Summary of the 2016 South Central Texas (L) Regional Water Plan[1]

Texas' regional water plans

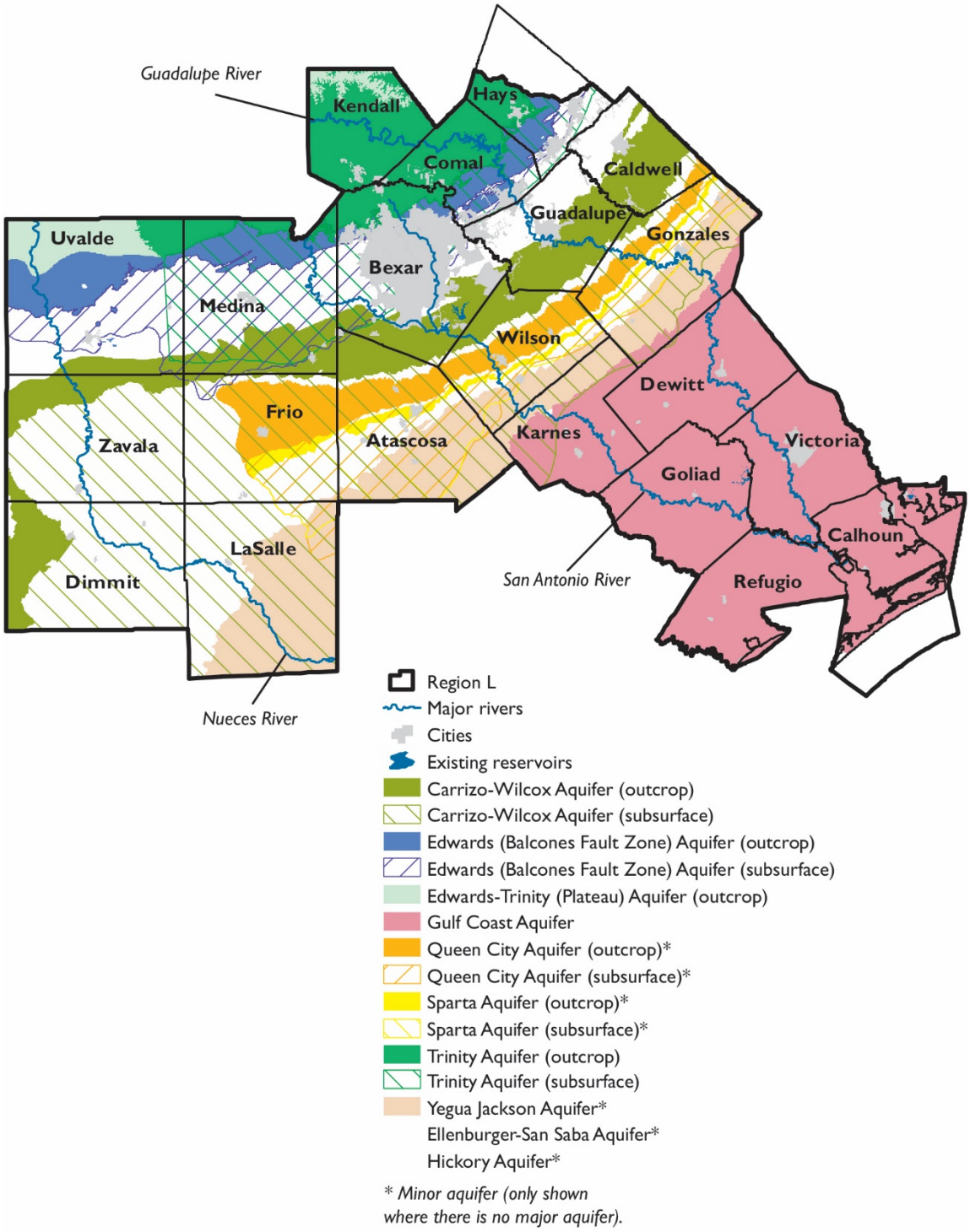
Regional water plans are funded by the Texas Legislature and developed every five years based on conditions that each region would face under a recurrence of a historical drought of record. The 16 regional water plans are developed by local representatives in a public, bottom-up process. The regional plans are reviewed and approved by the TWDB and become the basis for the state water plan. Regional and state water plans are developed to

- provide for the orderly development, management, and conservation of water resources,
- prepare for and respond to drought conditions, and
- make sufficient water available at a reasonable cost to ensure public health, safety, and welfare and further economic development while protecting the agricultural and natural resources of the entire state.

The South Central Texas (L) Regional Water Planning Area includes all or parts of 21 counties (Figure L.1). The South Central Texas Region includes counties that are located in whole or in part in the Rio Grande, Nueces, San Antonio, Guadalupe, Lavaca, and Colorado river basins and the San Antonio-Nueces, Lavaca-Guadalupe, and Colorado-Lavaca coastal basins. Major urban population centers include the cities of San Antonio, Victoria, Seguin, New Braunfels, and San Marcos which are located within Bexar, Victoria, Guadalupe, Comal, and Hays Counties, respectively. The regional economy is dominated by the trades and services and manufacturing sectors with much smaller, but significant, contributions from the agricultural and mining sectors. The 2016 South Central Texas (L) Regional Water Plan can be found on the TWDB website at http://www.twdb.texas.gov/waterplanning/rwp/plans/2016/#region-l

[1] Planning numbers presented throughout this document and as compared to the 2017 Interactive State Water Plan may vary due to rounding.

Figure L.1 - South Central Texas (L) regional water planning area



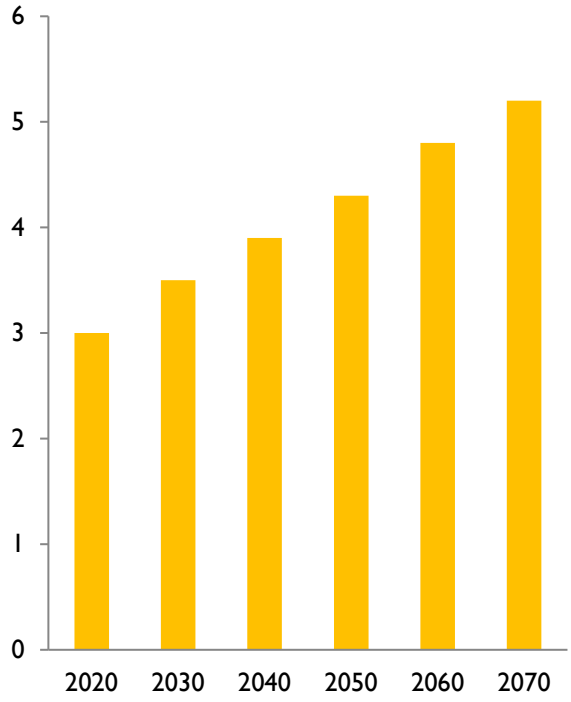
Plan highlights

- Additional supply needed in 2070—483,000 acre-feet per year
- Recommended water management strategy volume in 2070—610,000 acre-feet per year
- 61 recommended water management strategy projects with a total capital cost of $7.88 billion
- Conservation accounts for 16 percent of 2070 strategy volumes
- Seawater desalination accounts for 9 percent of 2070 strategy volumes; aquifer storage & recovery accounts for 3 percent of 2070 strategy volumes

Population and water demands

Approximately 10 percent of the state's 2020 population will reside in the South Central Texas (L) Region. Between 2020 and 2070, the region's population is projected to increase 73 percent (Table L.4, Figure L.2). By 2070, the total water demands for the region are projected to increase 34 percent (Table L.4).

Figure L.2 - Projected population for 2020–2070 (in millions)



Existing water supplies

The South Central Texas (L) Region has a variety of surface water and groundwater supply sources, with more than two-thirds of the existing water supply in the region associated with groundwater (Table L.1, Figure L.3). By 2070 the total water supply is projected to decline 1 percent (Table L.4). This projected decline in supply is primarily a result decreased mining and irrigation demands supplied by groundwater.

Needs

As the population sharply increases in the South Central Texas (L) Region, so will the municipal water needs. From 2020 to 2070, municipal needs are projected to increase 296 percent (Table L.4). In the event of drought, Region L is projected to have a total water supply need of 200,000 acre-feet in 2020 (Table L.4).

Recommended water management strategies and cost

The South Central Texas (L) Planning Group recommended a variety of water management strategies and projects that would overall provide more water than is required to meet future needs (Figures L.4 and L.5, Tables L.2 and L.3). In all, the 264 strategies and 61 projects would provide 610,000 acre-feet of additional water supply by the year 2070 at a total capital cost of $7.88 billion.

Conservation

Conservation strategies represent 16 percent of the total volume of water associated with all recommended strategies in 2070. The South Central Texas (L) regional water plan recommends that municipal water user groups with a water use of 140 gallons per capita per day and greater reduce their per capita water use by 1 percent per year until the level of 140 gallons per capita per day is reached.

Table L.1 - Existing water supplies for 2020 and 2070 (acre-feet per year)

Water supply source	2020	2070
Surface water		
Guadalupe Run-Of-River	85,000	85,000
Canyon Lake/Reservoir	78,000	76,000
Calaveras Lake/Reservoir	37,000	37,000
Texana Lake/Reservoir	31,000	31,000
Coleto Creek Lake/Reservoir	24,000	24,000
Remaining groundwater sources providing less than 2% each	37,000	37,000
Surface water subtotal:	**292,000**	**290,000**
Groundwater		
Edwards (Balcone Fault Zone) Aquifer	280,000	251,000
Carrizo-Wilcox Aquifer	58,000	55,000
Gulf Coast Aquifer	45,000	56,000
Trinity Aquifer	29,000	29,000
Remaining groundwater sources providing less than 2% each	32,000	42,000
Groundwater subtotal:	**444,000**	**433,000**
Reuse	**32,000**	**42,000**
Region total	**768,000**	**765,000**

Figure L.3 - Share of existing water supplies by water source in 2020

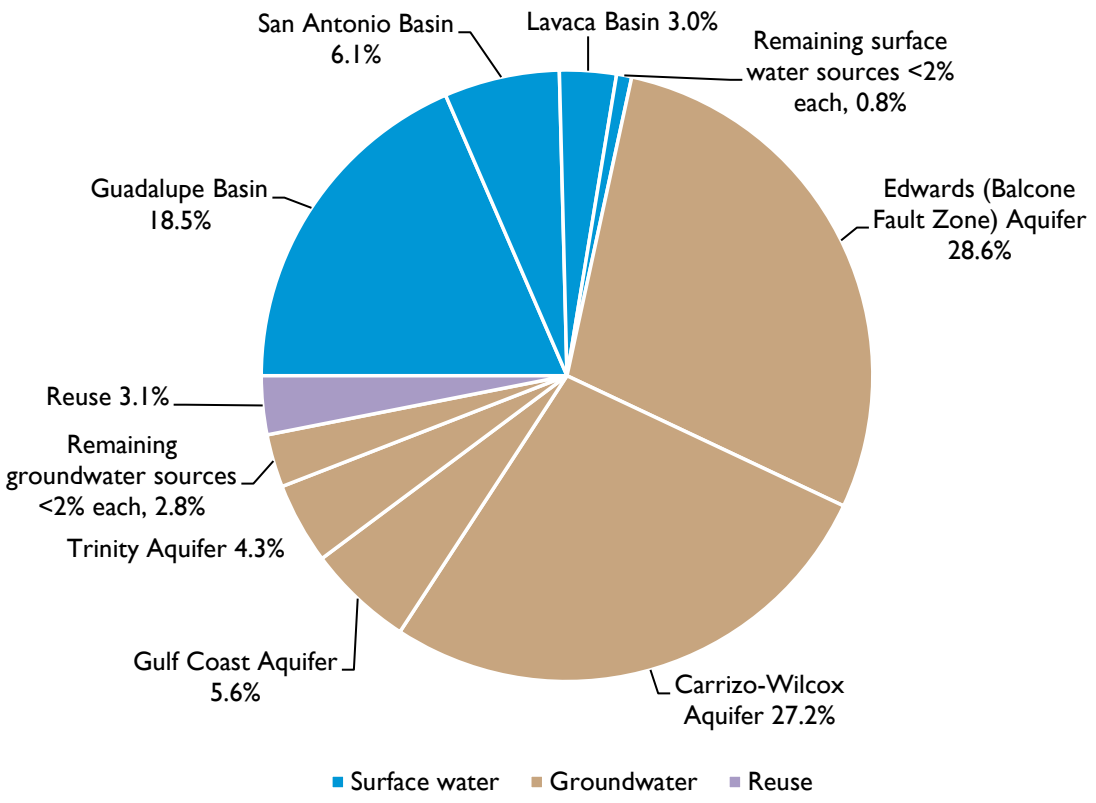


Table L.2 - Ten recommended water management strategy projects with largest capital cost

Recommended water management strategy project	Online decade	Sponsor(s)	Associated capital cost
Integrated Water-Power Project	2020	Guadalupe Blanco River Authority	$1,600,885,000
Seawater Desalination - SAWS	2050	San Antonio Water System	$1,590,590,000
Expanded Brackish Wilcox Project - SAWS	2020	San Antonio Water System	$723,175,000
GBRA - MBWSP - Conjunctive Use with ASR (Option 3A)	2020	Guadalupe Blanco River Authority	$700,897,000
Vista Ridge Project - SAWS	2020	San Antonio Water System	$571,958,000
Victoria County Steam-Electric Project	2050	Guadalupe Blanco River Authority	$359,338,000
Hays/Caldwell PUA Project	2020	Hays Caldwell PUA	$309,723,000
GBRA New Appropriation (Lower Basin)	2050	Guadalupe Blanco River Authority	$298,355,000
SAWS Water Resources Integrated Pipeline	2020	San Antonio Water System	$205,000,000
Recycled Water Program - SAWS	2020	San Antonio Water System	$170,830,000
Other recommended projects	*various*	*51 various*	*$1,353,187,000*
		Total capital cost	**$7,883,938,000**

Table L.3 - Ten recommended water management strategies with largest supply volume

Recommended water management strategy name	Population served by strategy*	Number of water user groups served	Supply in acre-feet per year in 2070
Drought Management - SAWS	2,396,000	1	68,000
SAWS Seawater Desalination	2,806,000	2	54,000
CPS Direct Recycle Pipeline	na	1	50,000
Municipal Water Conservation (Urban) - San Antonio	2,396,000	1	43,000
Direct Recycled Water Programs - SAWS	2,396,000	2	40,000
GBRA New Appropriation (Lower Basin)	na	2	37,000
GBRA Lower Basin Off-Channel Reservoir	na	2	32,000
Victoria County Steam Electric Project	na	1	29,000
Vista Ridge Project	2,964,000	4	27,000
Municipal Water Conservation (Suburban)	954,000	30	26,000
Other recommended strategies		*222*	*203,000*
		Total annual water volume	**609,000**

** Multiple strategies may serve portions of the same population*

Table L.4 - Population, existing water supplies, demands, needs, and strategies 2020–2070 (acre-feet per year)

	Decade	2020	2030	2040	2050	2060	2070	change
	Population	**3,001,000**	**3,477,000**	**3,920,000**	**4,336,000**	**4,770,000**	**5,192,000**	***73%***
Existing supplies	Surface water	292,000	292,000	290,000	290,000	290,000	290,000	***-1%***
	Groundwater	704,000	700,000	696,000	691,000	686,000	684,000	***-3%***
	Reuse	32,000	37,000	42,000	42,000	42,000	42,000	***31%***
	Total water supplies	**1,028,000**	**1,028,000**	**1,028,000**	**1,023,000**	**1,018,000**	**1,016,000**	***-1%***
Demands	Municipal	439,000	493,000	543,000	593,000	641,000	691,000	***57%***
	County-other	30,000	34,000	40,000	46,000	54,000	64,000	***113%***
	Manufacturing	124,000	135,000	146,000	156,000	167,000	179,000	***44%***
	Mining	49,000	50,000	49,000	45,000	41,000	41,000	***-16%***
	Irrigation	345,000	330,000	317,000	305,000	293,000	283,000	***-18%***
	Steam-electric	60,000	90,000	101,000	123,000	147,000	153,000	***155%***
	Livestock	24,000	24,000	24,000	24,000	24,000	24,000	***0%***
	Total water demand	**1,070,000**	**1,156,000**	**1,219,000**	**1,291,000**	**1,366,000**	**1,434,000**	***34%***
Needs	Municipal	72,000	108,000	148,000	194,000	239,000	285,000	***296%***
	County-other	<500	<500	<500	4,000	11,000	19,000	***375%****
	Manufacturing	6,000	10,000	13,000	19,000	29,000	40,000	***567%***
	Mining	11,000	10,000	9,000	5,000	2,000	1,000	***-91%***
	Irrigation	106,000	97,000	89,000	81,000	74,000	67,000	***-37%***
	Steam-electric	5,000	30,000	37,000	54,000	71,000	71,000	***1320%***
	Total water needs	**200,000**	**256,000**	**297,000**	**356,000**	**425,000**	**483,000**	***142%***
Strategy supplies	Municipal	114,000	171,000	223,000	286,000	351,000	421,000	***269%***
	County-other	5,000	7,000	7,000	11,000	19,000	28,000	***460%***
	Manufacturing	6,000	10,000	13,000	19,000	29,000	40,000	***567%***
	Mining	<500	<500	<500	<500	<500	<500	***0%***
	Irrigation	<500	<500	<500	<500	<500	<500	***0%***
	Steam-electric	55,000	80,000	87,000	104,000	121,000	121,000	***120%***
	Total strategy supplies	**180,000**	**268,000**	**331,000**	**419,000**	**519,000**	**610,000**	***239%***

** Based on change from the earliest decade of volumes ≥500 acre-feet per year*

Figure L.4 - Volume of recommended water management strategies by water resource (thousands of acre-feet per year)

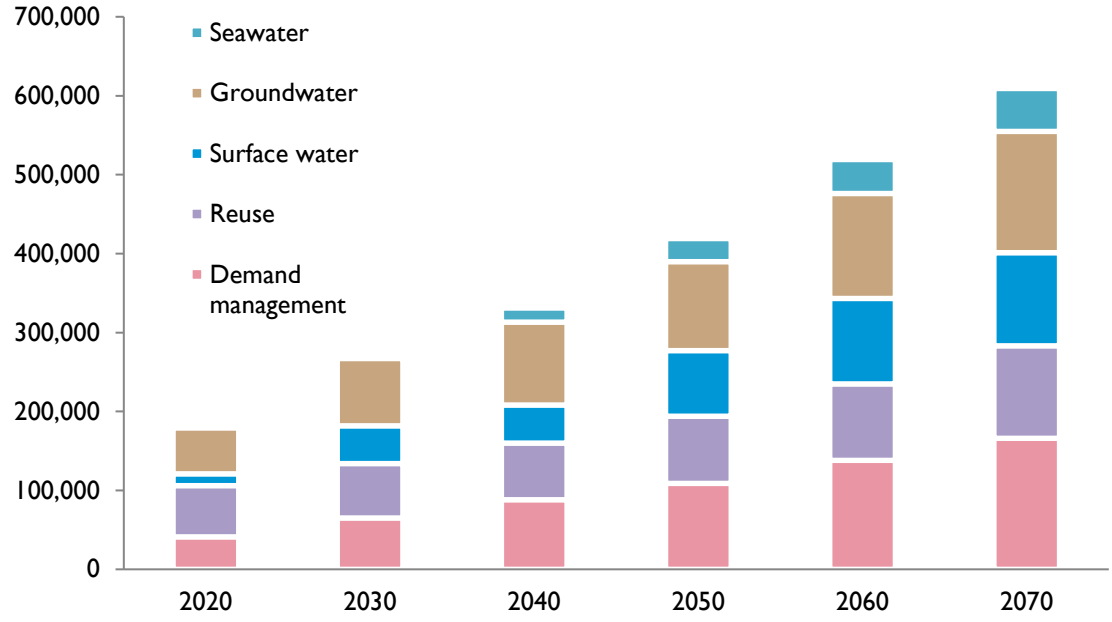
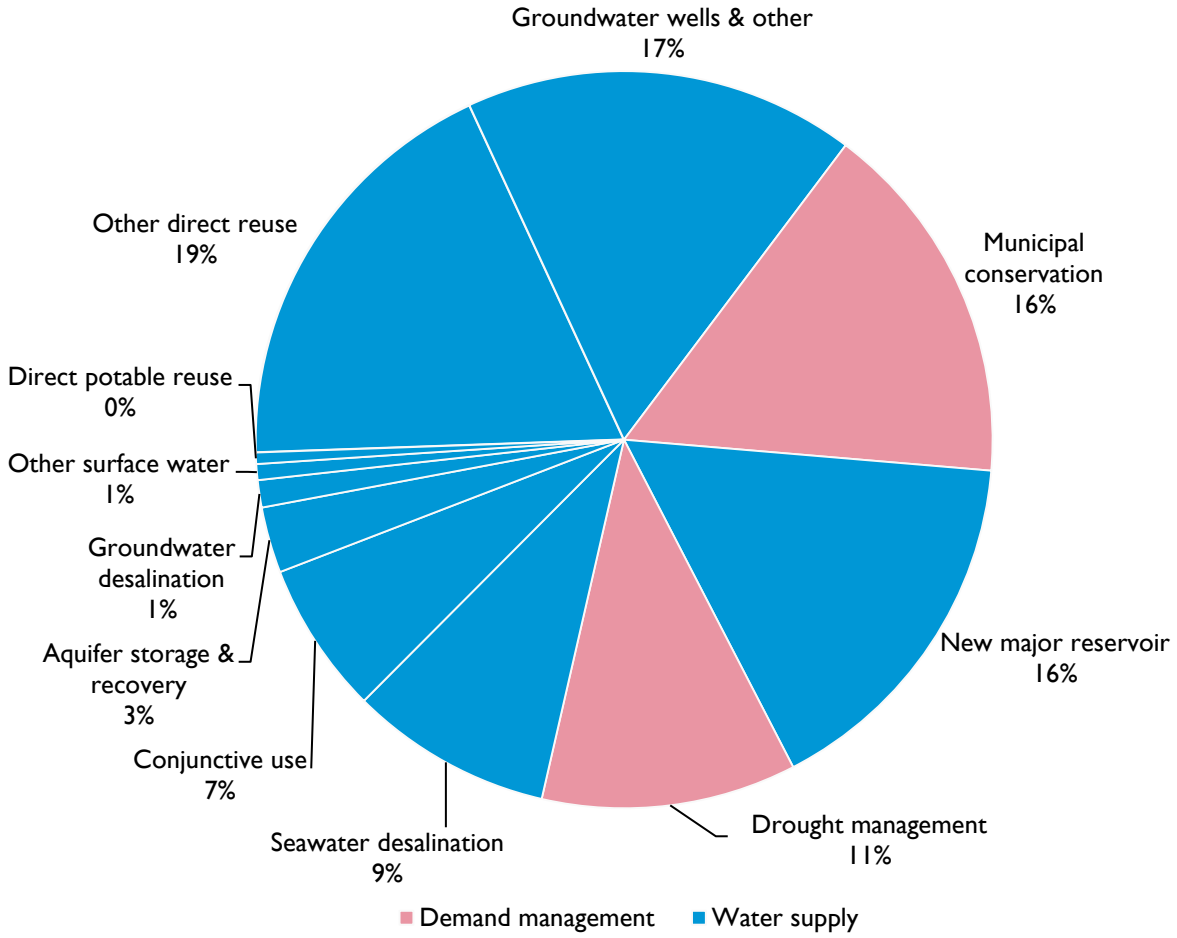


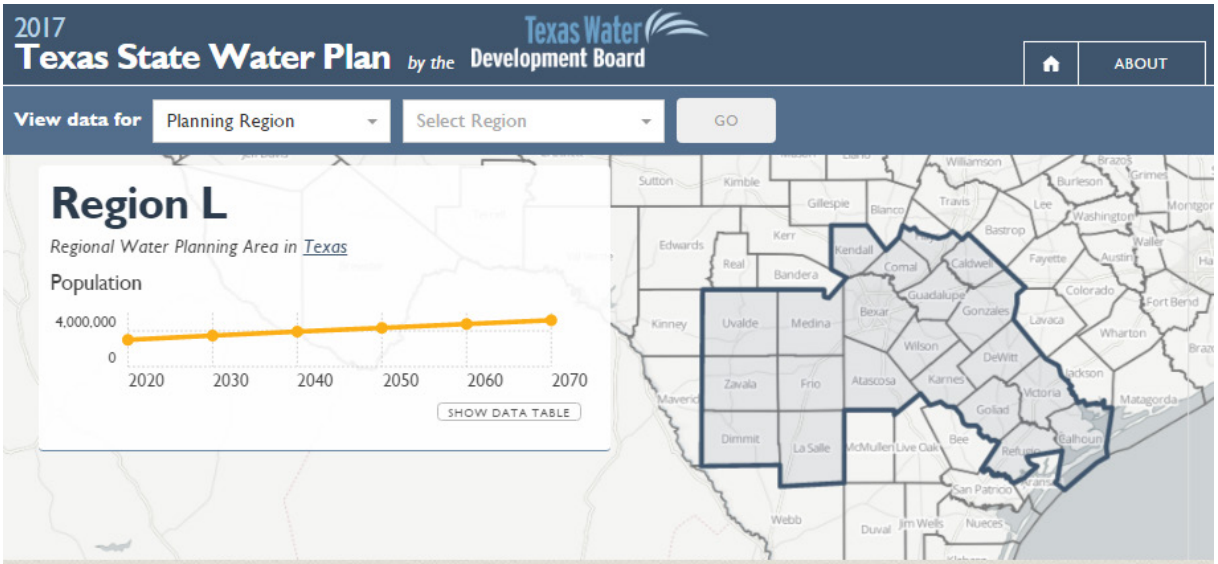
Figure L.5 - Share of recommended water management strategies by strategy type in 2070



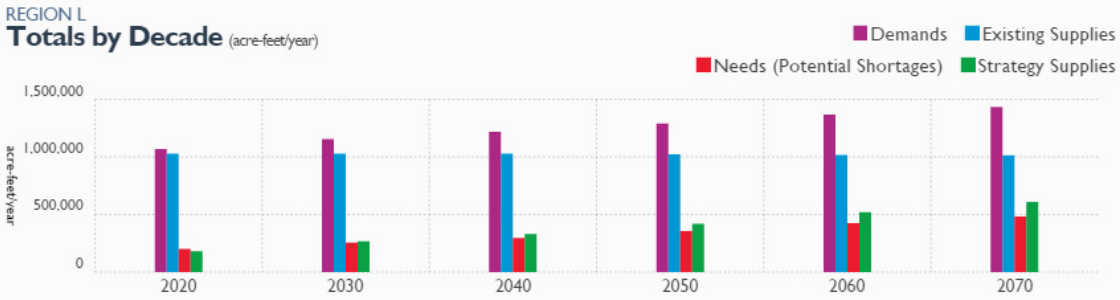
South Central Texas (L) voting planning group members (2012 – 2016)

Con Mims, river authorities (Chair); Jason Ammerman, industry; Tim Andruss, water districts; Donna Balin, environment; Darrell Brownlow, small business; Gene Camargo, water utilities; Rey Chavez, industry; Alan Cockerell, agriculture; Will Conley, counties; Don Dietzmann, groundwater management areas; Art Dohmann, groundwater management areas; Blair Fitzsimons, agriculture; Vic Hilderbran, groundwater management areas; Kevin Janak, electric-generating utilities; John Kight, counties; Russell Labus, water districts; Gena Leathers, industry; Glenn Lord, industry; Mike Mahoney, water districts; Doug McGookey, small business; Dan Meyer, groundwater management areas; Gary Middleton, municipalities; Iliana Peña, environment; Robert Puente, municipalities; Steve Ramsey, water utilities; David Roberts, small business; Roland Ruiz, water districts; Diane Savage, groundwater management areas; Suzanne Scott, river authorities; Greg Senglemann, water districts; Milton Stolte, agriculture; Thomas Taggart, municipalities; Dianne Wassenich, public; Bill West, river authorities; Adam Yablonski, agriculture

For more information on Texas or specific regions, counties, or cities, please visit the 2017 Interactive State Water Plan website: **texasstatewaterplan.org**



The South Central Texas (Region L) 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. 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. The 2016 South Central Texas (L) Regional Water Plan can be found on the TWDB Web site at http://www.twdb.texas.gov/waterplanning/rwp/plans/2016/#region-l



	2020	2030	2040	2050	2060	2070
Demands	1,070,354	1,156,030	1,219,229	1,290,567	1,366,447	1,433,835
Existing Supplies	1,027,889	1,028,407	1,027,680	1,022,969	1,017,842	1,015,732
Needs (Potential Shortages)	200,071	255,549	297,009	356,247	425,454	482,943
Strategy Supplies	179,616	267,718	330,786	419,210	519,234	609,779

Texas Water Development Board

Texas Water Development Board
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