



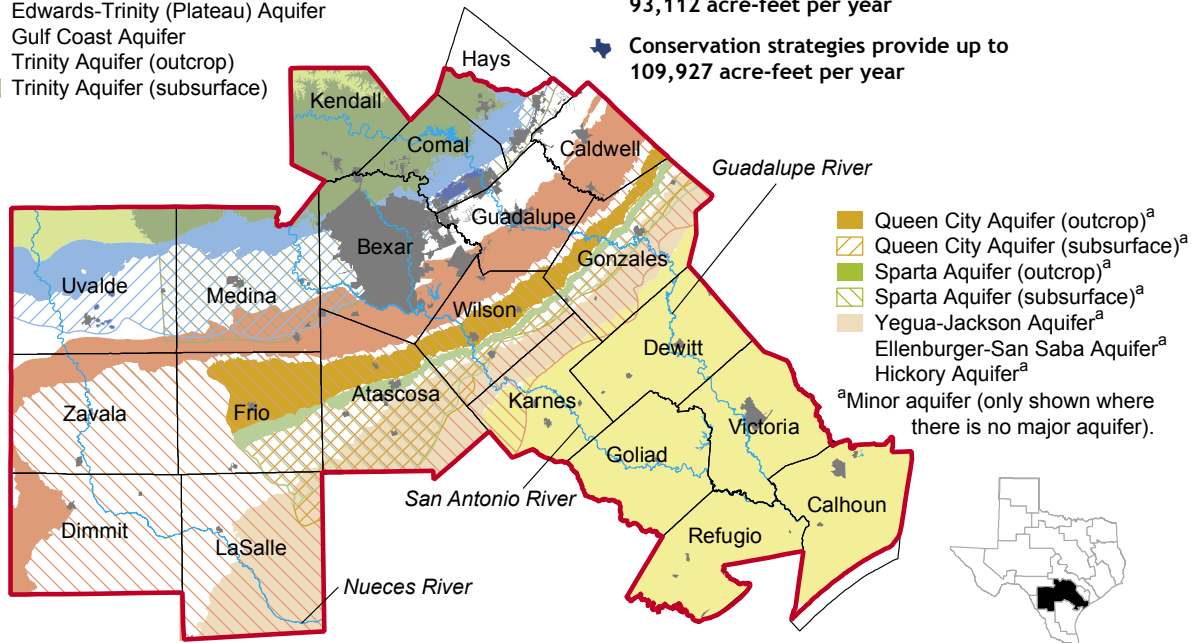
Summary of South Central Texas (L) Region

Reaching from the Gulf Coast to the Hill Country, the South Central Texas Regional Water Planning Area includes all or parts of 21 counties, portions of nine river and coastal basins, the Guadalupe Estuary, and San Antonio Bay (Figure L.1). The largest cities in the region are San Antonio, Victoria, San Marcos, and New Braunfels. The region's largest economic sectors are tourism, military, medical, service, manufacturing, and retail trade. The region contains the two largest springs in Texas: Comal and San Marcos. Water planning in the region is particularly complex because of the intricate relationships between the region's surface and groundwater resources. With limited local water resources, the region will rely on water supplies from outside the region to meet its future needs. The members of the South Central Texas Planning Group are listed on the last page of this summary.

Population and Water Demands

Almost 10 percent of the state's 2010 total population is projected to reside in Region L, and between 2010 and 2060 its population is projected to increase by 75 percent to 4,297,786 (Figure L.2). By 2060, the total water demands for the region are projected to increase 29 percent, from 985,237 acre-feet in 2010 to 1,273,003 acre-feet (Figure L.3). After 2020, municipal water use makes up the largest share of these demands in all decades and is projected to experience the greatest increase over the planning period, from 369,694 acre-feet in 2010 to 597,619 acre-feet in 2060, a 62 percent increase (Table L.1). Agricultural irrigation water demand will remain significant but is projected to decline 20 percent, from 379,026 acre-feet in 2010 to 301,679 acre-feet in 2060.

- Region L
- Major rivers
- Cities
- Existing reservoirs
- Carrizo-Wilcox Aquifer (outcrop)
- Carrizo-Wilcox Aquifer (subsurface)
- Edwards (Balcones Fault Zone) Aquifer (outcrop)
- Edwards (Balcones Fault Zone) Aquifer (subsurface)
- Edwards-Trinity (Plateau) Aquifer
- Gulf Coast Aquifer
- Trinity Aquifer (outcrop)
- Trinity Aquifer (subsurface)



PLAN HIGHLIGHTS

- Total capital cost \$5.2 billion
- Lower Colorado River Authority-San Antonio Water System strategy Project to provide up to 150,000 acre-feet per year of water from the Colorado River at a cost of \$2.1 billion
- Carrizo-Wilcox Aquifer strategies provide up to 117,809 acre-feet per year
- Edwards Aquifer strategies provide up to 93,112 acre-feet per year
- Conservation strategies provide up to 109,927 acre-feet per year

Figure L.1. South Central Texas Region.

Existing Water Supplies

The Edwards Aquifer is projected to provide approximately half of the region’s existing ground-water supply in 2010, with the Carrizo-Wilcox Aquifer providing another third of the ground-water supplies. There are five major aquifers supplying water to the region, including the Edwards (Balcones Fault Zone), Carrizo-Wilcox, Trinity, Gulf Coast, and Edwards-Trinity (Plateau). The two minor aquifers supplying water are the Sparta and Queen City aquifers. The region includes portions of six river basins and three coastal basins. The principal surface water sources in the region are the Guadalupe, San Antonio, and Nueces rivers. The region’s existing water supply is expected to decline slightly, from 1,049,769 acre-feet in 2010 to 1,018,410 acre-feet in 2060 as groundwater use is reduced in certain areas (Table L.2).

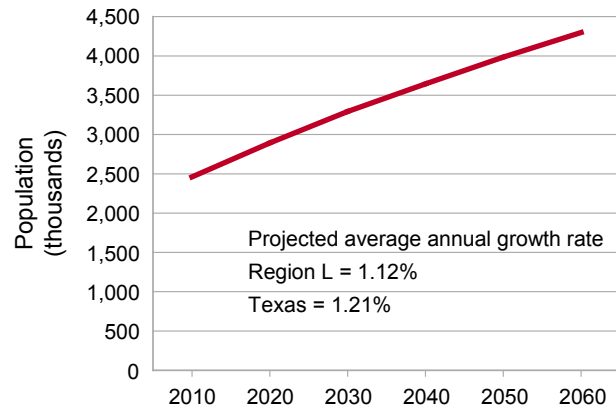


Figure L.2. Projected population for 2010-2060.

Needs

Because total water supplies are not accessible by all water users through out the region, in the event of drought, the South Central Texas Region faces water supply needs of up to 156,598 acre-feet as early as 2010 (Figure L.4, Table L.3). These 2010 water supply needs consist primarily of 89,547 acre-feet of municipal needs (57 percent) and 55,108 acre-feet of irrigated agriculture needs (35 percent). By the year 2060, the needs are significantly larger and are dominated to an even greater extent (72 percent) by municipal water users (300,327 acre-feet of needs). Total needs for all water users in 2060 are projected to be 416,859 acre-feet.

Recommended Water Management Strategies and Cost

The South Central Texas Planning Group recommended a variety of water management strategies to meet water supply needs (Figure L.5). Implementing all the water management strategies recommended in the Region L plan would result in 732,779 acre-feet of additional water supplies in 2060 at a **total capital cost of \$5,222,408,000** (Appendix 2.1). Because there were no economically feasible strategies identified to meet the need, **Zavala County has a projected unmet irrigation need (28,130 acre-feet in 2060).**

Table L.1. Projected water demands for 2010-2060

Category	2010 (acre-feet)	2060 (acre-feet)	Percent change in demand 2010-2060	Percent of overall demand in 2010	Percent change in relative share of overall demand, 2010-2060
Municipal	369,694	597,619	+62	+38	+9
County-other	26,302	39,616	+51	+3	0
Manufacturing	119,310	179,715	+51	+12	+2
Mining	14,524	18,644	+28	+1	0
Irrigation	379,026	301,679	-20	+38	-15
Steam-electric	50,427	109,776	+118	+5	+4
Livestock	25,954	25,954	0	+3	-1
Region	985,237	1,273,003	+29		

Figure L.3. Projected total water demand and existing water supplies for 2010-2060.

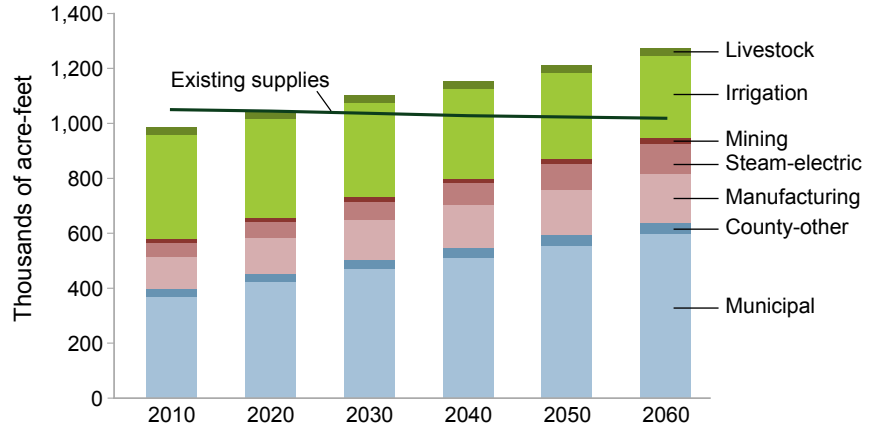
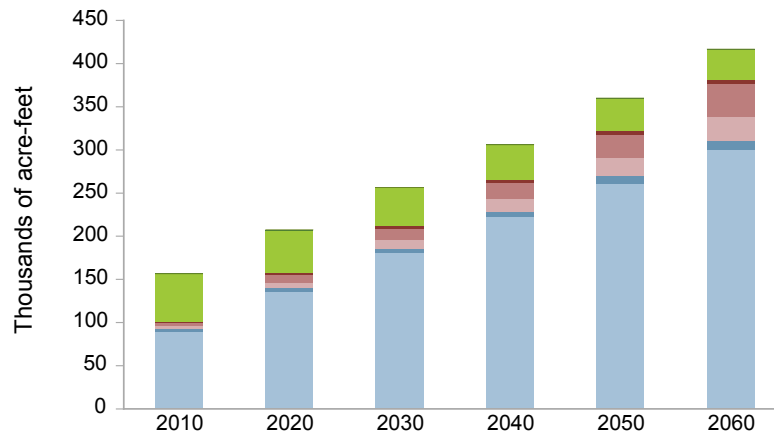


Figure L.4. Projected water needs for 2010-2060.



	2010	2020	2030	2040	2050	2060
Livestock	216	218	299	304	318	323
Irrigation	55,108	49,549	44,603	40,632	38,088	35,636
Mining	2,010	2,204	3,255	3,464	3,838	4,030
Steam-electric	3,225	8,798	12,526	17,943	26,830	38,153
Manufacturing	3,258	6,804	10,141	15,172	21,312	28,282
County-other	3,234	4,134	5,199	6,779	8,571	10,108
Municipal	89,547	135,631	180,410	221,883	261,098	300,327

Figure L.5. Recommended water management strategy water supply volumes for 2010-2060.

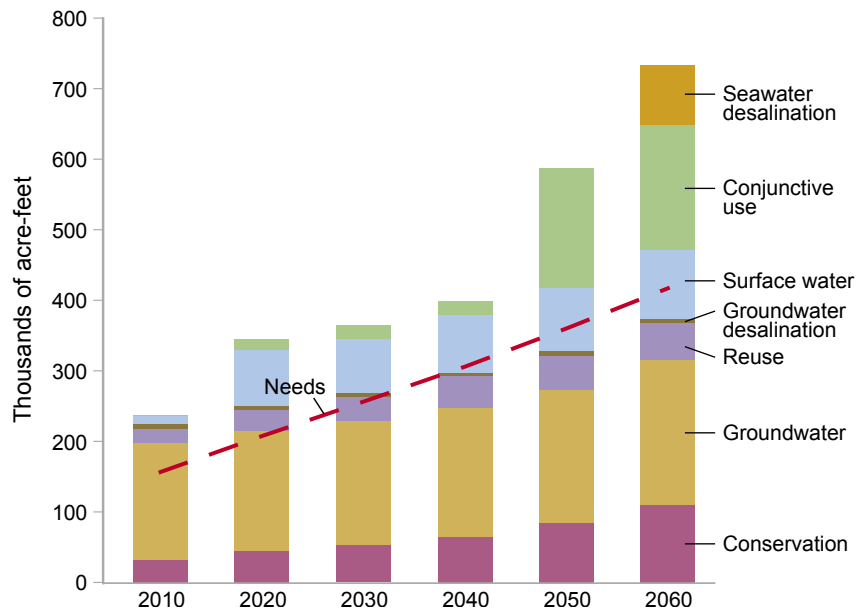


Table L.2. Existing water supplies for 2010 and 2060

Water supply source	2010 (acre-feet)	2060 (acre-feet)
Surface water		
Guadalupe River run-of-river	123,328	123,328
Canyon Lake	59,820	55,153
Calaveras Lake	36,900	36,900
Lake Texana	32,604	32,604
Guadalupe River combined run-of-river irrigation	18,184	18,184
Livestock local supply	13,230	13,150
Coleto Creek Lake	12,500	12,500
Victor Braunig Lake	12,000	12,000
Other surface water	25,414	25,414
Surface water subtotal	333,980	329,233
Groundwater		
Edwards (Balcones Fault Zone) Aquifer	343,799	343,799
Carrizo-Wilcox Aquifer	256,735	235,072
Gulf Coast Aquifer	58,926	55,580
Queen City Aquifer	12,742	11,111
Other groundwater	12,934	11,842
Groundwater subtotal	685,136	657,404
Reuse		
Direct reuse	30,653	31,773
Reuse subtotal	30,653	31,773
Region total	1,049,769	1,018,410

Note: Water supply sources are listed individually if 10,000 acre-feet per year or greater in 2010. Only includes supplies that are physically and legally available to users during a drought of record.

Conservation Recommendations

Conservation strategies account for 15 percent of the total amount of water that would be provided by the region’s recommended water management strategies. Water conservation was recommended in general for all municipal and nonmunicipal water user groups. In instances where the municipal water conservation goals could be achieved through anticipated use of low-flow plumbing fixtures, additional conservation measures were not recommended.

Ongoing Issues

A variety of concerns have been expressed over the final plan related to: exports of Carrizo-Wilcox Aquifer water from Gonzales and Wilson counties; the revised Lower Guadalupe Water Supply Project; potential temporary overdrafting of the Carrizo-Wilcox Aquifer; and over-reliance on the Edwards (Balcones Fault Zone) Aquifer.

Select Policy Recommendations

- Encourage all state water resource agencies to present a single position consistent with the state’s position in the state water plan during federal permitting process
- Increase equity in groundwater and surface water law to achieve a proper balance between the use of these resources, including incentives for conjunctive use projects
- Fund and complete state environmental flow studies
- Fund alternative water supply strategy demonstration projects, including desalination
- Ensure that groundwater conservation districts are adequately funded

Table L.3. Water needs (acre-feet per year) by county and type of use in years 2010 and 2060

County	Total		Municipal		County-other		Manufacturing		Steam-electric		Mining		Irrigation		Livestock	
	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060
Atascosa	2,942	7,278	981	3,326	-	-	-	-	-	-	-	-	1,961	-	-	-
Bexar	80,650	221,686	77,185	200,423	-	106	3,258	19,419	-	-	23	1,229	184	417	-	92
Caldwell	618	6,594	618	6,594	-	-	-	-	-	-	-	-	-	-	-	-
Calhoun	46	489	46	489	-	-	-	-	-	-	-	-	-	-	-	-
Comal	5,496	39,345	1,730	32,162	1,752	2,071	-	2,297	-	-	1,905	2,694	-	-	109	121
Dewitt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimmit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Frio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Goliad	-	4,842	-	-	-	-	-	-	-	4,842	-	-	-	-	-	-
Gonzales	-	184	-	184	-	-	-	-	-	-	-	-	-	-	-	-
Guadalupe	3,593	30,974	320	9,966	48	-	-	-	3,225	21,008	-	-	-	-	-	-
Hays	3,472	41,235	2,275	30,494	1,033	2,201	-	-	-	8,351	82	107	-	-	82	82
Karnes	187	417	187	417	-	-	-	-	-	-	-	-	-	-	-	-
Kendall	434	5,953	41	1,621	221	4,163	-	-	-	-	-	-	147	141	25	28
La Salle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medina	6,818	6,411	1,987	4,844	180	1,567	-	-	-	-	-	-	4,651	-	-	-
Refugio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uvalde	3,932	4,005	3,932	4,005	-	-	-	-	-	-	-	-	-	-	-	-
Victoria	-	6,566	-	-	-	-	-	6,566	-	-	-	-	-	-	-	-
Wilson	245	5,802	245	5,802	-	-	-	-	-	-	-	-	-	-	-	-
Zavala	48,165	35,078	-	-	-	-	-	-	-	-	-	-	-	48,165	35,078	-
Region	156,598	416,859	89,547	300,327	3,234	10,108	3,258	28,282	3,225	38,153	2,010	4,030	55,108	35,636	216	323

SELECT MAJOR WATER MANAGEMENT STRATEGIES

(Dollar amounts are rounded. See Appendix 2.1 for all recommended strategies and actual costs.)

- ✦ *Regional Carrizo for Bexar County Supply project would provide 56,188 acre-feet per year—Implementation by: 2010; Capital Cost: \$487 million.*
- ✦ *Expansion of Schertz Seguin Local Government Corporation's capacity to provide an additional 12,800 acre-feet per year—Implementation by: 2010; Capital Cost: \$27 million.*
- ✦ *Expansion of San Antonio Water System recycled water program would provide 36,258 acre-feet by 2060—Implementation by: 2010; Capital Cost: \$155 million.*
- ✦ *San Antonio Water System brackish Wilcox groundwater desalination project in Bexar county would provide 5,662 acre-feet per year with a peaking capacity of 20 million gallons per day—Implementation by: 2010; Capital Cost: \$93 million.*
- ✦ *Canyon Regional Water Authority Dunlap, Siesta, and Wells Ranch projects would provide 5,600, 5,042, and 3,400 acre-feet, respectively—Implementation by: 2010; Capital Costs: \$45, \$35, and \$22 million.*
- ✦ *Wimberley and Woodcreek project would provide 4,636 acre-feet per year—Implementation by: 2010; Capital Cost: \$37 million.*
- ✦ *Transfers of Edwards Aquifer water rights from irrigation to municipal and industrial use would provide 71,335 acre-feet per year—Implementation by: 2010; Capital Cost: \$0.*
- ✦ *Lower Guadalupe Water Supply Project would provide 63,072 acre-feet per year to the Guadalupe Blanco River Authority—Implementation by: 2020; Capital Cost: \$793 million.*
- ✦ *Edwards Aquifer recharge project would yield an estimated 21,577 acre-feet of additional water per year to multiple users—Implementation by: 2020; Capital Cost: \$367 million.*
- ✦ *Hays/Caldwell Carrizo Project would provide 15,000 acre-feet per year to a consortium of users—Implementation by: 2040; Capital Cost: \$98 million.*
- ✦ *Lower Colorado River Authority-San Antonio Water System project to provide 150,000 acre-feet per year—Implementation by: 2050; Capital Cost: \$2 billion.*
- ✦ *Seawater desalination project would provide 84,012 acre-feet per year to Bexar County—Implementation by: 2060; Capital Cost: \$891 million.*

South Central Texas Planning Group Members and Interests Represented

Voting members during adoption of 2006 Regional Water Plan:

Con Mims (Chair), river authorities; Evelyn Bonavita, public; Darrell Brownlow, small business; David E. Chardavoyne, municipalities; Richard Eppright, agriculture; Mike Fields, electric generating utilities; Susan Hughes, environmental; Bill Jones, agriculture; John Kight, counties; Mike Mahoney, water districts; Gary Middleton, municipalities; Mike Miller, industries; Doug Miller, small business; Jay Millikin, counties; Ron Naumann, water utilities; Pedro G. Nieto, municipalities; Robert J. Potts, water districts; Gloria Rivera, small business; Greg Rothe, river authorities; Milton Stolte, agriculture; Bill West, river authorities

Former voting members during 2001-2006 planning cycle:

Gene Habiger, municipalities; Greg Ellis, water districts