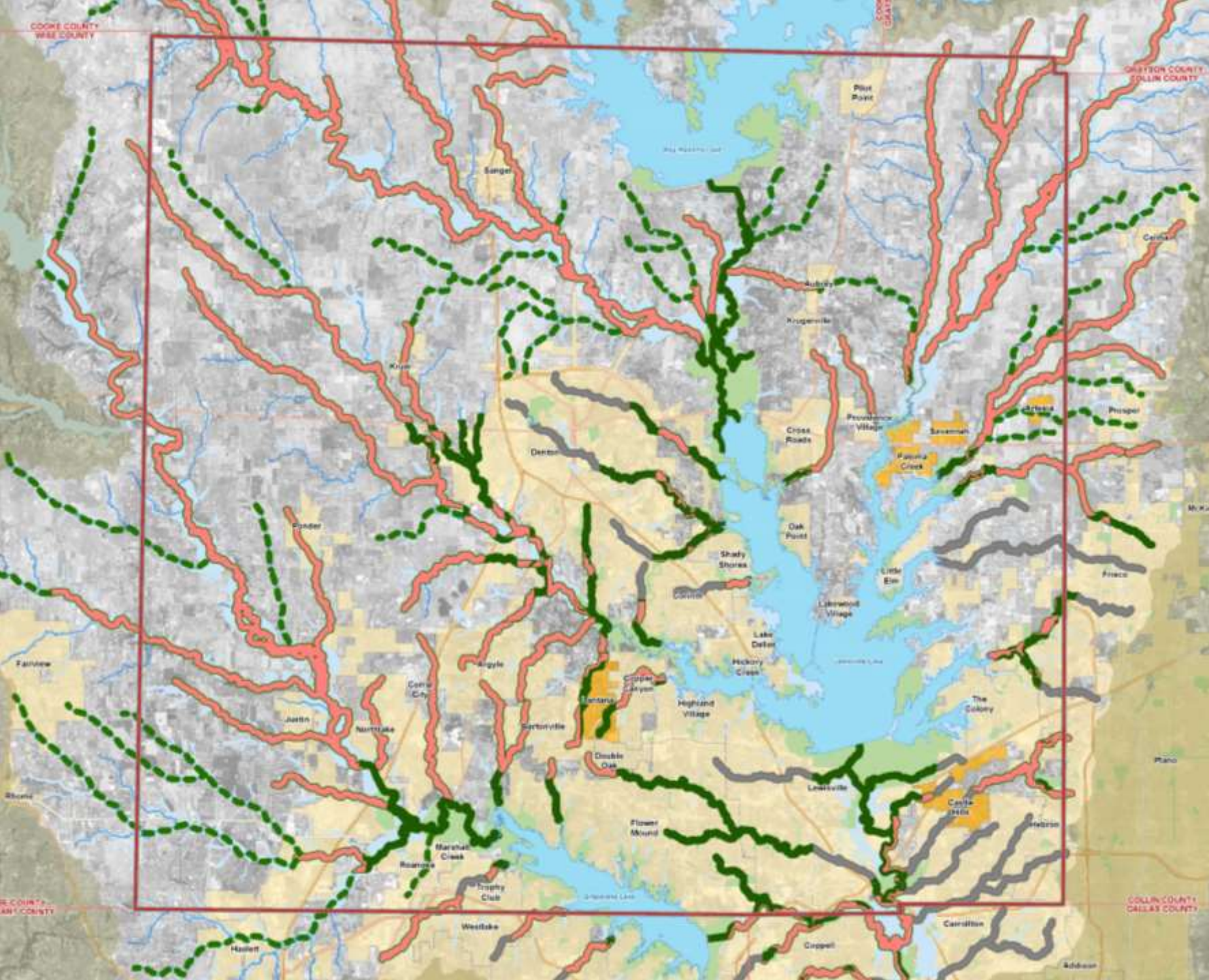
Oscar Burchard  
Jean Campbell  
Lewisville ISD  
Janet Aune  
Sue Tejml

## Supporting Partners

Town of Northlake  
Svatik Family



**Join the Partners Program & help lead a focused effort in watershed protection.**



# Denton County Greenbelt Plan

*For the Future*

# Entities who have adopted the Denton County Greenbelt Plan

*City of Aubrey*

*City of Corinth*

*City of Denton*

*Town of Double Oak*

*Town of Flower Mound*

*Town of Hickory Creek*

*City of Justin*

*Lake Cities MUA*

*Lantana*

*City of Lewisville*

*City of Pilot Point*

*City of Sanger*



**Denton County  
Greenbelt Plan**

*For the Future*



# Green Stormwater Infrastructure



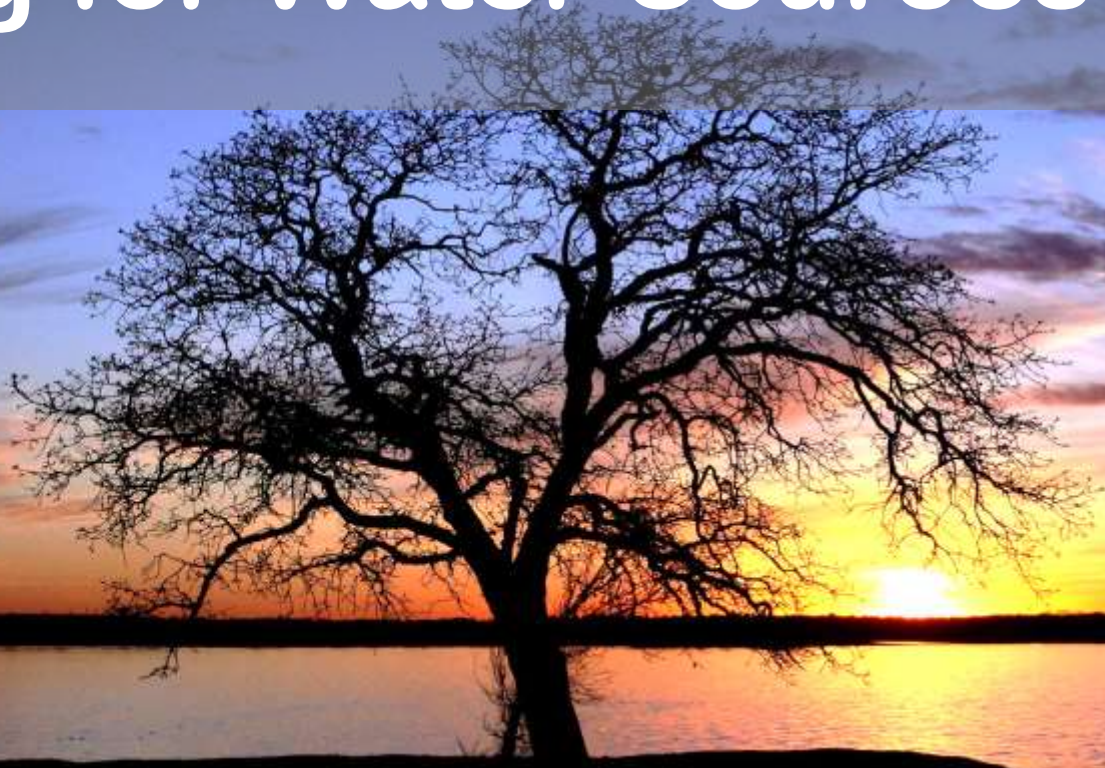
# What Residents Can Do







# Caring for Water Sources Takes ALL of Us!



[www.UTRWD.com](http://www.UTRWD.com)



# Poll Question

Why is riparian vegetation not important?

1. Stabilizes soil in place
2. Dissipates flood energy
3. Filters water
4. Provides shade
5. None of the above

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1. Captures excess stormwater
2. Reduces “grey” infrastructure needs
3. Releases pollutants
4. Reduces irrigation needs

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2. Reduces “grey” infrastructure needs
- 3. Releases pollutants**
4. Reduces irrigation needs

# Questions?

@UTRWD



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UTRWD



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