

# Summary of the 2016 Far West Texas (E) Regional Water Plan<sup>1</sup>

## 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

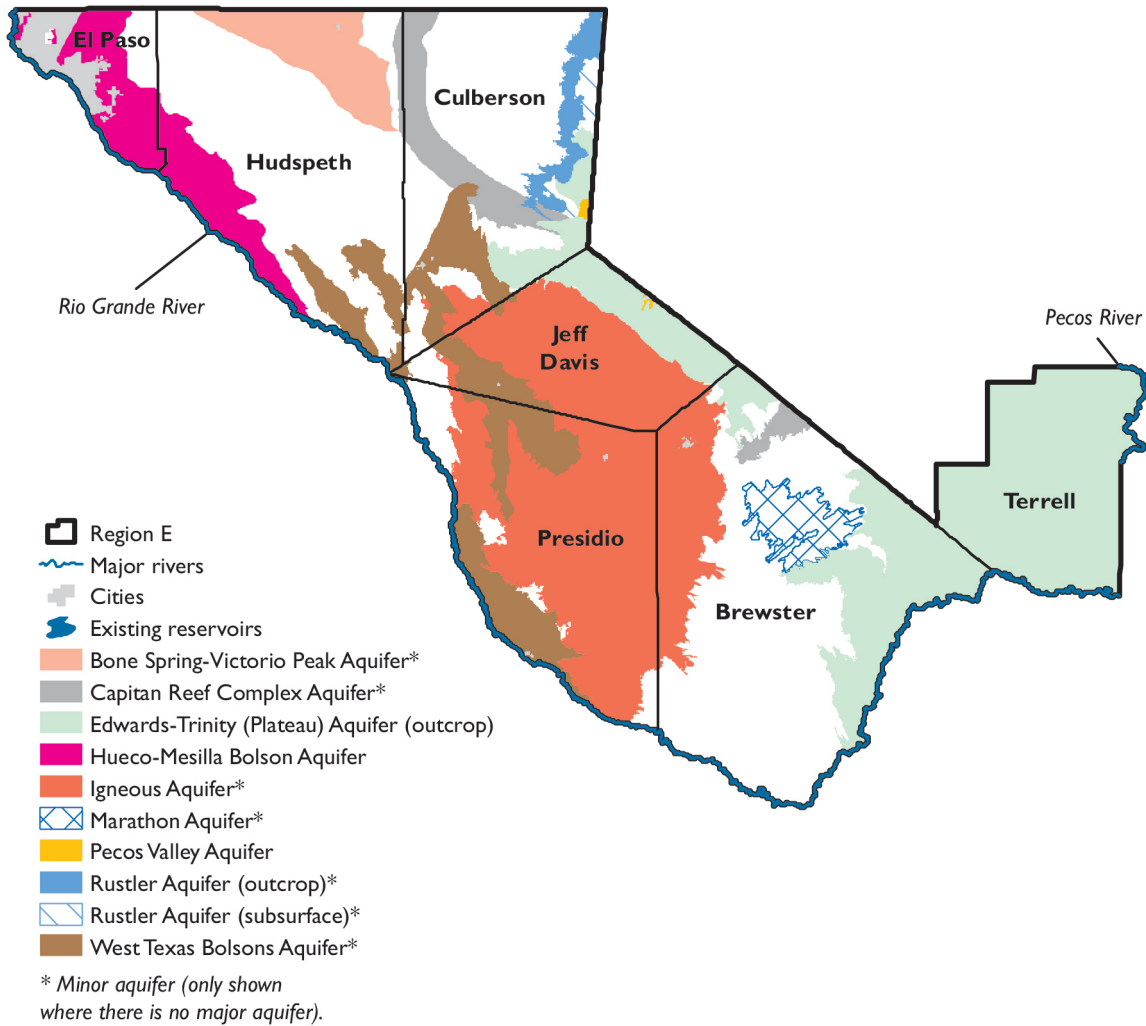
- provide for the orderly development, management, and conservation of water resources,
- prepare for and respond to drought conditions, and
- make sufficient water available at a reasonable cost to ensure public health, safety, and welfare and further economic development while protecting the agricultural 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, 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 2016 Far West Texas (E) Regional Water Plan can be found on the TWDB website at <http://www.twdb.texas.gov/waterplanning/rwp/plans/2016/#region-e>

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<sup>1</sup> Planning numbers presented throughout this document and as compared to the 2017 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—212,000 acre-feet per year
- Recommended water management strategy volume in 2070—268,000 acre-feet per year
- 45 recommended water management strategy projects with a total capital cost of \$1.93 billion
- Conservation accounts for 15 percent of 2070 strategy volumes
- Innovative technologies, including groundwater desalination, direct potable reuse, indirect reuse, and aquifer storage & recovery, account for 30 percent of 2070 strategy volumes.

## Population and water demands

Approximately 3 percent of the state’s 2020 population will 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 7 percent (Table E.4).

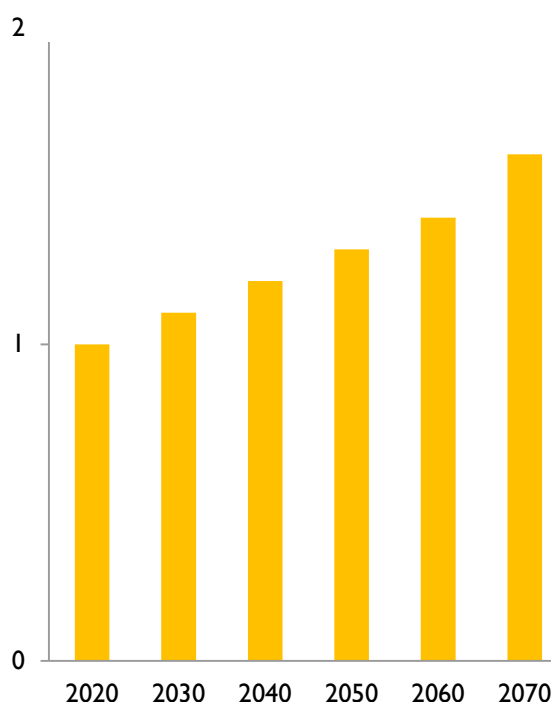
## Existing water supplies

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 increase 1 percent (Table E.4). This projected increase in supply is due to a gradual increase in existing reuse supplies over the planning horizon.

## Needs

The Far West Texas (E) Region does not have enough existing water supplies to meet demands in any decade through 2070 (Table E.4). In the event of drought, Region E is projected to have a total water supply need of 189,000 acre-feet in 2020 (Table E.4). Ninety percent of needs in 2020 occur in the irrigation sector.

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



## 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 less water than is required to meet future needs in decades 2020-2040 and overall, more water than is required in decades 2050-2070. (Figures E.4 and E.5, Tables E.2 and E.3). In all, the 64 strategies and 45 projects would provide 268,000 acre-feet of additional water supply by the year 2070 at a total capital cost of \$1.93 billion.

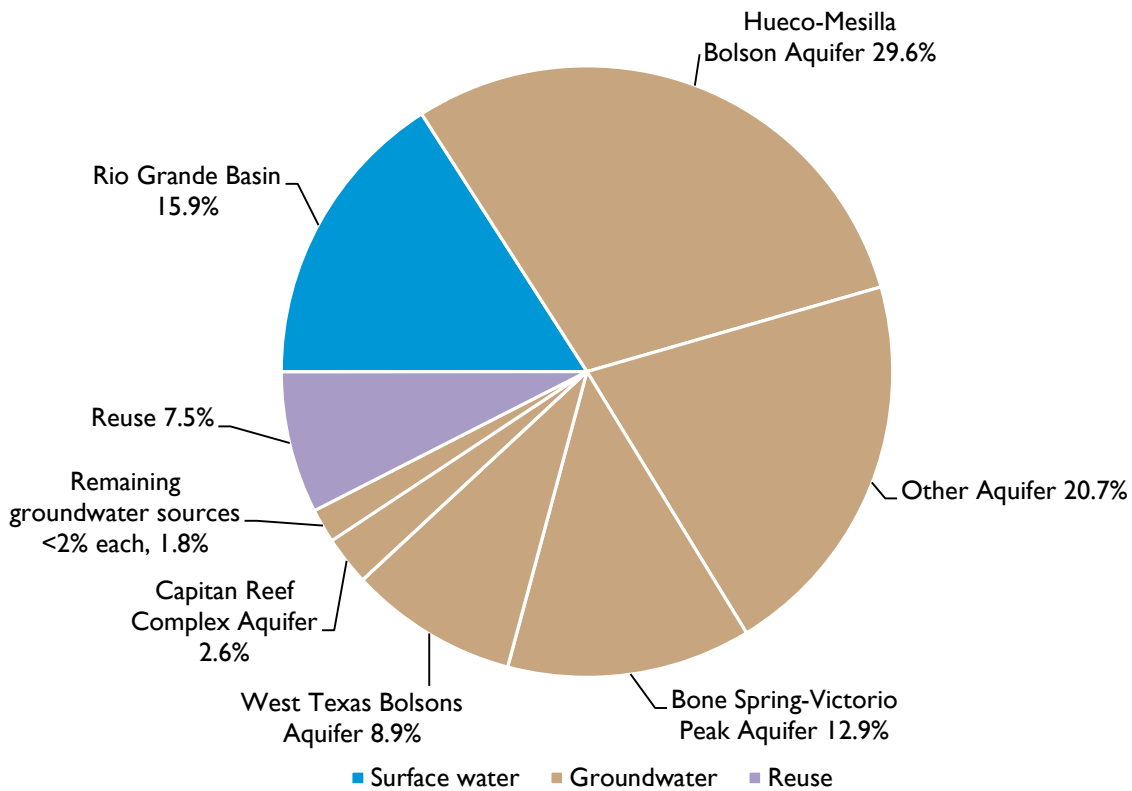
## Conservation

Conservation strategies represent 15 percent of the total volume of water associated with all recommended strategies in 2070. Water conservation was recommended for every municipal water user group that had a need in any planning decade.

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

Water supply source	2020	2070
<b>Surface water</b>		
Rio Grande Run-Of-River	75,000	75,000
Remaining surface water sources providing less than 2% each	4,000	4,000
<b>Surface water subtotal:</b>	<b>79,000</b>	<b>79,000</b>
<b>Groundwater</b>		
Hueco-Mesilla Bolson Aquifer	147,000	147,000
Other Aquifer	103,000	103,000
Bone Spring-Victorio Peak Aquifer	64,000	64,000
West Texas Bolsons Aquifer	44,000	44,000
Capitan Reef Complex Aquifer	13,000	13,000
Remaining groundwater sources providing less than 2% each	9,000	9,000
<b>Groundwater subtotal:</b>	<b>380,000</b>	<b>380,000</b>
<b>Reuse</b>	<b>37,000</b>	<b>44,000</b>
<b>Region total</b>	<b>496,000</b>	<b>503,000</b>

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



**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
EPWU - Advanced purified water at the Haskell and NW WWTPs	2040	El Paso	\$291,800,000
EPWU - Groundwater from Diablo Farms	2050	El Paso	\$273,507,000
EPWU - Groundwater from the Dell City area	2060	El Paso	\$257,901,000
El Paso County - EPCWID #1 - Improvements to water district delivery system	2020	Irrigation, El Paso	\$157,778,000
EPWU - Groundwater from Hueco Ranch	2040	El Paso	\$155,858,000
EPWU - Groundwater from Southern Hudspeth County	2020	El Paso	\$98,980,000
EPWU - Expansion of the Jonathan Rogers WWTP	2020	El Paso	\$95,187,000
EPWU - Advanced purified water at the Bustamante WWTP	2020	El Paso	\$94,096,000
EPWU - Riverside regulating reservoir	2020	El Paso	\$93,526,000
EPWU - Brackish groundwater at the Jonathan Rogers WWTP	2040	El Paso	\$65,865,000
<i>Other recommended projects</i>	<i>various</i>	<i>35 various</i>	<i>\$345,335,000</i>
<b>Total capital cost</b>			<b>\$1,929,833,000</b>

**Table E.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
Horizon Regional MUD - Additional Wells and Expansion of Desal Plant	153,000	2	25,000
EPWCID #1 - Improvements to Water District Delivery System	na	1	25,000
EPWU - Expansion of Local Well Fields	1,136,000	1	23,000
EPWU - Groundwater from Dell City Area	1,136,000	1	20,000
EPWU - Advanced Purified Water at the Haskell and NW WWTPS	1,136,000	1	17,000
El Paso County Manufacturing - Purchase New Water from EPWU	na	1	15,000
El Paso SEP - Purchase New Water from EPWU	na	1	13,000
EPWU - Brackish Groundwater at the Jonathan Rogers WWTP	1,136,000	1	11,000
EPWU - Groundwater from Diablo Farms	1,136,000	1	10,000
EPWU - Groundwater from Southern Hudspeth County	1,136,000	1	10,000
<i>Other recommended strategies</i>		<i>53</i>	<i>103,000</i>
<b>Total annual water volume</b>			<b>272,000</b>

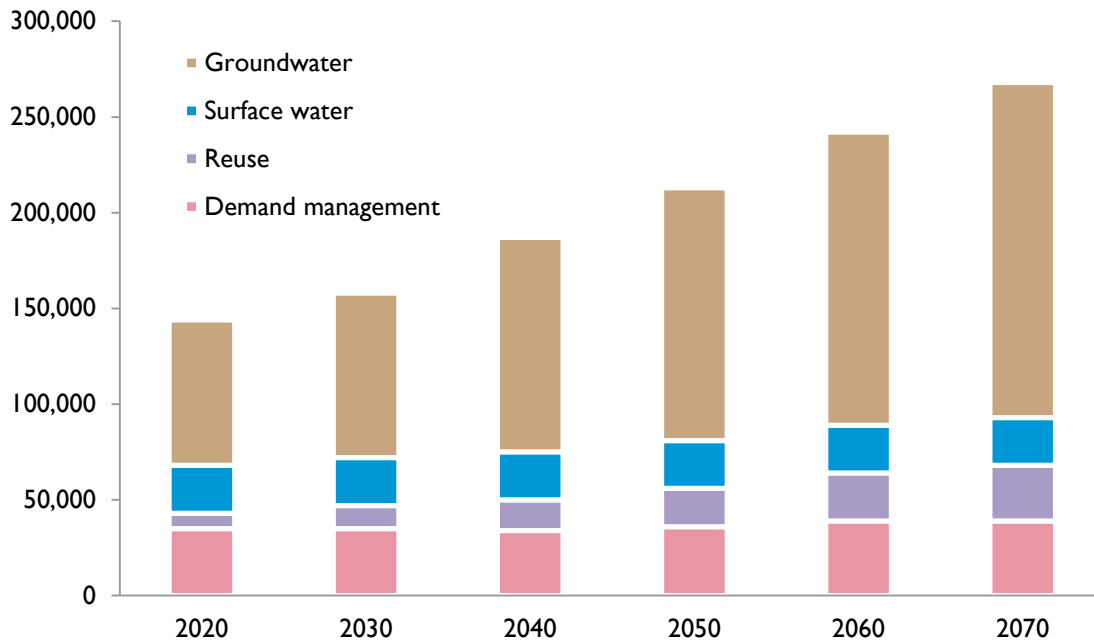
\* Multiple strategies may serve portions of the same population

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

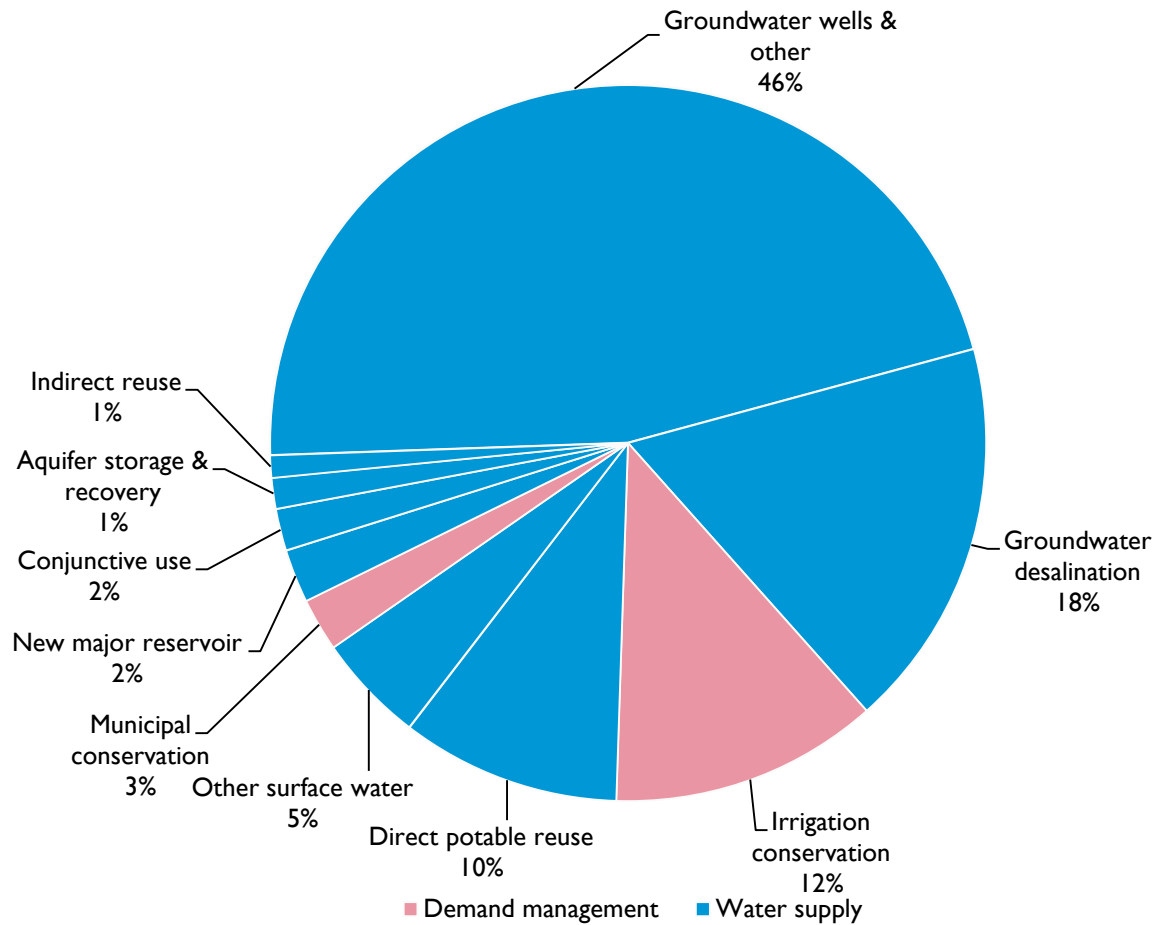
Decade	2020	2030	2040	2050	2060	2070	change
<b>Population</b>	<b>954,000</b>	<b>1,086,000</b>	<b>1,208,000</b>	<b>1,329,000</b>	<b>1,444,000</b>	<b>1,551,000</b>	<b>63%</b>
<b>Existing supplies</b>							
Surface water	79,000	79,000	79,000	79,000	79,000	79,000	0%
Groundwater	379,000	379,000	379,000	379,000	379,000	379,000	0%
Reuse	37,000	39,000	41,000	43,000	44,000	44,000	19%
<b>Total water supplies</b>	<b>495,000</b>	<b>497,000</b>	<b>499,000</b>	<b>501,000</b>	<b>502,000</b>	<b>502,000</b>	<b>1%</b>
<b>Demands</b>							
Municipal	134,000	148,000	162,000	176,000	191,000	205,000	53%
County-other	8,000	9,000	9,000	10,000	10,000	11,000	38%
Manufacturing	16,000	17,000	18,000	19,000	21,000	22,000	38%
Mining	6,000	7,000	8,000	8,000	9,000	9,000	50%
Irrigation	471,000	465,000	452,000	443,000	435,000	427,000	-9%
Steam-electric	7,000	8,000	10,000	11,000	13,000	16,000	129%
Livestock	3,000	3,000	3,000	3,000	3,000	3,000	0%
<b>Total water demand</b>	<b>645,000</b>	<b>657,000</b>	<b>661,000</b>	<b>671,000</b>	<b>682,000</b>	<b>694,000</b>	<b>8%</b>
<b>Needs</b>							
Municipal	5,000	10,000	14,000	27,000	41,000	55,000	1000%
County-other	<500	1,000	1,000	2,000	2,000	3,000	200%*
Manufacturing	9,000	10,000	11,000	12,000	13,000	15,000	67%
Mining	1,000	2,000	2,000	2,000	2,000	2,000	100%
Irrigation	170,000	162,000	148,000	139,000	131,000	124,000	-27%
Steam-electric	4,000	5,000	6,000	8,000	10,000	13,000	225%
<b>Total water needs</b>	<b>189,000</b>	<b>189,000</b>	<b>182,000</b>	<b>189,000</b>	<b>200,000</b>	<b>212,000</b>	<b>12%</b>
<b>Strategy supplies</b>							
Municipal	95,000	107,000	133,000	155,000	179,000	201,000	112%
County-other	2,000	2,000	2,000	3,000	3,000	4,000	100%
Manufacturing	9,000	10,000	11,000	12,000	13,000	15,000	67%
Mining	1,000	1,000	1,000	1,000	2,000	3,000	200%
Irrigation	33,000	33,000	33,000	33,000	33,000	33,000	0%
Steam-electric	4,000	5,000	6,000	8,000	10,000	13,000	225%
<b>Total strategy supplies</b>	<b>143,000</b>	<b>158,000</b>	<b>186,000</b>	<b>212,000</b>	<b>241,000</b>	<b>268,000</b>	<b>87%</b>

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

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



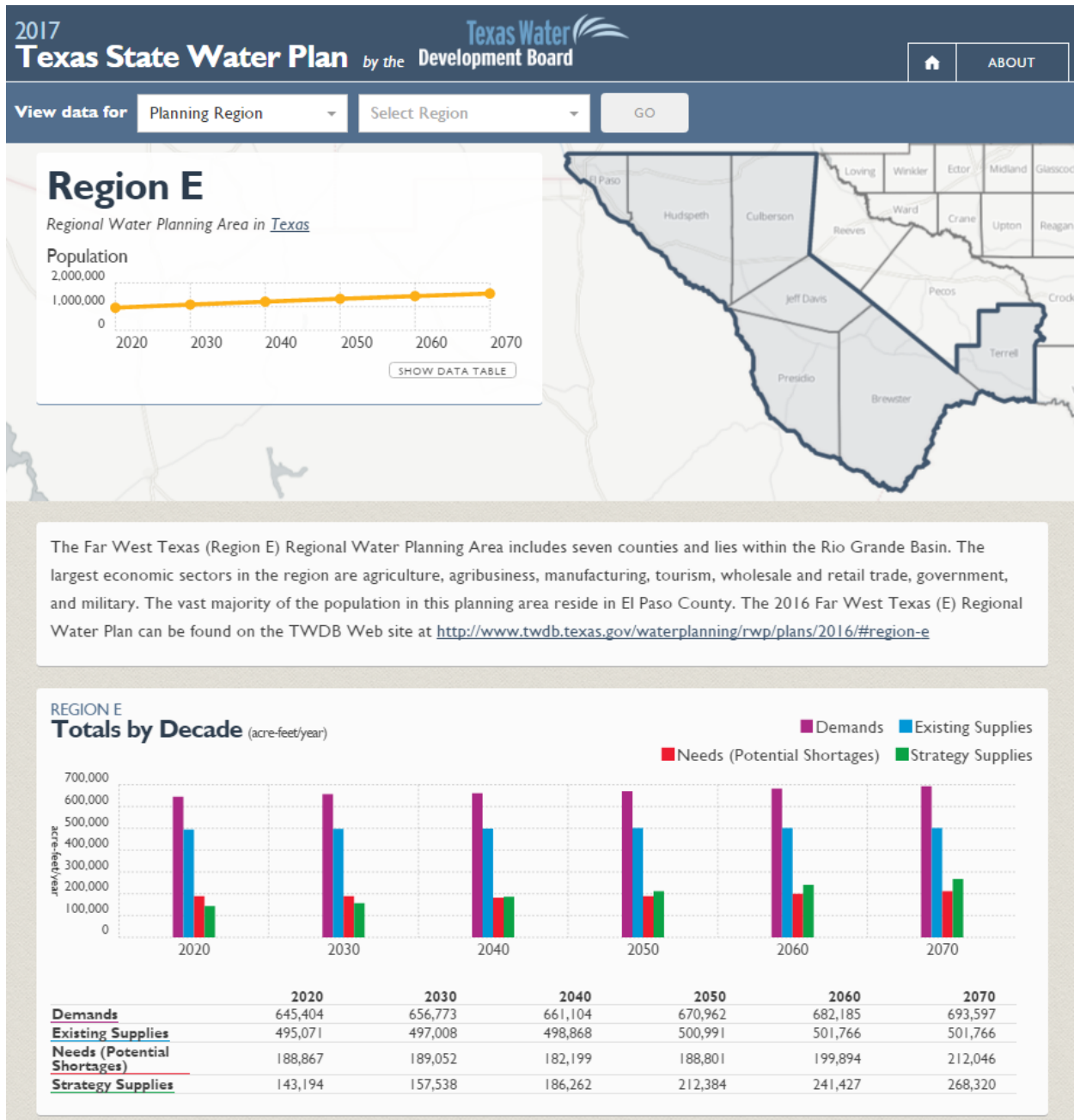
**Figure E.5 - Share of recommended water management strategies by strategy type in 2070**



### Far West Texas (E) voting planning group members (2012 – 2016)

Tom Beard, agriculture (Chair); Janet Adams, groundwater conservation districts; Ann Allen, industries; Ed Archuleta, municipalities; Randy Barker, groundwater conservation districts; Jeff Bennett, environmental; Sylvia Borunda Firth, municipalities; Becky Brewster, municipalities; Sterry Butcher, public; Roger Chacon, electric generating utilities; Michael Davidson, tourism; David Etzold, real estate; Willie Gandara, counties; Dave Hall, public; Mike Livingston, small business; Albert Miller, water utilities; Jim Ed Miller, water districts; Scott Mitchell, groundwater management areas; Kenn Norris, counties; Arlina Palacios, public; Vincent Perez, counties; Scott Reinert, municipalities; Jesus “Chuy” Reyes, water districts; Rick Tate, agriculture; Teresa Todd, counties; Paige Waggoner, economic development; Summer Webb, groundwater management areas

For more information on Texas or specific regions, counties, or cities, please visit the 2017 Interactive State Water Plan website: [texasstatewaterplan.org](http://texasstatewaterplan.org)



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