Summary of the 2021 Lavaca (P) Regional Water Plan[1]

Texas' regional water plans

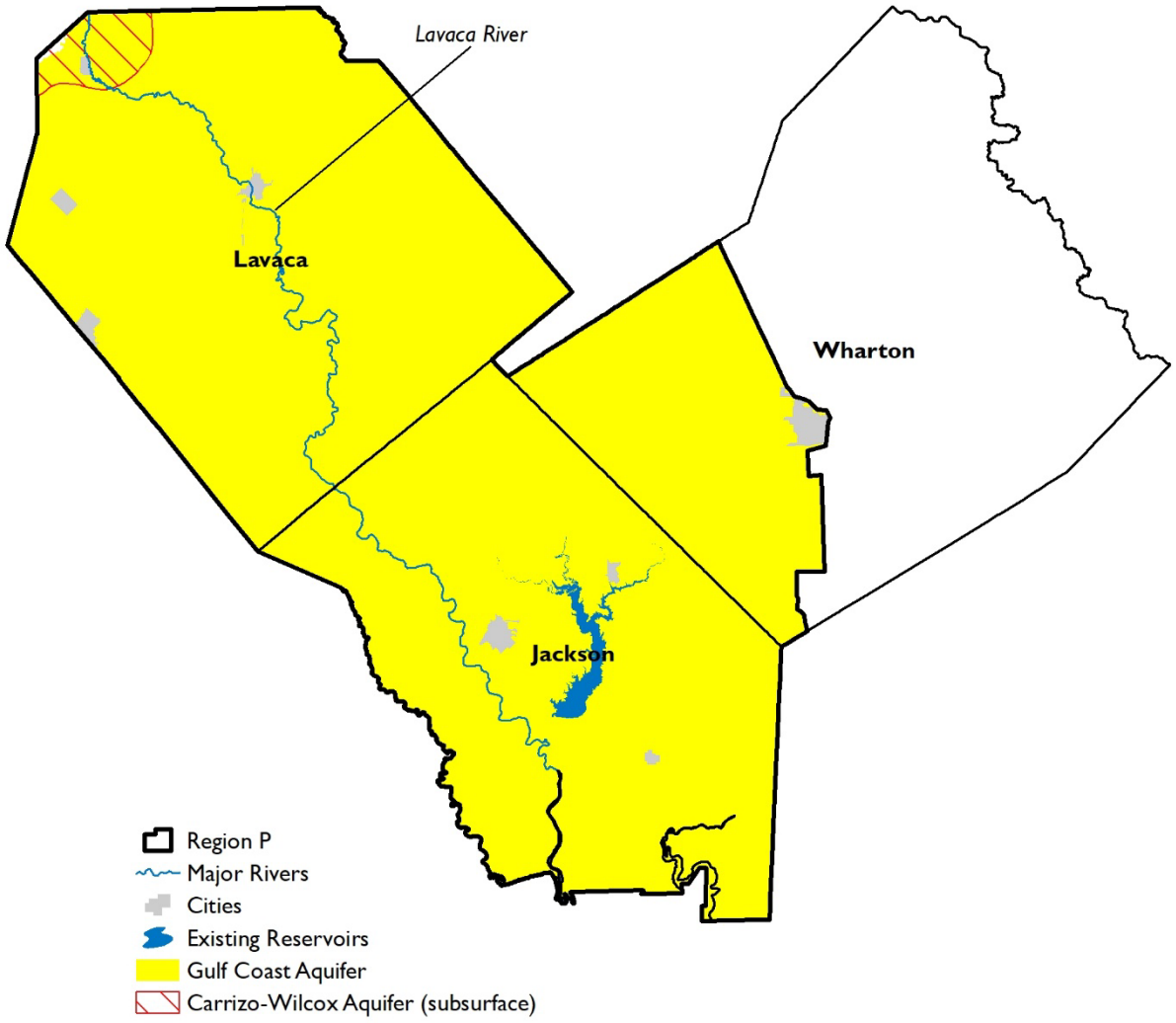
Regional water plans are funded by the Texas Legislature and developed every five years based on conditions that each region would face under a recurrence of a historical drought of record. The 16 regional water plans are developed by local representatives in a public, bottom-up process. The regional 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 Lavaca (P) Regional Water Planning Area includes all or parts of three counties (Figure P.1). The Lavaca Regional Water Planning Area is located along the southeastern Texas coast in the Lavaca, Lavaca-Guadalupe Coastal, and the Colorado-Lavaca coastal river basins. The region's grasslands are ideal for cattle grazing, and the productive soils and typically flat topography support the farming of rice, sorghums, corn, cotton, wheat, and hay. The economy of the region includes oil and gas production, varied manufacturing, agribusiness, and tourism associated with Lake Texana. Cities in the region include Edna, Ganado, Hallettsville, Moulton, Shiner, and Yoakum. The 2021 Lavaca (P) Regional Water Plan can be found on the TWDB website at http://www.twdb.texas.gov/waterplanning/rwp/plans/2021/#region-p.

[1] Planning numbers presented throughout this document and as compared to the 2022 Interactive State Water Plan may vary due to rounding.

Figure P.1 - Lavaca (P) regional water planning area



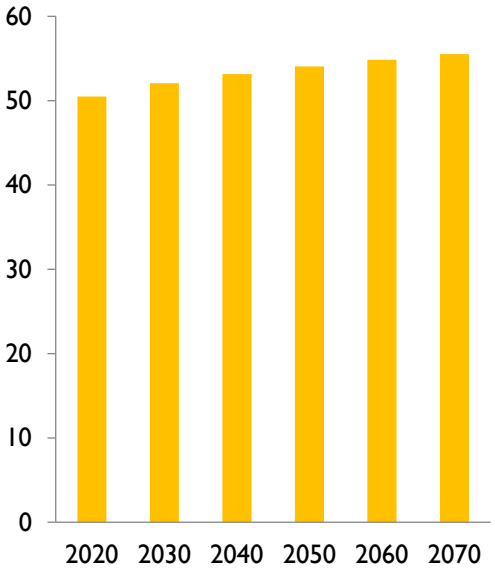
Plan highlights

- Additional supply needed in 2070—8,000 acre-feet per year
- Recommended water management strategy volume in 2070—17,000 acre-feet per year
- 12 recommended water management strategy projects with a total capital cost of $423 million
- Conservation accounts for 98 percent of 2070 strategy volumes allocated to water user groups
- One new major reservoir project is recommended—the Lavaca Off-Channel Reservoir

Population and water demands

Less than 1 percent of the state's 2020 population were projected to reside in the Lavaca (P) Region. Between 2020 and 2070, the region's population is projected to increase approximately 12 percent (Table P.4, Figure P.2). By 2070, the total water demands for the region are projected to decrease 1 percent (Table P.4).

Figure P.2 - Projected population for 2020–2070 (in thousands)



Existing water supplies

The Lavaca (P) Region has surface water and groundwater supply sources, with the majority of the existing water supply in the region associated with groundwater (Table P.1, Figure P.3). The total water supply is projected to remain constant through 2070 (Table P.4).

Needs

Irrigation is the only water user group projected to have needs in the Lavaca (P) Region, and those needs are projected to remain flat across the 50-year planning horizon (Table P.4). In the event of drought, Region P is projected to have an annual water supply need of 8,000 acre-feet from 2020 through 2070 (Table P.4).

Recommended water management strategies and cost

The Lavaca (P) Planning Group recommended a variety of water management strategies and projects that would provide more water than is required to meet future needs (Figures P.4 and P.5, Tables P.2 and P.3). In all, the 18 strategies and 12 projects would provide 17,000 acre-feet of additional water supply by the year 2070 at a total capital cost of $423 million. Recommended water management strategies meet all identified needs in the plan.

Conservation

Conservation strategies represent 98 percent of the total volume of water associated with all recommended strategies in 2070, with agricultural conservation accounting for approximately 88 percent. In addition, municipal conservation was recommended for municipal water user groups with water use greater than 140 gallons per capita per day in 2030 regardless of water need. Under these criteria, water conservation strategies were recommended for El Campo, Hallettsville, Moulton, Shiner, Yoakum, and Wharton County WCID 1.

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

Water supply source	2020	2070
Surface water		
Colorado Run-of-River	16,000	16,000
Texana Lake/Reservoir	11,000	11,000
Surface water total	**27,000**	**27,000**
Groundwater		
Gulf Coast Aquifer System	174,000	174,000
Groundwater total	**174,000**	**174,000**
Reuse	**0**	**0**
Region total	**201,000**	**201,000**

Figure P.3 - Share of existing water supplies by water source in 2020 (percent)

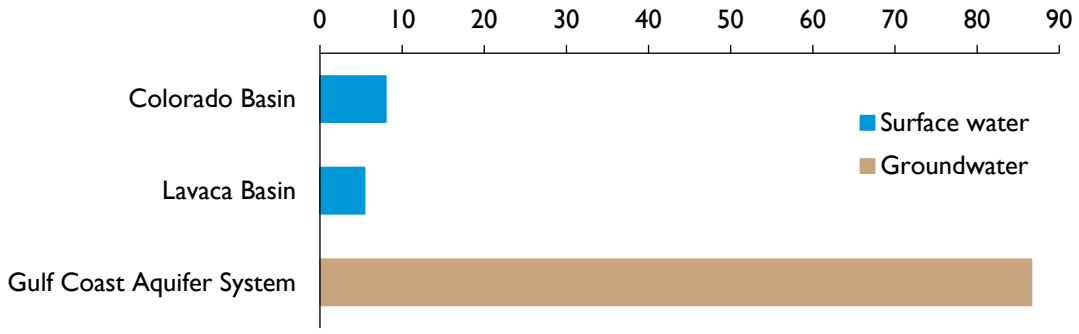


Table P.2 - Recommended water management strategy projects with an associated capital cost

Recommended water management strategy project	Online Decade	Sponsor(s)	Associated capital cost
Lavaca Off-Channel Reservoir - Phase 2	2040	Lavaca Navidad River Authority	$289,977,000
LNRA Desalination	2040	Lavaca Navidad River Authority	$49,900,000
Lavaca Off-Channel Reservoir - Phase 1	2030	Lavaca Navidad River Authority	$41,781,000
Irrigation Conservation - Tailwater Recovery	2020	Irrigation (Wharton)	$19,092,000
Reuse	2030	El Campo	$7,881,000
Irrigation Conservation - On Farm	2020	Irrigation (Wharton)	$7,239,000
Municipal Conservation - El Campo	2030	El Campo	$3,671,000
Municipal Conservation - Hallettsville	2030	Hallettsville	$1,502,000
Municipal Conservation - Shiner	2030	Shiner	$810,000
Municipal Conservation - Moulton	2030	Moulton	$410,000
Other recommended projects	*various*	*2 various*	*$494,984*
		Total capital cost	**$422,757,984**

Table P.3 - Recommended water management strategies assigned to water user groups

Recommended water management strategy name	2070 projected population served by strategy*	Number of water user groups served	Strategy volume in acre-feet per year in 2070
Irrigation Conservation	na	1	15,000
Conservation for Manufacturing	na	3	1,000
Municipal Conservation	25,000	6	1,000
Drought Management - Municipal	33,000	8	<500
Other recommended strategies	na	*na*	*na*
		Total annual water volume	**17,000**

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

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

	Decade	2020	2030	2040	2050	2060	2070	Change
	Population	**50,000**	**52,000**	**53,000**	**54,000**	**55,000**	**56,000**	***12%***
Existing supplies	Surface water	27,000	27,000	27,000	27,000	27,000	27,000	***0%***
	Groundwater	174,000	174,000	174,000	174,000	174,000	174,000	***0%***
	Total water supplies	**201,000**	**201,000**	**201,000**	**201,000**	**201,000**	**201,000**	***0%***
Demands	Municipal	6,000	6,000	6,000	6,000	6,000	6,000	***0%***
	County-other	2,000	2,000	2,000	2,000	2,000	2,000	***0%***
	Manufacturing	12,000	12,000	12,000	12,000	12,000	12,000	***0%***
	Mining	3,000	2,000	1,000	1,000	1,000	<500	***-100%***
	Irrigation	176,000	176,000	176,000	176,000	176,000	176,000	***0%***
	Steam-electric	2,000	2,000	2,000	2,000	2,000	2,000	***0%***
	Livestock	6,000	6,000	6,000	6,000	6,000	6,000	***0%***
	Total water demand	**206,000**	**206,000**	**205,000**	**205,000**	**204,000**	**204,000**	***-1%***
Needs	Irrigation	8,000	8,000	8,000	8,000	8,000	8,000	***0%***
	Total water needs	**8,000**	**8,000**	**8,000**	**8,000**	**8,000**	**8,000**	***0%***
Strategy supplies	Municipal	<500	1,000	1,000	1,000	1,000	1,000	***0%****
	Manufacturing	0	1,000	1,000	1,000	1,000	1,000	***0%****
	Irrigation	15,000	15,000	15,000	15,000	15,000	15,000	***0%***
	Total strategy supplies	**16,000**	**17,000**	**17,000**	**17,000**	**17,000**	**17,000**	***6%***

Note: Total values in this table are presented as rounded actual total values rather than the sum of rounded values to provide consistent referencing of total values. Calculated percent change is based on rounded values.

** Percentage based on change from the earliest decade with volumes ≥500 acre-feet per year.*

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

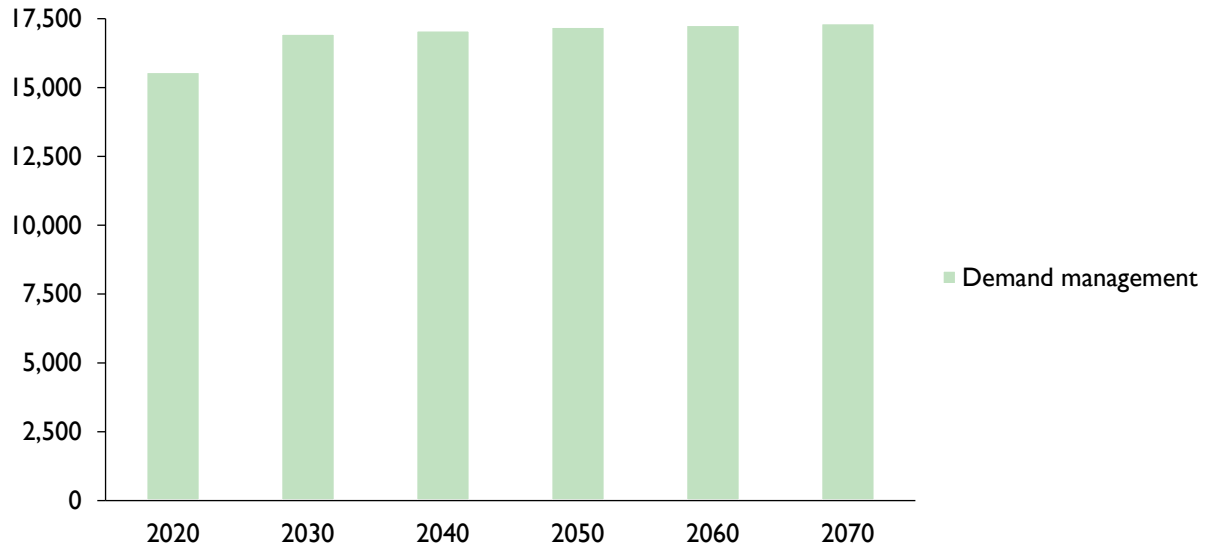
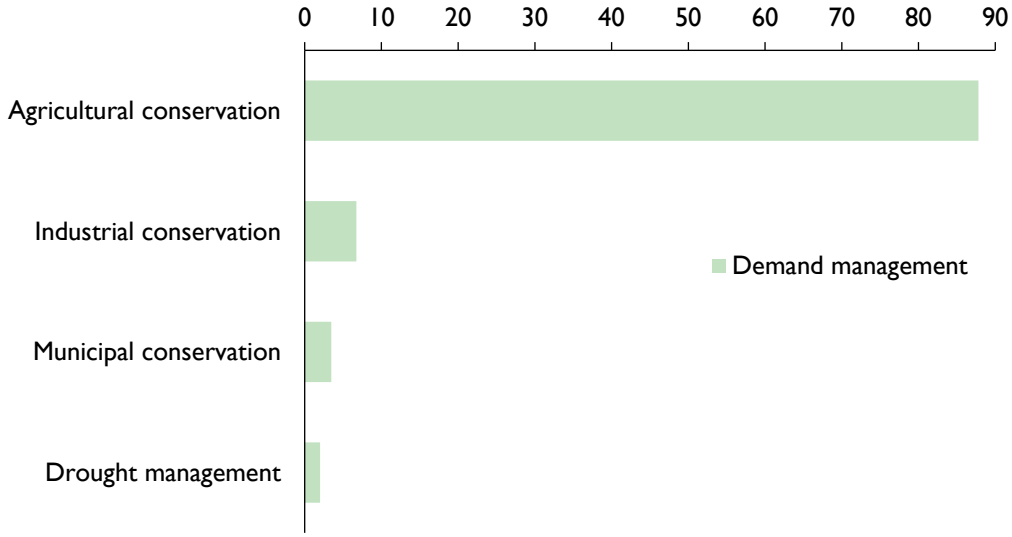


Figure P.5 - Share of recommended water management strategies by strategy type in 2070 (percent)

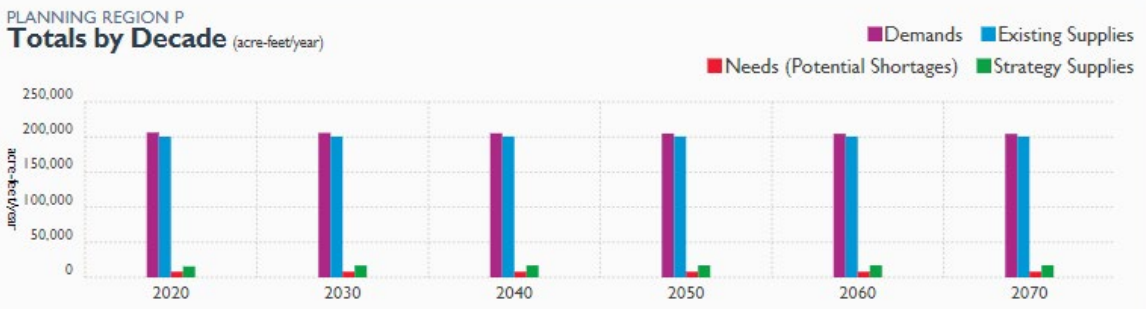


Lavaca (P) voting planning group members (2017–2021)

Phillip Spenrath, counties (Chair); Patrick Brzozowski, river authorities; John Butschek, municipalities; Tom Chandler, water utilities; Gerald Clark, agriculture; Jim Coleman, electric generating utilities; Steve Cooper, agriculture; Marie Day, industries; Neil Hudgins, groundwater management areas; Lester Little, agriculture; Jack Maloney, municipalities; Robert Martin, agriculture; Bart McBeth, agriculture; Richard Ottis, industries; Edward Pustka, counties; L.G. Raun, agriculture; Robert Shoemate, environment; Dennis Simons, counties; Michael Skalicky, water districts; Gary Skalicky, agriculture; Jill Sklar, counties; Harrison Stafford II, counties; David Wagner, public; and Ed Weinheimer, small business.

For more information on Texas or specific regions, counties, or cities, please visit the 2022 Interactive State Water Plan website: **2022.texasstatewaterplan.org**.

The Lavaca (Region P) Regional Water Planning Area is composed of Jackson and Lavaca counties and Precinct Three of Wharton County, including the entire City of El Campo. Other cities in the region include Edna, Yoakum, and Hallettsville. Most of the region lies in the Lavaca River Basin. The 2021 Regional Water Plans can be found on the TWDB website at: http://www.twdb.texas.gov/waterplanning/rwp/plans/2021/index.asp.



	2020	2030	2040	2050	2060	2070
Demands	206,304	205,761	205,259	204,842	204,482	204,333
Existing Supplies	200,512	200,593	200,593	200,593	200,593	200,593
Needs (Potential Shortages)	8,067	8,067	8,067	8,067	8,067	8,067
Strategy Supplies	15,572	16,962	17,082	17,213	17,283	17,344

Texas Water Development Board

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