

Agenda Items 8a. and 8b. TWDB general updates and TWDB presentation on the methodology for draft population and municipal demand projections

Agenda Item 8a. is to review general planning updates 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 draft population and municipal water demand projections for Water User Groups in Region F.

Attachments:

1. Presentation on TWDB Updates for the 2026 Regional Water Plans
2. Presentation on Draft Population and Municipal Demand Projections by TWDB

Region F TWDB Update May 18, 2023

1. Additional Resource Materials Available (Provided 4/5/23)

- Status of 2021 RWPG policy recommendations
- Liaison materials
- Active RWPG committees
- Information on TCEQ membership
- RWPG voting membership costs

2. Interregional Planning Council

- Previous meetings held November 9, 2022 and March 9, 2023
- Next meeting: May 30 in Austin, TX with virtual option to attend

3. Revisions to Plumbing Code Savings Projections

- Revised to adjust assumption regarding adoption of fixtures
- Revised municipal demand projections sent out on May 5

Region F TWDB Update May 18, 2023

4. Reminder of Upcoming Critical Deadlines

- **July 14** – Deadline to request revisions to draft non-municipal projections
- **August 11** – Deadline to request revisions to draft population and municipal demand projections
- **Fall 2023** – TWDB staff present all projections to the Board for adoption
- **March 4, 2024** – Deadline to submit Technical Memorandum deliverable

2026 Regional Water Plans Population and Municipal Water Demands

Emma Jones
Team Leader, Projections & Socioeconomic Analysis
Water Supply Planning

May 18, 2023
Region F Planning Group Meeting

Variables

- Population
 - Historical
 - Demographics
 - Projections
- Baseline Gallons per Capita per Day (GPCD)
- Projected Plumbing Code Savings

Population Projections by County

- Based on Texas Demographic Center's (TDC) 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/>

TWDB Population Projections

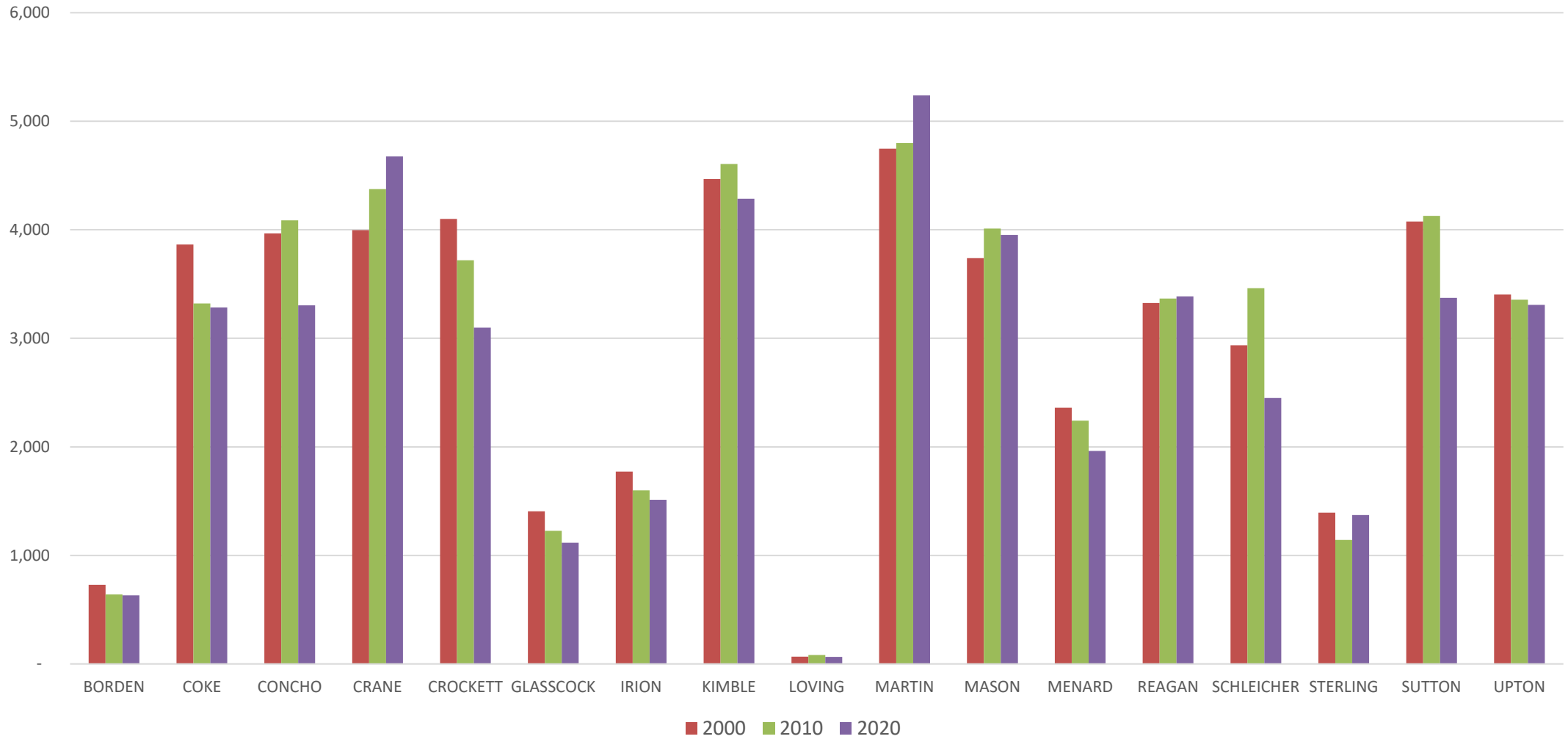
- Difference this planning cycle: if a county's population is projected by TDC to decline, then the TWDB's county population projections will also decline
- TWDB draft projections
 - Extended 2070-2080 both scenarios
 - Provided WUG projections using each scenario to Region F
- 2030 - 2080

Population Projections Methodology Comparison

Item	2021 RWP	2026 RWP
Utility-based planning	Yes	Yes
Historical population data source	U.S. Census Bureau	U.S. Census Bureau
Migration rates	2000 – 2010	2010 – 2020
New base projections?	No, carried over from 2016 RWP	Yes
Projected population data source	2012 Texas Demographic Center Projections	2022 Texas Demographic Center Projections
Hold declining counties constant?	Yes	No
Planning horizon	2020 – 2070	2030 – 2080

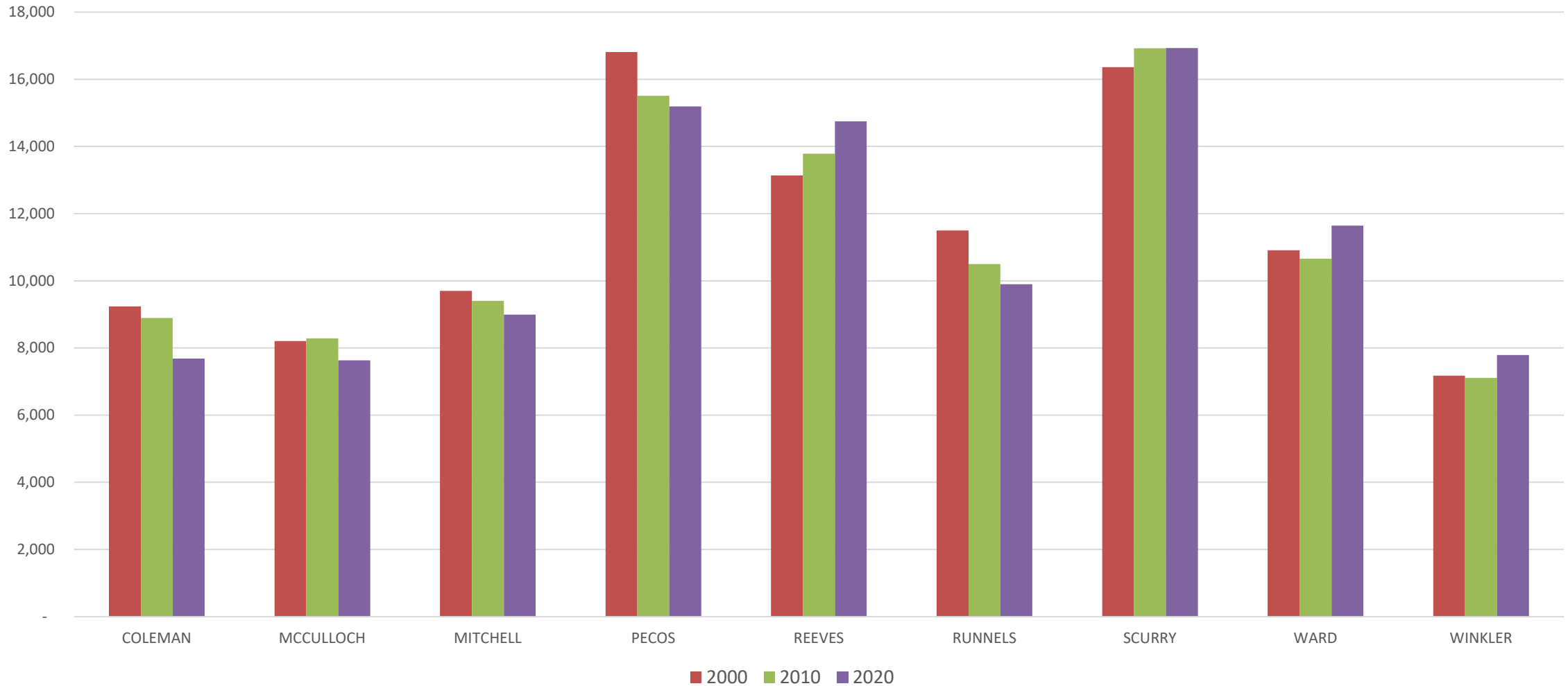
Region F: 2000 - 2020 Census Population by County

Region F Counties Decennial Census Population (cont. on next slide)



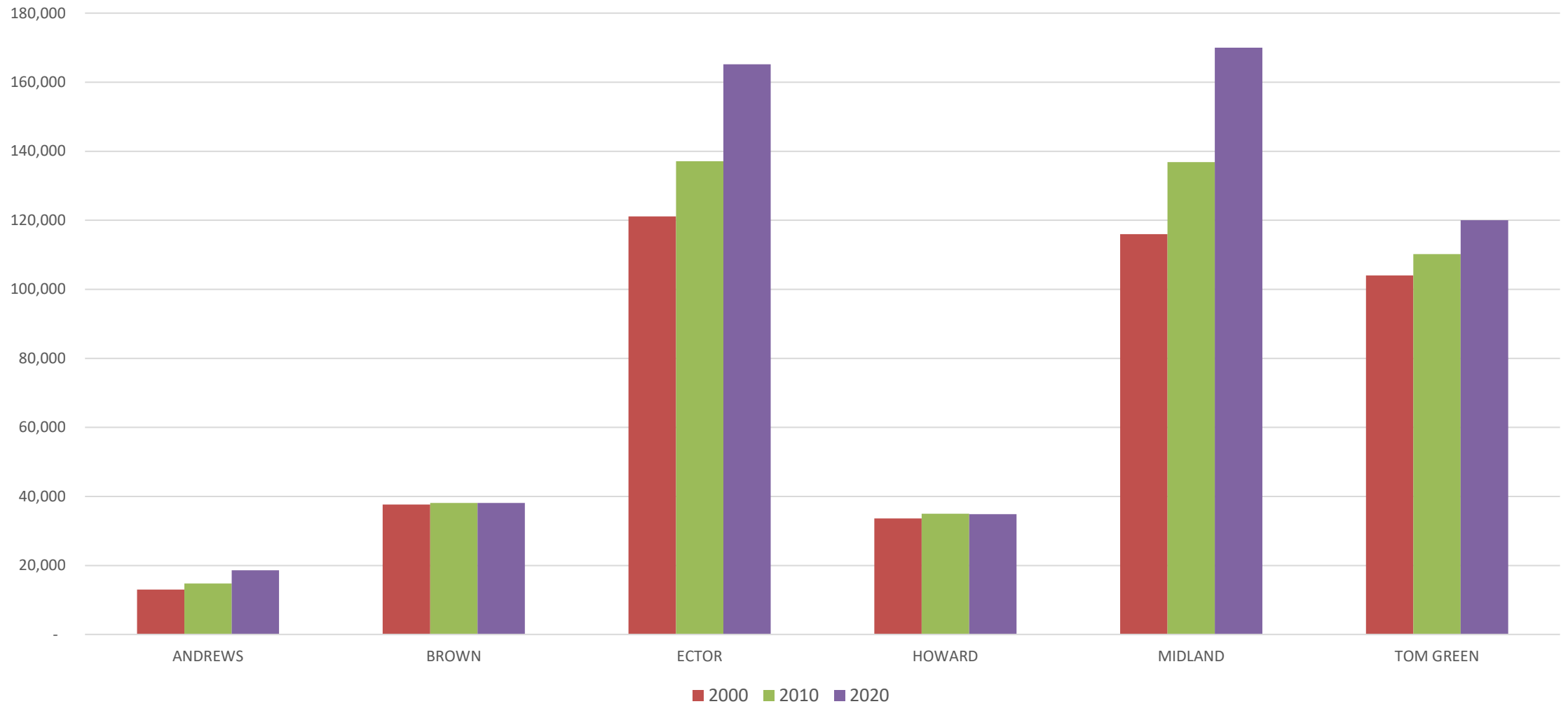
Region F: 2000 - 2020 Census Population by County

Region F Counties Decennial Census Population (cont. on next slide)



Region F: 2000 - 2020 Census Population by County

Region F Counties Decennial Census Population



Region F: 2000 - 2020 Census Population by County

County	2000	2010	2020	% Change
ANDREWS	13,004	14,786	18,610	43.11%
BORDEN	729	641	631	-13.44%
BROWN	37,674	38,106	38,095	1.12%
COKE	3,864	3,320	3,285	-14.98%
COLEMAN	9,235	8,895	7,684	-16.79%
CONCHO	3,966	4,087	3,303	-16.72%
CRANE	3,996	4,375	4,675	16.99%
CROCKETT	4,099	3,719	3,098	-24.42%
ECTOR	121,123	137,130	165,171	36.37%
GLASSCOCK	1,406	1,226	1,116	-20.63%
HOWARD	33,627	35,012	34,860	3.67%
IRION	1,771	1,599	1,513	-14.57%
KIMBLE	4,468	4,607	4,286	-4.07%
LOVING	67	82	64	-4.48%
MARTIN	4,746	4,799	5,237	10.35%
MASON	3,738	4,012	3,953	5.75%

Region F: 2000 - 2020 Census Population by County

County	2000	2010	2020	% Change
MCCULLOCH	8,205	8,283	7,630	-7.01%
MENARD	2,360	2,242	1,962	-16.86%
MIDLAND	116,009	136,872	169,983	46.53%
MITCHELL	9,698	9,403	8,990	-7.30%
PECOS	16,809	15,507	15,193	-9.61%
REAGAN	3,326	3,367	3,385	1.77%
REEVES	13,137	13,783	14,748	12.26%
RUNNELS	11,495	10,501	9,900	-13.88%
SCHLEICHER	2,935	3,461	2,451	-16.49%
SCURRY	16,361	16,921	16,932	3.49%
STERLING	1,393	1,143	1,372	-1.51%
SUTTON	4,077	4,128	3,372	-17.29%
TOM GREEN	104,010	110,224	120,003	15.38%
UPTON	3,404	3,355	3,308	-2.82%
WARD	10,909	10,658	11,644	6.74%
WINKLER	7,173	7,110	7,791	8.62%
Region F	578,814	623,354	694,245	19.94%

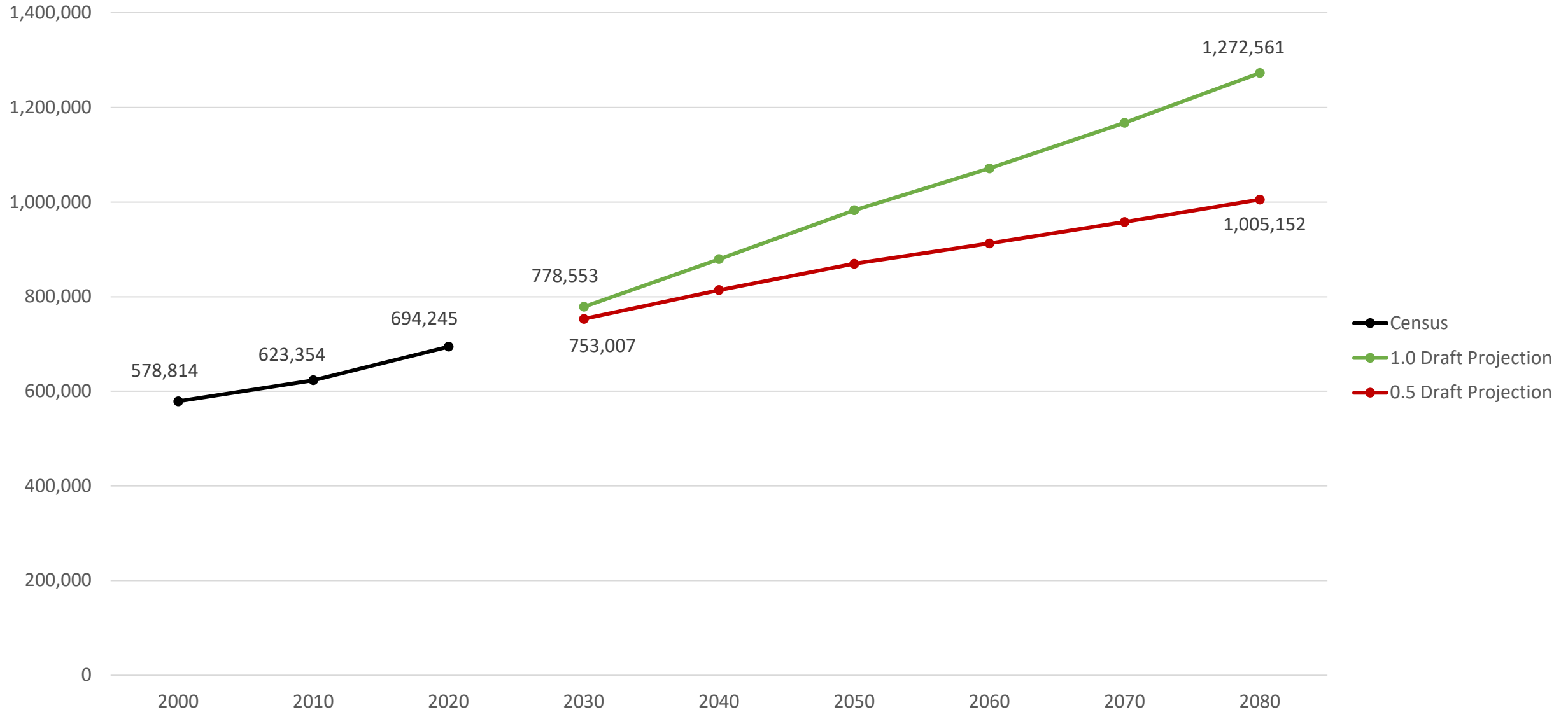
County Population Projections in 2021 Regional Water Plans

County	2020	2030	2040	2050	2060	2070	Constant
Andrews	19,089	22,847	26,246	30,111	34,526	39,574	
Borden	659	671	671	671	671	671	x
Brown	39,761	40,717	40,717	40,717	40,717	40,717	x
Coke	3,320	3,320	3,320	3,320	3,320	3,320	x
Coleman	9,103	9,307	9,307	9,307	9,307	9,307	x
Concho	2,781	2,852	2,852	2,852	2,852	2,852	x
Crane	5,056	5,713	6,241	6,737	7,151	7,501	
Crockett	4,111	4,386	4,446	4,486	4,500	4,506	
Ector	164,289	187,604	210,926	233,048	255,083	278,740	
Glasscock	1,341	1,429	1,429	1,429	1,429	1,429	x
Howard	37,310	38,936	39,603	39,603	39,603	39,603	x
Irion	1,684	1,702	1,702	1,702	1,702	1,702	x
Kimble	4,710	4,754	4,754	4,754	4,754	4,754	x
Loving	82	82	82	82	82	82	x
Martin	5,433	5,986	6,382	6,735	7,000	7,205	
Mason	4,012	4,012	4,012	4,012	4,012	4,012	x

County Population Projections in 2021 Regional Water Plans

County	2020	2030	2040	2050	2060	2070	Constant
McCulloch	8,635	9,000	9,030	9,125	9,152	9,165	
Menard	2,242	2,242	2,242	2,242	2,242	2,242	x
Midland	169,062	195,286	213,581	232,357	250,264	269,070	
Mitchell	10,531	11,329	11,566	11,706	11,826	11,930	
Pecos	17,718	19,224	20,802	22,021	23,109	24,090	
Reagan	3,853	4,303	4,571	4,812	4,980	5,102	
Reeves	15,125	16,193	17,057	17,650	18,106	18,443	
Runnels	10,883	11,300	11,300	11,300	11,300	11,300	x
Schleicher	3,811	4,106	4,259	4,350	4,406	4,440	
Scurry	19,911	22,497	24,249	26,236	28,246	30,322	
Sterling	1,215	1,260	1,275	1,275	1,275	1,275	x
Sutton	3,817	4,094	4,198	4,279	4,322	4,347	
Tom Green	123,052	137,486	145,685	154,230	163,215	172,642	
Upton	3,690	3,990	4,128	4,272	4,360	4,421	
Ward	11,454	12,144	12,634	13,029	13,329	13,557	
Winkler	8,033	8,817	9,459	10,147	10,702	11,181	

Region F Historical Population and Current Draft Projections



Draft 2026 RWP County Population Projections

1.0 Migration Scenario

County	2030	2040	2050	2060	2070	2080
ANDREWS	22,997	28,993	35,825	42,717	50,229	58,417
BORDEN	608	603	601	607	614	622
BROWN	39,717	40,383	40,459	40,599	40,752	40,919
COKE	3,454	3,690	3,932	4,317	4,737	5,195
COLEMAN	6,825	5,835	4,890	4,124	3,289	2,379
CONCHO	3,110	2,928	2,757	2,596	2,421	2,230
CRANE	5,027	5,493	5,887	6,205	6,552	6,930
CROCKETT	2,554	2,127	1,734	1,430	1,099	738
ECTOR	193,911	229,409	264,940	294,318	326,340	361,244
GLASSCOCK	1,001	877	815	705	585	454
HOWARD	36,259	37,313	37,885	37,115	36,276	35,361
IRION	1,427	1,346	1,305	1,269	1,230	1,187
KIMBLE	4,016	3,705	3,451	3,313	3,163	2,999
LOVING	64	64	64	64	64	64
MARTIN	5,543	5,896	6,311	6,530	6,769	7,030
MASON	3,821	3,708	3,666	3,661	3,656	3,651

Draft 2026 RWP County Population Projections

1.0 Migration Scenario

County	2030	2040	2050	2060	2070	2080
MCCULLOCH	7,260	6,746	6,177	5,702	5,184	4,619
MENARD	1,753	1,581	1,423	1,342	1,254	1,158
MIDLAND	204,842	247,011	293,657	333,252	376,410	423,186
MITCHELL	9,119	9,149	9,125	9,085	9,041	8,993
PECOS	15,176	15,306	15,275	15,085	14,878	14,652
REAGAN	3,417	3,420	3,382	3,327	3,267	3,202
REEVES	16,015	17,702	19,284	20,384	21,583	22,890
RUNNELS	9,739	9,547	9,286	9,045	8,782	8,495
SCHLEICHER	1,758	1,249	859	592	301	250
SCURRY	17,272	17,643	17,726	17,521	17,298	17,055
STERLING	1,704	2,226	2,923	3,824	4,806	5,876
SUTTON	2,729	2,168	1,700	1,338	943	512
TOM GREEN	132,573	145,445	156,800	168,070	180,354	193,744
UPTON	3,262	3,298	3,303	3,284	3,263	3,240
WARD	12,954	14,666	16,450	18,013	19,717	21,574
WINKLER	8,646	9,744	10,757	11,653	12,630	13,695

Draft 2026 RWP County Population Projections

0.5 Migration Scenario

County	2030	2040	2050	2060	2070	2080
ANDREWS	21,530	25,088	28,653	31,868	35,242	38,783
BORDEN	598	591	572	576	580	584
BROWN	38,981	39,128	38,881	38,982	39,088	39,199
COKE	3,314	3,375	3,440	3,612	3,793	3,983
COLEMAN	7,087	6,424	5,759	5,254	4,724	4,168
CONCHO	3,205	3,110	3,018	2,929	2,836	2,738
CRANE	5,021	5,449	5,759	6,083	6,423	6,780
CROCKETT	2,845	2,633	2,409	2,250	2,083	1,908
ECTOR	185,716	208,075	228,489	243,466	259,183	275,676
GLASSCOCK	1,049	985	946	869	788	703
HOWARD	36,075	36,910	37,315	36,840	36,342	35,819
IRION	1,429	1,357	1,332	1,279	1,223	1,164
KIMBLE	4,063	3,821	3,650	3,625	3,599	3,572
LOVING	64	64	64	64	64	64
MARTIN	5,497	5,840	6,140	6,279	6,425	6,578
MASON	3,772	3,642	3,560	3,573	3,587	3,602

Draft 2026 RWP County Population Projections

0.5 Migration Scenario

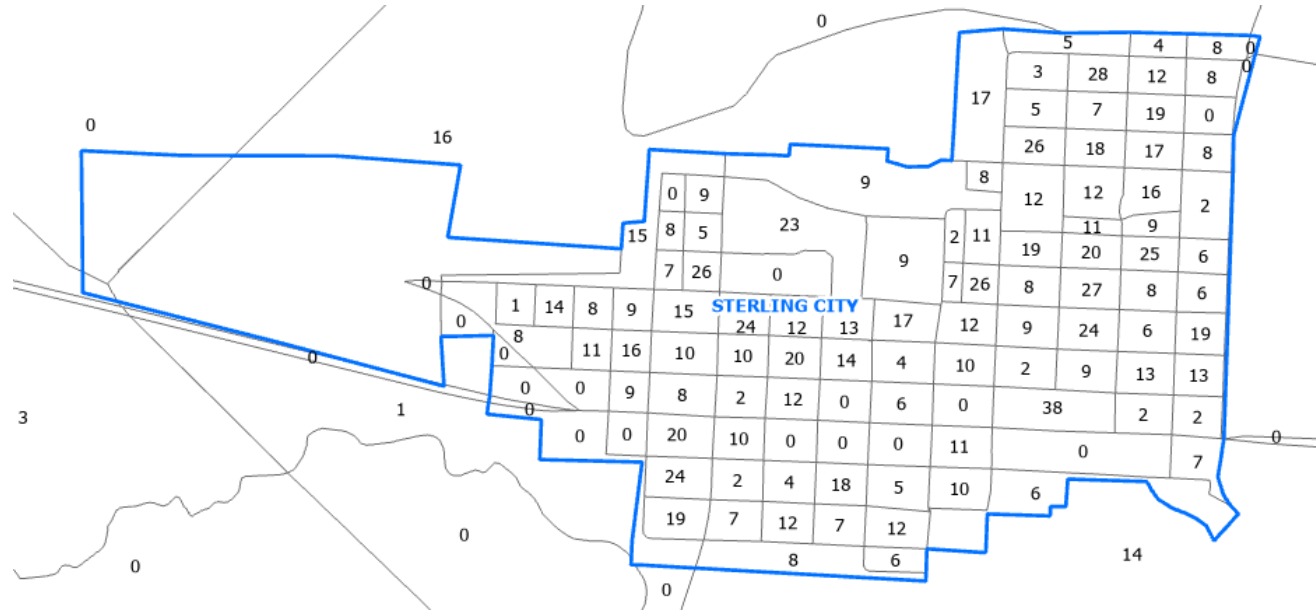
County	2030	2040	2050	2060	2070	2080
MCCULLOCH	7,430	7,136	6,817	6,638	6,450	6,253
MENARD	1,767	1,637	1,524	1,496	1,467	1,437
MIDLAND	192,533	215,882	239,171	256,222	274,116	292,894
MITCHELL	9,134	9,264	9,383	9,506	9,635	9,770
PECOS	15,637	16,195	16,587	16,933	17,296	17,677
REAGAN	3,490	3,592	3,633	3,641	3,649	3,657
REEVES	15,731	16,897	17,963	18,796	19,670	20,587
RUNNELS	9,842	9,786	9,662	9,620	9,576	9,530
SCHLEICHER	2,107	1,806	1,522	1,291	1,049	795
SCURRY	17,450	18,006	18,344	18,517	18,699	18,890
STERLING	1,523	1,800	2,087	2,428	2,786	3,162
SUTTON	3,067	2,778	2,482	2,266	2,039	1,801
TOM GREEN	128,574	136,083	141,967	147,429	153,161	159,176
UPTON	3,349	3,475	3,550	3,627	3,708	3,793
WARD	12,642	13,855	15,034	16,093	17,204	18,370
WINKLER	8,485	9,327	10,025	10,664	11,335	12,039

Water User Groups (WUG)

- Municipal WUGs: utility water use of 100 acre-feet or more
 - 31 TAC § 357.10(43)
- RWPGs reviewed the WUG list in July 2022
- 2026 RWP: 65 WUGs
- Including 32 County-Other WUGs

Historical WUG Population Estimates

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



Population Projections by WUG

- Sub-allocate County Population Projections to WUGs
- WUG's historical (2010 to 2020) share of the region-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, or buildout of subdivisions

Municipal Demand Projections: GPCD

- Gallons per Capita Daily
- Municipal water use
 - Residential
 - CII (commercial, institutional, light industrial)
- Draft Baseline GPCD carried over from 2021 RWP
 - Account for passive savings between historical and projected (2030)
- Groundwater & surface water
- Historical GPCDs shared with RWPGs (January 2023)

Municipal Demand Projections: PC Savings

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

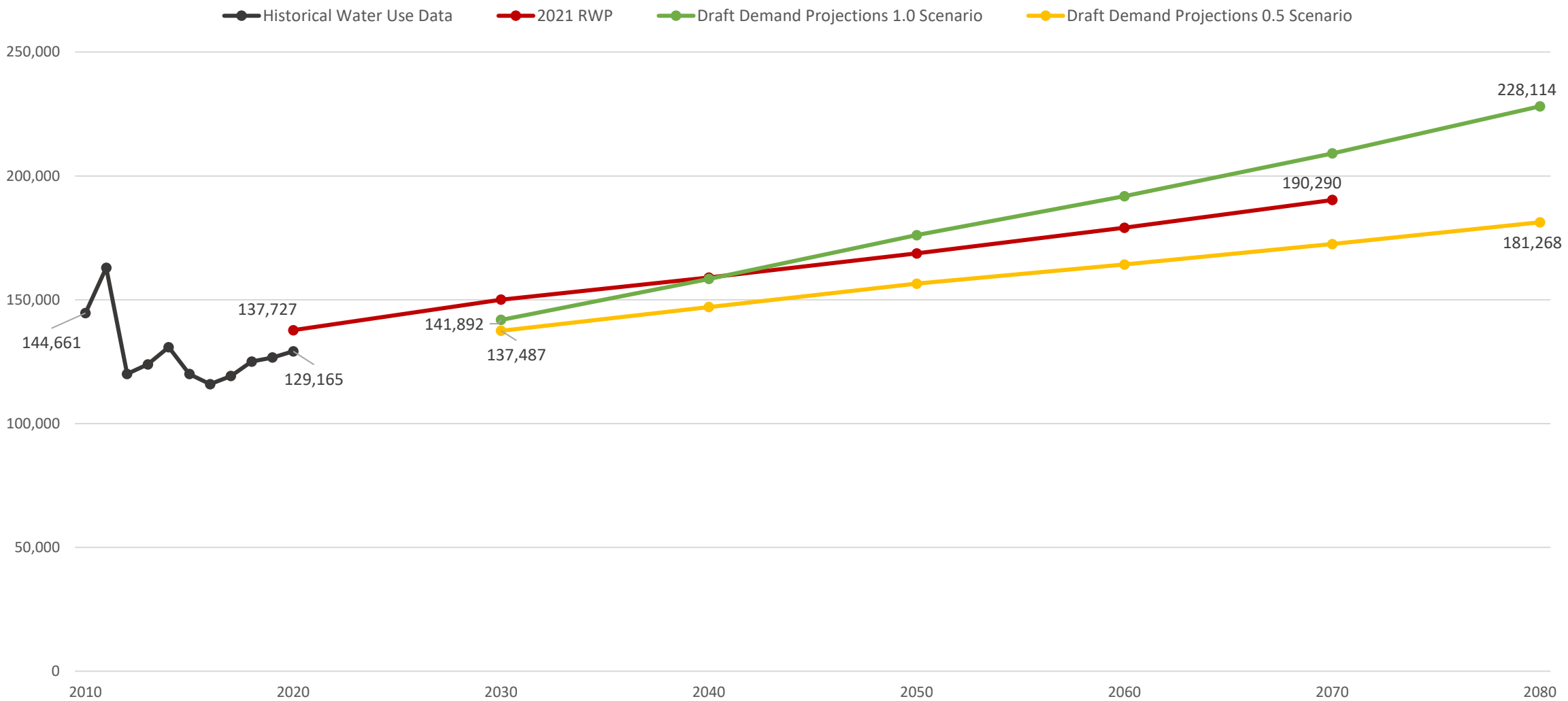
Municipal Demand Projections: PC Savings

- Recent Revisions sent May 5, 2023
- Inadvertently included historical savings in the future demands
- Thus, overstated projected savings
- Result: higher draft municipal water demands projections

Municipal Demand Projections

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

Region F Historical Water Use and Demand Projections



Draft projections data available online:

<https://www.twdb.texas.gov/waterplanning/data/projections/2027/municipal.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. A navigation menu includes "Home", "Board", "Financial Assistance", "Water Planning" (which is highlighted), "Groundwater", "Surface Water", "Flood", "Drought", "Conservation", "Innovative Water", and "Data & Apps". Below the navigation menu 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			Service Boundary Editor

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
DUE: RWPGs request revisions for non-municipal demand projections	July 14, 2023
DUE: RWPGs request revisions for population and municipal demand projections	August 11, 2023
TWDB Board Meeting to Adopt Projections	Fall 2023
DUE: Technical Memorandum	March 4, 2024

Questions?

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Stay connected:

