TECHNICAL CONSULTANT PRESENTATION

PLATEAU WATER PLANNING GROUP MEETING – AUG. 8, 2024

13

Update on Regional Water Planning Schedule

Agenda Item #13

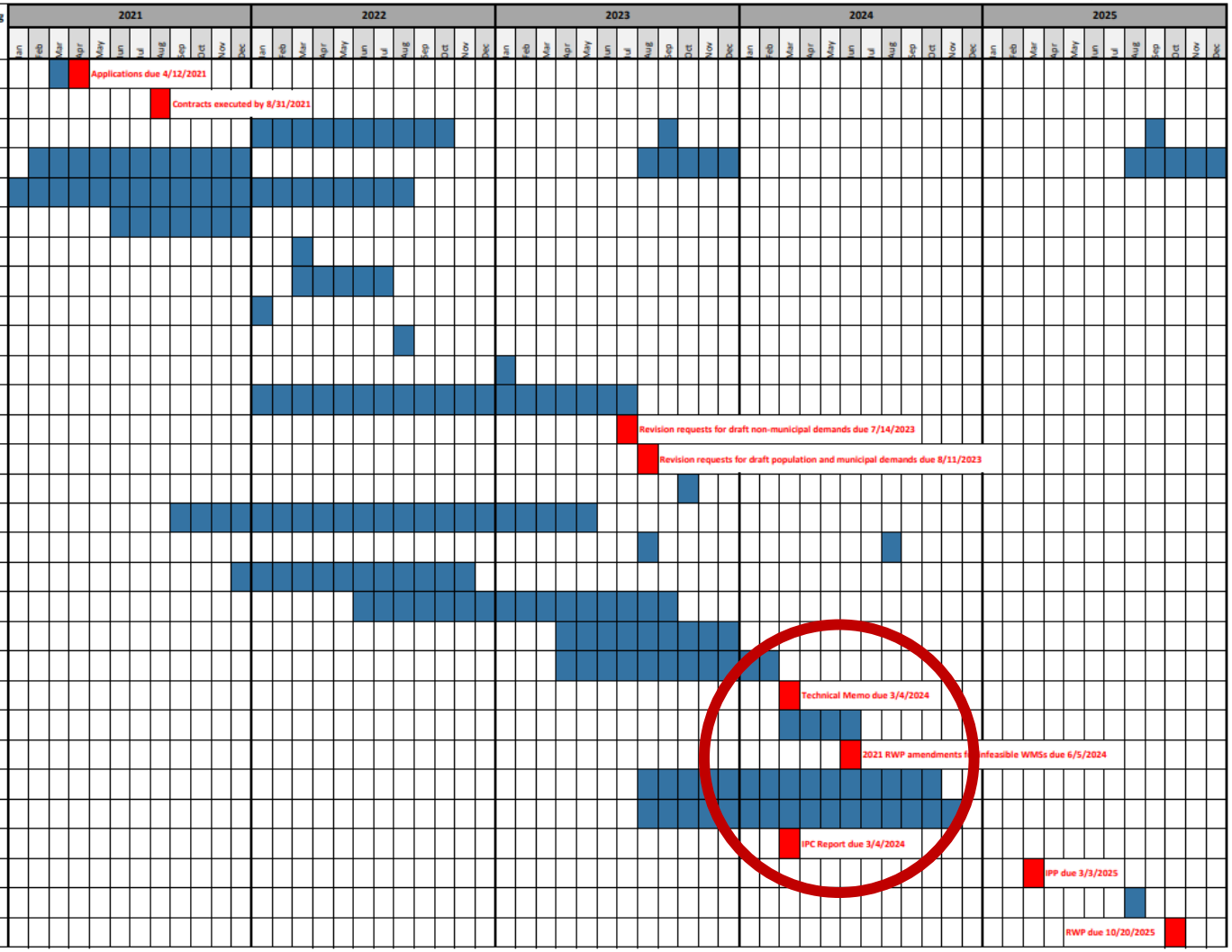
Task for Today

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



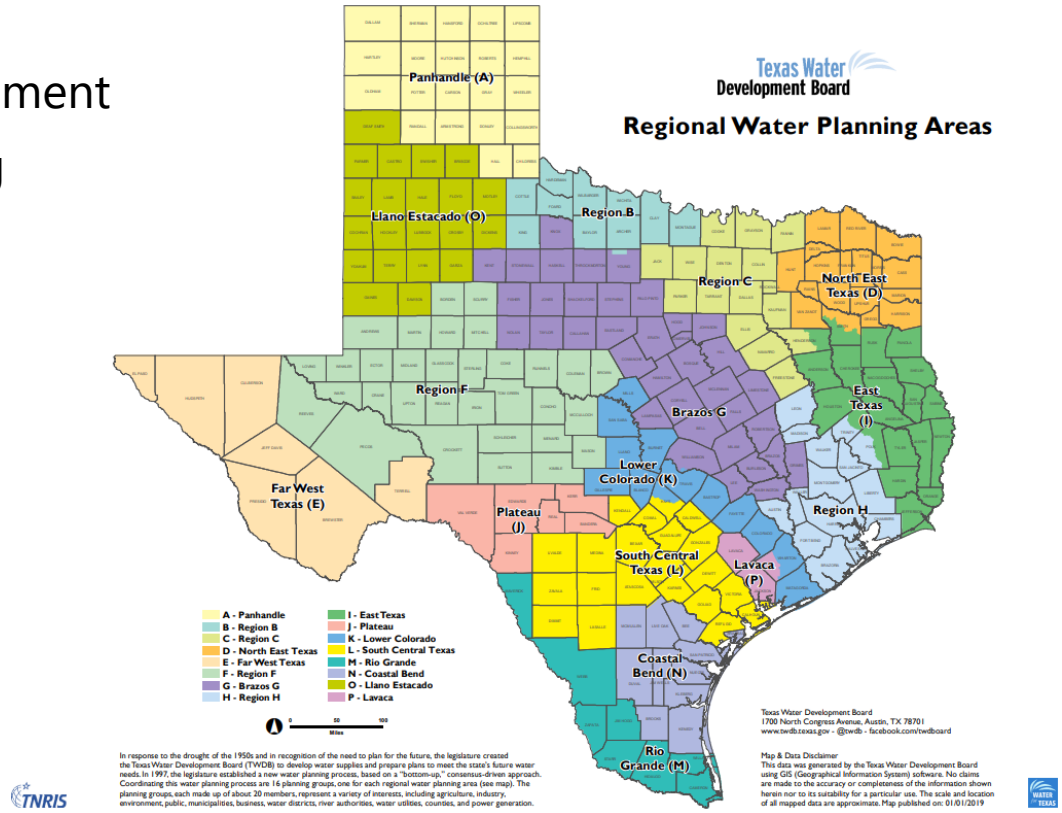
14

Chapter 1 – Description of the Planning Area

Agenda Item #14

8 Sections in Chapter 1

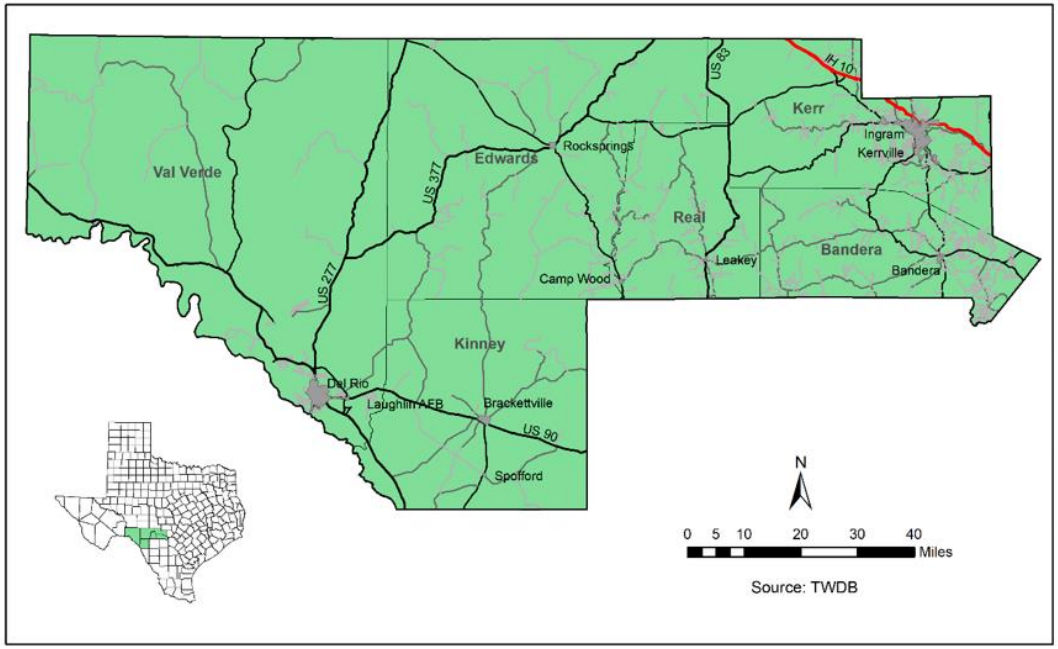
1. Introduction
2. Water Planning and Management
3. Regional Geographic Setting
4. Regional Water Demand
5. Water Supply Sources
6. Colonias
7. Water Loss Audits
8. State and Federal Agencies



Introduction

Location of Plateau Region

- *Located along the southern boundary of the Edwards Plateau*
- *Land grants issued by Mexico & later by the Republic of Texas in the early 1880's, led to European immigrants & transient settlers*
- *Settled small towns along many of the spring-fed streams*



Water Planning and Management

Regional Water Planning

- *Purpose of Plan is to provide short & long-term guidance for water planners*
- *TWDB rule revisions & key changes to population projection methodology*
- *Interim regional water supply research projects*
- *Participation of GCDs & recognition of their management plans & rules*
- *Summary on MAG difference between previous plan and this Plan*
- *Priority Groundwater Management Area*

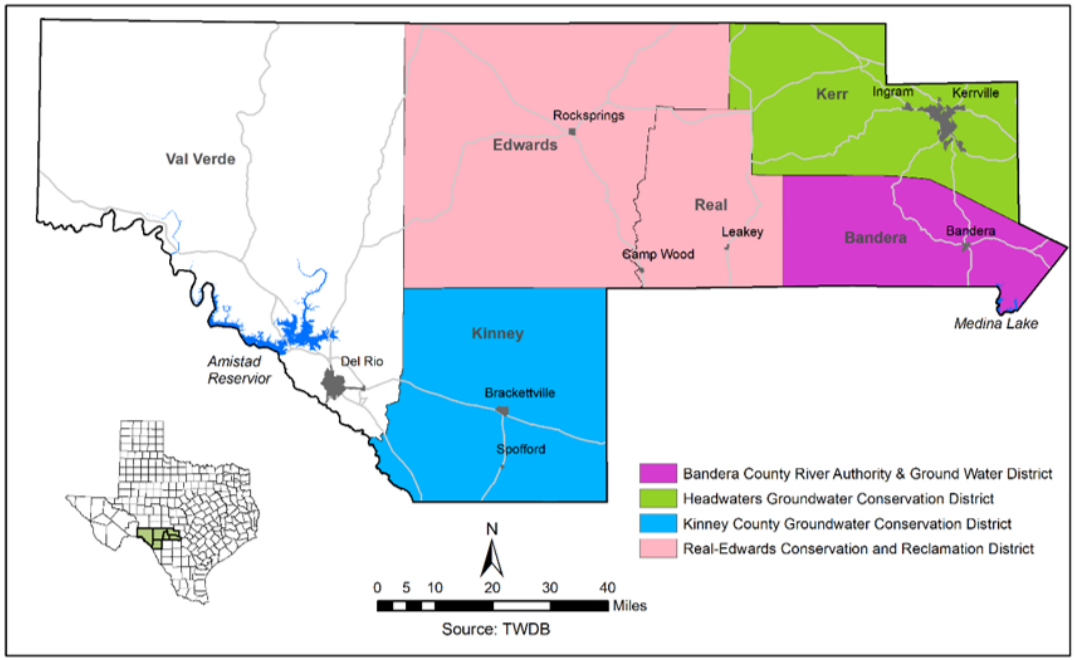


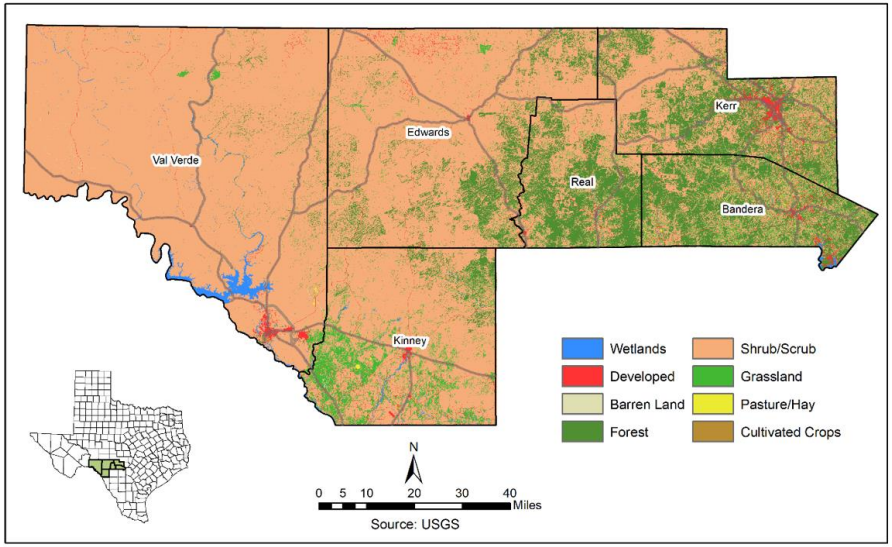
Table 1-1. Interim Planning Project Reports

Interim Planning Project Reports	Date
Ground-Water Resources of the Edwards Aquifer in the Del Rio Area, Texas	2001
The Lower Trinity Aquifer of Bandera and Kerr Counties, Texas	2001
Springs of Kinney and Val Verde Counties	2005
Spring Flow Contribution to the Headwaters of the Guadalupe River in Western Kerr County, Texas	2005
Installation of Groundwater Monitoring Equipment in Designated Wells in the Plateau Planning Region	2005
Water Rights Analysis and ASR Feasibility in Kerr County	2009
ASR Feasibility in Bandera County	2009
Groundwater Data Acquisition in Edwards, Kinney and Val Verde Counties, Texas	2010
Water Use by Livestock and Game Animals in the Plateau Regional Water Planning Area	2010
Occurrence of Significant River Alluvium Aquifers in the Plateau Region	2010

Regional Geographic Setting

Physiography

- *Balcones escarpment generally forms the southern boundary, & traces the path of a major fault system*
- *Rolling prairies, steep canyons, & the large number of spring-fed perennially flowing streams characterize the Region*



Population & Regional Economy

- *Projected 2030 total population of 140,468; 2080 total population of 154,530*
- *50% of total population resides in the two largest cities = Del Rio & Kerrville*
- *Land Use*
- *Climate & Drought*
- *Native Vegetation & Ecology*
- *Agricultural & Natural Resources*

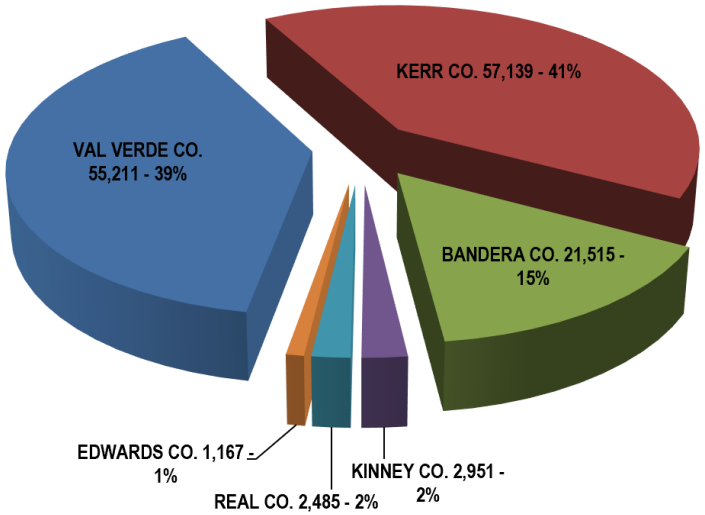
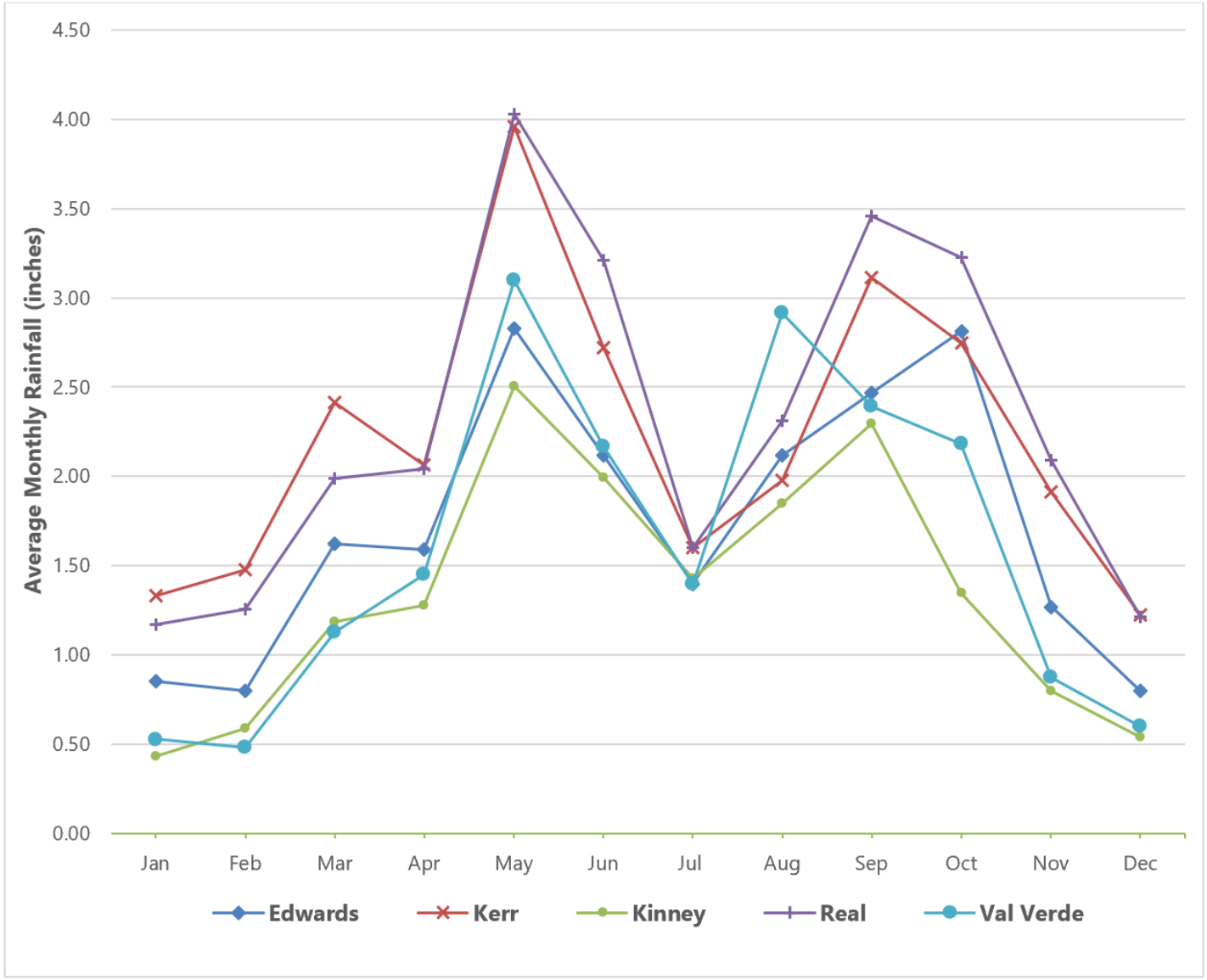


Figure 1-7. Average Monthly Rainfall



Val Verde County Monthly Rainfall (1993-2023)

Station Name	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Average Annual Rainfall
Del Rio International Airport, TX - USW00022010	1993	0.60	0.77	0.47	0.72	1.29	5.28	0.97	2.54	0.77	0.68	0.13	0.18	
	1994	2.36	1.61	2.49	1.74	2.61	0.05	5.07	0.57	1.24	1.70	0.39	3.14	
	1995	0.03	0.31	1.06	0.75	7.33	0.16	0.08	1.11	3.06	2.13	1.24	0.49	
	1996	0.00	0.39	0.02	0.62	1.20	0.02	0.07	4.77	2.09	0.88	0.87	0.34	
	1997	0.20	2.01	2.77	2.55	5.66	3.70	0.77	0.23	1.41	2.39	0.77	0.55	
	1998	0.01	0.34	1.06	0.01	0.08	1.35	0.00	20.93	1.43	1.46	1.94	0.24	
	1999	0.01	0.01	1.89	3.17	0.29	5.61	1.48	2.42	0.00	0.39	0.00	0.01	
	2000	0.03	0.94	0.28	0.90	1.03	4.38	0.65	0.11	1.32	5.00	2.82	0.51	
	2001	1.08	0.54	0.90	0.22	1.33	0.00	0.13	0.35	2.24	0.43	1.12	0.35	
	2002	0.01	0.02	0.10	1.44	1.81	3.09	0.87	0.63	1.28	7.39	0.73	0.31	
	2003	0.32	0.43	0.68	0.09	6.90	1.01	5.34	0.92	3.36	4.47	0.37	0.04	
	2004	0.81	0.74	3.48	3.34	2.39	2.28	1.79	2.48	3.96	4.57	4.71	0.40	
	2005	0.90	1.38	1.74	0.09	2.49	0.10	3.73	1.69	0.02	8.72	0.00	0.06	
	2006	0.25	0.04	0.16	0.59	1.83	2.07	0.01	1.36	2.38	0.53	0.01	0.36	
	2007	2.22	0.03	2.36	1.93	7.93	4.61	4.72	1.25	3.49	0.76	1.18	0.32	
	2008	0.08	0.02	0.57	0.06	0.58	2.73	0.97	11.32	0.28	0.16	0.00	0.41	
	2009	0.03	0.00	1.52	1.86	0.46	3.06	0.17	0.06	3.37	0.65	0.71	1.01	
	2010	2.52	1.54	1.16	6.03	10.45	0.71	4.72	0.57	2.06	0.01	0.01	0.00	
	2011	0.08	0.15	0.04	0.01	1.07	0.45	0.37	4.49	1.14	0.39	0.75	0.98	
	2012	0.48	1.20	1.31	1.20	4.49	0.01	1.00	0.11	3.90	0.06	0.05	0.04	
	2013	1.33	0.00	0.06	0.36	1.47	1.76	2.77	0.74	4.44	1.40	0.66	0.48	
	2014	0.00	0.22	0.32	0.08	0.73	4.69	0.35	0.78	4.23	1.24	3.26	0.25	
	2015	0.77	0.22	2.21	1.71	10.17	3.48	0.04	2.02	0.50	5.79	0.56	0.34	
	2016	0.68	0.07	2.08	4.16	1.62	2.93	0.05	10.26	5.92	0.11	2.11	2.48	
	2017	0.19	0.78	0.51	5.64	3.97	2.46	0.66	1.68	6.33	0.43	0.03	1.74	
	2018	0.00	0.19	0.13	0.01	1.23	0.59	2.15	4.11	7.75	8.73	0.06	1.26	
	2019	0.14	0.11	0.41	1.24	3.51	7.85	0.00	0.00	0.10	0.86	0.55	0.05	
	2020	0.67	0.28	3.09	1.41	1.21	0.44	0.45	0.50	3.17	0.17	0.02	1.26	
	2021	0.33	0.35	0.21	1.12	4.03	2.00	2.27	2.87	0.32	1.98	0.64	0.26	
	2022	0.02	0.14	0.00	0.64	1.93	0.24	0.00	7.57	2.45	2.38	0.62	0.00	
	2023	0.14	0.07	1.85	1.18	5.02	0.10	1.66	1.84	0.08	1.77	0.74	0.62	
Total Average Monthly Rainfall		**0.53**	**0.48**	**1.13**	**1.45**	**3.10**	**2.17**	**1.40**	**2.91**	**2.39**	**2.18**	**0.87**	**0.60**	**19.20**

Regional Water Demands

Major Demand Centers

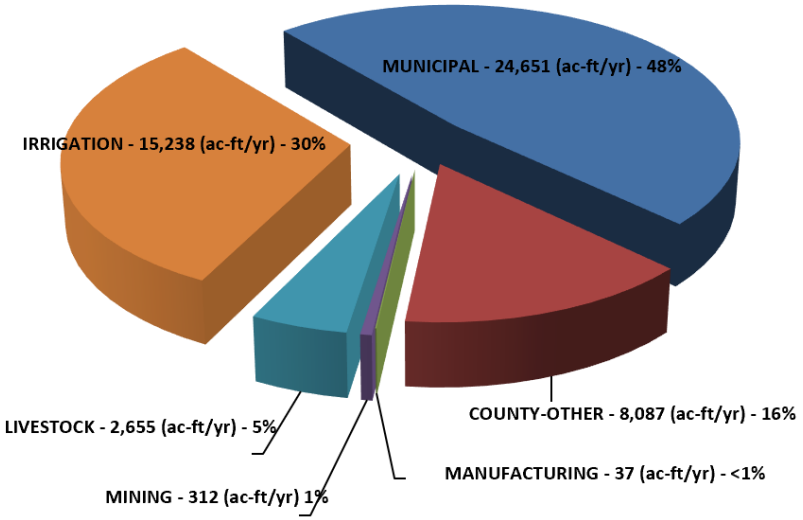
- *Total projected year 2030 water consumptive use is 50,980 ac/ft.*
- *Largest use is municipal & county-other (32,738 ac/ft.)*
- *Largest center of municipal demand is served by Del Rio Utilities.*

Agriculture & Ranching

- *2nd largest water use in the Region (15,238 ac/ft.)*
- *Kinney County accounts for 44% of the regional total*

Environmental & Recreational Water Needs

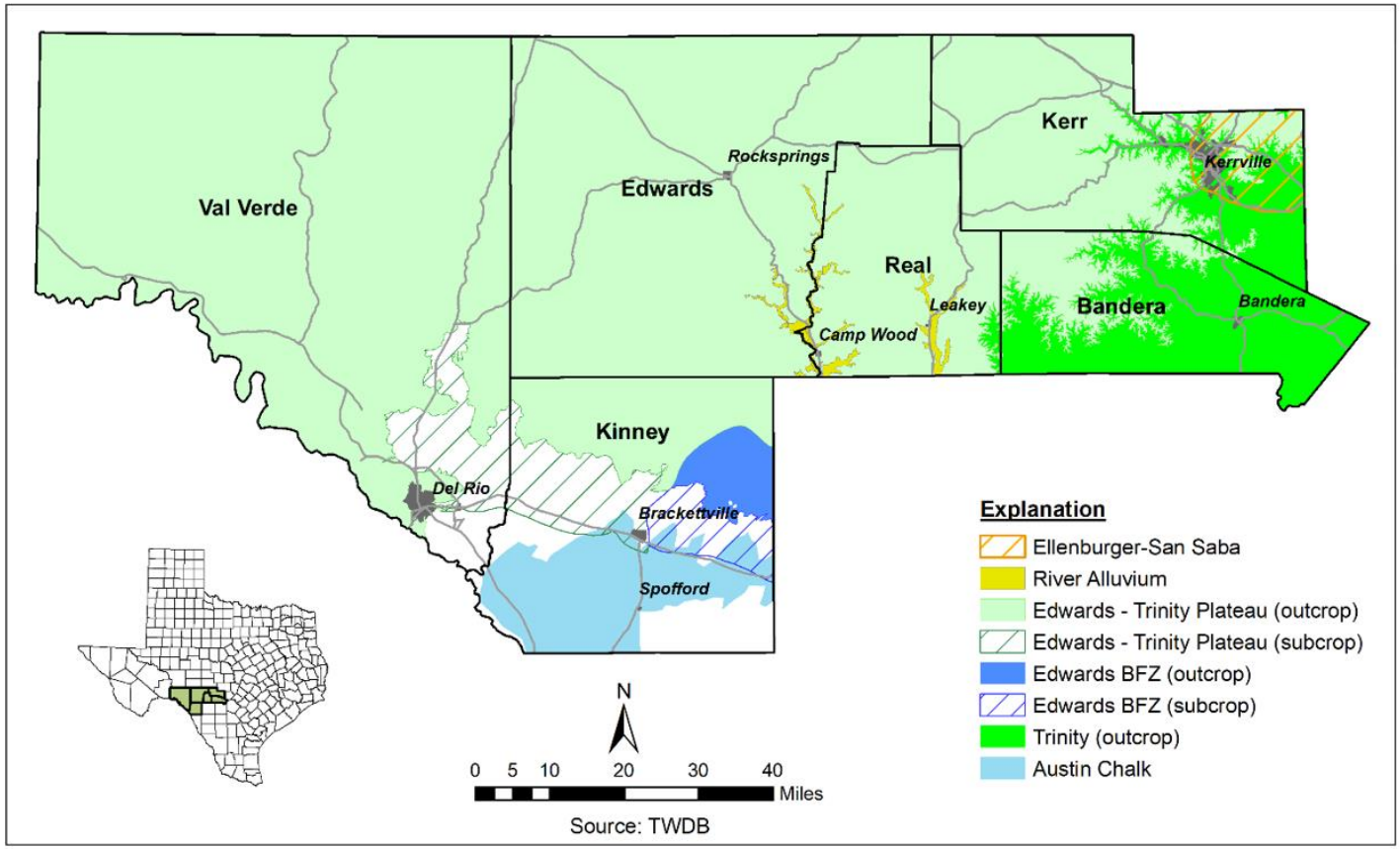
- *Tens of thousands of annual visitors*
- *Recognized as being important when considering water needs and demands within the Region*



Groundwater Supply Sources

Designated Aquifers

- *3 Major Aquifers*
- *4 Planning Group*
- *Other Aquifers*



Surface Water Supply Sources

Plateau Region = 5 River Basins

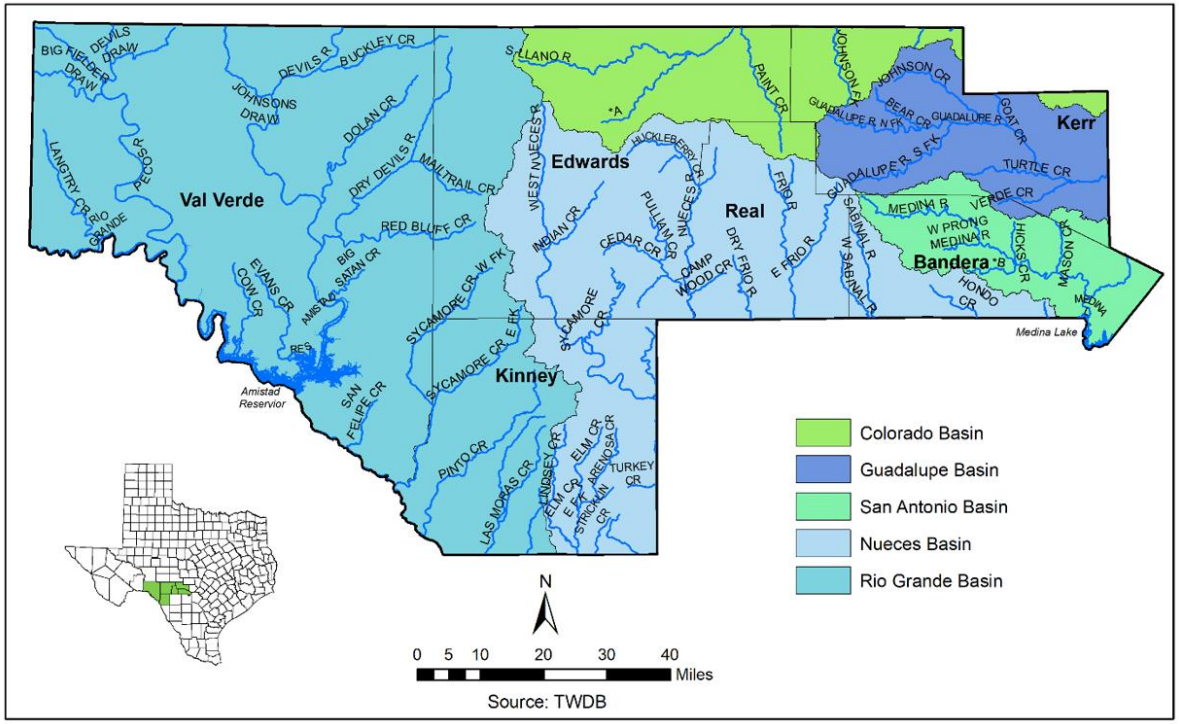
- *Colorado*
- *Guadalupe*
- *San Antonio*
- *Nueces*
- *Rio Grande*

3 Major Springs

- *4th largest spring in Texas is San Felipe Springs*
- *Las Moras Springs*
- *Old Faithful*

2 Supplemental Study Reports

- *Location & Geohydrology in Kinney & Val Verde Counties*
- *Spring flow in western Kerr County*



Reuse

Increasingly Valuable Water Supply State Wide to Meet Future Needs

- *Characterized as one of two types:*
  - *Direct Reuse – or wastewater that is reused without first being discharged into a stream or watercourse*
  - *Indirect Reuse – in which wastewater is discharged to a stream or other watercourse prior to being diverted for use*
- *TWDB for this planning cycle has developed the SEP water demand projections to include the relevant reuse volumes reported by the power facilities*
- *Volumes of reuse water, such as treated effluent, and brackish groundwater are used by manufacturing facilities were included in the historical water use estimates and water demand projections*
- *Reuse Total Source Availability*
  - *5,310 (ac/ft) projected 2030 through 2080*
    - *Bandera 310 acre-feet throughout the planning horizon*
    - *Kerr 5,000 acre-feet throughout the planning horizon*

Water Quality Problems

1. Water Quality Issues
   - *Generally good throughout the Plateau Region*
   - *Specific water quality issues:*
     - *Increasing population = increase in urban runoff*
     - *Increasing population = fragmentation of larger properties*
   - *Groundwater specific water quality issues:*
     - *Most concern is nitrate*
     - *Wells that do not have adequately cemented casing*
2. Supply Source Protection
   - *List of Source Water Protection Participants (2014-2023)*

PWS Name	County	Report Date
Latigo Ranch Subdivision	Bandera	2023
City of Bandera	Bandera	2020
City of Rocksprings	Edwards	2016
Center Point Taylor System	Kerr	2014

Colonias / TWDB Economically Distressed Area Program

Table 1-8 Economically Distressed Area Program Projects (August 31, 2023)

County	Sponsor	Project	EDAP Funding ($)	Other TWDB Funding ($)	Status
Kerr	Kerr County	Center Point Wastewater System	27,668,118.00	33,697,673.00	Active
	Upper Guadalupe RA	Center Point Water System	39,554.50		Completed
Kinney	Spofford	Brackettville Transmission Line	243,113.00		Completed
Real	Nueces River Authority	Leakey Wastewater System	20,251,979.20	9,961,460.00	Active
Val Verde	Val Verde County	Colonia Water Service	942,000.00		Active
	Val Verde County	Lakeview Estates Water & Wastewater	410,966.59		Completed
	Val Verde County	Water & Wastewater Planning	283,284.00		Completed
	Del Rio	Cienegas Terrace	3,245,986.00		Completed
	Del Rio	Val Verde Parke Estates	10,747,009.00		Completed

Water Loss Audits

- To be updated with more recent data prior to IPP.

State and Federal Agencies with Water Responsibilities

1. Texas Water Development Board (TWDB)
2. Texas Commission on Environmental Quality (TCEQ)
3. Texas Parks and Wildlife Department (TPWD)
4. Texas Department of Agriculture (TDA)
5. Texas State Soil and Water Conservation Board (TSSWCB)
6. South Texas Watermaster Program
7. Public Utility Commission of Texas
8. International Boundary and Water Conservation (IBWC) and Comision Internacional de Limites y Aquas (CILA)
9. United States Geological Survey (USGS)
10. United States Environmental Protection Agency (EPA)
11. United States Fish and Wildlife Service (USFWS)
12. Upper Guadalupe River Authority (UGRA)
13. Nueces River Authority

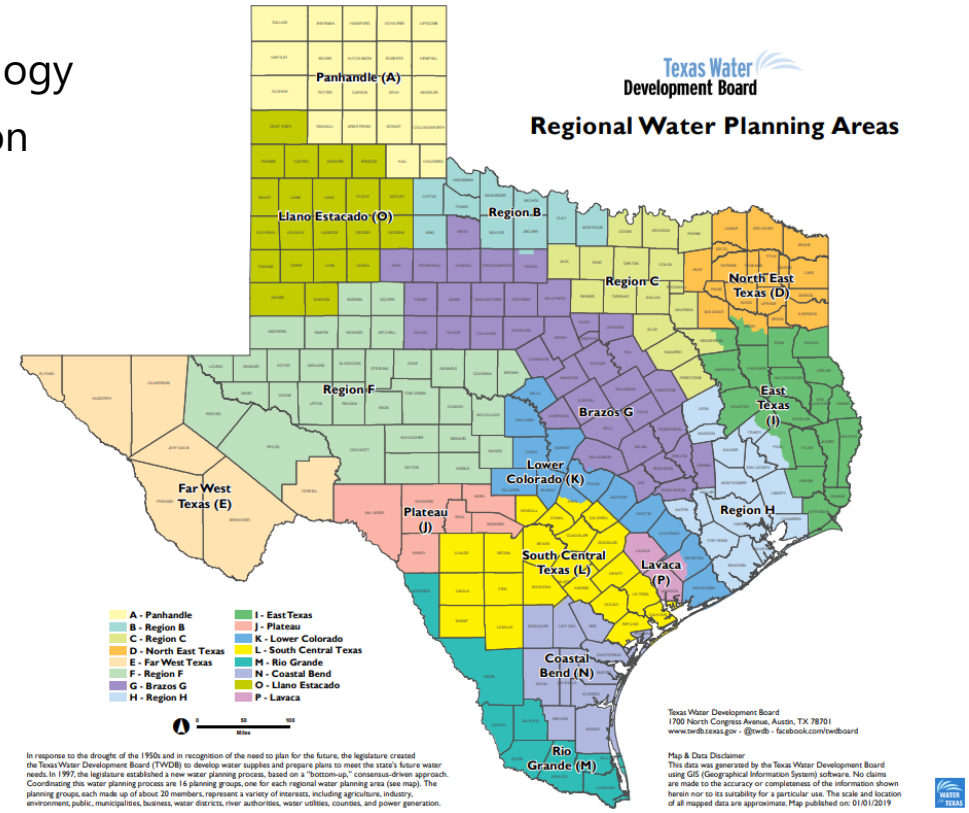
15

Chapter 2 – Population and Water Demand

Agenda Item #15

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



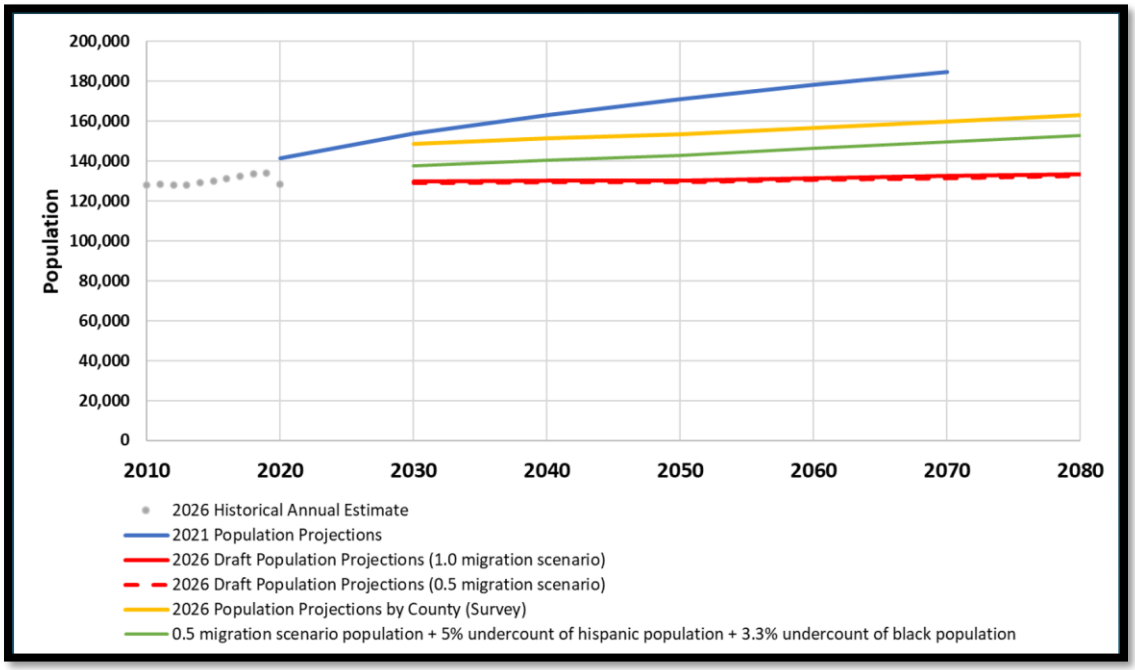
Population Projection Methodology

TWDB Updated Methodology for Sixth Cycle of Planning

- *Allow for population declines, as shown in the 2022 population projections from the TDC*
- *Future savings from additional faucet and dishwasher replacements were not considered necessary for inclusion in the draft plumbing code savings projections*

PWPG Population Projections were based on:

- *More conservative migration scenario*
- *Applied national undercount demographically*
- *All WUGs were surveyed, soliciting information on current and future growth*



Current and Projected Population

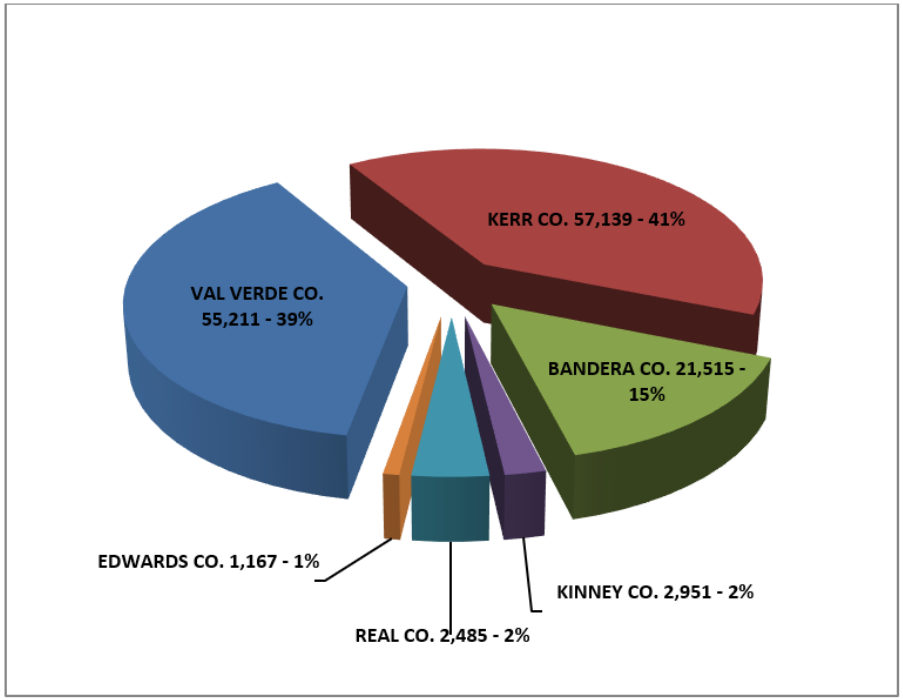


Figure 2-1 Year 2030 Population Projection

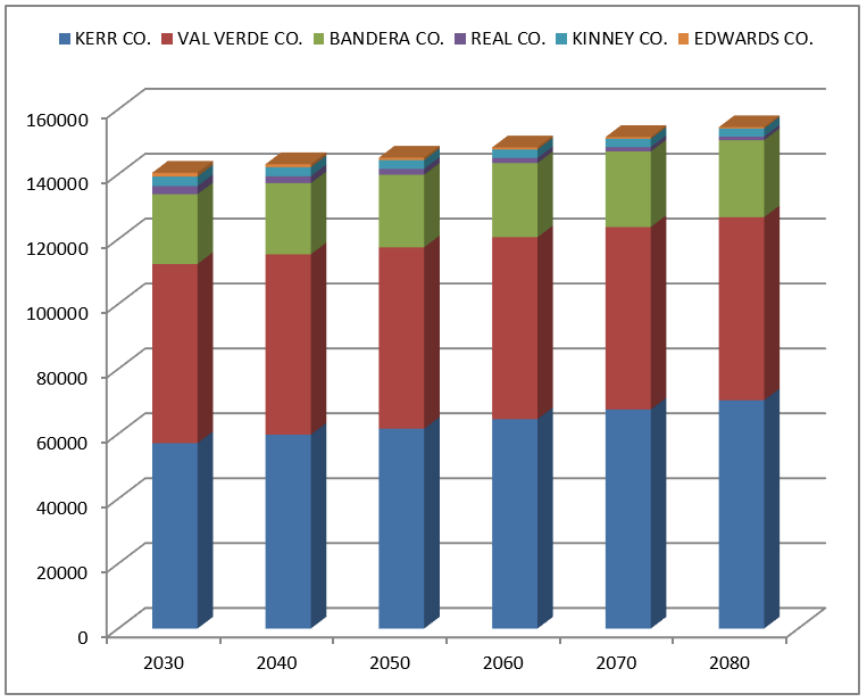


Figure 2-2 Regional Population Projection

- Del Rio, with a year 2030 projected population of 35,932 is the largest community in the Region.
- Expressed concern that the census does not recognize the significant seasonal population

Water Demand

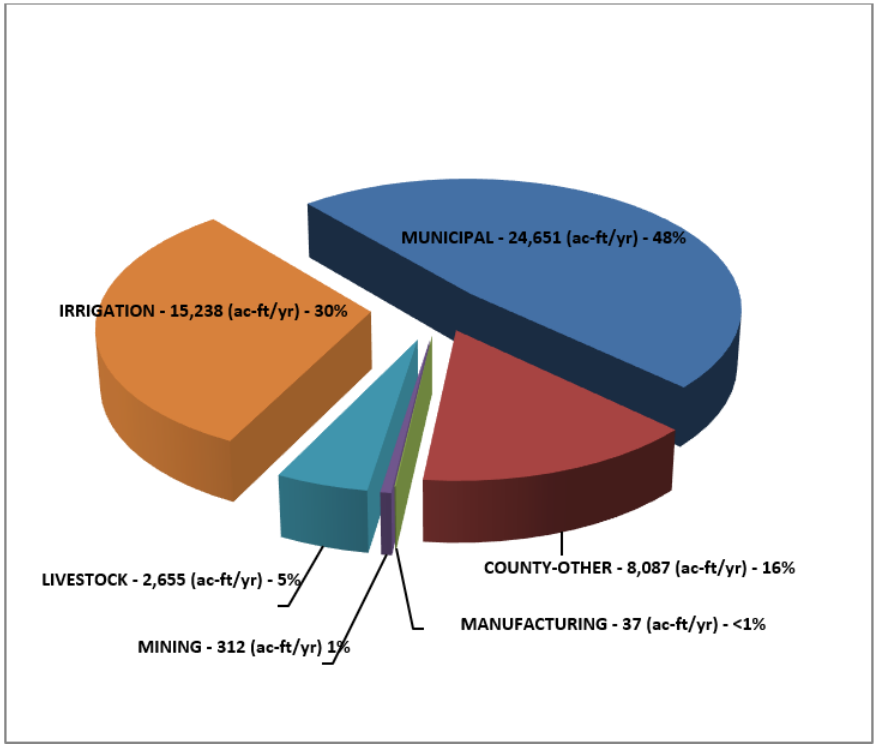


Figure 2-4. Year 2030 Projected Water Demand by Water-Use Category

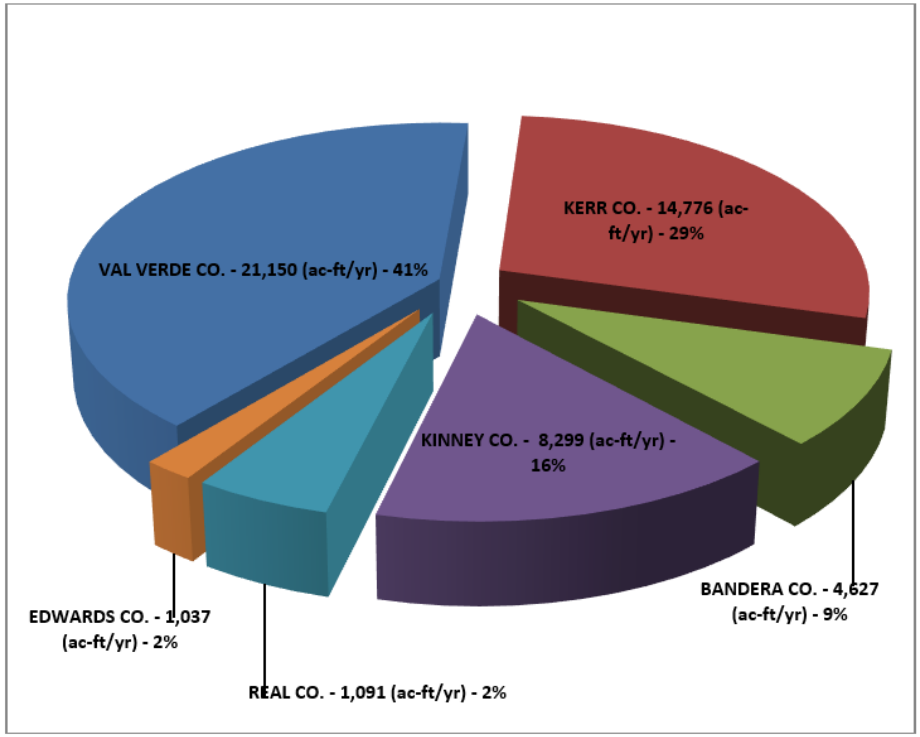


Figure 2-5. Year 2030 Projected Water Demand by County

- Del Rio, with a year 2030 projected population of 35,932 is the largest community in the Region.
- Expressed concern that the census does not recognize the significant seasonal population

16

Report on Other Regional Planning Efforts

Agenda Item #16

Task 5B TWDB Modifications

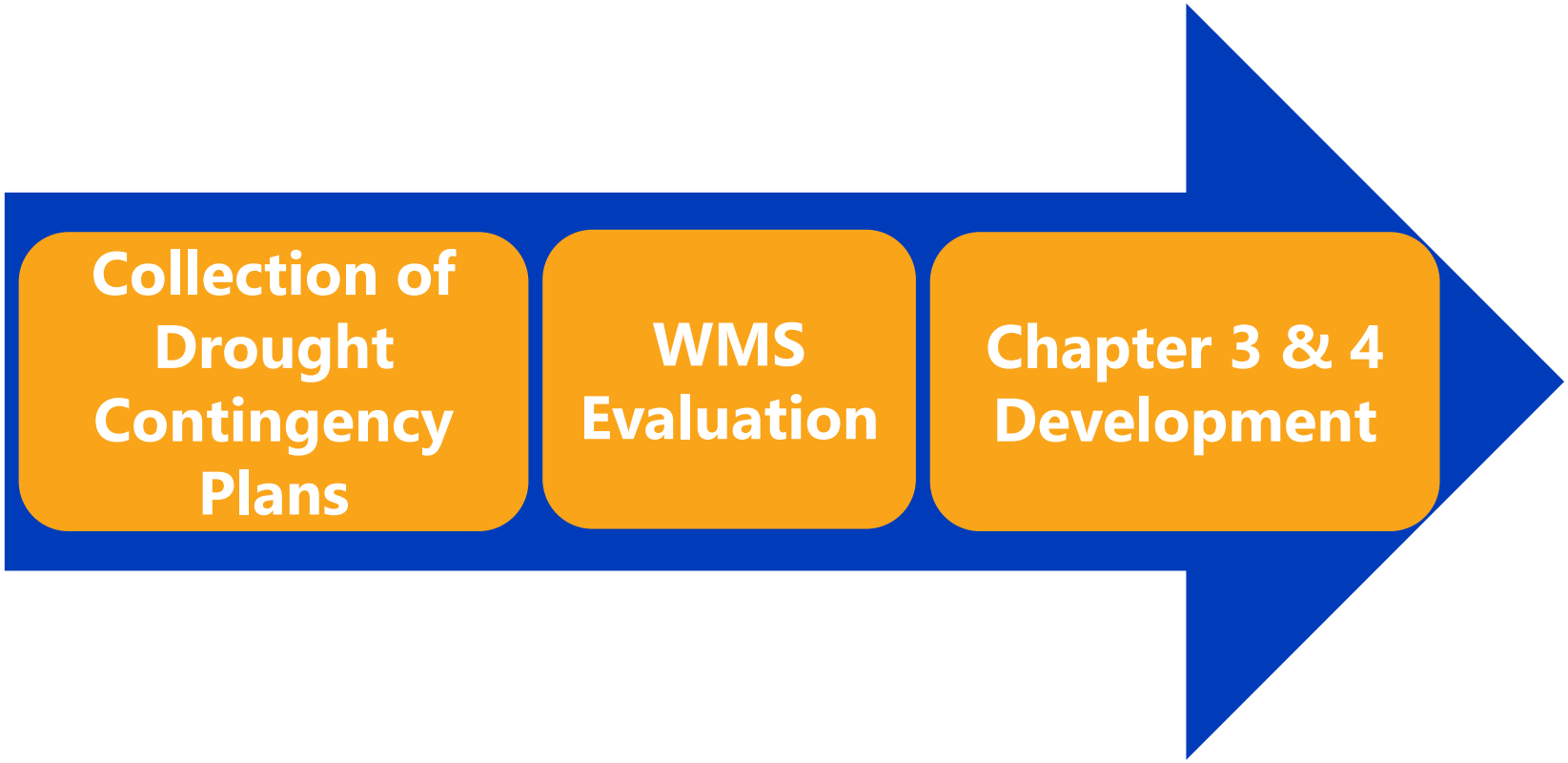
- Split out the groundwater and brackish groundwater scope items
- Removed the word “conservation” from the vegetative management strategy name
- Added the following language to the Vegetative Management and Rainwater Harvesting strategy descriptions

  “The evaluation will estimate drought-of-record water volumes, drought-of-record reliability and cost associated with specific geographic areas and specific brush control techniques.”

- TWDB added standard language to the “Other Projects” strategy

  “Other strategies will be approved by the Far West Texas Water Planning Group with concurrence of the TWDB prior to evaluation.”

Next Steps


Collection of Drought Contingency Plans
WMS Evaluation
Chapter 3 & 4 Development

Jennifer Jackson, Planning Manager
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