

2026 Regional Water Plans Projections Methodology Overview

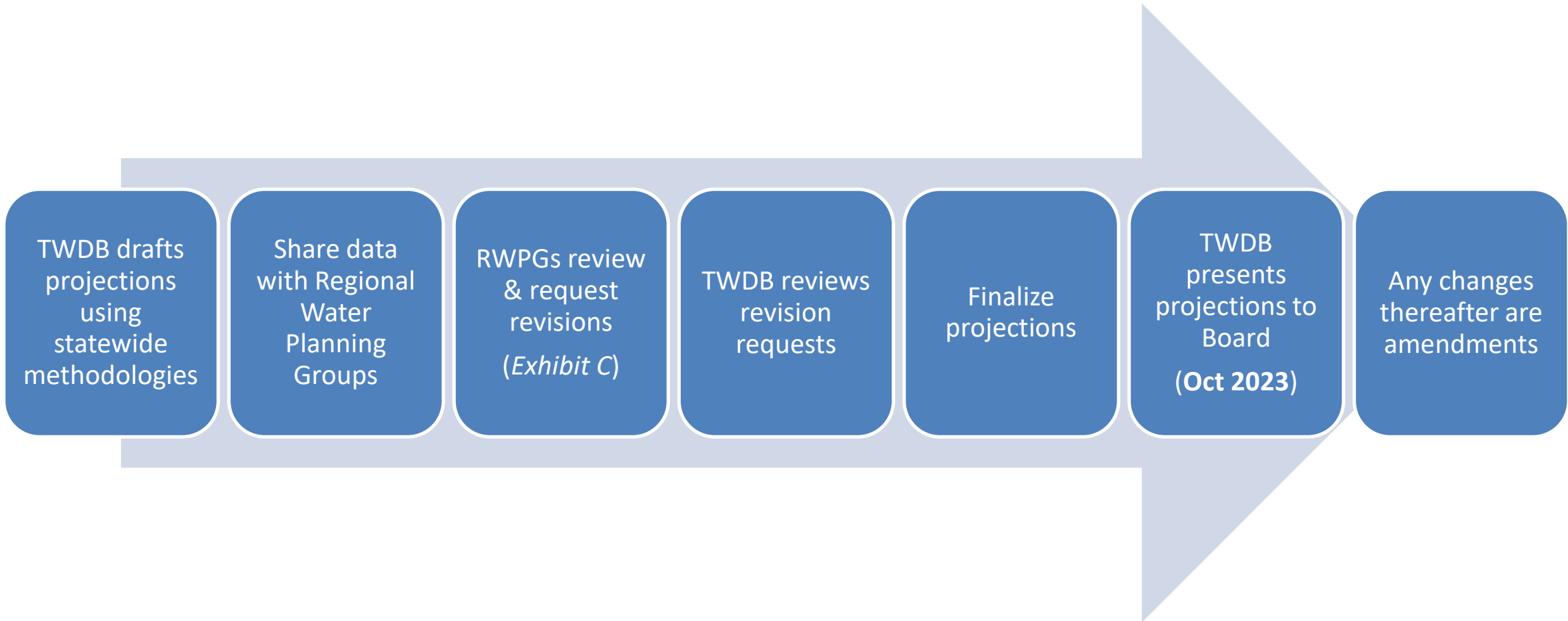
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January 26, 2022
Chairs Conference Call

Agenda

- Overview projections process
- Projections data release schedule
- Projections methodologies
 - Non-municipal water demands
 - Population
 - Municipal water demand

Projections Process



Projections Release Schedule

Draft Water Demand Projections	Timeline
Livestock Projections + Supporting Data	January 2022
Manufacturing Projections + Supporting Data	January 2022
Steam-Electric Projections + Supporting Data	January 2022
Water User Group List + Historical Population, Connections, Net Use, GPCD	March 2022
DUE: RWPGs review WUG list + historical data	July 2022
Irrigation Projections + Supporting Data	August 2022
Mining Projections + Supporting Data	August 2022
Population Projections + Plumbing Code Savings + Municipal Demand	February 2023
DUE: RWPGs request revisions for non-municipal demand projections	July 2023
DUE: RWPGs request revisions for population and municipal demand projections	August 2023

Non-Municipal Water Demand Projections Methodologies

Historical: 2015 - 2019

Projections: 2030 - 2080

Irrigation

Same methodology as 2021 RWPs

Baseline = 5-year average (2015-2019)

Water sources: groundwater, surface water, reuse

- Most recent Modeled Available Groundwater

Irrigation

2030–2080 held constant

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

Draft projections will be released in August 2022

Livestock

Same methodology as 2021 RWPs

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 RWPs

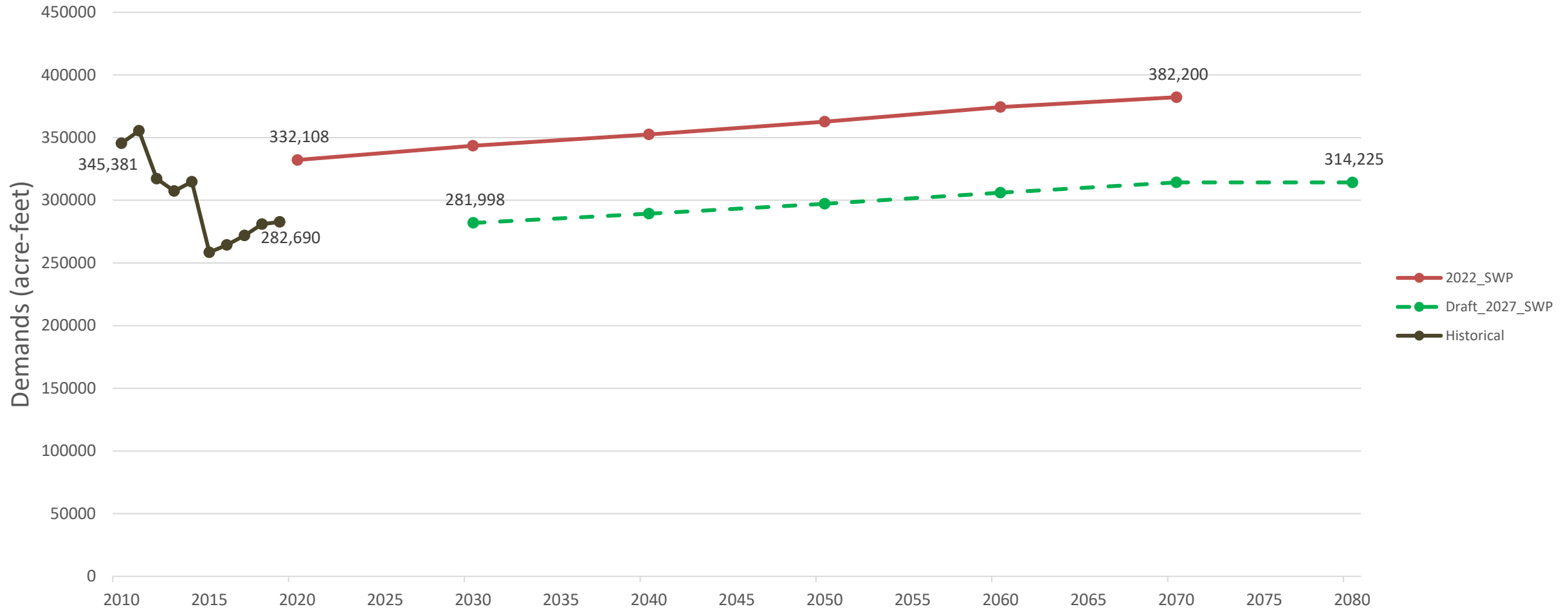
- 2070 – 2080 held constant

Draft projections released in January 2022

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: Compare 2021 RWP to Draft 2026 RWP



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

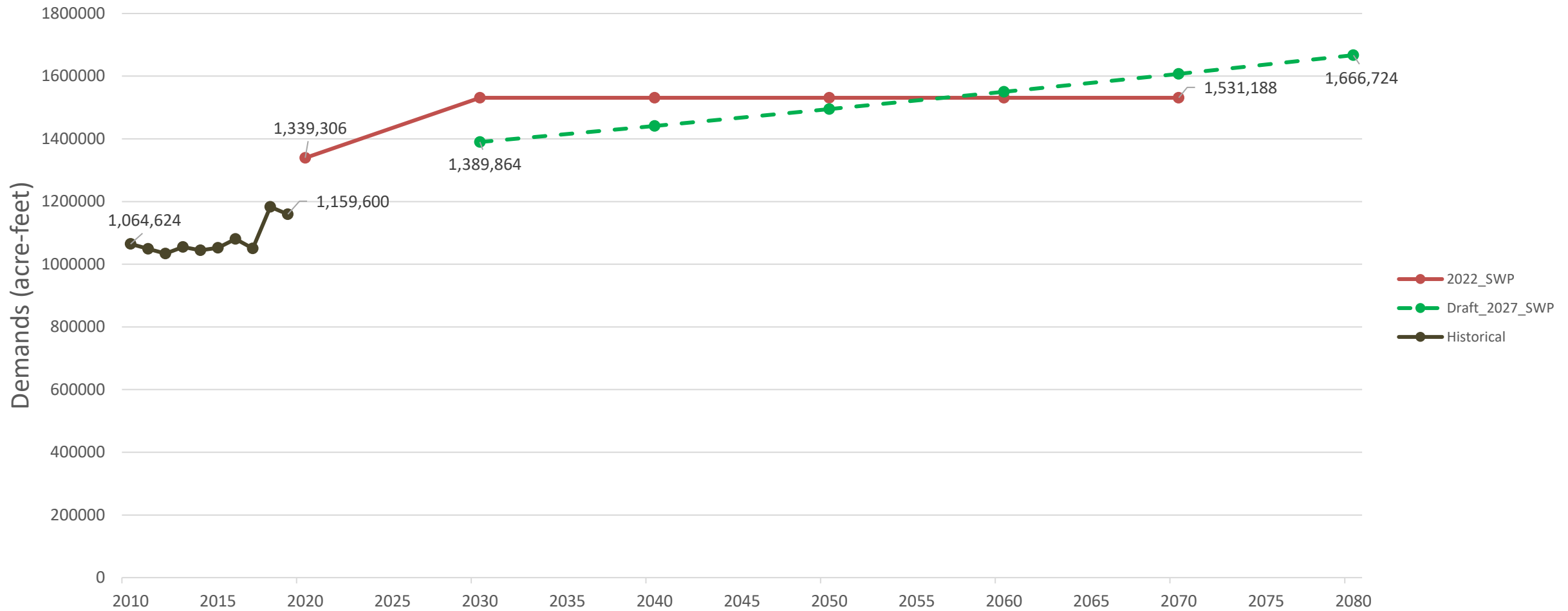
Draft projections released in January 2022

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: 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

August 2022

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

Steam-Electric Power

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

- 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 2026 draft projections

Steam-Electric Power

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

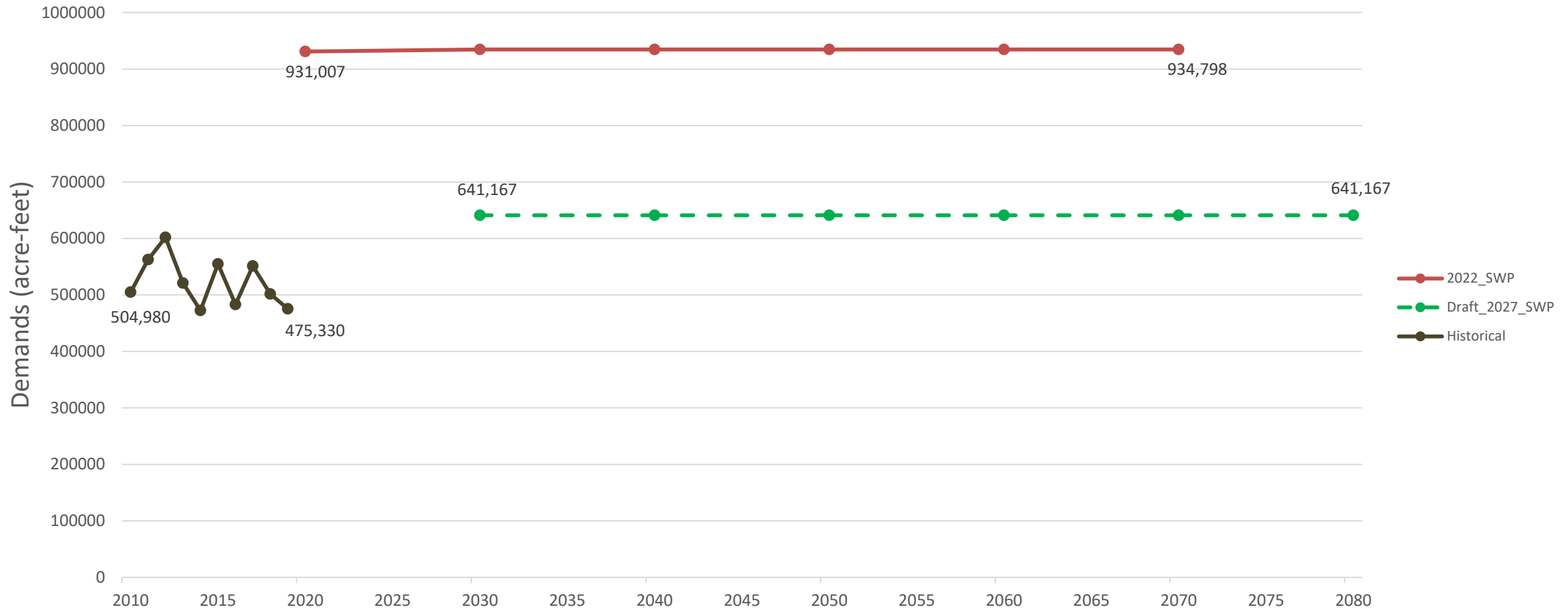
- Consumptive use

2030 – 2080 held constant

Same methodology as the 2021 RWPs

Draft projections released in January 2022

Steam-Electric Power Projections: Compare 2021 RWP to Draft 2026 RWP



2026 RWP Draft Projections website: <https://www.twdb.texas.gov/waterplanning/data/projections/2027/projections.asp>

The screenshot shows the Texas Water Development Board website. At the top left is the logo with the text "Texas Water Development Board". To the right is a search bar with the text "Search site" and a "Search" button. Below the search bar are social media icons for Facebook, Twitter, LinkedIn, YouTube, Instagram, and Email, with the text "Connect with us:". A navigation menu is located below the social media icons, with "Water Planning" highlighted. The main content area is a grid of four columns: STATE WATER PLAN, REGIONAL WATER PLANNING, PLANNING DATA, and WATER USE SURVEY. The "Population & Water Demand Projections" link in the PLANNING DATA column is highlighted in yellow.

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

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 will be carried over, as long as they have active public water systems
- All new utilities will be evaluated based on water use from 2015-2019
- No Sub-County-Other-WUGs in DB27 this plan

Population Projections

- Based on Texas Demographic Center's projections for counties in Texas
 - 3 migration scenarios
- Distributed to WUGs
 - Historical 2010-2020 share of growth or share of population
- 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
- 2030 – 2080

Municipal Demand Projections: GPCD

- Gallons per Capita Daily
- Dry-year
- Baseline GPCD = historical
 - Draft: 2021 RWP WUG GPCD
 - New WUGs draft: 2018
- Baseline GPCD minus plumbing code savings already implemented
 - Account for passive savings between historical and projected (2030)
- Water sources: groundwater + surface water
 - Water Use Survey

Municipal Demand Projections: PC Savings

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

Municipal Demand Projections

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

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
Municipal	X	X	X	X			

Questions?

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Stay connected:

