## TECHNICAL CONSULTANT PRESENTATION

# PLATEAU WATER PLANNING GROUP MEETING – Oct. 17, 2024



carollo®

08

# Update on Regional Water Planning Schedule

**Agenda Item #8**

# Covered During the Previous Meeting

- Preliminary Review of Chapter 1 Information
- Preliminary Review of Chapter 2 Information

**Feedback was due to the Technical Consultant by Monday Sept. 16, 2024**

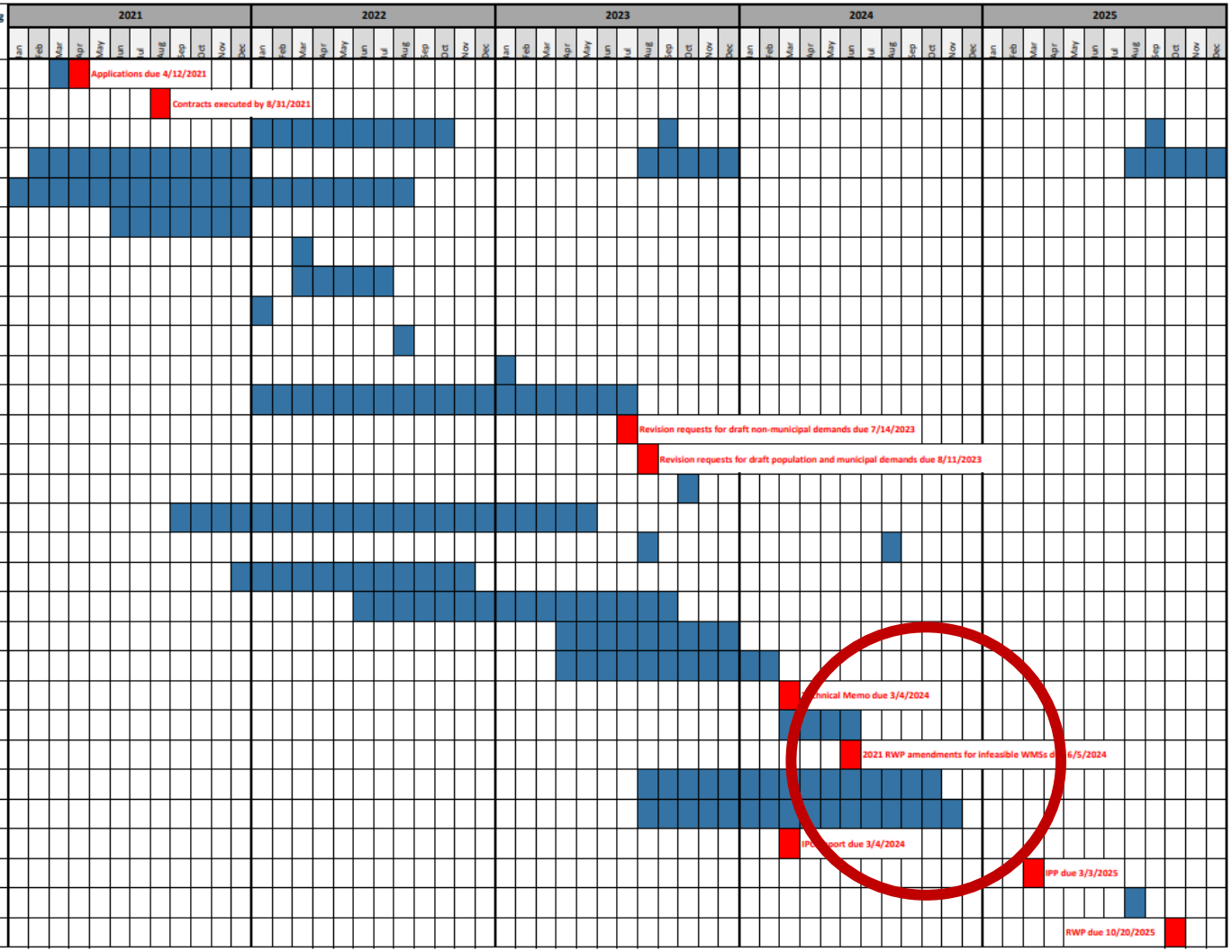
# Task for Today

- Review and Approve IPP Chapter 1
- Review and Approve IPP Chapter 2
- Preliminary Review of Draft Chapters 3, 4 & 7
- Update on Other Regional Planning Efforts

## Sixth Cycle of Regional Water Planning (2026 Regional Water Plans)
## Working Schedule (as of March 2023)[A]

Texas Water Development Board

| Item | Entity | Activity | Planning SOW Task # |
|---|---|---|---|
| 1 | TWDB | RFA for regional water planning grant posted and applications due | NA |
| 2 | TWDB/RWPG | Initial planning contract execution deadline | NA |
| 3 | TWDB/RWPG | Anticipated additional contracting activities | NA |
| 4 | TWDB | Regional Water Planning rules update | NA |
| 5 | TWDB | TWDB/BEG Mining study | 2A |
| 6 | RWPG | RWPGs hold pre-planning & coordination meeting (before technical work begins) | 10 |
| 7 | TWDB | Municipal WUG list, GPCD, historical population, and water use released | 2B |
| 8 | RWPG | Review municipal WUG list, GPCD, historical population, and water use; provide feedback to TWDB | 2B |
| 9 | TWDB | Draft Livestock, Manufacturing, and Steam Electric Power demand projections released | 2A |
| 10 | TWDB | Draft Irrigation and Mining projections released | 2A |
| 11 | TWDB | Draft Population and Municipal demand projections released | 2B |
| 12 | RWPG | Review draft projections and finalize adjustments with TWDB staff | 2A, 2B |
| 13 | RWPG | Revision requests for draft non-municipal demands due | 2A |
| 14 | RWPG | Revision requests for draft population and municipal demands due | 2B |
| 15 | TWDB | TWDB Board adopts projections | 2A, 2B |
| 16 | TWDB | DB27 prepared for data entry[B,C] | NA |
| 17 | TWDB/RWPG | DB27 individualized training for consultants | NA |
| 18 | TWDB | Updated MAGs released | 3 |
| 19 | RWPG | Evaluate water availability and existing water supplies | 3 |
| 20 | RWPG | Identify water needs | 4A |
| 21 | RWPG | Identify infeasible WMSs in the 2021 RWPs | 4B |
| 22 | RWPG | Technical Memo due | 4C |
| 23 | RWPG | Amendments to 2021 RWPs to remove/revise infeasible WMSs | 4B |
| 24 | RWPG | RWPG adopted amendments to 2021 RWPs to remove/revise infeasible WMSs due to TWDB | 4B |
| 25 | RWPG | Identify potentially feasible WMSs | 5A |
| 26 | TWDB/RWPG | Review and negotiate SOW submittals for WMS evaluations and issue notice-to-proceed[D] | 5B |
| 27 | IPC | Interregional Planning Council report due to the TWDB | NA |
| 28 | RWPG | Initially Prepared Plan due | 10 |
| 29 | TWDB | Socioeconomic Impact Report released to RWPGs | 6 |
| 30 | RWPG | Final Plan due | 10 |



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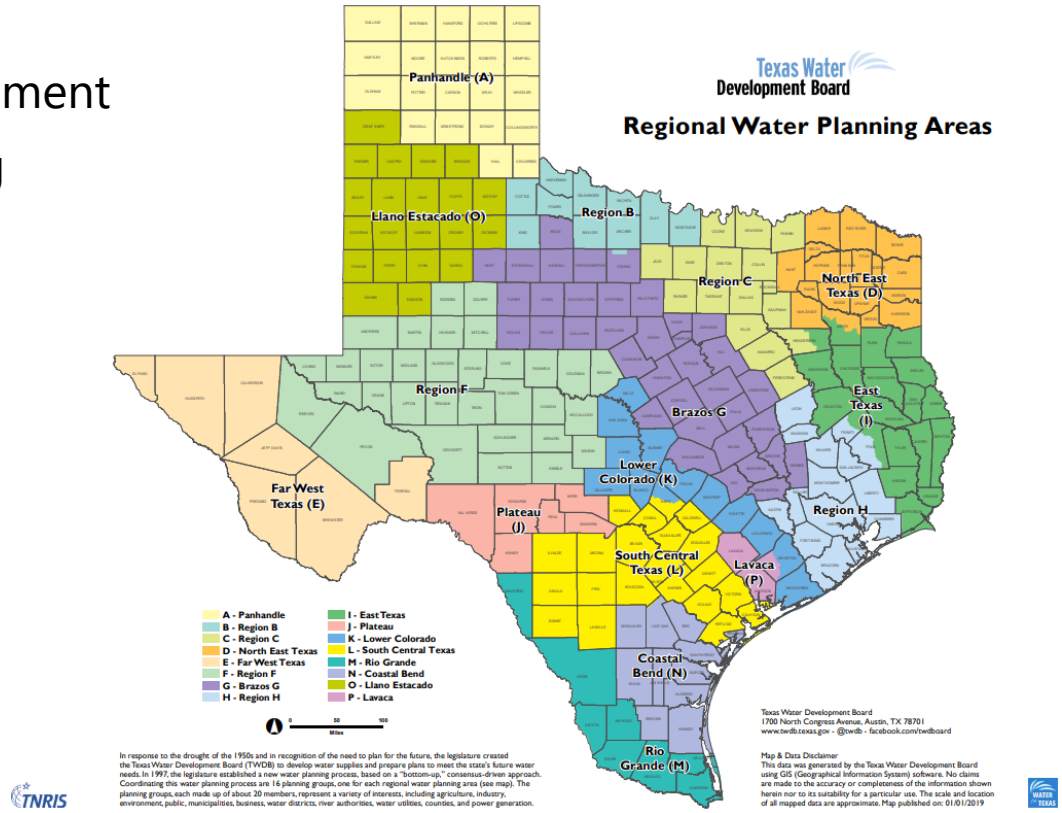
# Chapter 1 – Planning Area Description

**Agenda Item #9**

# 8 Sections in Chapter 1

1. Introduction
2. Water Planning and Management
3. Regional Geographic Setting
4. Regional Water Demand
5. Water Supply Sources
6. Colonias
7. Water Loss Audits
8. State and Federal Agencies



# Water Loss Audits

1. Why must RWPGs evaluate water loss audit reports?
    - TWDB is required to evaluate the water loss of retail public utilities that request financial assistance for a water supply project using water loss thresholds as an indicator of whether a utility must include funds for mitigating water loss as part of their request for financial assistance.
    - Therefore, RWPGs must consider strategies to address any issues identified in the water loss audit information.
    - In order to determine a water loss threshold, TWDB established benchmarking values detailed in the Conservation Resource Guide for Development of the 2026 Regional Water Plans.

# Water Loss Audits (continued)

2. Approach

- Utilize a methodology derived from the American Water Works Association (AWWA).
- Historically, the AWWA recommended that entities with more than 10% water loss take corrective action.
- However, ***Industry Standards have changed*** from recommending a one-size-fits-all target for water loss, to recommending water loss key performance indicators.
- Look at six years of water loss audit data and find the median for the following two distinct groups of utilities for real loss:
    a) Retail public utilities located in less dense communities (less than 32 connections per mile), for which the threshold or median is 57 gallons per connection per day.
    b) Retail public utilities located in more dense communities (32 or more connections per mile), for which the threshold or median is 30 gallons per connection per day.

# Table 1-8. Plateau Region 2018-2022 PWS Real Water Loss Report for Utilities that Exceed Water Loss performance Targets

| Public Water Supply (PWS) Name | Report Year | Service Connection on Density | Water Loss per Connection per Day | Corrected Input Volume | Reported Breaks Leaks | Unreported Loss | Total Real Losses | Cost of Real Losses ($) |
|---|---|---|---|---|---|---|---|---|
| Bridlegate Subdivision | 2021 | 64.89 | 31.86 | 17,072,000 | 0 | 2,328,218 | 2,328,218 | 2,398 |
| City of Bandera | 2018 | 34.13 | 38.07 | 77,059,133 | 20,000 | 11,581,368 | 11,601,368 | 8,121 |
| City of Kerrville | 2018 | 61.32 | 46.07 | 1,455,155,670 | 175,953,360 | 28,481,337 | 204,434,697 | 516,811 |
| | 2019 | 58.52 | 35.69 | 1,218,044,330 | 1,994,705 | 147,943,583 | 149,938,288 | 61,475 |
| | 2020 | 39.13 | 68.54 | 1,274,814,433 | 2,635,793 | 241,042,576 | 243,678,369 | 102,345 |
| | 2022 | 51.23 | 31.00 | 1,346,347,475 | 84 | 135,707,279 | 135,707,363 | 56,997 |
| City of Rocksprings | 2020 | 50.67 | 56.76 | 71,958,333 | 50,000 | 11,117,019 | 11,167,019 | 33,501 |
| | 2021 | 61.90 | 51.12 | 62,110,309 | 80,000 | 10,187,759 | 10,267,759 | 30,803 |
| Community Water Group WSC | 2020 | 39.00 | 68.53 | 8,506,263 | 0 | 1,864,770 | 1,864,770 | 12,475 |
| Del Rio Utilities Commission | 2018 | 55.53 | 121.76 | 2,729,740,000 | 1,879,625 | 450,969,107 | 452,848,732 | 188,385 |
| | 2019 | 55.53 | 82.00 | 2,492,620,000 | 1,463,145 | 234,340,837 | 235,803,982 | 99,038 |
| | 2022 | 59.34 | 128.99 | 2,949,502,105 | 2,458,942 | 758,745,572 | 761,204,514 | 1,903,011 |
| Flying L Ranch PUD | 2019 | 34.00 | 48.52 | 19,946,842 | 227,442 | 3,569,625 | 3,797,067 | 835 |
| Real WSC | 2020 | 33.04 | 42.20 | 7,783,000 | 102,970 | 1,936,135 | 2,039,105 | 4,343 |
| | 2022 | 28.21 | 60.54 | 8,503,527 | 22,000 | 1,888,335 | 1,910,335 | 1,152 |
| San Pedro Canyon Subdivision - Upper | 2021 | 23.08 | 196.79 | 13,810,408 | 0 | 3,549,071 | 3,549,071 | 8,873 |
| Tierra Del Lago | 2018 | 22.11 | 226.58 | 3,855,300 | 0 | 1,497,027 | 1,497,027 | 599 |
| | 2019 | 22.11 | 247.55 | 4,018,100 | 0 | 1,657,385 | 1,657,385 | 663 |
| | 2021 | 22.11 | 355.12 | 4,796,000 | 125,000 | 2,356,817 | 2,481,817 | 993 |
| | 2022 | 23.16 | 368.63 | 5,020,800 | 122,200 | 2,719,394 | 2,841,594 | 1,137 |

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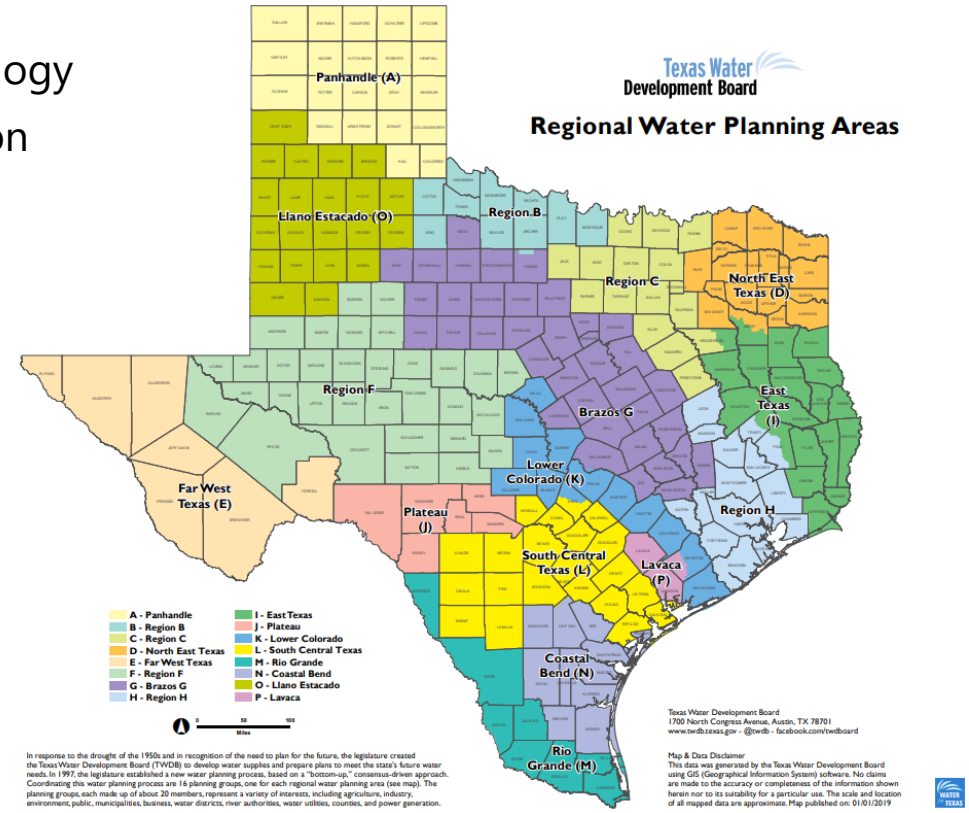
# Chapter 2 – Population and Water Demand

# 3 Sections in Chapter 2

1. Population
   - Population Projection Methodology
   - Current and Projected Population
2. Water Demand
   - Major Water Providers
   - Municipal and County-Other
   - Non-Municipal
3. Environmental and Recreational Water Needs



# Approve IPP Chapters 1 & 2


**Chapter 1 – Planning Area Description**

**Chapter 2 - Population and Water Demand**

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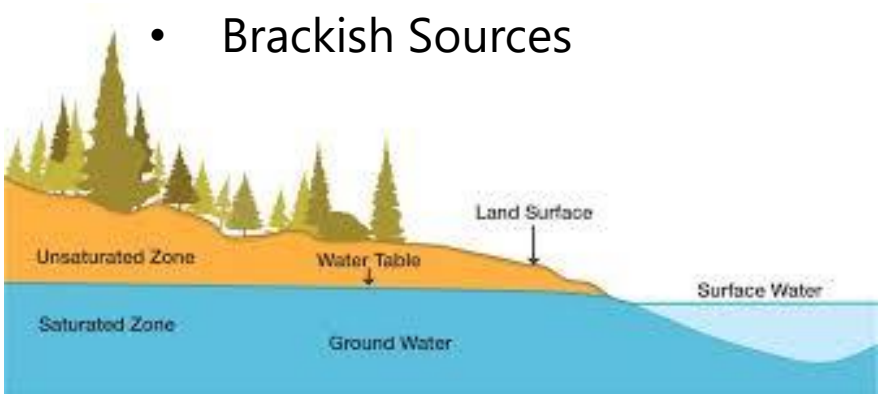
# Chapter 3 – Water Supply Analysis

**Agenda Item #10**

# 5 Major Sections in Chapter 3

1. *Regional Water Supply Sources*
   - Water Supply Source Availability
   - Existing Water Supply
   - MWP Supplies
2. *Groundwater*
   - Groundwater Availability
   - Methodology
   - Major & Minor Aquifer Descriptions
   - Public Supply Use of Groundwater
   - Brackish Sources
3. *Surface Water*
   - Surface Water Sources
   - Surface Water Availability
   - Methodology
   - Major Springs
   - Surface Water Rights
4. *Groundwater / Surface Water Relationship*
5. *Water Reuse*
6. *Local Supply*



# 1. *Regional Water Supply Sources*

- Water Supply Availability is estimated during drought-of-record conditions.

**Table 3-1. Water Source Availability (Acre-Feet per Year)**

| Groundwater | County | Basin | Salinity* | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|---|
| Austin Chalk Aquifer | Kinney | Nueces | Brackish | 875 | 875 | 875 | 875 | 875 | 875 |
| Austin Chalk Aquifer | Kinney | Rio Grande | Brackish | 1,894 | 1,894 | 1,894 | 1,894 | 1,894 | 1,894 |
| Edwards-BFZ Aquifer | Kinney | Nueces | Fresh | 6,319 | 6,319 | 6,319 | 6,319 | 6,319 | 6,319 |
| Edwards-BFZ Aquifer | Kinney | Rio Grande | Fresh | 2 | 2 | 2 | 2 | 2 | 2 |
| Edwards-Trinity (Plateau) Aquifer | Bandera | Guadalupe | Fresh | 81 | 81 | 81 | 81 | 81 | 81 |
| Edwards-Trinity (Plateau) Aquifer | Bandera | Nueces | Fresh | 38 | 38 | 38 | 38 | 38 | 38 |
| Edwards-Trinity (Plateau) Aquifer | Bandera | San Antonio | Fresh | 1,890 | 1,890 | 1,890 | 1,890 | 1,890 | 1,890 |
| Edwards-Trinity (Plateau) Aquifer | Kerr | Colorado | Fresh | 17 | 17 | 17 | 17 | 17 | 17 |
| Edwards-Trinity (Plateau) Aquifer | Kerr | Guadalupe | Fresh | 962 | 962 | 962 | 962 | 962 | 962 |
| Edwards-Trinity (Plateau) Aquifer | Kerr | Nueces | Fresh | 5 | 5 | 5 | 5 | 5 | 5 |
| Edwards-Trinity (Plateau) Aquifer | Kerr | San Antonio | Fresh | 3 | 3 | 3 | 3 | 3 | 3 |
| Edwards-Trinity (Plateau), Pecos Valley & Trinity Aquifer | Edwards | Colorado | Fresh | 2,305 | 2,305 | 2,305 | 2,305 | 2,305 | 2,305 |

2030
200,137
ac/ft/yr.

- Existing Water Supply is the availability to municipal utilities and other water-user categories, based on current infrastructure.

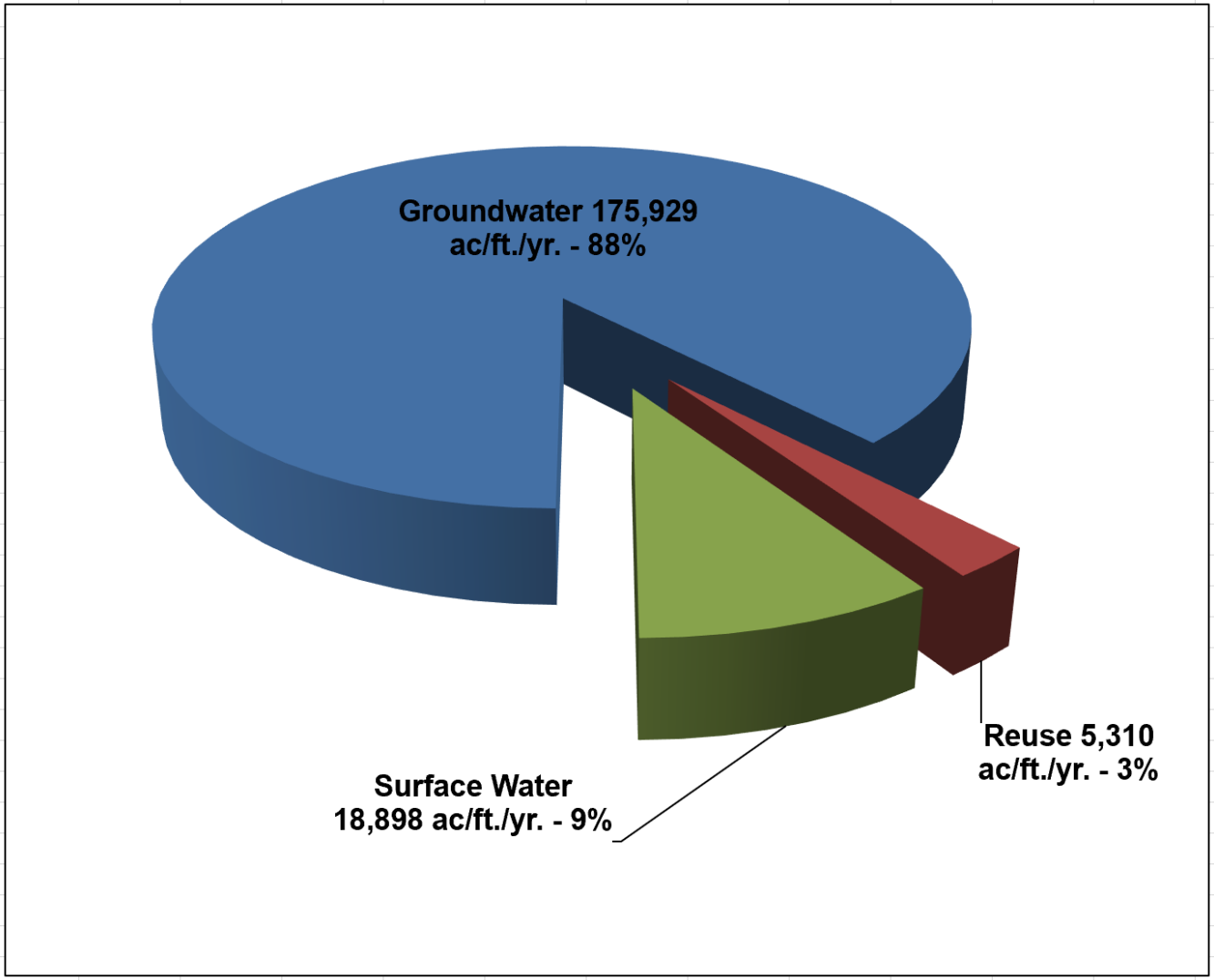
**Table 3-2. Existing Supply (Acre-Feet per Year)**

| | | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|
| **Bandera County** | | | | | | | |
| **Guadalupe Basin** | | | | | | | |
| County-Other | Edwards-Trinity (Plateau) Aquifer | 31 | 31 | 31 | 31 | 31 | 31 |
| Livestock | Edwards-Trinity (Plateau) Aquifer | 9 | 9 | 9 | 9 | 9 | 9 |
| **Guadalupe Basin Total Existing Supply** | | **40** | **40** | **40** | **40** | **40** | **40** |
| **Nueces Basin** | | | | | | | |
| County-Other | Edwards-Trinity (Plateau) Aquifer | 38 | 38 | 38 | 38 | 38 | 38 |
| County-Other | Nueces Run-of-River | 0 | 0 | 0 | 0 | 0 | 0 |
| County-Other | Trinity Aquifer | 251 | 251 | 251 | 251 | 251 | 251 |
| Mining | Trinity Aquifer | 1 | 1 | 1 | 1 | 1 | 1 |
| Livestock | Edwards-Trinity (Plateau) Aquifer | 0 | 0 | 0 | 0 | 0 | 0 |
| Livestock | Trinity Aquifer | 44 | 44 | 44 | 44 | 44 | 44 |
| Irrigation | Nueces Run-of-River | 13 | 13 | 13 | 13 | 13 | 13 |
| Irrigation | Trinity Aquifer | 326 | 326 | 326 | 326 | 326 | 326 |
| **Nueces Basin Total Existing Supply** | | **673** | **673** | **673** | **673** | **673** | **673** |
| **San Antonio Basin** | | | | | | | |

2030
55,813
ac/ft/yr.

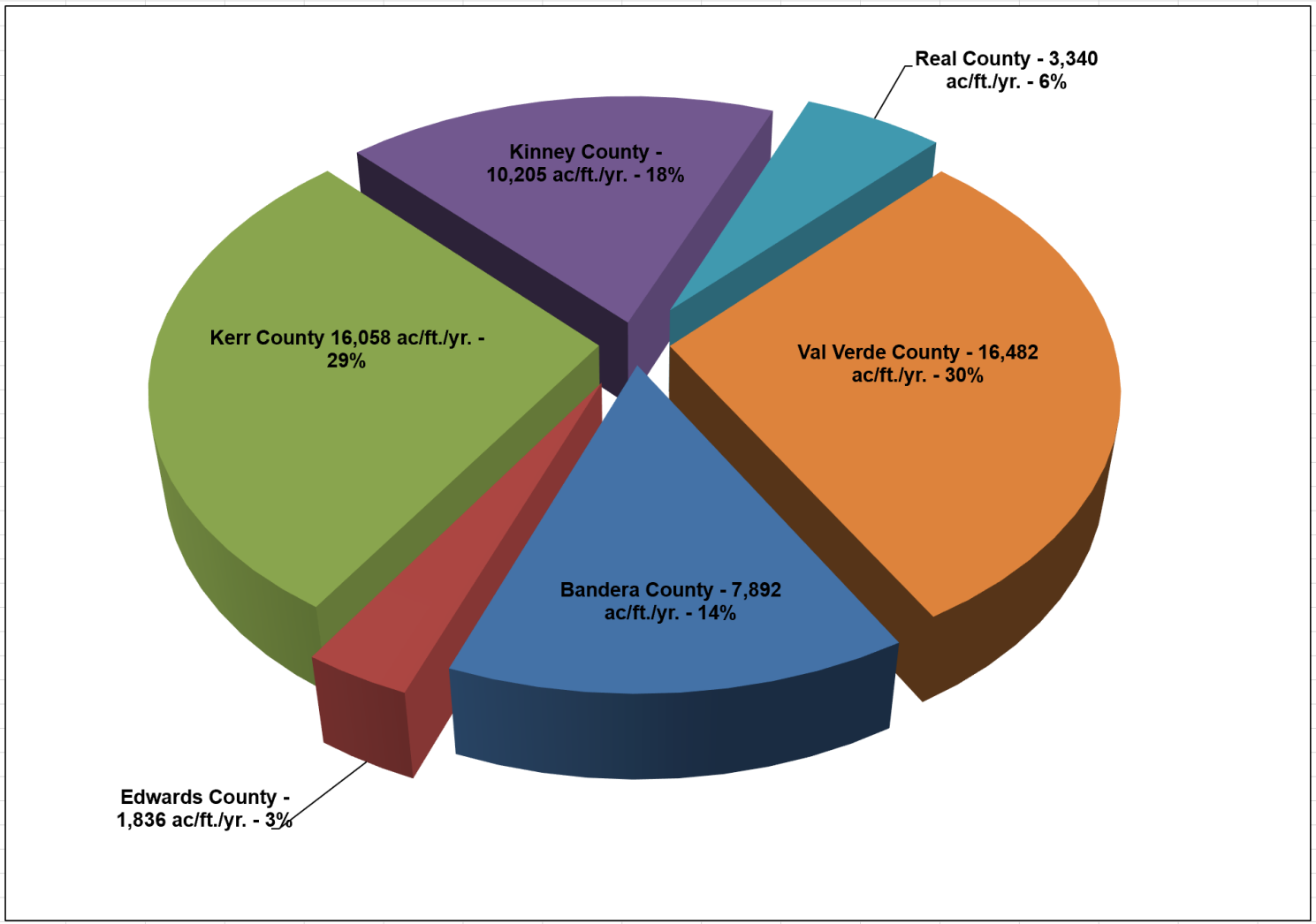
## 1. *Regional Water Supply Sources (continued)*

- Year 2030 Projected Water Availability by Source



# 1. *Regional Water Supply Sources (continued)*

- Year 2030 Projected Existing Water Supplies by County



# 1. *Regional Water Supply Sources (continued)*

**Table 3-3. Del Rio Utilities Major Water Provider Supply (Acre-Feet per Year)**

| County | Basin | Major Water Provider | Receiving Entity | 2030 | 2040 | 2050 | 2060 | 2070 | 2080 |
|---|---|---|---|---|---|---|---|---|---|
| Val Verde | Rio Grande | Del Rio Utilities | City of Del Rio | 6,021 | 6,021 | 6,021 | 6,021 | 6,021 | 6,021 |
| | | | Laughlin AFB | 1,080 | 1,080 | 1,080 | 1,080 | 1,080 | 1,080 |
| | | | County Other | 360 | 360 | 360 | 360 | 360 | 360 |
| **Total Wholesale Supply** | | | | **7,461** | **7,461** | **7,461** | **7,461** | **7,461** | **7,461** |

The City of Del Rio obtains most of its water supply from San Felipe Springs, which issues from the Edwards limestone. The ~~s~~Spring water is treated to drinking water standards in a ~~new~~ microfiltration plant prior to distribution. For planning purposes, San Felipe Springs is recognized as a surface water source that falls within the Rio Grande Run-of-River. Currently, due to critically low water levels in the Spring, the City of Del Rio has been forced to drill a pilot well approximately 250 feet below the surface in hopes of obtaining a supplemental source of water supply.

Camp Wood in Real County is supplied from Old Faithful Springs on a tributary of the Nueces River. Similar to the San Felipe Springs, Old Faithful Springs' water levels are also very low due to prolonged drought conditions, making the Spring an unreliable water supply source. The City of Camp Wood is working on developing two shallow groundwater alluvium wells that will provide a more reliable source of water supply.

All other communities in the Region are totally dependent on groundwater sources for their supplies. All water supplies based upon contracts are assumed to be renewed.

## 2. Groundwater

- Aquifer Descriptions
- Methodology
  - MAG volumes
  - Local Analyses

4 Basic components in Analyses:

1. Recharge to aquifer
2. Recoverable storage capacity
3. Lateral movement into & out of the aquifer
4. Withdrawals from the aquifer

- GMA DFCs
- Public Supply Use of Groundwater

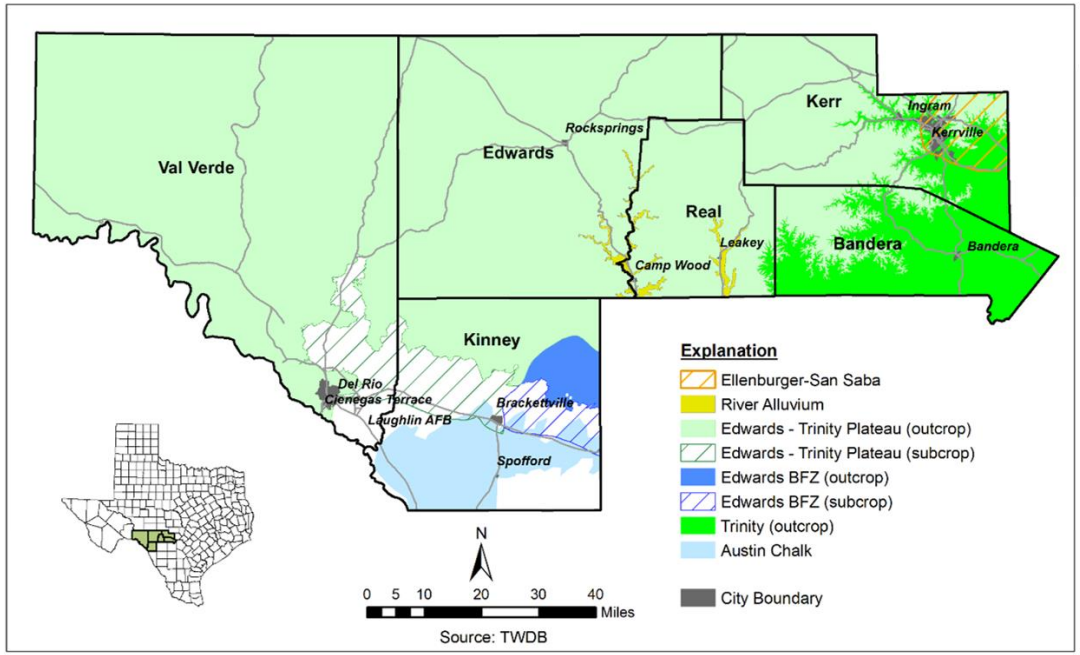



**Table 3-4. Groundwater Availability Methodology**

| Source Supply | County | Basin | Methodology |
|---|---|---|---|
| Austin Chalk Aquifer | Kinney | Rio Grande | 0.6% (0.006) of average annual rainfall (22 in) over the aquifer outcrop (189,377 acres) as recharge. Calculated by Planning Group consultant (Carollo). |
| | | Nueces | Not an official TWDB aquifer and not modeled. Total availability values of 875 acre-feet/year are from RWP22 Database with a source description based on Robert Bradley's analysis of the number of wells in the TWDB Groundwater Database. GMA10 |
| Nueces River Alluvium Aquifer | Edwards | Nueces | Recharge plus 0.1 volume of water in storage. See Plateau Region Report: Occurrence of Significant River Alluvium Aquifers in the Plateau Region (2010). www.ugra/plateau-water-planning-group |
| | Real | Nueces | |
| Frio River Alluvium Aquifer | Real | Nueces | |

### 3.1.8 Ellenburger – San Saba Aquifer

Recent advances in aquifer research has suggested the desirability of adding the Ellenburger-San Saba Aquifer in Kerr County to the list of available groundwater sources in the Plateau Planning Region. ~~Although no production wells in the Ellenburger are currently in use, the Headwaters GCD has authorized rules for future permitting of this resource.~~ In December 2016, a~~A~~n exploratory test well (Headwaters GCD Monitor Well #17) in the northeast corner of Kerr County was completed in the Ellenburger Limestone to a total depth of 1,153 feet below ground level. ~~land surface in December 2016~~. A subsequent 24-hour pumping test was performed on the test well, which produced 600 gallons per minute with 69 feet of drawdown. The results suggest a transmissivity range of 7,920 to 12,670 gpd/ft. Water samples were collected and analyzed for chemical quality. Total dissolved solids are 498 mg/l and all constituents are within both primary and secondary drinking-water standards.

In September 2020, the Headwater GCD contracted with Wet Rock Groundwater Services (WRGS), to further explore the groundwater resources of the geologic units beneath the Trinity Aquifer, specifically the units in the Llano Uplift Aquifer System, and ultimately to provide public supply to the City of Kerrville. McKinley Drilling completed Well #19 in July 2020 to Texas Commission on Environmental Quality (TCEQ) public water supply well standards. Upon completion of the well, both McKinley Drilling and WRGS coordinated to perform a 36-hour aquifer test on Well #19 while utilizing the nearby City of Kerrville ASR Well #3 as an observation well.

During the 36-hour aquifer test, Well #19 was pumped at an average rate of 793 gallons per minute (gpm) with an initial pumping rate of 800 gpm and a final pumping rate of 772 pgm with 153.4 feet of drawdown, resulting in a specific capacity of 5.03 gpm/ft. Approximately 24-hours after the pump started, the pumping rate was reduced to 772 gpm to ensure the water level did not reach the pump. During the test, the water level dropped approximately 135 feet within the first 12-hours of pumping, then slowly declined and oscillated throughout the remainder of the pumping phase. After the pump was shut off, recovery was measured in the pumping well for approximately three hours; during that time, the water

## 2. Groundwater (continued)

### 3.1.9.4 City of Rocksprings

The City of Rocksprings obtains its water supply from wells completed in the Edwards Limestone of the Edwards-Trinity (Plateau) Aquifer. They are currently using a well that is located on Live Oak Street. Drilled in 2007, it is estimated to produce 500 gallons per minute. Total gallons used in 2023 was 52,081,000. The City's Sharp (artesian) Well, is currently under maintenance, and should be back in production by the end of 2024. This well was originally drilled in 1952. This rural community has little competition for groundwater and, thus, its supply is considered dependable. ~~A new well has been drilled and is currently being connected to the City's distribution system.~~

### 3.1.9.6 City of Camp Wood

Camp Wood located in southwestern Real County derives its water supply mostly from Old Faithful Springs, along with a completed new well in the underlying Edwards-Trinity Aquifer~~.~~ The spring has reportedly always flowed. However, with increasing population and the drilling of additional wells in the area, the spring may experience decreasing flow during drought periods in the future. ~~To supplement its supply, the City has completed a new well in the underlying Edwards-Trinity Aquifer.~~

### 3.1.11 Brackish Groundwater Desalination Sources

~~Most groundwater in the Plateau Region contains total dissolved solids (TDS) concentrations of less than 1,000 mg/l and thus meets drinking water standards. Groundwater of slightly poorer quality (1,000 to 3,000 mg/l) occurs in the Trinity Aquifer in some areas. Elevated levels of calcium-sulfate resulting from the dissolution of evaporate beds in the upper Glen Rose is the primary source of higher TDS groundwater. Productivity from this aquifer source makes desalination a marginal option at this time.~~

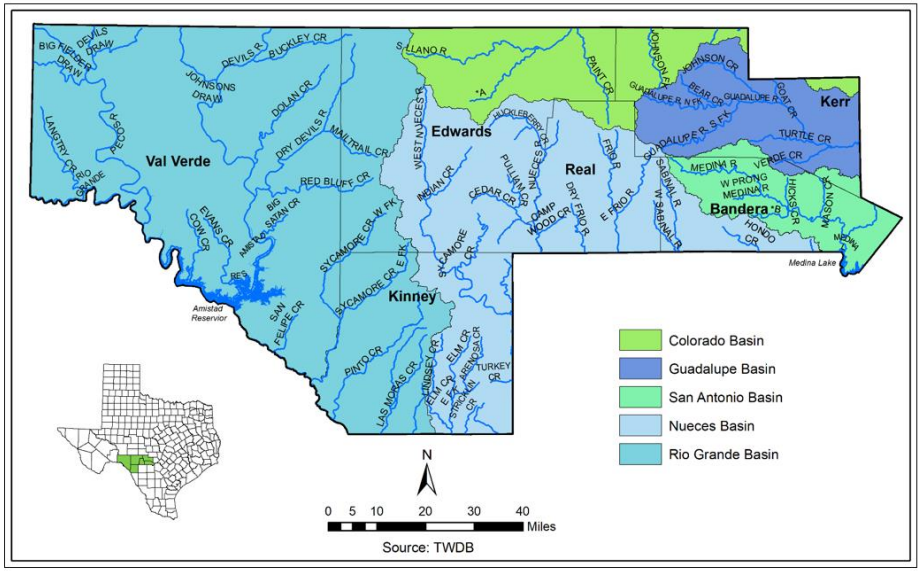
In the Plateau Region, shallow groundwater from the surface down to approximately 800 to 1,000 feet in depth contains total dissolved solids (TDS) concentrations of less than 1,000 mg/l and thus meets drinking water standards. Groundwater of slightly poorer quality (1,000 to 2,999 mg/l TDS) occurs in the Trinity Aquifer in some areas within the Region. Elevated levels of calcium sulfate in higher TDS groundwater are the result of dissolution of evaporite beds in the Lower Glen Rose formation.

Brackish water, defined by the TWDB as being 1,000 to 9,999 mg/l TDS, typically occurs in isolated freshwater aquifers, in certain isolated areas in the base of the Cretaceous System in southern portions of the Plateau Region, and to the base of the Paleozoic System in the northern portions of the Region.

No appreciable groundwater has ever been found below the Cretaceous System in the buried Pennsylvanian Ouachita fold belt; however, the narrow Val Verde Basin extends to the north of the Ouachita fold belt and thins to the north over the Plateau Region. This deep narrow basin that developed in front of the buried mountain range holds a vast amount of saline water at depths that range from 800 to 25,000 feet. Although brackish groundwater in the narrow range of 1,000 to 2,999 mg/l TDS occurs only within a few hundred feet in depth of the freshwater-saline water interface, the groundwater below the brackish zone ranges up to about 180,000 mg/l TDS (average seawater is 35,000 mg/l). Thus, a vast source of saline water is available in the Region but would require desalination for use as a source of drinking water.

# 3. *Surface Water*

- Introduction – 5 River Basins
- Rio Grande Basin
  - Amistad International Reservoir on the Rio Grande
- Nueces River Basin
- Colorado River Basin
- San Antonio River Basin
- Medina Lake on the Medina River
- Guadalupe River Basin
- San Felipe Springs
- Old Faithful Springs
- Surface Water Rights



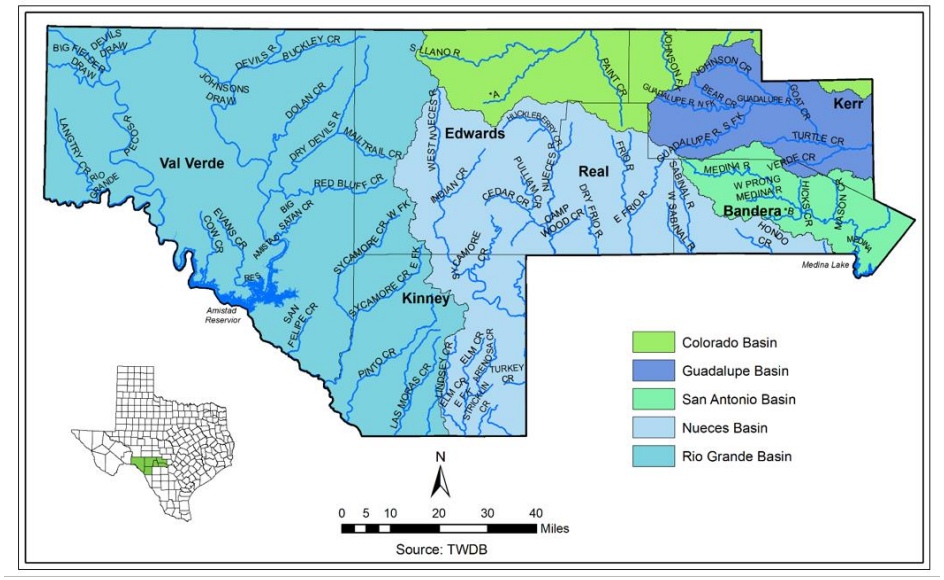
# 3. *Water Availability Model (WAM)*

Availability of water from surface water sources under drought-of-record conditions depend on two components:

1. Water that is physically present
2. Authorized amounts per existing water right adjudications.

TCEQ maintains the WAMs for evaluating water rights applications.

Run 3 WAM scenario primarily used by TCEQ has key assumptions that all water rights in each basin are allowed to divert their full authorized amount when water is available, following appropriation in priority date order.




| Basin | Version | POR | New Version? |
|---|---|---|---|
| Rio Grande | Oct. 1, 2023 | 1940-2018 | Yes, updated hydrologic period |
| Nueces | Oct. 1, 2023 | 1934-1996 | Yes, updated hydrologic period |
| Colorado | Oct. 1, 2023 | 1940-2016 | Yes, updated hydrologic period |
| San Antonio/Guadalupe | Oct. 1, 2023 | 1934-1989 | Yes, Updated WRs |

## 3. *Rio Grande Basin*

- 1944 Treaty
    1. Addresses the waters in the international segment of the Rio Grande from Fort Quitman, Texas to the Gulf of Mexico
    2. U.S. receives 1/3 of the flow from six tributaries
    3. IBWC is responsible for implementing the allocation of water on the U.S. side
    4. Watermaster office of TCEQ administers the allocation of Texas' share of the international waters
    5. The Amistad and Falcon Reservoirs store the water regulated by the Watermaster

# 4. *Nueces, Colorado, San Antonio & Guadalupe River Basins*

Nueces River Basin

- Total authorized diversions by water right within the Region are 11,419 acre-feet/year
- Majority of this amount is used for irrigation

Colorado River Basin

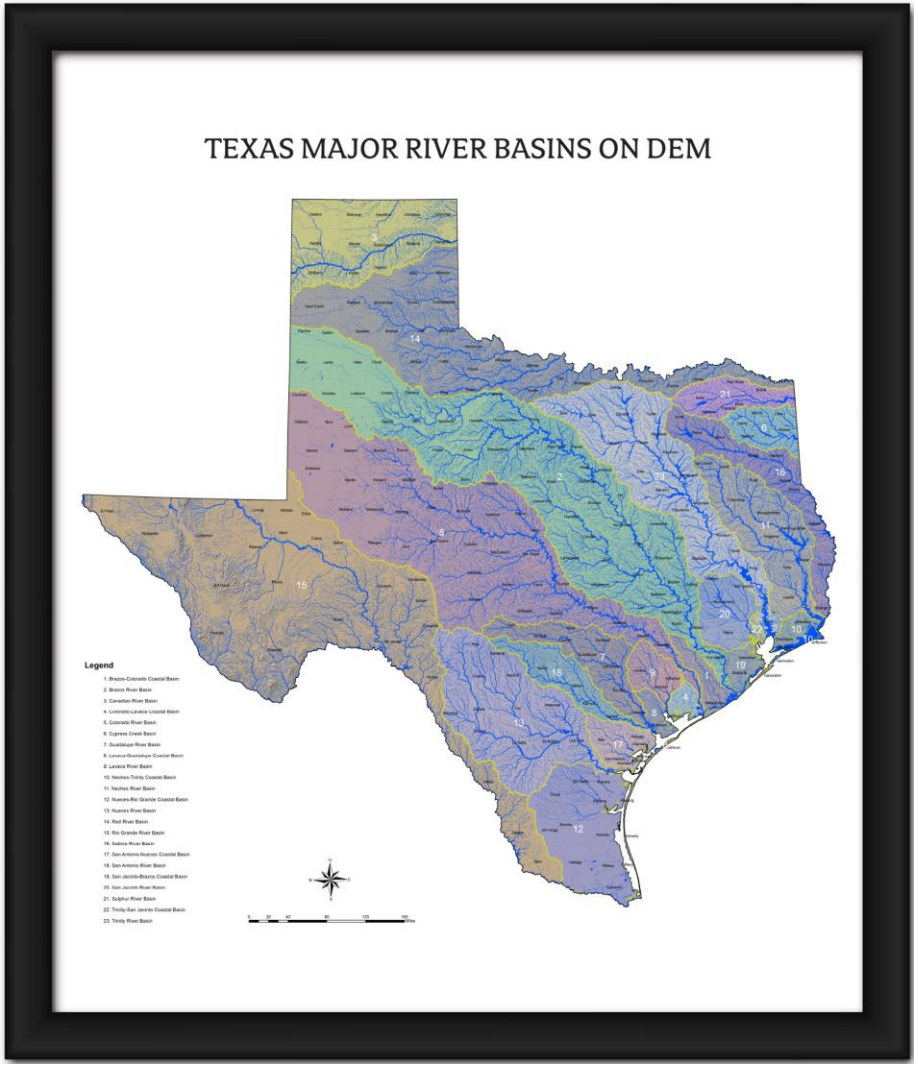
- Hydrologic data for these streams suggests that the drought-of-record occurred in 2011

San Antonio River Basin

- Most water right authorizations are run-of-river diversions for irrigation use

Guadalupe River Basin

- Occurs almost exclusively within Kerr County
- Water rights within Region = 21,020 acre-feet/year



# 3.4 WATER REUSE

While recycling is a term generally applied to aluminum cans, glass bottles, and newspapers, water can be recycled as well. Water recycling is reusing treated wastewater for beneficial purposes such as agricultural and landscape irrigation, industrial processes, toilet flushing, and replenishing a groundwater aquifer (referred to as groundwater recharge or ASR for aquifer storage and recovery). Water is sometimes recycled and reused onsite; for example, when an industrial facility recycles water used for cooling processes. A common type of recycled water is water that has been reclaimed from municipal wastewater, or sewage. The term "water recycling" is generally used synonymously with water reclamation and water reuse.

Kerrville treats its wastewater to TCEQ type 1 level. The treated wastewater is pumped through a dedicated pipeline for reuse as irrigation water for the Scott Schreiner Municipal Golf Course, the Hill Country Youth Soccer Fields, Kerrville Sports Complex, Schreiner University, River Hills Golf Course, Tivy High School Sports Fields, Kerr County Animal Shelter, and the golf course at Comanche Trace Ranch & Golf Club. Additional treated water is sold by the truckload for construction projects. The remaining wastewater is released into Third Creek, which flows into Flatrock Lake on the Guadalupe River. That water is then available for use downstream of Kerrville. Additionally, the City has reserved approximately 0.5 MGD of treated effluent above its current reuse contract obligations for future potable or non-potable reuse. In an effort to further reduce potable water demand and dependency on groundwater and surface water supplies, the City expanded its non-potable reuse delivery capacity by constructing a 95 million gallon (292 ac-ft.) off-channel storage pond adjacent to the wastewater treatment plant. ~~Future expansion of Kerrville's reuse project is anticipated to yield approximately 1 million gallons per day.~~ The Cities of Del Rio and Bandera also have wastewater treatment capacities with the potential for ~~future~~ reuse applications.

## 3.5 LOCAL SUPPLY

"Local Supplies" are limited, unnamed individual surface water supplies that, separately, are available only to particular non-municipal WUGs. These supplies are generally contained within "stock tanks" that catch precipitation runoff and are used primarily for livestock watering, but at times may be available for other local needs such as mining. For planning purposes, the volume of runoff water in these catchment basins is considered to be significantly reduced during drought-of-record conditions and does not include any groundwater that might be pumped into them.

For the purposes of the *2026 Plateau Region Water Plan*, the historical water-use estimates (2011-2021) for irrigation, livestock, manufacturing, mining and steam-electric, generated directly from the TWDB's Water Use Database was considered in determining existing local surface water supply volumes. These reports reflect the most current and accurate data made available to the state agency. New to this *Plan,* is the "Livestock Local Surface Water Supply" category found on Table 3-2, of which provides an additional 733 acre-feet per decade, of existing surface water supply to the Region, throughout the planning horizon.

~~No documentation has been identified that quantifies the available supply during a drought of record for these local supplies. Thus, per TWDB guidelines established for the regional water planning process, it has been assumed for the purposes of the 2021 Plateau Region Water Plan that all local supplies not represented by a specific, identified water right are zero ac-ft per year.~~

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# Chapter 4- Water Needs Analysis

# 1 Major Section in Chapter 4

*Comprised of 7 Tables*

- Table 4-1. Identified Water (Needs)/Surpluses
- Table 4-2. Identified Water (Needs)/Surpluses by Category of Use
- Table 4-3. MWP (Needs)/Surpluses
- Table 4-4. MWP (Needs)/Surpluses by Category of Use
- Table 4-5. Second Tier Identified Water Needs *(not yet available)*
- Table 4-6. Second Tier Identified Water Needs by Category Use *(not yet available)*
- Table 4-7. Second Tier Identified Water Needs by Major Water Provider *(not yet available)*

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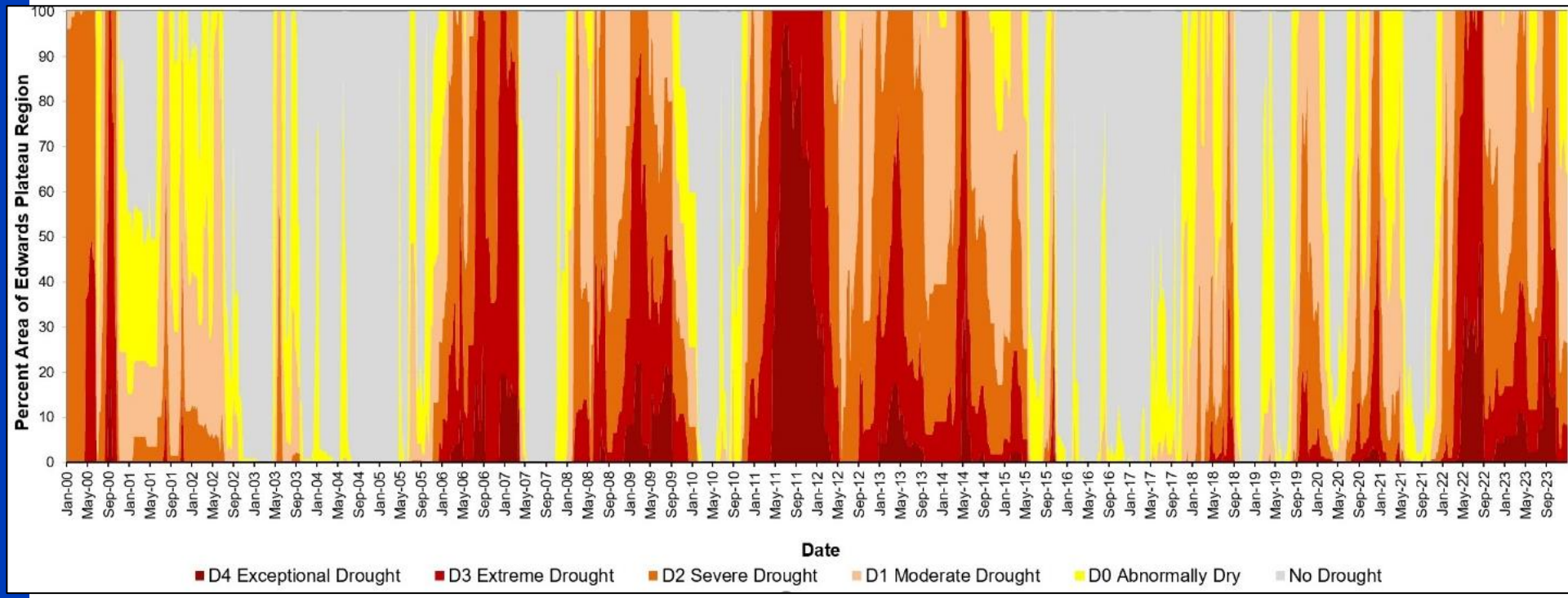
# Chapter 7- Drought Response

# 7 Major Sections in Chapter 7

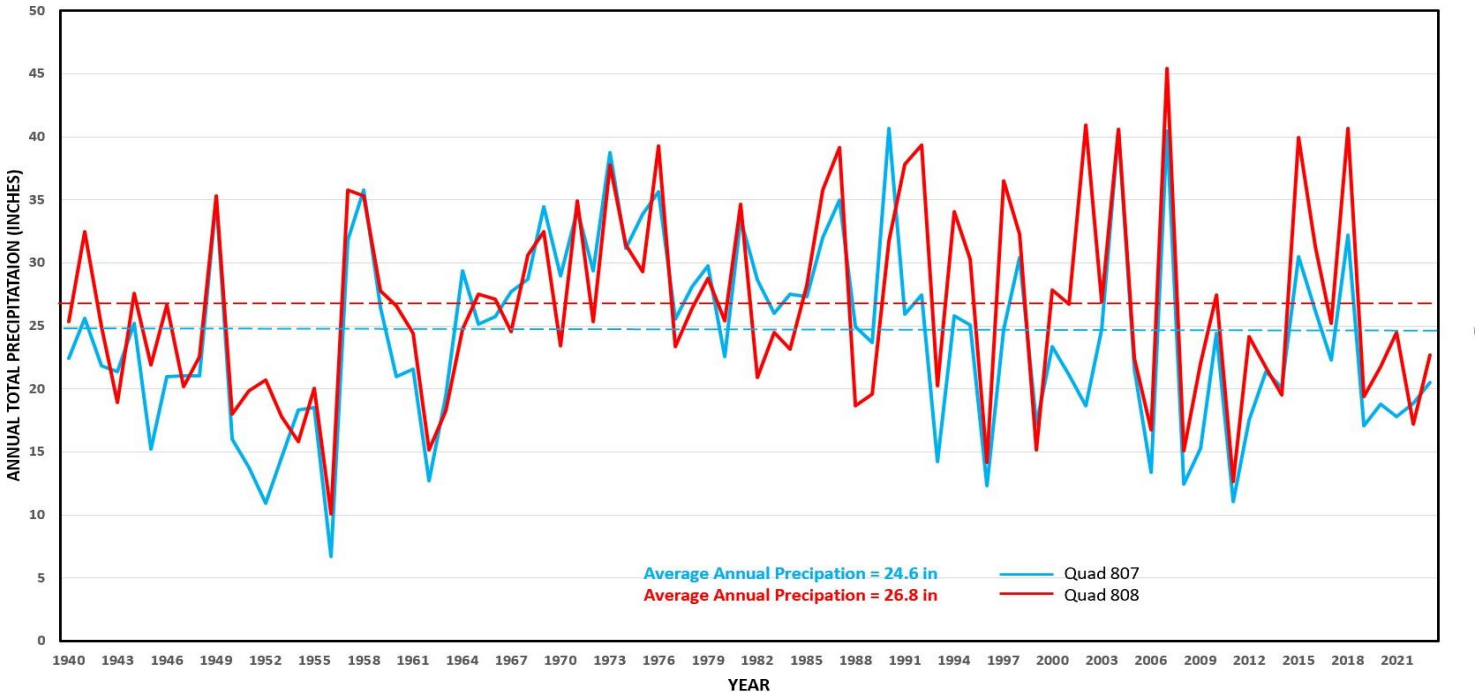
1. *Regional Drought Response*
   - Drought-of-Record in Planning Area
     - *Precipitation Indicator*
     - *Stream Flow Indicator*
     - *Spring Discharge Indicator*
     - *Groundwater Level Indicator*
2. *Uncertainty & Drought(s) Worse than DOR – (new section)*
3. *Current Drought Preparations & Response*
     - *Drought Response Triggers*
     - *Surface Water Triggers*
     - *Groundwater Triggers*
     - *System Capacity Triggers*
     - *Municipal DCPs*
     - *GCD DCPs*
4. *3. Existing & Potential Emergency Interconnects*
5. *Emergency Responses to Local Drought Conditions*
6. *Region-Specific Drought Response Recommendations & Model DCPs*
     - *Regional Groundwater Resources & Monitoring*
     - *Regional Surface Water Resources & Monitoring*
     - *Regional Model DCP*
     - *Model DCPs*
7. *Drought WMSs*
8. *Other Drought Related Considerations*

# 1. *Drought of Record in the Plateau Region (2000-2023)*



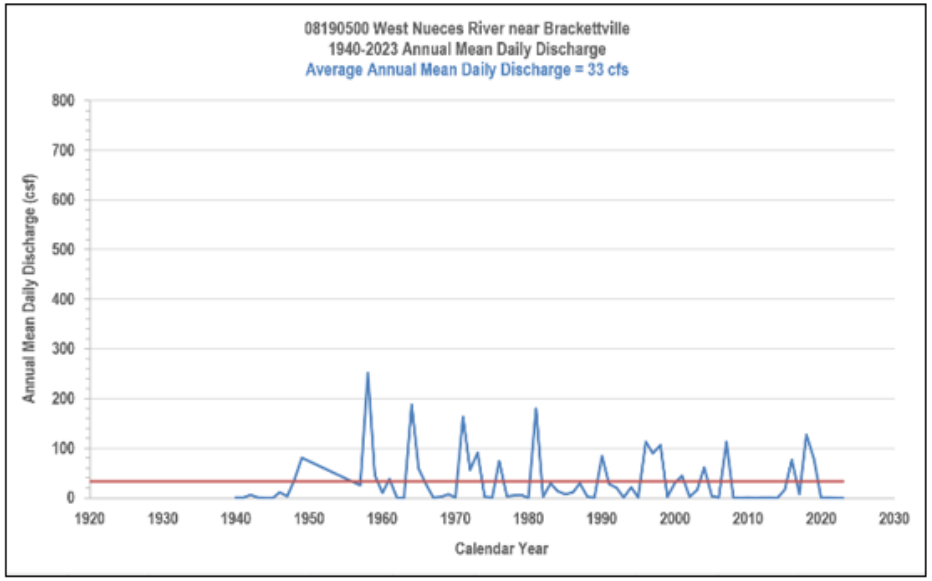

- An accumulated area graph of the weekly Palmer Drought Severity Index (PDSI) was updated.
- Previous graph collected data from 2000-2018
- Updated graph illustrates data from 2000-2023

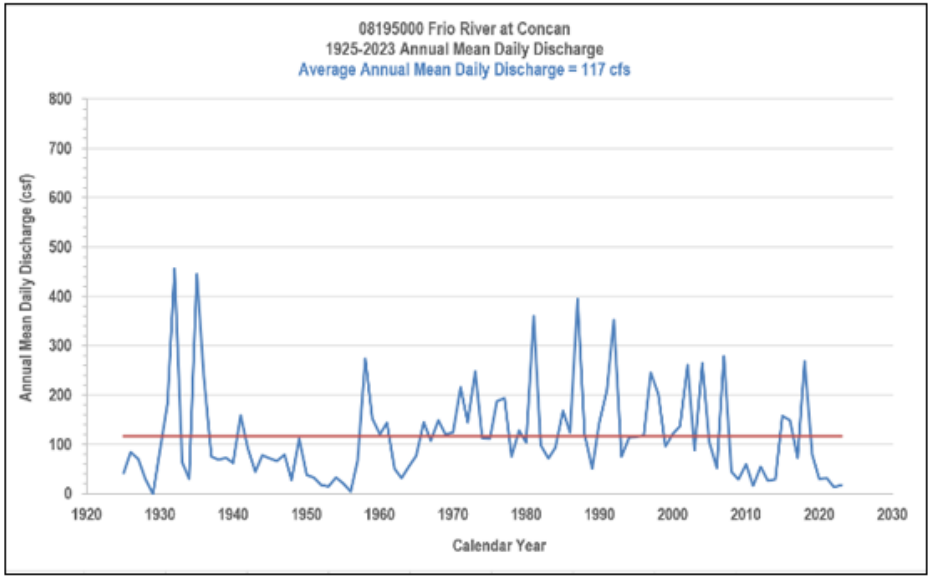
# *Precipitation Indicator (1940-2023)*

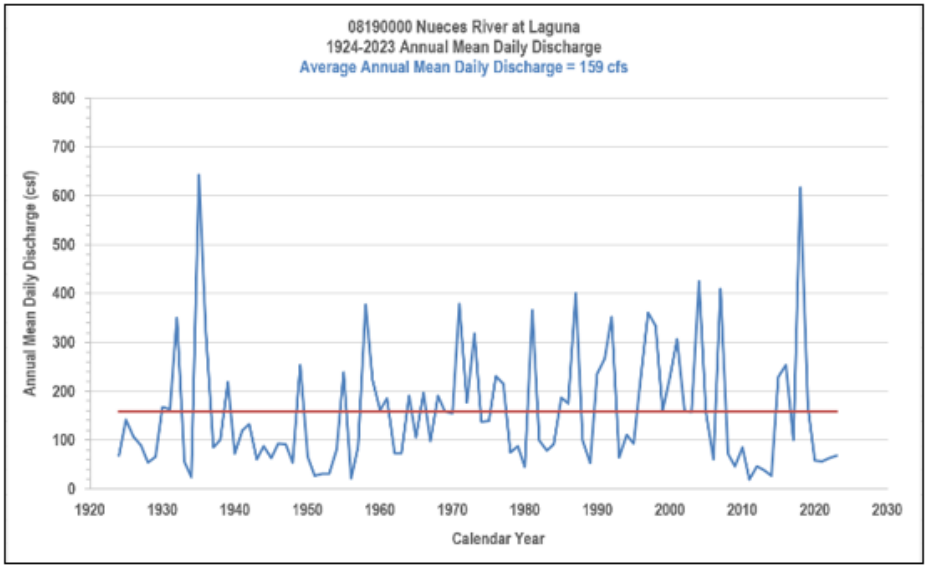


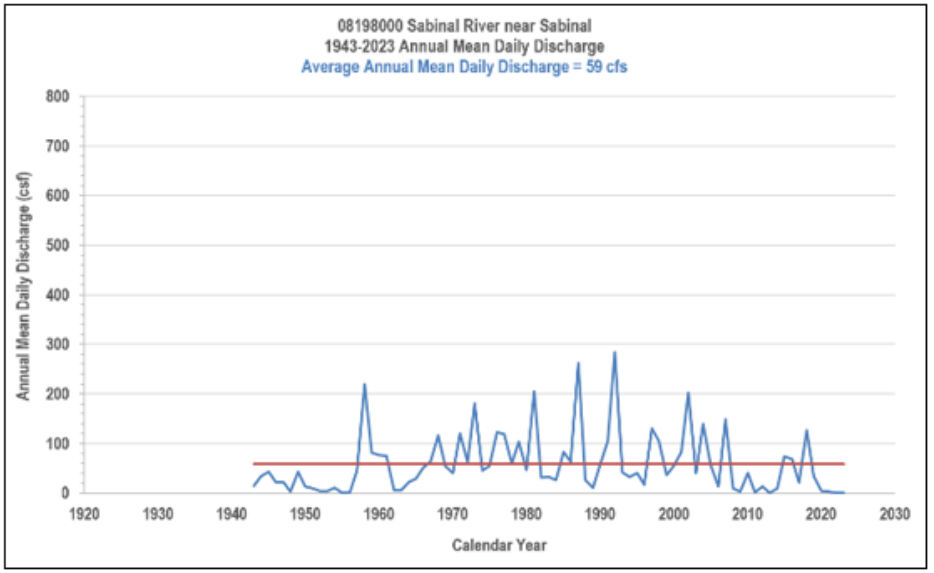

- Figure 7-2. Annual Precipitation, 1940-2023
- Illustrates precipitation data for quadrangles 807 and 808

# *Stream Flow Indicator (1940-2023)*

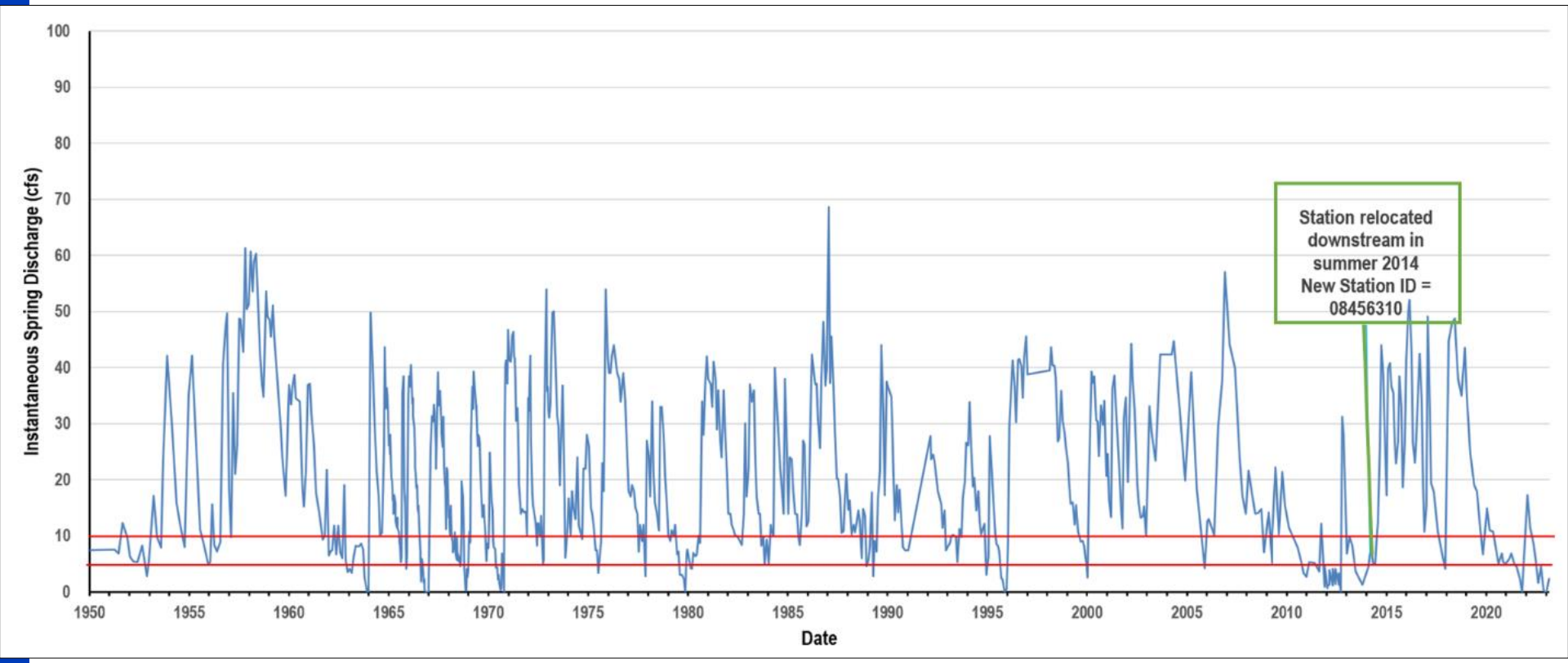


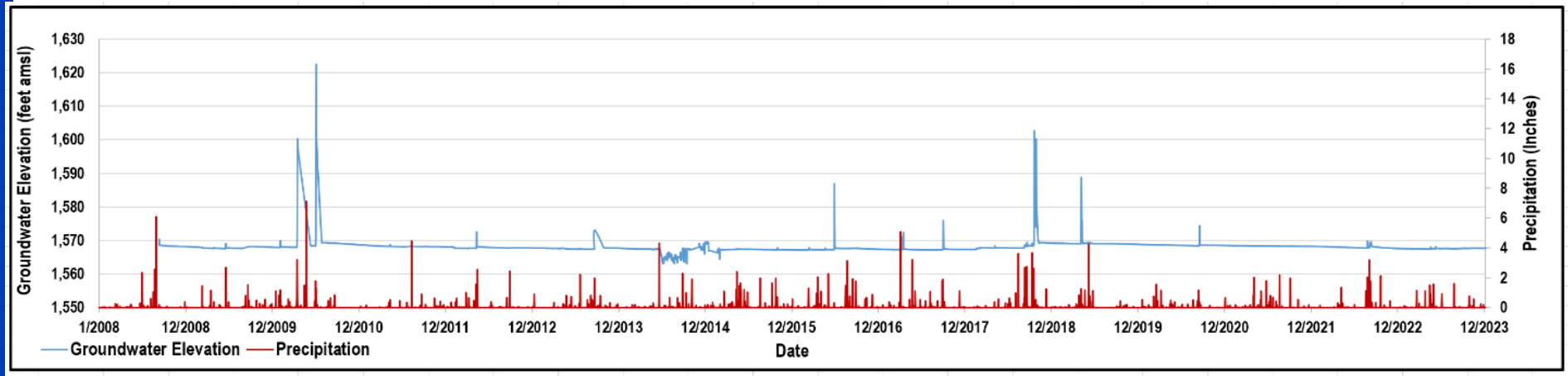



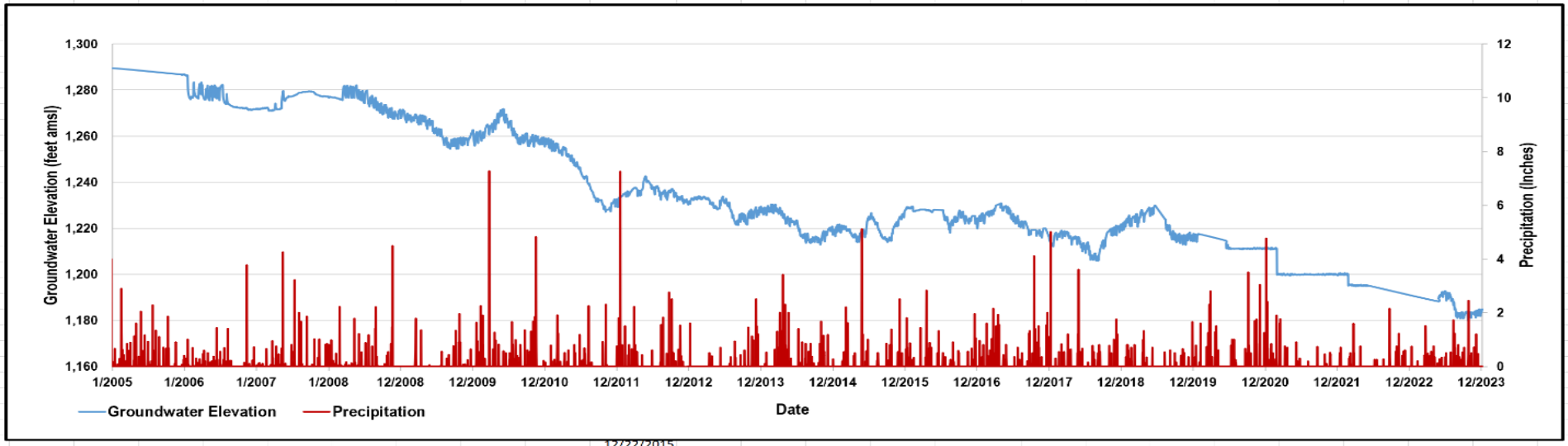
## *Spring Discharge Indicator (1940-2023)*




- Figure 7-5. Historic Discharge Measurement at Las Moras Springs
- Steady decline since 2020
- Flow less than 5 cfs typically lasted for up to 3 months
- A few zero measurements have also occurred

# Groundwater Level Indicator (2008-2023)



## *Uncertainty and Drought(s) Worse Than Drought of Record*

**Guidance**

- RWPGs may choose to consider scenarios and/or qualitatively address uncertainty and DWDOR in their region.
  - DWDOR – Drought Worse than the Drought of Record
- Options
  - Studies within the Region (e.g., Kerrville Long Range Plan);
  - Use of safety factors (e.g. safe yield)
  - Management Supply Factors
  - Demand Reduction?

## *Uncertainty and Drought(s) Worse Than Drought of Record*

**Required**

- RWPG is required to include a new separate subsection
  - Summarize how Region included planning for uncertainty and the Region's basis (or policy) for inclusion.
  - Summarize
    - Assumptions
    - Strategies/Projects
    - Go beyond identified water needs
    - Potential measures/responses

## *Uncertainty and Drought(s) Worse Than Drought of Record*

**Recommended**

- New Section 7.2
- The Plateau RWPG considered how to address planning for uncertainty and how such planning could be included for the purposes of the 2026 Plateau Regional Water Plan.
    - Where such studies have been performed that inform upon uncertainties in needs and water availability within the Region, such studies will be noted and considered in the identification of measures taken and their effect.
    - The Plateau RWPG recognizes uncertainties both in the projections of water demand as well as source availability. As such, WMSs have been developed and recommended that contemplate such uncertainties.
    - The Plateau RWPG supports the funding and development of such studies, and has identified Management Supply Factors to convey the extent of supply as a safety factor relative to demand.
    - The Plan also identifies potential emergency interconnects that could be useful for informing on decisions of supply availability should a DWDOR occur.

# 2. Current Drought Preparations and Response

| Water-Supply Entity | Water Supply Source | Drought Trigger | Drought Stage and Response | | | | |
|---|---|---|---|---|---|---|---|
| | | | Mild | Moderate | Severe | Critical | Emergency |
| City of Bandera | Trinity | Multi-stage drop in water levels in the Dallas Street Municipal Wells. | Voluntary conservation May 1 - Sept 30. | Depth to water between 516 and 531 feet. | Depth to water between 532 and 546 feet. | Depth to water between 547 and 566 feet. | Depth to water below 567 feet, or system failure. |
| | | | Voluntary usage reduction. | Reduce demand by 20%. | Reduce demand by 30%. | Reduce demand by 40%. | Reduce demand by 50%. |
| City of Rocksprings | Edwards-Trinity (Plateau) | Based on a comparison of the daily water demand to the static water level of Well #3. | Depth to water reaches 429 feet for 3 consecutive days. | Depth to water reaches 445 feet for 3 consecutive days. | Depth to water reaches 461 feet for 3 consecutive days. | N/A | Depth to water reaches 477 feet for 3 consecutive days. |
| | | | Reduce demand by 10%. | Reduce demand by 20%. | Reduce demand by 30%. | N/A | Notify state emergency response officials. |
| City of Kerrville | Upper Guadalupe River and Trinity Aquifer | Based on a comparison of demand and system's safe operating capacity, which is the maximum amount of water the city can safely deliver to the distribution system. Safe capacity is calculated using the following sources: 1) the WTP, 2) ASR, 3) City wells and 4) other potable sources. | Seven-day average demand exceeds 65% of the system's safe operating capacity. | Seven-day average demand exceeds 75% of the system's safe operating capacity. | Seven-day average demand exceeds 85% of the system's safe operating capacity. | Seven-day average demand exceeds 95% of the system's safe operating capacity. | Seven-day average demand exceeds 100% of the system's safe operating capacity. |
| | | | Implement landscape watering schedule; no operation of fountains/ponds. | Landscape watering with hand held hose only; non-essential water use prohibited. | No application for new, additional, or expanded water service connections. | Landscape watering with potable water prohibited. | Allocation of available water; notify state emergency response officials. |
| City of Ingram (Aqua Texas) | Trinity | Demand-based triggers include the following components: 1) percent of water treatment capacity, 2) total daily demand as percent of pumping capacity, 3) storage capacity (tank level) and 4) well pump run time. | Voluntary conservation late Spring and Summer. | 75%, tank level within 4 feet of low-level lock out, 16 hours. | 85%, tank level within 3 feet of low-level lock out, 20 hours. | 95%, tank level reaches low-level lock out, 22 hours. | |
| | | | Reduce demand by 5%. | Reduce demand by 10%. | Reduce demand by 20%. | Reduce demand by 40%. | N/A |
| | Purchased supply | Supply-based triggers are utilized for systems Aqua provides water from either a district, authority or wholesale supplier. | Upon notification by district, authority, or wholesale supplier, Aqua may implement equivalent stage and restrictions. | | | | |
| City of Brackettville | Edwards-Trinity (Plateau) | Multi-stage drop in water levels in city well. | Depth to water reaches 50 feet or more from ground level while pumping (based on 10-day moving average). | Depth to water reaches 60 feet or more from ground level while pumping (based on 10-day moving average). | Depth to water reaches 85 feet or more from ground level while pumping (based on 10-day moving average). | Depth to water reaches 110 feet or more from ground level while pumping (based on 10-day moving average). | |
| | | | Achieve a voluntary 10% reduction in demand. | Achieve a 15% reduction in demand. | Achieve a 25% reduction in demand. | N/A | Notify state emergency response officials. |
| Fort Clark Springs Municipal Water District | Edwards-Trinity (Plateau) | Multi-stage drop in water levels in municipal well. | Depth to water reaches 25 feet or more from ground level while pumping (based on 10-day moving average). | Depth to water reaches 35 feet or more from ground level while pumping (based on 10-day moving average). | Depth to water reaches 50 feet or more from ground level while pumping (based on 10-day moving average). | Depth to water reaches 75 feet or more from ground level while pumping (based on 10-day moving average). | Fort Clark MUD will recognize an emergency exists based on the "critical" stage criteria. |
| | | | Voluntary - reduce demand by 10%. | Reduce demand by 15%. | Reduce demand by 25%. | N/A | Notify state emergency response officials. |
| City of Camp Wood | Spring flow from Edwards-Trinity (Plateau) | Base on system capacity limits. | Low distribution pressure for more than 6 hours. | Demand exceeds 70% of safe operating capacity (based on seven-day average). | Demand exceeds 80% of safe operating capacity (based on seven-day average). | Demand exceeds 90% of safe operating capacity (based on seven-day average). | Major system failures or supply contamination. |
| | | | Voluntary - reduce demand by 6%. | Reduce demand by 6%. | Reduce demand by 11%. | Reduce demand by 20%. | Reduce demand by 30%. |
| City of Leakey | Frio River Alluvium | | NO DCP | | | | |
| City of Del Rio | San Felipe Springs Edwards-Trinity (Plateau) | Water levels in Bedell Street Storage Reservoirs are less than a designated depth; San Felipe Spring flow drops below a specific flow rate. | Water levels are less than 30 feet; San Felipe Spring flow is less than 40 mgd. | Water levels are less than 25 feet; San Felipe Spring flow is less than 30 mgd. | Water levels are less than 20 feet; San Felipe Spring flow is less than 25 mgd. | Water levels are less than 15 feet; San Felipe Spring flow is less than 20 mgd. | N/A |
| | | | Reduce demand to 95% of the 30 day average prior to initiation. | Reduce demand to 90% of the 30 day average prior to initiation. | Reduce demand to 80% of the 30 day average prior to initiation. | Critical (Stage 4) is characterized by an emergency situation. Notify state emergency response officials. | N/A |
| Weidenfeld Water Works (Aqua Texas) | Trinity (HGCD MW-7, HGCD MW-11, HGCD MW-ISD, Cedar Springs well, 169 Greenwood well, CCGCD Langford, and EAA J17 well). | Cumulative point system based upon water levels and daily pumping time (in minutes) in 7 different wells. Two if the wells monitor both upper and lower Trinity water levels. | | 3 points | 6 points | 8 points | |

# 7.3 EXISTING AND POTENTIAL EMERGENCY INTERCONNECTS

According to Texas Statute §357.42(d), (e) regional water planning groups are to collect information on existing major water infrastructure facilities that may be used in the event of an emergency shortage of water. Pertinent information includes identifying the potential user(s) of the interconnect, the potential supplier(s), the estimated potential volume of supply that could be provided, and a general description of the facility. Texas Water Code §16.053(c) requires information regarding facility locations to remain confidential. This section provides general information regarding existing and potential emergency interconnects among water user groups within the Plateau Region.

The RWPG is required to gather information pertinent to major water infrastructure facilities that are currently or could potentially be utilized during emergency water shortages. Major water infrastructure facilities within the Plateau Region were identified through a survey process to better evaluate existing and potentially feasible emergency interconnects. There are no existing emergency interconnects. There are only ~~two~~ three potential interconnects that have been identified within the Plateau Region in the current planning cycle, as shown below. With regard to the City of Leakey, the City has acquired a well that was once privately owned. This well is not currently being used by the City but would be added to the City's supply in a state of emergency.

**Potential Emergency Interconnects to Major Water Facilities**

| Entity Providing Supply | Entity Receiving Supply |
|---|---|
| City of Kerrville | Cherokee Mobile Home Park |
| City of Del Rio | Laughlin AFB and the Landings at Laughlin |
| City of Leakey | City of Leakey |

## Table 7-2. Emergency Responses to Local Drought Conditions

| Entity | | | | | | Implementation Requirements | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Water User Group Name | County | 2024 Population Served by Water System (per TCEQ) | 2024 Service Connections (per TCEQ) | 2030 Projected Population | 2030 Projected Water Demand (AF/year) | Drill additional groundwater wells | Brackish groundwater limited treatment | Brackish groundwater desalination | Emergency interconnect | Other named local supply | Trucked-in water | Type of infrastructure required | Entity providing supply | Other local entities required to participate/ coordinate | Emergency agreements/ arrangements already in place? |
| City of Bandera | Bandera | 3,066 | 1,070 | 1,949 | 347 | ▪ | | | ▪ | | ▪ | Well | City | N/A | N/A |
| Bandera County FWSD #1 | Bandera | 1,092 | 438 | 1,074 | 342 | ▪ | | | ▪ | | ▪ | Well | District | N/A | N/A |
| City of Rocksprings | Edwards | 1,857 | 574 | 666 | 175 | ▪ | | | ▪ | | ▪ | Well | City | N/A | N/A |
| Kerrville South Water | Kerr | Data Not Available | | 3,600 | 457 | ▪ | | | | | ▪ | Well | Aqua Texas | N/A | N/A |
| City of Brackettville | Kinney | 2,570 | 831 | 1,077 | 528 | ▪ | | | | | ▪ | Well | | N/A | N/A |
| Fort Clark Springs MUD | Kinney | 1,200 | 989 | 1,372 | 727 | ▪ | | | | | ▪ | Well | | N/A | N/A |
| City of Camp Wood | Real | 1,380 | 460 | 339 | 147 | ▪ | | | ▪ | | ▪ | Well | City | N/A | N/A |
| City of Leakey | Real | 1,758 | 586 | 210 | 143 | ▪ | | | ▪ | | ▪ | Well | City | N/A | N/A |
| Laughlin Air Force Base | Val Verde | 4,010 | 497 | 1,640 | 969 | ▪ | | | ▪ | | ▪ | Well | City of Del Rio | N/A | N/A |
| **County-Other** | | | | | | | | | | | | | | | |
| Bandera River Ranch 1 | Bandera | 1,038 | 346 | Data Not Provided | | ▪ | | | ▪ | | ▪ | Well | WSC | N/A | N/A |
| Medina WSC | Bandera | 774 | 258 | | | ▪ | | | | | ▪ | Well | | N/A | N/A |
| Flying L Ranch PUD | Bandera | 987 | 329 | | | ▪ | | | | | ▪ | Well | | N/A | N/A |
| Barksdale WSC | Edwards | 279 | 93 | | | ▪ | | | | | ▪ | Well | | N/A | N/A |
| Center Point North WS | Kerr | 270 | 90 | | | ▪ | | | ▪ | | ▪ | Well | | N/A | N/A |
| Center Point Taylor System | Kerr | 531 | 177 | | | ▪ | | | ▪ | | ▪ | Well | District | N/A | N/A |
| Cedar Springs MHP | Kerr | 144 | 48 | | | ▪ | | | ▪ | | ▪ | Piping | Ingram Oaks Park | N/A | N/A |
| Heritage Park WS | Kerr | 87 | 29 | | | ▪ | | | ▪ | | ▪ | Piping | Aqua Texas | N/A | N/A |
| Oak Ridge Estates WS | Kerr | 123 | 41 | | | ▪ | | | | | ▪ | Well | | N/A | N/A |
| Verde Park Estates | Kerr | 213 | 71 | | | ▪ | | | ▪ | | ▪ | Piping | Elmwood MHP | N/A | N/A |
| Vista Hills | Kerr | 48 | 16 | | | ▪ | | | | | ▪ | Well | | N/A | N/A |
| Westwood WS | Kerr | 339 | 113 | | | ▪ | | | ▪ | | ▪ | Well | | N/A | N/A |
| Windwood Oaks WS | Kerr | 60 | 20 | | | ▪ | | | ▪ | | ▪ | Piping | The Woods Sub. | N/A | N/A |

# 7 Major Sections in Chapter 7

1. *Regional Drought Response*
   - Drought-of-Record in Planning Area
     - *Precipitation Indicator*
     - *Stream Flow Indicator*
     - *Spring Discharge Indicator*
     - *Groundwater Level Indicator*
2. *Current Drought Preparations & Response*
     - *Drought Response Triggers*
     - *Surface Water Triggers*
     - *Groundwater Triggers*
     - *System Capacity Triggers*
     - *Municipal DCPs*
     - *GCD DCPs*
3. *Existing & Potential Emergency Interconnects*
4. *Emergency Responses to Local Drought Conditions*
5. *Region-Specific Drought Response Recommendations & Model DCPs*
     - *Regional Groundwater Resources & Monitoring*
     - *Regional Surface Water Resources & Monitoring*
     - *Regional Model DCP*
     - *Model DCPs*
6. *Drought WMSs*
7. *Other Drought Related Considerations*

11

# Report on Other Regional Planning Efforts

**Agenda Item #11**

# Other Activities:

- Chapter 5 Updates:
  - Develop a table that documents that the 24 potentially feasible WMSs types were considered when evaluating needs.

  https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/projectdocs/2026RWP_ExhibitC_Tables.xlsx

    - Looked at all the WMSs within the 2021 Plan
    - Focused on the WUGs that have a water deficit according to the DB27 report
    - Referenced Appendix 5B of the 2021 Plan to better understand the WMSs and accompanying write-ups
    - Completed the TWDB checklist/excel sheet

# Other Activities (continued):

| WUG Name | Maximum need 2030-2080 (af/yr) | conservation - water use reduction | conservation - water loss mitigation | drought management | reuse | management of existing supplies | development of large-scale marine seawater or brackish groundwater | conjunctive use | acquisition of available existing supplies | development of new supplies | development of regional water supply or regional management of water supply facilities | voluntary transfer of water (including regional water banks, sales, leases, options, subordination agreements, and financing agreements) | emergency transfer of water under Section 11.139 | system optimization, reallocation of reservoir storage to new uses, contracts, water marketing, enhancement of yield, improvement of water quality | new surface water supply | new groundwater supply | brush management; precipitation enhancement | interbasin transfers of surface water | aquifer storage and recovery | cancellation of water rights | rainwater harvesting | other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Livestock Bandera Nueces* | *20* | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Irrigation Bandera San Antonio* | *157* | PF | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Rocksprings Edwards Nueces* | *66* | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Mining Edwards Nueces* | *8* | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Livestock Edwards Nueces* | *53* | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Irrigation Edwards Rio Grande* | *15* | PF | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *County-Other Kerr Colorado* | *101* | PF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Livestock Kerr Colorado* | *28* | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Irrigation Kerr Colorado* | *97* | PF | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Kerrville Kerr Guadalupe* | *3,231* | nPF | PF | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | PF | nPF | nPF | |
| *Kerrville South Water Kerr Guadalupe* | *88* | nPF | PF | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Mining Kerr Guadalupe* | *75* | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Livestock Kerr San Antonio* | *41* | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Irrigation Kerr San Antonio* | *3* | PF | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Camp Wood Real Nueces* | *147* | PF | PF | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Manufacturing Real Nueces* | *2* | PF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Del Rio Utilities Commission Val Verde Rio Grande* | *5,649* | nPF | PF | nPF | PF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |
| *Mining Val Verde Rio Grande* | *38* | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | nPF | PF | nPF | nPF | nPF | nPF | nPF | |

- Update Chapters 8, 9 and 10 for next RWPG meeting

# PWPG – Remaining Scope & RWPG Meeting Schedule

| Activity | 2024 | | | | 2025 | | |
|---|---|---|---|---|---|---|---|
| | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. |
| Approve Chapter 1 | | Oct. 17 | | | | | |
| Approve Chapter 2 | | | | | | | |
| Discuss & Review Chapter 3 | | | | | | | |
| Discuss & Review Chapter 4 | | | | | | | |
| Discuss & Review Chapter 7 | | | | | | | |
| Approve Chapter 3 | | | | | | | |
| Approve Chapter 4 | | | | | | | |
| Approve Chapter 7 | | | | | | | |
| Discuss & Review Chapter 8 | | | | | | | |
| Discuss & Review Chapter 9 | | | | | | | |
| Discuss & Review Chapter 10 | | | | | | | |
| Approve Chapter 8 | | | | | | | |
| Approve Chapter 9 | | | | | | | |
| Approve Chapter 10 | | | | | | | |
| Discuss & Review Chapter 5 | | | | | | | |
| Discuss & Review Chapter 6 | | | | | | | |
| Approve Chapter 5 | | | | | | | |
| Approve Chapter 6 | | | | | | | |
| Approve & Submit the IPP | | | | | | | |

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