Summary of the 2021 Far West Texas (E) Regional Water Plan[1]

Texas' regional water plans

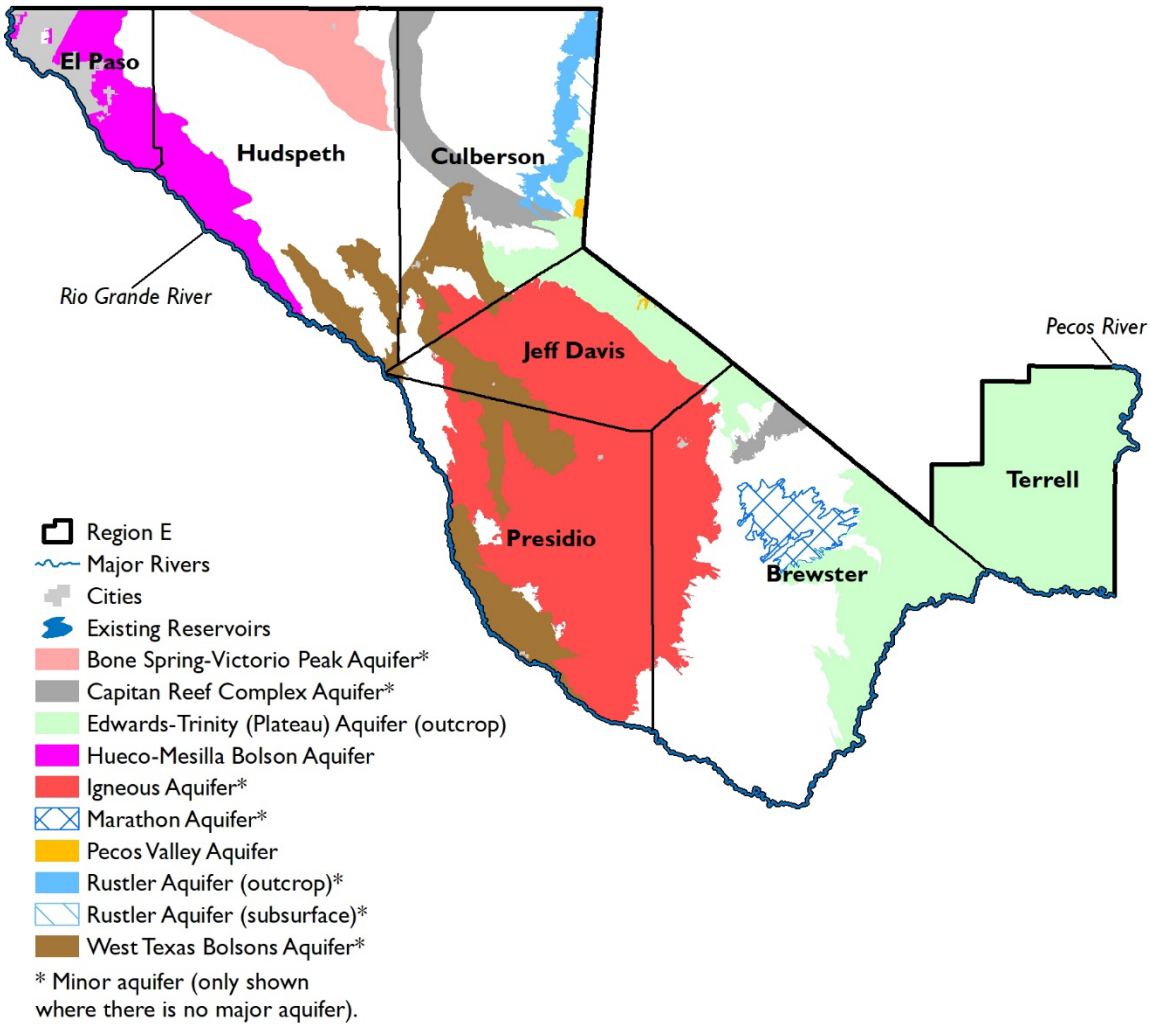
Regional water plans are funded by the Texas Legislature and developed every five years based on conditions that each region would face under a recurrence of a historical drought of record. The 16 regional water plans are developed by local representatives in a public, bottom-up process. The regional 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 Far West Texas (E) Regional Water Planning Area includes seven counties (Figure E.1) and lies entirely within the Rio Grande River Basin in the most arid part of the state. There are many groundwater sources of local importance, the largest being the Hueco-Mesilla Bolson Aquifer. The largest economic sectors in the region are agriculture, agribusiness, manufacturing, military, and tourism. The vast majority of the population in this planning area resides in El Paso County, in and around the City of El Paso. The 2021 Far West Texas (E) Regional Water Plan can be found on the TWDB website at http://www.twdb.texas.gov/waterplanning/rwp/plans/2021/#region-e.

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

Figure E.1 - Far West Texas (E) regional water planning area



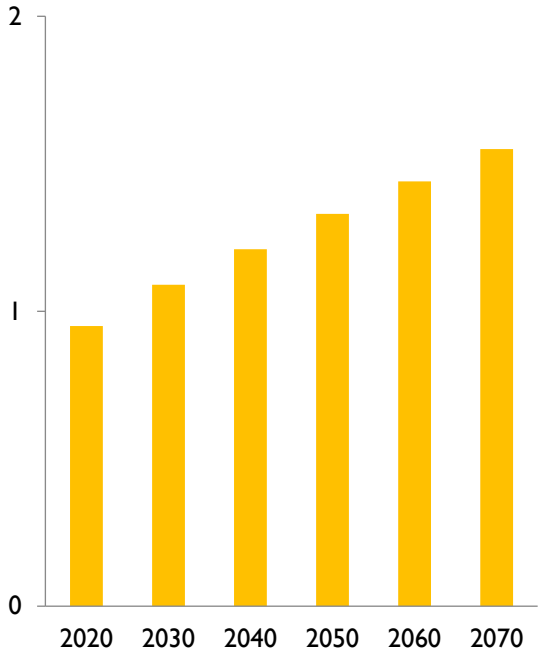
Plan highlights

- Additional supply needed in 2070—119,000 acre-feet per year
- Recommended water management strategy volume in 2070—156,000 acre-feet per year
- 39 recommended water management strategy projects with a total capital cost of $1.5 billion
- Conservation accounts for 34 percent of 2070 strategy volumes
- Innovative technologies, including groundwater desalination, direct reuse, and aquifer storage and recovery, account for 30 percent of 2070 strategy volumes.

Population and water demands

Approximately 3 percent of the state's 2020 population were projected to reside in the Far West Texas (E) Region. Between 2020 and 2070, the region's population is projected to increase 63 percent (Table E.4, Figure E.2). By 2070, the total water demands for the region are projected to increase approximately 17 percent (Table E.4).

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



Existing water supplies

The Far West Texas (E) Region has a variety of surface water and groundwater supply sources, with more than three-quarters of the existing water supply in the region associated with groundwater (Table E.1, Figure E.3). By 2070, the total water supply is projected to decrease 1 percent (Table E.4). This projected decrease in supply is due to a decline in existing groundwater supplies starting in 2040.

Needs

On a region-wide basis, the Far West Texas (E) Region does not have enough existing water supplies to meet demands in any decade from 2020 through 2070 (Table E.4). In the event of drought, Region E is projected to have a total water supply need of 61,000 acre-feet in 2020 (Table E.4). Over three-quarters of needs in 2020 occur in the irrigation sector.

Recommended water management strategies and cost

The Far West Texas (E) Planning Group recommended a variety of water management strategies and projects that would provide more water than is required to meet future needs. (Figures E.4 and E.5, Tables E.2 and E.3). In all, the 48 strategies and 39 projects would provide 156,000 acre-feet of additional water supply by the year 2070 at a total capital cost of $1.5 billion.

Recommended water management strategies meet all identified needs in the plan except for 13,000 acre-feet per year associated with irrigation and mining uses in 2020 increasing to approximately 16,000 acre-feet per year in 2070. An unmet need does not prevent an associated entity from pursuing development of additional water supply.

Conservation

Conservation strategies represent 34 percent of the total volume of water associated with all recommended strategies in 2070. Water conservation was recommended for municipal and irrigation water user groups that had a need in any planning decade. Water loss audits and leak repair strategies were recommended for entities with reported water loss greater than 10 percent.

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

Water supply source	2020	2070
Surface water		
Rio Grande Run-of-River	50,000	50,000
Surface water total	**50,000**	**50,000**
Groundwater		
Hueco-Mesilla Bolson Aquifer	167,000	167,000
Other Aquifer	88,000	88,000
Bone Spring-Victorio Peak Aquifer	69,000	69,000
West Texas Bolsons Aquifer	44,000	44,000
Capitan Reef Complex Aquifer	12,000	6,000
Remaining groundwater (sources providing less than 2% each)	11,000	11,000
Groundwater water total	**390,000**	**384,000**
Reuse	**41,000**	**41,000**
Region total	**481,000**	**475,000**

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.

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

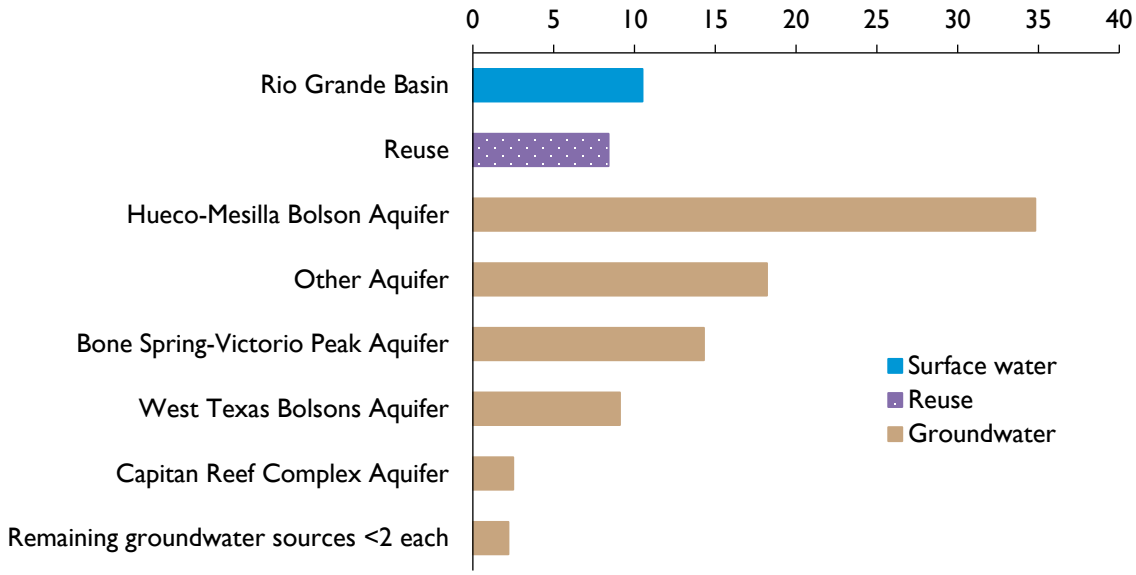


Table E.2 - Ten recommended water management strategy projects with largest capital cost

Recommended water management strategy project	Online Decade	Sponsor(s)	Associated capital cost
EPW - Groundwater from Dell City Area (Phase 1)	2040	El Paso Water	$569,357,000
EPW - Groundwater from Dell City Area (Phase 2)	2050	El Paso Water	$320,226,000
El Paso County - EPCWID #1 - Improvements to Water District Delivery System	2020	Irrigation, El Paso	$157,777,783
EPW - Advanced Purified Water at the Bustamante WWTP	2020	El Paso Water	$100,361,400
LVWD - Surface Water Treatment Plant and Transmission Lines	2030	Lower Valley Water District	$74,338,000
Horizon Regional MUD - Additional Wells and Expansion of Desalination Plant	2020	Horizon Regional MUD	$71,809,000
LVWD - Groundwater from Proposed Well Field - Rio Grande Alluvium Aquifer	2030	Lower Valley Water District	$39,236,000
EPW - Hueco Bolson Artificial Recharge	2030	El Paso Water	$38,003,000
LVWD - Groundwater from Proposed Well Field - Hueco Bolson Aquifer	2030	Lower Valley Water District	$36,110,000
LVWD - Wastewater Treatment and ASR Facility	2030	Lower Valley Water District	$23,509,000
Other recommended projects	*various*	*29 various*	*$73,624,886*
		Total capital cost	**$1,504,352,069**

Table E.3 - Ten recommended water management strategies with largest supply volume 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
EPCWID #1 - Improvements to Water District Delivery System	na	1	25,000
EPW - Municipal Conservation Program	1,136,000	1	18,000
Horizon Regional MUD - Additional wells and Expansion of Desalination Plant	152,000	1	17,000
EPW - Advanced Water Purification at the Bustamante WWTP	1,136,000	1	11,000
EPW - Groundwater from Dell City Area (Phase 1)	1,136,000	1	10,000
EPW - Groundwater from Dell City Area (Phase 2)	1,136,000	1	10,000
El Paso County (SEP) - Purchase Water from EPW	na	1	7,000
LVWD - Groundwater from Proposed Well Field - Hueco Bolson Aquifer	101,000	1	7,000
LVWD - Groundwater from Proposed Well Field - Rio Grande Alluvium Aquifer	101,000	1	7,000
LVWD - Purchase Water from EPW	101,000	1	6,000
Other recommended strategies	*na*	*38*	*39,000*
		Total annual water volume	**156,000**

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.

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

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

	Decade	2020	2030	2040	2050	2060	2070	Change
	Population	**954,000**	**1,086,000**	**1,208,000**	**1,329,000**	**1,444,000**	**1,551,000**	***63%***
Existing supplies	Surface water	50,000	50,000	50,000	50,000	50,000	50,000	***0%***
	Groundwater	390,000	390,000	384,000	384,000	384,000	384,000	***-2%***
	Reuse	41,000	41,000	41,000	41,000	41,000	41,000	***0%***
	Total water supplies	**481,000**	**481,000**	**475,000**	**475,000**	**475,000**	**475,000**	***-1%***
Demands	Municipal	139,000	153,000	167,000	182,000	197,000	211,000	***52%***
	County-other	3,000	4,000	5,000	6,000	6,000	7,000	***133%***
	Manufacturing	7,000	8,000	8,000	8,000	8,000	8,000	***14%***
	Mining	8,000	9,000	10,000	10,000	10,000	11,000	***38%***
	Irrigation	310,000	310,000	310,000	310,000	310,000	310,000	***0%***
	Steam-electric	11,000	11,000	11,000	11,000	11,000	11,000	***0%***
	Livestock	2,000	2,000	2,000	2,000	2,000	2,000	***0%***
	Total water demand	**480,000**	**498,000**	**513,000**	**528,000**	**544,000**	**560,000**	***17%***
Needs	Municipal	4,000	8,000	12,000	25,000	39,000	52,000	***1200%***
	County-other	<500	<500	<500	<500	<500	<500	***0%***
	Manufacturing	0	1,000	1,000	1,000	1,000	1,000	***0%****
	Mining	3,000	3,000	4,000	4,000	5,000	6,000	***100%***
	Irrigation	47,000	47,000	52,000	52,000	52,000	52,000	***11%***
	Steam-electric	7,000	7,000	7,000	7,000	7,000	7,000	***0%***
	Total water needs	**61,000**	**66,000**	**76,000**	**89,000**	**104,000**	**119,000**	***95%***
Strategy supplies	Municipal	37,000	68,000	79,000	96,000	100,000	106,000	***186%***
	County-other	<500	<500	<500	<500	<500	<500	***0%***
	Manufacturing	0	1,000	1,000	1,000	1,000	1,000	***0%****
	Mining	4,000	4,000	4,000	4,000	4,000	4,000	***0%***
	Irrigation	34,000	37,000	37,000	37,000	37,000	37,000	***9%***
	Steam-electric	7,000	7,000	7,000	7,000	7,000	7,000	***0%***
	Total strategy supplies	**82,000**	**118,000**	**130,000**	**146,000**	**150,000**	**156,000**	***90%***

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

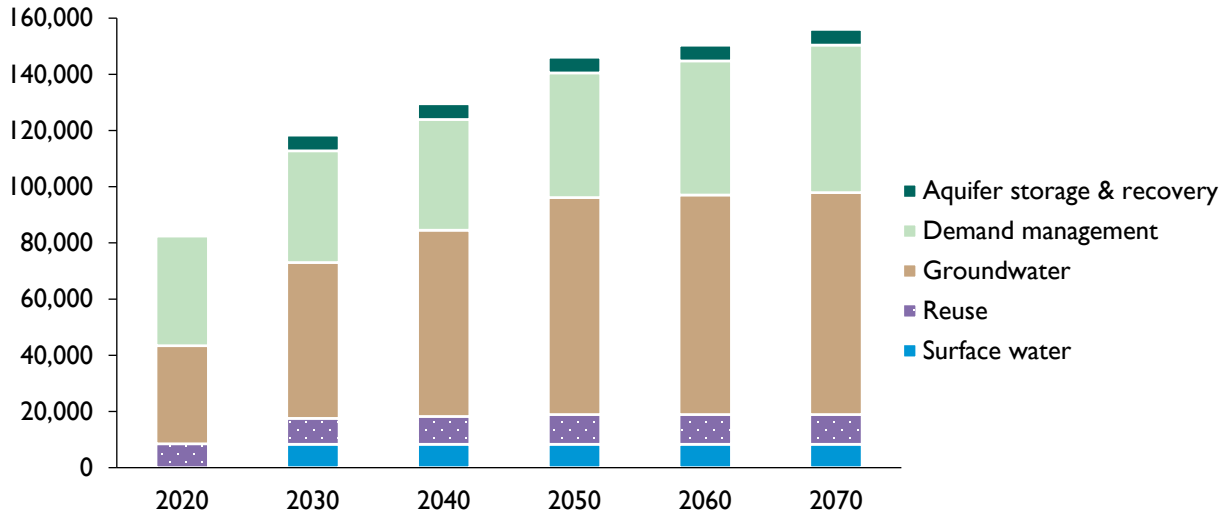
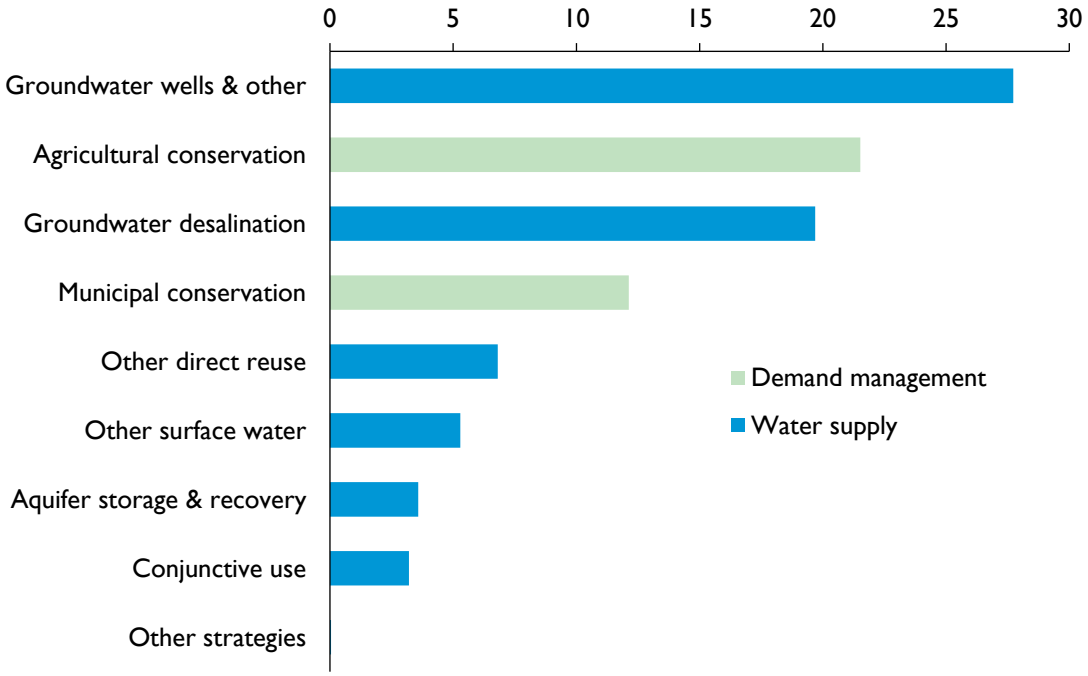


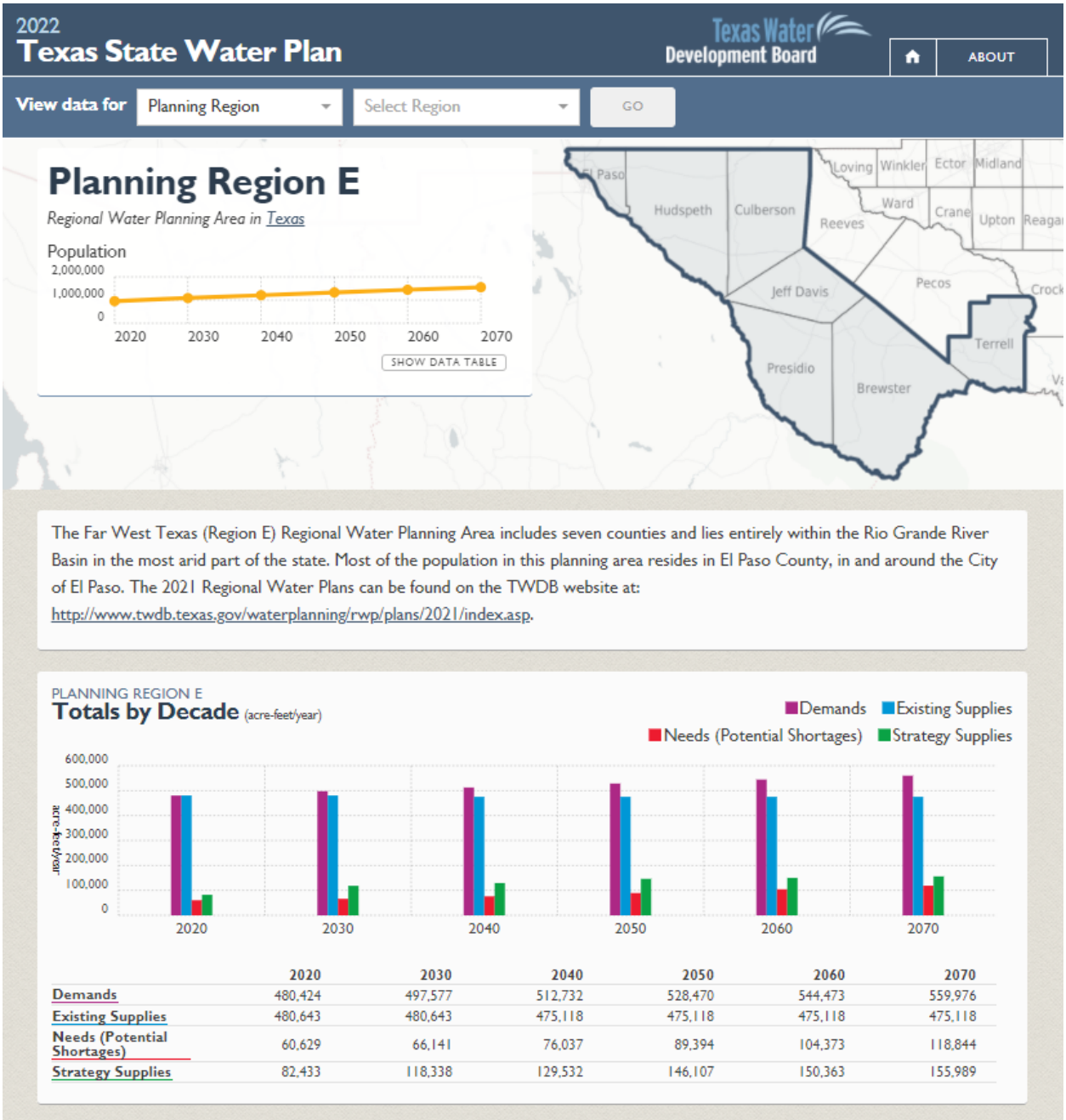
Figure E.5 - Share of recommended water management strategies by strategy type in 2070 (percent)



Far West Texas (E) voting planning group members (2017–2021)

Jesus "Chuy" Reyes, water districts (Chair); Janet Adams, groundwater conservation districts; Ann Allen, industries; Randy Barker, groundwater conservation districts; Tom Beard, agriculture; Jeff Bennett, environment; Sylvia Borunda Firth, municipalities; Rebecca L. Brewster, municipalities; Sterry Butcher, public; Roger Chacon, electric generating utilities; Jessica Christianson, electric generating utilities; Michael Davidson, tourism; Dan Dunlap, small business; David Etzold, real estate; Dave Hall, public; Tim Leary, agriculture; Mike Livingston, small business; Michelle Marquez, counties; Jim Ed Miller, water districts; Albert Miller, water utilities; Scott Mitchell, groundwater management areas; Brad Newton, economic development; Arlina Palacios, public; Vincent Perez, counties; Scott Reinert, municipalities; Mike Sanchez, counties; Rick Tate, agriculture; Teresa Todd, counties; Paige Waggoner, economic development; and Summer Webb, groundwater management areas.

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



	2020	2030	2040	2050	2060	2070
Demands	480,424	497,577	512,732	528,470	544,473	559,976
Existing Supplies	480,643	480,643	475,118	475,118	475,118	475,118
Needs (Potential Shortages)	60,629	66,141	76,037	89,394	104,373	118,844
Strategy Supplies	82,433	118,338	129,532	146,107	150,363	155,989

Texas Water Development Board

Texas Water Development Board
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