

## **Agenda Items 8a. and 8b. General TWDB Update and Presentation on the TWDB methodology for development of the non-municipal demands**

Agenda Item 8a. is to review general planning updates and significant new requirements from the Texas Water Development Board (TWDB) for the 2026 Regional Water Plans. Agenda Item 8b. is to review the methodology used by the TWDB to develop projections of non-municipal demands for Region F. Non-municipal demands are divided into five categories: irrigation, livestock, manufacturing, mining, and steam electric power.

### Attachments:

1. Presentation on TWDB Updates and Significant New Requirements for the 2026 Regional Water Plans
2. Presentation on Non-municipal Demand Projections by TWDB

# Region F TWDB Update 2-23-23

## 1. RWP Contract Amendments

- Amendment includes anticipated total project cost, full scope of work, and updated contract guidance documents

## 2. Interregional Planning Council

- Met on November 9
- Next meeting: March 9 in Austin with a virtual component
- More information available online at:

<http://www.twdb.texas.gov/waterplanning/rwp/ipc/2027IPC.asp>

# Region F TWDB Update 2-23-23

## 3. New Educational Materials

- [RWPG Member Guide](#)
- [Administrative Guidance for RWPG Sponsors](#)
- [Drought of record](#)
- [Water supply and flood mitigation strategies](#)
- [Consistency waivers](#)

<http://www.twdb.texas.gov/waterplanning/rwp/education/index.asp>

# Region F TWDB Update 2-23-23

## 4. Regional Water Planning Rulemaking

- April 11, 2022, TWDB Board adopted amendments to regional water planning rules (31 TAC Chapter 357) and state water planning rules (31 TAC Chapter 358).
- Proposed rules published December 31, 2021, in Texas Register; public comment period ended January 31, 2022; effective May 1, 2022.
- Board item with detailed information available on the TWDB website: <https://www.twdb.texas.gov/board/2022/04/Board/Brd04.pdf>
- Rules available on Secretary of State site: [https://texreg.sos.state.tx.us/public/readtac\\$ext.ViewTAC?tac\\_view=3&ti=31&pt=10](https://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=3&ti=31&pt=10)

# 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, 85<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.)
  - Regions should review implementation status of WMSs and WMSPs in the previous RWP that *require a permit or involve construction* and that
    - are shown to be online in 2020 or 2030 decade,
    - are related to new major reservoirs, seawater desalination, direct potable reuse, brackish groundwater, aquifer storage and recovery, and out of state water transfers and online in 2020 or 2030 decade, or
    - generally require significant resources or time to implement.
  - 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, 86<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, 86<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, 86<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 Non-Municipal Projections Methodology Overview

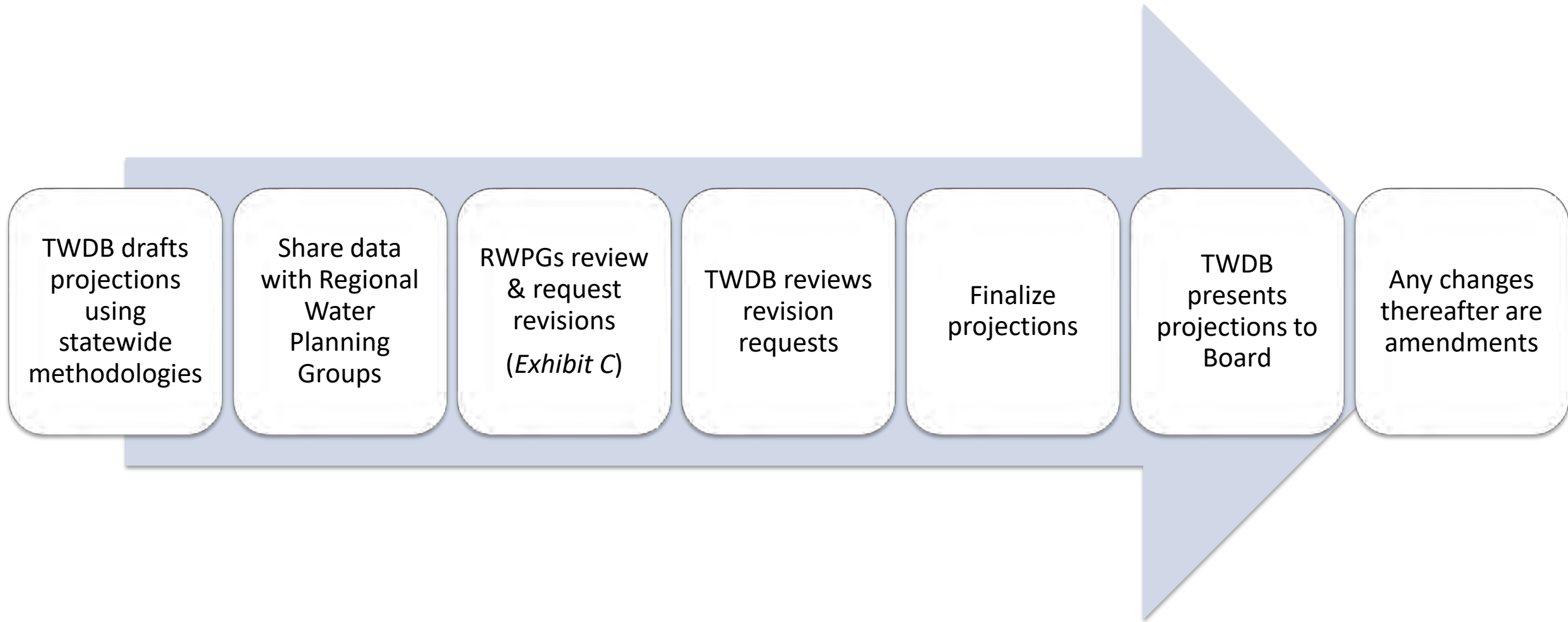
Katie Dahlberg  
Manager, Projections & Socioeconomic Analysis  
Water Supply Planning

February 23, 2023  
Region F Planning Group Meeting

# Agenda

- Overview projections process
- Projections data release schedule
- Non-municipal water demand projection methodologies
  - Irrigation
  - Livestock
  - Manufacturing
  - Mining
  - Steam-Electric Power

# Projections Process



# 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

Historical water use estimated by TWDB Ag Conservation Dept

Baseline = 5-year average (2015-2019)

Irrigated crops, self-supplied golf courses

Water sources: groundwater, surface water, reuse

# Irrigation

Same methodology as 2021 RWP

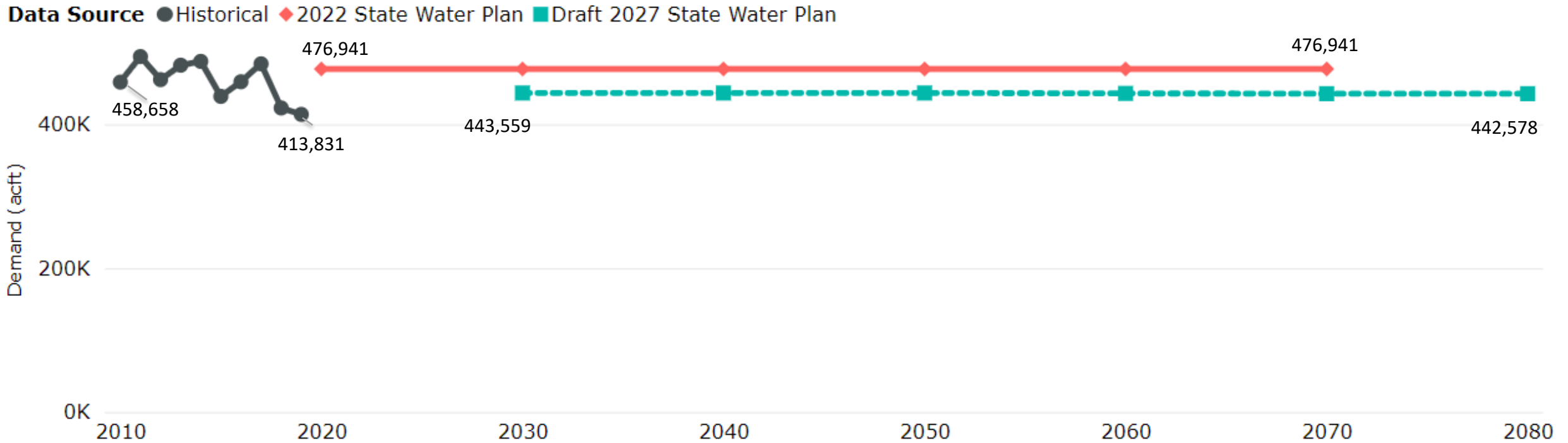
2030 – 2080 held constant

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

MAGs updated: GMAs 2, 3, 7

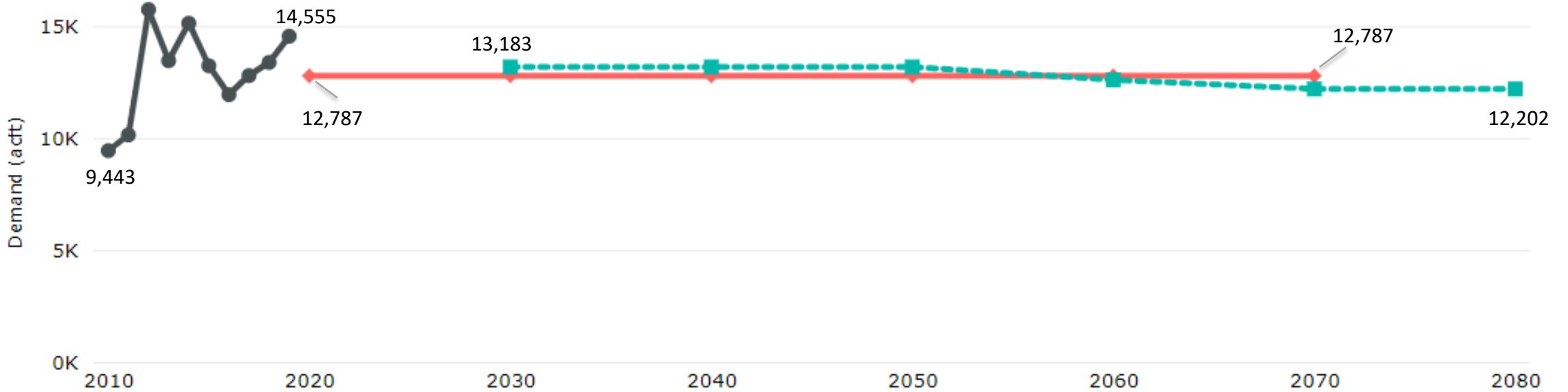
- MAGs in progress GMA: 8

# Irrigation Projections – Region F: Compare 2021 RWP to Draft 2026 RWP



# Mitchell County

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



Region	County	Basin	Total Groundwater Availability (MAG + Non-MAG) used to identify MAG constrained counties					
			2030	2040	2050	2060	2070	2080
F	MITCHELL	COLORADO	14,776	13,358	12,310	11,733	11,329	11,329

# Livestock

Baseline = 5-year average (2015-2019)

- County water use estimates, based on USDA inventory \* water use coefficients
- Water Use Survey facilities

Follows same projection trend as 2021 RWP

- 2070 – 2080 held constant

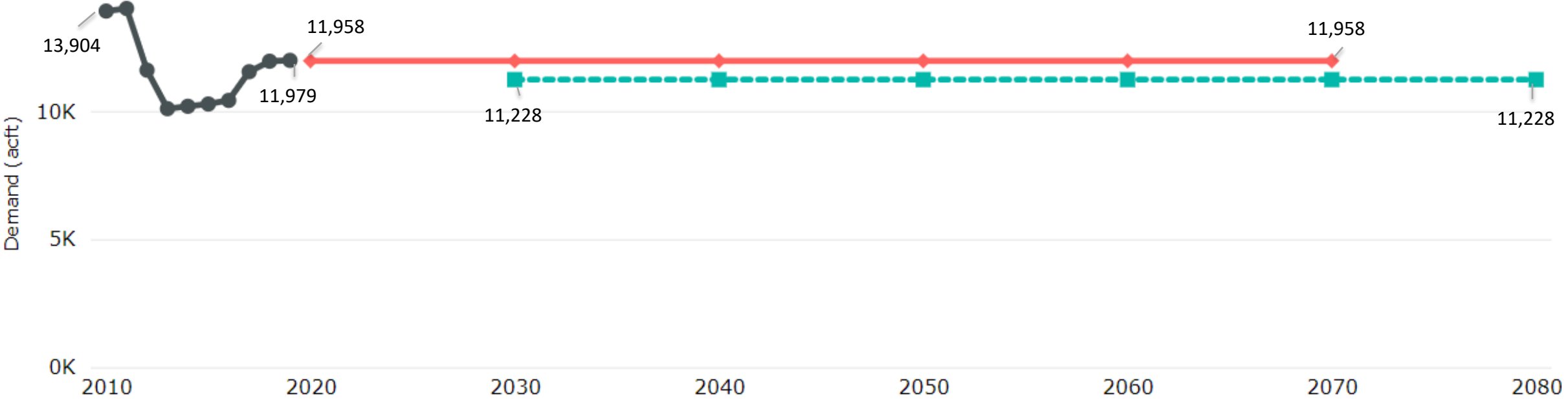
Same methodology as 2021 RWP

# Livestock Water Use Coefficients

TWDB Category	USDA Data Type	2026 RWP Water Use (gallons/head/day)	2021 RWP Water Use (gallons/head/day)
Cattle	Milk	55	75
	Fed & Other Cattle	15	15
Chickens	Layers	0.09	0.086
	Pullets, Replacement		
	Roosters	0.09	0.077
	Broilers		
Equine	Horses & Ponies	12	12
	Mules, Burros, & Donkeys		
Hogs	Hogs	5	11
Sheep	Sheep	2	2
Goats	Milk	2	0.5
	Meat & Other		
	Angora		
Turkeys	Turkeys	0.2	0.2

# Livestock Projections – Region F: Compare 2021 RWP to Draft 2026 RWP

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



# Manufacturing

Baseline = highest county water use (2015-2019) + unaccounted water use estimates

- Historical water use survey
- U.S. Census Bureau County Business Patterns (CBP) historical number of establishments

Water Sources: fresh and brackish groundwater, fresh surface water, reuse

- Total intake

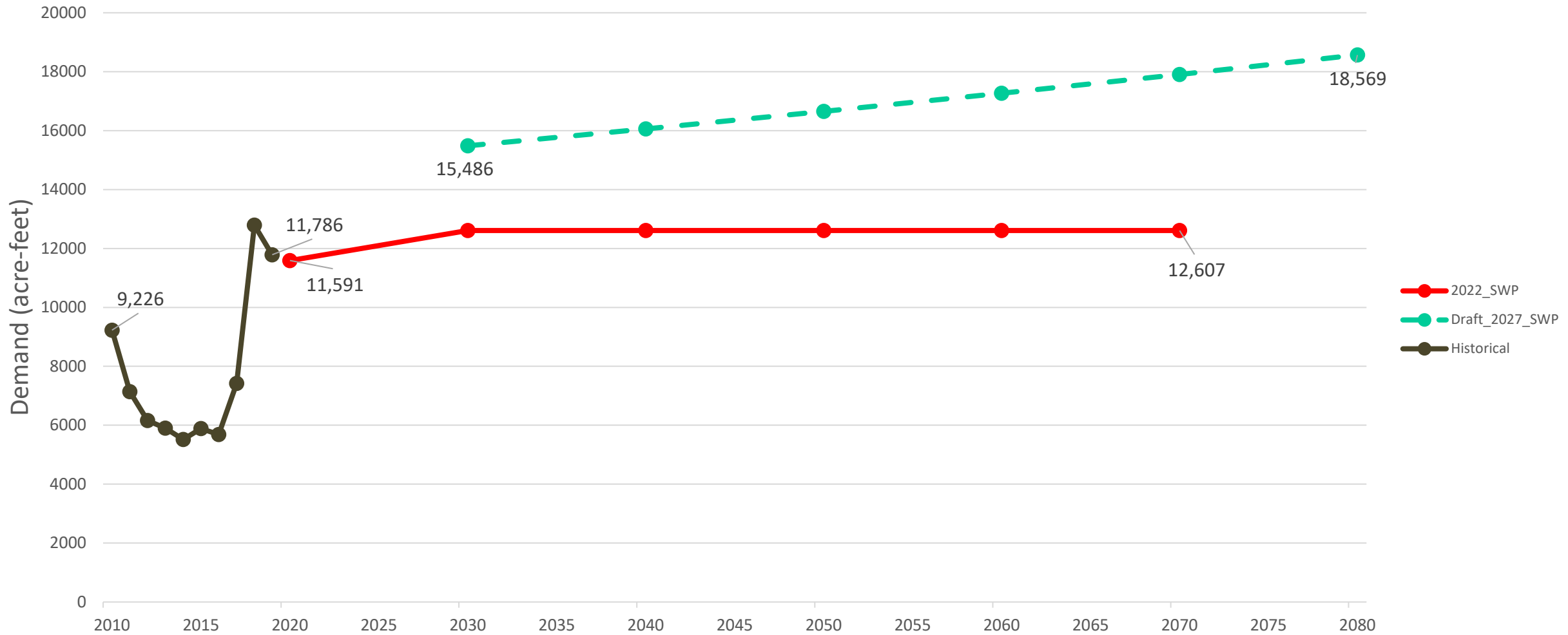


# Manufacturing

Baseline \* 2010-2019 historical water use survey rate of change = 2030

CBP 2010-2019 historical number of establishments rate of change used to project each decade 2040-2080

# Manufacturing Projections – Region F: Compare 2021 RWP to Draft 2026 RWP



# Mining

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

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

# Mining

## Projection 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

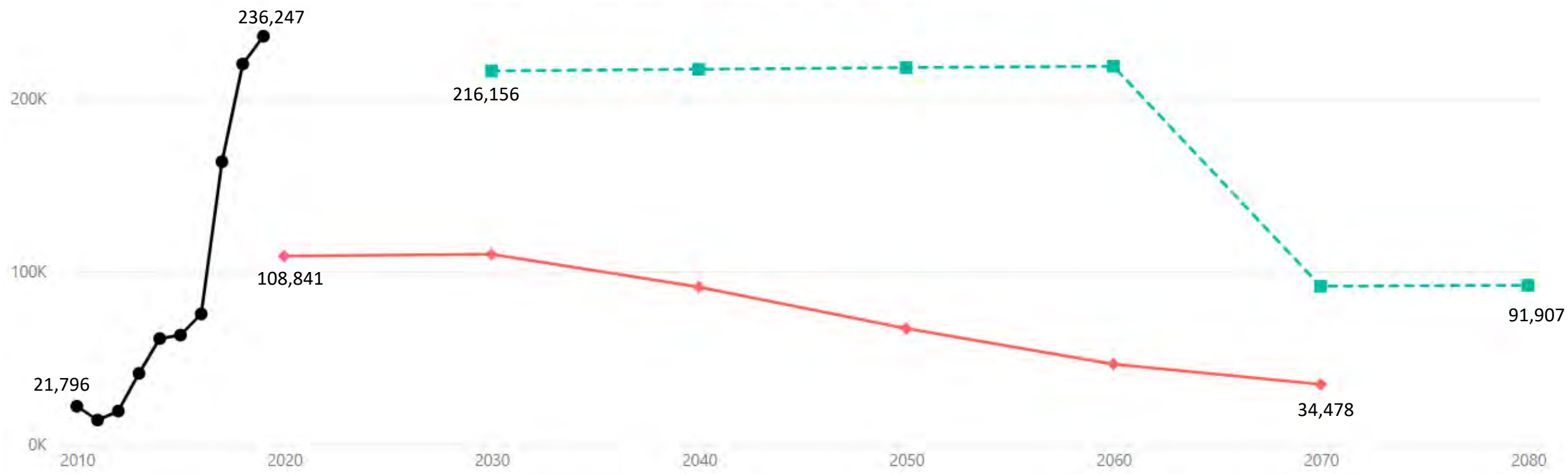
## Coal: each coal mine is tied to a coal power plant

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

# Mining Projections – Region F: Compare 2021 RWP to Draft 2026 RWP

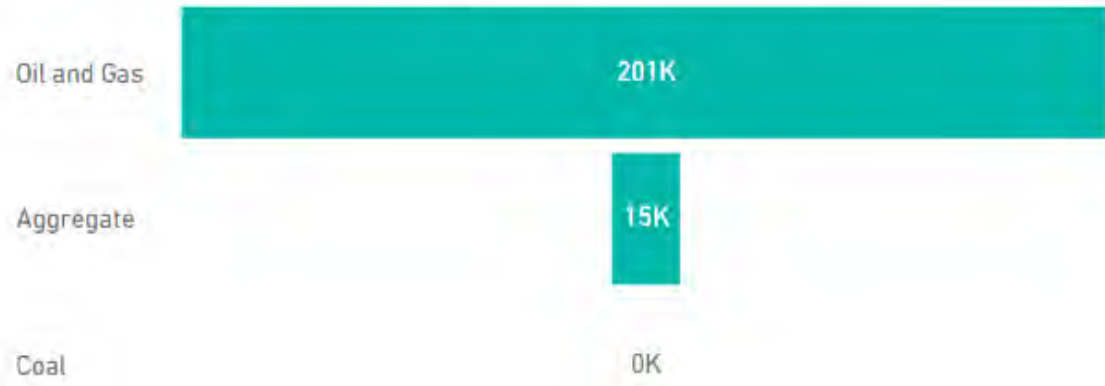
Historical and Projected Mining Water Use (ACFT)

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

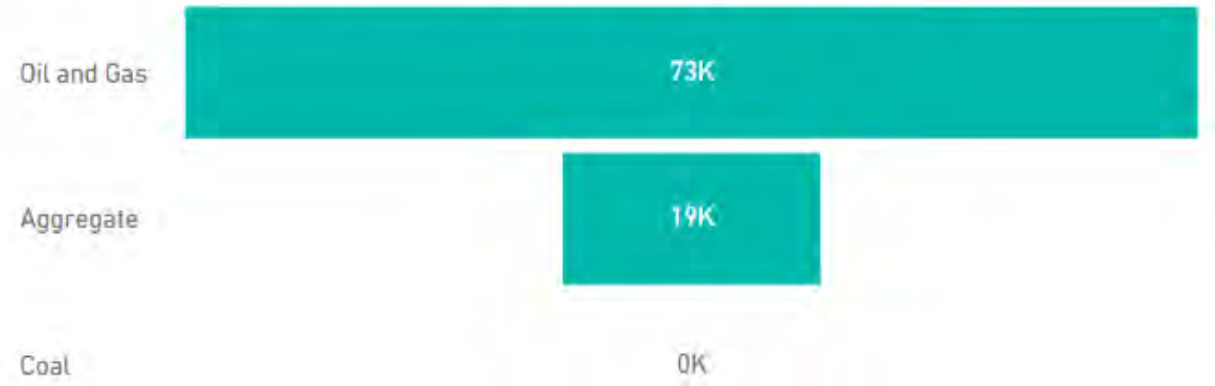


# Mining Projections – Region F: by Mining Type

2030 Mining Water Use by Type (ACFT)



2080 Mining Water Use by Type (ACFT)



# Steam-Electric Power

Baseline = highest county water use (2015-2019) + estimated water use for non-responses and proposed facilities

- Historical water use survey
- U.S. Energy Information Administration 860 form – NAICS: 22

If a facility retires before 2020, then the water use is removed from the projections

If RWPGs requested to remove a facility in the previous plan, then facility was removed in the draft projections

# Steam-Electric Power

Water sources: fresh and brackish groundwater, fresh surface water, reuse

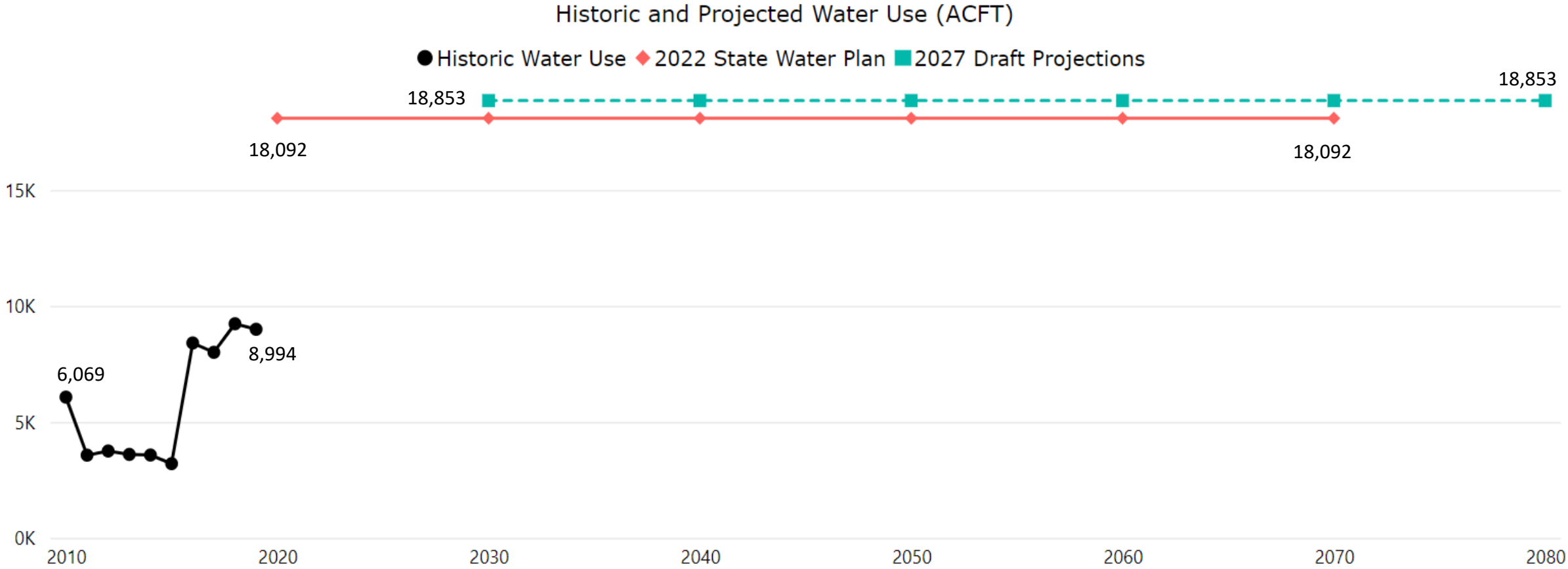
- Consumptive use

2030 – 2080 held constant

Same methodology as the 2021 RWPs



# Steam-Electric Power Projections – Region F: Compare 2021 RWP to Draft 2026 RWP



# Water Sources

Source	Groundwater		Surface Water				Reuse
	Fresh	Brackish	Fresh	Saline	Consumptive Use Percentage	Seawater	Reuse
Irrigation	X	X	X	X			X
Livestock	X	X	X	X			
Manufacturing	X	X	X				X
Mining	X	X	X	X			X
Steam-electric	X	X	X		X		X

# 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

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