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CHAPTER 4.0: IDENTIFICATION OF WATER NEEDS

4.1 IDENTIFICATION OF WATER NEEDS

The comparison of water demands for each water user group (WUG) to the water supplies available to each WUG within the Lower Colorado Regional Water Planning Area (LCRWPA) is a simple mathematical comparison of the estimates developed in *Chapters 2 and 3* of this report. This comparison was completed and summarized in two different ways. First, a comparison of water demands and supplies was completed on a county-by-county basis. Second, a comparison of the water demands and supplies for the three designated major water providers within the LCRWPA was also completed.

Region-wide, the comparison of available water supplies and water demands identified 50 WUGs that have projected water supply shortages, or “needs,” by the year 2040, and an additional 20 WUGs with projected water supply shortages before the year 2070. **Note that throughout this chapter, the word “need” is consistently used to indicate a water supply shortage.** The estimated water need is approximately 288,000 acre-feet per year (ac-ft/yr) in 2040 and 321,000 ac-ft/yr in 2070. This identified shortage is based on conservative water availability estimates, which assume (1) only water that is available during a repeat of the historical drought of record (DOR), (2) that all water rights in the basin are being fully and simultaneously utilized, (3) excludes both water available from the Lower Colorado River Authority (LCRA) on an interruptible basis and water projected to potentially be available, for planning purposes, as a result of return flows to the Colorado River, and (4) groundwater availability is limited to the modeled available groundwater (MAG) based on desired future conditions (DFC). Based upon the assumptions above, water needs have been identified in five of the six water use categories. *Figure 4.1* contains an illustration of the distribution, by use category, of the number of WUGs with identified water needs in the years 2040 and 2070. *Figure 4.2* contains an illustration of the magnitude of the identified needs, by use category, for the years 2040 and 2070.

Figure 4.1: Number of WUGs With Identified Water Needs in the LCRWPA

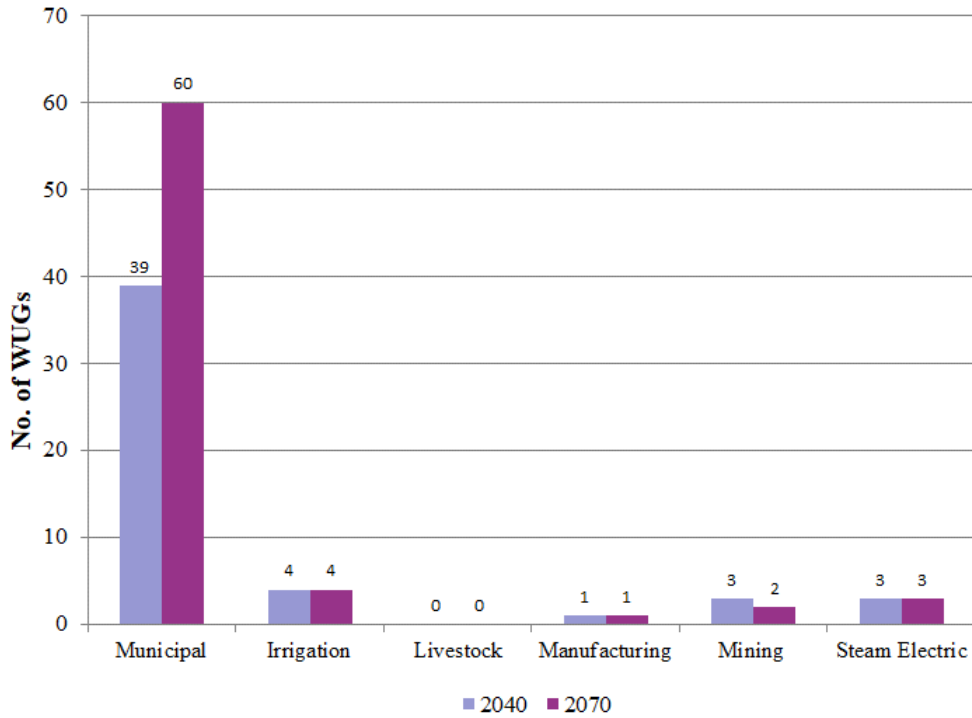
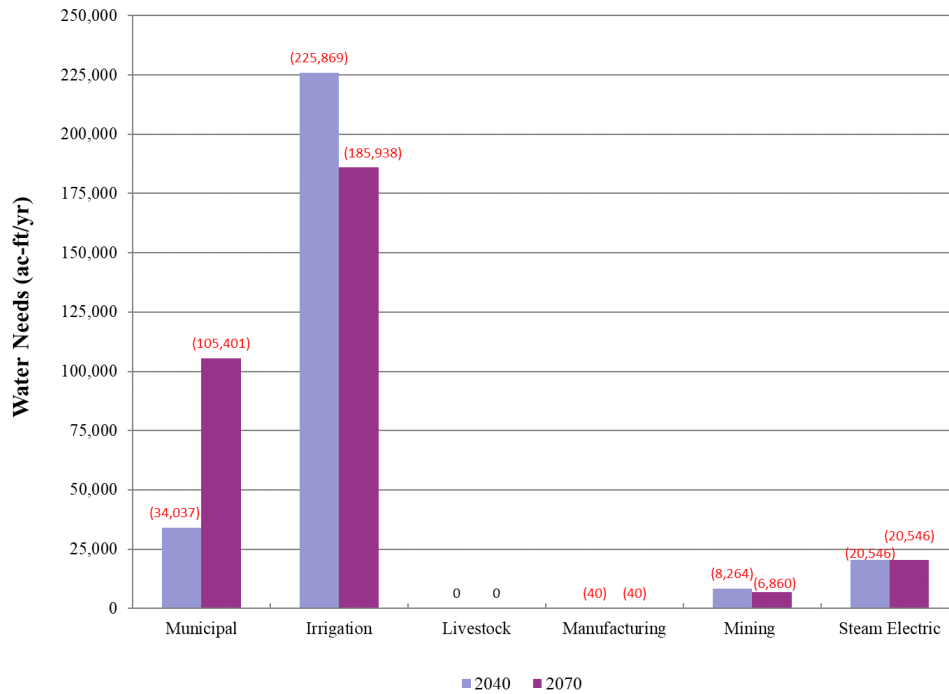


Figure 4.2: Identified Amount of Water Needs in the LCRWPA



The majority of the identified water supply shortages fall into two main categories. The first shortage is associated with rice irrigation demands in the lower three counties of Colorado, Matagorda, and Wharton. It is estimated that irrigators in these three counties would experience a water supply shortage of approximately 253,000 ac-ft/yr under the existing demand conditions (year 2020 scenario), should a repeat of the driest year during the DOR occur. This shortage is estimated to decrease to 224,000 ac-ft/yr in 2040 (11 percent decrease) and to 184,000 ac-ft/yr in 2070 (27 percent decrease) due to projected declining rice irrigation acreage.

These estimated shortfalls are based on the available supply determined in *Chapter 3*. In accordance with Texas Water Development Board (TWDB) rules, the available supply of water for irrigation was estimated based on the available run-of-river (ROR) water rights and groundwater supplies in the area. The interruptible supply of water provided by the LCRA and return flows were not considered in these calculations. Interruptible water and return flows are considered as water management strategies and discussed in *Chapter 5*.

The second category of major identified shortages includes municipal WUGs that purchase water from one of the three major water providers within the LCRWPA - the LCRA, Austin (Austin Water), and West Travis County Public Utility Agency (WTCPUA). The renewal of these current major water contracts is assumed and shown as a continued supply, while amendments to these contracts to increase supply will be considered as a water management strategy. However, Austin's current policy is that much of its water currently being supplied under contract to wholesale customers may need to be provided under new contracts with LCRA as Austin wholesale customer contracts, identified in *Table 3.29*, reach their expiration or renewal dates. Austin is planning to continue to treat and transport this water from the supply source to the wholesale customer.

LCRA is the largest water supplier for the Lower Colorado Region. Austin and WTCPUA also supply a major portion of the municipal needs. LCRA holds water rights to use up to about 2.1 million acre-feet per year (ac-ft/yr) of water and provides water to approximately 125 entities under long-term contracts for municipal, industrial, irrigation, recreational, and other purposes. LCRA also provides water to about 4,000 domestic lakeside contract holders and to environmental uses.

4.2 COUNTY SUMMARIES OF WATER NEEDS

The following sections provide summaries of the needs identified for each county within the LCRWPA. The tables presented in these sections provide a listing of individual WUGs with identified water supply needs (negative numbers in the tables indicate a water supply shortage). Following the information for the individual WUGs with water supply needs is a summation of the total needs identified within the county. This information is also included in the TWDB online database, DB22.

The TWDB DB22 report entitled *WUG Needs Report*, can be found in *Appendix 4A*.

4.2.1 Bastrop County

The primary sources of water for Bastrop County are the Carrizo-Wilcox and Queen City aquifers. Surface water supplies power generation and irrigation from the Highland Lakes. Local surface water supplies are available to irrigation and livestock users. In 2020, municipal water needs is about 33% of the total water needs in Bastrop County and mining accounts for approximately 67% of the total needs, while in 2070,

municipal water needs accounts for 100% of water needs. A summary of the estimated water shortages identified for Bastrop County is presented in *Table 4.1*.

Table 4.1: Bastrop County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
AQUA WSC	(224)	(2,788)	(5,698)	(9,228)	(16,703)	(26,087)
BASTROP	0	0	(832)	(2,045)	(3,700)	(5,902)
BASTROP COUNTY WCID 2	0	0	0	0	(442)	(1,178)
COUNTY-OTHER	0	0	0	0	0	0
CREEDMOOR-MAHA WSC	0	0	0	0	0	0
ELGIN	0	0	0	(534)	(1,545)	(2,853)
LEE COUNTY WSC ¹	0	0	0	0	0	0
POLONIA WSC ²	0	0	0	0	0	0
SMITHVILLE	0	0	0	0	(503)	(1,348)
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	(451)	(4,190)	(4,865)	(3,453)	0	0
STEAM-ELECTRIC	0	0	0	0	0	0
BASTROP COUNTY TOTAL NEEDS	(675)	(6,978)	(11,395)	(15,260)	(22,893)	(37,368)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

² Primary region for this WUG is Region L. Please refer to the Region L Plan for additional information.

4.2.2 Blanco County

Groundwater is available to users in Blanco County from the Edwards-Trinity-Plateau, Ellenburger-San Saba, Trinity, Marble Falls, and Hickory aquifers. Surface water supplies in the county are available from the City of Blanco's reservoirs and other local supplies. Municipal water needs account for all of the total water needs in Blanco County. A summary of the estimated water shortages identified for Blanco County is presented in *Table 4.2*.

Table 4.2: Blanco County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
BLANCO	0	0	0	0	0	0
CANYON LAKE WATER SERVICE ¹	0	0	0	0	0	(2)
COUNTY-OTHER	0	0	0	0	0	0
JOHNSON CITY	0	(11)	(43)	(60)	(73)	(80)
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM-ELECTRIC	0	0	0	0	0	0
BLANCO COUNTY TOTAL NEEDS	0	(11)	(43)	(60)	(73)	(82)

¹ Primary region for this WUG is Region L. Please refer to the Region L Plan for additional information.

4.2.3 Burnet County

Groundwater is available to users in Burnet County from the Ellenburger-San Saba, Trinity, Marble Falls, and Hickory aquifers. Surface water supplies in the county are available from the Highland Lakes through contracts with the LCRA and other local supplies. Mining water needs account for 58 to 70% of total water needs in Burnet County, with municipal water needs accounting for the remaining water needs. A summary of the estimated water shortages identified for Burnet County is presented in *Table 4.3*.

Table 4.3: Burnet County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
BERTRAM	(60)	(141)	(211)	(279)	(340)	(394)
BURNET	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC. ¹	0	0	0	0	0	0
COTTONWOOD SHORES	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	(49)	(162)
GEORGETOWN ¹	0	0	0	0	0	0
GRANITE SHOALS	0	0	0	0	(47)	(222)
HORSESHOE BAY	(67)	(286)	(471)	(647)	(804)	(940)
KEMPNER WSC ¹	0	0	0	0	0	0
KINGSLAND WSC	0	0	0	0	0	0
MARBLE FALLS	0	0	(204)	(981)	(1,504)	(1,766)
MEADOWLAKES	(285)	(276)	(271)	(269)	(268)	(268)
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	(935)	(1,626)	(2,352)	(3,124)	(4,132)	(5,281)
STEAM-ELECTRIC	0	0	0	0	0	0
BURNET COUNTY TOTAL NEEDS	(1,347)	(2,329)	(3,509)	(5,300)	(7,144)	(9,033)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

4.2.4 Colorado County

The primary source of groundwater in Colorado County is the Gulf Coast aquifer. Surface water supplies are available from LCRA’s water rights, presently being used within LCRA’s Lakeside and Garwood Irrigation Divisions, as well as surface water rights owned by others. Irrigation water needs in Colorado County represent 99% of the true water needs in the county, with the municipal needs making up the remaining water needs. For the steam electric needs shown in Colorado County, based on information provided by the Colorado County Groundwater Conservation District, the demand projections the needs are based on are not accurate. One steam electric facility has no plan for construction, and the other facility has no consumptive use. Therefore, no supplies were allocated to the demands, and the resulting needs are not a true water shortage. A summary of the estimated water shortages identified for Colorado County is presented in *Table 4.4*.

Table 4.4: Colorado County Water Supply Needs* (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
COLUMBUS	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC. ¹	(7)	(8)	(8)	(10)	(11)	(13)
COUNTY-OTHER	(92)	(98)	(100)	(128)	(161)	(195)
EAGLE LAKE	0	0	0	0	0	0
WEIMAR	0	0	0	0	0	0
IRRIGATION	(54,318)	(49,661)	(45,130)	(40,720)	(36,429)	(32,254)
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM-ELECTRIC	(4,971)	(4,971)	(4,971)	(4,971)	(4,971)	(4,971)
COLORADO COUNTY TOTAL NEEDS	(59,388)	(54,738)	(50,209)	(45,829)	(41,572)	(37,433)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

*The steam electric water needs shown in this table are not true water needs. See Section 4.2.4 for additional information.

4.2.5 Fayette County

Groundwater supplies in Fayette County are available from the Carrizo-Wilcox, Gulf Coast, Sparta, and Yegua-Jackson aquifers. Surface water is available for steam electric generation through the LCRA and Austin, and other local supply sources are available for livestock and irrigation. Currently in year 2020, mining water needs account for about 16% of total water needs in the Fayette County, but this need drops near zero by year 2040. The water needs for steam electric generation accounts for 78 to 85% of total water needs in the county. The estimated water shortages identified for Fayette are presented in Table 4.5.

Table 4.5: Fayette County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
AQUA WSC	0	0	0	0	0	0
COUNTY-OTHER	(435)	(562)	(633)	(696)	(750)	(789)
FAYETTE COUNTY WCID MONUMENT HILL	0	0	0	0	0	0
FAYETTE WSC	0	0	0	0	0	0
FLATONIA	0	0	0	0	0	0
LA GRANGE	0	0	0	0	0	0
LEE COUNTY WSC ¹	0	0	0	0	0	0
SCHULENBURG	0	0	0	(45)	(86)	(118)
WEST END WSC ²	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	(40)	(40)	(40)	(40)	(40)
MINING	(760)	(360)	0	0	0	0
STEAM ELECTRIC POWER ³	(4,299)	(4,299)	(4,299)	(4,299)	(4,299)	(4,299)
FAYETTE COUNTY TOTAL NEEDS	(5,494)	(5,261)	(4,972)	(5,080)	(5,175)	(5,246)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

² Primary region for this WUG is Region H. Please refer to the Region H Plan for additional information.

³ Steam-electric needs shown are overall for the County, which take into consideration surpluses for LCRA. Please refer to Table 4.19 for steam-electric needs specifically related to the City of Austin.

4.2.6 Gillespie County

Groundwater supplies in Gillespie County are available from the Ellenburger-San Saba Aquifer, the Hickory Aquifer, and the “Edwards-Trinity Plateau, Pecos Valley, and Trinity” Aquifer, although the Pecos Valley portion is not located in Gillespie County. Surface water is supplied from LCRA and locally owned water rights. There are no water shortages expected for any of the WUGs in Gillespie County within the LCRWPA.

4.2.7 Hays County

Groundwater supplies in Hays County are available from the Edwards-Balcones Fault Zone (BFZ) and Trinity aquifers. Surface water is available from the Highland Lakes System, Austin ROR rights, and other local supply sources. Additionally, some WUGs use sources that are outside of the region. After 2030, municipal need represents over 68 percent of the total needs in the county and represents the majority of supply shortages identified for Hays County, as presented in *Table 4.6*.

Table 4.6: Hays County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
AUSTIN	0	0	0	0	0	0
BUDA	0	0	(440)	(1,724)	(3,180)	(4,839)
CIMARRON PARK WATER	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	(801)
DEER CREEK RANCH WATER	0	0	0	0	0	0
DRIPPING SPRINGS WSC	0	(533)	(1,446)	(2,621)	(4,059)	(4,819)
GOFORTH SUD ¹	(60)	(113)	(168)	(232)	(308)	(393)
HAYS	0	(55)	(114)	(168)	(255)	(353)
HAYS COUNTY WCID 1	0	0	0	0	(80)	(80)
HAYS COUNTY WCID 2	0	0	0	0	(4)	(160)
WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY	0	(963)	(1,646)	(3,084)	(4,524)	(5,966)
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	(531)	(761)	(1,047)	(1,131)	(1,340)	(1,579)
STEAM ELECTRIC POWER	0	0	0	0	0	0
HAYS COUNTY TOTAL NEEDS	(591)	(2,425)	(4,861)	(8,960)	(13,750)	(18,990)

¹ Primary region for this WUG is Region L. Please refer to the Region L Plan for additional information.

4.2.8 Llano County

Groundwater supplies in Llano County are available from the Hickory and Ellenburger-San Saba aquifers. Surface water is available from the City of Llano Reservoir, the Highland Lakes, and local sources. Municipal needs account for all of total needs in the county and all of the identified water supply shortage. A summary of the estimated water shortages identified for Llano County is presented in *Table 4.7*.

Table 4.7: Llano County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
CORIX UTILITIES TEXAS INC. ¹	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
HORSESHOE BAY	0	0	0	0	0	0
KINGSLAND WSC	0	0	0	0	0	0
LLANO	(591)	(620)	(606)	(584)	(612)	(642)
SUNRISE BEACH VILLAGE	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LLANO COUNTY TOTAL NEEDS	(591)	(620)	(606)	(584)	(612)	(642)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

4.2.9 Matagorda County

The primary source of groundwater in Matagorda County is the Gulf Coast aquifer. Surface water supplies are available from LCRA's water rights, presently being used within LCRA's Gulf Coast Irrigation Division, the STPNOC reservoir, as well as LCRA water contracts for other industrial needs and water rights owned by others. Irrigation water needs in Matagorda County represent just over 90 percent of the water need in the county with steam electric generation accounting for most of the remainder of the water needs. A summary of the estimated water shortages identified for Matagorda County is presented in *Table 4.8*.

Table 4.8: Matagorda County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
BAY CITY	(4)	(57)	(73)	(119)	(162)	(198)
CANEY CREEK MUD OF MATAGORDA COUNTY	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC. ¹	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MATAGORDA COUNTY WCID 6	0	0	0	0	0	0
MATAGORDA WASTE DISPOSAL & WSC	0	0	0	0	0	0
PALACIOS	0	0	0	0	0	0
IRRIGATION	(123,222)	(118,068)	(113,053)	(108,173)	(103,424)	(98,803)
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	(11,276)	(11,276)	(11,276)	(11,276)	(11,276)	(11,276)
MATAGORDA COUNTY TOTAL NEEDS	(134,502)	(129,401)	(124,402)	(119,568)	(114,862)	(110,277)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

4.2.10 Mills County

Groundwater supplies in Mills County are available from the Ellenburger-San Saba and Trinity aquifers. The majority of surface water supplies are available through local supply sources. Irrigation needs in Mills County represent over 99 percent of the water needs in the county with the remainder of the demand being municipal need. A summary of the estimated water shortages identified for Mills County is presented in *Table 4.9*.

Table 4.9: Mills County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
BROOKESMITH SUD ¹	0	0	0	0	(1)	(1)
CORIX UTILITIES TEXAS INC ²	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
GOLDTHWAITE	0	0	0	0	(1)	(18)
ZEPHYR WSC ¹	0	0	0	0	0	0
IRRIGATION	(1,737)	(1,737)	(1,737)	(1,737)	(1,737)	(1,737)
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
MILLS COUNTY TOTAL NEEDS	(1,737)	(1,737)	(1,737)	(1,737)	(1,739)	(1,756)

¹ Primary region for this WUG is Region F. Please refer to the Region F Plan for additional information.

² Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

4.2.11 San Saba County

Groundwater supplies in San Saba County are available from the Ellenburger-San Saba, Marble Falls, and Hickory aquifers. Small amounts of surface water supplies are available from the Highland Lakes and local sources. There are no water shortages expected for any of the WUGs in San Saba County.

4.2.12 Travis County

Groundwater supplies in Travis County are available from the Edwards-BFZ, and Trinity aquifers. Surface water is available through the LCRA and COA ROR water rights and local sources. Municipal needs account for all of total water needs in the county. A summary of the estimated water shortages identified for Travis County is presented in *Table 4.10*.

Table 4.10: Travis County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
AQUA WSC	0	0	0	0	0	0
AUSTIN	0	0	0	0	0	(8,770)
BARTON CREEK WEST WSC	0	0	0	0	0	0
BARTON CREEK WSC	(217)	(312)	(402)	(469)	(523)	(586)
BRIARCLIFF	0	0	0	(25)	(66)	(104)
CEDAR PARK ¹	(613)	(813)	(732)	(662)	(660)	(659)
COTTONWOOD CREEK MUD 1	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
COUNTY-OTHER (AQUA TEXAS - RIVERCREST)	0	0	0	0	0	0
CREEDMOOR-MAHA WSC	0	0	(448)	(552)	(656)	(757)
CYPRESS RANCH WCID 1	0	0	0	0	0	0
DEER CREEK RANCH WATER	0	0	0	0	0	0
ELGIN	0	0	0	0	0	0
GARFIELD WSC	0	0	0	(21)	(41)	(63)
GOFORTH SUD ²	(4)	(6)	(10)	(15)	(20)	(26)
HORNSBY BEND UTILITY	0	0	0	0	0	0
HURST CREEK MUD	(12)	(3)	0	0	0	0
JONESTOWN WSC	0	0	0	(37)	(78)	(116)
KELLY LANE WCID 1	0	0	0	0	0	0
LAGO VISTA	0	0	0	0	0	0
LAKEWAY MUD	0	0	0	(97)	(143)	(142)
LEANDER ¹	(317)	(1,866)	(2,009)	(2,684)	(2,967)	(3,281)
LOOP 360 WSC	0	(18)	(68)	(113)	(157)	(236)
MANOR	0	0	0	0	0	0
MANVILLE WSC	0	0	0	0	(476)	(1,696)
NORTH AUSTIN MUD 1	0	0	(76)	(75)	(75)	(75)
NORTHTOWN MUD	0	0	(947)	(1,066)	(1,171)	(1,268)
OAK SHORES WATER SYSTEM	0	0	0	0	0	0
PFLUGERVILLE	0	(790)	(3,589)	(6,376)	(9,203)	(9,220)
ROLLINGWOOD	0	0	(375)	(374)	(375)	(377)
ROUGH HOLLOW IN TRAVIS COUNTY	0	0	0	0	0	0
ROUND ROCK ¹	0	0	0	0	0	0
SENNA HILLS MUD	(16)	(89)	(160)	(212)	(255)	(304)
SHADY HOLLOW MUD	0	0	0	0	0	0
SUNSET VALLEY	0	0	(443)	(519)	(609)	(713)
SWEETWATER COMMUNITY	0	0	0	0	0	0
TRAVIS COUNTY MUD 10	0	0	(3)	(12)	(19)	(28)
TRAVIS COUNTY MUD 14	0	0	0	(14)	(30)	(49)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

² Primary region for this WUG is Region L. Please refer to the Region L Plan for additional information.

Table 4.10: Travis County Water Supply Needs (ac-ft/yr) (Continued)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
TRAVIS COUNTY MUD 2	0	0	0	0	0	0
TRAVIS COUNTY MUD 4	0	0	0	0	0	0
TRAVIS COUNTY WCID 10	(139)	(442)	(4,094)	(4,433)	(4,739)	(5,026)
TRAVIS COUNTY WCID 17	0	(48)	(1,011)	(1,181)	(1,474)	(1,836)
TRAVIS COUNTY WCID 18	0	0	0	(99)	(243)	(379)
TRAVIS COUNTY WCID 19	0	0	0	0	0	0
TRAVIS COUNTY WCID 20	0	0	0	0	0	0
TRAVIS COUNTY WCID POINT VENTURE	0	(37)	(93)	(171)	(260)	(339)
WELLS BRANCH MUD	0	0	(1,321)	(1,303)	(1,298)	(1,297)
WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY	(1,784)	(2,443)	(3,011)	(3,910)	(4,484)	(5,000)
WILLIAMSON COUNTY WSID 3 ¹	0	0	0	0	0	0
WILLIAMSON TRAVIS COUNTIES MUD 1 ¹	0	0	0	0	0	0
WINDERMERE UTILITY	0	0	(1,462)	(1,446)	(1,441)	(1,440)
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
TRAVIS COUNTY TOTAL NEEDS	(3,102)	(6,867)	(20,254)	(25,866)	(31,463)	(43,787)

¹ Primary region for this WUG is Region G. Please refer to the Region G Plan for additional information.

² Primary region for this WUG is Region L. Please refer to the Region L Plan for additional information.

4.2.13 Wharton County

The primary source of groundwater in Wharton County is the Gulf Coast aquifer. Surface water supplies are available from LCRA's water rights, presently being used within LCRA's Lakeside and Garwood Irrigation Divisions and by Pierce Ranch. In addition, surface water is available from water rights owned by others. Irrigation need in Wharton County represent over 99 percent of the water needs in the county with municipal need accounting for the remaining water needs. A summary of the estimated water shortages identified for Wharton County is presented in *Table 4.11*.

Table 4.11: Wharton County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
BOLING MWD	0	0	0	0	0	0
COUNTY-OTHER	0	0	(17)	(61)	(100)	(155)
EL CAMPO ¹	0	0	0	0	0	0
WHARTON	0	0	0	0	(30)	(87)
WHARTON COUNTY WCID 2	0	0	0	0	0	0
IRRIGATION	(75,087)	(70,456)	(65,949)	(61,563)	(57,296)	(53,144)
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
WHARTON COUNTY TOTAL NEEDS	(75,087)	(70,456)	(65,966)	(61,624)	(57,426)	(53,386)

¹ Primary region for this WUG is Region P. Please refer to the Region P Plan for additional information.

4.2.14 Williamson County

Groundwater supplies in Williamson County are available from the Trinity and Edwards-BFZ aquifers. Surface water is available through Austin and LCRA. Municipal needs account for all of total needs in the county and all of the identified water supply shortage. A summary of the estimated water shortages identified for Williamson County is presented in *Table 4.12*.

Table 4.12: Williamson County Water Supply Needs (ac-ft/yr)

Water User Group Name	2020 Needs	2030 Needs	2040 Needs	2050 Needs	2060 Needs	2070 Needs
AUSTIN	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
NORTH AUSTIN MUD 1	0	0	(726)	(714)	(711)	(711)
WELLS BRANCH MUD	0	0	(76)	(75)	(74)	(74)
IRRIGATION	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
WILLIAMSON COUNTY TOTAL NEEDS	0	0	(802)	(789)	(785)	(785)

4.2.15 County-Wide Surpluses

As part of the 2021 regional water planning process, areas with water supply surpluses were identified as well as areas with water supply needs. This analysis was conducted by comparing the county-wide estimated water supplies with the county-wide estimated water demands. It is important to note that although a particular county may have a county-wide water supply surplus, individual WUGs within that county may have water supply needs because they do not have access to the surplus water. *Table 4.13* contains a summary of the water supply conditions within each county. It is also important to note that the regional totals shown in *Table 4.13* are less than the water supply needs identified in *Figure 4.2* due to

surpluses in some counties. The fact that the regional totals show water supply needs despite considering the surpluses in some counties indicates that additional strategies must be developed to meet all of the needs in the LCRWPA. Simply moving surplus water from one area to another will not be sufficient to meet the needs of all WUGs in the LCRWPA. Additionally, movement of surplus water can be very costly and requires the consent of the entity with the surplus.

Table 4.13: County and Regional Water Supply Condition Summary (surplus/deficit, ac-ft/yr)

County ¹	2020	2030	2040	2050	2060	2070
Bastrop	2,382	(5,011)	(9,892)	(14,099)	(20,275)	(34,757)
Blanco	1,847	1,582	1,430	1,351	1,292	1,256
Burnet	9,373	6,221	3,138	478	(2,032)	(4,382)
Colorado	(57,518)	(53,142)	(48,700)	(44,463)	(40,355)	(36,365)
Fayette	(3,404)	(3,495)	(3,318)	(3,065)	(2,752)	(2,947)
Gillespie	2,995	2,714	2,493	2,187	1,872	1,559
Hays	4,944	1,626	(1,993)	(6,550)	(11,710)	(17,025)
Llano	3,726	3,581	3,671	3,719	3,658	3,603
Matagorda	(117,988)	(113,625)	(108,596)	(103,757)	(99,063)	(94,491)
Mills	(869)	(870)	(870)	(892)	(920)	(954)
San Saba	1,098	1,035	1,194	1,272	1,272	1,257
Travis	152,232	109,536	69,174	36,924	8,954	(23,590)
Wharton	(73,553)	(68,603)	(63,731)	(59,048)	(54,495)	(50,065)
Williamson	31	2	(796)	(779)	(771)	(767)
Regional Totals ²	(74,704)	(118,449)	(156,796)	(186,722)	(215,325)	(257,668)

¹ Overall County Surplus/Deficit = Countywide Water Supply – Countywide Water Demand

² Overall Regional Surplus/Deficit = Summation of County Surplus/Deficit

By comparison, *Table 4.14* shows all of the water supply needs by county in Region K if the surpluses are not taken into account. Region K is tasked with developing water management strategies to meet all of these needs. One potential strategy is to identify the WUGs with surpluses and determine if it is possible for this surplus water to meet the needs of WUGs with shortages.

**Table 4.14: County and Regional Water Supply Condition Summary Excluding Surpluses
(deficit, ac-ft/yr)**

County ¹	2020	2030	2040	2050	2060	2070
Bastrop	(675)	(6,978)	(11,395)	(15,260)	(22,893)	(37,368)
Blanco	0	(11)	(43)	(60)	(73)	(82)
Burnet	(1,347)	(2,329)	(3,509)	(5,300)	(7,144)	(9,033)
Colorado	(59,388)	(54,738)	(50,209)	(45,829)	(41,572)	(37,433)
Fayette	(5,494)	(5,261)	(4,972)	(5,080)	(5,175)	(5,246)
Gillespie	0	0	0	0	0	0
Hays	(591)	(2,425)	(4,861)	(8,960)	(13,750)	(18,990)
Llano	(591)	(620)	(606)	(584)	(612)	(642)
Matagorda	(134,502)	(129,401)	(124,402)	(119,568)	(114,862)	(110,277)
Mills	(1,737)	(1,737)	(1,737)	(1,737)	(1,739)	(1,756)
San Saba	0	0	0	0	0	0
Travis	(3,102)	(6,867)	(20,254)	(25,866)	(31,463)	(43,787)
Wharton	(75,087)	(70,456)	(65,966)	(61,624)	(57,426)	(53,386)
Williamson	0	0	(802)	(789)	(785)	(785)
Regional Totals ²	(282,514)	(280,823)	(288,756)	(290,657)	(297,494)	(318,785)

¹ Overall County Deficit² Overall Regional Deficit = Summation of County Deficit

4.3 MAJOR WATER PROVIDER NEEDS

As previously discussed, the LCRA, Austin, and WTCPUA have been identified as major water providers within the LCRWPA. The following sections present a comparison of the water supplies for these three entities and their water supply commitments.

4.3.1 Lower Colorado River Authority

The LCRA has three sources for its water. These sources include the Highland Lakes System and ROR water rights in the lower portion of the basin. The LCRA also has developed groundwater in Bastrop County. The LCRA has commitments to provide water to individual users and cities throughout the LCRWPA. In addition, the LCRA uses water at its electric generating facilities. LCRA also provides water for agricultural irrigation and environmental needs of the river and bay according to the LCRA Water Management Plan. *Table 4.15* contains a comparison of LCRA's firm water supplies and water commitments. Firm water is water that can be supplied readily through a repeat of the driest conditions on record. *Table 4.16* contains a comparison of LCRA's irrigation water supplies and projected irrigation demands. Irrigation supplies are considered "interruptible," rather than firm.

Table 4.15: LCRA Firm Water Supply/Commitment Comparison (ac-ft/yr)

LCRA Firm Water	2020	2030	2040	2050	2060	2070
LCRA Firm Water Supply	401,369	401,579	401,325	401,807	400,744	399,862
LCRA Firm Water Commitments	391,758	391,753	391,748	391,743	391,738	391,735
Water Surplus/Need	9,611	9,827	9,578	10,064	9,007	8,127

Note: Firm water is water that can be supplied readily through a repeat of the driest conditions on record. The water supply is based on the total in *Table 3.25* minus the portions of the irrigation division water rights that are identified as agricultural water. The firm water commitments are detailed in *Tables 2.23* and *3.26*. Commitments include the out-of-basin 25,000 ac-ft/yr demand from Region G in Williamson County under the HB 1437 program and other current, separate out-of-region commitments (Leander, Cedar Park, and others). Environmental commitments are not included in this table as part of the firm water commitments and are not one of the six water uses planned for in the regional planning process.

Table 4.16: LCRA Irrigation Water Supply and Projected Demands¹ Comparison (ac-ft/yr)

LCRA Irrigation Water	2020	2030	2040	2050	2060	2070
LCRA Irrigation Water Supply	137,580	137,580	137,580	137,580	137,580	137,580
LCRA Projected Irrigation Division Demands (Region K)	406,001	394,649	383,603	372,853	362,393	352,215
LCRA Projected Irrigation Division Demands (Region P)	16,000	16,000	16,000	16,000	16,000	16,000
Water Surplus/Need	(284,421)	(273,069)	(262,023)	(251,273)	(240,813)	(230,635)

Note: The water supply is based on the portions of the irrigation division water rights in *Table 3.25* that are identified as agricultural water. The irrigation water projected demands are detailed in *Tables 2.24* and *3.27*.

As shown in *Table 4.15*, LCRA has sufficient water supply to meet all of its current firm water commitments under the assumptions being used in this plan through 2070. Regarding irrigation, as shown in *Table 4.16*, LCRA does not have sufficient water supply during a drought-of-record to meet all projected surface water irrigation demands. This analysis does not include interruptible water supplies projected to be available over the planning horizon through the implementation of the Water Management Plan (WMP) or projected return flows. A summary LCRA’s needs by categories of use is shown in *Table 4.17*.

¹ The irrigation water commitments discussed here reflect the projected demands within LCRA’s Irrigation Divisions and Pierce Ranch which are currently being met by LCRA’s ROR water rights and supplemental interruptible stored water from lakes Buchanan and Travis in accordance with LCRA’s Water Management Plan on an annual contract basis.

Table 4.17: LCRA Needs by Category of Use (ac-ft/yr)

LCRA Customers	2020	2030	2040	2050	2060	2070
Livestock	0	0	0	0	0	0
Irrigation	(284,421)	(273,069)	(262,023)	(251,273)	(240,813)	(230,635)
Manufacturing	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Municipal	0	0	0	0	0	0
Steam Electric	0	0	0	0	0	0

Note: LCRA does not sell to Livestock or Mining WUGs.

4.3.2 Austin

Austin (Austin Water) currently has two major sources for its surface water. These sources include their run-of-river water rights and a contract with LCRA to receive firm water from any source under the LCRA water rights system. A minor source of water is reclaimed water from direct reuse. The Austin water rights contain separate authorizations for municipal and manufacturing uses and steam electric power generation. *Tables 4.18 and 4.19* contain comparisons of Austin's water supplies to its projected water demands and commitments for these main use types.

Table 4.18: Austin Municipal and Manufacturing Water Supply/Projected Demand and Commitment Comparison (ac-ft/yr)

Austin Municipal/Manufacturing Water	2020	2030	2040	2050	2060	2070
Municipal and Manufacturing Water Supply	329,571	329,571	329,571	329,571	329,571	329,571
Municipal and Manufacturing Projected Demands and Commitments	207,978	241,584	263,420	289,008	310,260	338,341
Water Surplus/Need	121,593	87,987	66,151	40,563	19,311	(8,770)

Note: The water supply is detailed in *Table 3.28*. The projected water demands and commitments are detailed in *Tables 2.19 and 3.29*. Note that it is anticipated that some current Austin wholesale customers will be transferring to new LCRA raw water contracts in the future. Austin will continue to treat and transport their potable water supplies.

Based on the information developed through the regional water plan analysis process, this table indicates that Austin has sufficient water to meet its municipal and manufacturing needs through the year 2060. By the year 2070, it is anticipated that Austin will have a deficit of approximately 9,000 ac-ft/yr.

Table 4.19: Austin Steam Electric Water Supply/Projected Demand Comparison (ac-ft/yr)

Austin Steam Electric Water	2020	2030	2040	2050	2060	2070
Travis County - Steam Electric Water Supply	20,296	20,296	20,296	20,296	20,296	20,296
Travis County - Steam Electric Projected Water Demands	10,253	10,253	10,253	10,253	10,253	10,253
Travis County Water Surplus/Need	10,043	10,043	10,043	10,043	10,043	10,043
Fayette County - Steam Electric Water Supply	7,412	7,412	7,412	7,412	7,412	7,412
Fayette County - Steam Electric Projected Water Demands	10,300	10,300	10,300	10,300	10,300	10,300
Fayette County Water Surplus/Need	(2,888)	(2,888)	(2,888)	(2,888)	(2,888)	(2,888)

Note: The water supply is detailed in *Table 3.28*. The Decker and Town Lake water supplies in *Table 3.28* are associated with the Travis County water demands. The FPP water supplies in *Table 3.28* are associated with the Fayette County water demands. The projected water demands are detailed in *Tables 2.20* and *3.29*.

This table indicates that by the year 2020, it is anticipated that Austin will have approximately a 2,900 ac-ft/yr deficit in the steam-electric category of use in Fayette County. A summary Austin's needs by categories of use is shown in *Table 4.20*.

Table 4.20: Austin Needs by Category of Use (ac-ft/yr)

Austin Customers	2020	2030	2040	2050	2060	2070
Livestock	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Municipal	0	0	0	0	0	(8,770)
Steam Electric	(2,888)	(2,888)	(2,888)	(2,888)	(2,888)	(2,888)

Note: Austin does not sell to Livestock, Irrigation, or Mining WUGs.

4.3.3 West Travis County Public Utility Agency

WTCPUA obtains its water by contract from the LCRA Highland Lakes System. A minor source of water is reclaimed water from direct reuse. *Table 4.21* compares WTCPUA's municipal water supplies to its projected water demands and commitments. The water supplies and commitments shown include wholesale customers that have contracts for water from LCRA, but that WTCPUA treats and transports to the customer.

Table 4.21: WTCPUA Municipal Water Supply/Projected Demand and Commitment Comparison (ac-ft/yr)

WTCPUA Water Supply	2020	2030	2040	2050	2060	2070
Municipal Water Supply	18,679	18,679	18,679	18,679	18,679	18,679
Municipal Projected Demand and Commitments	20,335	22,085	23,336	25,673	27,687	29,645
Water Surplus/Need	(1,656)	(3,406)	(4,657)	(6,994)	(9,008)	(10,966)

Note: The water supply is detailed in *Table 3.30*. The projected water demands are detailed in *Tables 2.22* and *3.31*.

The table shows that by 2020, WTCPUA will have a deficit of almost 1,700 ac-ft/yr, and by 2070, the deficit will be approximately 11,000 ac-ft/yr. A summary WTCPUA’s needs by categories of use is shown in *Table 4.22*.

Table 4.22: WTCPUA Needs by Category of Use (ac-ft/yr)

WTCPUA Customers	2020	2030	2040	2050	2060	2070
Livestock	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Municipal	(1,656)	(3,406)	(4,657)	(6,994)	(9,008)	(10,966)
Steam Electric	0	0	0	0	0	0

Note: WTCPUA does not sell to Livestock, Manufacturing, Mining, or Steam Electric WUGs.

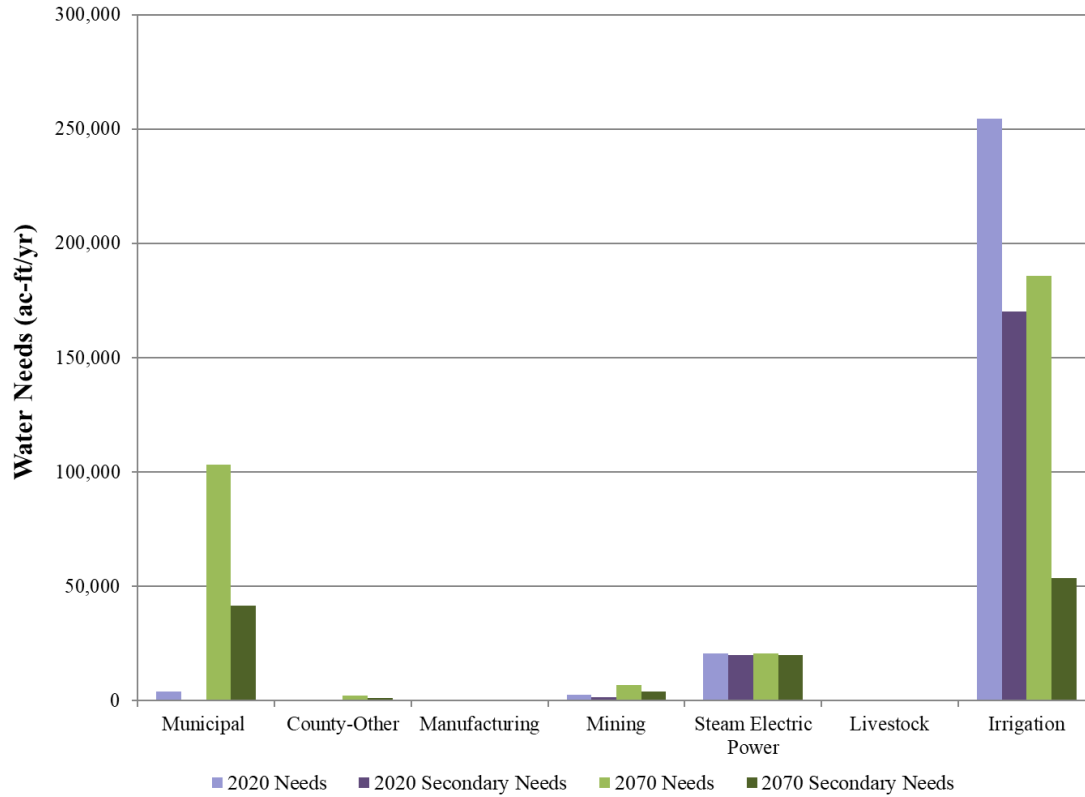
4.4 SECOND-TIER WATER NEEDS

Water management strategies (WMSs) to meet projected shortages are discussed in *Chapter 5*. Once demand reduction (such as conservation and drought management) and direct reuse WMSs are identified, a second-tier water needs analysis determines any water needs that would remain for each entity if all recommended conservation and direct reuse strategies were fully implemented. This second-tier needs analysis provides additional information that RWPGs may consider when subsequently identifying and recommending additional infrastructure water supply projects.

4.4.1 Secondary Water Needs for Water User Groups

The resulting DB22 reports of the second-tier needs analysis presents secondary water needs for water user groups (WUGs) in *Appendix 4B*. The implementation of conservation and direct reuse greatly reduces the region’s need within municipal and irrigation WUGs. By the 2070 decade, demand reduction and reuse will have reduced the Lower Colorado Region’s need by almost 200,000 ac-ft. *Figure 4.3* compares identified needs in 2020 and 2070 to secondary needs in the LCRWPA

Figure 4.3: 2020/2070 Identified Needs Compared to Secondary Needs in the LCRWPA



4.4.2 Secondary Water Needs for Major Water Providers

By the 2070 decade, demand reduction and reuse will have reduced MWP need by about 180,000 ac-ft/yr. After irrigation drought management, indirect reuse, and conservation strategies for Colorado, Matagorda, and Wharton Counties are applied, LCRA remaining secondary needs are shown in *Table 4.23*.

After municipal conservation, drought management, and multiple reuse projects are applied to Austin, there are no remaining municipal needs. There are, however, still 2,888 ac-ft/yr of remaining steam electric needs in every decade.

After municipal conservation, drought management, direct potable reuse, and direct non-potable reuse are applied to West Travis County PUA, there are no remaining needs.

Table 4.23: LCRA Secondary Water Needs by Category of Use (ac-ft/yr)

LCRA Customers	2020	2030	2040	2050	2060	2070
Livestock	0	0	0	0	0	0
Irrigation	(183,936)	(158,569)	(132,549)	(109,065)	(88,114)	(67,408)
Manufacturing	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Municipal	0	0	0	0	0	0
Steam Electric	0	0	0	0	0	0

Note: LCRA does not sell to Livestock or Mining WUGs.

2021 LCRWPG WATER PLAN

APPENDIX 4A
DB22 WUG NEEDS/SURPLUS REPORT

Region K Water User Group (WUG) Needs/Surplus

WUG supplies and projected demands are entered for each of a WUG’s region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split’s projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

	(NEEDS)/SURPLUS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
BASTROP COUNTY - BRAZOS BASIN						
AQUA WSC*	0	0	0	0	0	0
LEE COUNTY WSC*	132	141	164	197	234	274
COUNTY-OTHER	12	11	10	7	4	0
MINING	277	41	0	90	5	0
LIVESTOCK	24	24	24	24	24	24
IRRIGATION	7	5	4	2	0	0
BASTROP COUNTY - COLORADO BASIN						
AQUA WSC*	(224)	(2,788)	(5,698)	(9,228)	(16,703)	(26,087)
BASTROP	712	49	(832)	(2,045)	(3,700)	(5,902)
BASTROP COUNTY WCID 2	759	636	416	141	(442)	(1,178)
CREEDMOOR-MAHA WSC*	143	142	142	142	141	141
ELGIN	0	0	0	(534)	(1,545)	(2,853)
LEE COUNTY WSC*	177	194	224	268	318	372
POLONIA WSC*	52	48	46	44	42	38
SMITHVILLE	643	584	398	187	(503)	(1,348)
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	27	0	0	0	0	0
MINING	(449)	(3,947)	(4,557)	(3,220)	1,764	1,696
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	74	69	47	24	0	0
BASTROP COUNTY - GUADALUPE BASIN						
AQUA WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	(2)	(243)	(308)	(233)	44	24
LIVESTOCK	18	18	18	18	18	18
IRRIGATION	0	5	10	17	24	24
BLANCO COUNTY - COLORADO BASIN						
JOHNSON CITY	47	(11)	(43)	(60)	(73)	(80)
COUNTY-OTHER	263	186	151	141	138	143
MINING	0	0	0	0	0	0
LIVESTOCK	262	262	262	262	262	262
IRRIGATION	45	45	45	45	45	45
BLANCO COUNTY - GUADALUPE BASIN						
BLANCO	747	698	670	656	645	638
CANYON LAKE WATER SERVICE*	142	119	89	58	28	(2)
COUNTY-OTHER	242	184	157	150	148	151
LIVESTOCK	73	73	73	73	73	73
IRRIGATION	26	26	26	26	26	26
BURNET COUNTY - BRAZOS BASIN						
BERTRAM	(60)	(141)	(211)	(279)	(340)	(394)
BURNET	7	6	5	4	3	2
GEORGETOWN*	0	0	0	0	0	0

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Region K Water User Group (WUG) Needs/Surplus

KEMPNER WSC*	0	0	0	0	0	0
COUNTY-OTHER	350	212	214	79	(49)	(162)
MINING	576	345	104	(116)	(368)	(655)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	270	270	270	270	270	270
BURNET COUNTY - COLORADO BASIN						
BURNET	2,979	2,665	2,398	2,137	1,902	1,696
CORIX UTILITIES TEXAS INC*	172	149	130	111	94	78
COTTONWOOD SHORES	250	204	165	127	93	62
GRANITE SHOALS	252	184	129	65	(47)	(222)
HORSESHOE BAY	(67)	(286)	(471)	(647)	(804)	(940)
KINGSLAND WSC	35	26	19	12	6	0
MARBLE FALLS	2,326	1,280	(204)	(981)	(1,504)	(1,766)
MEADOWLAKES	(285)	(276)	(271)	(269)	(268)	(268)
COUNTY-OTHER	3,179	2,933	2,937	2,697	2,468	2,267
MANUFACTURING	261	213	213	213	213	213
MINING	(935)	(1,626)	(2,352)	(3,008)	(3,764)	(4,626)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	63	63	63	63	63	63
COLORADO COUNTY - BRAZOS-COLORADO BASIN						
EAGLE LAKE	17	16	16	11	6	0
COUNTY-OTHER	56	55	54	50	45	40
MANUFACTURING	2	0	0	0	0	0
MINING	10	8	7	5	3	2
LIVESTOCK	40	40	40	40	40	40
IRRIGATION	(21,169)	(19,805)	(18,477)	(17,186)	(15,929)	(14,706)
COLORADO COUNTY - COLORADO BASIN						
COLUMBUS	586	556	535	491	449	407
CORIX UTILITIES TEXAS INC*	(7)	(8)	(8)	(10)	(11)	(13)
EAGLE LAKE	38	35	34	25	12	0
WEIMAR	24	21	18	12	6	0
COUNTY-OTHER	(92)	(98)	(100)	(128)	(161)	(195)
MANUFACTURING	9	0	0	0	0	0
MINING	307	259	207	158	108	57
STEAM ELECTRIC POWER	(228)	(228)	(228)	(228)	(228)	(228)
LIVESTOCK	385	385	385	385	385	385
IRRIGATION	(6,578)	(5,654)	(4,755)	(3,880)	(3,029)	(2,201)
COLORADO COUNTY - LAVACA BASIN						
WEIMAR	49	41	36	24	12	0
COUNTY-OTHER	172	169	168	159	148	137
MANUFACTURING	161	0	0	0	0	0
MINING	14	11	9	6	3	0
STEAM ELECTRIC POWER	(4,743)	(4,743)	(4,743)	(4,743)	(4,743)	(4,743)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(26,571)	(24,202)	(21,898)	(19,654)	(17,471)	(15,347)
FAYETTE COUNTY - COLORADO BASIN						
AQUA WSC*	0	0	0	0	0	0
FAYETTE COUNTY WCID MONUMENT HILL	51	43	30	18	8	0
FAYETTE WSC	290	221	175	135	101	73
LA GRANGE	337	231	162	100	46	2

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Region K Water User Group (WUG) Needs/Surplus

LEE COUNTY WSC*	441	420	401	385	361	329
WEST END WSC*	0	0	0	0	0	0
COUNTY-OTHER	(69)	(156)	(204)	(247)	(284)	(311)
MANUFACTURING	1	0	0	0	0	0
MINING	(760)	(360)	99	543	995	1,002
STEAM ELECTRIC POWER	(4,299)	(4,299)	(4,299)	(4,299)	(4,299)	(4,299)
LIVESTOCK	185	185	185	185	185	185
IRRIGATION	90	90	90	90	90	90
FAYETTE COUNTY - GUADALUPE BASIN						
FAYETTE WSC	110	106	103	100	98	96
FLATONIA	24	16	11	7	3	0
COUNTY-OTHER	75	70	67	65	62	61
MINING	33	58	86	113	141	142
LIVESTOCK	64	64	64	64	64	64
IRRIGATION	26	26	26	26	26	26
FAYETTE COUNTY - LAVACA BASIN						
FAYETTE WSC	29	21	16	11	7	4
FLATONIA	105	73	52	33	17	5
SCHULENBURG	139	57	2	(45)	(86)	(118)
COUNTY-OTHER	(366)	(406)	(429)	(449)	(466)	(478)
MANUFACTURING	5	(40)	(40)	(40)	(40)	(40)
MINING	0	0	0	55	134	135
LIVESTOCK	7	7	7	7	7	7
IRRIGATION	78	78	78	78	78	78
GILLESPIE COUNTY - COLORADO BASIN						
FREDERICKSBURG	1,092	900	740	532	325	121
COUNTY-OTHER	647	577	518	424	320	215
MANUFACTURING	663	647	647	647	647	647
MINING	51	51	51	51	51	51
LIVESTOCK	383	383	383	383	383	383
IRRIGATION	119	119	119	119	119	119
GILLESPIE COUNTY - GUADALUPE BASIN						
COUNTY-OTHER	23	20	18	14	10	6
LIVESTOCK	17	17	17	17	17	17
HAYS COUNTY - COLORADO BASIN						
AUSTIN	0	0	0	0	0	0
BUDA*	1,411	582	(440)	(1,724)	(3,180)	(4,839)
CIMARRON PARK WATER	47	55	61	65	66	66
DEER CREEK RANCH WATER	99	96	92	90	87	84
DRIPPING SPRINGS WSC	727	(533)	(1,446)	(2,621)	(4,059)	(4,819)
GOFORTH SUD*	(60)	(113)	(168)	(232)	(308)	(393)
HAYS	0	(55)	(114)	(168)	(255)	(353)
HAYS COUNTY WCID 1	0	0	0	0	(80)	(80)
HAYS COUNTY WCID 2	295	224	136	52	(4)	(160)
WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY	128	(963)	(1,646)	(3,084)	(4,524)	(5,966)
COUNTY-OTHER*	966	1,279	764	388	72	(801)
MANUFACTURING*	191	144	144	144	144	144
MINING	(531)	(761)	(1,047)	(1,131)	(1,340)	(1,579)
STEAM ELECTRIC POWER	511	511	511	511	511	511
LIVESTOCK*	903	903	903	903	903	903

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Region K Water User Group (WUG) Needs/Surplus

IRRIGATION*	257	257	257	257	257	257
LLANO COUNTY - COLORADO BASIN						
CORIX UTILITIES TEXAS INC*	75	78	79	78	77	75
HORSESHOE BAY	65	0	69	44	78	130
KINGSLAND WSC	221	107	124	177	94	6
LLANO	(591)	(620)	(606)	(584)	(612)	(642)
SUNRISE BEACH VILLAGE	186	189	191	192	192	192
COUNTY-OTHER	2,682	2,740	2,727	2,725	2,742	2,755
MANUFACTURING	1	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	171	171	171	171	171	171
IRRIGATION	916	916	916	916	916	916
MATAGORDA COUNTY - BRAZOS-COLORADO BASIN						
BAY CITY	(4)	(57)	(73)	(119)	(162)	(198)
CANEY CREEK MUD OF MATAGORDA COUNTY	974	971	971	968	965	962
CORIX UTILITIES TEXAS INC*	64	64	64	64	64	64
MATAGORDA COUNTY WCID 6	3	3	4	3	1	0
MATAGORDA WASTE DISPOSAL & WSC	4	3	3	2	1	0
COUNTY-OTHER	95	93	96	94	88	83
MINING	3	0	14	26	37	44
LIVESTOCK	134	134	134	134	134	134
IRRIGATION	(61,932)	(59,441)	(57,018)	(54,659)	(52,364)	(50,131)
MATAGORDA COUNTY - COLORADO BASIN						
BAY CITY	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC*	13	13	13	13	13	13
MATAGORDA WASTE DISPOSAL & WSC	254	252	251	250	249	248
COUNTY-OTHER	79	78	79	78	77	76
MANUFACTURING	14,332	13,615	13,615	13,615	13,615	13,615
MINING	0	0	2	3	5	6
STEAM ELECTRIC POWER	(11,276)	(11,276)	(11,276)	(11,276)	(11,276)	(11,276)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(510)	(463)	(418)	(375)	(332)	(291)
MATAGORDA COUNTY - COLORADO-LAVACA BASIN						
MARKHAM MUD	19	20	20	20	18	17
PALACIOS	449	441	440	435	426	419
COUNTY-OTHER	82	81	83	82	75	69
MINING	1	0	9	16	23	28
LIVESTOCK	8	8	8	8	8	8
IRRIGATION	(60,780)	(58,164)	(55,617)	(53,139)	(50,728)	(48,381)
MILLS COUNTY - BRAZOS BASIN						
GOLDTHWAITE	2	2	1	1	1	0
COUNTY-OTHER	13	14	15	11	6	0
MINING	0	0	0	0	0	0
LIVESTOCK	28	28	28	28	28	28
IRRIGATION	(1,737)	(1,737)	(1,737)	(1,737)	(1,737)	(1,737)
MILLS COUNTY - COLORADO BASIN						
BROOKSMITH SUD*	0	0	0	0	(1)	(1)
CORIX UTILITIES TEXAS INC*	1	1	1	1	1	0
GOLDTHWAITE	31	28	26	14	(1)	(18)

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Region K Water User Group (WUG) Needs/Surplus

ZEPHYR WSC*	0	0	0	0	0	0
COUNTY-OTHER	130	131	133	127	120	111
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	40	40	40	40	40	40
IRRIGATION	623	623	623	623	623	623
SAN SABA COUNTY - COLORADO BASIN						
CORIX UTILITIES TEXAS INC*	0	0	0	0	0	0
NORTH SAN SABA WSC	10	4	5	8	4	0
RICHLAND SUD*	76	69	71	72	71	67
SAN SABA	71	30	34	60	33	5
COUNTY-OTHER	26	24	27	31	27	22
MANUFACTURING	2	0	0	0	0	0
MINING	451	446	595	639	675	701
LIVESTOCK	439	439	439	439	439	439
IRRIGATION	23	23	23	23	23	23
TRAVIS COUNTY - COLORADO BASIN						
AQUA WSC*	0	0	0	0	0	0
AUSTIN	121,593	87,987	66,151	40,563	19,311	(8,770)
BARTON CREEK WEST WSC	4	7	10	12	13	13
BARTON CREEK WSC	(217)	(312)	(402)	(469)	(523)	(586)
BRIARCLIFF	100	60	20	(25)	(66)	(104)
CEDAR PARK*	(613)	(813)	(732)	(662)	(660)	(659)
COTTONWOOD CREEK MUD 1	0	0	0	0	0	0
CREEDMOOR-MAHA WSC*	555	473	(448)	(552)	(656)	(757)
CYPRESS RANCH WCID 1	102	89	79	70	59	60
DEER CREEK RANCH WATER	82	76	70	66	62	57
ELGIN	0	0	0	0	0	0
GARFIELD WSC	61	30	1	(21)	(41)	(63)
HORNSBY BEND UTILITY	350	266	183	121	65	0
HURST CREEK MUD	(12)	(3)	3	6	7	7
JONESTOWN WSC	75	41	6	(37)	(78)	(116)
KELLY LANE WCID 1	66	71	75	76	77	77
LAGO VISTA	1,998	1,682	1,379	1,034	726	438
LAKEWAY MUD	312	187	50	(97)	(143)	(142)
LEANDER*	(317)	(1,866)	(2,009)	(2,684)	(2,967)	(3,281)
LOOP 360 WSC	25	(18)	(68)	(113)	(157)	(236)
MANOR	2,210	1,903	325	219	310	10
MANVILLE WSC*	2,033	1,608	1,135	577	(476)	(1,696)
NORTH AUSTIN MUD 1	0	0	(76)	(75)	(75)	(75)
NORTHTOWN MUD	0	0	(947)	(1,066)	(1,171)	(1,268)
OAK SHORES WATER SYSTEM	135	114	115	116	116	116
PFLUGERVILLE*	1,641	(790)	(3,589)	(6,376)	(9,203)	(9,220)
ROLLINGWOOD	737	741	(375)	(374)	(375)	(377)
ROUGH HOLLOW IN TRAVIS COUNTY	1,206	582	582	582	582	582
ROUND ROCK*	0	0	0	0	0	0
SENNA HILLS MUD	(16)	(89)	(160)	(212)	(255)	(304)
SHADY HOLLOW MUD	0	0	0	0	0	0
SUNSET VALLEY	388	339	(443)	(519)	(609)	(713)
SWEETWATER COMMUNITY	1,106	652	652	652	652	652

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Region K Water User Group (WUG) Needs/Surplus

TRAVIS COUNTY MUD 10	22	9	(3)	(12)	(19)	(28)
TRAVIS COUNTY MUD 14	52	28	4	(14)	(30)	(49)
TRAVIS COUNTY MUD 2	218	168	119	83	51	15
TRAVIS COUNTY MUD 4	2,060	1,834	1,619	1,377	1,163	962
TRAVIS COUNTY WCID 10	(139)	(442)	(4,094)	(4,433)	(4,739)	(5,026)
TRAVIS COUNTY WCID 17	635	(48)	(1,011)	(1,181)	(1,474)	(1,836)
TRAVIS COUNTY WCID 18	330	193	59	(99)	(243)	(379)
TRAVIS COUNTY WCID 19	0	0	0	0	0	0
TRAVIS COUNTY WCID 20	551	554	556	558	558	558
TRAVIS COUNTY WCID POINT VENTURE	30	(37)	(93)	(171)	(260)	(339)
WELLS BRANCH MUD	0	0	(1,321)	(1,303)	(1,298)	(1,297)
WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY	(1,784)	(2,443)	(3,011)	(3,910)	(4,484)	(5,000)
WILLIAMSON COUNTY WSID 3*	20	18	13	9	4	0
WILLIAMSON TRAVIS COUNTIES MUD 1*	56	60	62	63	63	64
WINDERMERE UTILITY	689	745	(1,462)	(1,446)	(1,441)	(1,440)
COUNTY-OTHER AQUA TEXAS - RIVERCREST	150	152	154	155	155	155
COUNTY-OTHER	10,572	10,567	10,556	10,550	10,547	10,539
MANUFACTURING	0	0	286	742	742	742
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	4,140	4,140	4,140	4,140	4,140	4,140
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	908	908	908	908	908	908
TRAVIS COUNTY - GUADALUPE BASIN						
CREEDMOOR-MAHA WSC*	21	18	14	9	4	0
GOFORTH SUD*	(4)	(6)	(10)	(15)	(20)	(26)
COUNTY-OTHER	101	101	102	102	102	102
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
WHARTON COUNTY - BRAZOS-COLORADO BASIN						
BOLING MWD	51	49	47	44	41	37
WHARTON	188	130	86	31	(30)	(87)
WHARTON COUNTY WCID 2	762	744	730	715	698	683
COUNTY-OTHER*	28	4	(17)	(61)	(100)	(139)
MANUFACTURING*	6	0	0	0	0	0
MINING*	2	0	11	18	27	31
STEAM ELECTRIC POWER*	0	0	0	0	0	0
LIVESTOCK*	47	47	47	47	47	47
IRRIGATION*	(51,578)	(48,719)	(45,936)	(43,227)	(40,592)	(38,028)
WHARTON COUNTY - COLORADO BASIN						
EL CAMPO*	1	1	1	0	0	0
WHARTON	0	0	0	0	0	0
COUNTY-OTHER*	70	58	46	24	3	(16)
MANUFACTURING*	9	0	0	0	0	0
MINING*	1	0	7	12	17	21
STEAM ELECTRIC POWER*	0	0	0	0	0	0
LIVESTOCK*	20	20	20	20	20	20
IRRIGATION*	(23,509)	(21,737)	(20,013)	(18,336)	(16,704)	(15,116)
WHARTON COUNTY - COLORADO-LAVACA BASIN						
COUNTY-OTHER*	42	38	34	27	20	14
MINING*	0	0	1	3	4	5

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Region K Water User Group (WUG) Needs/Surplus

LIVESTOCK*	94	94	94	94	94	94
IRRIGATION*	0	456	899	1,330	1,750	2,159
WHARTON COUNTY - LAVACA BASIN						
COUNTY-OTHER*	213	212	212	211	210	210
WILLIAMSON COUNTY - BRAZOS BASIN						
AUSTIN	0	0	0	0	0	0
NORTH AUSTIN MUD 1	0	0	(726)	(714)	(711)	(711)
WELLS BRANCH MUD	0	0	(76)	(75)	(74)	(74)
COUNTY-OTHER*	26	0	4	8	12	16
MANUFACTURING*	5	0	0	0	0	0
MINING*	0	2	2	2	2	2

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APPENDIX 4B

*DB22 WUG SECOND-TIER IDENTIFIED WATER NEEDS AND
SUMMARY REPORT*

Region K Water User Group (WUG) Second-Tier Identified Water Needs

Second-tier needs are WUG split needs adjusted to include the implementation of recommended demand reduction and direct reuse water management strategies.

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
BASTROP COUNTY - BRAZOS BASIN						
AQUA WSC*	0	0	0	0	0	0
LEE COUNTY WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
BASTROP COUNTY - COLORADO BASIN						
AQUA WSC*	0	254	2,506	5,218	11,415	19,062
BASTROP	0	0	0	638	1,813	3,376
BASTROP COUNTY WCID 2	0	0	0	0	255	924
CREEDMOOR-MAHA WSC*	0	0	0	0	0	0
ELGIN	0	0	0	0	804	1,874
LEE COUNTY WSC*	0	0	0	0	0	0
POLONIA WSC*	0	0	0	0	0	0
SMITHVILLE	0	0	0	0	0	645
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	449	3,947	4,557	3,220	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
BASTROP COUNTY - GUADALUPE BASIN						
AQUA WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
BLANCO COUNTY - COLORADO BASIN						
JOHNSON CITY	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
BLANCO COUNTY - GUADALUPE BASIN						
BLANCO	0	0	0	0	0	0
CANYON LAKE WATER SERVICE*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
BURNET COUNTY - BRAZOS BASIN						
BERTRAM	0	0	0	0	8	36
BURNET	0	0	0	0	0	0
GEORGETOWN*	0	0	0	0	0	0
KEMPNER WSC*	0	0	0	0	0	0

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Region K Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
BURNET COUNTY - BRAZOS BASIN						
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	116	368	655
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
BURNET COUNTY - COLORADO BASIN						
BURNET	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC*	0	0	0	0	0	0
COTTONWOOD SHORES	0	0	0	0	0	0
GRANITE SHOALS	0	0	0	0	3	169
HORSESHOE BAY	0	0	0	0	0	0
KINGSLAND WSC	0	0	0	0	0	0
MARBLE FALLS	0	0	0	0	0	0
MEADOWLAKES	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	326	1,052	1,708	2,464	2,826
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
COLORADO COUNTY - BRAZOS-COLORADO BASIN						
EAGLE LAKE	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	11,896	9,061	6,115	3,554	1,371	0
COLORADO COUNTY - COLORADO BASIN						
COLUMBUS	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC*	0	0	0	1	2	3
EAGLE LAKE	0	0	0	0	0	0
WEIMAR	0	0	0	0	0	0
COUNTY-OTHER	0	8	29	67	100	133
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	228	228	228	228	228	228
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	3,697	2,315	912	0	0	0
COLORADO COUNTY - LAVACA BASIN						
WEIMAR	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	4,743	4,743	4,743	4,743	4,743	4,743
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	14,932	10,716	6,381	2,542	0	0
FAYETTE COUNTY - COLORADO BASIN						
AQUA WSC*	0	0	0	0	0	0
FAYETTE COUNTY WCID MONUMENT HILL	0	0	0	0	0	0

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Region K Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
FAYETTE COUNTY - COLORADO BASIN						
FAYETTE WSC	0	0	0	0	0	0
LA GRANGE	0	0	0	0	0	0
LEE COUNTY WSC*	0	0	0	0	0	0
WEST END WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	40	98	145	180	204
MANUFACTURING	0	0	0	0	0	0
MINING	760	360	0	0	0	0
STEAM ELECTRIC POWER	3,819	3,739	3,659	3,579	3,579	3,579
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
FAYETTE COUNTY - GUADALUPE BASIN						
FAYETTE WSC	0	0	0	0	0	0
FLATONIA	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
FAYETTE COUNTY - LAVACA BASIN						
FAYETTE WSC	0	0	0	0	0	0
FLATONIA	0	0	0	0	0	0
SCHULENBURG	0	0	0	0	0	0
COUNTY-OTHER	308	352	380	401	417	428
MANUFACTURING	0	40	40	40	40	40
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
GILLESPIE COUNTY - COLORADO BASIN						
FREDERICKSBURG	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
GILLESPIE COUNTY - GUADALUPE BASIN						
COUNTY-OTHER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
HAYS COUNTY - COLORADO BASIN						
AUSTIN	0	0	0	0	0	0
BUDA*	0	0	0	0	0	0
CIMARRON PARK WATER	0	0	0	0	0	0
DEER CREEK RANCH WATER	0	0	0	0	0	0
DRIPPING SPRINGS WSC	0	0	0	141	1,137	1,631
GOFORTH SUD*	46	103	156	216	288	366
HAYS	0	8	55	98	168	246
HAYS COUNTY WCID 1	0	0	0	0	0	0
HAYS COUNTY WCID 2	0	0	0	0	0	0
WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY	0	0	0	0	0	0

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Region K Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
HAYS COUNTY - COLORADO BASIN						
COUNTY-OTHER*	0	0	0	0	0	558
MANUFACTURING*	0	0	0	0	0	0
MINING	531	561	447	531	540	579
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	0	0	0	0	0	0
LLANO COUNTY - COLORADO BASIN						
CORIX UTILITIES TEXAS INC*	0	0	0	0	0	0
HORSESHOE BAY	0	0	0	0	0	0
KINGSLAND WSC	0	0	0	0	0	0
LLANO	176	0	0	0	0	0
SUNRISE BEACH VILLAGE	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
MATAGORDA COUNTY - BRAZOS-COLORADO BASIN						
BAY CITY	0	0	0	0	0	0
CANEY CREEK MUD OF MATAGORDA COUNTY	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC*	0	0	0	0	0	0
MATAGORDA COUNTY WCID 6	0	0	0	0	0	0
MATAGORDA WASTE DISPOSAL & WSC	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	51,009	45,863	40,665	35,809	31,295	26,839
MATAGORDA COUNTY - COLORADO BASIN						
BAY CITY	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC*	0	0	0	0	0	0
MATAGORDA WASTE DISPOSAL & WSC	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	11,276	11,276	11,276	11,276	11,276	11,276
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	420	351	284	220	158	98
MATAGORDA COUNTY - COLORADO-LAVACA BASIN						
MARKHAM MUD	0	0	0	0	0	0
PALACIOS	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	50,059	44,838	39,569	34,640	30,052	25,522
MILLS COUNTY - BRAZOS BASIN						
GOLDTHWAITE	0	0	0	0	0	0

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Region K Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MILLS COUNTY - BRAZOS BASIN						
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	1,129	1,133	1,137	1,141	1,144	1,148
MILLS COUNTY - COLORADO BASIN						
BROOKSMITH SUD*	0	0	0	0	0	0
CORIX UTILITIES TEXAS INC*	0	0	0	0	0	0
GOLDTHWAITE	0	0	0	0	0	0
ZEPHYR WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
SAN SABA COUNTY - COLORADO BASIN						
CORIX UTILITIES TEXAS INC*	0	0	0	0	0	0
NORTH SAN SABA WSC	0	0	0	0	0	0
RICHLAND SUD*	0	0	0	0	0	0
SAN SABA	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
TRAVIS COUNTY - COLORADO BASIN						
AQUA WSC*	0	0	0	0	0	0
AUSTIN	0	0	0	0	0	0
BARTON CREEK WEST WSC	0	0	0	0	0	0
BARTON CREEK WSC	51	75	88	81	68	56
BRIARCLIFF	0	0	0	0	0	0
CEDAR PARK*	0	0	0	0	0	0
COTTONWOOD CREEK MUD 1	0	0	0	0	0	0
CREEDMOOR-MAHA WSC*	0	0	360	430	524	615
CYPRESS RANCH WCID 1	0	0	0	0	0	0
DEER CREEK RANCH WATER	0	0	0	0	0	0
ELGIN	0	0	0	0	0	0
GARFIELD WSC	0	0	0	7	26	47
HORNSBY BEND UTILITY	0	0	0	0	0	0
HURST CREEK MUD	0	0	0	0	0	0
JONESTOWN WSC	0	0	0	0	0	0
KELLY LANE WCID 1	0	0	0	0	0	0
LAGO VISTA	0	0	0	0	0	0
LAKEWAY MUD	0	0	0	0	0	0
LEANDER*	0	1,272	1,393	2,039	2,308	2,595
LOOP 360 WSC	0	0	0	0	0	0
MANOR	0	0	0	0	0	0
MANVILLE WSC*	0	0	0	0	0	703

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Region K Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRAVIS COUNTY - COLORADO BASIN						
NORTH AUSTIN MUD 1	0	0	72	71	71	71
NORTHTOWN MUD	0	0	900	1,013	1,112	1,205
OAK SHORES WATER SYSTEM	0	0	0	0	0	0
PFLUGERVILLE*	0	0	0	490	2,458	2,385
ROLLINGWOOD	0	0	228	206	186	183
ROUGH HOLLOW IN TRAVIS COUNTY	0	0	0	0	0	0
ROUND ROCK*	0	0	0	0	0	0
SENNA HILLS MUD	0	0	0	0	0	0
SHADY HOLLOW MUD	0	0	0	0	0	0
SUNSET VALLEY	0	0	248	261	274	288
SWEETWATER COMMUNITY	0	0	0	0	0	0
TRAVIS COUNTY MUD 10	0	0	0	0	0	0
TRAVIS COUNTY MUD 14	0	0	0	2	17	35
TRAVIS COUNTY MUD 2	0	0	0	0	0	0
TRAVIS COUNTY MUD 4	0	0	0	0	0	0
TRAVIS COUNTY WCID 10	0	0	2,297	2,245	2,161	2,063
TRAVIS COUNTY WCID 17	0	0	0	0	0	0
TRAVIS COUNTY WCID 18	0	0	0	0	0	0
TRAVIS COUNTY WCID 19	0	0	0	0	0	0
TRAVIS COUNTY WCID 20	0	0	0	0	0	0
TRAVIS COUNTY WCID POINT VENTURE	0	0	0	0	0	41
WELLS BRANCH MUD	0	0	1,255	1,238	1,233	1,232
WEST TRAVIS COUNTY PUBLIC UTILITY AGENCY	0	0	0	0	0	0
WILLIAMSON COUNTY WSID 3*	0	0	0	0	0	0
WILLIAMSON TRAVIS COUNTIES MUD 1*	0	0	0	0	0	0
WINDERMERE UTILITY	0	0	873	873	873	873
COUNTY-OTHER	0	0	0	0	0	0
COUNTY-OTHER AQUA TEXAS - RIVERCREST	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
TRAVIS COUNTY - GUADALUPE BASIN						
CREEDMOOR-MAHA WSC*	0	0	0	0	0	0
GOFORTH SUD*	4	5	9	14	19	24
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
WHARTON COUNTY - BRAZOS-COLORADO BASIN						
BOLING MWD	0	0	0	0	0	0
WHARTON	0	0	0	0	0	0
WHARTON COUNTY WCID 2	0	0	0	0	0	0
COUNTY-OTHER*	0	0	0	0	0	0
MANUFACTURING*	0	0	0	0	0	0
MINING*	0	0	0	0	0	0
STEAM ELECTRIC POWER*	0	0	0	0	0	0

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Region K Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
WHARTON COUNTY - BRAZOS-COLORADO BASIN						
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	25,508	19,079	12,489	6,522	1,178	0
WHARTON COUNTY - COLORADO BASIN						
EL CAMPO*	0	0	0	0	0	0
WHARTON	0	0	0	0	0	0
COUNTY-OTHER*	0	0	0	0	0	0
MANUFACTURING*	0	0	0	0	0	0
MINING*	0	0	0	0	0	0
STEAM ELECTRIC POWER*	0	0	0	0	0	0
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	11,627	8,227	4,769	1,605	0	0
WHARTON COUNTY - COLORADO-LAVACA BASIN						
COUNTY-OTHER*	0	0	0	0	0	0
MINING*	0	0	0	0	0	0
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	0	0	0	0	0	0
WHARTON COUNTY - LAVACA BASIN						
COUNTY-OTHER*	0	0	0	0	0	0
WILLIAMSON COUNTY - BRAZOS BASIN						
AUSTIN	0	0	0	0	0	0
NORTH AUSTIN MUD 1	0	0	690	678	675	675
WELLS BRANCH MUD	0	0	72	71	70	70
COUNTY-OTHER*	0	0	0	0	0	0
MANUFACTURING*	0	0	0	0	0	0
MINING*	0	0	0	0	0	0

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Region K Water User Group (WUG) Second-Tier Identified Water Needs Summary

Second-tier needs are WUG split needs adjusted to include the implementation of recommended demand reduction and direct reuse water management strategies.

WUG CATEGORY	NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MUNICIPAL	277	1,717	11,202	16,031	27,968	41,493
COUNTY-OTHER	308	400	507	613	697	1,323
MANUFACTURING	0	40	40	40	40	40
MINING	1,740	5,194	6,056	5,575	3,372	4,060
STEAM ELECTRIC POWER	20,066	19,986	19,906	19,826	19,826	19,826
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	170,277	141,583	112,321	86,033	65,198	53,607