

# Brazos G Water Planning

McLennan County



WACO, TX

October 12, 2022

# Today's Discussion

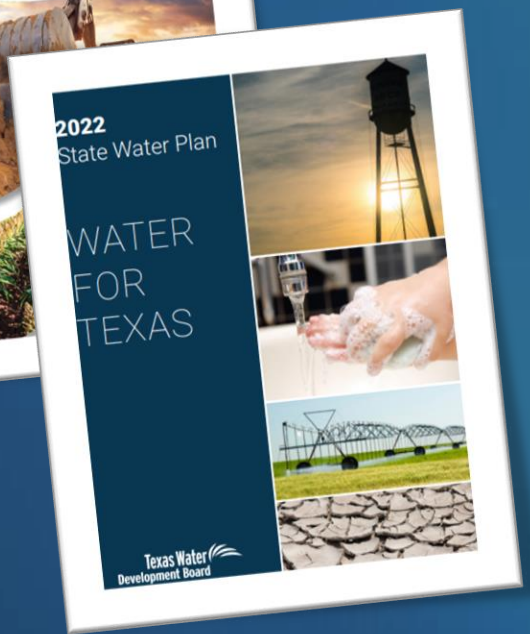
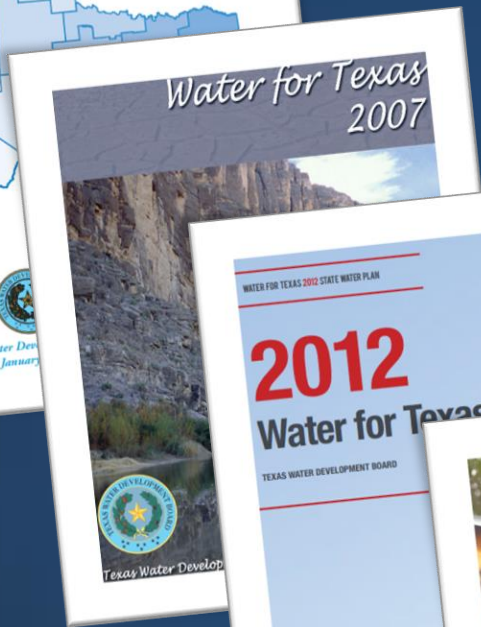
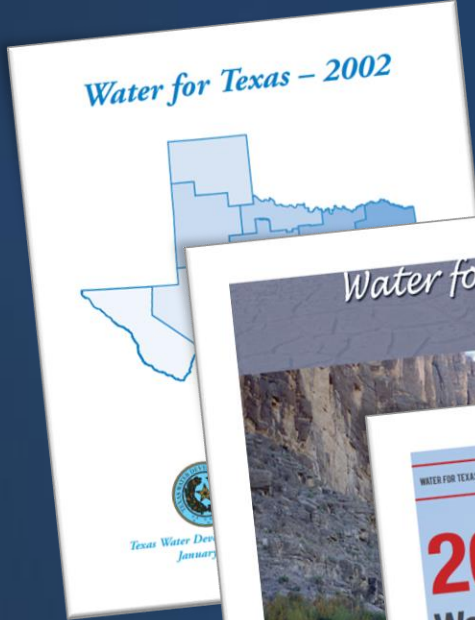
Overview of State/Regional Planning

WUGs and Population

Municipal and Non-Municipal Demand

Needs and Water Management Strategies

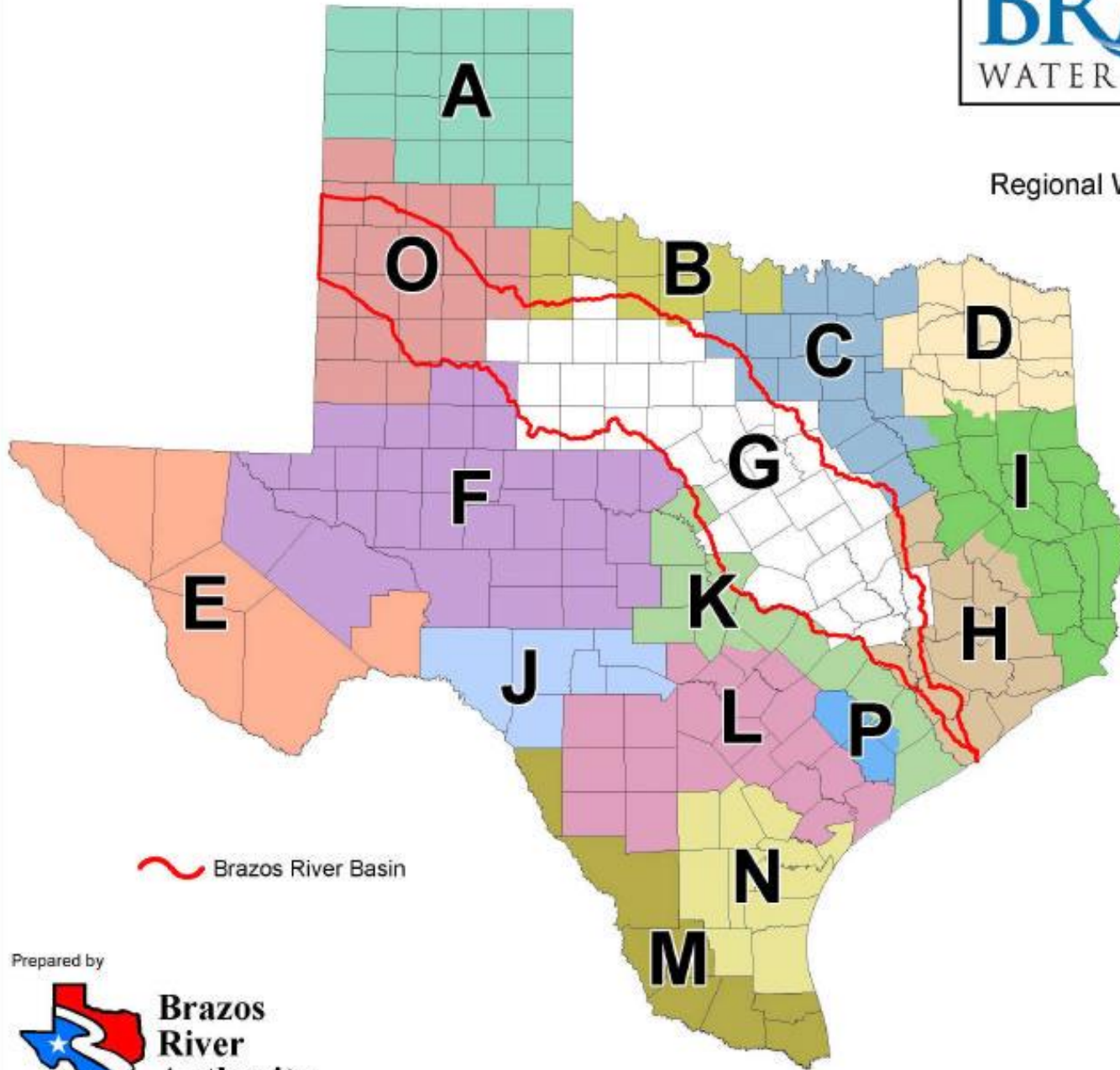
Lines of Communication




The Texas State Water Plan - "Water for Texas" - is developed every 5 years.

It is developed from the aggregation of 16 Regional Water Plans in a "Bottom Up" planning process.

## Regional Water Planning Groups of Texas



- A** Panhandle
- B** Region B
- C** Region C
- D** North East Texas
- E** Far West Texas
- F** Region F
- G** Brazos G
- H** Region H
- I** East Texas
- J** Plateau
- K** Lower Colorado
- L** South Central Texas
- M** Rio Grande
- N** Coastal Bend
- O** Llano Estacado
- P** Lavaca

 Brazos River Basin

Prepared by

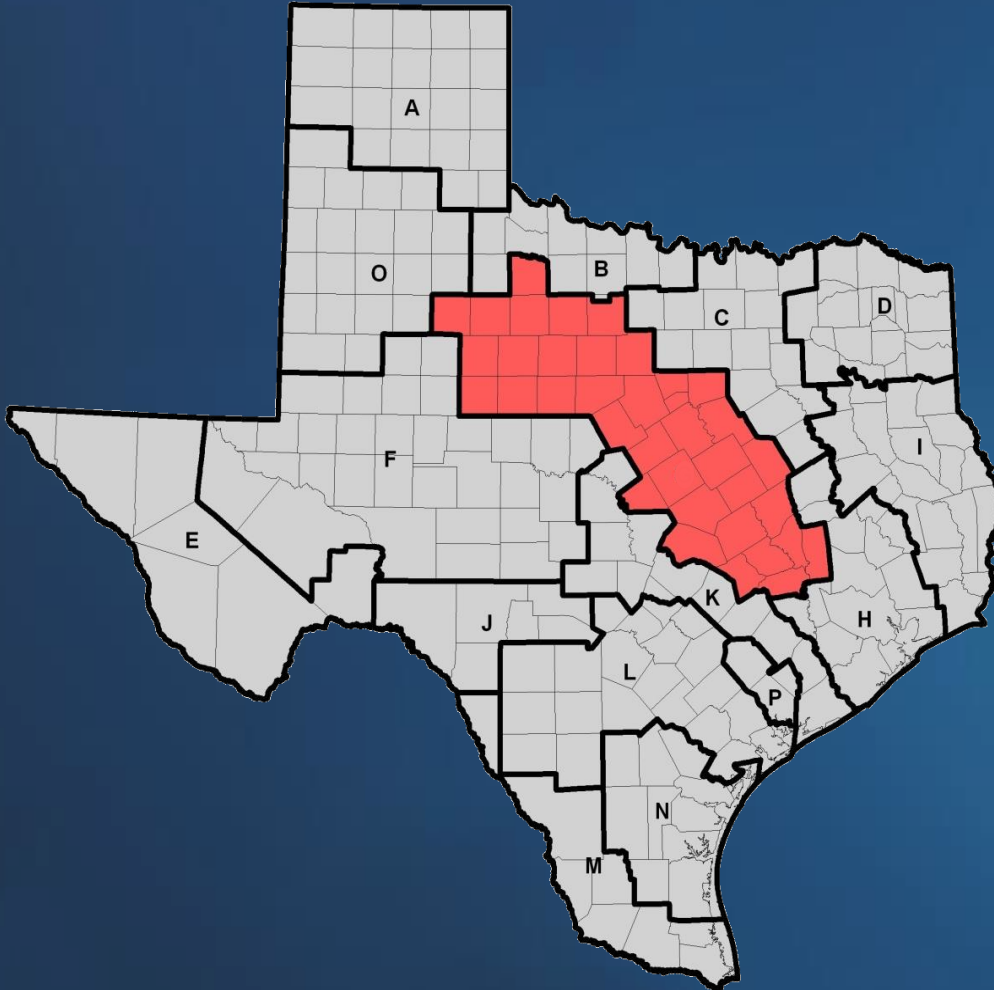


**Brazos  
River  
Authority**



# BRAZOS G

WATER PLANNING GROUP



- 37 Counties
- 527 Water Users
  - 279 Municipal Groups
  - Other Uses
    - Manufacturing (30)
    - Steam Electric (12)
    - Irrigation (36)
    - Livestock (37)
    - Mining (36)
- 97 Wholesale Providers



The regional water plans provide for the orderly development, management, and conservation of water resources, and include drought preparation and response.

The goal of the Region G planning process is to assure sufficient water will be available at a reasonable cost to ensure public health, safety and welfare, further economic development, and protect agriculture and natural resources.



## **23 Voting Members representing 12 Interest groups:**

- 1 – Public
- 1 – Industries
- 1 – Environmental
- 1 – Small Business
- 1 – Electric Generating Utilities
- 1 – River Authorities
- 1 – Water Utilities
- 2 – Agriculture
- 2 – Water Districts
- 3 – Counties
- 4 – Municipalities
- 5 – Groundwater Management Areas

## **Non-Voting Members:**

TWDB, TDA, TPWD, TSSWCB and adjacent Regional Water Planning Groups



# Acronyms

**W**ater

**U**ser

**G**roup

# Acronyms

**G**allons

**P**er

**C**apita

**D**aily

# McLennan County Municipal WUGs and Population Projections

# Establishment of Municipal Water User Groups (WUGs)

## Past rounds

- Municipal boundaries with:
  - Population criteria for city-owned water utilities
  - Volumetric criteria for other water utilities

## Starting with 2021 Plan and Present 2026 Planning

- Utility-based planning
- Delineated by water provider service areas

Population and municipal water demand projections will be developed for these WUGs

# Municipal WUG Identification Criteria

Retail public utilities owned by a political subdivision providing more than 100 acre-feet per year (AFY) of water for municipal use;

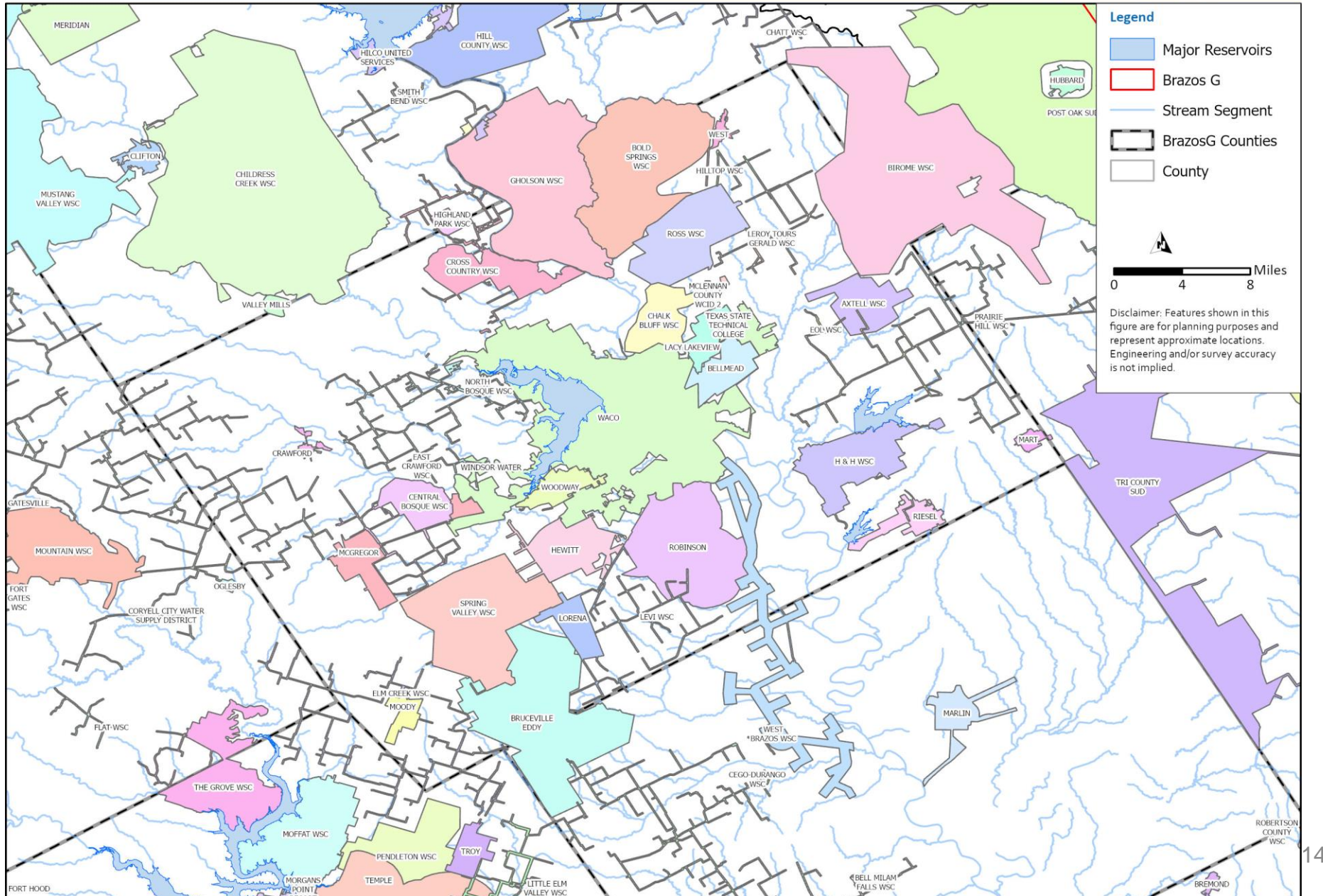
Privately-owned utilities that request inclusion as an individual WUG, provide more than 100-AFY for municipal use for each owned water system, and are approved for inclusion as an individual WUG by the RWPG;

Water systems of state or federal-owned facilities that request inclusion as an individual WUG, provide more than 100-AFY for municipal use, and are approved for inclusion as an individual WUG by the RWPG;

Collective reporting units (CRU), or groups of retail public utilities that have a common association and are requested by the RWPG.

County-Other – Aggregation by county of water providers smaller than the above-described thresholds.

# Total of 42 Municipal Water User Groups (WUGs) in Brazos G



# McLennan County Municipal WUG Summary

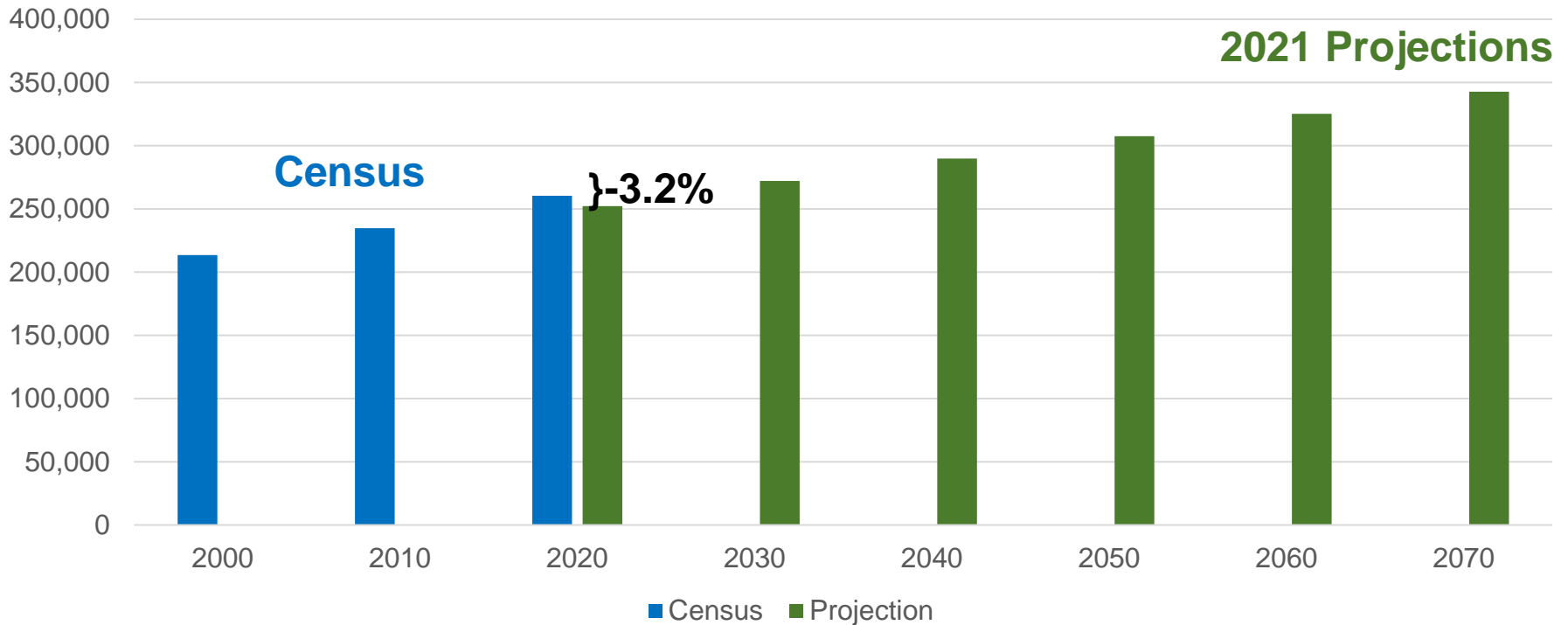
Plan	2021	2026
Municipal WUGs	40	42

## **New WUGs:**

Childress Creek WSC & Hog Creek WSC

Determined by whether or not the utility used more than 100 ac-ft in the 2015-2019 period per 31 TAC 357.10(43).

# McLennan County Population – Census and 2021 Projections



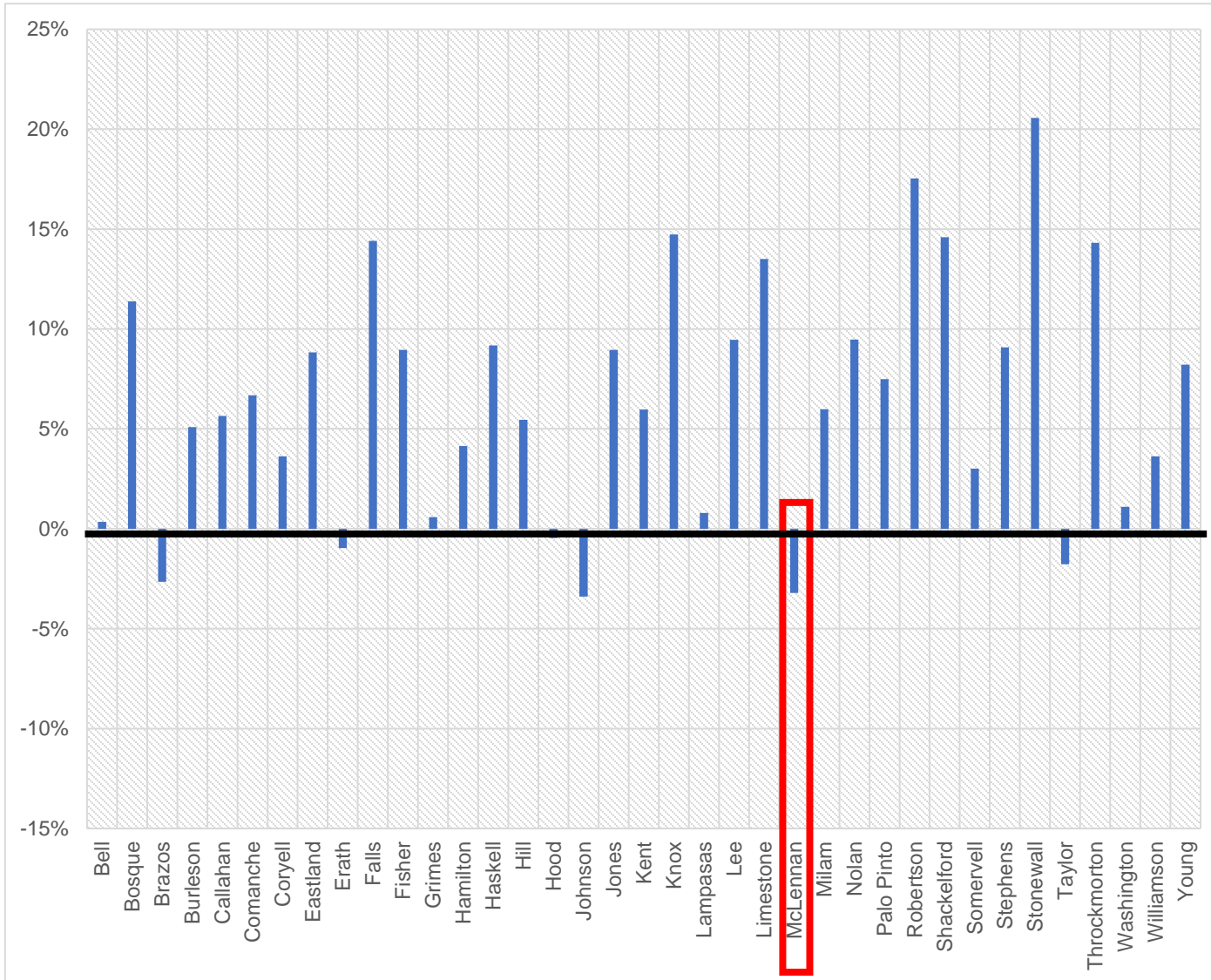

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	<b>2020</b>
<b>Census</b>	260,579
<b>Projection</b>	252,211
<b>Difference</b>	-8,368
<b>% Difference</b>	-3.2%

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# Maximum % Difference between 2021 Brazos G Plan's County Population Projection for 2020 and Census 2020

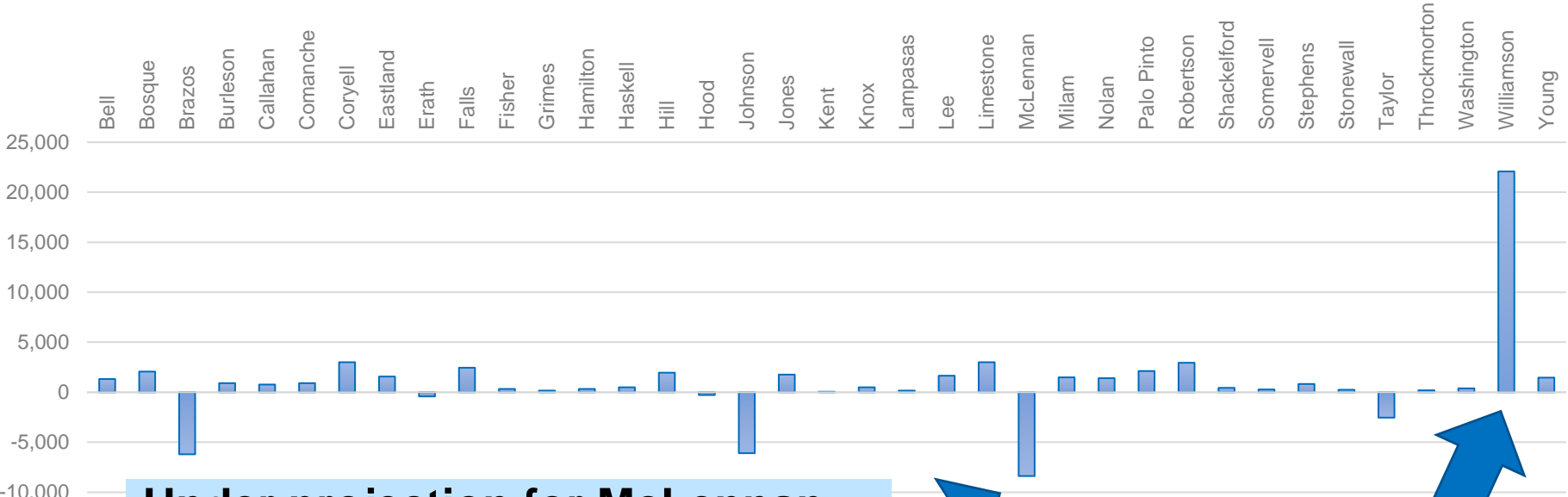


**78% of projections within 10% of Census**

**Eight (8) counties over-projected >10%**

- Bosque
- Falls
- Knox
- Limestone
- Robertson
- Shackelford
- Stonewall
- Throckmorton

# Magnitude of Difference between 2021 Brazos G Plan's County Population Projection for 2020 and Census 2020



**Under projection for McLennan County**  
**Projected vs. Census**  
 ~252K                      ~261K

**Largest over projection was for Williamson County**  
**Projected vs. Census**  
 ~631K                      ~609K

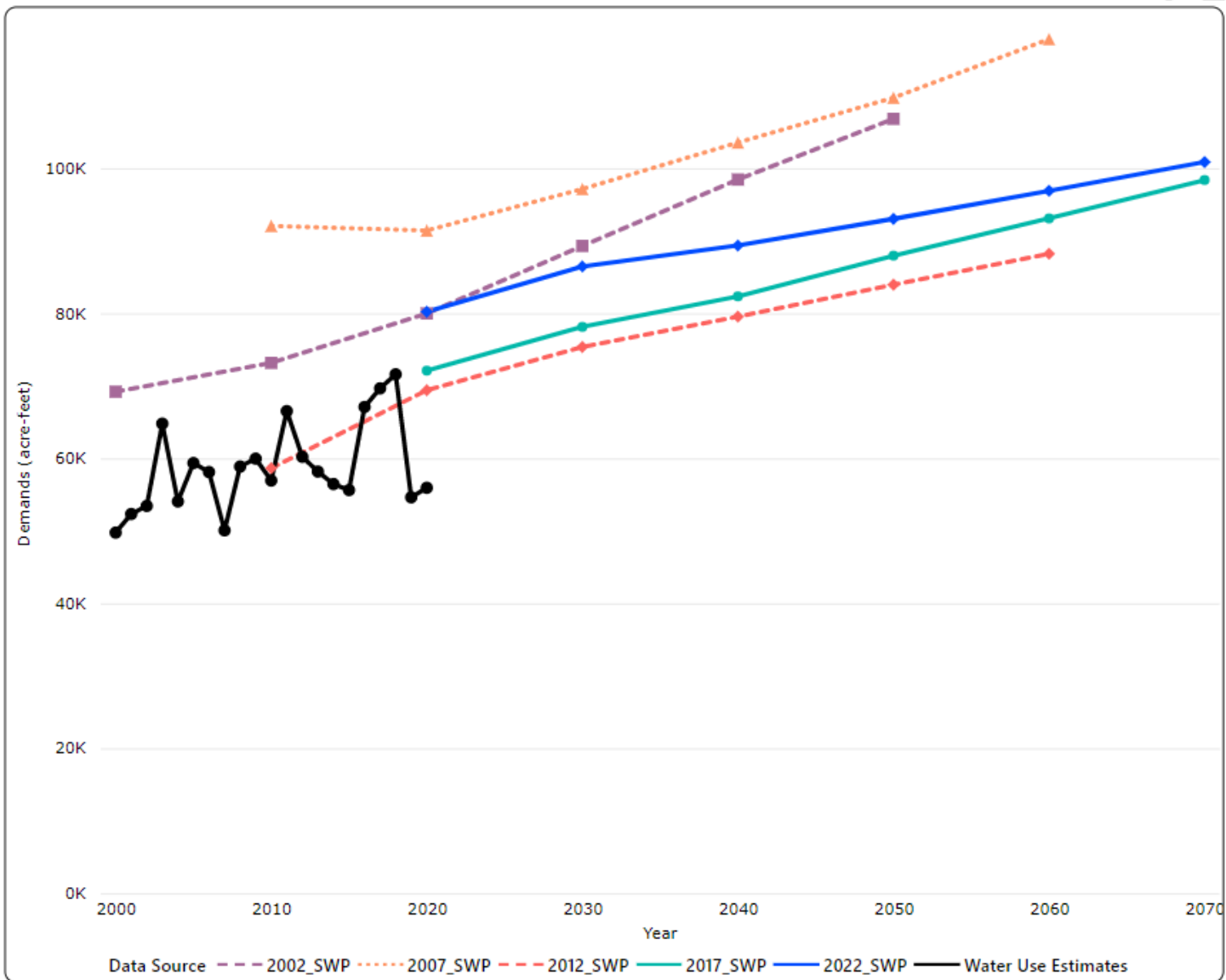
# What's the Takeaway?

We can expect that for this planning cycle the draft population projections will be modified to more align with the 2020 census and observed growth rates

- Small commensurate decreases in population projections relative to last plan for many counties
- Likely increases for McLennan County and other areas with observed growth

# McLennan County Municipal Water Demand Projections

# Historical McLennan County Municipal Water Demand with projections from previous Plans



# How **Water Demand** is projected.

Baseline  
GPCD  
(with plumbing  
savings)

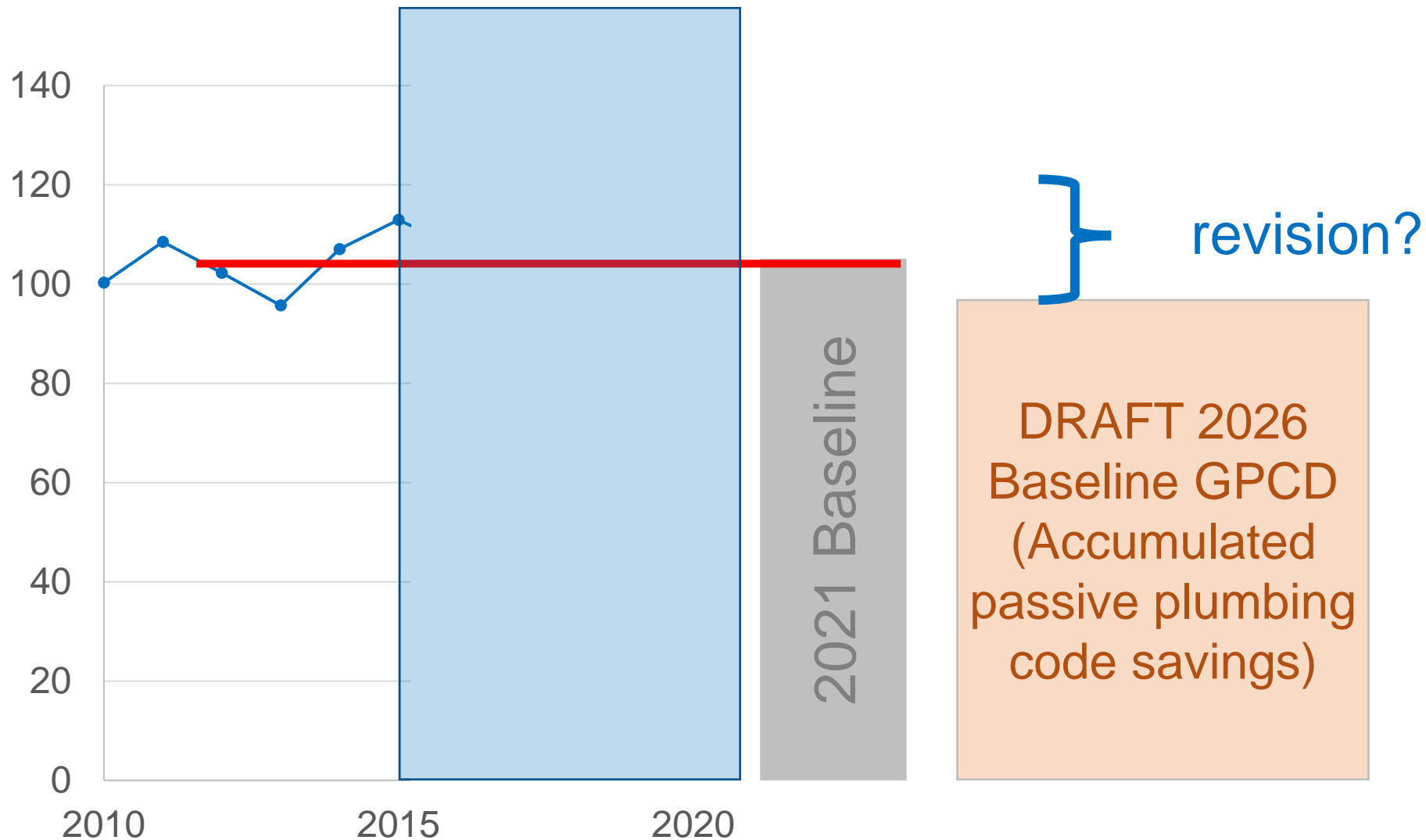
X

Projected  
Population

=

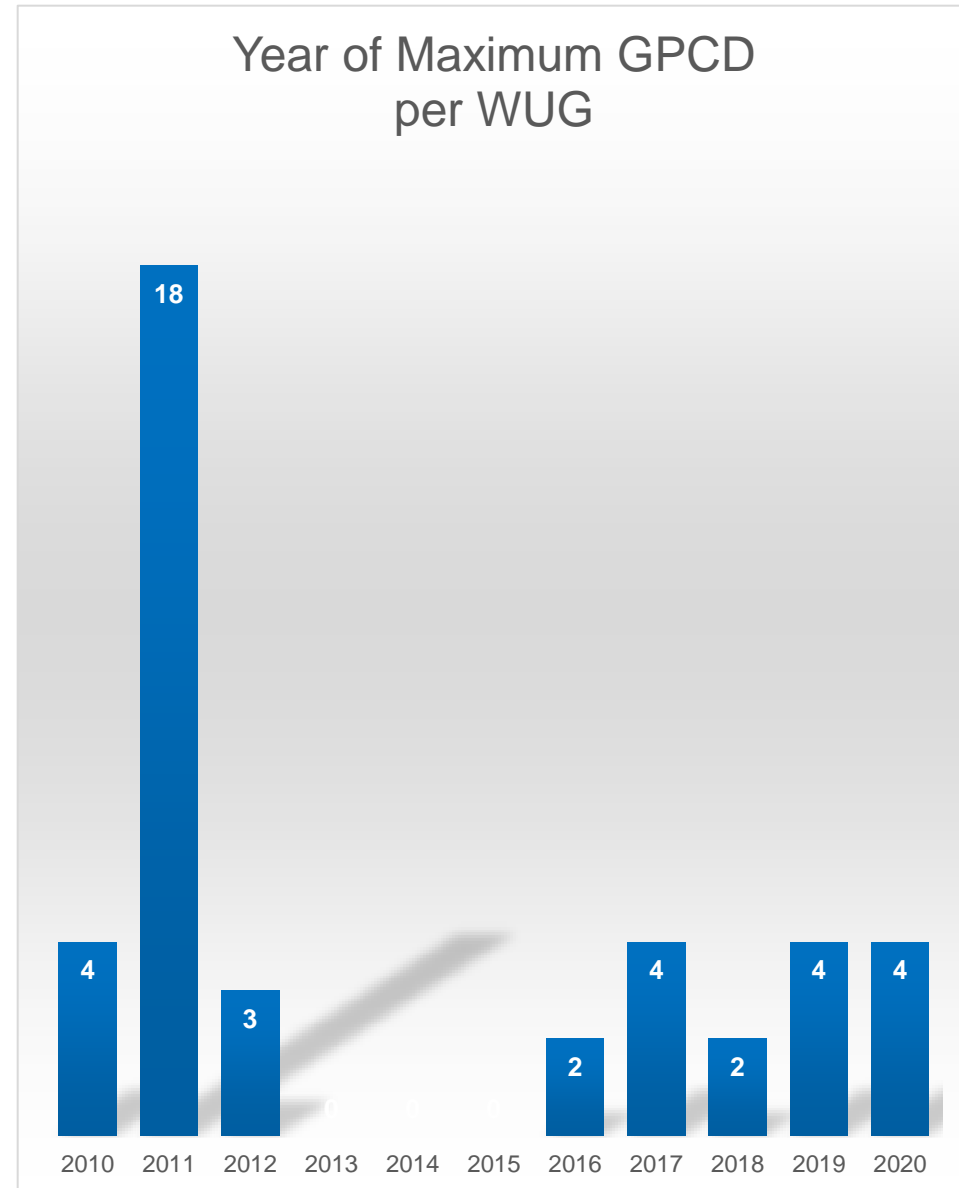
**Municipal  
Water  
Demand**

# Baseline GPCD (with plumbing savings)



# Draft 2026 McLennan County GPCD

- 44% of Municipal WUGs have a Draft Baseline GPCD > 140
  - 54% in 2021 Plan.
- Draft Baseline GPCDs reduced by an average of 7% from 2021 RWP
  - Due to accrued plumbing savings.
- Maximums most often occurred in 2011
- Maximum per capita usage does occur in other years over the last decade for certain WUGs





# What's the Takeaway?

As projections are rolled out by TWDB, we will work with WUGs to:

- Ensure accuracy of WUS data
- Ensure GPCDs are representative over appropriate period for regional planning objectives

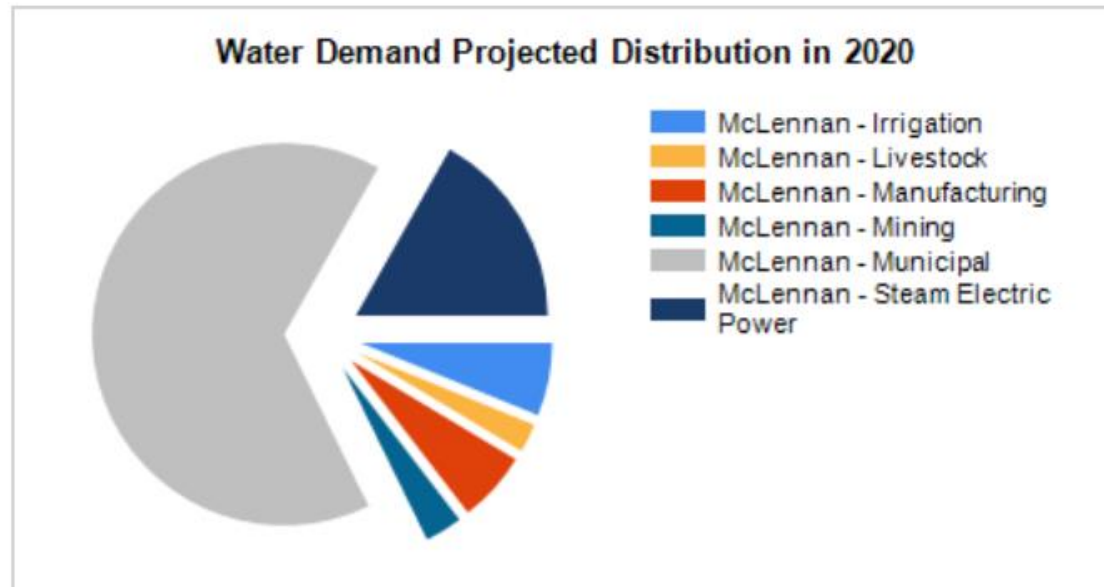
# Draft Non-Municipal Projections

## 2021 Regional Water Plan

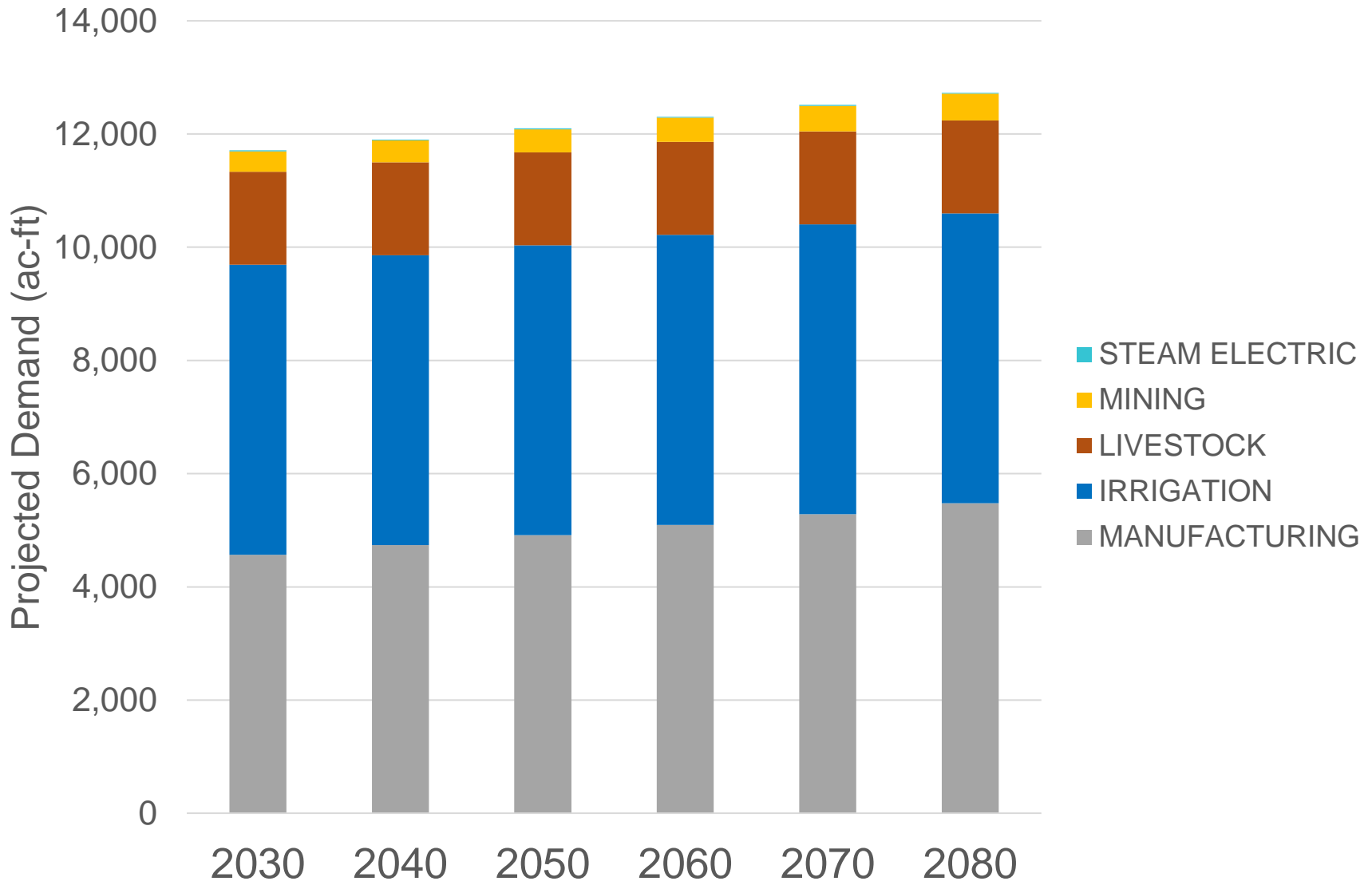
### Water Demand Projections by County for 2020-2070 in Acre-Feet

#### Total Water Demand for McLennan County

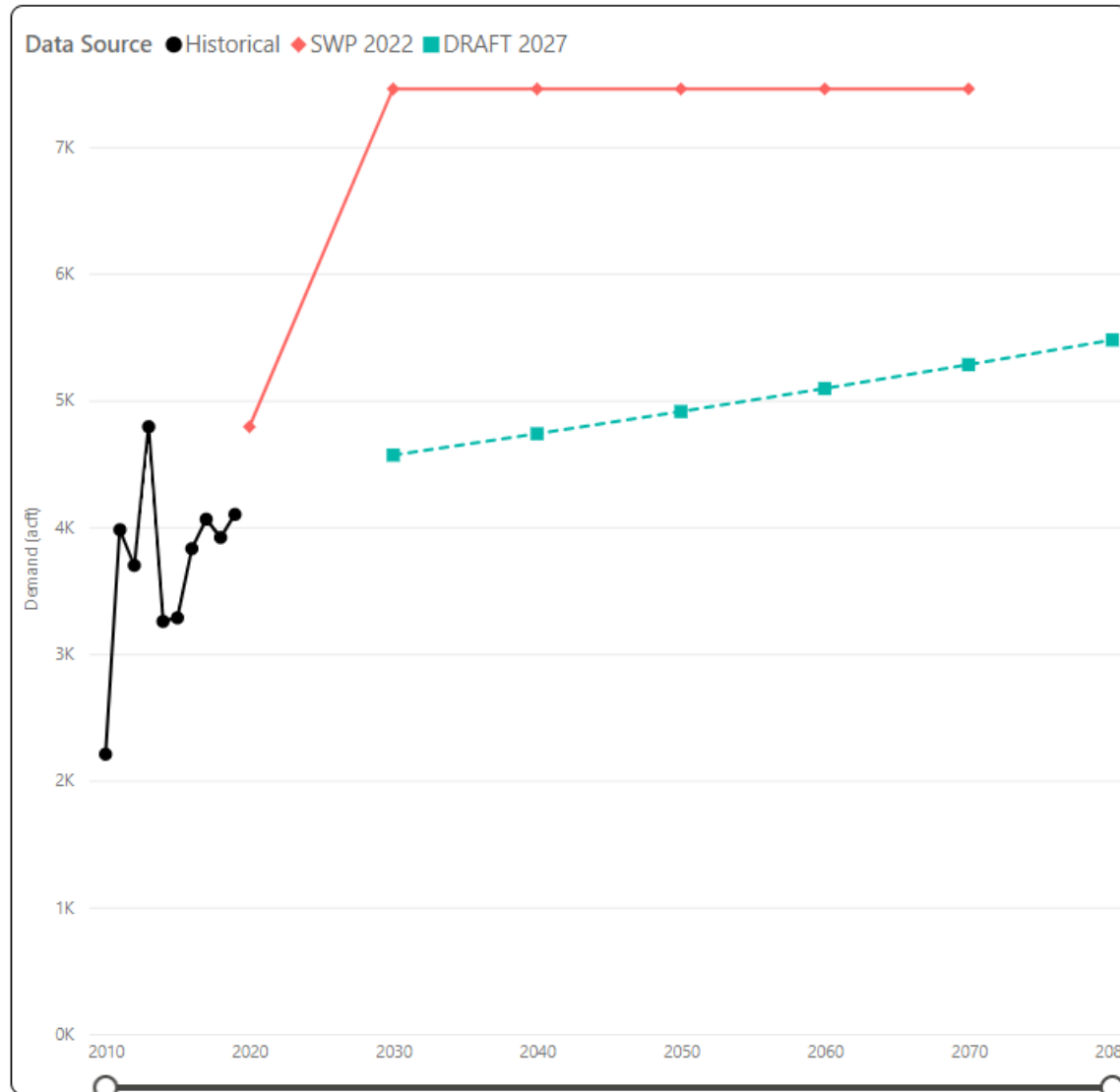
County	Category	2020	2030	2040	2050	2060	2070
McLennan	Irrigation	4,962	4,962	4,962	4,962	4,962	4,962
McLennan	Livestock	1,953	1,953	1,953	1,953	1,953	1,953
McLennan	Manufacturing	4,792	7,458	7,458	7,458	7,458	7,458
McLennan	Mining	2,538	3,000	3,060	3,508	3,832	4,216
McLennan	Municipal	52,445	55,568	58,396	61,628	65,176	68,753
McLennan	Steam Electric Power	13,520	13,520	13,520	13,520	13,520	13,520
<b>McLennan County Total</b>		<b>80,210</b>	<b>86,461</b>	<b>89,349</b>	<b>93,029</b>	<b>96,901</b>	<b>100,862</b>



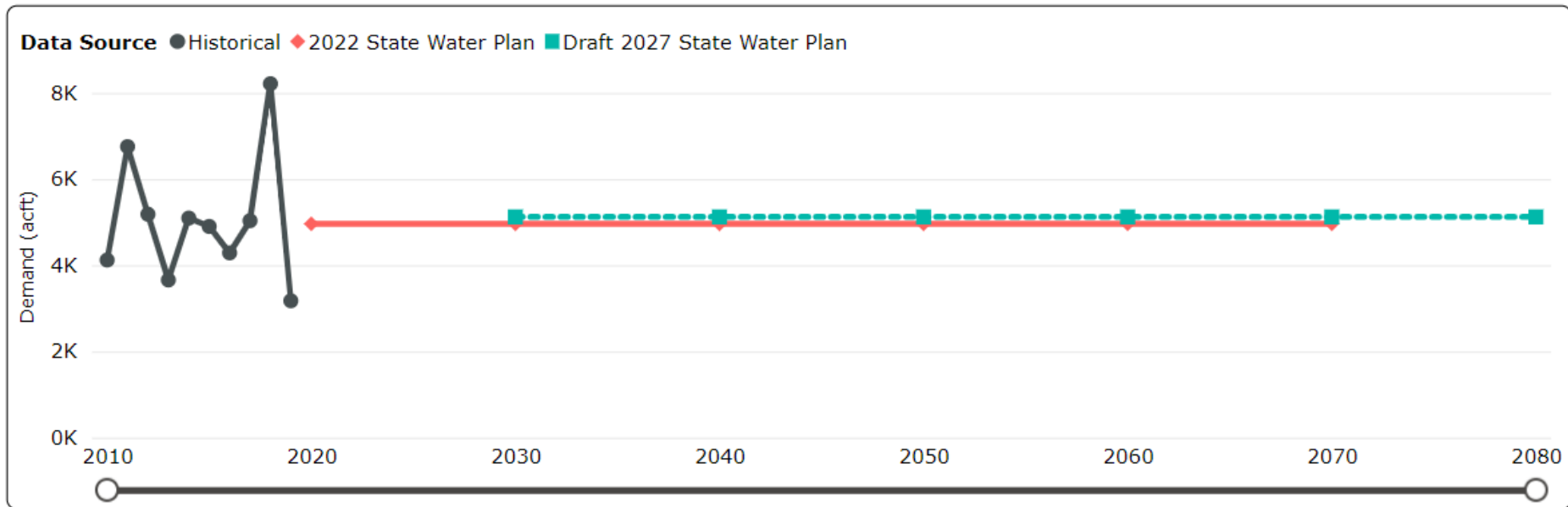
# Composition of Draft 2026 Projected Non-Municipal Demands for McLennan County



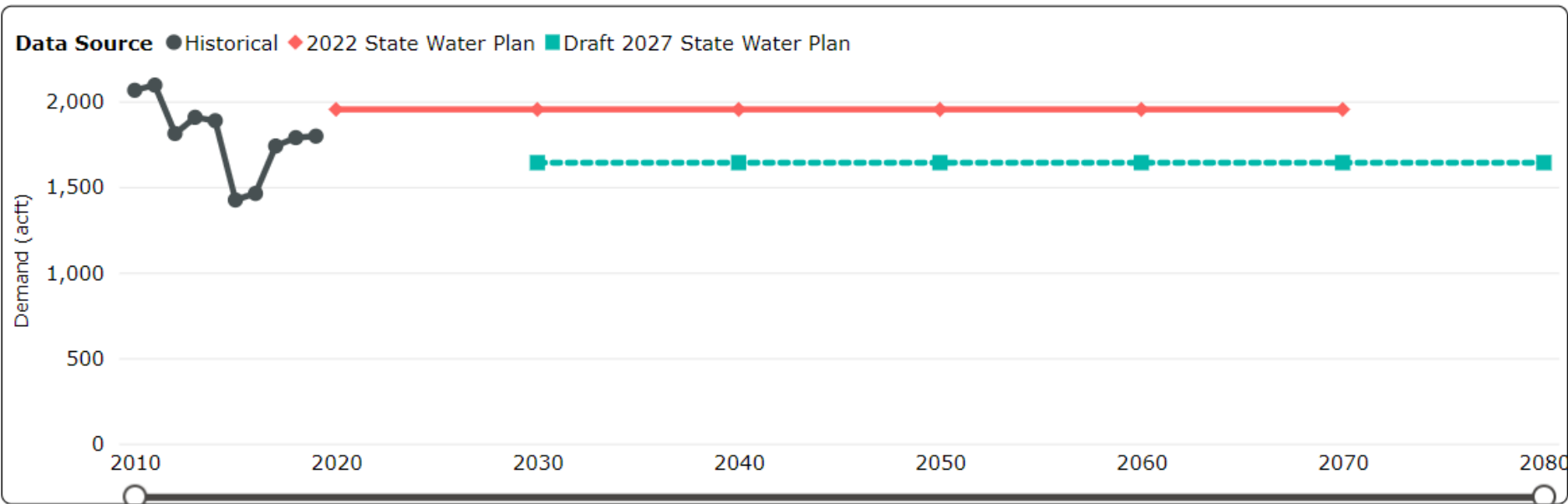
# Historical and Projected Manufacturing Demand for McLennan County



# Historical and Projected Irrigation Demand for McLennan County

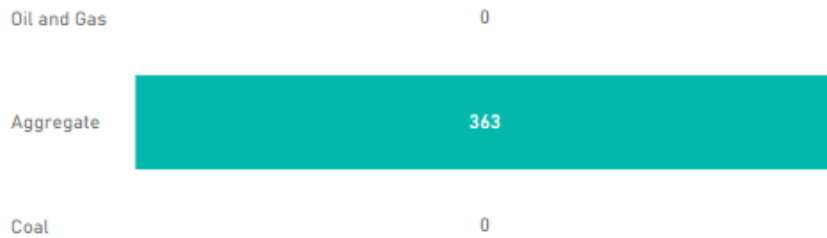


# Historical and Projected Livestock Demand for McLennan County

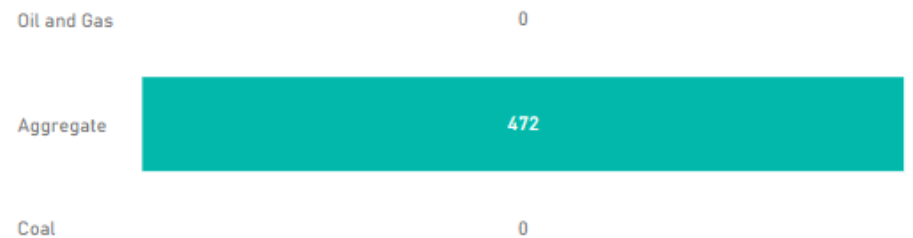


# Historical and Projected Mining Demand for McLennan County

### 2030 Mining Water Use by Type (ACFT)

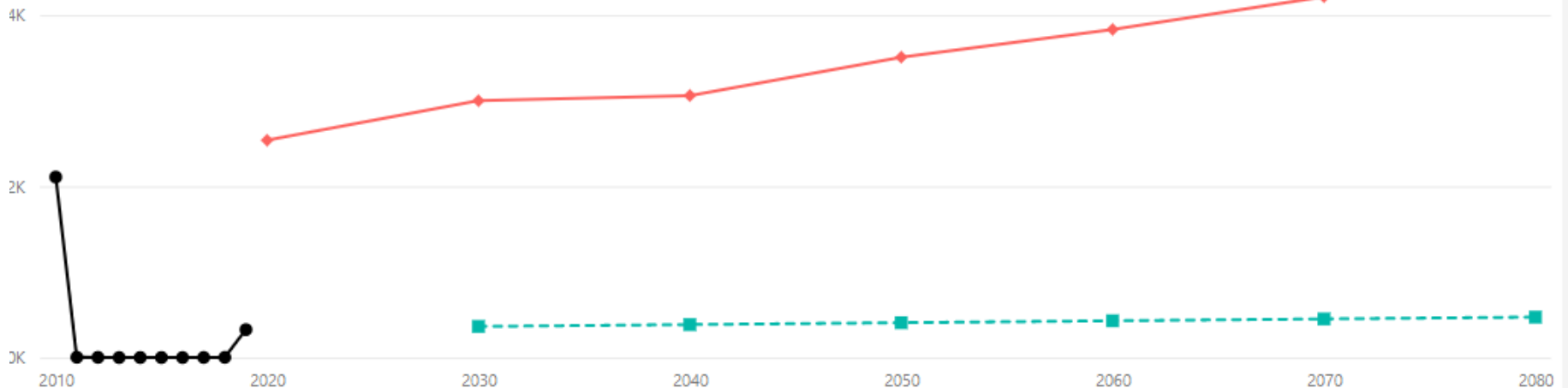


### 2080 Mining Water Use by Type (ACFT)



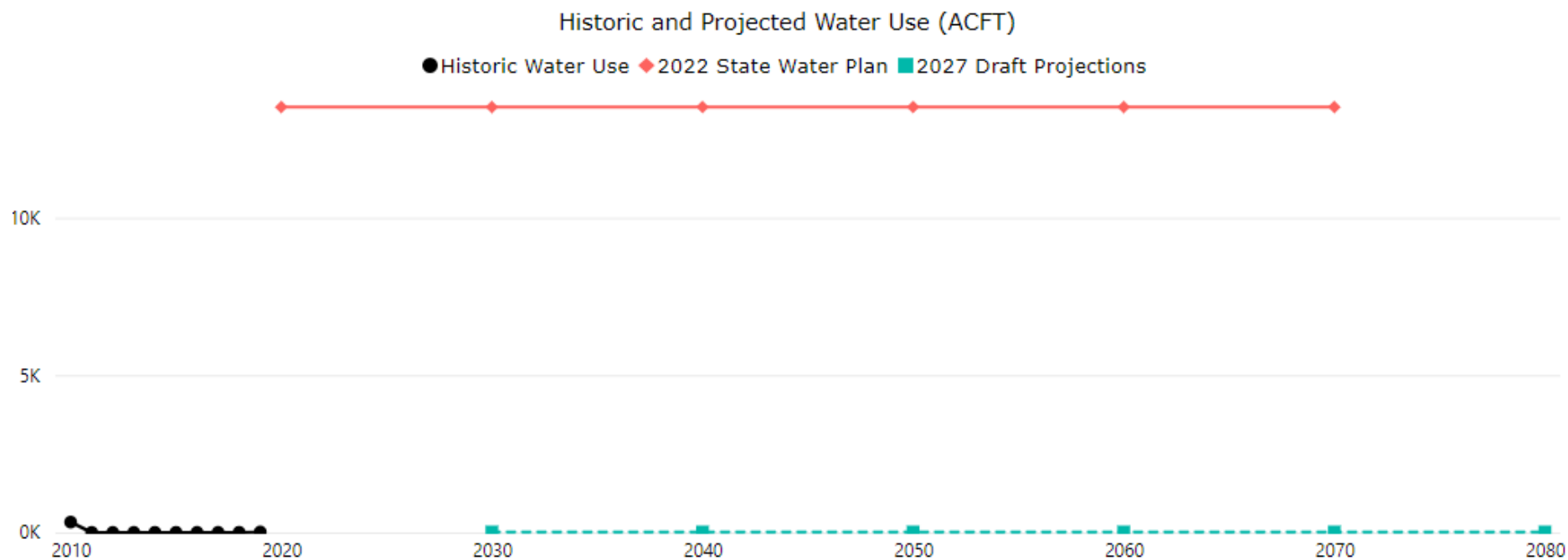
### Historical and Projected Mining Water Use (ACFT)

Data Set ● Historic Water Use ◆ 2022 State Water Plan ■ 2027 Draft Projections





# Historical and Projected Steam-Electric Power Generation Demand for McLennan County



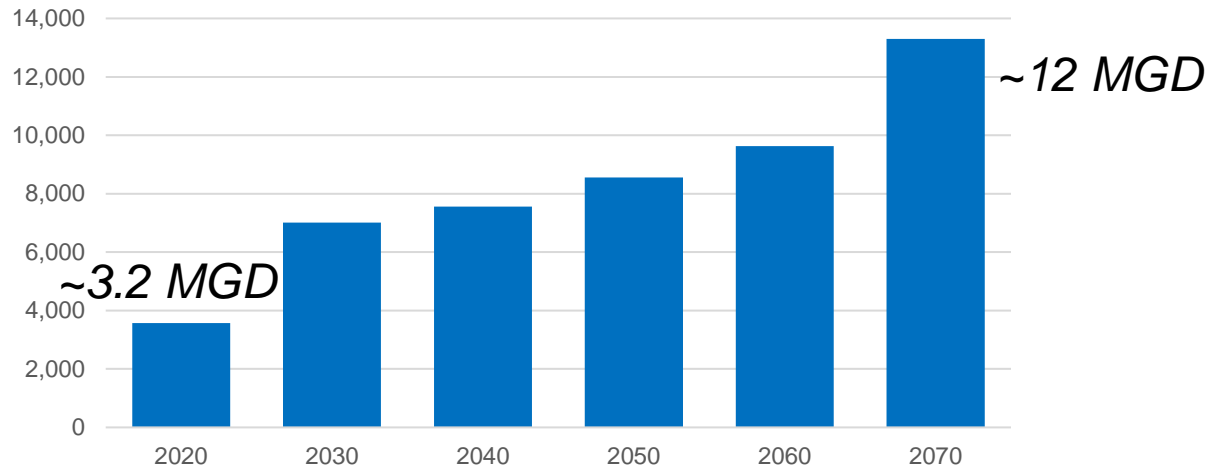
# What's the Takeaway?

We are investigating the application of the non-municipal projection methodologies to each county, and reaching out to representatives of non-municipal water users to:

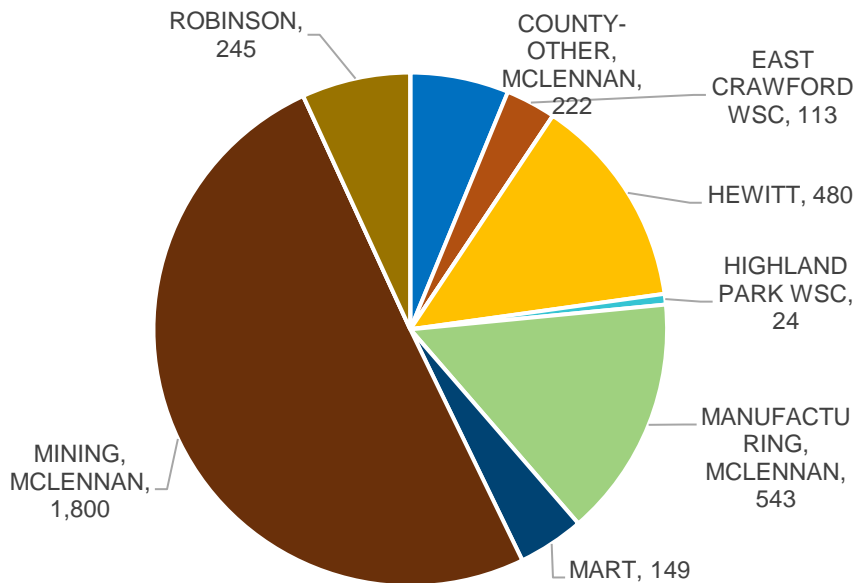
- Ensure accuracy of data
- Ensure methods employed are representative over appropriate period for regional planning objectives

# Identified Needs and Recommended Strategies for McLennan County from the 2021 Brazos G Plan

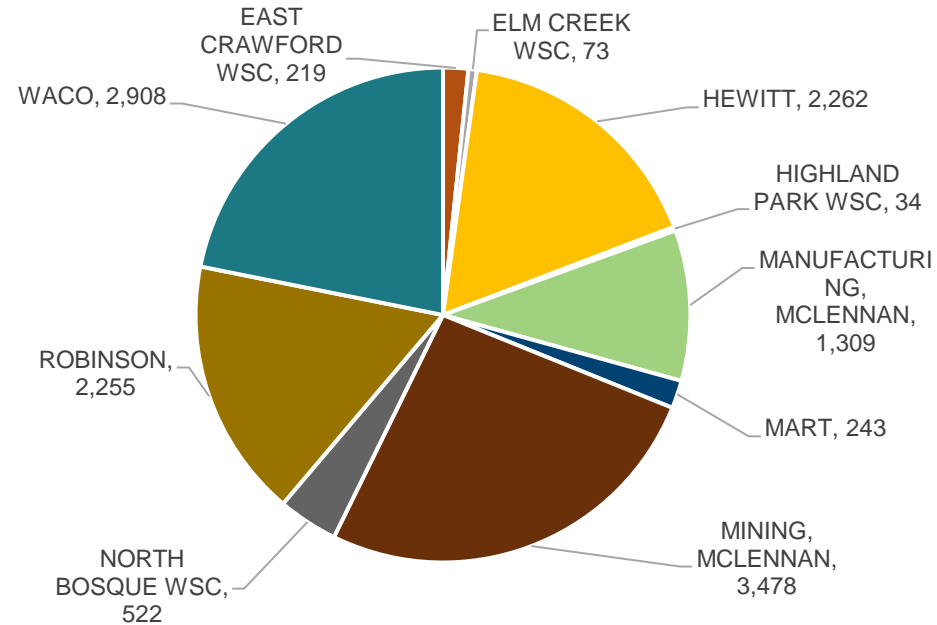
## McLennan County Projected Needs from 2021 Brazos G Plan



**3,576 ac-ft in 2020**



**13,303 ac-ft in 2070**

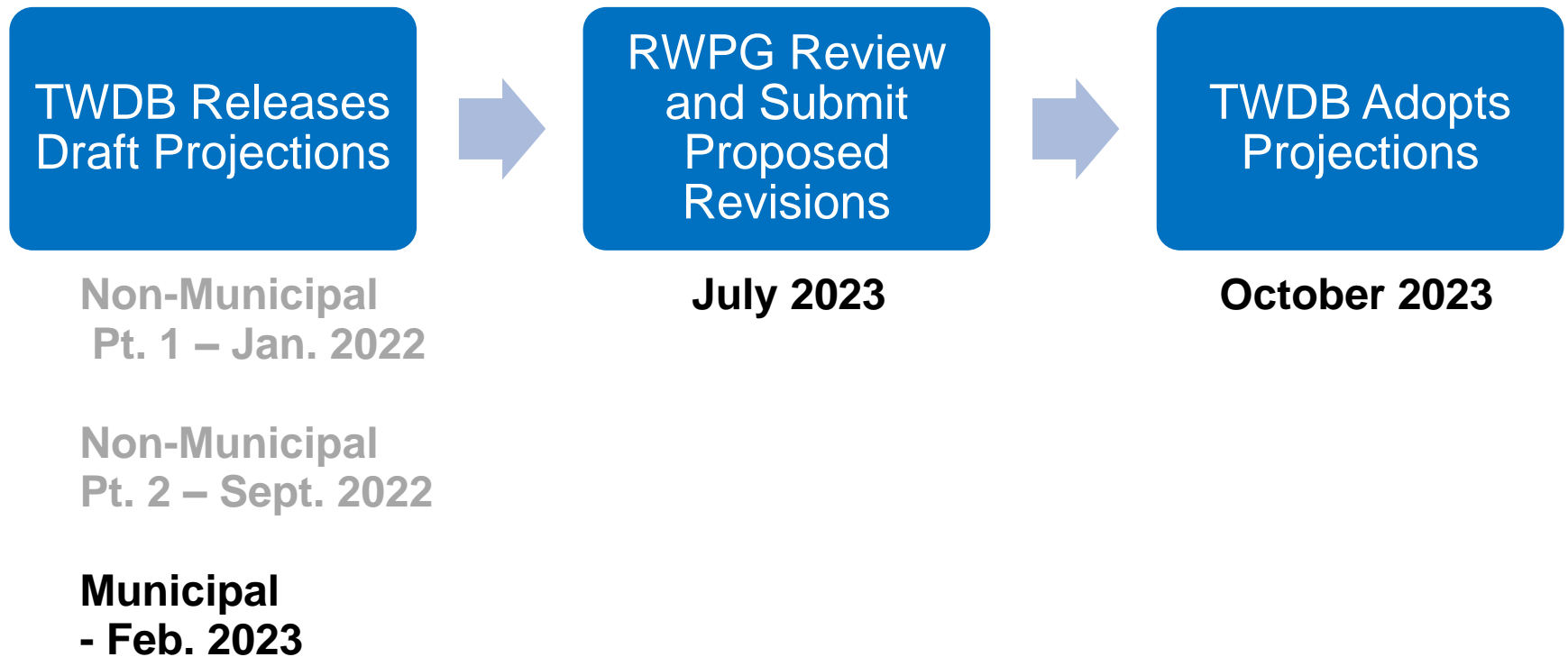


# 2021 Recommended Water Management Strategies to meet projected needs in McLennan County

- Bosque County Regional Project
- Industrial Water Conservation
- Lake Granger Augmentation (Phase 2-Groundwater)
- Meter Enhancement Program
- Municipal Water Conservation
- New contracts
- Reallocation of supply
- Reuse
- Robinson WTP Expansion
- Trinity-McLennan County ASR
- Trinity Aquifer Development
- Williamson County Groundwater (South Option)
- WTP Upgrade for Arsenic Removal

# Path Forward

# Process





## How does Brazos G communicate?

- Brazos G website: [www.brazosgwater.org](http://www.brazosgwater.org)
  - Posted meetings and planning information
  - Email contact widget
- Email list of interested parties
- Planning group meetings and required public hearings
- Surveys of Water User Groups and Wholesale Water Providers
- Public presentations when invited and time/funding allows
- Other public meetings to discuss major issues
- Phone calls/emails to & from us (members, BRA, consultants)
- Sub-regional meetings





# Questions?

**Tony L. Smith, P.E. and Heather Harris, P.E.**  
**Carollo Engineers, Inc.**  
**Office: 512-453-5383**