



Summary of the 2016 Coastal Bend (N) 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

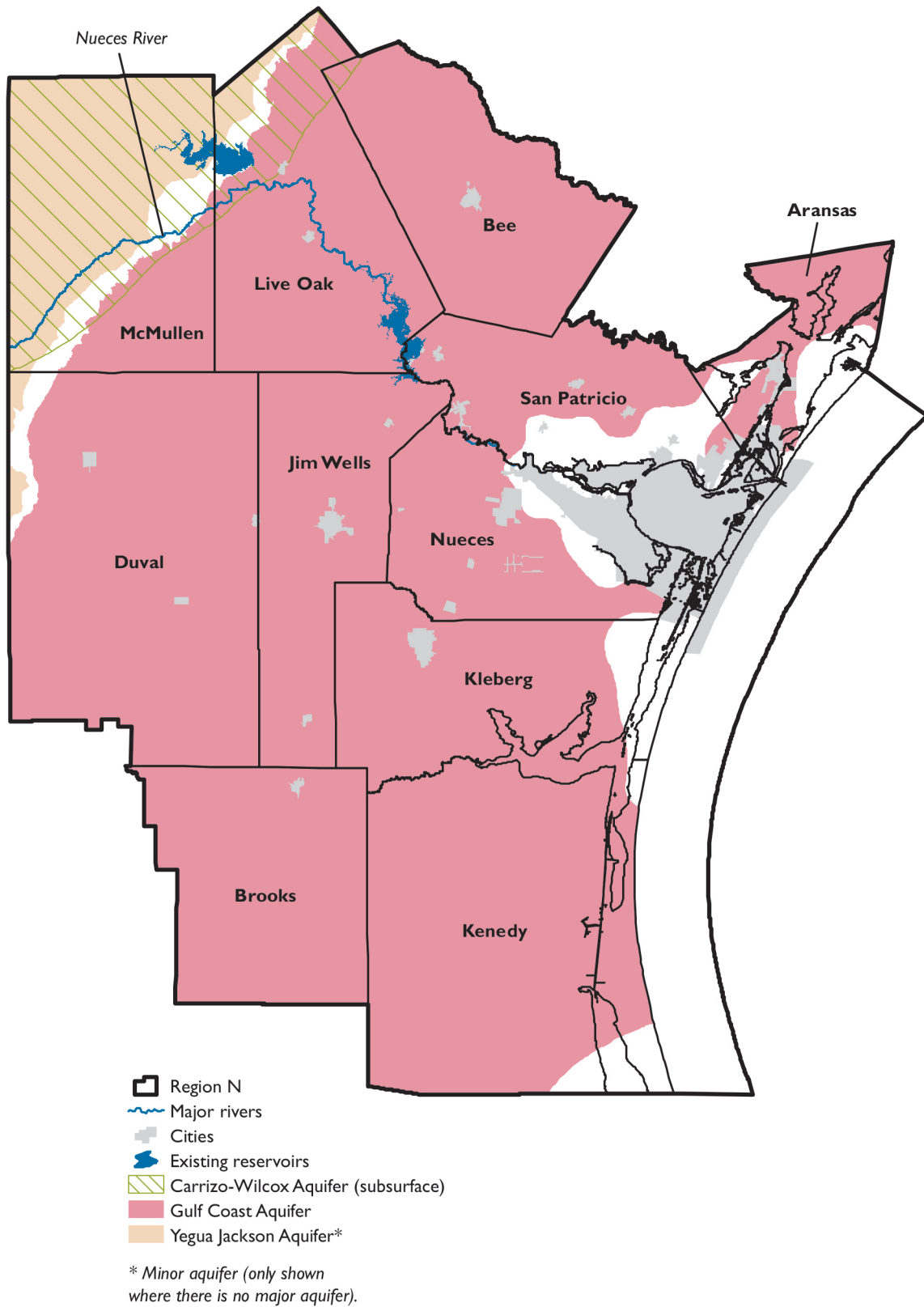
- provide for the orderly development, management, and conservation of water resources,
- prepare for and respond to drought conditions, and
- make sufficient water available at a reasonable cost to ensure public health, safety, and welfare and further economic development while protecting the agricultural and natural resources of the entire state.

The Coastal Bend (N) Regional Water Planning Area includes all or parts of 11 counties, portions of the Nueces River Basin and its adjoining coastal basins, including the Nueces Estuary (Figure N.1). Most of the water supplies for the region are provided from surface water in the Choke Canyon/Lake Corpus Christi/Texana/Mary Rhodes Phase II system through the City of Corpus Christi, which is the region's largest metropolitan area. The Gulf Coast Aquifer provides the largest supply of groundwater. The largest economic sectors in the region are service industries, retail trade, government, construction, manufacturing, and the petrochemical industry. The 2016 Coastal Bend (N) Regional Water Plan can be found on the TWDB website at

<http://www.twdb.texas.gov/waterplanning/rwp/plans/2016/#region-n>

¹ Planning numbers presented throughout this document and as compared to the 2017 Interactive State Water Plan may vary due to rounding.

Figure N.1 - Coastal Bend (N) regional water planning area



Plan highlights

- Additional supply needed in 2070—51,000 acre-feet per year
- Recommended water management strategy (WMS) volume in 2070—98,000 acre-feet per year
- 18 recommended water management strategy projects with a total capital cost of \$510 million
- Conservation accounts for 22 percent of 2070 strategy volumes
- Seawater desalination, reuse, and the Guadalupe-Blanco River Authority Lower Basin Off-Channel Reservoir account for the largest share of recommended strategy volumes in 2070

Population and water demands

Approximately 2 percent of the state's 2020 population will reside in the Coastal Bend (N) Region. Between 2020 and 2070, the region's population is projected to increase 21 percent (Table N.4, Figure N.2). By 2070, the total water demands for the region are projected to increase 31 percent (Table N.4).

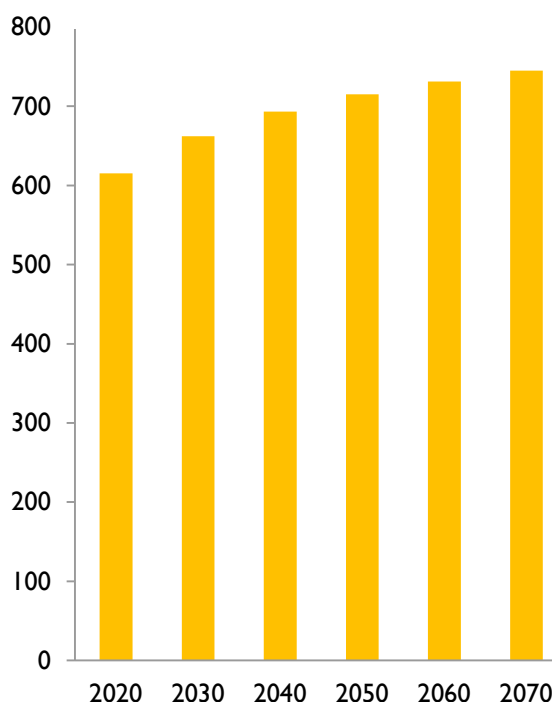
Existing water supplies

The Coastal Bend (N) Region has a variety of surface water and groundwater supply sources, with more than two-thirds of the 2020 existing water supply in the region associated with surface water (Table N.1, Figure N.3). By 2070 the total existing water supply is projected to increase 11 percent (Table N.4). This projected increase in supply is primarily a result of the water that will be brought in by the Mary Rhodes II Pipeline to the Choke Canyon/Lake Corpus Christi/Texana reservoir system.

Needs

Although on a region-wide basis it might appear that the Coastal Bend (N) Region has enough water supplies to meet demands through during the 2020-2050 decades, the total water supply volume is not accessible to all water users throughout the region (Table N.4). In the event of drought, Region N is projected to have a total water supply need of 51,000 acre-feet in 2070 (Table N.4).

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



Recommended water management strategies and cost

The Coastal Bend (N) 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 N.4 and N.5, Tables N.2 and N.3). In all, the 54 strategies and 18 projects would provide 98,000 acre-feet of additional water supply by the year 2070 at a total capital cost of \$510 million.

Conservation

Conservation strategies represent about 22 percent of the total volume of water associated with all recommended strategies in 2070. Municipal water conservation was recommended for every municipal water user group that had a water use greater than 140 gallons per capita day.

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

Water supply source	2020	2070
Surface water		
Corpus Christi-Choke Canyon Lake/Reservoir System	113,000	141,000
Texana Lake/Reservoir	42,000	42,000
Colorado Run-Of-River	27,000	29,000
Remaining surface water sources providing less than 2% each	5,000	5,000
Surface water subtotal:	187,000	217,000
Groundwater		
Gulf Coast Aquifer	88,000	88,000
Remaining groundwater sources providing less than 2% each	2,000	2,000
Groundwater subtotal:	90,000	90,000
Reuse	2,000	2,000
Region total	279,000	309,000

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

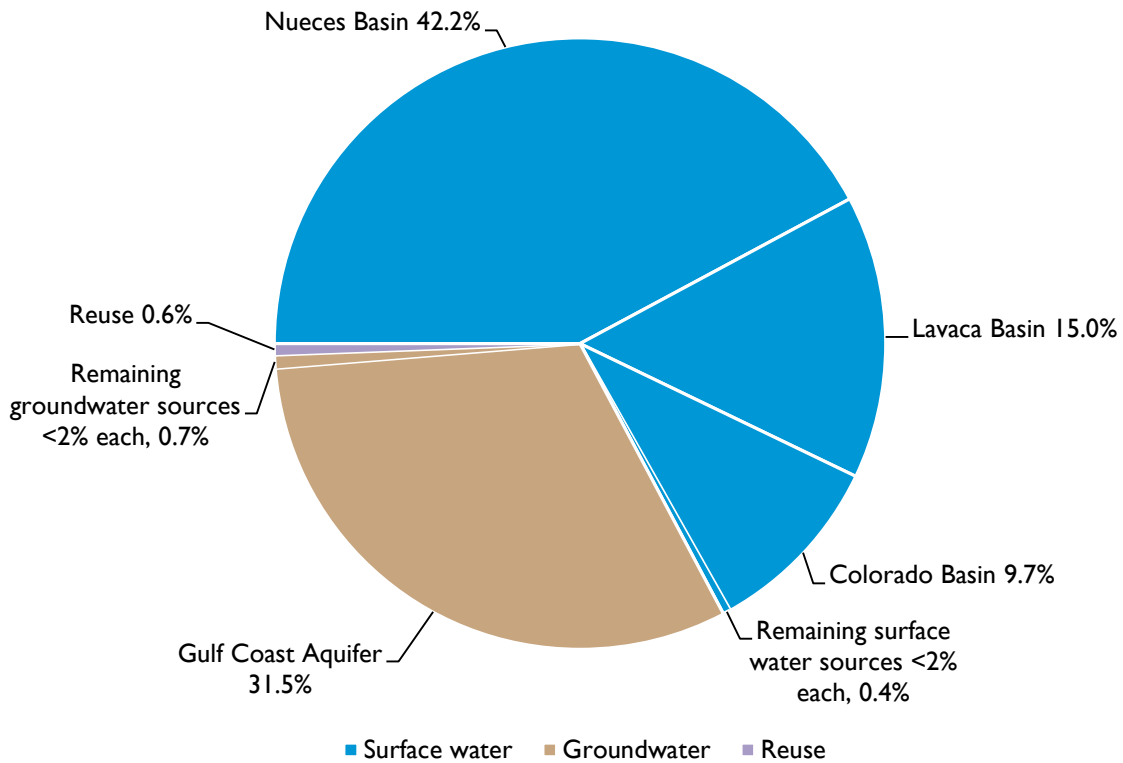


Table N.2 - Ten recommended water management strategy projects with largest capital cost

Recommended water management strategy project	Online decade	Sponsor(s)	Associated capital cost
Seawater Desalination	2030	Corpus Christi	\$248,000,000
SPMWD Industrial WTP Improvements	2020	San Patricio MWD	\$58,366,000
Additional Reuse - Corpus Christi	2030	Corpus Christi	\$52,097,000
O.N. Stevens WTP Improvements	2020	Corpus Christi	\$44,030,000
Brackish Groundwater Development - Alice	2020	Alice	\$33,277,000
Pipeline Replacement Program (Alice)	2030	Alice	\$21,384,000
Portland Reuse Pipeline	2020	San Patricio MWD	\$21,292,000
Reuse - Alice	2030	Alice	\$8,661,000
Local Balancing Storage - Robstown	2020	Nueces County WCID #3	\$8,182,000
Alice-STWA Interconnections	2020	Alice	\$5,866,000
Other recommended projects	various	8 various	\$8,947,000
Total capital cost			\$510,102,000

Table N.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
Seawater Desalination	na	3	22,000
Additional Reuse - Corpus Christi	na	1	20,000
GBRA Lower Basin Off-Channel Reservoir	29,000	4	20,000
Municipal Water Conservation (Urban)	409,000	1	11,000
Brackish Groundwater Development - Alice	29,000	1	3,000
Municipal Water Conservation (Suburban)	68,000	11	3,000
Irrigation Water Conservation	na	2	3,000
Municipal Water Conservation (Rural)	71,000	10	3,000
Portland Reuse Pipeline	na	1	2,000
SPMWD Industrial WTP Improvements	na	1	2,000
Other recommended strategies		20	6,000
Total annual water volume			95,000

* Multiple strategies may serve portions of the same population

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

	Decade	2020	2030	2040	2050	2060	2070	change
Population		615,000	662,000	693,000	715,000	731,000	745,000	21%
Existing supplies	Surface water	188,000	199,000	209,000	217,000	217,000	218,000	16%
	Groundwater	90,000	90,000	90,000	90,000	90,000	90,000	0%
	Reuse	2,000	2,000	2,000	2,000	2,000	2,000	0%
	Total water supplies	279,000	291,000	301,000	308,000	308,000	309,000	11%
Demands	Municipal	100,000	105,000	108,000	110,000	112,000	114,000	14%
	County-other	13,000	13,000	13,000	14,000	14,000	14,000	8%
	Manufacturing	92,000	99,000	105,000	111,000	119,000	127,000	38%
	Mining	9,000	10,000	10,000	7,000	6,000	5,000	-44%
	Irrigation	26,000	29,000	31,000	34,000	36,000	40,000	54%
	Steam-electric	15,000	18,000	21,000	24,000	29,000	35,000	133%
	Livestock	7,000	7,000	7,000	7,000	7,000	7,000	0%
	Total water demand	262,000	280,000	295,000	307,000	324,000	343,000	31%
Needs	Municipal	2,000	2,000	2,000	2,000	2,000	2,000	0%
	Manufacturing	6,000	9,000	11,000	15,000	27,000	38,000	533%
	Mining	3,000	3,000	3,000	1,000	<500	0	-100%
	Irrigation	<500	<500	<500	1,000	2,000	4,000	300%*
	Steam-electric	0	0	0	0	3,000	7,000	133%*
	Total water needs	11,000	14,000	16,000	18,000	34,000	51,000	364%*
Strategy supplies	Municipal	11,000	21,000	26,000	26,000	27,000	28,000	155%
	County-other	<500	<500	<500	<500	<500	<500	0%
	Manufacturing	31,000	74,000	66,000	59,000	58,000	57,000	84%
	Mining	1,000	1,000	1,000	1,000	1,000	1,000	0%
	Irrigation	<500	<500	<500	2,000	3,000	4,000	100%*
	Steam-electric	7,000	13,000	10,000	8,000	8,000	8,000	14%
	Total strategy supplies	51,000	109,000	103,000	97,000	98,000	98,000	92%

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

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

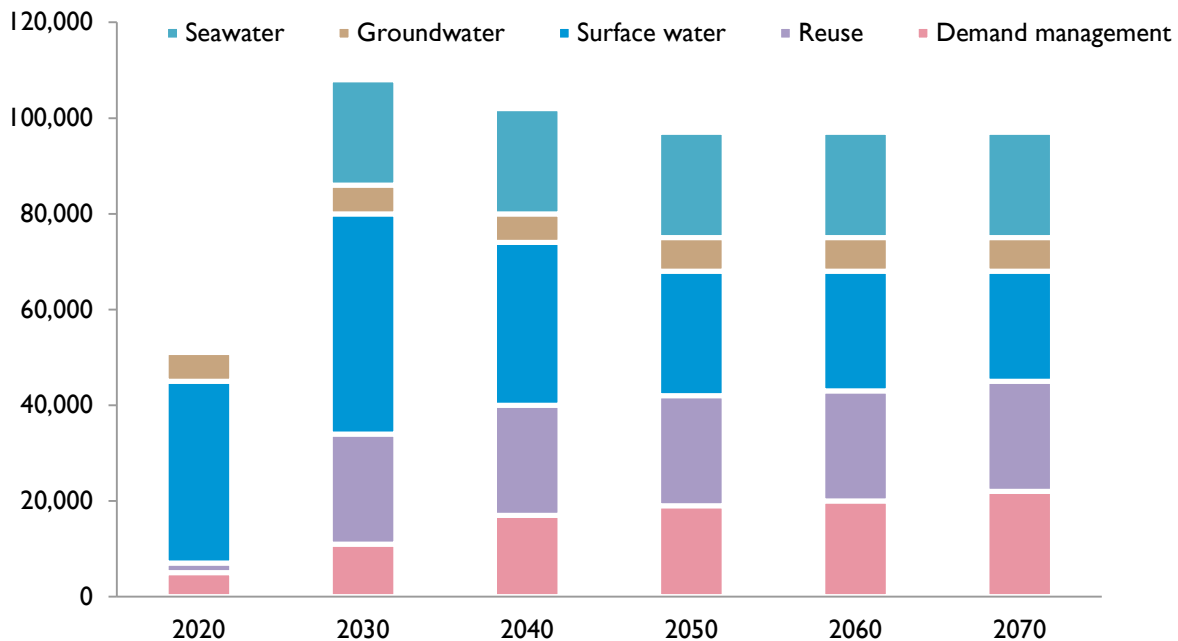
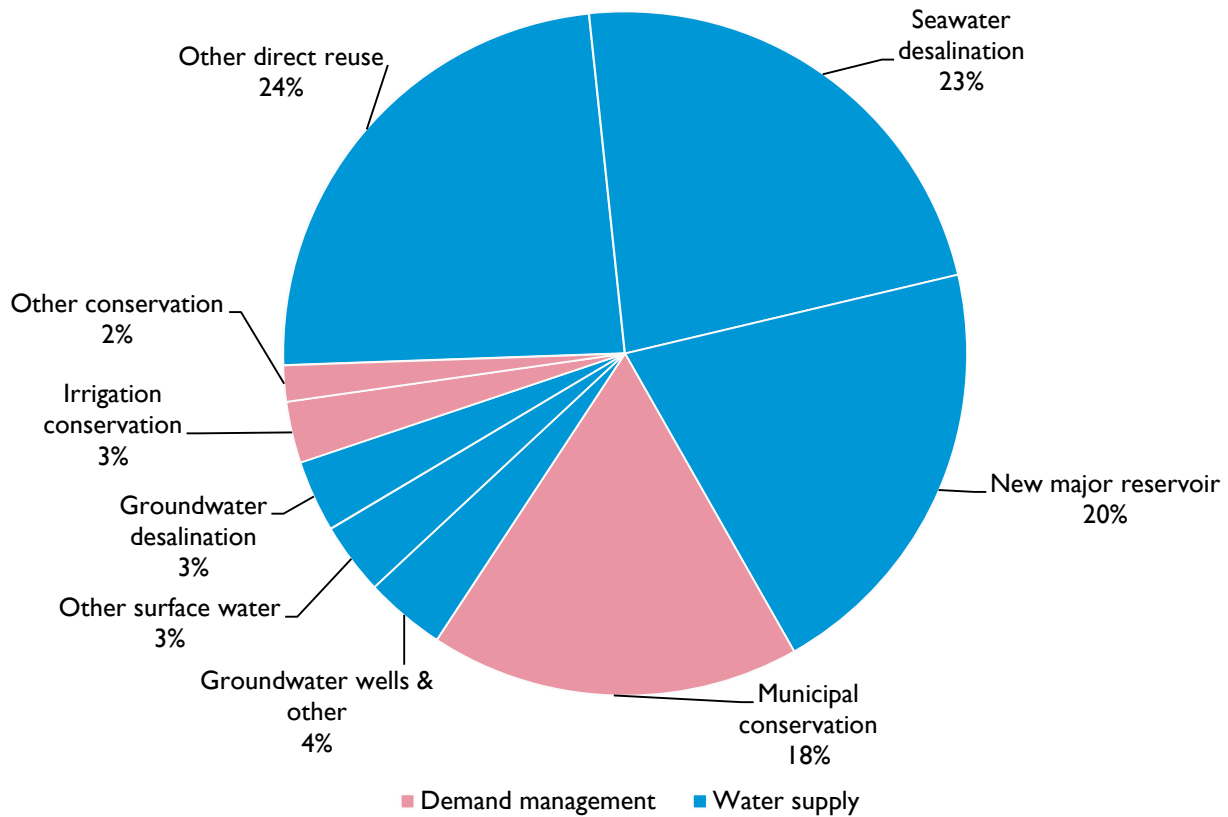


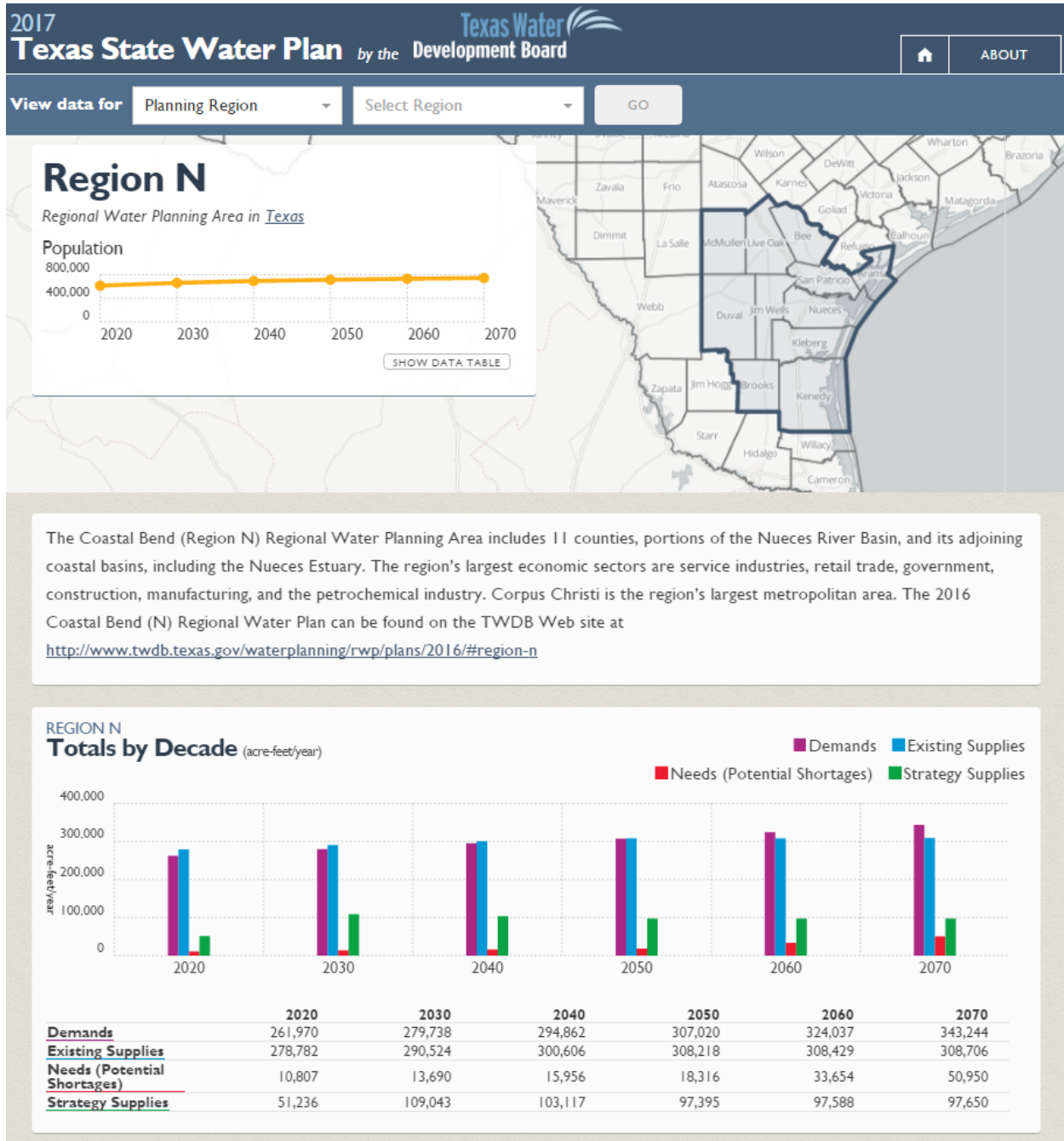
Figure N.5 - Share of recommended water management strategies by strategy type in 2010



Coastal Bend (N) voting planning group members (2012 – 2016)

Carola Serrato, water utilities (Co-Chair); Scott Bledsoe, water districts (Co-Chair); Joe Almaraz, industry; Tom Ballou, industry; Chuck Burns, agriculture; Teresa Carillo, environment; Billy Dick, municipalities; Bill Dove, small business; Lavoyger Durham, counties; Gary Eddins, electric-generating utilities; Andy Garza, groundwater management areas; Bill Hennings, other; Pancho Hubert, small business; Pearson Knolle, small business; Lindsey Koenig, public; David Krebs, small business; Robert Kunkel, industry; Martin Ornelas, public; Bernard Paulson, other; Thomas Reding, river authorities; Charles Ring, agriculture; Mark Scott, municipalities; Lonnie Stewart, groundwater management areas; Kimberly Stockseth, public; William Stockton, counties; Mark Sugarek, groundwater management areas; Jace Tunnell, environment

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



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