

# North Texas GCD Board Meeting

February 11, 2020

## Agenda Item 8

💧 Presentation and discussion regarding Aquifer Uses or Conditions, Supply Needs & Management Strategies, and Private Property Rights factors as they relate to Desired Future Conditions pursuant to Texas Water Code Section 36.108(d)

# GMA 8 Schedule to Discuss Nine Factors

November 2019		
Environmental Impacts	Subsidence Impacts	Hydrological Conditions
February 2020		
Aquifer Uses or Conditions	Supply Needs & Management Strategies	Private Property Rights
May 2020		
Socioeconomic Impacts	DFC Feasibility	Other Relevant Information

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## Aquifer Uses or Conditions

- Aquifer uses
  - District production records*
  - Type of uses*
  
- Aquifer Conditions
  - Water levels*
  - DFC assessment*

# Aquifer Use in North Texas GCD

## Aquifer Use for the North Texas GCD

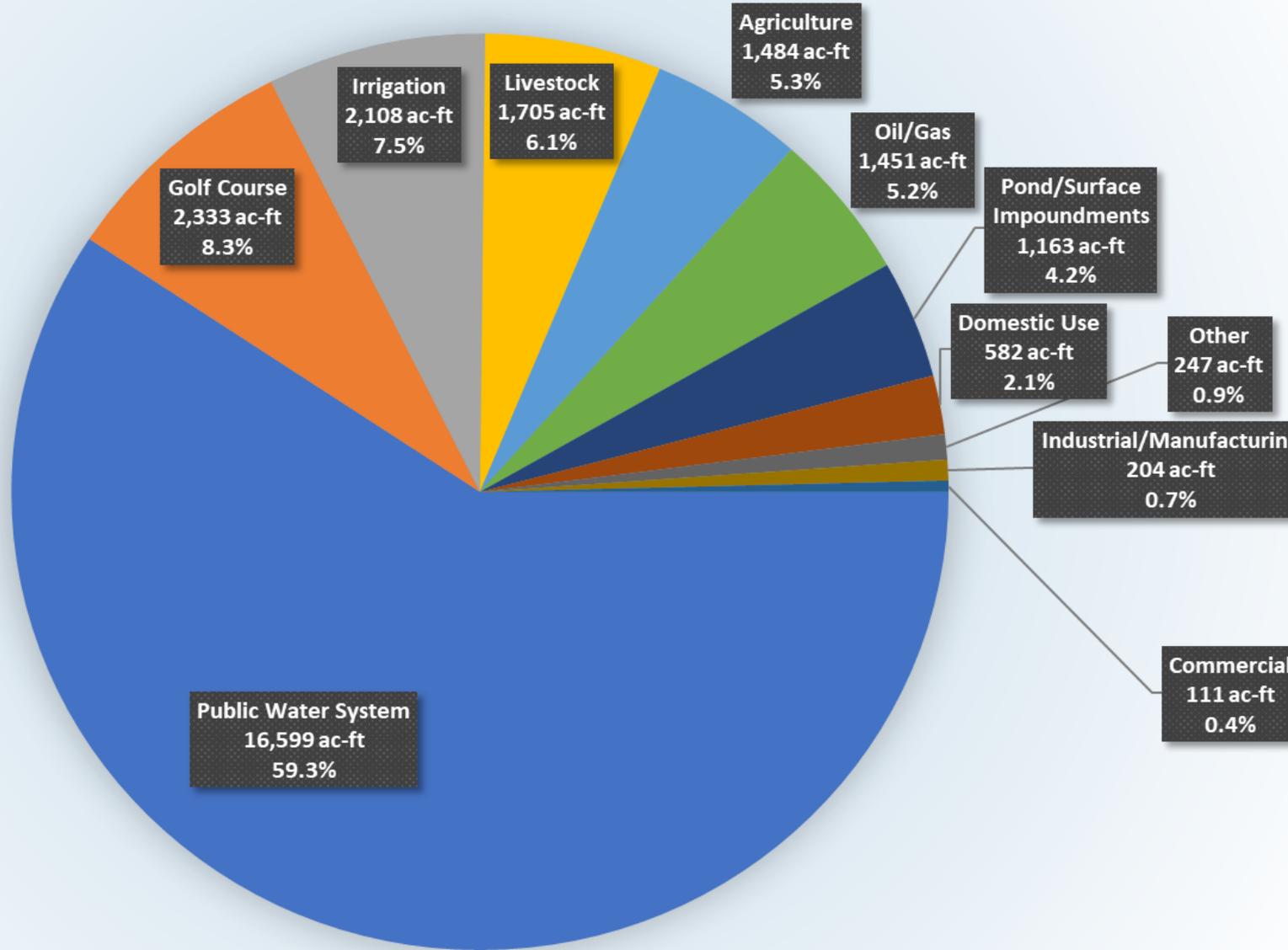
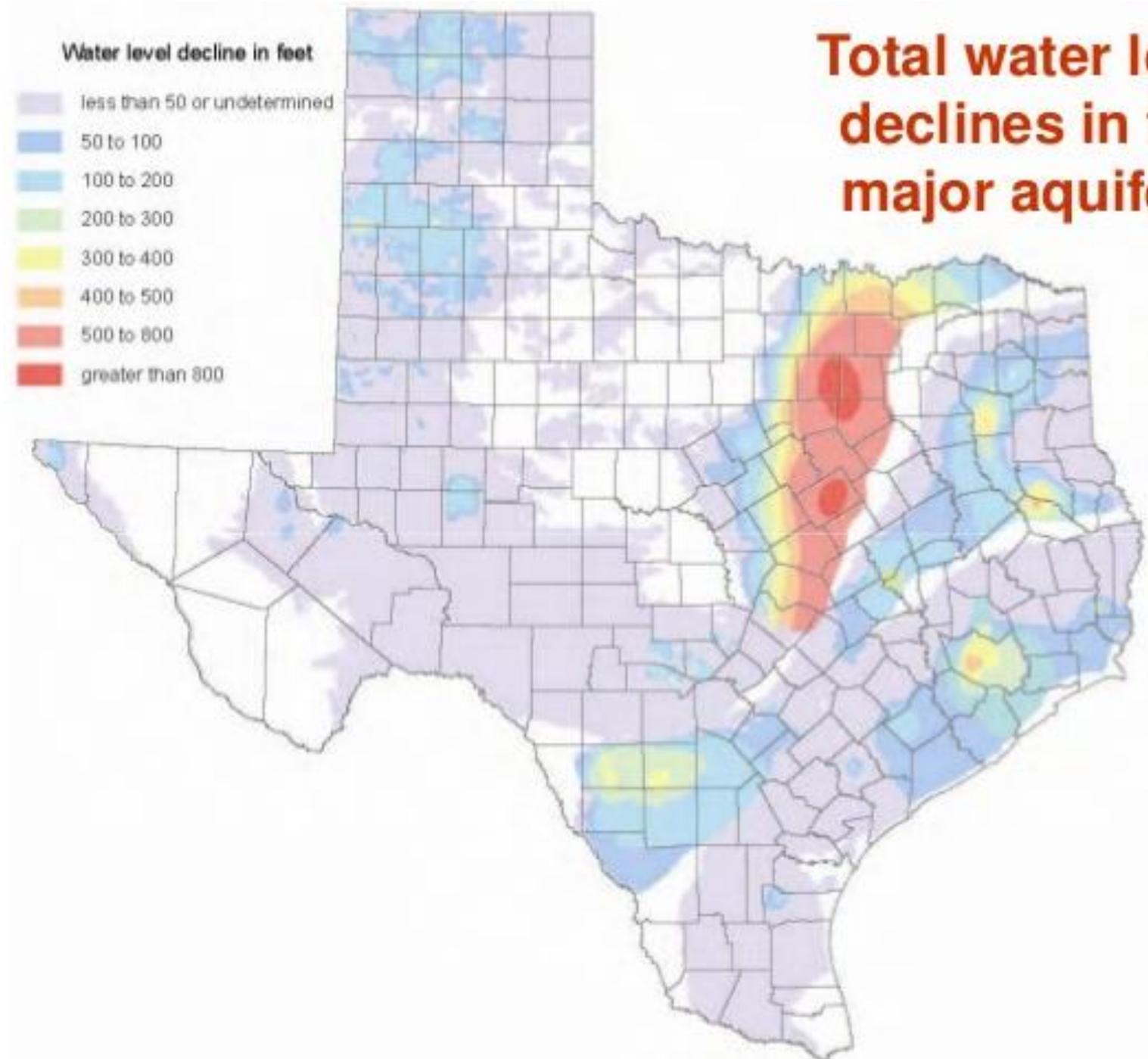


Chart courtesy of NTGCD staff

# Total water level declines in the major aquifers



# NTGCD Desired Future Conditions

## SUMMARY OF ANNUAL AVERAGE DFC BASED ON 60-YEAR DFCS

COUNTY	WOODBINE	PALUXY	TWIN MOUNTAIN	ANTLERS
<b>Collin</b>	7.7	11.8	8.8	9.5
<b>Cooke</b>	0	NA	NA	2.9
<b>Denton</b>	0.4	9.2	11.9	6.6

All Values are in feet

# NTGCD Water Level Data

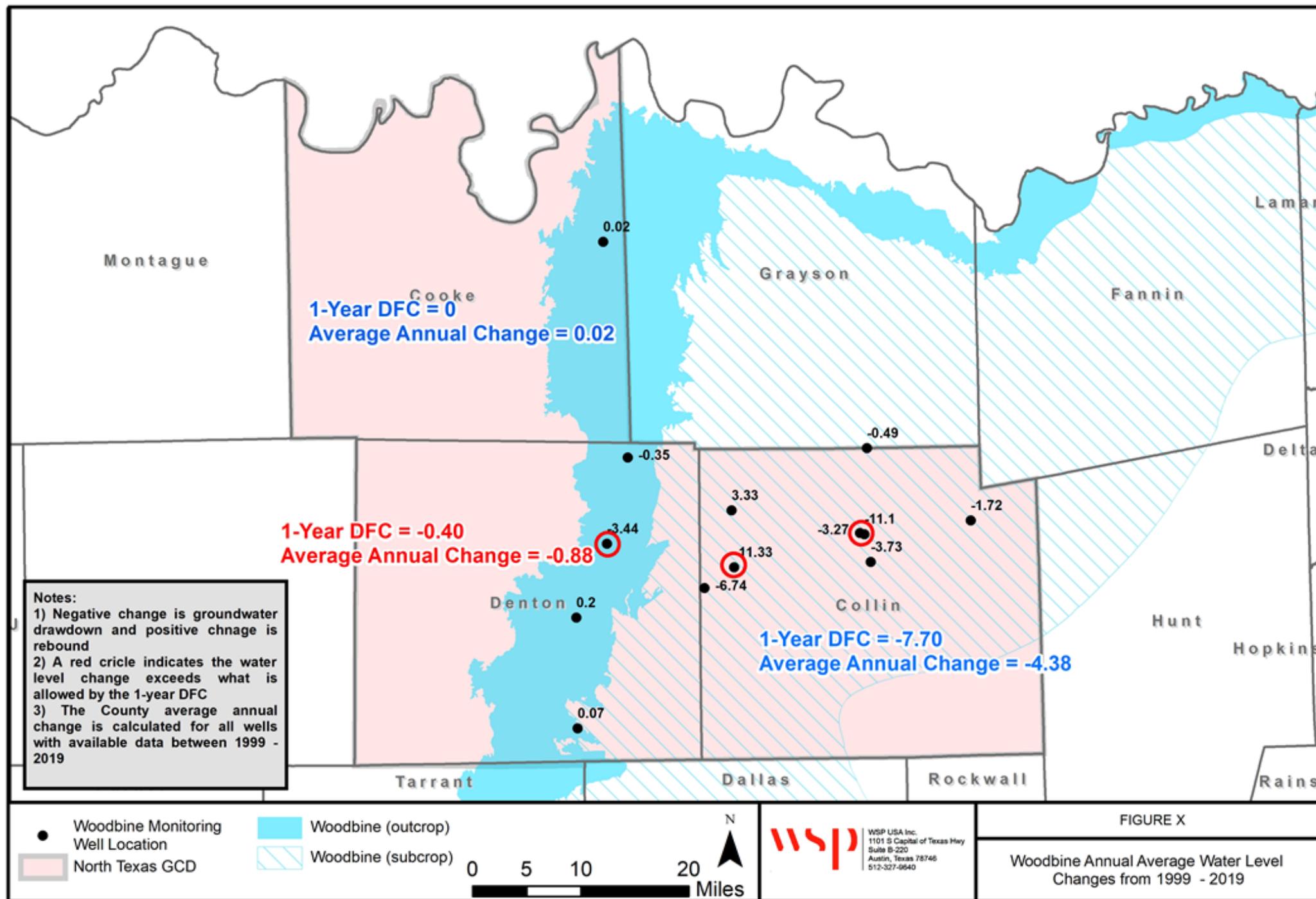
## WATER LEVEL DATA AVAILABILITY BY COUNTY AND AQUIFER

COUNTY/ AQUIFER	WOODBINE	PALUXY	TWIN MOUNTAINS	ANTLERS
<b>Collin</b>	8	1	3	No data
<b>Cooke</b>	1	NA	NA	19
<b>Denton</b>	4	7	8	1

At a glance

# NTGCD DFC Status

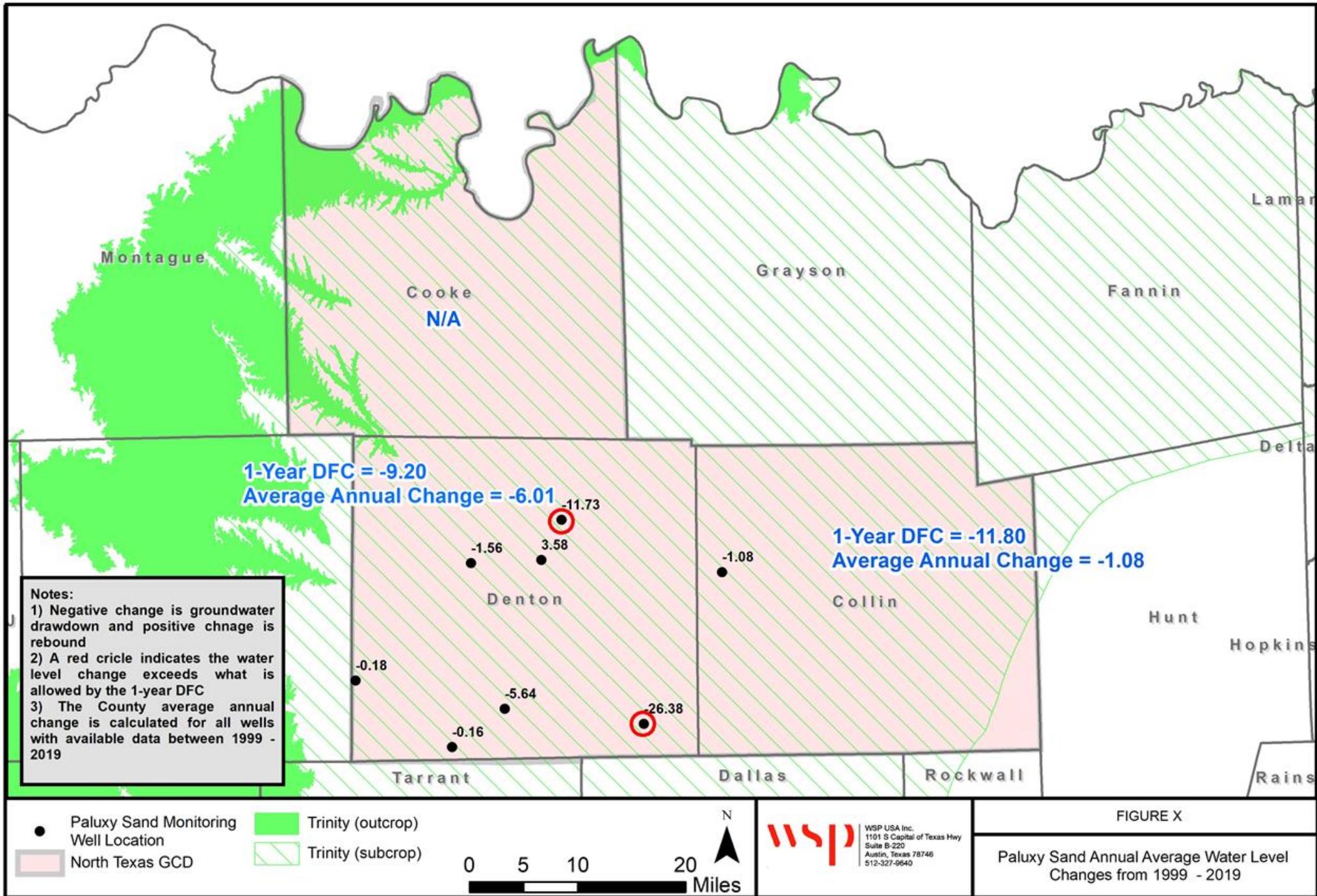
# Woodbine Aquifer



At a glance

# NTGCD DFC Status

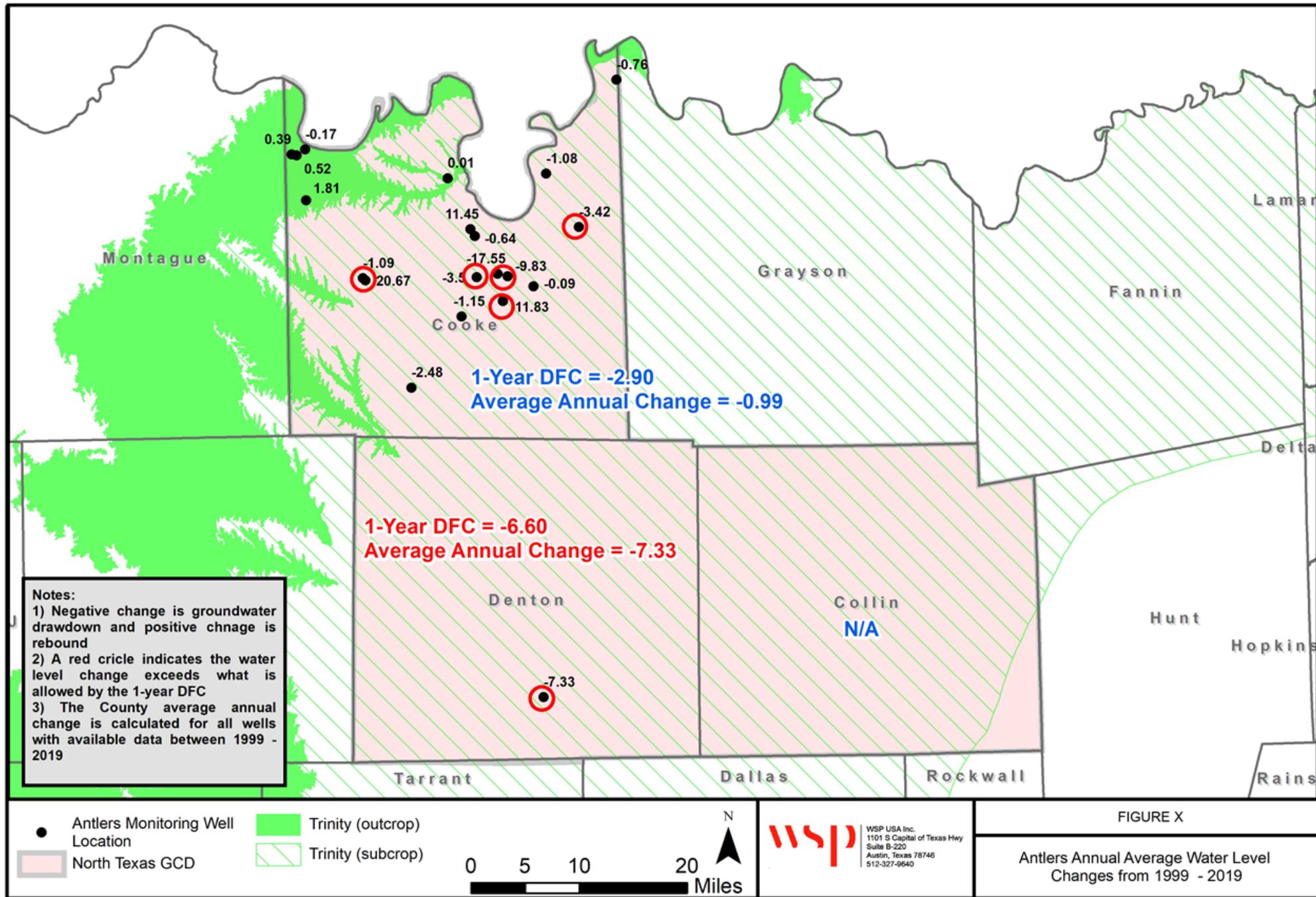
# Paluxy Aquifer



At a glance

# NTGCD DFC Status

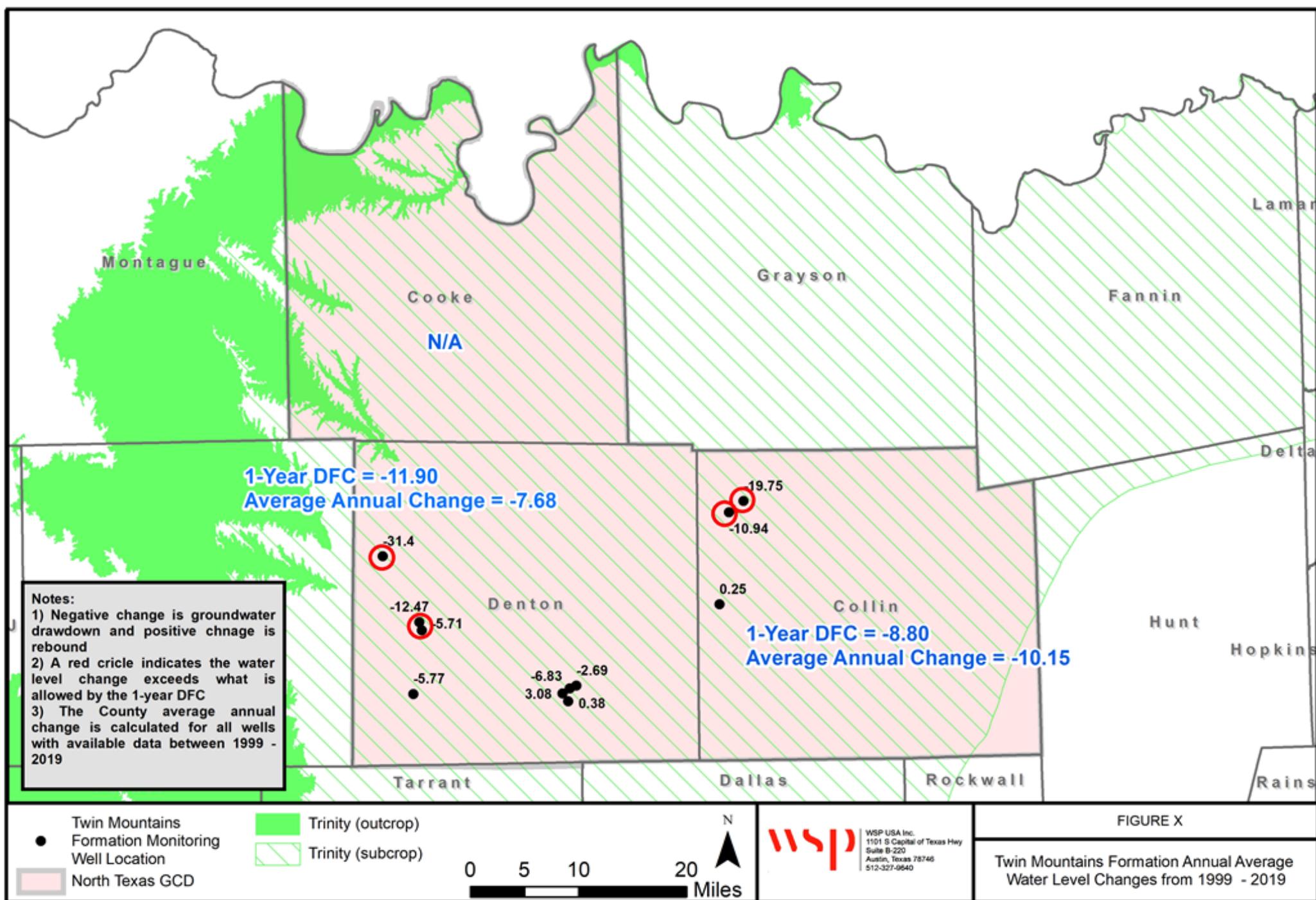
# Antlers Aquifer



At a glance

# NTGCD DFC Status

# Twin Mountain Aquifer



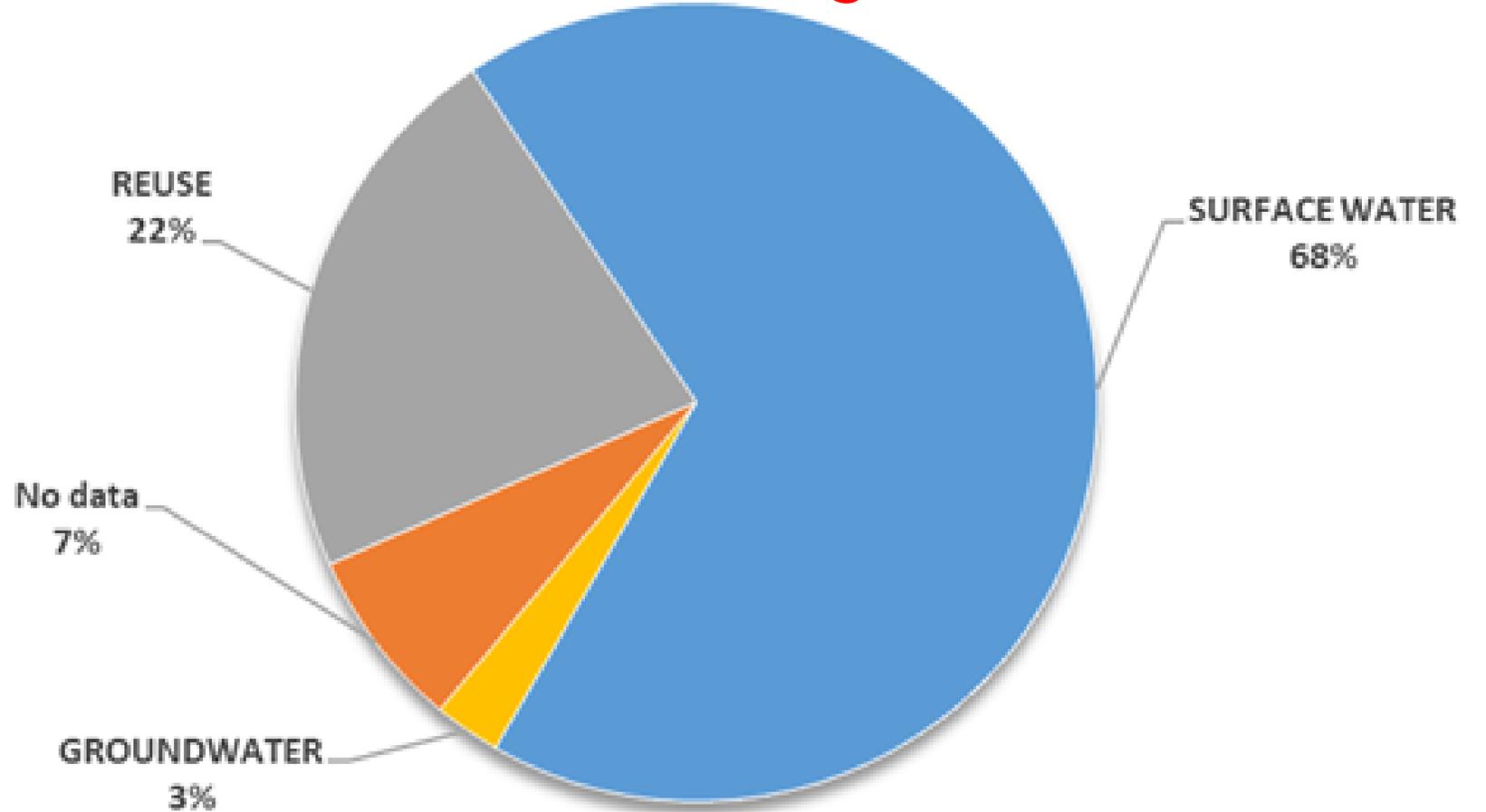
# Supply Needs & Management Strategies

- Taken from 2017 State Water Plan
- Supply Needs
  - Need = Supply is less than Future Demand*
  - Need = Current Supply - Future Demands*
- Management Strategies
  - Infrastructure strategies to meet needs*
  - 2020 and 2050 strategies*

# Water Sources for New Strategies in GMA 8

## GMA 8 WATER SOURCE TYPE

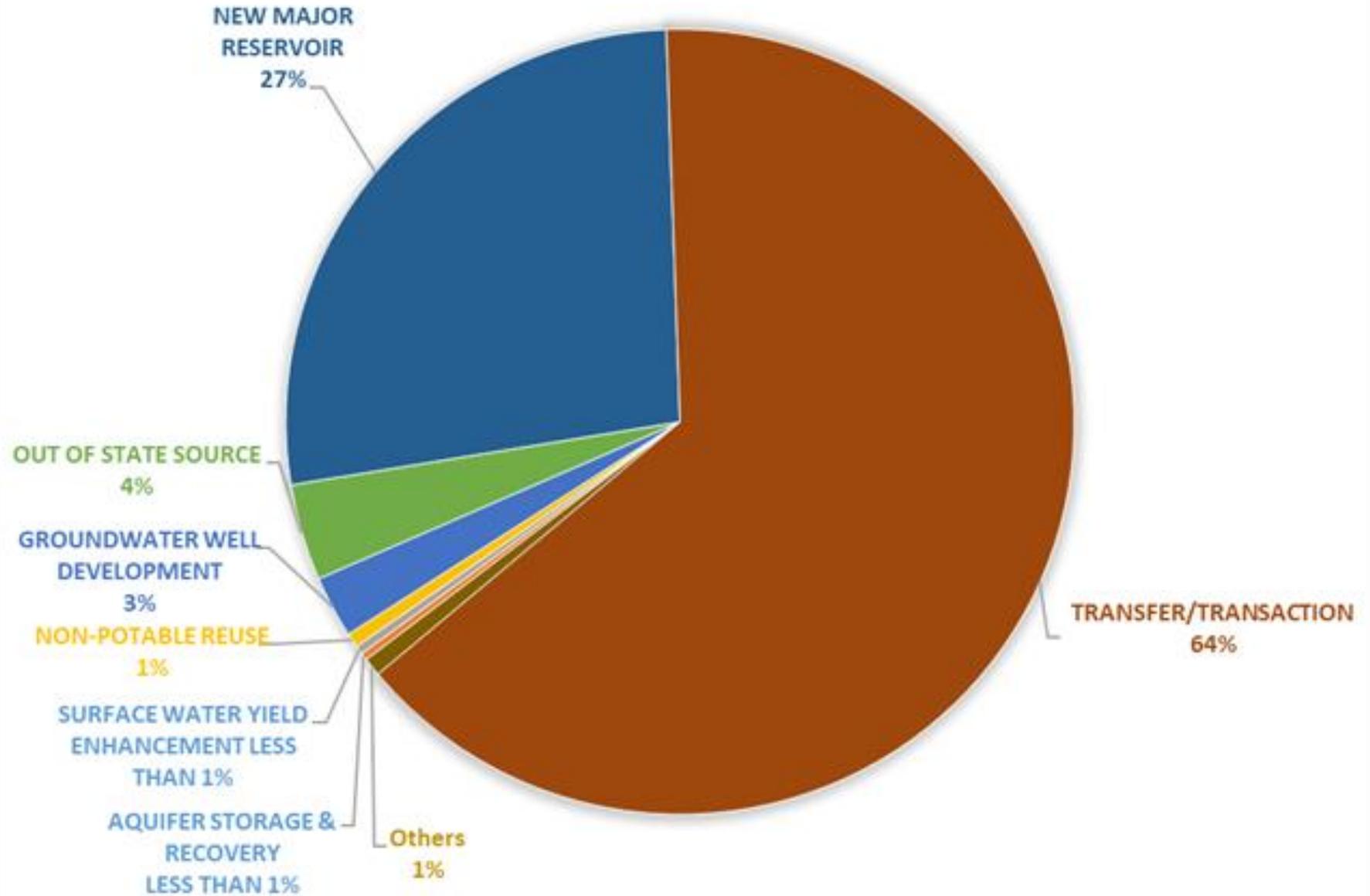
### 2020 Strategies



# Sources for New Strategies in GMA 8

## GMA 8 WATER MANAGEMENT STRATEGY SOURCE DESCRIPTION

### 2020 Strategies



At a glance

# Water Source Type with Strategy Volume (AFY) 2020.

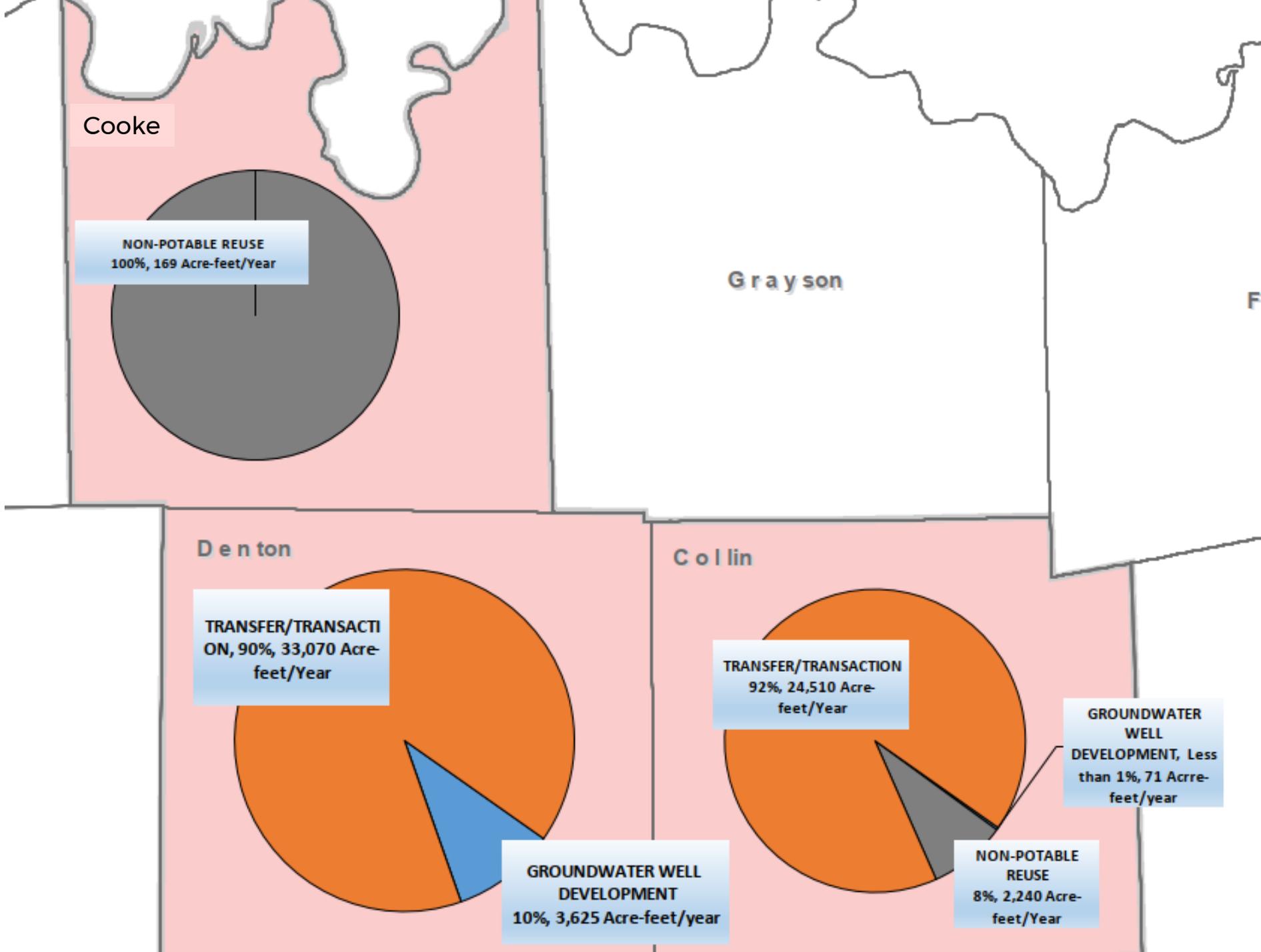
## 2017 Water Plan



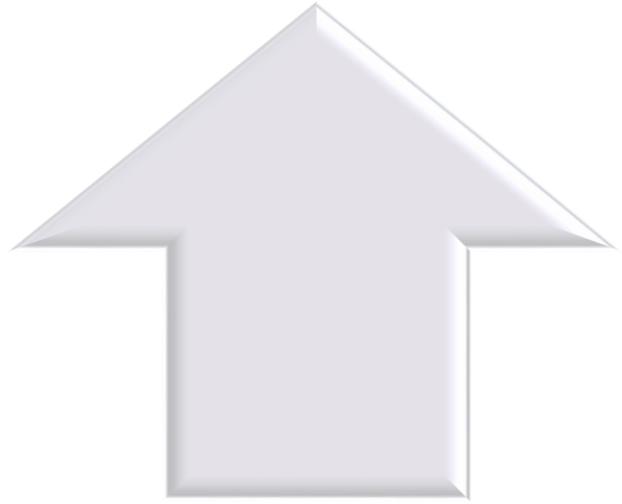
At a glance

# Water Management Strategy Source with Strategy Volume (AFY)

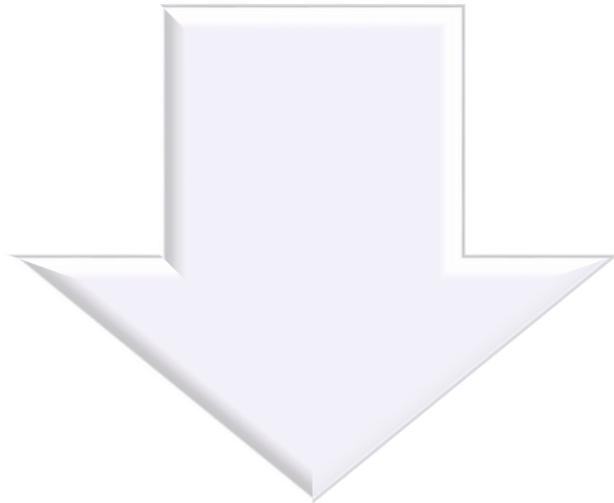
## 2017 State Water Plan



# Standard for Desired Future Conditions



Highest Practicable Level  
of Groundwater  
Production

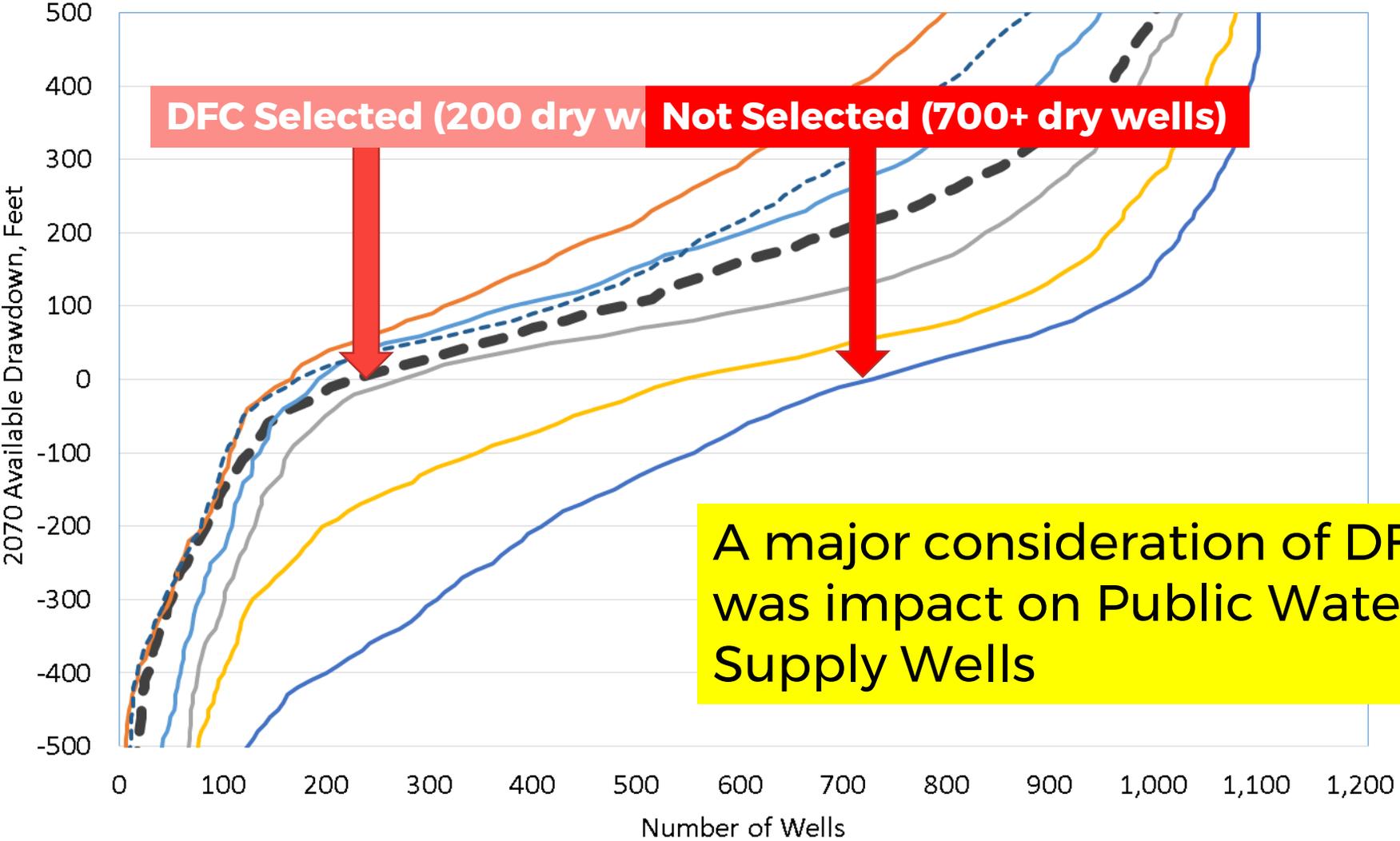


Conservation, Preservation,  
Protection, Recharging,  
and Prevention of Waste of  
Groundwater, and Control  
of Subsidence

# Private Property Rights Issues identified in the Current Explanatory Report

- 💧 Existing uses within the GCD
- 💧 Projected future uses within the GCD
- 💧 Investment-backed expectations of existing users and property owners within the GCD
- 💧 Long-term viability of groundwater resources in area
- 💧 Availability of water to all properties and ability to allocate MAG through rules after DFC adoption
- 💧 Whether immediate cutbacks would be required in setting a particular DFC or whether cutbacks, if any, would need to occur over a certain timeframe
- 💧 For outcrop areas, how the outcrop depletes rapidly in dry times, and whether drought rules or triggers based on the DFC/MAG for the outcrop could be beneficial to ensure viability of the resource during dry times
- 💧 Economic consequences to existing users (i.e., cost to drop pumps, reconfigure or drill new wells upon water table dropping, etc.). Also consider the reverse—economic consequences of less water available to protect the existing users from the economic consequences relevant to existing users—reaching a balance between these two dynamics
- 💧 Review the sustainability GAM run versus additional GAM runs that provide for more pumping from an aquifer, and how those two differ with respect to private property rights
- 💧 Focus on finding a balance, as that balance is defined by each GCD, between all of these considerations

# Public Water Supply Well Impacts



Thank you!

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