



# Plateau Water Planning Group

January 26, 2023

Political Entity Report

# Since Last Meeting

- Submitted payment request #2
- Executed amended contract with TWDB to increase overall budget from \$90,233 to \$378,730
- Executed amended contract with WSP to allocate funding to their contract

<b>CONTRACTOR EXPENSE BUDGET</b>			
<b>EXPENSE BUDGET CATEGORY</b>	<b>ORIGINAL BUDGET</b>	<b>REVISED BUDGET</b>	<b>AMOUNT CHANGED</b>
Contractor (Political Subdivision) Other Expenses <sup>1</sup>	\$10,115.00	\$10,115.00.00	\$0.00
Contractor (Political Subdivision) Salaries and Wages <sup>2</sup>	<i>category did not previously exist</i>	\$15,000.00	\$15,000.00
Subcontract Services	\$80,118.00	\$353,615.00	\$273,497.00
Voting Planning Member Travel <sup>3</sup>	\$0.00	\$0.00	\$0.00
Contractor (Political Subdivision) Travel <sup>4</sup>	\$0.00	\$0.00	\$0.00
<b>Total Project Cost</b>	<b>\$90,233.00</b>	<b>\$378,730.00</b>	<b>\$288,497.00</b>

# Current Budget

## New Info

Contractor funds can only be used for planning political subdivision

# Budget Memo #1

Move Kerr County Admin Expense from Contractor to Subcontract

CONTRACTOR EXPENSE BUDGET			
EXPENSE BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET	AMOUNT CHANGED
Contractor (Political Subdivision) Other Expenses <sup>1</sup>	\$10,115.00	\$10,115.00.00	\$0.00
Contractor (Political Subdivision) Salaries and Wages <sup>2</sup>	<i>category did not previously exist</i>	\$15,000.00	\$15,000.00
Subcontract Services	\$80,118.00	\$353,615.00	\$273,497.00
Voting Planning Member Travel <sup>3</sup>	\$0.00	\$0.00	\$0.00
Contractor (Political Subdivision) Travel <sup>4</sup>	\$0.00	\$0.00	\$0.00
<b>Total Project Cost</b>	<b>\$90,233.00</b>	<b>\$378,730.00</b>	<b>\$288,497.00</b>

CONTRACTOR EXPENSE BUDGET			
EXPENSE BUDGET CATEGORY	BUDGET	REVISED BUDGET	AMOUNT CHANGED
Contractor (Political Subdivision) Other Expenses <sup>1</sup>	\$10,115.00.00	\$1,250.00	(\$8,865.00)
Contractor (Political Subdivision) Salaries and Wages <sup>2</sup>	\$15,000.00	\$0.00	(\$15,000.00)
Subcontract Services	\$353,615.00	\$377,480.00	\$23,865.00
Voting Planning Member Travel <sup>3</sup>	\$0.00	\$0.00	\$0.00
Contractor (Political Subdivision) Travel <sup>4</sup>	\$0.00	\$0.00	\$0.00
<b>Total Project Cost</b>	<b>\$378,730.00</b>	<b>\$378,730.00</b>	<b>\$0.00</b>

# Next Step

- Planning Group consideration of Budget Change (Item X)
- Planning Group consideration of UGRA subcontract with Kerr County (Item XI)
- UGRA submit Budget Memo to TWDB
- UGRA and Kerr County subcontract for salary and admin expenses

# Region J TWDB Update 1-26-23

1. Data to assist with the new Infeasible WMS task was provided on January 10th
2. New one-pagers: Water Supply and Flood Mitigation Strategies, Drought of Record, Consistency Reviews
  - <https://www.twdb.texas.gov/waterplanning/rwp/education/index.asp>
3. New educational materials: Member Guide and Administrative Guidance
  - <https://www.twdb.texas.gov/waterplanning/rwp/regions/newmembers.asp>
  - <https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/documents.asp>
4. Interregional Planning Council update:
  - First meeting was held on November 9, 2022.
5. SWIFT Abridged Application period open through February 1st

# Significant new requirements for the 2026 RWPs

- Task 3: Exhibit C, Section 2.3 (Water Availability and Existing Supplies)
  - Technical Memorandum and RWPs must include methodology for calculating anticipated sedimentation rate and revising the area-capacity rating curves
  - Reuse availability presented as a separate subsection in Chapter 3
  - Hydrologic variance requests for surface water must use template checklist

# Significant new requirements for the 2026 RWPs (cont.)

- Task 4B: Exhibit C, Section 2.11 (Identification of infeasible WMSs in the 2021 RWP)
  - Required by SB 1511, 86<sup>th</sup> Texas Legislature
  - Analysis must be completed prior to **March 4, 2024**
  - Results presented at public meeting where RWPG also presents methodology for identifying potentially feasible WMSs in 2026 RWP
  - Infeasible WMSs to be listed in Technical Memorandum
  - If infeasible WMSs identified, amend 2021 plans to:
    - Remove infeasible WMS or WMSP,
    - Revise infeasible WMS or WMSP to make feasible, and/or
    - Incorporate new WMS or WMSP
  - RWPG-adopted amendments due **June 4, 2024**

# Significant new requirements for the 2026 RWPs (cont.)

- Task 4B: Exhibit C, Section 2.11 (cont.)
  - Review WMSs and WMSPs in the previous RWP and coordinate with project sponsors to determine implementation status and determine infeasibility
  - At a minimum, review status of strategies and projects with an online decade of 2020 in the 2021 RWPs.
    - Such strategies were required to be online and delivering water by **January 5, 2023**
  - Additional near-term strategies and projects that have lengthy permitting or construction processes should also be reviewed for infeasibility
  - Affirmative steps by the sponsor may include but not limited to:
    - spending money on the strategy or project,
    - voting to spend money on the strategy or project, or
    - applying for a federal or state permit for the strategy or project



# Significant new requirements for the 2026 RWPs (cont.)

- Task 4C: Exhibit C, Section 2.12.1 (Technical Memorandum)
  - Include summary of region's interregional coordination efforts to date
  - Include list of identified infeasible WMSs and WMSPs resulting from new Task 4B
- Task 5B: Exhibit C, Section 2.5 (Evaluation/Recommendation of Strategies & Projects)
  - Guidance added to address HB 807, 87<sup>th</sup> Texas Legislature (ASR assessments and GPCD goals)
  - Conservation WMSs required to be split out for water loss mitigation vs water use reduction
  - New subsection documenting implementation status of certain WMS types



# Significant new requirements for the 2026 RWPs (cont.)

- Task 7: Exhibit C, Section 2.7 (Drought response information)
  - Guidance added to address HB 807, 87<sup>th</sup> Texas Legislature (unnecessary or counterproductive drought response)
  - RWPGs to identify rather than recommend drought response triggers & actions
  - New guidance to optionally address droughts worse than drought of record
  - New subsection required to address how the planning group is addressing uncertainty and droughts worse than drought of record (if applicable), and what additional measures not included in the plan could be available during a drought worse than drought of record

# Significant new requirements for the 2026 RWPs (cont.)

- Task 9: Exhibit C, Section 2.9 (Implementation)
  - Reduced content of implementation survey
  - Guidance added to address HB 807, 87<sup>th</sup> Texas Legislature (progress in achieving economies of scale)
- Task 10: Exhibit C, Section 2.10, 2.13, 2.14 (Adoption and deliverables)
  - Initially Prepared Plan and final RWP must document summary of region's interregional coordination efforts
  - State Database Reports (DB27) to be included in Initially Prepared Plan and final RWP via hyperlinks to TWDB's Database Reports application, in lieu of hard copies

# Important Reminders

- Infrastructure finance survey and related chapter removed
- RWPG task to prioritize recommended projects removed
- Due to removal of IFR chapter, 2026 RWPs will have 10 chapters
  - Implementation and comparison of previous plan now Chapter 9
- Documents available on the 2026 RWP Document Page:
  - General copy of first amended SOW
  - First amended Exhibit C
  - Summary of major revisions to Exhibit C
  - [https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/document\\_s.asp](https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/document_s.asp)



# 2026 Regional Water Plans: Irrigation, Mining, and Municipal Water Demand Projection Methodologies

Katie Dahlberg  
Manager, Projections & Socioeconomic Analysis  
Water Supply Planning

January 26, 2023  
Plateau Region J Planning Group Meeting

# Agenda

- Projections timeline
- Projections methodologies
  - Irrigation
  - Mining
  - Population
  - Municipal

# Projections Timeline

Draft Water Demand Projections	Timeline
Draft livestock, manufacturing, and steam-electric power water demand projections	January 20, 2022
Draft irrigation and mining demand water demand projections	August 23, 2022
Population projections, baseline GPCD, plumbing code savings projections, municipal demand projections + municipal basin split percentages	January 23, 2023
<b>DUE:</b> RWPGs request revisions for non-municipal demand projections	July 14, 2023
<b>DUE:</b> RWPGs request revisions for population and municipal demand projections	August 11, 2023
TWDB Board Meeting to Adopt Projections	Fall 2023
<b>DUE:</b> Technical Memorandum	March 4, 2024

# Non-Municipal Water Demand Projections Methodologies

Historical: 2015 - 2019

Projections: 2030 - 2080



# Irrigation

Baseline = 5-year average (2015-2019)

Irrigated crops, self-supplied golf courses

Water sources: groundwater, surface water, reuse

# Irrigation

Same methodology as 2021 RWP

2030 – 2080 held constant

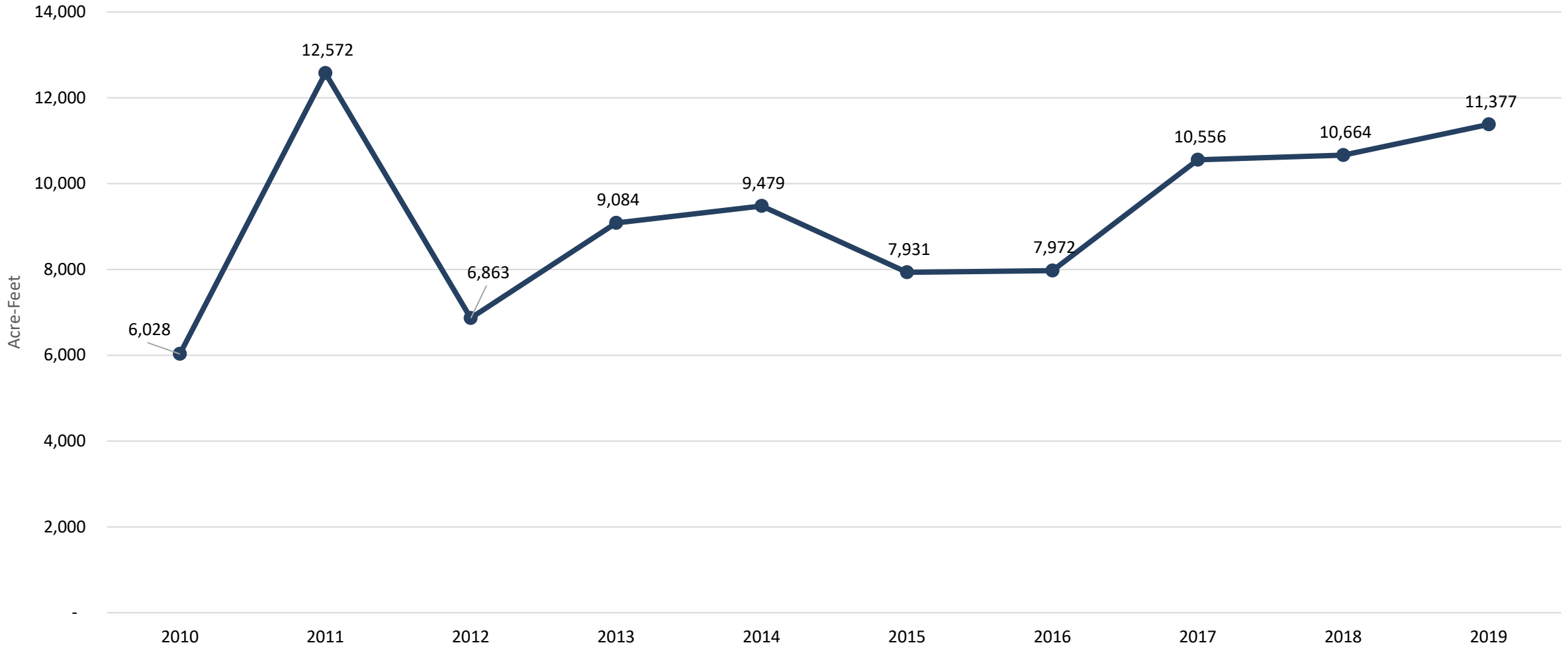
- Except counties where groundwater availability (MAG + Non-MAG) is less than the groundwater-portion of the demand projections
- Decline commensurate with groundwater availability

# Annual Irrigation Water Use Estimates

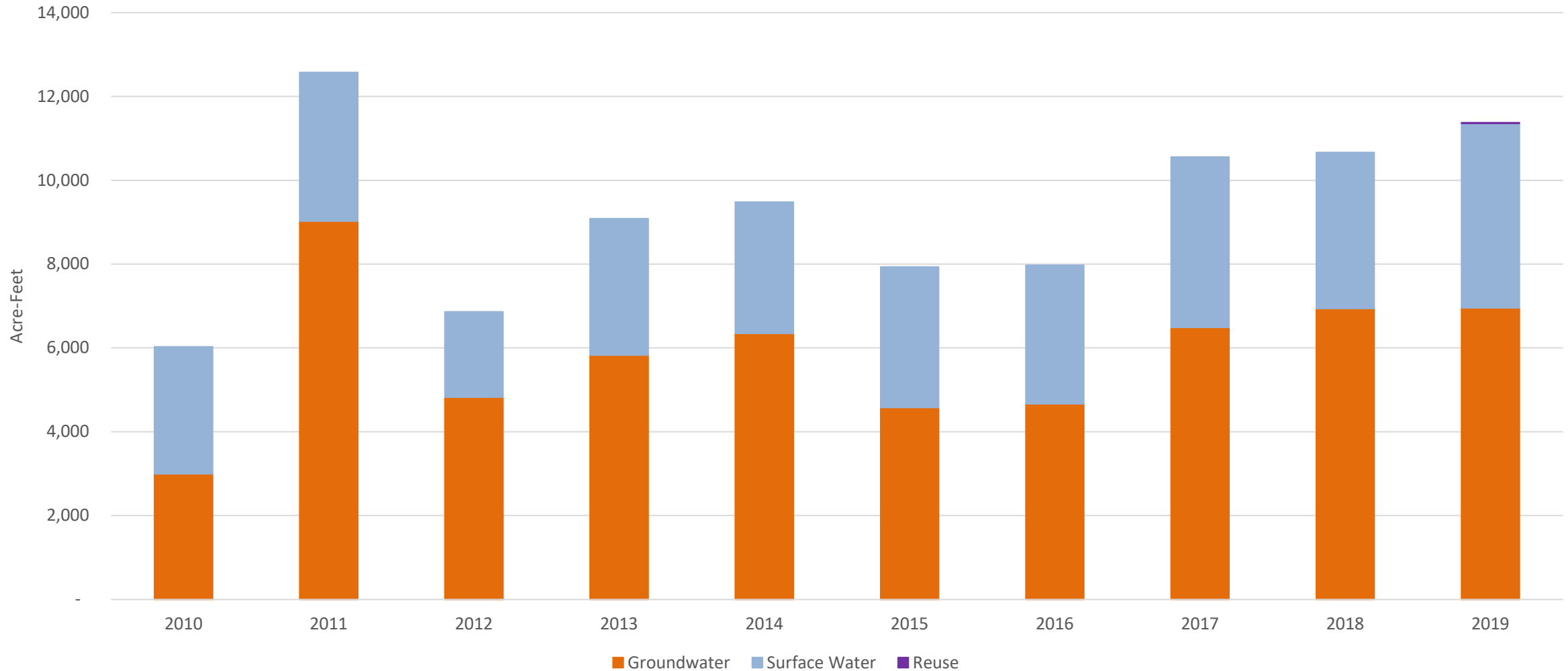
- TWDB Water Science & Conservation – Ag Conservation
- Crop data is collected from U.S. Department of Agriculture - Farm Service Agency
  - + Local sources when available
- Surface water irrigation diversion releases provided by TCEQ Watermasters
- GCDs and regional water authorities assist by reviewing the estimates and suggesting revisions based on local expertise

<https://www.twdb.texas.gov/conservation/agriculture/irrigation/index.asp>

# Region J – Historical Irrigation Water Use Estimates (acft)



# Region J – Historical Water Use by Source (acft)



# Region J – average water use baseline (acft)

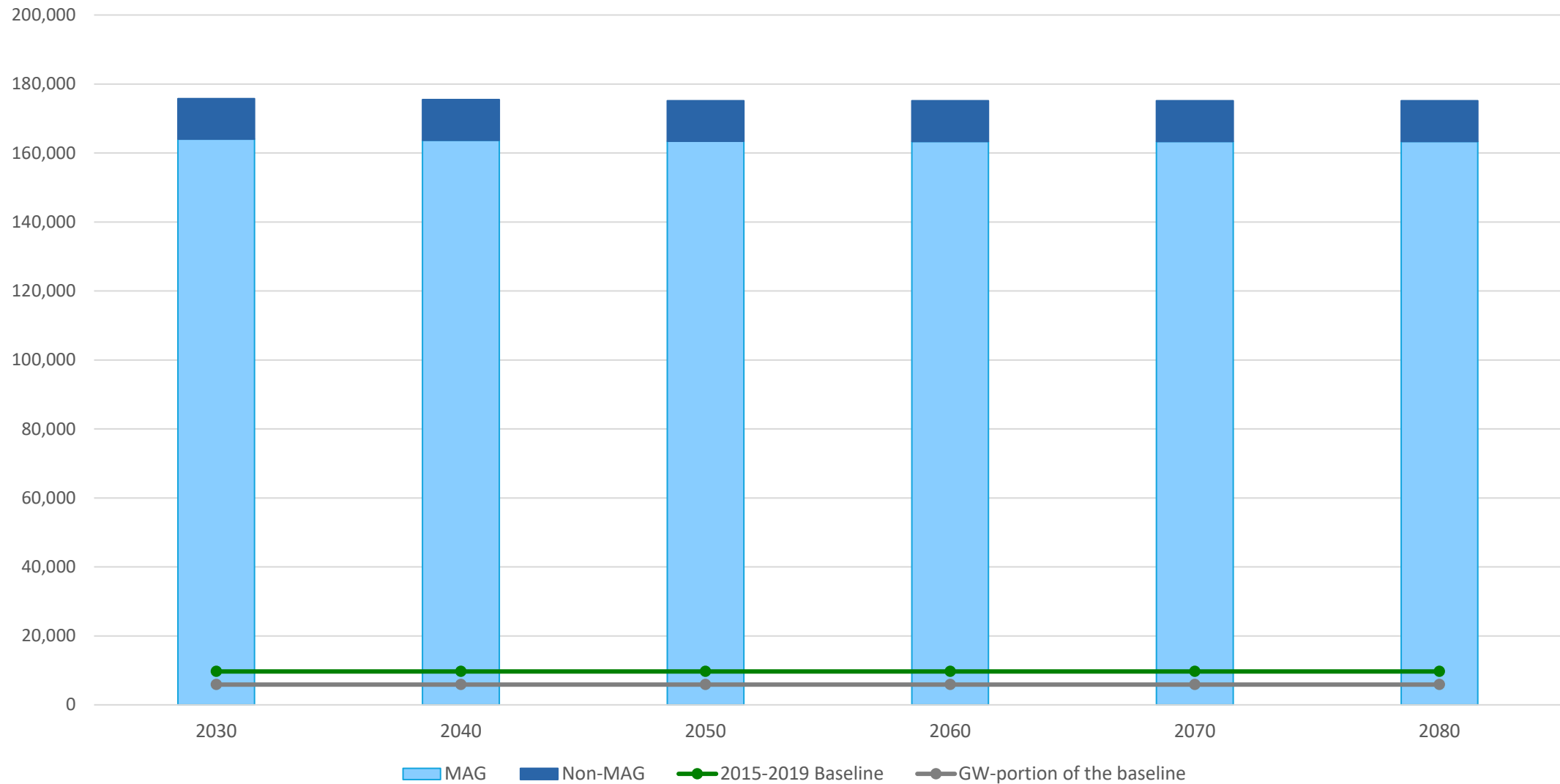
Estimated Historical Irrigation Water Use	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010-2014 5-year average:	2015-2019 5-year average:	2010-2019 10-year average:
		6,028	12,572	6,863	9,084	9,479	7,931	7,972	10,556	10,664	11,377	8,805	9,701

# Irrigation Projections

- Develop projections
- Project future use by source, based on historical use
  - Whole county-level
  - Project each decade groundwater use for each county
- Compare to MAG + Non-MAG projected by decade
- Updated MAGs: GMAs 7
- MAGs in progress: GMAs 1, 8, 9, 10, & 12



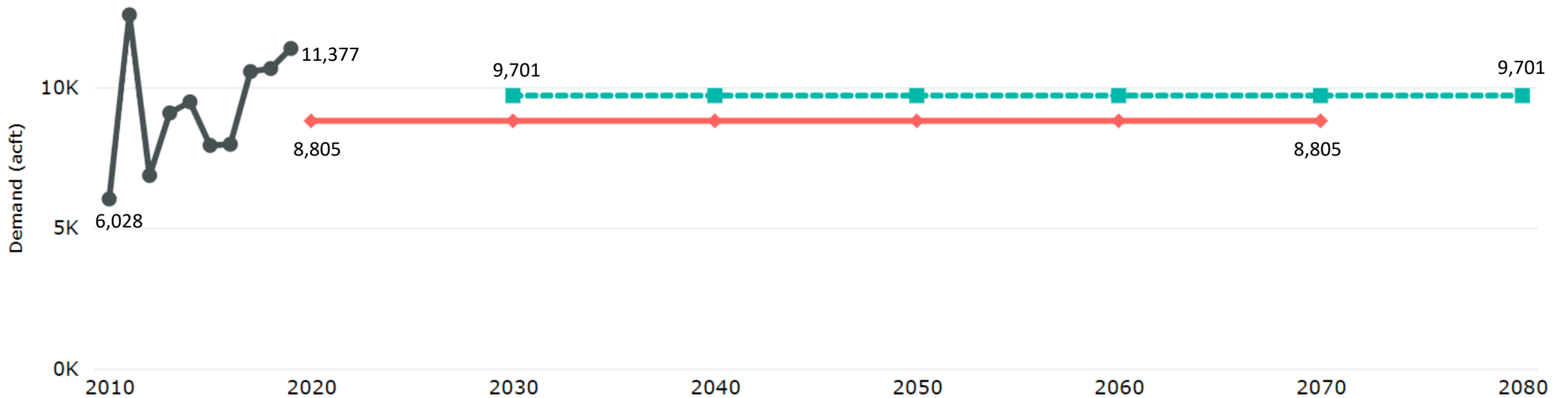
# Region J - MAGs + Non-MAGs and 5-year average baseline (acft)





# Region J – Irrigation Water Demands (acft)

Data Source ● Historical ◆ 2022 State Water Plan ■ Draft 2027 State Water Plan



# Mining Study

Study funded by USGS

Contracted UT Bureau of Economic Geology

Update to the 2011 study

Comprehensive and quantitative assessment of mining water use in Texas

- Oil and gas, aggregates, and coal and lignite
- Historical estimates
- Projections for the 2026 Regional Water Plans

August 2022

<https://www.twdb.texas.gov/waterplanning/data/projections/MiningStudy/index.asp>

# Mining Projections Methodologies

## Oil and Gas: total recoverable resources

- Well inventory, volume of water per well, average number of wells drilled each year
- Distributed over the planning horizon

## Aggregates: function of statewide population

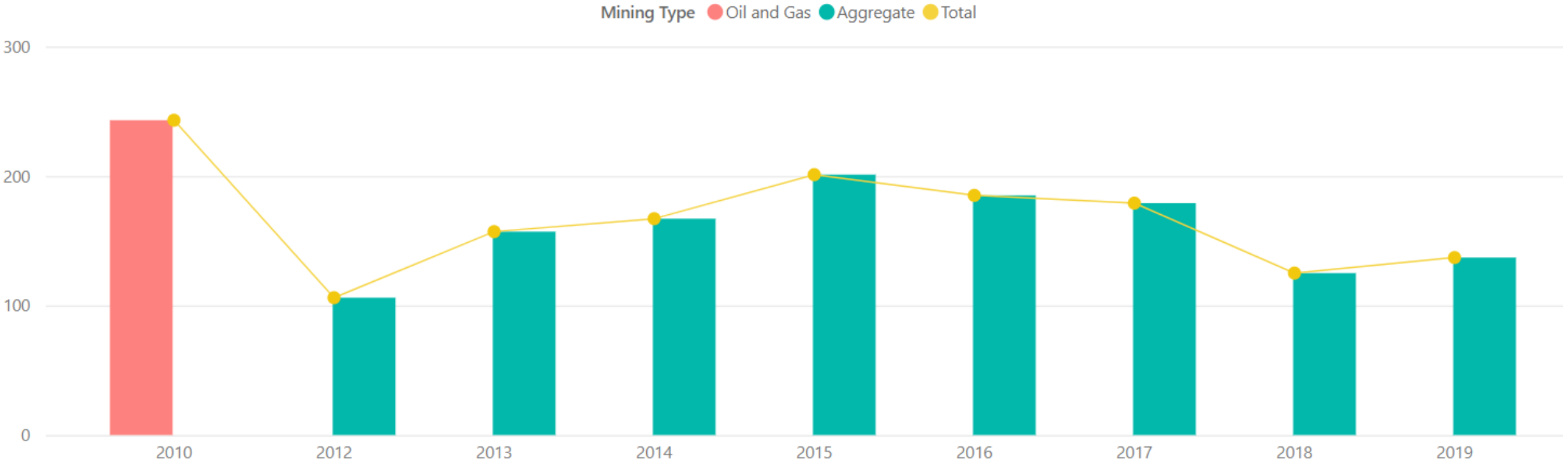
- Permitted operations: TCEQ
- Historical water use data: TWDB, TCEQ

## Coal: each coal mine is tied to a coal power plant

- Life of the coal mine or life of the power plant

# Region J - Historical Mining

## Historical Water Use by Mining Type (ACFT)



\*2011 = 0 acft

# Region J – Surveyed Mining Operators

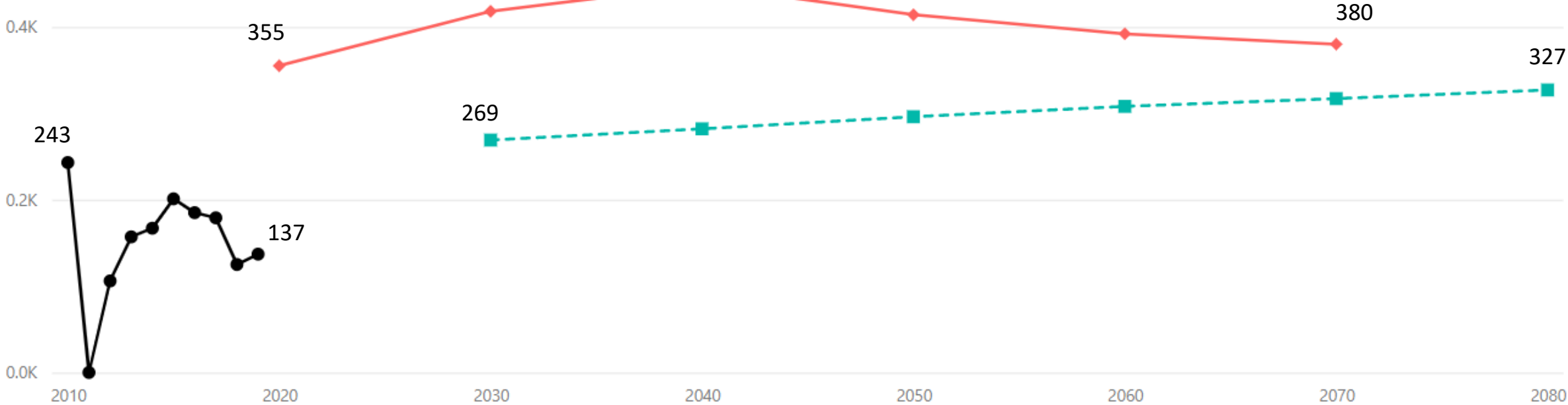
- TCEQ regulates APOs
- TWDB surveys list from TCEQ for annual water use

Site Name	Company Name	NAICS	NAICS Description	County	2019 Water Use (acft)	Comment
COBEY HOLLOW STONE	Ace Aggregates, LLC	212312	Crushed and Broken Limestone Mining and Quarrying	Bandera	-	
BANDERA ROCK & ROAD	M & P Construction Co.	212321	Construction Sand and Gravel Mining	Bandera		0 Inactive
GIPSON CONSTRUCTION BUNDY PIT	Gipson Construction LLC	212319	Other Crushed and Broken Stone Mining and Quarrying	Edwards		0
GROOMS DISTRIBUTING	Grooms Ready Mix, LLC	212312	Crushed and Broken Limestone Mining and Quarrying	Edwards		1
WHEATCRAFT RED ROSE RANCH QUARRY	Wheatcraft, Inc.	212321	Construction Sand and Gravel Mining	Kerr	-	No water used on site
WHEATCRAFT RHODES PIT	Wheatcraft, Inc.	212321	Construction Sand and Gravel Mining	Kerr	-	
RA MATERIALS	R A MATERIALS, LLC	212321	Construction Sand and Gravel Mining	Kerr		20
KERRVILLE SAND & GRAVEL PIT	West Texas Aggregate, L.L.C.	212321	Construction Sand and Gravel Mining	Kerr		
EDMUND JENSCHKE INC-HWY 27 PIT	EDMUND JENSCHKE INC	212312	Crushed and Broken Limestone Mining and Quarrying	Kerr	-	No water is use at this site and no Rainwater is collected
BEDROCK QUARRY	MARTIN MARIETTA MATERIALS SOUTHWEST LLC	212312	Crushed and Broken Limestone Mining and Quarrying	Kerr		23
KERRVILLE SAND & GRAVEL	MARTIN MARIETTA MATERIALS SOUTHWEST LLC	212321	Construction Sand and Gravel Mining	Kerr		5
SAND AND GRAVEL PIT	REEVES, CLINT	212321	Construction Sand and Gravel Mining	Kerr	-	
PORTABLE CRUSHER STA 6014 - BADER PIT	South Texas Aggregates, Inc.	212312	Crushed and Broken Limestone Mining and Quarrying	Kinney	-	DO NOT RQUIRE ANY WATER USE DON'T USE WATER
KELLY PIT	CSA Materials, Inc.	212312	Crushed and Broken Limestone Mining and Quarrying	Val Verde		0
BURKS RANCH	90 West Contractors, Ltd.	212321	Construction Sand and Gravel Mining	Val Verde		0
INGRAM READYMIX DEL RIO GRAVEL SITE	Ingram Readymix No. 87, L.L.C.	212321	Construction Sand and Gravel Mining	Val Verde		88
INGRAM READYMIX DEL RIO GRAVEL SITE	Capitol Aggregates Del Rio Sand And Gravel	212321	Construction Sand and Gravel Mining	Val Verde	-	

# Region J – Mining Water Use Demand Projections

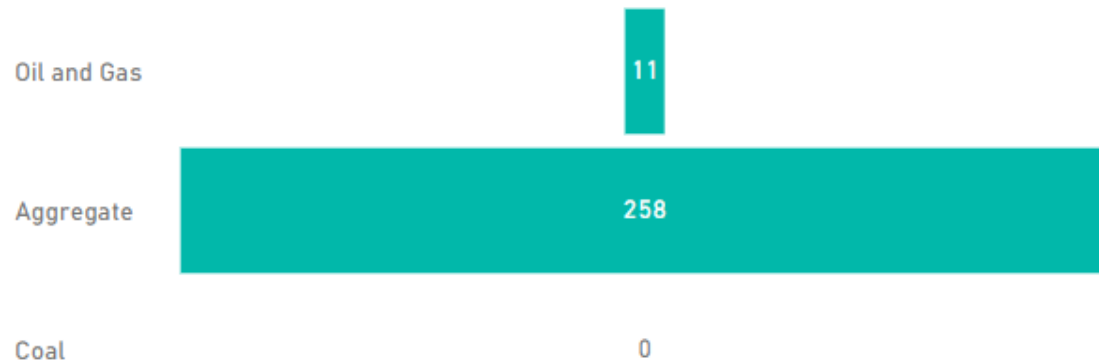
Historical and Projected Mining Water Use (ACFT)

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

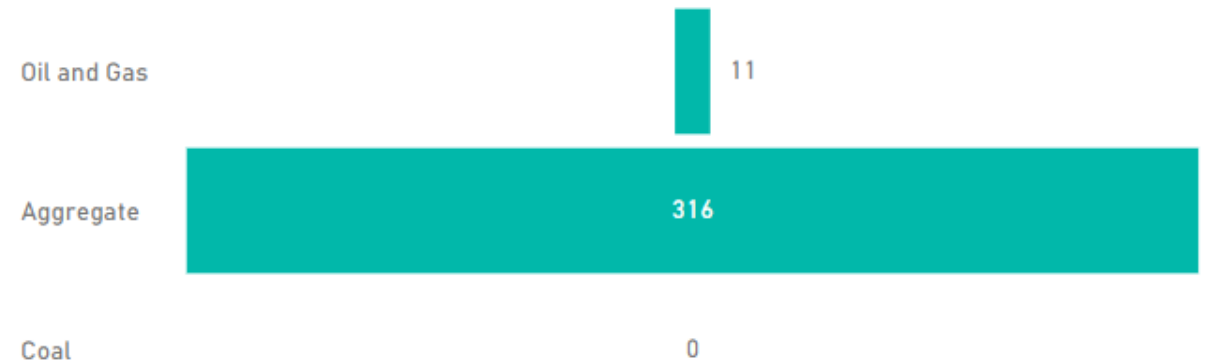


# Region J – Projected Demands by Mining Type

2030 Mining Water Use by Type (ACFT)



2080 Mining Water Use by Type (ACFT)



# Municipal Projections Methodology

Historical: 2010 - 2020

Projections: 2030 - 2080



# Water User Groups

- Municipal WUGs: utility water use of 100 acre-feet or more
  - 31 TAC § 357.10(43)
- WUGs in the 2021 RWPs were carried over
- All new WUGs were evaluated based on utility water use from 2015-2019
- RWPGs reviewed the WUG list in July 2022

# Region J – Municipal WUG Counts

- 2021 RWP: 17 WUGs
- 2026 RWP draft: 17 WUGs
- Including 6 County-Other WUGs
- No sub-county-other WUGs in DB27 projections

# Population Projections by County

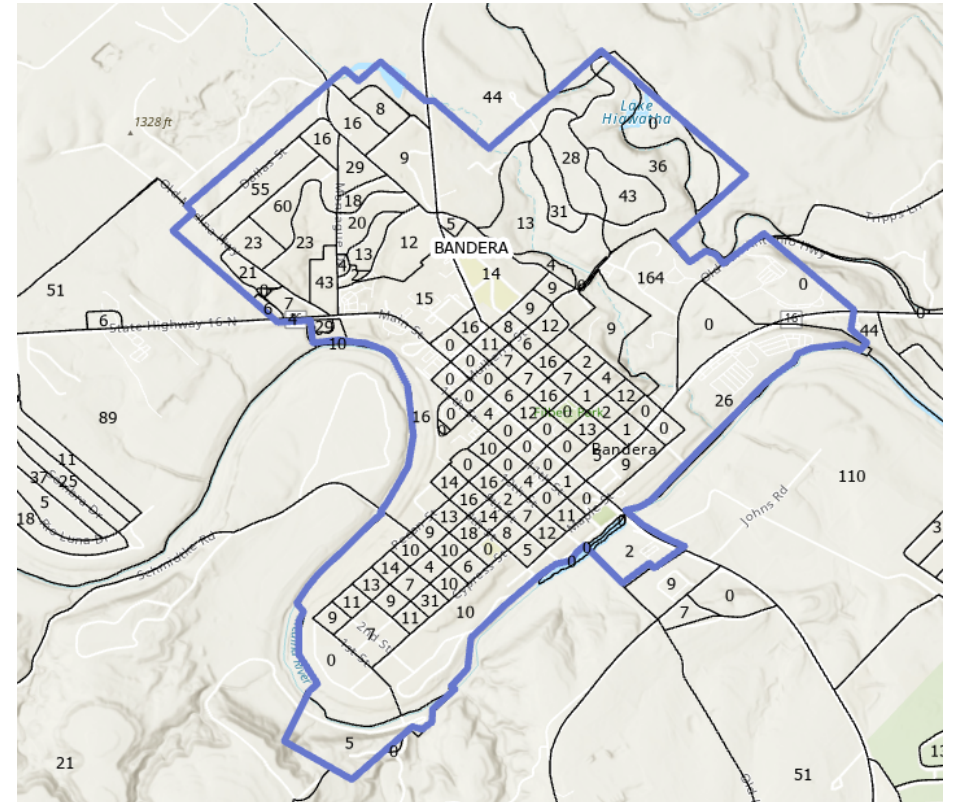
- Based on Texas Demographic Center's county-level projections
- Cohort component method
  - Age/sex/race/ethnicity
  - Birth rates, death rates, migration rates
- 2 migration scenarios: full-migration & half-migration 2010-2020
- 2030-2060
- TDC projections are online: <https://demographics.texas.gov/Data/TPEPP/Projections/>

# Population Projections – TWDB Methodology

- Difference this planning cycle: if a county's population is projected by TDC to decline, then the TWDB's county population projections will also decline
- TWDB draft projections
  - Extended 2070-2080 both scenarios
  - Use the full-migration scenario to sub-allocate to WUGs
- Population projections: 2030 - 2080

# Historical Population by WUG

- Permanent resident population
- Developed 2010 & 2020 population
  - Census Blocks
  - WUG Boundary
  - Shared in March 2022 & January 2023
- Reviewed historical population growth rate to develop projections



# Population Projections by WUG

- Sub-allocate to WUGs
- WUG's historical (2010 to 2020) share of the county's growth,
- WUG's 2020 share of the region-county's 2020 population applied each decade,
- Constant population: military bases, universities, primarily group quarter population
- Buildout: WUGs with buildout in the 2021 RWPs were held constant at or near their buildout population from the previous planning cycle

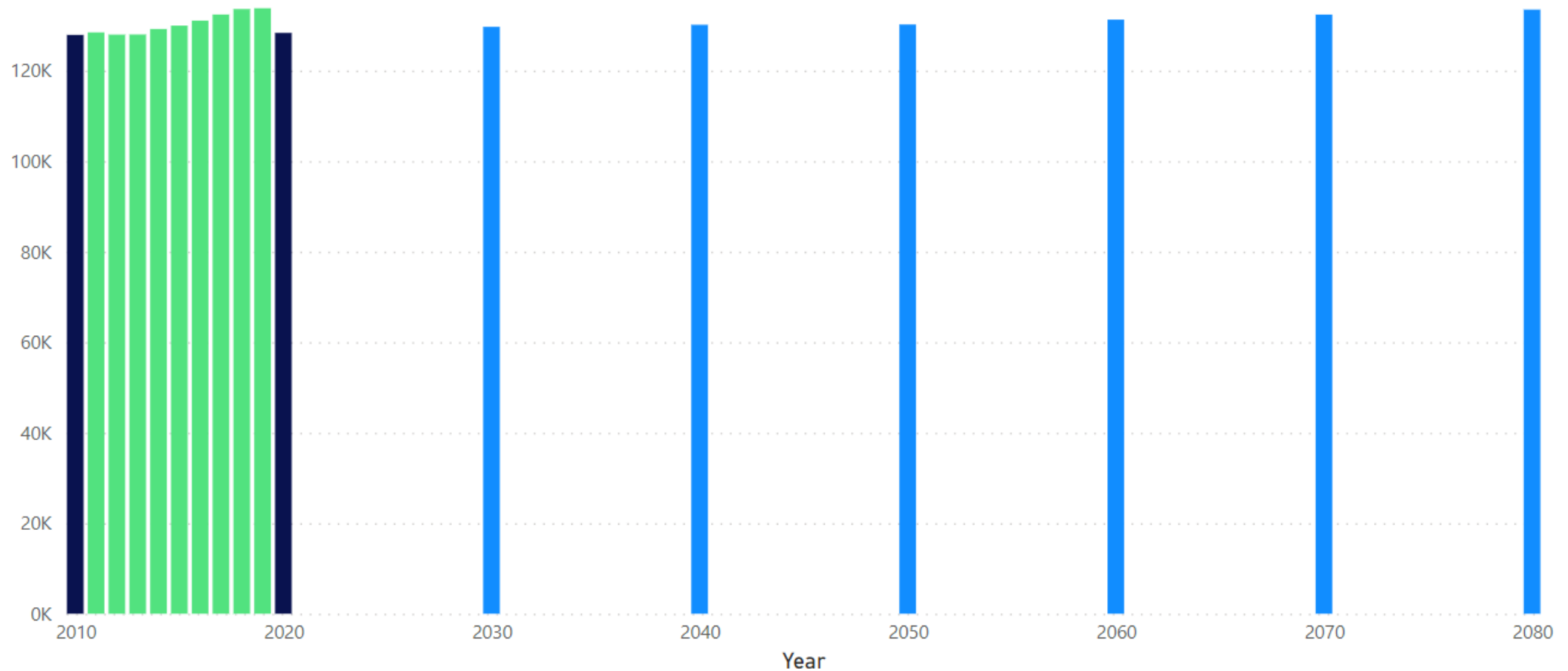
# Population Projections

- TWDB will provide:
  - Region-County projections 2030-2080: two migration scenarios
  - WUG projections 2030-2080: only full-migration scenario
- RWPGs have the option to revise to use half-migration scenario

# Region J – Draft Population Projections

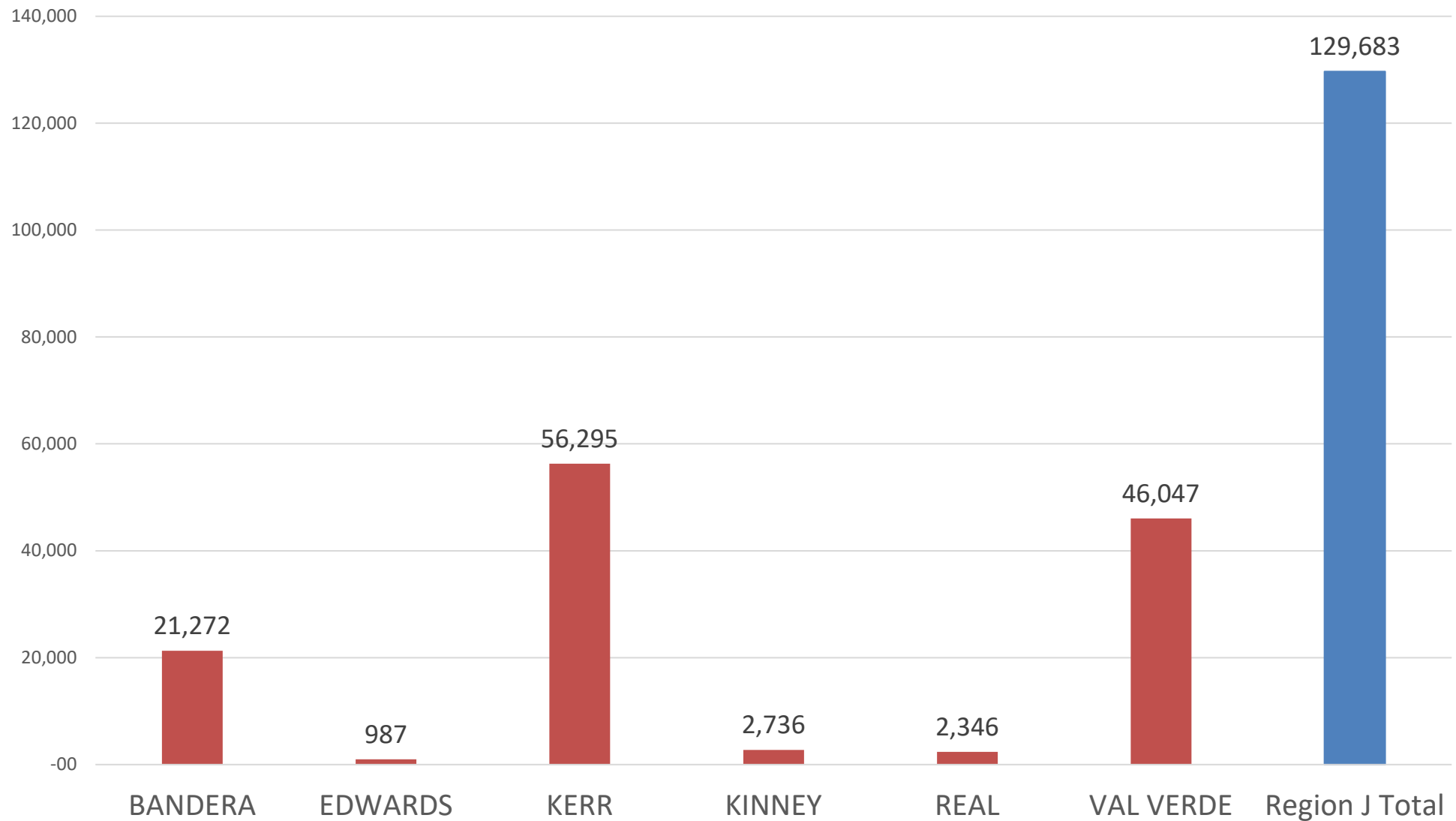
Historical and Draft Projected Population

Dataset ● Annual Census Bureau Estimate ● Decennial Census ● TWDB Draft Projections





# Draft Population Projections by County: 2030



# Municipal Demand Projections: GPCD

- Gallons per Capita Daily
- Baseline GPCD = dry-year
- Municipal water use
  - Residential
  - CII (commercial, institutional, light industrial)
- Exempt use difficult to estimate

# Municipal Demand Projections: Baseline GPCD

- Baseline GPCD
  - Draft: 2021 RWP WUG GPCD
  - Account for passive savings between historical and projected (2030)
- Water sources: groundwater + surface water
  - Water Use Survey

# Municipal Demand Projections: Baseline GPCD

- Example draft baseline GPCDs

2027 Entity Name	Gallons per person per day					
	GPCD SWP22	SWP22 GPCD represents Year	PC Savings 2020 in SWP22	2010-2020 Per Year Savings	GPCD minus Savings Accrued	New Baseline GPCD (draft) for 2026 RWP
DEL RIO UTILITIES COMMISSION	259	2011	9.47	0.95	8.5	250
BANDERA	174	2011	11.21	1.12	10.1	164
BRACKETTVILLE	287	2011	9.78	0.98	8.8	278
CAMP WOOD	180	2011	9.39	0.94	8.5	172
FORT CLARK MUD	447	2011	9.00	0.90	8.1	439
KERRVILLE	186	2011	9.17	0.92	8.3	178

- TWDB provided historical GPCDs for RWPGs to review and potentially revise

# Municipal Demand Projections: PC Savings

- Plumbing Code Savings
- Update this planning cycle
- Residential:
  - Toilets
  - Showerheads
  - Clothes washers
- Will include commercial toilet and urinal water efficiency savings
- 2030 – 2080

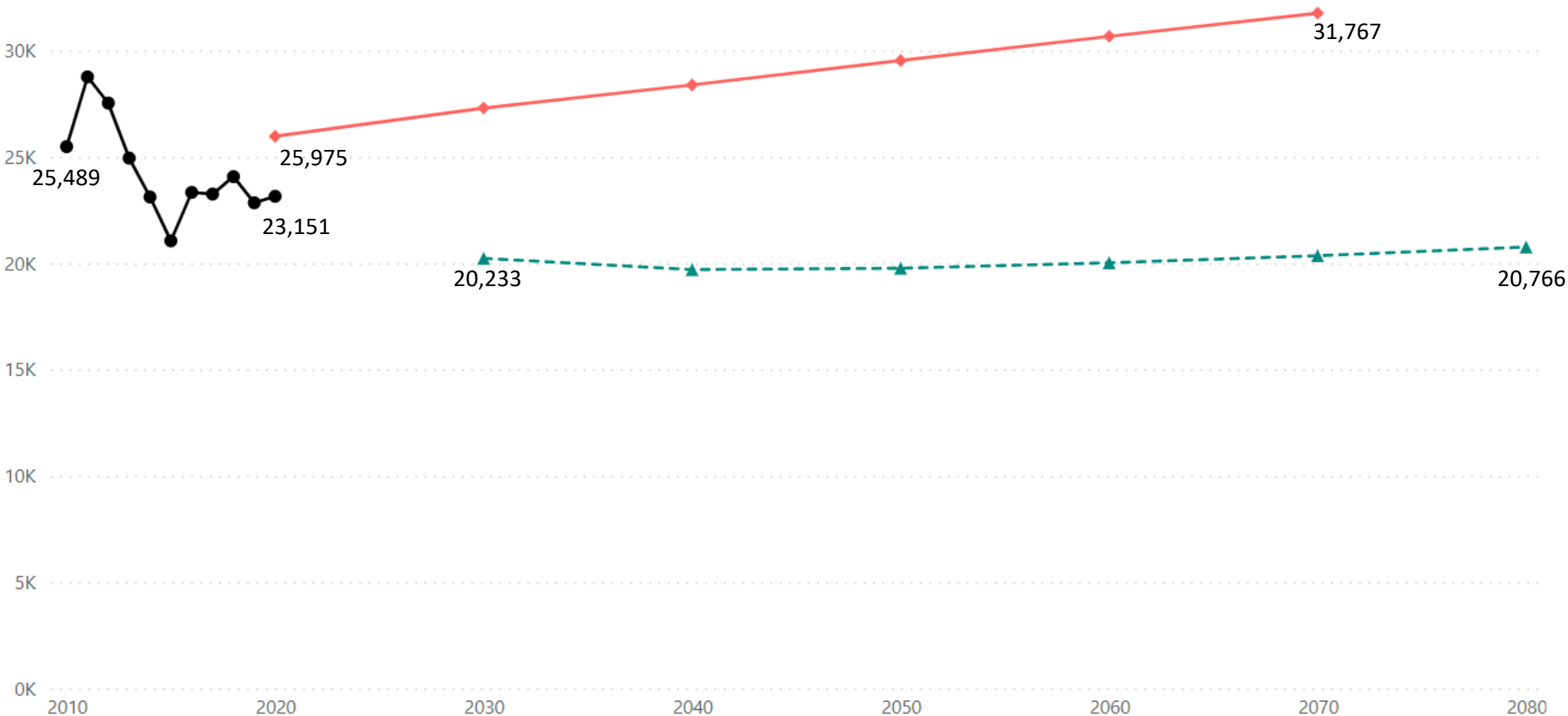
# Municipal Water Demand Projections

$$\text{Projected Demand} = (\text{Population} * (\text{GPCD}_{\text{base}} - \text{PC Savings}) * 365) / 325,851$$

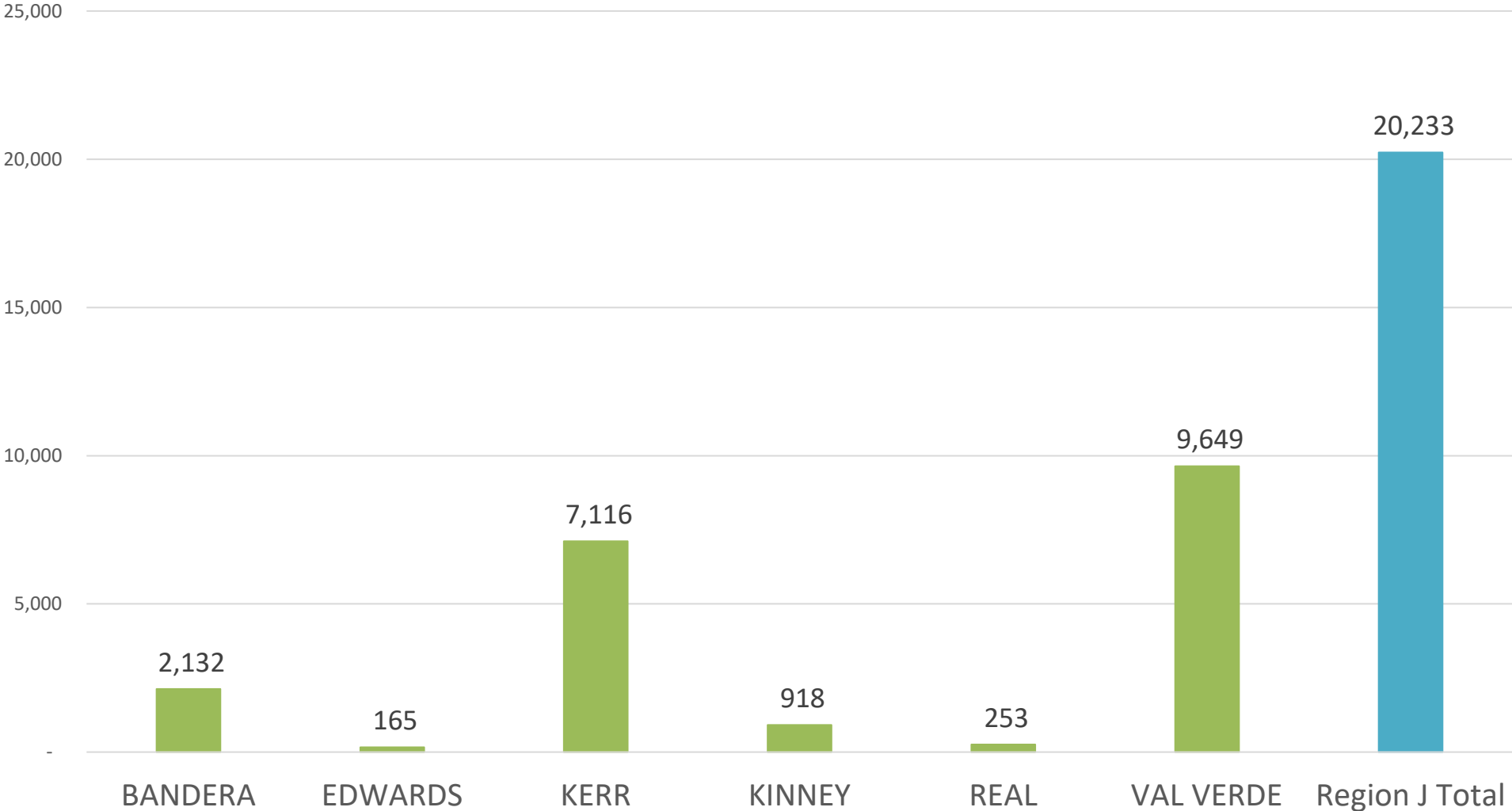
# Region J – Draft Municipal Demand Projections

Historical Net Use and Demand Projections (acft)

Dataset ● Water Use Survey Net Use ◆ 2022 State Water Plan ▲ TWDB Draft Projections



# Draft Municipal Demand Projections (acft) by County: 2030





# 2026 RWP Draft Projections

<https://www.twdb.texas.gov/waterplanning/data/projections/2027/projections.asp>

The screenshot shows the Texas Water Development Board website. The header includes the logo, a search bar, and social media icons. The navigation menu is highlighted on 'Water Planning'. The main content area is divided into four columns: STATE WATER PLAN, REGIONAL WATER PLANNING, PLANNING DATA, and WATER USE SURVEY. The 'Population & Water Demand Projections' link is highlighted in the 'PLANNING DATA' column.

STATE WATER PLAN	REGIONAL WATER PLANNING	PLANNING DATA	WATER USE SURVEY
<a href="#">Interactive State Water Plan</a>	<a href="#">Planning Group Meeting Schedule</a>	<a href="#">Regional Water Planning Database</a>	<a href="#">Online Water Use Survey</a>
<a href="#">2022 State Water Plan</a>	<a href="#">Planning Group Information</a>	<a href="#">Planning Data Dashboard</a>	<a href="#">Printable Water Use Survey</a>
<a href="#">2017 State Water Plan</a>	<a href="#">6th Planning Cycle Information (2026 RWPs)</a>	<a href="#">Population &amp; Water Demand Projections</a>	<a href="#">Historical Water Use Estimates</a>
<a href="#">2012 State Water Plan</a>	<a href="#">2021 Regional Water Plans &amp; Previous Plans</a>	<a href="#">Socio-Economic Impact Analysis</a>	<a href="#">Data Dashboard</a>
<a href="#">2007 State Water Plan</a>	<a href="#">Educational Information</a>	<a href="#">Other Data Resources</a>	<a href="#">Historical Groundwater Pumpage</a>
<a href="#">2002 State Water Plan</a>	<a href="#">Frequently Asked Questions</a>		<a href="#">Service Boundary Editor</a>
<a href="#">1997 State Water Plan</a>			

# Questions?

Contact:

Katie Dahlberg

[katie.dahlberg@twdb.texas.gov](mailto:katie.dahlberg@twdb.texas.gov)

512-463-2449

Stay connected:

