



Summary of the 2021 Plateau (J) Regional Water Plan¹

Texas' regional water plans

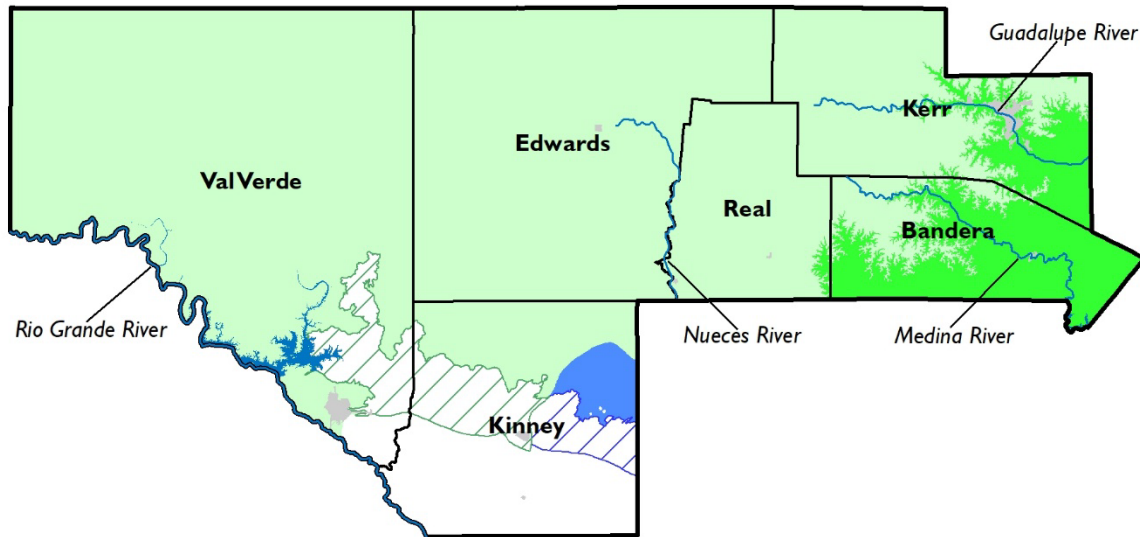
Regional water plans are funded by the Texas Legislature and developed every five years based on conditions that each region would face under a recurrence of a historical drought of record. The 16 regional water plans are developed by local representatives in a public, bottom-up process. The regional 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 Plateau (J) Regional Water Planning Area includes six counties (Figure J.1). The region includes portions of the Colorado, Guadalupe, Nueces, Rio Grande, and San Antonio river basins. Land use in the western portion of the planning area is primarily rangeland, while the eastern portion is a mix of forestland, rangeland, and agricultural areas. The economy of this region is based primarily on tourism, hunting, ranching, and government. Major cities in the region include Del Rio and Kerrville. The 2021 Plateau (J) Regional Water Plan can be found on the TWDB website at <http://www.twdb.texas.gov/waterplanning/rwp/plans/2021/index.asp#region-j>.

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

Figure J.1 - Plateau (J) regional water planning area



-  Region J
-  Major Rivers
-  Cities
-  Existing Reservoirs
-  Edwards (Balcones Fault Zone) Aquifer (outcrop)
-  Edwards (Balcones Fault Zone) Aquifer (subsurface)
-  Edwards-Trinity (Plateau) Aquifer (outcrop)
-  Edwards-Trinity (Plateau) Aquifer (subsurface)
-  Trinity Aquifer
-  Ellenburger-San Saba Aquifer*
-  Hickory Aquifer*

* Minor aquifer (only shown where there is no major aquifer).

Plan highlights

- Additional supply needed in 2070—9,000 acre-feet per year
- Recommended water management strategy volume in 2070—26,000 acre-feet per year
- 45 recommended water management strategy projects with a total capital cost of \$220 million
- Groundwater development accounts for 43 percent of 2070 strategy volumes
- Aquifer storage and recovery accounts for 23 percent of 2070 strategy volumes

Population and water demands

Approximately 1 percent of the state’s 2020 population were projected to reside in the Plateau (J) Region. Between 2020 and 2070, the region’s population is projected to increase 31 percent (Table J.4, Figure J.2). By 2070, the total water demands for the region are projected to increase 16 percent (Table J.4).

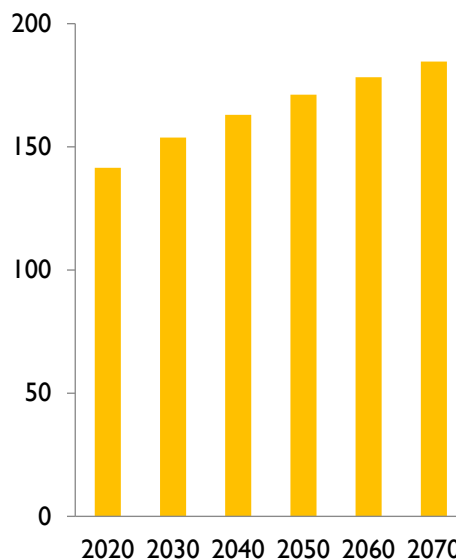
Existing water supplies

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

Needs

Although on a region-wide basis it might appear that the Plateau (J) Region has enough water supplies to meet demands through 2070, the total water supply volume is not accessible to all water users throughout the region (Table J.4). In the event of drought, Region J is projected to have a total water supply need of 6,000 acre-feet in 2020 (Table J.4).

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



Recommended water management strategies and cost

The Plateau (J) 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 J.4 and J.5, Tables J.2 and J.3). In all, the 57 strategies and 45 projects would provide 26,000 acre-feet of additional water supply by the year 2070 at a total capital cost of \$220 million.

Recommended water management strategies meet all identified needs in the plan except for 500 acre-feet per year associated with municipal and livestock uses in 2020, increasing to approximately 900 acre-feet per year in 2070. The Region J plan demonstrated that municipal unmet needs would not pose a threat to public health, safety, and welfare in the event of a repeat of the drought of record. An unmet need does not prevent an associated entity from pursuing development of additional water supply.

Conservation

Conservation strategies represent 1 percent of the total volume of water associated with all recommended strategies in 2070. Water conservation was encouraged for every municipal water user group that had a water supply shortage. Water loss audits and leak repair strategies were recommended for entities with reported water loss greater than 10 percent. In addition, water loss audit and leak repair programs were encouraged for municipal water user groups with water use higher than 200 gallons per capita per day.

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

Water supply source	2020	2070
Surface water		
Rio Grande Run-of-River	17,000	17,000
Nueces Run-of-River	2,000	2,000
Guadalupe Run-of-River	1,000	1,000
Remaining surface water (sources providing less than 2% each)	<500	<500
Surface water total	21,000	21,000
Groundwater		
Trinity Aquifer	20,000	20,000
Edwards-Trinity-Plateau, Pecos Valley, and Trinity Aquifers	12,000	12,000
Edwards-BFZ Aquifer	2,000	2,000
Edwards-Trinity-Plateau Aquifer	2,000	2,000
Austin Chalk Aquifer	1,000	1,000
Remaining groundwater (sources providing less than 2% each)	1,000	1,000
Groundwater total	38,000	38,000
Reuse	2,000	2,000
Region total	62,000	62,000

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

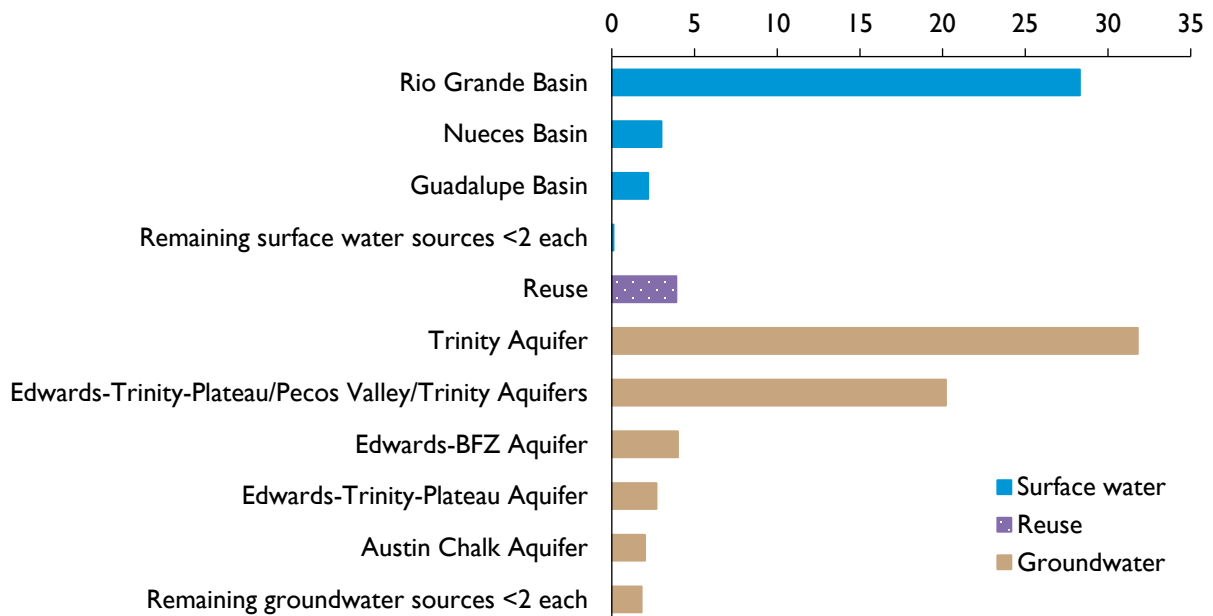


Table J.2 - Ten recommended water management strategy projects with largest capital cost

Recommended water management strategy project	Online Decade	Sponsor(s)	Associated capital cost
City of Bandera - Surface Water Acquisition, Treatment and ASR	2030	Bandera	\$34,188,000
EKCRWSP - Construction of Off-Channel Surface Water Storage	2030	County-Other (Kerr)	\$25,231,000
EKCRWSP - Construction of Surface Water Treatment Facilities And Transmission Lines	2030	County-Other (Kerr)	\$22,829,000
EKCRWSP - Construction of Desalination Plant	2030	County-Other (Kerr)	\$21,126,000
City of Kerrville - Increased Water Treatment and ASR Capacity	2030	Kerrville	\$15,393,000
City of Kerrville - Explore and Develop New Ellenburger Aquifer Well Supply	2020	Kerrville	\$14,493,000
City of Del Rio - Additional Groundwater Well	2020	Del Rio Utilities Commission	\$12,695,000
City of Kerrville - Water Loss Audit and Main-Line Repair	2020	Kerrville	\$12,636,000
City of Kerrville - Increase Wastewater Reuse	2020	Kerrville	\$12,570,000
City of Del Rio - Water Treatment Plant Expansion	2030	Del Rio Utilities Commission	\$8,646,000
Other recommended projects	various	35 various	\$40,058,000
Total capital cost			\$219,865,000

Table J.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
City of Del Rio - Drill and Equip a New Well and Connect to Distribution System	49,000	1	7,000
City of Kerrville - Increased Water Treatment and ASR Capacity	29,000	1	3,000
Eastern Kerr County Regional Water Supply Project	26,000	1	3,000
City of Del Rio - Develop a Wastewater Reuse Program	49,000	1	3,000
City of Kerrville - Increase Wastewater Reuse	29,000	1	3,000
City of Bandera - Surface Water Acquisition, Treatment and ASR	2,000	1	2,000
City of Kerrville - Explore and Develop New Ellenburger Aquifer Well Supply	29,000	1	1,000
City of Del Rio - Water Treatment Plant Expansion	49,000	1	1,000
Fort Clark Springs MUD - Increase Storage Facility	1,000	1	1,000
Bandera County Other - Drought Management (BCRAGD) (San Antonio)	22,000	1	1,000
Other recommended strategies	na	47	2,000
Total annual water volume			26,000

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

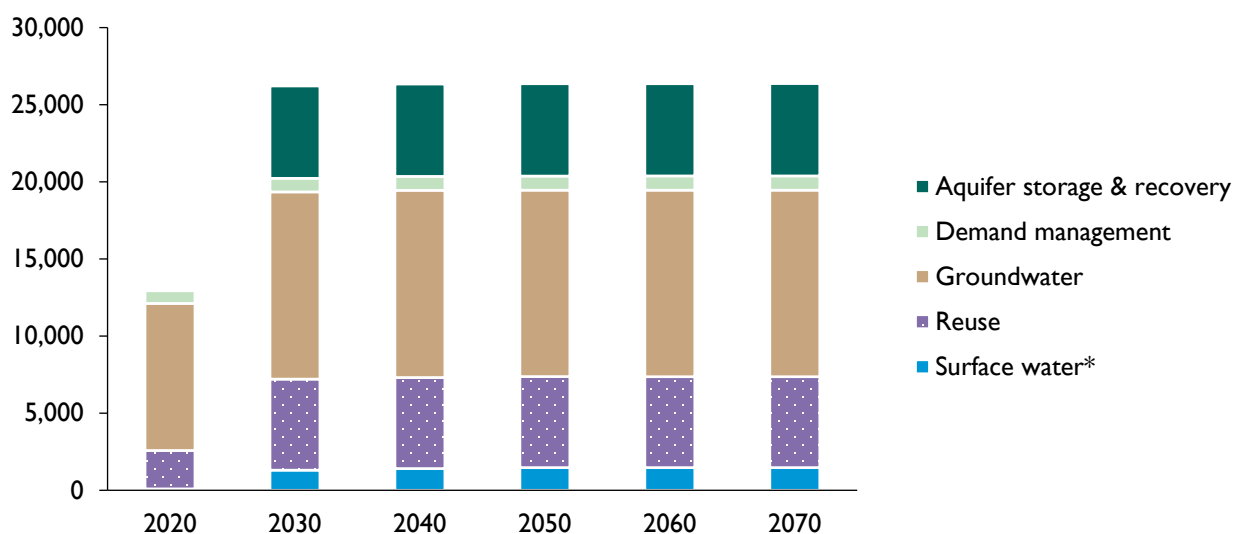
Table J.4 - Population, existing supplies, demands, needs, and strategies 2020–2070 (acre-feet per year)

	Decade	2020	2030	2040	2050	2060	2070	Change
	Population	141,000	154,000	163,000	171,000	178,000	185,000	31%
Existing supplies	Surface water	21,000	21,000	21,000	21,000	21,000	21,000	0%
	Groundwater	38,000	38,000	38,000	38,000	38,000	38,000	0%
	Reuse	2,000	2,000	2,000	2,000	2,000	2,000	0%
	Total water supplies	62,000	62,000	62,000	62,000	62,000	62,000	0%
Demands	Municipal	19,000	20,000	21,000	21,000	22,000	23,000	21%
	County-other	7,000	7,000	8,000	8,000	9,000	9,000	29%
	Manufacturing	<500	<500	<500	<500	<500	<500	0%
	Mining	<500	<500	<500	<500	<500	<500	0%
	Irrigation	9,000	9,000	9,000	9,000	9,000	9,000	0%
	Livestock	2,000	2,000	2,000	2,000	2,000	2,000	0%
	Total water demand	37,000	39,000	40,000	41,000	42,000	43,000	16%
Needs	Municipal	5,000	5,000	6,000	7,000	7,000	8,000	60%
	County-other	<500	<500	<500	<500	<500	1,000	0%*
	Mining	<500	<500	<500	<500	<500	<500	0%
	Irrigation	<500	<500	<500	<500	<500	<500	0%
	Livestock	<500	<500	<500	<500	<500	<500	0%
	Total water needs	6,000	6,000	7,000	8,000	8,000	9,000	50%
Strategy supplies	Municipal	12,000	22,000	22,000	22,000	22,000	22,000	83%
	County-other	1,000	4,000	4,000	4,000	4,000	4,000	300%
	Mining	<500	<500	<500	<500	<500	<500	0%
	Irrigation	<500	<500	<500	<500	<500	<500	0%
	Livestock	<500	<500	<500	<500	<500	<500	0%
	Total strategy supplies	13,000	26,000	26,000	26,000	26,000	26,000	100%

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.

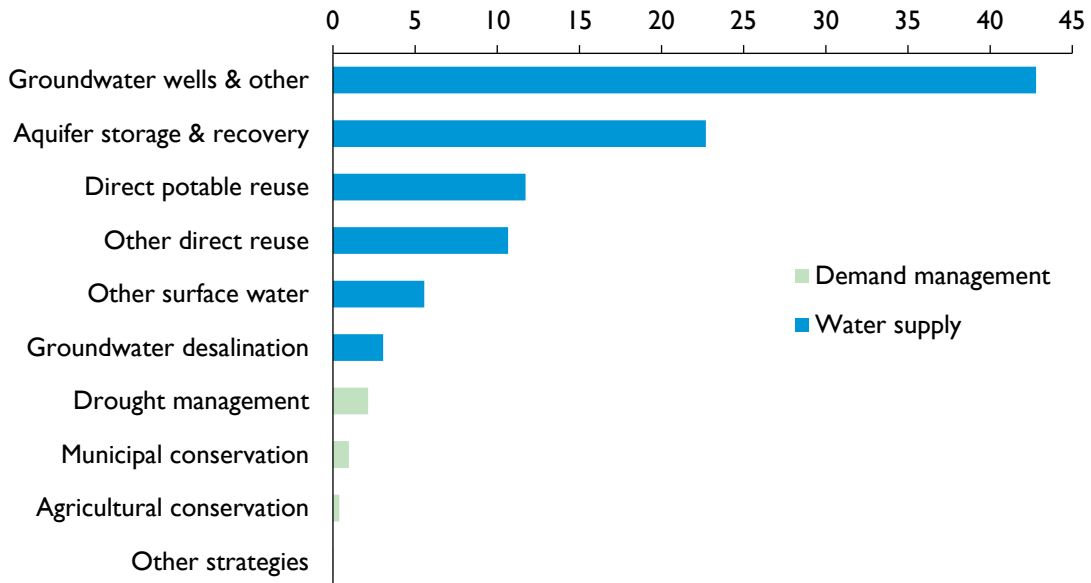
* Percentage based on change from the earliest decade with volumes ≥ 500 acre-feet per year.

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



* Strategy volume at a scale not represented in the figure in at least one decade

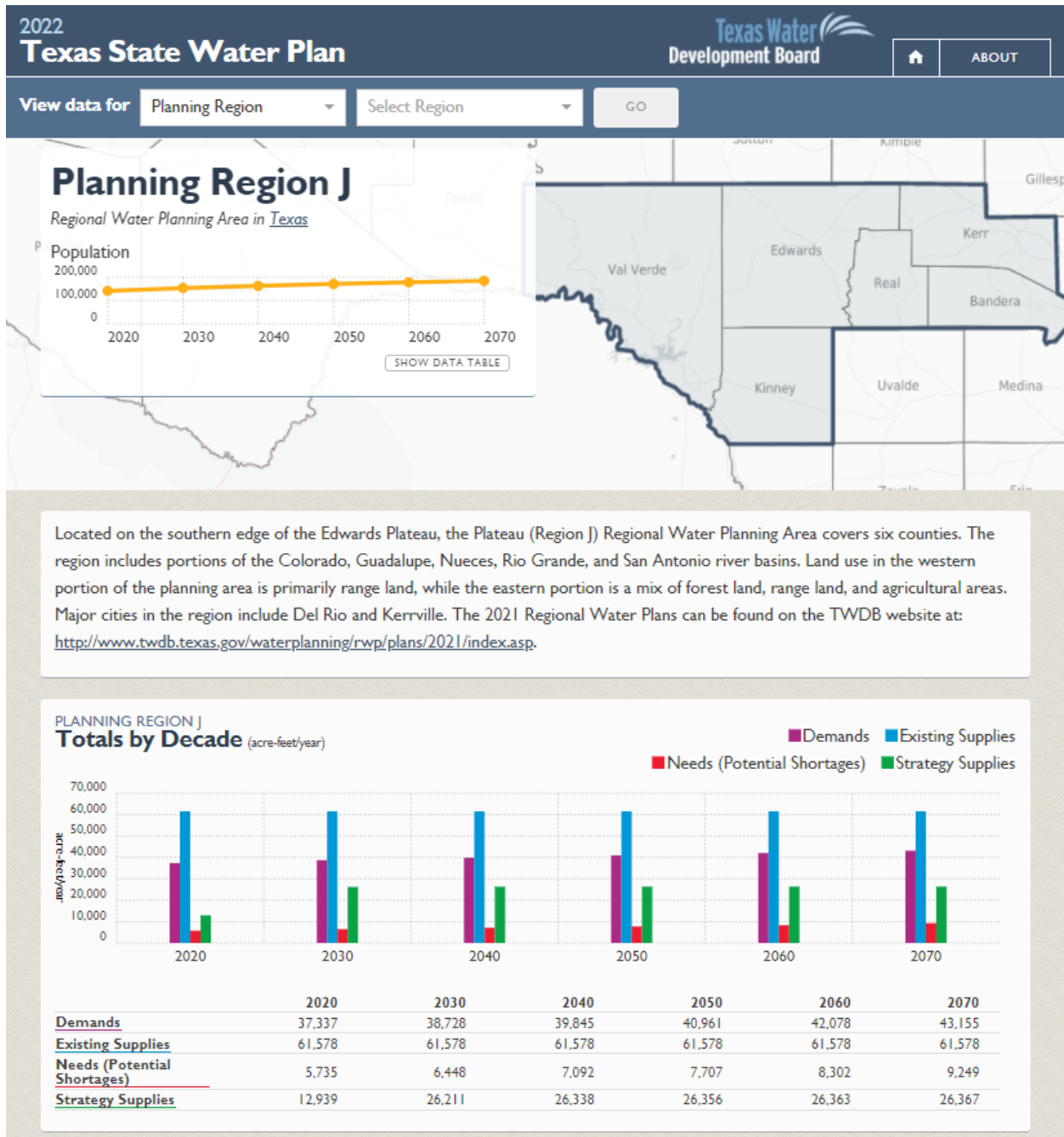
Figure J.5 - Share of recommended water management strategies by strategy type in 2070 (percent)



Plateau (J) voting planning group members (2017–2021)

Jonathan Letz, small business (Chair); Stuart Barron, municipalities; Ray Buck, river authorities; Zack Davis, agriculture; Dell Dickinson, public; Charlie Flatten, public; Otila Gonzalez, municipalities; Jerry Heffley, water utilities; Genell Hobbs, groundwater management areas; David Jeffery, groundwater management areas; Mitch Lomas, municipalities; Scott Loveland, municipalities; Max Martin, public; David Mauk, water districts; Joseph McDaniel, industries; Joel Pigg, groundwater management areas; Thomas M. Qualia, public; Wes Robinson, agriculture; Tully Shahan, environment; Jerry Simpton, other; Homer T. Stevens, Jr., tourism; Lee Sweeten, counties; Roland Trees, water districts; Rene Villareal, water districts; Charles Wiedenfeld, water utilities; Gene Williams, water districts; and William F. Wilson, other.

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



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