



# Summary of Lower Colorado (K) Region

The Lower Colorado Regional Water Planning Area is composed of all or parts of 14 counties, stretching from Mills County in the Hill Country southeast to Matagorda County on the Gulf Coast (Figure K.1). Most of the region lies in the Colorado River Basin. Major cities in the region include Austin, Bay City, Pflugerville, and Fredericksburg. The largest economic sectors in the region include agriculture, government, service, manufacturing, and retail trade. The manufacturing sector is primarily concentrated in the technology and semiconductor industry in the Austin area. Oil, gas, as well as petrochemical processing, and mineral production, are found primarily in Wharton and Matagorda counties near the coast. The members of the Lower Colorado Planning Group are listed on the last page of this summary.

## Population and Water Demands

In 2010, just over 5 percent of the state's total population is projected to reside in the Lower Colorado Region, and between 2010 and 2060 its population is projected to increase by nearly 100 percent to 2,713,905 (Figure K.2). Water demands, however, are projected to increase less significantly. By 2060, the region's total water demand is projected to increase by 21 percent, from 1,078,041 acre-feet in 2010 to 1,301,682 acre-feet (Figure K.3). Agricultural irrigation water use accounts for the largest share of demands through 2050, but by 2060, municipal demand in all forms (including County-other) is expected to overtake irrigation (Table K.1). Municipal demand is projected to increase by 95 percent from

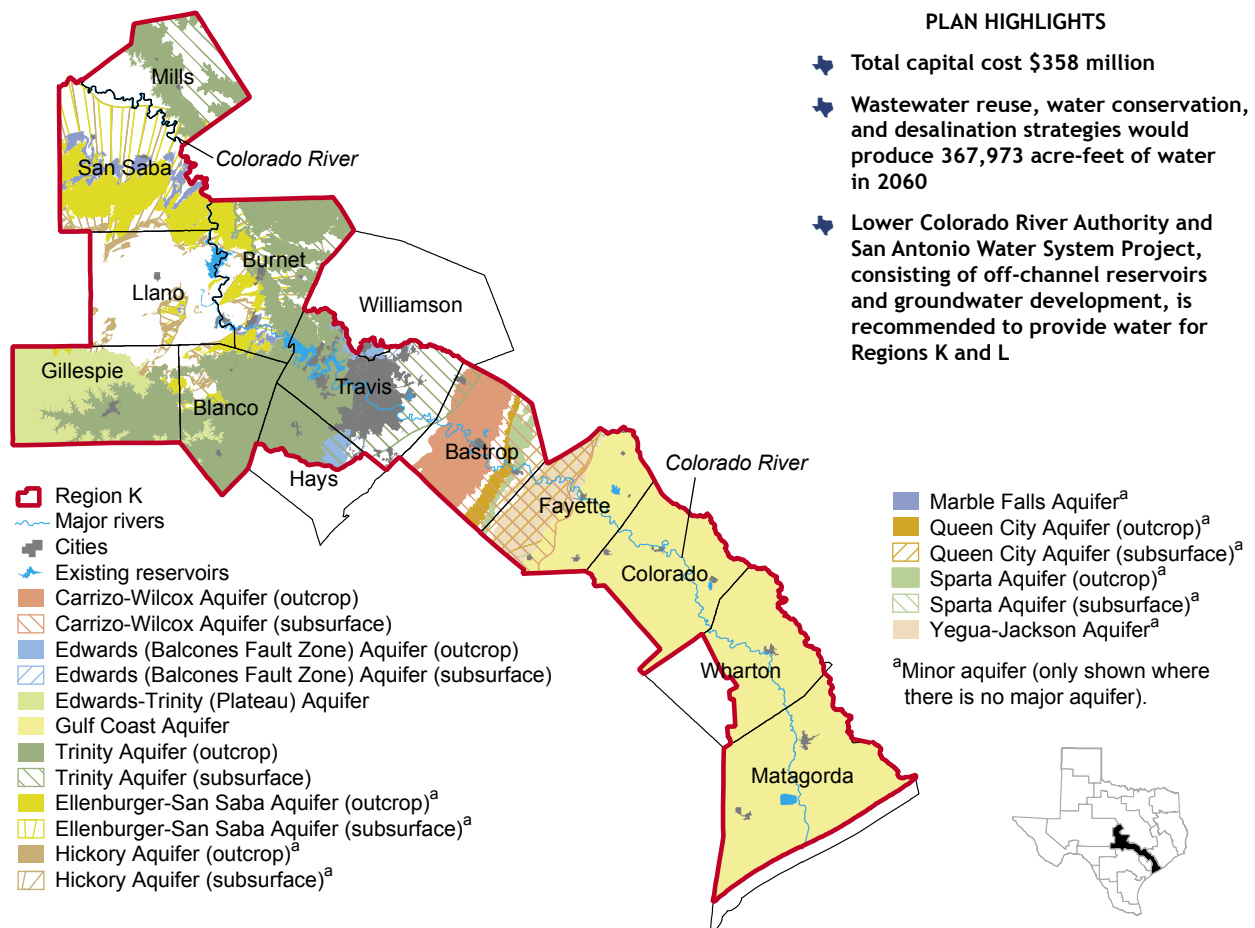


Figure K.1. Lower Colorado Region.

2010 to 2060, rising from 226,437 acre-feet to 442,110 acre-feet. Steam-electric water demand will increase by 45 percent, from 153,522 acre-feet to 222,058 acre-feet in the same time period. Agricultural irrigation demand is expected to decline by 21 percent, from 589,705 acre-feet in 2010 to 468,763 acre-feet in 2060.

### Existing Water Supplies

The region has a large number of surface water and groundwater sources available. In 2010, surface water is projected to provide about 77 percent of supplies and groundwater about 23 percent. The principal surface water supply sources are the Colorado River and its tributaries, including the Highland Lakes system. There are 9 reservoirs in the Region K plan from which water supply is calculated. In determining water supply from the Colorado River, the planning group assumed voluntary subordination of its major senior water rights to those in Region F for planning purposes only. Assumptions used to determine existing supplies from the Colorado River have no legal effect. There are 10 major and minor aquifers that supply groundwater to users in the region. The five major aquifers providing groundwater supplies are the Edwards-Trinity (Plateau) and Trinity in the western portion of the region, the Edwards (Balcones Fault Zone) and Carrizo-Wilcox in the central portion, and the Gulf Coast in the eastern portion. The total supply to the planning area is estimated to be 1,182,078 acre-feet in 2010, declining 25 percent to 887,972 acre-feet in 2060, because of reservoir sedimentation and expired water supply contracts (Table K.2).

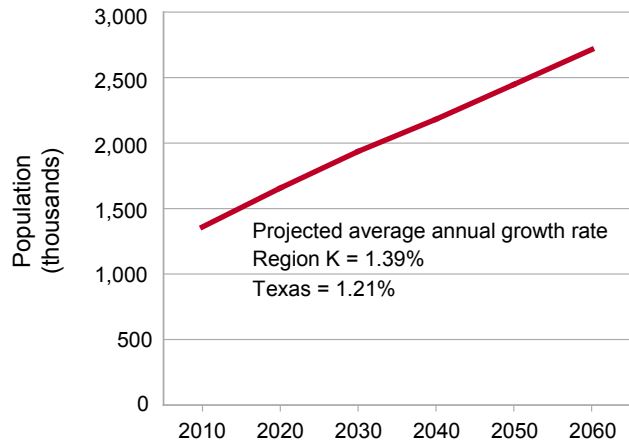


Figure K.2. Projected population for 2010-2060.

### Needs

Water user groups in the Lower Colorado Region are anticipated to need 246,055 acre-feet of additional water in 2010 and 557,311 acre-feet by 2060 under drought conditions (Figure K.4, Table K.3). However, about 61 percent of the 2060 needs can be met by renewing current water supply contracts with wholesale providers. All six water use sectors show needs for additional water by 2060. In 2010, the agricultural irrigation sector has the largest needs, 218,550 acre-feet or 89 percent of total. However, in 2060, municipal has approximately half the needs, 277,674 acre-feet, due to population growth over the planning period. Irrigation needs in 2060 decline to 116,320 acre-feet.

Table K.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	226,437	442,110	+95	+21	+13
County-other	26,200	42,060	+61	+2	+1
Manufacturing	38,162	85,698	+125	+4	+3
Mining	30,620	27,598	-10	+3	-1
Irrigation	589,705	468,763	-21	+55	-19
Steam-electric	153,522	222,058	+45	+1	+3
Livestock	13,395	13,395	0	+1	0
Region	1,078,041	1,301,682	+21		

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

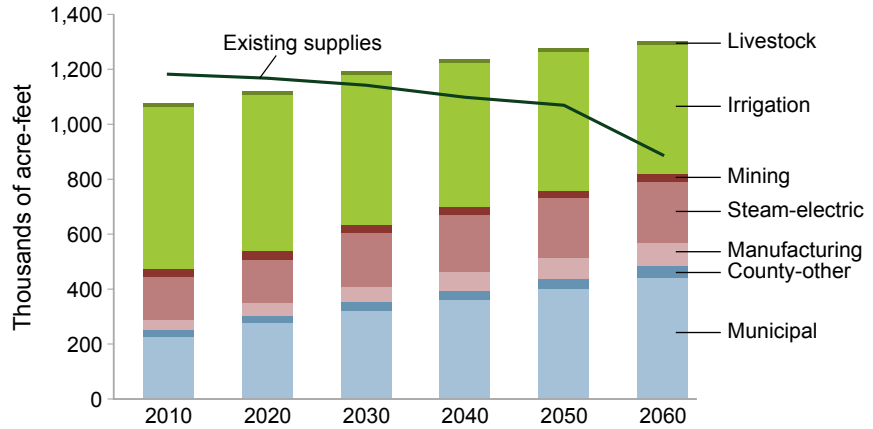


Figure K.4. Projected water needs for 2010-2060.

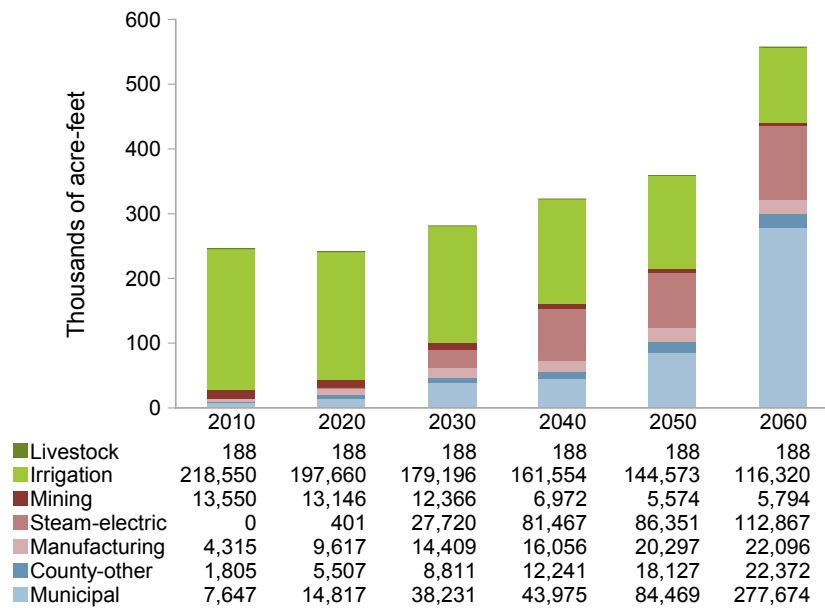


Figure K.5. Recommended water management strategy water supply volumes for 2010-2060.

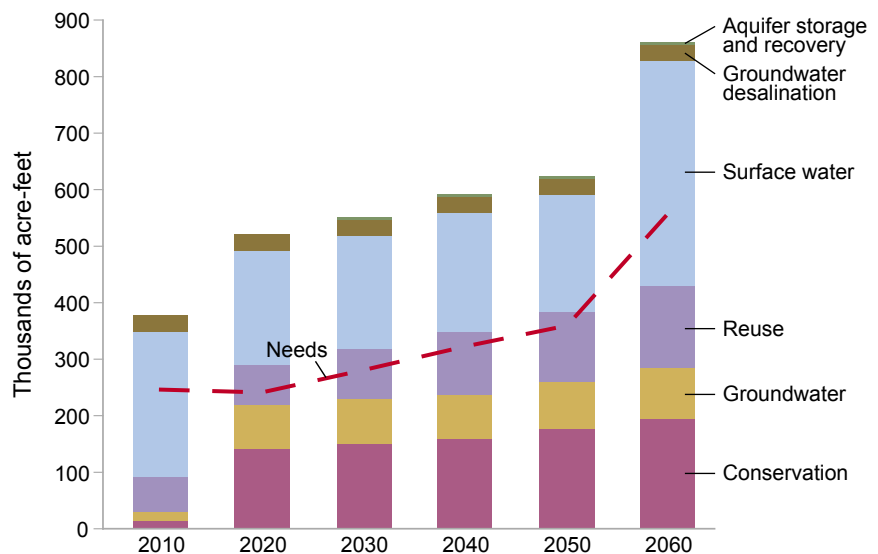


Table K.2. Existing water supply sources supplies for 2010 and 2060

Water supply source	2010 (acre-feet)	2060 (acre-feet)
<b>Surface water</b>		
Colorado River run-of-river	464,601	471,402
Highland Lakes system	380,106	72,477
Colorado River combined run-of-river irrigation	25,629	25,629
Other local supply	18,378	26,124
Other surface water	26,330	26,807
<b>Surface water subtotal</b>	<b>915,044</b>	<b>622,439</b>
<b>Groundwater</b>		
Gulf Coast Aquifer	158,936	158,511
Hickory Aquifer	22,920	22,920
Ellenburger-San Saba Aquifer	21,384	21,365
Marble Falls Aquifer	15,147	15,147
Carrizo-Wilcox Aquifer	13,768	13,650
Other groundwater	34,879	33,940
<b>Groundwater subtotal</b>	<b>267,034</b>	<b>265,533</b>
<b>Region total</b>	<b>1,182,078</b>	<b>887,972</b>

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.

## Recommended Water Management Strategies and Cost

Water management strategies included in the Lower Colorado Regional Water Plan would provide 861,930 acre-feet of additional water supply by the year 2060 (Figure K.5) at a **total capital cost of \$358,174,068** for the region's portion of the project (Appendix 2.1). The primary recommended water management strategy is the Lower Colorado River Authority/San Antonio Water System Project that consists of off-channel reservoirs, agricultural water conservation, additional groundwater development, and new and/or amended surface water rights. The majority of new surface water will be captured in off-channel reservoirs for use by San Antonio, while the groundwater will remain within the region to meet agricultural needs. The costs associated with this project will be paid for by San Antonio and are included in the 2006 Region L Regional Water Plan. There are no unmet needs in the plan.

## Conservation Recommendations

Conservation strategies represent 23 percent of the total amount of water resulting from all recommended water management strategies. Water conservation was included as a strategy for every municipal water user group with a need and

water use greater than 140 gallons per capita per day. The plan recommends that all nonmunicipal water user groups with needs reduce their water use through conservation by 3, 5, and 7 percent in 2010, 2020, and 2030, respectively.

## Ongoing Issues

Region K is concerned that some groups may oppose the Lower Colorado River Authority/San Antonio Water System Project. Feasibility studies for this project are at about the midpoint of the scheduled seven-year time period. The project can not go forward until all studies are completed, the project is found to be feasible, and all statutory and permitting requirements are satisfied.

## Select Policy Recommendations

- Provide instream flows and freshwater inflows to bays and estuaries
- Use surface water and groundwater conjunctively for maximum efficiency and to avoid depleting either source
- Achieve sustainable growth, development, and water use
- Promote agricultural and municipal conservation and wastewater reuse

Table K.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
Bastrop	4,420	29,032	—	10,629	—	9,576	8	60	—	8,750	4,293	—	119	17	—	—
Blanco	123	264	—	—	122	263	1	1	—	—	—	—	—	—	—	—
Burnet	1,618	10,120	296	6,584	611	2,615	—	—	—	—	688	898	—	—	23	23
Colorado	62,601	24,972	—	—	105	90	—	—	—	—	8,569	4,867	53,902	19,990	25	25
Fayette	332	33,230	37	2,083	208	16	45	162	—	30,908	—	29	20	10	22	22
Gillespie	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hays	2,066	18,779	1,307	8,708	759	9,738	—	333	—	—	—	—	—	—	—	—
Llano	805	2,666	740	2,527	—	74	3	3	—	—	—	—	—	—	62	62
Matagorda	97,503	131,554	2	2	—	—	—	13,515	—	52,766	—	—	97,445	65,215	56	56
Mills	697	544	357	357	—	—	1	1	—	—	—	—	339	186	—	—
San Saba	—	5	—	5	—	—	—	—	—	—	—	—	—	—	—	—
Travis	7,825	273,042	3,444	244,504	—	—	4,257	8,013	—	20,443	—	—	124	82	—	—
Wharton	66,601	30,828	—	—	—	—	—	8	—	—	—	—	66,601	30,820	—	—
Williamson	1,464	2,275	1,464	2,275	—	—	—	—	—	—	—	—	—	—	—	—
Region	246,055	557,311	7,647	277,674	1,805	22,372	4,315	22,096	—	112,867	13,550	5,794	218,550	116,320	188	188

## SELECT MAJOR WATER MANAGEMENT STRATEGIES

(Dollar amounts are rounded.)

See Appendix 2.1 for all recommended strategies and actual costs.)

- ✦ *Lower Colorado/San Antonio Water System Project would provide up to 377,000 acre-feet per year for users in Regions K and L—Implementation by: 2020; Capital Cost: \$2 billion (All capital costs are included in 2006 Region L Regional Water Plan).*
- ✦ *New water pipelines to Hays County (2 strategies)—Implementation by: 2010; Capital Cost: \$13 million.*
- ✦ *Wastewater reuse by Austin and return flows would produce 144,090 acre-feet per year—Implementation by: 2010; Capital Cost: \$178 million.*
- ✦ *Desalination of brackish groundwater by South Texas Project Electrical Generating Station would produce 29,568 acre-feet per year—Implementation by: 2010; Capital Cost: \$97 million.*

## Lower Colorado Planning Group Members and Interests Represented

### Voting members during adoption of 2006 Regional Water Plan:

John Burke (Chair), water utilities; Jim Barho, environmental; David Deeds, municipalities; Ronald G. Fieseler, environmental; Rick Gangluff, electric generating utilities; Ronald Gertson, small business; Barbara Johnson, industries; Mark Jordan, river authorities; D.C. (Chris) King, counties; Teresa Lutes, municipalities; Julia Marsden, public; William M. (Bill) Miller, agriculture; Bill Neve, counties; W.R. (Bob) Pickens, other; W.A. (Billy) Roeder, counties; Haskell Simon, agriculture; Harold Streicher, small business; James Sultemeier, counties; Paul Tybor, water districts; Roy Varley, other; Jennifer Walker, environmental; Del Waters, recreation

### Former voting members during 2001-2006 planning cycle:

Dede Armentrout, environmental; Steve Balas, agriculture; Stovy Bowlin, water districts; Robert Dickerson, small business; Gerald Hajovsky, counties; Dale Henry, counties; Dennis Jones, municipalities; Jobaid Kabir, river authorities; Quentin Martin, river authorities; Charles Martinez, municipalities; Stanley Reinhard, water districts; Cole Rowland, other (recreation); Mark Smith, industries; Bill Stewart, other (recreation)