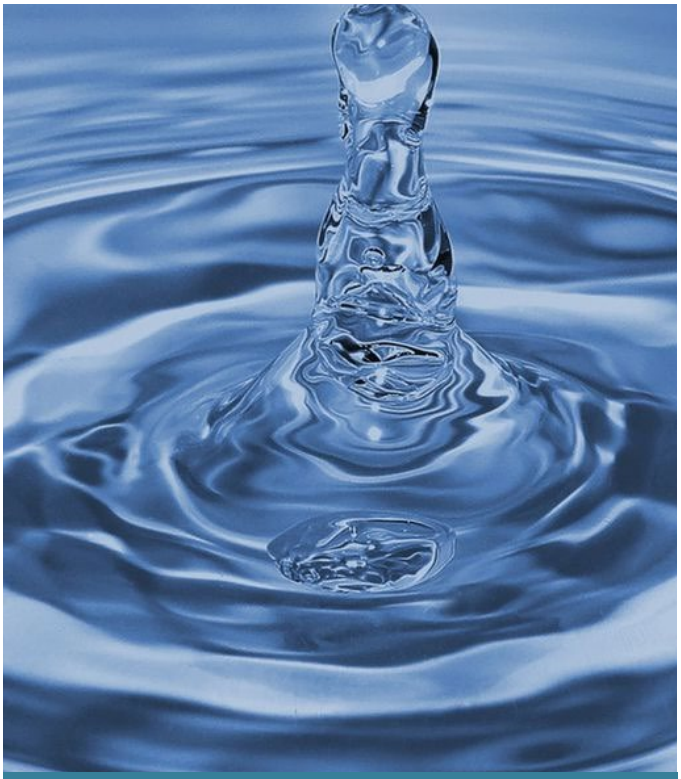

4A

Identification of Water Needs

[31 TAC §357.33]

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Section 4A: Identification of Water Needs

4A.1 Introduction

In this chapter, the demand projections from Chapter 2 and the supply projections from Chapter 3 are brought together to estimate projected water needs in the Coastal Bend Region for the next 50 years. Chapter 2 presented demand projections for six types of use: municipal, manufacturing, steam-electric, mining, irrigation, and livestock. Municipal water demand projections are shown for each utility as delineated by water provider service areas, rather than political boundaries. The municipal water user groups (WUGs) represent retail public utilities, privately-owned utilities, and state/federal owned water systems that provide more than 100 acre-feet per year (ac-ft/yr) of water for municipal use. Smaller municipal systems are combined and reported for County-Other. Non-municipal water demand projections are shown on a county-wide basis for each county. Chapter 3 presented surface water availability by water right and groundwater availability and projected use by aquifer.

Chapter 4A.3 includes a summary page for each of the 11 counties in the Coastal Bend Region that highlights specific supply and demand information, followed by two tables. The first table presents supply and demand comparisons for the six types of water use; the second table presents supply and demand comparisons for the municipal WUGs in the county. Water supply and demand information aggregated for major water providers is summarized in Chapter 4A.4.

Chapter 4A.5 summarizes the secondary needs analysis, which estimates the water needs that would remain assuming full implementation of water conservation or direct reuse recommended water management strategies.

Chapter 4A.6 summarizes the water supply and demand picture for the entire region, focusing on those WUGs that have immediate and/or long-term needs.

In accordance with House Bill 807 from 86th legislative session, “if a RWPG has significant identified water needs, the RWP shall provide a specific assessment of the potential for aquifer storage and recovery projects to meet those needs.” The Coastal Bend Regional Water Planning Group (CBRWPG) reviewed this statutory requirement and defines significant water needs as those equal to or greater than 20,000 ac-ft/yr. The Initially Prepared Coastal Bend Region Plan includes aquifer storage and recovery (ASR) as an evaluated strategy (Section 5B.5) and recommended water management strategy to meet future manufacturing needs in the Nueces County area as sponsored by the City of Corpus Christi.

4A.2 Allocation Methodology

Existing water supply was determined as the maximum amount of water available from existing sources during drought of record conditions, subject to physical transmission and/or treatment plant constraints and contract limits. Surface water, groundwater, and reuse availability was allocated among the six user groups using the methods explained below.

4A.2.1 Surface Water Allocation

Surface water in the region that is available to meet projected demands consists of the safe yield of the regional reservoir system, dependable supply of run-of-river water rights through drought of record conditions, and local on-farm sources. Surface water rights were allocated as supplies according to their stated type of use: municipal, industrial (manufacturing, steam-electric, and mining), and irrigation. Municipal supply was further allocated among cities and other municipal water supply entities by obtaining water seller information (i.e., which water wholesale providers [WWPs] resell water to other water supply entities) and water purchase contract limits between buyers and sellers, provided by the Texas Water Development Board (TWDB) and current WWPs. In most cases, for those cities purchasing water on a wholesale basis, the contract amount remains constant through 2080. It was also assumed that water associated with a wholesaler that is not resold remains as an available supply to the wholesaler. In the case where a supply to a wholesaler is deficient to meet its own demands and contract requirements, a shortage would be expected for their non-municipal customers. Also, in the case of surface water, the available supplies were compared to the water treatment plant (WTP) capacities shown in Table 4A.1.

Table 4A.1.
Water Treatment Plant Capacities for Region N Water User Groups

Entity	WTP Capacity (mgd)	Average Day WTP Capacity (mgd)	Average Day WTP Capacity (ac-ft/yr)
City of Beeville	6.4	5.2	5,833
City of Alice	8.7	6.7	7,560
City of Mathis	2.2	1.7	1,877
City of Three Rivers	3.0	2.1	2,399
Nueces County WCID #3	6.6	5.0	5,605
City of Corpus Christi	160	114.3	128,114
San Patricio Municipal Water District*	38.4	21.3	23,860

*Note: San Patricio Municipal Water District has three water treatment plants (a- municipal; b- industrial; c- municipal or industrial. Municipal (potable) average day capacity of 10.5 mgd (11,762 ac-ft/yr) and industrial treatment plant average day capacity of 10.8 mgd (12,098 ac-ft/yr) per SPMWD email on February 11, 2025.

If the total available surface water supplies were greater than treatment plant capacity, the supplies were constrained by the treatment plant capacity. A detailed explanation of water demand and supplies for current WWPs[1] is described in Section 4A.4. Figure 4A.1 shows how surface water in the Coastal Bend Region is distributed.

[1] The Port of Corpus Christi Authority (PCCA) and Poseidon Water are potential future WWPs for recommended water management based on TWDB DB22 requirements. However, water supply plans are not included for them since they are not current WWPs and were not identified as WWPs by the CBRWPG.

The City of Corpus Christi has 170,000 ac-ft/yr in available safe yield supply[2] in 2030 through its own water right in the Nueces Basin from the Choke Canyon Reservoir/Lake Corpus Christi System (CCR/LCC System), a contract with the Lavaca-Navidad River Authority for a base amount of 31,440 ac-ft/yr[3] and up to 12,000 ac-ft on an interruptible basis from Lake Texana, and up to 35,000 ac-ft/yr from the City of Corpus Christi's Garwood water rights. These supplies are referred to collectively as supplies from the CCR/LCC/Texana/ Mary Rhodes Pipeline (MRP) Phase II System (or Corpus Christi Regional Water Supply System).

From this supply, the City of Corpus Christi provides water to its municipal customers throughout the Coastal Bend Region and manufacturing and steam-electric customers in Nueces County (Figure 3.3). The San Patricio Municipal Water District (SPMWD) has a contract to buy up to 81,560 acre-feet (ac-ft) of raw and treated water from the City of Corpus Christi and provides water to municipal customers in Aransas, Nueces and San Patricio counties, as well as manufacturing customers in San Patricio County. South Texas Water Authority (STWA) supplies municipal and rural customers in Nueces and Kleberg counties. Nueces County Water Control and Improvement District #3 (WCID 3) supplies the City of Robstown and River Acres Water Supply Corporation (WSC) in Nueces County.

[2] At the CBRWPG meeting on May 18, 2023, the CBRWPG approved submittal of a hydrologic variance request to the TWDB Executive Administrator to use the Corpus Christi Regional Water Supply Model for regional water supply availability and adoption of safe yield for evaluating regional supplies for the 2026 Region N Plan. The TWDB approved the hydrologic variance request on January 8, 2024.

[3] The LNRA exercised a call-back of 10,400 ac-ft/yr for Jackson County uses per contract, and therefore is not included in the safe yield calculation.

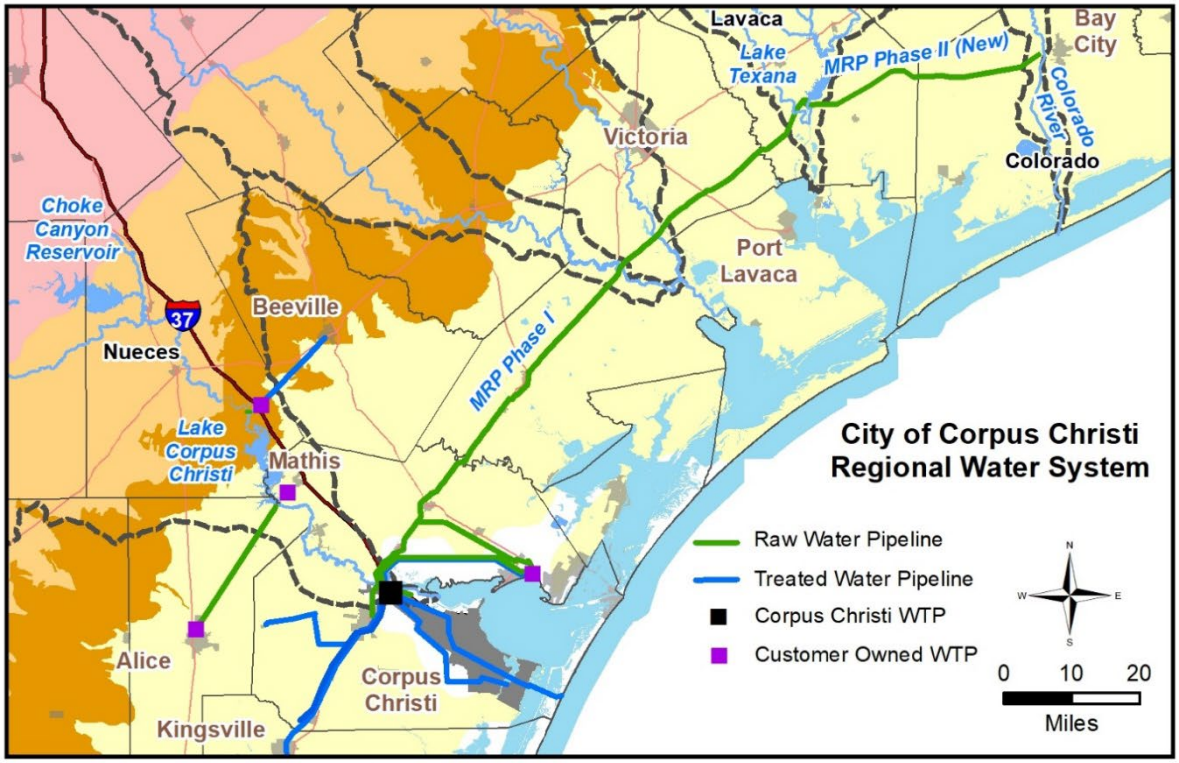

Figure 4A.1.
Distribution of Surface Water from the Corpus Christi Regional Water System in the Coastal Bend Region

The final process in the allocation of surface water supplies was to examine the available WTP capacity for each entity with a WTP and compare that capacity to existing raw water supplies. The WTP capacity was calculated based on average day production using a peaking factor based on recent water use records and feedback from the utility. If the WTP capacity was insufficient to treat the existing raw water supplies, then surface water supplies to that entity were limited to the current WTP treatment capacity. Current WTP capacities are shown in Table 4A.1.

Local surface water supply from stock ponds is available to meet livestock needs when groundwater supplies are insufficient to meet those demands. Generally, these ponds (less than 200 ac-ft of storage) are not large enough to require a water rights permit.

4A.2.2 Groundwater Allocation

Groundwater is regulated locally by groundwater conservation districts except in locations that do not have a district. Districts may issue permits that regulate pumping of groundwater and spacing of wells within their jurisdictions. Multiple districts within a single Groundwater Management Area (GMA) determine the desired future conditions of relevant aquifers within that area. Three GMAs are represented within the Coastal Bend Region's 11-county area: GMA 13, GMA 15, and GMA 16. All three of these GMAs adopted new desired future conditions (DFCs) between October and November 2021, as described in Chapter 3. These DFCs were

then used by the TWDB to develop Modeled Available Groundwater (MAGs) volumes. A MAG volume is the amount of groundwater production, on an average annual basis, that will achieve a DFC. The DFC at a specific location may not be achieved if groundwater production exceeds the MAG volume over the long term. These MAG projections, based on GMA-approved[4] desired future conditions, were adopted on October 12, 2023 by the CBRWPG as the basis of groundwater availability in this *2026 Coastal Bend Regional Water Plan*.

Current groundwater supplies in the 2026 *Coastal Bend Regional Water Plan* are based on MAG projections provided by the TWDB, constrained by well capacity as reported in the Texas Commission on Environmental Quality (TCEQ) Public Water System (PWS) database. The well capacity was assumed to include peaking; therefore, for municipal water users, the average annual capacity was set equal to half of the rated or tested capacity from the PWS database, whichever was lower. For non-municipal groundwater users with groundwater capacities that are not readily obtained from publicly available sources, the groundwater supply was calculated based on TWDB historical water use records from 2010-current. The final step in determining groundwater supplies was to compare the MAG-preserved well capacities to projected demands for each WUG that has historically relied on groundwater. Groundwater supply was set equal to the amount of capacity or water demand, whichever is lower.

For WUGs that use both groundwater and surface water supplies, it was generally assumed that the WUG would use groundwater up to its well capacity (limited by MAG) and then use available surface water per rights or contracts to total the projected water demand through combination of groundwater and surface water supplies. It is assumed that groundwater beyond demands would not be pumped, and therefore, would be available as a collective resource for future water management strategy development subject to adopted MAGs.

Total anticipated groundwater production in any planning decade may not exceed the MAG volume in any county-aquifer location (total groundwater production includes quantities associated with both existing supplies and any recommended water management strategies). This prevents regional water planning groups from recommending water management strategies with supply volumes that would result in exceeding (i.e., overdrafting) approved MAG volumes. Groundwater supply was generally allocated in the following manner:

Municipal Use

- For cities, groundwater supply was based upon half of the rated or tested well capacity listed in the TCEQ PWS database.
- For rural areas, a list of PWS included in county-other provided by the TWDB was used to identify well capacities.

Irrigation Use

- Irrigation supply was estimated as either the projected demand in each decade or well capacity, whichever is less. The well capacity was generally estimated as the maximum

[4] The MAGs calculated by the TWDB were approved by GMA 13 on July 25, 2022; GMA 15 on August 16, 2022; and GMA 16 on October 31, 2022.

amount of water used by irrigators in 2010 to 2020 according to self-reported survey to the TWDB. Data from the local groundwater conservation district manager superseded the TWDB data for McMullen County-Irrigation. Actual well capacity pumping constraints may be different than those estimated based on previous maximum annual irrigation water use. Most irrigation water in the Coastal Bend Region is applied during growing seasons, and therefore wells may be capable of providing additional supplies for peak use conditions.

Manufacturing Use

- The manufacturing well capacity was generally estimated as the highest groundwater usage from 2010-2020. Groundwater supply was based on projected water use or estimated well capacities, whichever is less.

Mining Use

- The mining supply was estimated as either the projected demand in each decade or well capacity, whichever is less. Well capacity was generally estimated as the highest groundwater usage from 2010-2020. An exception was made for Bee County-Mining, which had maximum groundwater use in 2022.

Livestock Use

- The groundwater supply for livestock was calculated based on maximum historic groundwater use reported by TWDB from 2010 to 2020. Any remaining demand is met with local surface water supplies.

4A.2.3 Reuse Water Allocation

The reuse supply was estimated from the maximum historical reuse during the 2018-2022 period based on data from the TWDB's Historical Water Use data dashboard.

4A.3 County Summaries – Comparison of Demand to Supply

4A.3.1 Comparison of Demand to Supply – Aransas County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.2 for all categories of water use. Table 4A.3 includes a summary of municipal demands.

Demands

- For the period 2020 to 2080, municipal demand decreases from 3,914 ac-ft in 2030 to 3,547 ac-ft in 2080.
- There are no manufacturing, stream-electric, mining, or irrigation demands projected across the 2030 to 2080 period.
- Livestock demand is constant at 52 ac-ft/yr.

Supplies

- Surface water from the CCR/LCC/Texana/MRP Phase II System is supplied to municipalities via the SPMWD.
- Groundwater supplies are from the Gulf Coast Aquifer. There is sufficient MAG available.
- Surface water for livestock needs is provided from on-farm and local sources.
- Reuse water supply from Aransas County Municipal Utility District (MUD)/Rockport based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard.

Comparison of Demand to Supply

- There are adequate supplies available to meet all projected demands through the planning period.

Table 4A.2.
Aransas County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		24,415	24,299	23,708	23,195	22,691	22,196
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.3)	3,914	3,882	3,788	3,706	3,625	3,547
	Municipal Existing Supply						
	Groundwater	482	477	464	452	441	430
	Surface water	3,290	3,263	3,182	3,112	3,042	2,975
	Reuse	142	142	142	142	142	142
	Total Existing Municipal Supply	3,914	3,882	3,788	3,706	3,625	3,547
	Municipal Balance	0	0	0	0	0	0
Industrial	Manufacturing Demand	0	0	0	0	0	0
	Manufacturing Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	0	0	0	0	0	0
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	0	0	0	0	0	0
	Mining Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Mining Supply	0	0	0	0	0	0
	Mining Balance	0	0	0	0	0	0
Agriculture	Irrigation Demand	0	0	0	0	0	0
	Irrigation Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	0	0	0	0	0	0
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	52	52	52	52	52	52
	Livestock Existing Supply						
	Groundwater	23	23	23	23	23	23
	Surface water	29	29	29	29	29	29
	Total Livestock Supply	52	52	52	52	52	52
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	3,914	3,882	3,788	3,706	3,625	3,547
	Existing Municipal and Industrial Supply						
	Groundwater	482	477	464	452	441	430
	Surface water	3,290	3,263	3,182	3,112	3,042	2,975
	Reuse	142	142	142	142	142	142
	Total Municipal and Industrial Supply	3,914	3,882	3,788	3,706	3,625	3,547
	Municipal and Industrial Balance	0	0	0	0	0	0
	Agriculture Demand	52	52	52	52	52	52
	Existing Agricultural Supply						
	Groundwater	23	23	23	23	23	23
	Surface water	29	29	29	29	29	29
	Total Agriculture Supply	52	52	52	52	52	52
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	3,966	3,934	3,840	3,758	3,677	3,599
	Total Supply						
	Groundwater	505	500	487	475	464	453
	Surface water	3,319	3,292	3,211	3,141	3,071	3,004
	Reuse	142	142	142	142	142	142
	Total Supply	3,966	3,934	3,840	3,758	3,677	3,599
	Total Balance	0	0	0	0	0	0

Table 4A.3.
Aransas County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
ARANSAS PASS						
Demand	116	115	112	110	107	105
Supply	116	115	112	110	107	105
Groundwater	-	-	-	-	-	-
Surface water	116	115	112	110	107	105
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
RINCON WSC						
Demand	2	2	2	2	2	2
Supply	2	2	2	2	2	2
Groundwater	-	-	-	-	-	-
Surface water	2	2	2	2	2	2
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
ROCKPORT						
Demand	3266	3240	3162	3094	3027	2962
Supply	3266	3240	3162	3094	3027	2962
Groundwater	-	-	-	-	-	-
Surface water	3172	3146	3068	3000	2933	2868
Reuse	94	94	94	94	94	94
Balance	-	-	-	-	-	-
COUNTY-OTHER, ARANSAS						
Demand	530	525	512	500	489	478
Supply	530	525	512	500	489	478
Groundwater	482	477	464	452	441	430
Surface water	-	-	-	-	-	-
Reuse	48	48	48	48	48	48
Balance	-	-	-	-	-	-
County Total						
Demand	3914	3882	3788	3706	3625	3547
Supply	3914	3882	3788	3706	3625	3547
Groundwater	482	477	464	452	441	430
Surface water	3290	3263	3182	3112	3042	2975
Reuse	142	142	142	142	142	142
Balance	-	-	-	-	-	-

4A.3.2 Comparison of Demand to Supply – Bee County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.4 for all categories of water use. Table 4A.5 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand increases from 6,007 ac-ft in 2030 to 6,267 ac-ft in 2080.
- There are no manufacturing or stream-electric demands from 2030 to 2080.
- Mining demand is constant at 239 ac-ft from 2030 through 2070 until it decreases to 0 ac-ft in 2080.
- For the period 2030 to 2080, irrigation demand is constant at 2,518 ac-ft and livestock demand is constant at 568 ac-ft.

Supplies

- Surface water is provided to the City of Beeville from Lake Corpus Christi associated with the CCR/LCC/Texana/MRP Phase II System. The City of Beeville has groundwater supplies that they use in conjunction with surface water.
- Surface water for livestock needs is provided from on-farm/local sources.
- Groundwater supplies are from the Gulf Coast Aquifer aquifers for all WUGs except El Oso WSC, which pumps groundwater from the Carrizo Aquifer in Wilson County (Region L). The groundwater supply is limited by water well capacity which was estimated based on TWDB historical water use records from 2010-2020. There is sufficient MAG available.
- Groundwater supply for irrigation was set equal to the maximum historical pumpage (i.e., estimated well capacity) during 2010-2020.
- Reuse water supply from Beeville is available for mining based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard. When mining demands are zero in 2080, reuse is not expected to be used.

Comparison of Demand to Supply

- There are insufficient supplies available to meet projected demands. In 2030, Bee County has a projected water shortage of 1,478 ac-ft and decreases to a shortage of 564 ac-ft in 2080. The shortage falls on mining and municipal WUGs due to water well capacity limitations.

Table 4A.4.
Bee County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		31,363	31,563	31,337	31,030	30,725	30,422
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.5)	6,007	6,070	6,107	6,148	6,201	6,267
	Municipal Existing Supply						
	Groundwater	3,004	3,035	3,077	3,132	3,203	3,295
	Surface water	1,550	1,672	1,820	1,998	2,193	2,408
	Total Existing Municipal Supply	4,554	4,707	4,897	5,130	5,396	5,703
	Municipal Balance	(1,453)	(1,363)	(1,210)	(1,018)	(805)	(564)
Industrial	Manufacturing Demand	0	0	0	0	0	0
	Manufacturing Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	0	0	0	0	0	0
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	239	239	239	239	239	0
	Mining Existing Supply						
	Groundwater	135	135	135	135	135	0
	Surface water	0	0	0	0	0	0
	Reuse	79	79	79	79	79	0
	Total Mining Supply	214	214	214	214	214	0
	Mining Balance	(25)	(25)	(25)	(25)	(25)	0
Agriculture	Irrigation Demand	2,518	2,518	2,518	2,518	2,518	2,518
	Irrigation Existing Supply						
	Groundwater	2,518	2,518	2,518	2,518	2,518	2,518
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	2,518	2,518	2,518	2,518	2,518	2,518
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	568	568	568	568	568	568
	Livestock Existing Supply						
	Groundwater	558	558	558	558	558	558
	Surface water	10	10	10	10	10	10
	Total Livestock Supply	568	568	568	568	568	568
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	6,246	6,309	6,346	6,387	6,440	6,267
	Existing Municipal and Industrial Supply						
	Groundwater	3,139	3,170	3,212	3,267	3,338	3,295
	Surface water	1,550	1,672	1,820	1,998	2,193	2,408
	Reuse	79	79	79	79	79	79
	Total Municipal and Industrial Supply	4,768	4,921	5,111	5,344	5,610	5,782
	Municipal and Industrial Balance	(1,478)	(1,388)	(1,235)	(1,043)	(830)	(485)
	Agriculture Demand	3,086	3,086	3,086	3,086	3,086	3,086
	Existing Agricultural Supply						
	Groundwater	3,076	3,076	3,076	3,076	3,076	3,076
	Surface water	10	10	10	10	10	10
	Total Agriculture Supply	3,086	3,086	3,086	3,086	3,086	3,086
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	9,332	9,395	9,432	9,473	9,526	9,353
	Total Supply						
	Groundwater	6,215	6,246	6,288	6,343	6,414	6,371
	Surface water	1,560	1,682	1,830	2,008	2,203	2,418
		79	79	79	79	79	0
	Total Supply	7,854	8,007	8,197	8,430	8,696	8,789
	Total Balance	(1,478)	(1,388)	(1,235)	(1,043)	(830)	(564)

Table 4A.5.
Bee County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	2030	2040	2050	2060	2070	2080
BEEVILLE						
Demand	2,805	2,927	3,075	3,253	3,448	3,663
Supply	2,805	2,927	3,075	3,253	3,448	3,663
Groundwater	1,255	1,255	1,255	1,255	1,255	1,255
Surface water	1,550	1,672	1,820	1,998	2,193	2,408
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
EL OSO WSC						
Demand	94	122	159	208	273	359
Supply	94	122	159	208	273	359
Groundwater	94	122	159	208	273	359
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
PETTUS MUD						
Demand	65	68	73	79	85	91
Supply	65	68	73	79	85	91
Groundwater	65	68	73	79	85	91
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
SKIDMORE WSC						
Demand	103	105	108	113	119	125
Supply	81	81	81	81	81	81
Groundwater	81	81	81	81	81	81
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(22)	(24)	(27)	(32)	(38)	(44)
TDCJ CHASE FIELD						
Demand	1,295	1,292	1,292	1,292	1,292	1,292
Supply	1,290	1,290	1,290	1,290	1,290	1,290
Groundwater	1,290	1,290	1,290	1,290	1,290	1,290
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(5)	(2)	(2)	(2)	(2)	(2)
COUNTY-OTHER, BEE						
Demand	1,645	1,556	1,400	1,203	984	737
Supply	219	219	219	219	219	219
Groundwater	219	219	219	219	219	219
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(1,426)	(1,337)	(1,181)	(984)	(765)	(518)
County Total						
Demand	6,007	6,070	6,107	6,148	6,201	6,267
Supply	4,554	4,707	4,897	5,130	5,396	5,703
Groundwater	3,004	3,035	3,077	3,132	3,203	3,295
Surface water	1,550	1,672	1,820	1,998	2,193	2,408
Reuse	-	-	-	-	-	-
Balance	(1,453)	(1,363)	(1,210)	(1,018)	(805)	(564)

4A.3.3 Comparison of Demand to Supply – Brooks County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.6 for all categories of water use. Table 4A.7 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand decreases from 1,475 ac-ft in 2030 to 1,397 ac-ft in 2060 and to 1,389 ac-ft in 2080.
- Mining demand is constant at 16 ac-ft across the 2030 to 2080 planning period.
- For the period 2030 to 2080, irrigation demand is constant at 597 ac-ft; livestock demand is constant at 478 ac-ft.
- There is no manufacturing or steam-electric demand projected for 2030 to 2080.

Supplies

- Surface water for livestock needs is provided from on-farm/local sources.
- Groundwater supplies are from the Gulf Coast Aquifer. There is sufficient MAG available.

Comparison of Demand to Supply

- There are insufficient supplies to meet municipal and industrial demands across the entire 2030-2080 planning period due to water well capacity limitations. In 2030, Brooks County has a projected water shortage of 281 ac-ft and decreases to a shortage of 101 ac-ft in 2080. The shortage falls on municipal county-other due to water well capacity limitations.

Table 4A.6.
Brooks County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		6,895	6,702	6,493	6,256	6,020	5,785
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.7)	1,475	1,441	1,418	1,397	1,386	1,389
	Municipal Existing Supply						
	Groundwater	1,194	1,179	1,184	1,199	1,231	1,288
	Surface water	0	0	0	0	0	0
	Total Existing Municipal Supply	1,194	1,179	1,184	1,199	1,231	1,288
	Municipal Balance	(281)	(262)	(234)	(198)	(155)	(101)
Industrial	Manufacturing Demand	0	0	0	0	0	0
	Manufacturing Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	0	0	0	0	0	0
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	16	16	16	16	16	16
	Mining Existing Supply						
	Groundwater	16	16	16	16	16	16
	Surface water	0	0	0	0	0	0
	Total Mining Supply	16	16	16	16	16	16
	Mining Balance	0	0	0	0	0	0
Agriculture	Irrigation Demand	597	597	597	597	597	597
	Irrigation Existing Supply						
	Groundwater	597	597	597	597	597	597
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	597	597	597	597	597	597
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	478	478	478	478	478	478
	Livestock Existing Supply						
	Groundwater	343	343	343	343	343	343
	Surface water	135	135	135	135	135	135
	Total Livestock Supply	478	478	478	478	478	478
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	1,491	1,457	1,434	1,413	1,402	1,405
	Existing Municipal and Industrial Supply						
	Groundwater	1,210	1,195	1,200	1,215	1,247	1,304
	Surface water	0	0	0	0	0	0
	Total Municipal and Industrial Supply	1,210	1,195	1,200	1,215	1,247	1,304
	Municipal and Industrial Balance	(281)	(262)	(234)	(198)	(155)	(101)
	Agriculture Demand	1,075	1,075	1,075	1,075	1,075	1,075
	Existing Agricultural Supply						
	Groundwater	940	940	940	940	940	940
	Surface water	135	135	135	135	135	135
	Total Agriculture Supply	1,075	1,075	1,075	1,075	1,075	1,075
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	2,566	2,532	2,509	2,488	2,477	2,480
	Total Supply						
	Groundwater	2,150	2,135	2,140	2,155	2,187	2,244
	Surface water	135	135	135	135	135	135
	Total Supply	2,285	2,270	2,275	2,290	2,322	2,379
	Total Balance	(281)	(262)	(234)	(198)	(155)	(101)

Table 4A.7.
Brooks County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
FALFURRIAS						
Demand	1,162	1,147	1,152	1,167	1,199	1,256
Supply	1,162	1,147	1,152	1,167	1,199	1,256
Groundwater	1,162	1,147	1,152	1,167	1,199	1,256
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
COUNTY-OTHER, BROOKS						
Demand	313	294	266	230	187	133
Supply	32	32	32	32	32	32
Groundwater	32	32	32	32	32	32
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(281)	(262)	(234)	(198)	(155)	(101)
County Total						
Demand	1,475	1,441	1,418	1,397	1,386	1,389
Supply	1,194	1,179	1,184	1,199	1,231	1,288
Groundwater	1,194	1,179	1,184	1,199	1,231	1,288
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(281)	(262)	(234)	(198)	(155)	(101)

4A.3.4 Comparison of Demand to Supply – Duval County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.8 for all categories of water use. Table 4A.9 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand decreases from 1,593 ac-ft in 2030 to 1,408 ac-ft in 2060 then to 1,318 ac-ft in 2080.
- Mining demand is constant at from 6 ac-ft from 2030 through 2060 until it increases to 7 ac-ft for 2070 and 2080.
- For the period 2030 to 2080, irrigation demand remains constant at 2,016 ac-ft; livestock demand is constant at 566 ac-ft.
- There is no manufacturing or steam-electric demand projected for 2030 to 2080.

Supplies

- Groundwater supplies are from the Gulf Coast Aquifer. There is sufficient MAG available.

Comparison of Demand to Supply

- Due to water well capacity limitations, there is a total projected water shortage of 253 ac-ft/yr in 2030, which decreases to 113 ac-ft/yr in 2080. County-other is projected to have a shortage of 253 ac-ft/yr in 2030 that decreases to 113 ac-ft/yr in 2080.

Table 4A.8.
Duval County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		9,261	8,828	8,436	8,108	7,782	7,458
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.9)	1,593	1,520	1,458	1,408	1,359	1,318
	Municipal Existing Supply						
	Groundwater	1,340	1,297	1,259	1,229	1,208	1,205
	Surface water	0	0	0	0	0	0
	Total Existing Municipal Supply	1,340	1,297	1,259	1,229	1,208	1,205
	Municipal Balance	(253)	(223)	(199)	(179)	(151)	(113)
Industrial	Manufacturing Demand	0	0	0	0	0	0
	Manufacturing Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	0	0	0	0	0	0
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	6	6	6	6	7	7
	Mining Existing Supply						
	Groundwater	6	6	6	6	7	7
	Surface water	0	0	0	0	0	0
	Total Mining Supply	6	6	6	6	7	7
	Mining Balance	0	0	0	0	0	0
Agriculture	Irrigation Demand	2,016	2,016	2,016	2,016	2,016	2,016
	Irrigation Existing Supply						
	Groundwater	2,016	2,016	2,016	2,016	2,016	2,016
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	2,016	2,016	2,016	2,016	2,016	2,016
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	566	566	566	566	566	566
	Livestock Existing Supply						
	Groundwater	566	566	566	566	566	566
	Surface water	0	0	0	0	0	0
	Total Livestock Supply	566	566	566	566	566	566
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	1,599	1,526	1,464	1,414	1,366	1,325
	Existing Municipal and Industrial Supply						
	Groundwater	1,346	1,303	1,265	1,235	1,215	1,212
	Surface water	0	0	0	0	0	0
	Total Municipal and Industrial Supply	1,346	1,303	1,265	1,235	1,215	1,212
	Municipal and Industrial Balance	(253)	(223)	(199)	(179)	(151)	(113)
	Agriculture Demand	2,582	2,582	2,582	2,582	2,582	2,582
	Existing Agricultural Supply						
	Groundwater	2,582	2,582	2,582	2,582	2,582	2,582
	Surface water	0	0	0	0	0	0
	Total Agriculture Supply	2,582	2,582	2,582	2,582	2,582	2,582
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	4,181	4,108	4,046	3,996	3,948	3,907
	Total Supply						
	Groundwater	3,928	3,885	3,847	3,817	3,797	3,794
	Surface water	0	0	0	0	0	0
	Total Supply	3,928	3,885	3,847	3,817	3,797	3,794
	Total Balance	(253)	(223)	(199)	(179)	(151)	(113)

Table 4A.9.
Duval County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
DUVAL COUNTY CRD						
Demand	161	152	143	135	127	119
Supply	161	152	143	135	127	119
Groundwater	161	152	143	135	127	119
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
FREER WCID						
Demand	501	470	444	421	396	370
Supply	5	5	4	4	4	4
Groundwater	5	5	4	4	4	4
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(496)	(465)	(440)	(417)	(392)	(366)
SAN DIEGO MUD 1						
Demand	678	675	672	673	685	716
Supply	678	675	672	673	685	716
Groundwater	678	675	672	673	685	716
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
COUNTY-OTHER, DUVAL						
Demand	253	223	199	179	151	113
Supply	-	-	-	-	-	-
Groundwater	-	-	-	-	-	-
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(253)	(223)	(199)	(179)	(151)	(113)
County Total						
Demand	1,593	1,520	1,458	1,408	1,359	1,318
Supply	844	832	819	812	816	839
Groundwater	844	832	819	812	816	839
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(749)	(688)	(639)	(596)	(543)	(479)

Table 4A.10.
Duval County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
DUVAL COUNTY CRD						
Demand	161	152	143	135	127	119
Supply	161	152	143	135	127	119
Groundwater	161	152	143	135	127	119
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
FREER WCID						
Demand	501	470	444	421	396	370
Supply	501	470	444	421	396	370
Groundwater	501	470	444	421	396	370
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
SAN DIEGO MUD 1						
Demand	678	675	672	673	685	716
Supply	678	675	672	673	685	716
Groundwater	678	675	672	673	685	716
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
COUNTY-OTHER, DUVAL						
Demand	253	223	199	179	151	113
Supply	-	-	-	-	-	-
Groundwater	-	-	-	-	-	-
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(253)	(223)	(199)	(179)	(151)	(113)
County Total						
Demand	1,593	1,520	1,458	1,408	1,359	1,318
Supply	1,340	1,297	1,259	1,229	1,208	1,205
Groundwater	1,340	1,297	1,259	1,229	1,208	1,205
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(253)	(223)	(199)	(179)	(151)	(113)

4A.3.5 Comparison of Demand to Supply – Jim Wells County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.11 for all categories of water use. Table 4A.12 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand decreases from 6,829 ac-ft in 2030 to 6,668 ac-ft in 2060, then to 6,531 ac-ft in 2080.
- Manufacturing demand increases from 87 ac-ft in 2030 to 104 ac-ft in 2080.
- For the period 2030 to 2080, irrigation demand remains constant at 1,665 ac-ft; livestock demand is constant at 711 ac-ft.
- There is no steam-electric or mining demand projected for the 2030-2080 planning period.

Supplies

- Surface water is provided to the City of Alice from the CCR/LCC/Texana/MRP Phase II System; livestock needs are met with on-farm/local sources.
- Groundwater supplies are from the Gulf Coast Aquifer. San Diego groundwater supply is obtained from Duval County Conservation and Reclamation District (CRD). There is sufficient MAG available.
- Reuse water supply from Alice based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard.

Comparison of Demand to Supply

- There are sufficient municipal supplies available through 2080 for Alice, Jim Wells County Fresh Water Supply District #1 (FWSD 1), Orange Grove, and Premont.
- Due to water well capacity limitations, there is a total municipal shortage of 1,723 ac-ft/yr in 2030, decreasing to 213 ac-ft/yr in 2080; San Diego MUD 1 is projected to have a water shortage of 102 ac-ft, increasing to 131 ac-ft in 2080. The county-other user group is projected to have a water shortage of 1,621 ac-ft/yr in 2030, decreasing to 82 ac-ft/yr in 2080.
- Manufacturing has a projected water shortage of 8 ac-ft/yr in 2030, increasing to 25 ac-ft in 2080.
- There are sufficient agricultural supplies to meet irrigation and livestock demand through 2080.

Table 4A.11.
Jim Wells County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		38,692	38,400	37,573	36,430	35,294	34,164
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.11)	6,829	6,824	6,764	6,668	6,589	6,531
	Municipal Existing Supply						
	Groundwater	2,665	2,642	2,626	2,613	2,607	2,610
	Surface water	2,254	2,480	2,681	2,912	3,188	3,521
	Reuse	187	187	187	187	187	187
	Total Existing Municipal Supply	5,106	5,309	5,494	5,712	5,982	6,318
	Municipal Balance	(1,723)	(1,515)	(1,270)	(956)	(607)	(213)
Industrial	Manufacturing Demand	87	90	93	96	100	104
	Manufacturing Existing Supply						
	Groundwater	79	79	79	79	79	79
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	79	79	79	79	79	79
	Manufacturing Balance	(8)	(11)	(14)	(17)	(21)	(25)
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	0	0	0	0	0	0
	Mining Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Mining Supply	0	0	0	0	0	0
	Mining Balance	0	0	0	0	0	0
Agriculture	Irrigation Demand	1,665	1,665	1,665	1,665	1,665	1,665
	Irrigation Existing Supply						
	Groundwater	1,665	1,665	1,665	1,665	1,665	1,665
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	1,665	1,665	1,665	1,665	1,665	1,665
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	711	711	711	711	711	711
	Livestock Existing Supply						
	Groundwater	661	661	661	661	661	661
	Surface water	50	50	50	50	50	50
	Total Livestock Supply	711	711	711	711	711	711
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	6,916	6,914	6,857	6,764	6,689	6,635
	Existing Municipal and Industrial Supply						
	Groundwater	2,744	2,721	2,705	2,692	2,686	2,689
	Surface water	2,254	2,480	2,681	2,912	3,188	3,521
	Reuse	187	187	187	187	187	187
	Total Municipal and Industrial Supply	5,185	5,388	5,573	5,791	6,061	6,397
	Municipal and Industrial Balance	(1,731)	(1,526)	(1,284)	(973)	(628)	(238)
	Agriculture Demand	2,376	2,376	2,376	2,376	2,376	2,376
	Existing Agricultural Supply						
	Groundwater	2,326	2,326	2,326	2,326	2,326	2,326
	Surface water	50	50	50	50	50	50
	Total Agriculture Supply	2,376	2,376	2,376	2,376	2,376	2,376
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	9,292	9,290	9,233	9,140	9,065	9,011
	Total Supply						
	Groundwater	5,070	5,047	5,031	5,018	5,012	5,015
	Surface water	2,304	2,530	2,731	2,962	3,238	3,571
	Reuse	187	187	187	187	187	187
	Total Supply	7,561	7,764	7,949	8,167	8,437	8,773
	Total Balance	(1,731)	(1,526)	(1,284)	(973)	(628)	(238)

Table 4A.12.
Jim Wells County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	2030	2040	2050	2060	2070	2080
ALICE						
Demand	4,009	4,235	4,436	4,667	4,943	5,276
Supply	4,009	4,235	4,436	4,667	4,943	5,276
Groundwater	1,568	1,568	1,568	1,568	1,568	1,568
Surface water	2,254	2,480	2,681	2,912	3,188	3,521
Reuse	187	187	187	187	187	187
Balance	-	-	-	-	-	-
JIM WELLS COUNTY FWSD 1						
Demand	112	112	112	113	114	117
Supply	112	112	112	113	114	117
Groundwater	112	112	112	113	114	117
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
ORANGE GROVE						
Demand	364	354	347	341	337	336
Supply	364	354	347	341	337	336
Groundwater	364	354	347	341	337	336
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
PREMONT						
Demand	554	541	532	524	521	522
Supply	554	541	532	524	521	522
Groundwater	554	541	532	524	521	522
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
SAN DIEGO MUD 1						
Demand	134	138	143	148	155	163
Supply	32	32	32	32	32	32
Groundwater	32	32	32	32	32	32
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(102)	(106)	(111)	(116)	(123)	(131)
COUNTY-OTHER, JIM WELLS						
Demand	1,656	1,444	1,194	875	519	117
Supply	35	35	35	35	35	35
Groundwater	35	35	35	35	35	35
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(1,621)	(1,409)	(1,159)	(840)	(484)	(82)
County Total						
Demand	6,829	6,824	6,764	6,668	6,589	6,531
Supply	5,106	5,309	5,494	5,712	5,982	6,318
Groundwater	2,665	2,642	2,626	2,613	2,607	2,610
Surface water	2,254	2,480	2,681	2,912	3,188	3,521
Reuse	187	187	187	187	187	187
Balance	(1,723)	(1,515)	(1,270)	(956)	(607)	(213)

4A.3.6 Comparison of Demand to Supply – Kenedy County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.13 for all categories of water use. Table 4A.14 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand decreases from 175 ac-ft in 2030 to 121 ac-ft in 2080.
- Mining demand is constant at 3 ac-ft across the 2030-2080 planning period.
- Livestock demand is constant at 631 ac-ft across the 2030-2080 planning period.
- There is no demand projected for manufacturing, steam-electric, or irrigation across the 2030-2080 planning period.

Supplies

- Groundwater supplies are from the Gulf Coast Aquifer. There is sufficient MAG.
- Reuse water supply from mining in Kenedy County based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard.

Comparison of Demand to Supply

- There are adequate supplies available to meet all projected demands through the planning period.

Table 4A.13.
Kenedy County Population, Water Supply, and Water Demand Projections

	Population Projection	2030	2040	2050	2060	2070	2080
		336	306	283	266	249	232
	Supply and Demand by Type of Use	Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.13)	175	160	148	139	130	121
	Municipal Existing Supply						
	Groundwater	175	160	148	139	130	121
	Surface water	0	0	0	0	0	0
	Total Existing Municipal Supply	175	160	148	139	130	121
	Municipal Balance	0	0	0	0	0	0
Industrial	Manufacturing Demand	0	0	0	0	0	0
	Manufacturing Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	0	0	0	0	0	0
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	3	3	3	3	3	3
	Mining Existing Supply						
	Groundwater	2	2	2	2	2	2
	Surface water	0	0	0	0	0	0
	Reuse	1	1	1	1	1	1
	Total Mining Supply	3	3	3	3	3	3
	Mining Balance	0	0	0	0	0	0
Agriculture	Irrigation Demand	0	0	0	0	0	0
	Irrigation Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	0	0	0	0	0	0
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	631	631	631	631	631	631
	Livestock Existing Supply						
	Groundwater	631	631	631	631	631	631
	Surface water	0	0	0	0	0	0
	Total Livestock Supply	631	631	631	631	631	631
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	178	163	151	142	133	124
	Existing Municipal and Industrial Supply						
	Groundwater	177	162	150	141	132	123
	Surface water	0	0	0	0	0	0
	Reuse	1	1	1	1	1	1
	Total Municipal and Industrial Supply	178	163	151	142	133	124
	Municipal and Industrial Balance	0	0	0	0	0	0
	Agriculture Demand	631	631	631	631	631	631
	Existing Agricultural Supply						
	Groundwater	631	631	631	631	631	631
	Surface water	0	0	0	0	0	0
	Total Agriculture Supply	631	631	631	631	631	631
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	809	794	782	773	764	755
	Total Supply						
	Groundwater	808	793	781	772	763	754
	Surface water	0	0	0	0	0	0
	Reuse	1	1	1	1	1	1
	Total Supply	809	794	782	773	764	755
	Total Balance	0	0	0	0	0	0

Table 4A.14.
Kenedy County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
COUNTY-OTHER, KENEDY						
Demand	175	160	148	139	130	121
Supply	175	160	148	139	130	121
Groundwater	175	160	148	139	130	121
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
County Total						
Demand	175	160	148	139	130	121
Supply	175	160	148	139	130	121
Groundwater	175	160	148	139	130	121
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-

4A.3.7 Comparison of Demand to Supply – Kleberg County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.15 for all categories of water use. Table 4A.16 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand increases from 5,021 ac-ft in 2030 to 6,049 ac-ft in 2080.
- Manufacturing demand increases from 1,088 ac-ft/yr in 2030 to 1,305 ac-ft/yr in 2080.
- Mining demand remains constant at 10 ac-ft across the planning period.
- For the period 2030 to 2080, irrigation demand is constant at 141 ac-ft; livestock demand is constant at 532 ac-ft.

Supplies

- Surface water is supplied to municipal users from the CCR/LCC/Texana/MRP Phase II System via the STWA.
- Groundwater supplies are from the Gulf Coast Aquifer and are reduced to not exceed the MAG in 2030 and 2040. There is sufficient MAG available for 2050 to 2080.

Comparison of Demand to Supply

- There are adequate supplies available to meet all projected demands through the planning period.

Table 4A.15.
Kleberg County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		33,923	34,901	36,068	37,772	39,466	41,151
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.15)	5,021	5,144	5,316	5,564	5,809	6,049
	Municipal Existing Supply						
	Groundwater	4,366	4,477	4,626	4,844	5,011	5,034
	Surface water	655	667	690	720	798	1,015
	Total Existing Municipal Supply	5,021	5,144	5,316	5,564	5,809	6,049
	Municipal Balance	0	0	0	0	0	0
Industrial	Manufacturing Demand	1,088	1,128	1,170	1,213	1,258	1,305
	Manufacturing Existing Supply						
	Groundwater	1,088	1,128	1,170	1,213	1,258	1,305
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	1,088	1,128	1,170	1,213	1,258	1,305
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	10	10	10	10	10	10
	Mining Existing Supply						
	Groundwater	10	10	10	10	10	10
	Surface water	0	0	0	0	0	0
	Total Mining Supply	10	10	10	10	10	10
	Mining Balance	0	0	0	0	0	0
Agriculture	Irrigation Demand	141	141	141	141	141	141
	Irrigation Existing Supply						
	Groundwater	141	141	141	141	141	141
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	141	141	141	141	141	141
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	532	532	532	532	532	532
	Livestock Existing Supply						
	Groundwater	532	532	532	532	532	532
	Surface water	0	0	0	0	0	0
	Total Livestock Supply	532	532	532	532	532	532
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	6,119	6,282	6,496	6,787	7,077	7,364
	Existing Municipal and Industrial Supply						
	Groundwater	5,464	5,615	5,806	6,067	6,279	6,349
	Surface water	655	667	690	720	798	1,015
	Total Municipal and Industrial Supply	6,119	6,282	6,496	6,787	7,077	7,364
	Municipal and Industrial Balance	0	0	0	0	0	0
	Agriculture Demand	673	673	673	673	673	673
	Existing Agricultural Supply						
	Groundwater	673	673	673	673	673	673
	Surface water	0	0	0	0	0	0
	Total Agriculture Supply	673	673	673	673	673	673
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	6,792	6,955	7,169	7,460	7,750	8,037
	Total Supply						
	Groundwater	6,137	6,288	6,479	6,740	6,952	7,022
	Surface water	655	667	690	720	798	1,015
	Total Supply	6,792	6,955	7,169	7,460	7,750	8,037
	Total Balance						0

Table 4A.16.
Kleberg County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	2030	2040	2050	2060	2070	2080
BAFFIN BAY WSC						
Demand	129	132	136	143	150	156
Supply	129	132	136	143	150	156
Groundwater	129	132	136	143	150	156
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
KINGSVILLE						
Demand	3,907	4,002	4,135	4,329	4,522	4,714
Supply	3,907	4,002	4,135	4,329	4,522	4,714
Groundwater	3,901	4,002	4,135	4,329	4,472	4,472
Surface water	6	-	-	-	50	242
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
NAVAL AIR STATION KINGSVILLE						
Demand	264	273	282	292	301	306
Supply	264	273	282	292	301	306
Groundwater	-	-	-	-	-	-
Surface water	264	273	282	292	301	306
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
RICARDO WSC						
Demand	385	394	408	428	447	467
Supply	385	394	408	428	447	467
Groundwater	-	-	-	-	-	-
Surface water	385	394	408	428	447	467
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
RIVIERA WATER SYSTEM						
Demand	128	131	136	142	149	155
Supply	128	131	136	142	149	155
Groundwater	128	131	136	142	149	155
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
COUNTY-OTHER, KLEBERG						
Demand	208	212	219	230	240	251
Supply	208	212	219	230	240	251
Groundwater	208	212	219	230	240	251
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
County Total						
Demand	5,021	5,144	5,316	5,564	5,809	6,049
Supply	5,021	5,144	5,316	5,564	5,809	6,049
Groundwater	4,366	4,477	4,626	4,844	5,011	5,034
Surface water	655	667	690	720	798	1,015
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-

4A.3.8 Comparison of Demand to Supply – Live Oak County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.17 for all categories of water use. Table 4A.18 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand decreases from 1,631 ac-ft in 2030 to 1,508 ac-ft in 2080.
- Manufacturing demands increase from 2,843 ac-ft in 2030 to 3,409 ac-ft in 2080.
- Mining demand is constant at 1,264 ac-ft from 2030 to 2070 until it decreases to 2 ac-ft in 2080.
- For the period 2020 to 2080, irrigation demand remains constant at 844 ac-ft; livestock demand is constant at 651 ac-ft.
- No steam-electric demand is projected across the planning period.

Supplies

- Surface water is supplied from the CCR/LCC reservoirs for the City of Three Rivers and manufacturing customers according to contract. Some livestock needs are met with on-farm/local sources.
- Groundwater supplies are from the Gulf Coast, Carrizo, and Queen City Aquifers. El Oso WSC pumps groundwater from the Carrizo Aquifer in Wilson County (Region L). There is sufficient MAG available for groundwater supplies identified in the tables that follow[5].
- Reuse water supply from Three Rivers based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard.

Comparison of Demand to Supply

- There is a projected municipal shortage on County-Other of 198 ac-ft in 2030 due to well capacity constraints, increasing to 202 ac-ft in 2080. There are no other projected municipal water shortages projected in the county through the planning period.
- There is no projected water shortage for manufacturing, steam-electric, mining, irrigation, or livestock in the county through the planning period.

[5] Note that El Oso WSC and McCoy WSC in both Region N and Region L. The groundwater supply for these WUGs do not count against the MAG associated with Region N and are instead taken from the MAG associated with Region L as these WUGs are predominantly located in Region L.

Table 4A.17.
Live Oak County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		11,093	10,740	10,499	10,473	10,447	10,421
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.17)	1,631	1,575	1,538	1,528	1,516	1,508
	Municipal Existing Supply						
	Groundwater	989	968	942	920	898	880
	Surface water	2,562	2,457	2,349	2,237	2,121	1,999
	Reuse	66	66	66	66	66	66
	Total Existing Municipal Supply	3,617	3,491	3,357	3,223	3,085	2,945
	Municipal Balance	1,986	1,916	1,819	1,695	1,569	1,437
Industrial	Manufacturing Demand	2,843	2,948	3,057	3,170	3,287	3,409
	Manufacturing Existing Supply						
	Groundwater	2,054	2,054	2,054	2,054	2,054	2,054
	Surface water	789	894	1,003	1,116	1,233	1,355
	Total Manufacturing Supply	2,843	2,948	3,057	3,170	3,287	3,409
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	1,264	1,264	1,264	1,264	1,264	2
	Mining Existing Supply						
	Groundwater	472	472	472	472	472	472
	Surface water	0	0	0	0	0	0
	Reuse	792	792	792	792	792	792
	Total Mining Supply	1,264	1,264	1,264	1,264	1,264	1,264
	Mining Balance	0	0	0	0	0	1,262
Agriculture	Irrigation Demand	844	844	844	844	844	844
	Irrigation Existing Supply						
	Groundwater	844	844	844	844	844	844
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	844	844	844	844	844	844
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	651	651	651	651	651	651
	Livestock Existing Supply						
	Groundwater	529	529	529	529	529	529
	Surface water	122	122	122	122	122	122
	Total Livestock Supply	651	651	651	651	651	651
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	5,738	5,787	5,859	5,962	6,067	4,919
	Existing Municipal and Industrial Supply						
	Groundwater	3,515	3,494	3,468	3,446	3,424	3,406
	Surface water	3,351	3,351	3,352	3,353	3,354	3,354
	Reuse	858	858	858	858	858	858
	Total Municipal and Industrial Supply	7,724	7,703	7,678	7,657	7,636	7,618
	Municipal and Industrial Balance	1,986	1,916	1,819	1,695	1,569	2,699
	Agriculture Demand	1,495	1,495	1,495	1,495	1,495	1,495
	Existing Agricultural Supply						
	Groundwater	1,373	1,373	1,373	1,373	1,373	1,373
	Surface water	122	122	122	122	122	122
	Total Agriculture Supply	1,495	1,495	1,495	1,495	1,495	1,495
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	7,233	7,282	7,354	7,457	7,562	6,414
	Total Supply						
	Groundwater	4,888	4,867	4,841	4,819	4,797	4,779
	Surface water	3,473	3,473	3,474	3,475	3,476	3,476
	Reuse	858	858	858	858	858	858
	Total Supply	9,219	9,198	9,173	9,152	9,131	9,113
	Total Balance	1,986	1,916	1,819	1,695	1,569	2,699

Table 4A.18.
Live Oak County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	2030	2040	2050	2060	2070	2080
EL OSO WSC						
Demand	152	165	165	165	165	165
Supply	152	165	165	165	165	165
Groundwater	152	165	165	165	165	165
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
GEORGE WEST						
Demand	304	275	253	233	214	197
Supply	304	275	253	233	214	197
Groundwater	304	275	253	233	214	197
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
MCCOY WSC						
Demand	6	5	4	3	2	2
Supply	6	5	4	3	2	2
Groundwater	6	5	4	3	2	2
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
OLD MARBACH SCHOOL WSC						
Demand	86	82	79	78	76	75
Supply	86	82	79	78	76	75
Groundwater	86	82	79	78	76	75
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
THREE RIVERS						
Demand	444	434	432	430	427	426
Supply	2,628	2,523	2,415	2,303	2,187	2,065
Groundwater	-	-	-	-	-	-
Surface water	2,562	2,457	2,349	2,237	2,121	1,999
Reuse	66	66	66	66	66	66
Balance	2,184	2,089	1,983	1,873	1,760	1,639
COUNTY-OTHER, LIVE OAK						
Demand	639	614	605	619	632	643
Supply	441	441	441	441	441	441
Groundwater	441	441	441	441	441	441
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	(198)	(173)	(164)	(178)	(191)	(202)
County Total						
Demand	1,630	1,574	1,537	1,527	1,516	1,508
Supply	3,616	3,490	3,356	3,222	3,085	2,945
Groundwater	988	967	941	919	898	880
Surface water	2,562	2,457	2,349	2,237	2,121	1,999
Reuse	66	66	66	66	66	66
Balance	1,986	1,916	1,819	1,695	1,569	1,437

4A.3.9 Comparison of Demand to Supply – McMullen County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.19 for all categories of water use. Table 4A.20 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand decreases from 73 ac-ft in 2030 to 51 ac-ft in 2080.
- Manufacturing demand is constant across the planning period at 34 ac-ft.
- Mining demand is constant at 4,538 ac-ft through 2070 until decreasing to 1 ac-ft in 2080.
- Irrigation demand is constant at 24 ac-ft across the planning period.
- Livestock demand is constant at 278 ac-ft across the planning period.

Supplies

- Groundwater supplies are from the Gulf Coast, Carrizo, and Queen City aquifers. Gulf Coast Aquifer supply is reduced to not exceed the MAG across the planning period. There is sufficient MAG for the Carrizo and Queen City aquifers.
- Surface water for livestock needs is met by on-farm/local sources.
- Reuse water supply from McMullen County-Other based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard.

Comparison of Demand to Supply

- There are adequate supplies available to meet all projected demands through the planning period.

Table 4A.19.
McMullen County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		546	511	493	455	417	379
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.19)	73	68	65	60	55	51
	Municipal Existing Supply						
	Groundwater	60	55	53	49	45	41
	Surface water	12	12	11	10	9	9
	Reuse	1	1	1	1	1	1
	Total Existing Municipal Supply	73	68	65	60	55	51
	Municipal Balance	0	0	0	0	0	0
Industrial	Manufacturing Demand	34	34	34	34	34	34
	Manufacturing Existing Supply						
	Groundwater	34	34	34	34	34	34
	Surface water	0	0	0	0	0	0
	Total Manufacturing Supply	34	34	34	34	34	34
	Manufacturing Balance	0	0	0	0	0	0
	Steam-Electric Demand	0	0	0	0	0	0
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	0	0	0	0	0	0
	Total Steam-Electric Supply	0	0	0	0	0	0
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	4,538	4,538	4,538	4,538	4,538	1
	Mining Existing Supply						
	Groundwater	2,681	2,681	2,681	2,681	2,681	0
	Surface water	0	0	0	0	0	0
	Reuse	1,857	1,857	1,857	1,857	1,857	1,857
	Total Mining Supply	4,538	4,538	4,538	4,538	4,538	1,857
	Mining Balance	0	0	0	0	0	1,856
Agriculture	Irrigation Demand	24	24	24	24	24	24
	Irrigation Existing Supply						
	Groundwater	24	24	24	24	24	24
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	24	24	24	24	24	24
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	278	278	278	278	278	278
	Livestock Existing Supply						
	Groundwater	11	10	10	10	10	10
	Surface water	267	268	268	268	268	268
	Total Livestock Supply	278	278	278	278	278	278
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	4,645	4,640	4,637	4,632	4,627	86
	Existing Municipal and Industrial Supply						
	Groundwater	2,775	2,770	2,768	2,764	2,760	75
	Surface water	12	12	11	10	9	9
	Reuse	1,858	1,858	1,858	1,858	1,858	1,858
	Total Municipal and Industrial Supply	4,645	4,640	4,637	4,632	4,627	1,942
	Municipal and Industrial Balance	0	0	0	0	0	1,856
	Agriculture Demand	302	302	302	302	302	302
	Existing Agricultural Supply						
	Groundwater	35	34	34	34	34	34
	Surface water	267	268	268	268	268	268
	Total Agriculture Supply	302	302	302	302	302	302
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	4,947	4,942	4,939	4,934	4,929	388
	Total Supply						
	Groundwater	2,810	2,804	2,802	2,798	2,794	109
	Surface water	279	280	279	278	277	277
	Reuse	1,858	1,858	1,858	1,858	1,858	1,858
	Total Supply	4,947	4,942	4,939	4,934	4,929	2,244
	Total Balance	0	0	0	0	0	1,856

Table 4A.20.
McMullen County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
THREE RIVERS						
Demand	12	12	11	10	9	9
Supply	12	12	11	10	9	9
Groundwater	-	-	-	-	-	-
Surface water	12	12	11	10	9	9
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
COUNTY-OTHER, MCMULLEN						
Demand	61	56	54	50	46	42
Supply	61	56	54	50	46	42
Groundwater	60	55	53	49	45	41
Surface water	-	-	-	-	-	-
Reuse	1	1	1	1	1	1
Balance	-	-	-	-	-	-
County Total						
Demand	73	68	65	60	55	51
Supply	73	68	65	60	55	51
Groundwater	60	55	53	49	45	41
Surface water	12	12	11	10	9	9
Reuse	1	1	1	1	1	1
Balance	-	-	-	-	-	-

4A.3.10 Comparison of Demand to Supply – Nueces County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.21 for all categories of water use. Table 4A.22 includes a summary of municipal demands.

Demands

- Municipal demand increases from 70,750 in 2030 to 71,782 in 2050 before decreasing to 70,508 in 2080.
- Manufacturing demand is constant at 50,363 ac-ft from 2030 to 2070 before increasing to 52,339 ac-ft in 2080.
- Mining demand increases from 796 ac-ft in 2030 to 893 ac-ft in 2080.
- Steam-electric demand is constant at 2,201 ac-ft across the planning period.
- For the period 2030 to 2080, irrigation demand is constant at 559 ac-ft; livestock demand is constant at 218 ac-ft.

Supplies

- Surface water is supplied from the CCR/LCC/Texana/MRP Phase II System, SPMWD, STWA, and Nueces County WCID 3; some livestock needs are met with on-farm/local sources.
- Groundwater supplies are from the Gulf Coast Aquifer and are reduced to not exceed the MAG across the planning period
- Reuse water supply from Corpus Christi based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard.

Comparison of Demand to Supply

- Nueces County WCID 3 is contractually obligated to provide enough water to meet all demands to River Acres WSC across the planning period. However, to meet their contractual demands, Nueces County WCID 3 has a water shortage of 3,383 in 2030, which increases to 3,439 in 2040 before decreasing to 3,370 in 2080. Shortages are attributed to water supply limits during drought of record conditions. A small, local balancing storage reservoir is recommended for Nueces County WCID 3 use during drought events to firm up water to meet customers' needs in full through 2080. Corpus Christi has a water supply shortage of 5,158 ac-ft/yr. No other municipal WUGs in Nueces County are projected to have shortages across the planning period.
- County-Other receives water supplies from STWA that were distributed based on TWDB information provided for County-Other entities and existing contracts in place. County-Other is not projected to have water shortages across the planning period.

- Manufacturing has a shortage of 33,672 ac-ft in 2030, which increases to 45,731 in 2080. The shortages are attributable to both raw water and water treatment plant constraints.
- Steam-Electric is not projected to have a shortage during the planning period.
- Across the planning period, mining has shortages ranging from a minimum of 84 ac-ft/yr in 2060 to a maximum of 101 ac-ft/yr in 2080. The shortages are attributable to both raw water and treatment plant constraints.
- Irrigation has sufficient supply across the planning period.
- There are sufficient livestock supplies through 2080.

Table 4A.21.
Nueces County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		364,690	371,130	371,485	369,261	367,050	364,851
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.21)	70,750	71,714	71,782	71,359	70,933	70,508
	Municipal Existing Supply						
	Groundwater	282	282	282	282	282	282
	Surface water	66,749	67,657	67,721	67,322	66,920	61,362
	Reuse	336	336	336	336	336	336
	Total Existing Municipal Supply	67,367	68,275	68,339	67,940	67,538	61,980
	Municipal Balance	(3,383)	(3,439)	(3,443)	(3,419)	(3,395)	(8,528)
Industrial	Manufacturing Demand	50,363	50,363	50,363	50,363	50,472	52,339
	Manufacturing Existing Supply						
	Groundwater	3,240	3,240	3,240	3,240	3,240	3,240
	Surface water	12,323	9,116	6,700	4,638	2,469	2,240
	Reuse	1,128	1,128	1,128	1,128	1,128	1,128
	Total Manufacturing Supply	16,691	13,484	11,068	9,006	6,837	6,608
	Manufacturing Balance	(33,672)	(36,879)	(39,295)	(41,357)	(43,635)	(45,731)
	Steam-Electric Demand	2,201	2,201	2,201	2,201	2,201	2,201
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	2,201	2,201	2,201	2,201	2,201	2,201
	Total Steam-Electric Supply	2,201	2,201	2,201	2,201	2,201	2,201
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	796	835	858	876	887	893
	Mining Existing Supply						
	Groundwater	708	737	765	792	792	792
	Surface water	0	0	0	0	0	0
	Total Mining Supply	708	737	765	792	792	792
	Mining Balance	(88)	(98)	(93)	(84)	(95)	(101)
Agriculture	Irrigation Demand	559	559	559	559	559	559
	Irrigation Existing Supply						
	Groundwater	258	258	258	258	258	258
	Surface water	0	0	0	0	0	0
	Reuse	301	301	301	301	301	301
	Total Irrigation Supply	559	559	559	559	559	559
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	218	218	218	218	218	218
	Livestock Existing Supply						
	Groundwater	188	188	189	189	189	189
	Surface water	30	30	29	29	29	29
	Total Livestock Supply	218	218	218	218	218	218
	Livestock Balance	0	0	0	0	0	0

Population Projection		2030	2040	2050	2060	2070	2080
		364,690	371,130	371,485	369,261	367,050	364,851
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Total	Municipal and Industrial Demand	124,110	125,113	125,204	124,799	124,493	125,941
	Existing Municipal and Industrial Supply						
	Groundwater	4,230	4,259	4,287	4,314	4,314	4,314
	Surface water	81,273	78,974	76,622	74,161	71,590	65,803
	Reuse	1,464	1,464	1,464	1,464	1,464	1,464
	Total Municipal and Industrial Supply	86,967	84,697	82,373	79,939	77,368	71,581
	Municipal and Industrial Balance	(37,143)	(40,416)	(42,831)	(44,860)	(47,125)	(54,360)
	Agriculture Demand	777	777	777	777	777	777
	Existing Agricultural Supply						
	Groundwater	446	446	447	447	447	447
	Surface water	30	30	29	29	29	29
	Reuse	301	301	301	301	301	301
	Total Agriculture Supply	777	777	777	777	777	777
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	124,887	125,890	125,981	125,576	125,270	126,718
	Total Supply						
	Groundwater	4,676	4,705	4,734	4,761	4,761	4,761
	Surface water	81,303	79,004	76,651	74,190	71,619	65,832
		1,765	1,765	1,765	1,765	1,765	1,765
	Total Supply	87,744	85,474	83,150	80,716	78,145	72,358
	Total Balance	(37,143)	(40,416)	(42,831)	(44,860)	(47,125)	(54,360)

Table 4A.22.
Nueces County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	2030	2040	2050	2060	2070	2080
BISHOP						
Demand	550	558	558	555	551	547
Supply	550	558	558	555	551	547
Groundwater	282	282	282	282	282	282
Surface water	268	276	276	273	269	265
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
CORPUS CHRISTI						
Demand	59,084	59,885	59,942	59,581	59,223	58,866
Supply	59,084	59,885	59,942	59,581	59,223	53,708
Groundwater	-	-	-	-	-	-
Surface water	58,748	59,549	59,606	59,245	58,887	53,372
Reuse	336	336	336	336	336	336
Balance	-	-	-	-	-	(5,158)
CORPUS CHRISTI NAVAL AIR STATION						
Demand	2,078	2,111	2,112	2,105	2,096	2,086
Supply	2,078	2,111	2,112	2,105	2,096	2,086
Groundwater	-	-	-	-	-	-
Surface water	2,078	2,111	2,112	2,105	2,096	2,086
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
DRISCOLL						
Demand	80	81	81	81	80	80
Supply	80	81	81	81	80	80
Groundwater	-	-	-	-	-	-
Surface water	80	81	81	81	80	80
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
NUECES COUNTY WCID 3						
Demand	3,452	3,504	3,507	3,485	3,463	3,441
Supply	69	65	64	66	68	71
Groundwater	-	-	-	-	-	-
Surface water	69	65	64	66	68	71
Reuse	-	-	-	-	-	-
Balance	(3,383)	(3,439)	(3,443)	(3,419)	(3,395)	(3,370)
NUECES COUNTY WCID 4						
Demand	1,370	1,391	1,392	1,384	1,374	1,365
Supply	1,370	1,391	1,392	1,384	1,374	1,365
Groundwater	-	-	-	-	-	-
Surface water	1,370	1,391	1,392	1,384	1,374	1,365
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
NUECES WSC						
Demand	986	997	999	997	994	992
Supply	986	997	999	997	994	992
Groundwater	-	-	-	-	-	-
Surface water	986	997	999	997	994	992
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
RIVER ACRES WSC						
Demand	315	319	320	318	316	313
Supply	315	319	320	318	316	313
Groundwater	-	-	-	-	-	-
Surface water	315	319	320	318	316	313
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
VIOLET WSC						
Demand	228	229	230	228	227	225
Supply	228	229	230	228	227	225
Groundwater	-	-	-	-	-	-
Surface water	228	229	230	228	227	225
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
COUNTY-OTHER, NUECES						
Demand	2,607	2,639	2,641	2,625	2,609	2,593
Supply	2,607	2,639	2,641	2,625	2,609	2,593
Groundwater	-	-	-	-	-	-
Surface water	2,607	2,639	2,641	2,625	2,609	2,593
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
County Total						
Demand	70,750	71,714	71,782	71,359	70,933	70,508
Supply	67,367	68,275	68,339	67,940	67,538	61,980
Groundwater	282	282	282	282	282	282
Surface water	66,749	67,657	67,721	67,322	66,920	61,362
Reuse	336	336	336	336	336	336
Balance	(3,383)	(3,439)	(3,443)	(3,419)	(3,395)	(8,528)

4A.3.11 Comparison of Demand to Supply – San Patricio County

A summary of population, water demands, water supply, and shortages are shown by decade for the 2030 through 2080 period in Table 4A.23 for all categories of water use. Table 4A.24 includes a summary of municipal demands.

Demands

- For the period 2030 to 2080, municipal demand increases from 10,349 ac-ft in 2030 to 10,970 ac-ft in 2080.
- Manufacturing demand increases from 60,705 ac-ft in 2030 to 60,732 ac-ft in 2080.
- Steam-electric demand is constant at 2,576 ac-ft across the planning period.
- Mining increases from 88 ac-ft in 2030 to 94 ac-ft in 2080.
- For the period 2030 to 2080, irrigation demand is constant at 5,497 ac-ft; livestock demand is constant at 278 ac-ft.

Supplies

- Surface water is supplied from the CCR/LCC/Texana/MRP Phase II System; the SPMWD has a contract with the City of Corpus Christi to purchase up to 46,800 ac-ft/yr raw and 34,760 ac-ft/yr treated water, resulting in an 81,560 ac-ft/yr contracted supply. Municipal water supplies are prioritized according to water demands and contracts. Some livestock demands are met with on-farm/local sources. SPMWD surface water supply is further constrained by water treatment plant capacity. The total treated water supplies available from SPMWD water treatment plants (34,760 ac-ft/yr) and purchased treated water from the City of Corpus Christi is 58,620 ac-ft/yr across the planning period (Table 4A.25). Treated water supplies are allocated to fulfill contracts followed by municipal then manufacturing demands.
- Groundwater supplies are from the Gulf Coast Aquifer. There is sufficient MAG.
- Groundwater supply for irrigation was set equal to the maximum historical pumping (i.e., estimated well capacity).
- Reuse water supply from Aransas Pass based on the maximum historical reuse from 2018-2022 reported in the TWDB Historical Water Use data dashboard.

Comparison of Demand to Supply

- There are adequate supplies available to meet all projected demands through the planning period and a surplus of manufacturing supply.
- SPMWD provides the majority of supplies to San Patricio County municipal and manufacturing water users, through contracts with the City of Corpus Christi. Based on contracted supply, a raw water surplus ranging from 6,791 to 6,289 ac-ft/yr during the 2030-2080 period is shown on San Patricio County- manufacturing. Based on conversations with SPMWD, the water has already been contracted out with manufacturing users due to local demands anticipated to exceed TWDB-adopted water

demand projections. However, based on treatment plant constraints assuming 80 percent of SPMWD supplies to industries are treated, there is a treatment shortage of 1,454 ac-ft/yr to 2,003 ac-ft/yr during the planning period.

Table 4A.23.
San Patricio County Population, Water Supply, and Water Demand Projections

Population Projection		2030	2040	2050	2060	2070	2080
		71,973	74,569	75,816	75,578	75,344	75,114
Supply and Demand by Type of Use		Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand (See Table 4A.23)	10,349	10,682	10,889	10,911	10,938	10,970
	Municipal Existing Supply						
	Groundwater	1,579	1,557	1,551	1,564	1,577	1,425
	Surface water	8,037	8,392	8,605	8,614	8,628	8,812
	Reuse	733	733	733	733	733	733
	Total Existing Municipal Supply	10,349	10,682	10,889	10,911	10,938	10,970
	Municipal Balance	0	0	0	0	0	0
Industrial	Manufacturing Demand	60,705	60,715	60,732	60,705	60,715	60,732
	Manufacturing Existing Supply						
	Groundwater	110	110	110	110	110	110
	Surface water	59,141	58,753	58,602	58,686	58,765	58,671
	Total Manufacturing Supply	59,251	58,863	58,712	58,796	58,875	58,781
	Manufacturing Balance	(1,454)	(1,847)	(2,003)	(1,924)	(1,851)	(1,951)
	Steam-Electric Demand	2,576	2,576	2,576	2,576	2,576	2,576
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	2,576	2,576	2,576	2,576	2,576	2,576
	Total Steam-Electric Supply	2,576	2,576	2,576	2,576	2,576	2,576
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	88	90	92	93	94	94
	Mining Existing Supply						
	Groundwater	88	90	92	93	94	94
	Surface water	0	0	0	0	0	0
	Total Mining Supply	88	90	92	93	94	94
	Mining Balance	0	0	0	0	0	0
Agriculture	Irrigation Demand	5,497	5,497	5,497	5,497	5,497	5,497
	Irrigation Existing Supply						
	Groundwater	5,497	5,497	5,497	5,497	5,497	5,497
	Surface water	0	0	0	0	0	0
	Total Irrigation Supply	5,497	5,497	5,497	5,497	5,497	5,497
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	278	278	278	278	278	278
	Livestock Existing Supply						
	Groundwater	233	233	233	233	233	233
	Surface water	45	45	45	45	45	45
	Total Livestock Supply	278	278	278	278	278	278
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	73,718	74,272	74,372	73,718	74,272	74,372
	Existing Municipal and Industrial Supply						
	Groundwater	1,777	1,753	1,629	1,777	1,753	1,629
	Surface water	69,754	69,721	69,783	69,876	69,969	70,059
	Reuse	733	733	733	733	733	733
	Total Municipal and Industrial Supply	72,264	72,211	72,269	72,376	72,483	72,421
	Municipal and Industrial Balance	(1,454)	(1,847)	(2,003)	(1,924)	(1,851)	(1,951)
	Agriculture Demand	5,775	5,775	5,775	5,775	5,775	5,775
	Existing Agricultural Supply						
	Groundwater	5,730	5,730	5,730	5,730	5,730	5,730
	Surface water	45	45	45	45	45	45
	Total Agriculture Supply	5,775	5,775	5,775	5,775	5,775	5,775
	Agriculture Balance	0	0	0	0	0	0
	Total Demand	79,493	80,047	80,147	79,493	80,047	80,147
	Total Supply						

Population Projection	2030	2040	2050	2060	2070	2080
	71,973	74,569	75,816	75,578	75,344	75,114
Supply and Demand by Type of Use	**Year**					
	2030 (ac-ft)	**2040 (ac-ft)**	**2050 (ac-ft)**	**2060 (ac-ft)**	**2070 (ac-ft)**	**2080 (ac-ft)**
Groundwater	7,507	7,483	7,359	7,507	7,483	7,359
Surface water	69,799	69,766	69,828	69,921	70,014	70,104
Reuse	733	733	733	733	733	733
Total Supply	78,039	77,986	78,044	78,151	78,258	78,196
Total Balance	(1,454)	(1,847)	(2,003)	(1,924)	(1,851)	(1,951)

Table 4A.24.
San Patricio County Municipal Water Demand and Supply by City/County (ac-ft)

City/County	2030	2040	2050	2060	2070	2080
ARANSAS PASS						
Demand	1,185	1,180	1,183	1,191	1,199	1,207
Supply	1,185	1,180	1,183	1,191	1,199	1,207
Groundwater	-	-	-	-	-	-
Surface water	452	447	450	458	466	474
Reuse	733	733	733	733	733	733
Balance	-	-	-	-	-	-
GREGORY						
Demand	270	260	257	262	266	270
Supply	270	260	257	262	266	270
Groundwater	-	-	-	-	-	-
Surface water	270	260	257	262	266	270
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
INGLESIDE						
Demand	986	1,008	1,022	1,021	1,020	1,019
Supply	986	1,008	1,022	1,021	1,020	1,019
Groundwater	-	-	-	-	-	-
Surface water	986	1,008	1,022	1,021	1,020	1,019
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
MATHIS						
Demand	469	419	400	417	434	451
Supply	469	419	400	417	434	451
Groundwater	-	-	-	-	-	-
Surface water	469	419	400	417	434	451
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
ODEM						
Demand	432	423	421	426	431	437
Supply	432	423	421	426	431	437
Groundwater	-	-	-	-	-	-
Surface water	432	423	421	426	431	437
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
PORTLAND						
Demand	3,555	3,837	4,155	4,500	4,873	5,277
Supply	3,555	3,837	4,155	4,500	4,873	5,277
Groundwater	-	-	-	-	-	-
Surface water	3,555	3,837	4,155	4,500	4,873	5,277
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
RINCON WSC						
Demand	378	396	405	402	399	396
Supply	378	396	405	402	399	396
Groundwater	-	-	-	-	-	-
Surface water	378	396	405	402	399	396
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-

City/County	*2030*	*2040*	*2050*	*2060*	*2070*	*2080*
SINTON						
Demand	1,073	1,051	1,045	1,058	1,071	1,084
Supply	1,073	1,051	1,045	1,058	1,071	1,084
Groundwater	1,073	1,051	1,045	1,058	1,071	1,084
Surface water	-	-	-	-	-	-
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
TAFT						
Demand	337	323	318	324	330	336
Supply	337	323	318	324	330	336
Groundwater	-	-	-	-	-	-
Surface water	337	323	318	324	330	336
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
COUNTY-OTHER, SAN PATRICIO						
Demand	1,664	1,785	1,683	1,310	915	493
Supply	1,664	1,785	1,683	1,310	915	493
Groundwater	506	506	506	506	506	341
Surface water	1,158	1,279	1,177	804	409	152
Reuse	-	-	-	-	-	-
Balance	-	-	-	-	-	-
County Total						
Demand	10,349	10,682	10,889	10,911	10,938	10,970
Supply	10,349	10,682	10,889	10,911	10,938	10,970
Groundwater	1,579	1,557	1,551	1,564	1,577	1,425
Surface water	8,037	8,392	8,605	8,614	8,628	8,812
Reuse	733	733	733	733	733	733
Balance	-	-	-	-	-	-

4A.4 Major Water Providers – Comparison of Demand and Supply

The Coastal Bend Region has four current WWPs: the City of Corpus Christi, SPMWD, STWA, and Nueces County WCID 3. Additionally, the Nueces River Authority and Port of Corpus Christi Authority were designated WWPs for the 2026 Plan at the May 16, 2024 and January 30, 2025 CBRWPG meetings, respectively. However, water supply plans are not included for them since they are not current WWPs. At the October 17, 2024, meeting, CBRWPG designated four major water providers (MWPs): the City of Alice, the City of Corpus Christi, STWA, and SPMWD.

The City of Corpus Christi provides water to SPMWD and STWA, who then supply water to their customers, as shown previously in Figure 3.3. SPMWD is contracted to receive up to 81,560 ac-ft/yr from the City of Corpus Christi. Current supplies are not adequate for the City of Corpus Christi to fulfill this contract and meet all of its own municipal needs in 2080 or all manufacturing needs in 2030 through 2080. The City of Corpus Christi and SPMWD are working together to develop future water management strategies. The most typical contract between the City of Corpus Christi and its other non-SPMWD customers includes providing water at the greater amount supplied in previous years plus 10 percent. When projecting customer supplies (2030 to 2080), it was assumed that either: 1) supply increased each year by 10 percent; or 2) supply was equal to demand, whichever is less.

4A.4.1 Safe Yield Supply to Demands

The Coastal Bend Region adopted use of safe yield supply for the three largest current WWPs: City of Corpus Christi, SPMWD, and STWA and their customers. The safe yield supplies assume a reserve of 75,000 ac-ft as a drought management strategy to plan for future droughts greater than the drought of record. Table 4A.25 shows the safe yield water supply for each MWP and current WWP, the amount of water supplied to each customer, and resulting water surplus or shortage after meeting customer needs. The City of Alice receives water from the City of Corpus Christi, with a new brackish groundwater desalination supply of 1,568 ac-ft/yr (or 1.4 million gallons per day [MGD]) This analysis is shown for both the raw water and treated water components of the City of Corpus Christi and SPMWD customer systems. However, treated and raw water shortages are not additive, but are instead shown in the table only to differentiate raw water source shortages. As discussed earlier, the larger of the raw water or treated water plant capacity shortages by decade are used for planning purposes. STWA and their customers receive only treated water supplies. The City of Corpus Christi safe yield water supply for 2030 is 170,000 ac-ft, which includes supplies from the CCR/LCC System, a base amount of 31,440 ac-ft/yr and interruptible supplies from Lake Texana during the drought of record, and up to 35,000 ac-ft/yr from the City-owned Garwood water right based on availability. The System supply reduces to 157,000 ac-ft by 2080 due to reservoir sedimentation.

Table 4A.25.
Major Water Provider and Current Wholesale Water Provider Surface Water Allocation[13]

Major Water Provider and Wholesale Water Provider (Water User/County)	2030	2040	2050	2060	2070	2080
Major Water Provider						
City of Corpus Christi						
Safe Yield Supply	**170,000**	**168,000**	**166,000**	**164,000**	**162,000**	**157,000**
Current Treatment Capacity	128,114	128,114	128,114	128,114	128,114	128,114
Raw Water Available for Sales[1]	41,886	39,886	37,886	35,886	33,886	28,886
Raw Water Supply/Needs Analysis						
Raw Water Demand						
Municipal						
Jim Wells County						
Alice	2,254	2,480	2,681	2,912	3,188	3,521
Bee County						
Beeville	1,550	1,672	1,820	1,998	2,193	2,408
San Patricio County						
Mathis	469	419	400	417	434	451
San Patricio MWD[2]	46,800	46,800	46,800	46,800	46,800	46,800
Live Oak County						
Three Rivers	3,363	3,363	3,363	3,363	3,363	3,363
Non-Municipal						
Manufacturing (Nueces County)[3]	9,199	9,199	9,199	9,199	9,221	9,594
Steam-Electric Power (Nueces County)	2,201	2,201	2,201	2,201	2,201	2,201
Total Raw Water Demand	**65,836**	**66,134**	**66,464**	**66,890**	**67,400**	**68,338**
Raw Water Surplus/Shortage (*Contracts* based)	**(23,950)**	**(26,248)**	**(28,578)**	**(31,004)**	**(33,514)**	**(39,452)**
Raw Water Surplus/Shortage (*Needs* based)[4]	**(17,159)**	**(19,851)**	**(22,338)**	**(24,686)**	**(27,124)**	**(33,163)**
Treated Water Supply/Needs Analysis						
Supply						
O.N. Stevens WTP Capacity[5]	**128,114**	**128,114**	**128,114**	**128,114**	**128,114**	**128,114**
Treated Water Demand						
Municipal						
City of Corpus Christi	58,748	59,549	59,606	59,245	58,887	58,530
Kleberg County						
South Texas Water Authority	4,596	4,660	4,687	4,696	4,750	4,945
Nueces County						
Nueces County WCID 4[6]	630	640	640	637	632	628
Corpus Christi Naval Air Station	2,078	2,111	2,112	2,105	2,096	2,086
Violet WSC	228	229	230	228	227	225
San Patricio County						
San Patricio MWD[2]	34,760	34,760	34,760	34,760	34,760	34,760
Non-Municipal						
Manufacturing- Nueces[3,7]	36,796	36,796	36,796	36,796	36,883	38,377
Total Treated Water Demand	**137,836**	**138,745**	**138,831**	**138,467**	**138,235**	**139,551**
Treated Water Surplus/Shortage (C*ontracts* based)[8]	**(9,722)**	**(10,631)**	**(10,717)**	**(10,353)**	**(10,121)**	**(11,437)**
Treated Water Surplus/Shortage (*Needs* based)						
Total Water Supply/Needs Analysis						
Safe Yield Supply						
Total Raw and Treated Water Demands (*Contracts* Based)	**170,000**	**168,000**	**166,000**	**164,000**	**162,000**	**157,000**
Total Water Surplus/Shortage (*Contracts* based)	**203,672**	**204,879**	**205,295**	**205,357**	**205,635**	**207,889**
Total Water Surplus/Shortage (*Needs* based, includes SPMWD needs on following page)	**(33,672)**	**(36,879)**	**(39,295)**	**(41,357)**	**(43,635)**	**(50,889)**
Non-Municipal						
Manufacturing- Nueces[3,7]	(33,672)	(36,879)	(39,295)	(41,357)	(43,635)	(45,731)
Municipal						
City of Corpus Christi						(5,158)
San Patricio Municipal Water District						
Supply						

Major Water Provider and Wholesale Water Provider (Water User/County)	2030	2040	2050	2060	2070	2080
Contracted Purchases from the City of Corpus Christi[7]	**81,560**	**81,560**	**81,560**	**81,560**	**81,560**	**81,560**
Actual Amount that Can Be Provided based on Current Supply (acft/yr)	**81,560**	**81,560**	**81,560**	**81,560**	**81,560**	**81,560**
Amount the City Provides to Meet SPMWD Water Demands, within Contract Terms (*SPMWD surpluses on manufacturing*)	**74,769**	**75,163**	**75,320**	**75,242**	**75,170**	**75,271**
Average Day SPMWD Maximum Industrial Treatment Available[8]	12,098	12,098	12,098	12,098	12,098	12,098
Average Day SPMWD Maximum Potable-Municipal Treatment Available[8]	11,762	11,762	11,762	11,762	11,762	11,762
Average Day SPMWD Total Treatment Available[8]	23,860	23,860	23,860	23,860	23,860	23,860
Purchased Treated Water from City of Corpus Christi[7]	34,760	34,760	34,760	34,760	34,760	34,760
Total Treated Water Supply[7]	**58,620**	**58,620**	**58,620**	**58,620**	**58,620**	**58,620**
Raw Water Available for Sales (remaining after SPMWD treated demands)[7]	**21,486**	**21,093**	**20,937**	**21,016**	**21,089**	**20,989**
Raw Water Needed	14,695	14,696	14,697	14,698	14,699	14,700
Raw Water Supply/Needs Analysis						
Raw Water Demand						
Non-Municipal						
Manufacturing- San Patricio[9]	12,119	12,120	12,121	12,122	12,123	12,124
Steam-Electric- San Patricio	2,576	2,576	2,576	2,576	2,576	2,576
Total Raw Water Demand	**14,695**	**14,696**	**14,697**	**14,698**	**14,699**	**14,700**
Raw Water Surplus (Shortages shown in red)	6,791	6,397	6,240	6,318	6,390	6,289
Treated Water Supply/Needs Analysis						
Potable-Municipal Treated Water Demands[7,11]	11,598	11,987	12,139	12,056	11,978	12,073
Industrial- Treated Water Demands[7,11]	48,476	48,480	48,484	48,488	48,493	48,498
Treated Water Demand						
Municipal						
Aransas County						
Aransas Pass-Aransas	116	115	112	110	107	105
Rincon WSC	2	2	2	2	2	2
Rockport	3,172	3,146	3,068	3,000	2,933	2,868
County-Other, Aransas	0	0	0	0	0	0
Nueces County						
Aransas Pass-Nueces	0	0	0	0	0	0
Nueces County WCID 4[10]	740	751	752	747	742	737
San Patricio County						
Aransas Pass- San Patricio	452	447	450	458	466	474
Gregory	270	260	257	262	266	270
Ingleside	986	1,008	1,022	1,021	1,020	1,019
Odem	432	423	421	426	431	437
Portland	3,555	3,837	4,155	4,500	4,873	5,277
Rincon WSC	378	396	405	402	399	396
Taft	337	323	318	324	330	336
County-Other, San Patricio	1,158	1,279	1,177	804	409	152
Municipal Treated Water Demand	**11,598**	**11,987**	**12,139**	**12,056**	**11,978**	**12,073**
Non-Municipal						
Manufacturing (San Patricio County)[9]	48,476	48,480	48,484	48,488	48,493	48,498
Industrial Treated Water Demand	**48,476**	**48,480**	**48,484**	**48,488**	**48,493**	**48,498**
Total Water Supply/Needs Analysis						
Total Water Supply Available Based on Current Supply (acft/yr)	**81,560**	**81,560**	**81,560**	**81,560**	**81,560**	**81,560**
Total Raw Water and Treated Water Demands	**74,769**	**75,163**	**75,320**	**75,242**	**75,170**	**75,271**
Total Water Surplus/Shortage (*Needs* Based)	**0**	**0**	**0**	**0**	**0**	**0**
Total Water Surplus/Shortage (*Contracts* Based)[12]	**6,791**	**6,397**	**6,240**	**6,318**	**6,390**	**6,289**
Total Treated Surplus/Shortage (WTP Capacity Constrained) [7,8,12]	**(1,454)**	**(1,847)**	**(2,003)**	**(1,924)**	**(1,851)**	**(1,951)**

Major Water Provider and Wholesale Water Provider (Water User/County)	2030	2040	2050	2060	2070	2080
Non-Municipal						
Manufacturing (San Patricio County)[9]	(1,454)	(1,847)	(2,003)	(1,924)	(1,851)	(1,951)
South Texas Water Authority						
Supply						
Total Surface Water Right	**0**	**0**	**0**	**0**	**0**	**0**
Contract Purchases	**4,596**	**4,660**	**4,687**	**4,696**	**4,750**	**4,945**
Demand - Contract Sales						
Municipal						
Nueces County						
Driscoll	80	81	81	81	80	80
Bishop	268	276	276	273	269	265
Nueces WSC	986	997	999	997	994	992
County-Other, Nueces	2,607	2,639	2,641	2,625	2,609	2,593
Kleberg County						
Kingsville	6	0	0	0	50	242
Naval Air Station Kingsville	264	273	282	292	301	306
Ricardo WSC	385	394	408	428	447	467
Total Contract Sales	4,596	4,660	4,687	4,696	4,750	4,945
Surplus/Shortage	**—**	**—**	**—**	**—**	**—**	**—**
City of Alice						
Supply						
Contract Purchases (from the City of Corpus Christi)	2,254	2,480	2,681	2,912	3,188	3,521
Brackish Groundwater Desalination Supply	1,568	1,568	1,568	1,568	1,568	1,568
Reuse	187	187	187	187	187	187
Demand						
Municipal						
Alice	4,009	4,235	4,436	4,667	4,943	5,276
Surplus/Shortage	—	—	—	—	—	—
Wholesale Water Provider						
Nueces County WCID 3						
Supply						
Total Surface Water Right (firm yield)	**384**	**384**	**384**	**384**	**384**	**384**
Demand - Contract Sales						
Municipal						
Nueces County						
Wholesale Water Provider (Water User/County)						
NUECES COUNTY WCID 3	3,452	3,504	3,507	3,485	3,463	3,441
River Acres WSC	315	319	320	318	316	313
Total Contract Sales	**3,767**	**3,823**	**3,827**	**3,803**	**3,779**	**3,754**
Surplus/Shortage	(3,383)	(3,439)	(3,443)	(3,419)	(3,395)	(3,370)
Municipal						
NUECES COUNT WCID	(3,383)	(3,439)	(3,443)	(3,419)	(3,395)	(3,370)

1. Raw water available for sales is safe yield less contracted supplies with customers and treated water demands or treatment plant capacity, whichever is the lesser of the two.

2. The City of Corpus Christi's contract with San Patricio MWD specifies up to 34,760 acft/yr treated water and 46,800 acft/yr of raw water. Per TWDB requirements, shortages are based on contracts, however this table also shows shortages based on fulfilling customer water demands which are less than contracted supplies (see footnote #4).

3. Assumed 20% of the Nueces County Manufacturing demand is supplied by raw water.

4. Needs based analysis assumes City of Corpus Christi contracts are fulfilled for STWA and wholesale water customers (Alice, Beeville, Mathis, etc.). For SPMWD, however, supplies are provided to meet projected water demands for their San Patricio County customers within contracted supply limits.

5. The City's ON Stevens Water Treatment Plant has a treatment plant capacity of 160 MGD. Average day treatment capacity is calculated at 113.6 MGD, or 128,114 acft/yr, after considering a peaking capacity of 1.4:1. Peak to average day ratio is based on historical data, provided by City staff and used in the 2021 Region N Plan.

6. Of the total water demand for NCWCID 4 (Port Aransas), the City is shown as providing 46% to meet water demands and San Patricio MWD as providing 54% to meet water demands through 2080.

7. An amendment to the raw water contract was approved by Corpus Christi City Council on August 20, 2019, to total 46,800 acft/yr raw water to SPMWD. An amendment between the City of Corpus Christi and SPMWD increases the treated water contract to

27,000 acft, with an additional provision for 10,000 acft/yr reserve with advance notice (up to 37,000 acft/yr treated water). A contract amendment executed on July 15, 2024, reduced treated water contracts to maximum of 34,760 acft/yr. Total contracts with City of Corpus Christi for raw and treated water is up to 81,560 acft/yr.

8. SPMWD has a potable (municipal) water treatment plant with 9 MGD design capacity (plant a), an industrial water treatment plant with 8 MGD design capacity (plant b), and a third water treatment plant with 21.4 MGD design capacity that can be used to produce treated water for either municipal or industrial use (plant c). From information provided by SPMWD on Feb 10, 2025, average day industrial treatment capacity is 10.8 MGD (or 12,098 acft/yr) and average day municipal treatment capacity is 10.5 MGD (or 11,762 acft/yr), which amounts to an estimated 1.8: 1 peak to average day capacity ratio. The total WTP capacity for SPMWD's system is 38.4 MGD. With SPMWD average annual WTP capacity of 23,860 acft/yr and 34,760 acft/yr treated water contracts with the City, SPMWD's treated water capacity is 58,620 acft/yr.

9. Assumes 20% of the San Patricio County Manufacturing demand is supplied by raw water and 80% from treated water.

10. Of the total water demand for NCWCID 4 (Port Aransas), the City is shown as providing 46% to meet water demands and San Patricio MWD as providing 54% to meet water demands through 2080.

11. Assumes raw water delivered to District treatment plants equal to demands, or District treatment capacity whichever is the lesser of the two. Treated water from City of Corpus Christi contract to augment treated water demands, beyond existing SPMWD treatment plant constraints.

12. SPMWD shows raw water surplus ranging from 6,791 to 6,289 acft/yr during the 2030-2080 period based on TWDB approved water demands. However, based on treatment plant constraints assuming 80% of SPMWD supplies to industries are treated, there is a treatment shortage of 1,454 acft/yr to 2,003 acft/yr during the planning period. Based on conversations with SPMWD, this water has already been contracted out with manufacturing users based on local demands which exceed TWDB-adopted water demand projections.

13. Supplies are equal to projected demands for those systems that rely solely on water supplies from the regional CCR/LCC/Lake Texana/MRP system, in accordance with direct or indirect contracts with the City of Corpus Christi when maximum amounts are not specified. For entities that receive additional supplies from reuse or other strategies, those supplies are considered first with the remaining amount up to the demand assumed to be provided by safe yield supplies from the City's regional CCR/LCC/Lake Texana/MRP system.

After meeting demands and/or contracts with its customers, the City of Corpus Christi has raw water supply shortages across the entire 50-year planning period, showing a need for increased source water supplies. The City of Corpus Christi has shortages associated with the treated water customers, indicating that the current treatment plant capacity is not sufficient to meet future treated water needs. Shortages are shown for municipal, and industrial, users in Nueces County, as seen in Table 4A.21. SPMWD is authorized to receive 81,560 ac-ft/yr, which meets the demands of its customers and have a raw water surplus throughout the planning period. However, the treated water needs exceeds treatment capacity with contracted treated water from the City of Corpus Christi, therefore SPMWD is showing a shortage across the entire 50-year planning period. SPMWD raw water shortage ranges from 6,240 to 6,791 ac-ft/yr during the entire 2030-2080 planning period, however, based on conversations with SPMWD, this water has already been contracted out with manufacturing users based on local demands expected to exceed TWDB-adopted water demand projections. STWA receives treated water supplies to meet the demands of its customers, consistent with the terms of the present contracts, and has no projected shortages. Nueces County WCID 3 receives supply through run-of-river water rights and is projected to have a shortage in all decades attributed to a lack of sufficient firm yield during drought of record conditions.

4A.5 Secondary Needs Analysis

A secondary water needs analysis was performed for all WUGs and MWPs, representing the water needs that would remain assuming full implementation of water conservation or direct reuse recommended water management strategies. Secondary needs (i.e., second-tier needs) were calculated by TWDB for WUGs based on State Water Planning Database (DB27) entries and is included in Appendix A. Using this information, a secondary needs analysis was summarized for MWPs as shown in Table 4A.26.

Table 4A.26.
Coastal Bend Region Major Water Provider (MWP) and Current Wholesale Water Provider (WWP) Secondary Water Needs

Second Tier Needs (ac-ft/yr)						
MWP and WWP	**2030**	**2040**	**2050**	**2060**	**2070**	**2080**
Major Water Provider						
City of Alice	—	—	—	—	—	—
City of Corpus Christi	(32,431)	(28,362)	(24,642)	(25,022)	(25,865)	(31,434)
South Texas Water Authority	—	—	—	—	—	—
San Patricio Municipal Water District	**(1,454)**	**(1,847)**	**(2,003)**	**(1,924)**	**(1,851)**	**(1,951)**
Wholesale Water Provider						
Nueces County WCID 3	(3,383)	(3,113)	(2,812)	(2,519)	(2,255)	(2,016)

Note: Dashes shown when no water needs are identified. The secondary needs for San Patricio Municipal Water District remain unchanged because the shortage is due to treatment constraints, rather than raw water.

4A.6 Region Summary

When comparing total available supplies to total demands, the region shows a shortage throughout the 50-year planning cycle. Beginning in 2030, a shortage of 40,354 ac-ft exists within the Coastal Bend Region and increases to a shortage of 52,772 ac-ft by 2080 (Table 4A.27 and Figure 4A.2). A small portion of this shortage is associated with treatment plant capacity constraints and is not necessarily a raw water shortage (for example, see Table 4A.25). Current O.N. Stevens WTP improvements are in progress to increase treatment plant capacity, which should be sufficient to address long term water needs with recommended water management strategies for additional supplies.

4A.6.1 Municipal and Industrial Summary

On a regional basis, municipal and industrial entities (manufacturing, steam-electric, and mining) show a shortage increasing from 40,354 ac-ft in 2030 to 52,772 ac-ft in 2080, due primarily to decreasing manufacturing surface water availability accompanied by increasing manufacturing demand beginning in 2030. Shortages in supplies provided by the CCR/LCC/Texana/MRP Phase II System were placed on industrial (mining and/or manufacturing) demands in San Patricio and Nueces counties consistent with the approach used for all previous water planning cycles. Shortage in supplies based on SPMWD treatment capacity were placed on San Patricio County manufacturing.

Municipal demands account for approximately 43 percent of total demands in the region in 2080. Surface water accounts for approximately 82 percent of 2080 municipal supplies, with groundwater accounting for 17 percent and reuse accounting for 1 percent. Overall, the Coastal Bend Region is experiencing a municipal water supply shortage throughout the 50-year planning cycle. The specific municipal entities experiencing shortages are summarized in Table 4A.28.

Manufacturing demands account for 47 percent of total demands in 2080. Most of these demands, 96 percent, are in Nueces and San Patricio counties. Jim Wells, Kleberg, McMullen, and Live Oak counties make up the remaining 4 percent. Surface water supplies provide 89 percent of total manufacturing supplies in 2080; groundwater 10 percent and reuse 2 percent. Region-wide there is a manufacturing supply deficit of 35,134 ac-ft in 2030 increasing to 47,707 ac-ft by 2080.

Jim Wells, Nueces, and San Patricio counties show manufacturing shortages across the entire 50-year planning period. Manufacturing shortages are summarized in Table 4A.29.

As for the remaining industrial demands, there are sufficient surface water supplies to meet all Coastal Bend Region projected steam-electric water demands of 4,777 ac-ft through 2080.

The regional mining demand, 1,026 ac-ft, accounts for less than 1 percent of total demand in 2080. Multiple counties show immediate and long-term shortages from 2030 to 2080, summarized in Table 4A.30.

Table 4A.27.
Coastal Bend Region Summary Population, Water Supply, and Water Demand Projections

	Population Projection	2030	2040	2050	2060	2070	2080
		593,187	601,949	602,191	598,824	595,485	592,173
	Supply and Demand by Type of Use	Year					
		2030 (ac-ft)	2040 (ac-ft)	2050 (ac-ft)	2060 (ac-ft)	2070 (ac-ft)	2080 (ac-ft)
Municipal	Municipal Demand	107,817	109,080	109,273	108,888	108,541	108,259
	Municipal Existing Supply						
	Groundwater	16,136	16,129	16,212	16,423	16,633	16,611
	Surface water	85,109	86,600	87,059	86,925	86,899	82,101
	Reuse	1,465	1,465	1,465	1,465	1,465	1,465
	Total Existing Municipal Supply	102,710	104,194	104,736	104,813	104,997	100,177
	Municipal Balance	(5,107)	(4,886)	(4,537)	(4,075)	(3,544)	(8,082)
Industrial	Manufacturing Demand	115,120	115,273	115,432	115,596	115,877	117,923
	Manufacturing Existing Supply						
	Groundwater	6,605	6,645	6,687	6,730	6,775	6,822
	Surface water	72,253	68,763	66,305	64,440	62,468	62,267
	Reuse	1,128	1,128	1,128	1,128	1,128	1,128
	Total Manufacturing Supply	79,986	76,536	74,120	72,298	70,371	70,217
	Manufacturing Balance	(35,134)	(38,737)	(41,312)	(43,298)	(45,506)	(47,707)
	Steam-Electric Demand	4,777	4,777	4,777	4,777	4,777	4,777
	Steam-Electric Existing Supply						
	Groundwater	0	0	0	0	0	0
	Surface water	4,777	4,777	4,777	4,777	4,777	4,777
	Reuse	0	0	0	0	0	0
	Total Steam-Electric Supply	4,777	4,777	4,777	4,777	4,777	4,777
	Steam-Electric Balance	0	0	0	0	0	0
	Mining Demand	6,960	7,001	7,026	7,045	7,058	1,026
	Mining Existing Supply						
	Groundwater	4,118	4,149	4,179	4,207	4,209	1,393
	Surface water	0	0	0	0	0	0
	Reuse	2,729	2,729	2,729	2,729	2,729	2,650
	Total Mining Supply	6,847	6,878	6,908	6,936	6,938	4,043
	Mining Balance	(113)	(123)	(118)	(109)	(120)	3,017
Agriculture	Irrigation Demand	13,861	13,861	13,861	13,861	13,861	13,861
	Irrigation Existing Supply						
	Groundwater	13,560	13,560	13,560	13,560	13,560	13,560
	Surface water	0	0	0	0	0	0
	Reuse	301	301	301	301	301	301
	Total Irrigation Supply	13,861	13,861	13,861	13,861	13,861	13,861
	Irrigation Balance	0	0	0	0	0	0
	Livestock Demand	4,963	4,963	4,963	4,963	4,963	4,963
	Livestock Existing Supply						
	Groundwater	4,275	4,274	4,275	4,275	4,275	4,275
	Surface water	688	689	688	688	688	688
	Reuse	0	0	0	0	0	0
	Total Livestock Supply	4,963	4,963	4,963	4,963	4,963	4,963
	Livestock Balance	0	0	0	0	0	0
Total	Municipal and Industrial Demand	234,674	236,131	236,508	236,306	236,253	231,985
	Existing Municipal and Industrial Supply						
	Groundwater	26,859	26,923	27,078	27,360	27,617	24,826
	Surface water	162,139	160,140	158,141	156,142	154,144	149,145
	Reuse	5,322	5,322	5,322	5,322	5,322	5,243
	Total Municipal and Industrial Supply	194,320	192,385	190,541	188,824	187,083	179,214
	Municipal and Industrial Balance	(40,354)	(43,746)	(45,967)	(47,482)	(49,170)	(52,772)
	Agriculture Demand	18,824	18,824	18,824	18,824	18,824	18,824
	Existing Agricultural Supply						
	Groundwater	17,835	17,834	17,835	17,835	17,835	17,835
	Surface water	688	689	688	688	688	688
	Reuse	301	301	301	301	301	301

Population Projection	2030	2040	2050	2060	2070	2080
	593,187	601,949	602,191	598,824	595,485	592,173
Supply and Demand by Type of Use	**Year**					
	2030 (ac-ft)	**2040 (ac-ft)**	**2050 (ac-ft)**	**2060 (ac-ft)**	**2070 (ac-ft)**	**2080 (ac-ft)**
Total Agriculture Supply	18,824	18,824	18,824	18,824	18,824	18,824
Agriculture Balance	0	0	0	0	0	0
Total Demand	253,498	254,955	255,332	255,130	255,077	250,809
Total Supply						
Groundwater	44,694	44,757	44,913	45,195	45,452	42,661
Surface water	162,827	160,829	158,829	156,830	154,832	149,833
Reuse	5,623	5,623	5,623	5,623	5,623	5,544
Total Supply	213,144	211,209	209,365	207,648	205,907	198,038
Total Balance	(40,354)	(43,746)	(45,967)	(47,482)	(49,170)	(52,772)

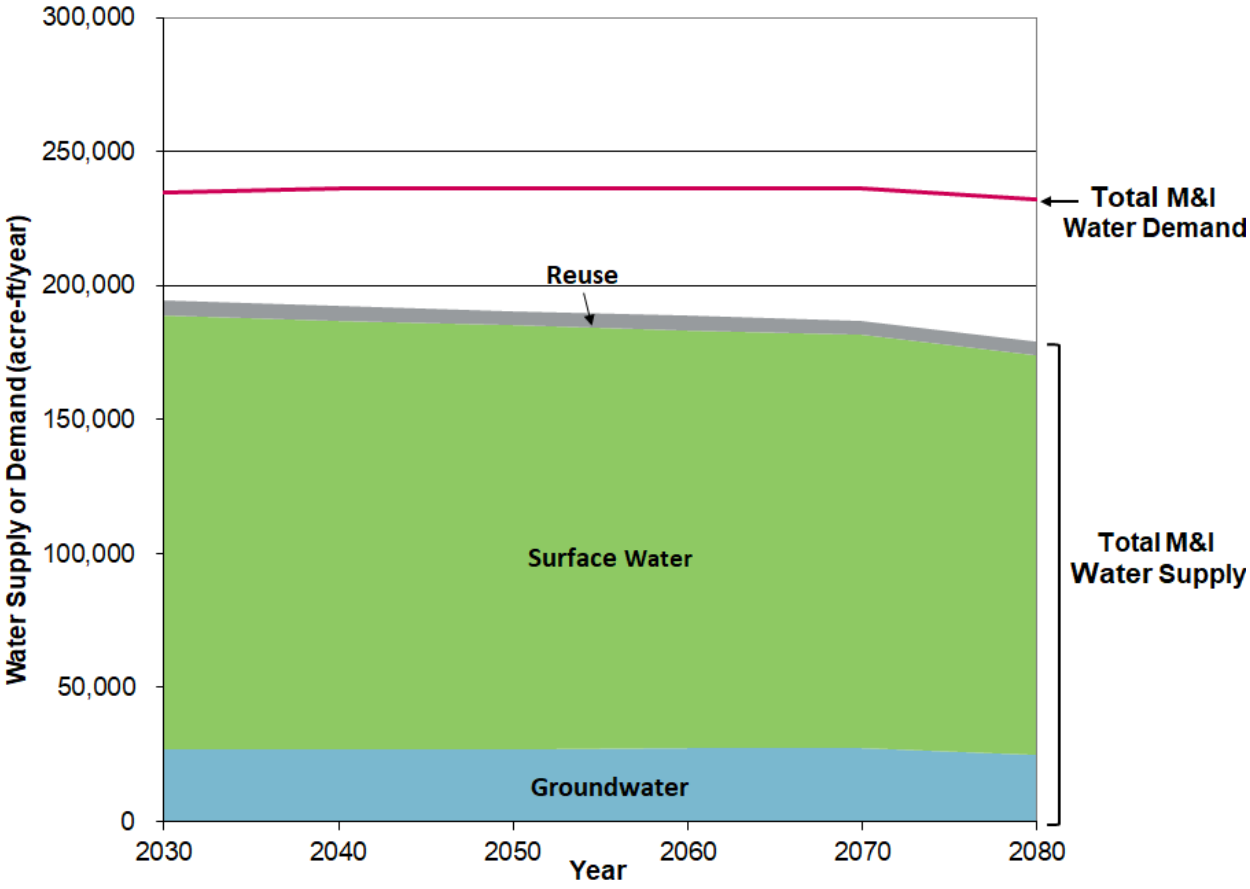

Figure 4A.2.
Municipal and Industrial Supply and Demand

Table 4A.28.
Municipal Entities with Projected Water Shortages

County/City	Projected Shortages (ac-ft)		
	2030	2050	2080
Bee County			
Skidmore WSC	(22)	(27)	(44)
TDCJ Chase Field	(5)	(2)	(2)
County-Other	(1,426)	(1,181)	(518)
Brooks County			
County-Other	(281)	(234)	(101)
Duval County			
County-Other	(253)	(199)	(113)
Jim Wells County			
San Diego MUD 1	(102)	(111)	(131)
County-Other	(1,621)	(1,159)	(82)
Live Oak County			
County-Other	(198)	(164)	(202)
Nueces County			
Nueces County WCID 3	(3,383)	(3,443)	(3,370)

Table 4A.29.
Manufacturing with Projected Water Shortages

County	Projected Shortages (ac-ft)		
	2030	2050	2080
Jim Wells County	(8)	(14)	(25)
Nueces County	(33,672)	(39,295)	(45,731)
San Patricio County	(1,454)	(2,003)	(1,951)

Table 4A.30.
Mining with Projected Water Shortages

County	Projected Shortages (ac-ft)		
	2030	2050	2080
Bee County	(25)	(25)	79
Nueces County	(88)	(93)	(101)

4A.6.2 Agriculture Summary

Irrigation demand remains constant at 13,861 ac-ft over the 50-year planning period and in 2080 represents 6 percent of total demand. Groundwater accounts for 98 percent of the total projected irrigation water supply and reuse accounts for the other 2 percent. No irrigation shortages are projected for the 50-year planning cycle.

Livestock demand remains constant at 4,963 ac-ft over the 50-year planning period and in 2080 represents 2 percent of total demand. For each county, groundwater was allocated based on maximum historic use from 2010 to 2020. Surface water supplies were assumed to consist of local, on-farm sources and used to meet demands.

4A.6.3 Summary

Overall, the Coastal Bend Region has insufficient supplies to meet the demands of all six WUG categories through 2080. Water groups with shortages are presented in Figure 4A.3.

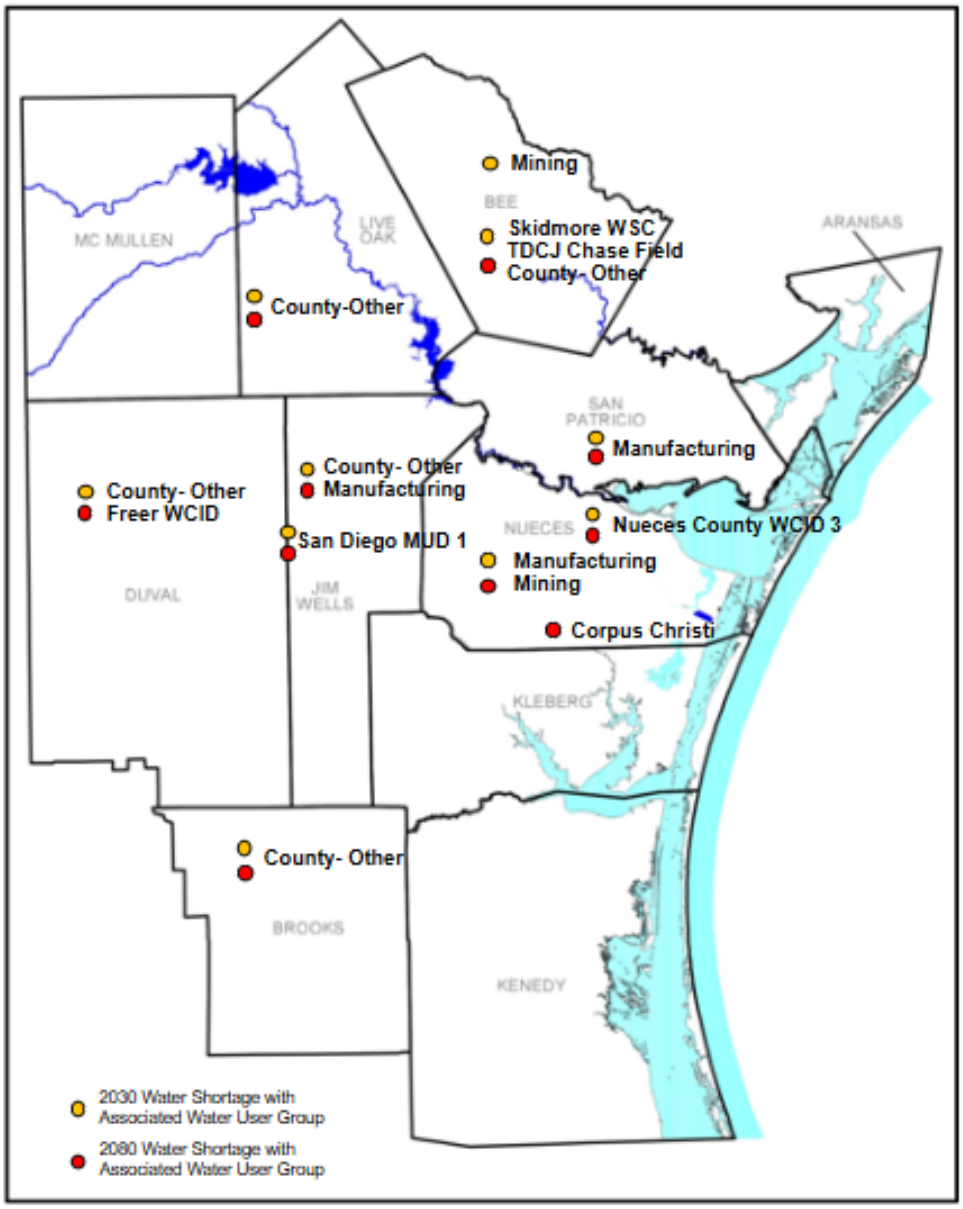

Figure 4A.3.
Location and Type of Use for 2030 and 2080 Water Supply Shortages

4B

Identification of Infeasible Water Management Strategies in the Previously Adopted 2021 Plan

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Section 4B: Identification of Infeasible Water Management Strategies in the Previously Adopted 2021 Plan

A new requirement for this cycle of regional planning is to identify newly infeasible water management strategies and projects that were feasible and recommended in the 2021 regional water plans but have since become infeasible, in accordance with Senate Bill 1511 85th Texas Legislature directive. According to Texas Water Development Board (TWDB) guidance, "At minimum, RWPGs must review the status of recommended strategies and projects with an online decade of 2020 in the 2021 RWPs." A list of these recommended strategies and projects were provided to the Coastal Bend Region in January 2023 in supporting data spreadsheets. Regional water planning groups are also encouraged to review additional near-term strategies or projects with lengthy permitting or construction processes. Regional water planning groups must document the region's process for determining infeasible water management strategies.

In accordance with the Texas Water Code (§16.053(h)(10)), a strategy or project is considered infeasible if:

> *"…the proposed sponsor of the water management strategy or project has not taken an affirmative vote or other action to make expenditures necessary to construct or file applications for permits required in connection with the implementation of the water management strategy or project under federal or state law on a schedule that is consistent with the completion of the implementation of the water management strategy or project by the time the water management strategy or project is projected by the regional water plan or the state water plan to be needed."*

An infeasibility review is not required for strategies or projects that do not require a permit or involve construction (i.e., water conservation). The TWDB recognizes that information may be difficult to obtain for some categories of water users, such as those projects associated with county-wide water user groups (WUGs). Therefore, a region may not be able to determine infeasibility for some strategies or projects. If responses are not received from a WUG or sponsor regarding status of a water management strategy, it may still be considered feasible.

In accordance with contract guidance for the 2021 regional water plans, recommended strategies and projects with an online decade of 2020 were required to be online and delivering water by January 5, 2023. If any such strategies and projects are not currently implemented by this date and the project sponsor has not taken any affirmative steps towards implementation, the 2021 regional water plan must be amended to remove or revise the strategy or project to make them feasible. Affirmative steps by the sponsor may include but are not limited to 1) spending money on the strategy or project, 2) voting to spend money on the strategy or project, or 3) applying for a federal or state permit for the strategy or project.

The following WUGs and recommended water management strategies were shown in the *2021 Coastal Bend Regional Water Plan* for the 2020 decade. Sponsors with water management

strategies shown as being implemented by the 2020 decade were contacted and status update is included below.

Note: County-wide strategies were not targeted for outreach.

- City of Alice- Brackish Groundwater Desalination
  - This is a feasible strategy and should remain in the 2021 regional water plan. Active steps have been taken and project is anticipated to be delivering finished water by end of 2024.
- El Oso Water Supply Corporation (WSC)-Additional groundwater well
  - Sponsor was contacted. El Oso refurbished an existing well. Awaiting additional information on capacity.
- San Diego Municipal Utility District (MUD) 1- Additional groundwater well
  - Sponsor was contacted. No additional info available.
- TDCJ Chase Field-Additional groundwater well
  - Sponsor was contacted. No additional info available.
- Nueces County Water Control and Improvement District #3 (WCID 3)-Local Balancing Storage Reservoir
  - On February 20, the sponsor identified a 100-acre tract that will be developed for flood protection and water supply storage benefits.
- Corpus Christi- O.N. Stevens Water Treatment Plant (WTP) Improvements
  - This is a feasible strategy and should remain in the 2021 Plan. Active steps have been taken and project is anticipated to be completed in 2024.

The Coastal Bend Regional Water Planning Group (CBRWPG) discussed 2021 Coastal Bend regional water plan strategies with an online decade of Year 2020 at the January 26, 2023, Coastal Bend Region meeting and TWDB supporting data spreadsheets for consideration of infeasible strategies at the October 12, 2023, meeting.

The CBRWPG adopted the following process on October 12, 2023, for determining infeasible water management strategies for the Coastal Bend regional water plan.

- Consider TWDB guidance regarding identifying infeasible water management strategies recommended in the 2021 Coastal Bend Regional Water Plan.

- Review supporting data[1] provided by TWDB on water management strategies and associated projects from the 2021 regional water plan.
- Conduct outreach to project sponsors to determine project status and assess infeasibility.
- Present the results of outreach, and analysis where applicable, at a CBRWPG meeting. This must occur at the same meeting where the regional water planning group presents its process for identifying potentially feasible water management strategies in the current plan under Task 5A.
- If responses are not received from a WUG or sponsor regarding status of a water management strategy, it will remain feasible (i.e., no action will be taken to warrant amendment to the 2021 regional water plan). Water management strategies previously identified for County-Other WUGs will remain feasible.
- The CBRWPG will include in the technical memorandum a list of regional water planning group-identified infeasible strategies for projects from the 2021 regional water plans, or a statement that no infeasible strategies or projects were identified. If infeasible strategies are identified, the regional water planning group will prepare an amendment to the 2021 regional water plan to revise/remove infeasible strategies and submit to the TWDB by the June 5, 2024, deadline.

The CBRWPG included the above information in the mid-cycle technical memorandum. Based on the results of sponsor outreach and discussion by the CBRWPG for projects that were unable to be confirmed, no infeasible strategies or projects were identified.

[1] Sent by TWDB to Region N on January 10, 2023. Includes the following data sheets that were reviewed: '2022SWPWMS&ProjectFeasibilityAnalysis_WMSWorkbook+RegN.xlxs. 2022SWPWMS&ProjectFeasibilityAnalysis_WMSProjectWorkbook+RegN.xlxs, and 2022SWPWMS&ProjectFeasibilityAnalysis_WMSDetails&ProjectRelationships.xlxs

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