



Summary of Region F

Located in West Texas, the Region F Regional Water Planning Area is located in the Edwards Plateau. Reeves County forms the western boundary and Brown County the eastern boundary of the 32-county region (Figure F.1). Intersected by the Pecos River to the south and the Colorado River to the north, most of the region is located in the upper portion of the Colorado River Basin and Pecos portion of the Rio Grande Basin; a small portion is in the Brazos Basin. The major cities in the region include Midland, Odessa, and San Angelo. The region's economy relies heavily on healthcare and social assistance, mining, manufacturing, and oil and gas employment sectors. The members of the

Region F Planning Group are listed on the last page of this summary.

Population and Water Demands

Just over 2 percent of the state's total population is projected to reside in Region F by the year 2010. Between 2010 and 2060, the population is projected to grow 17 percent to 724,094 (Figure F.2). Despite projected population growth in the region, total water demands for the region are projected to remain relatively level throughout the planning period, increasing by 2 percent, from 807,453 acre-feet in 2010 to 825,581 acre-feet

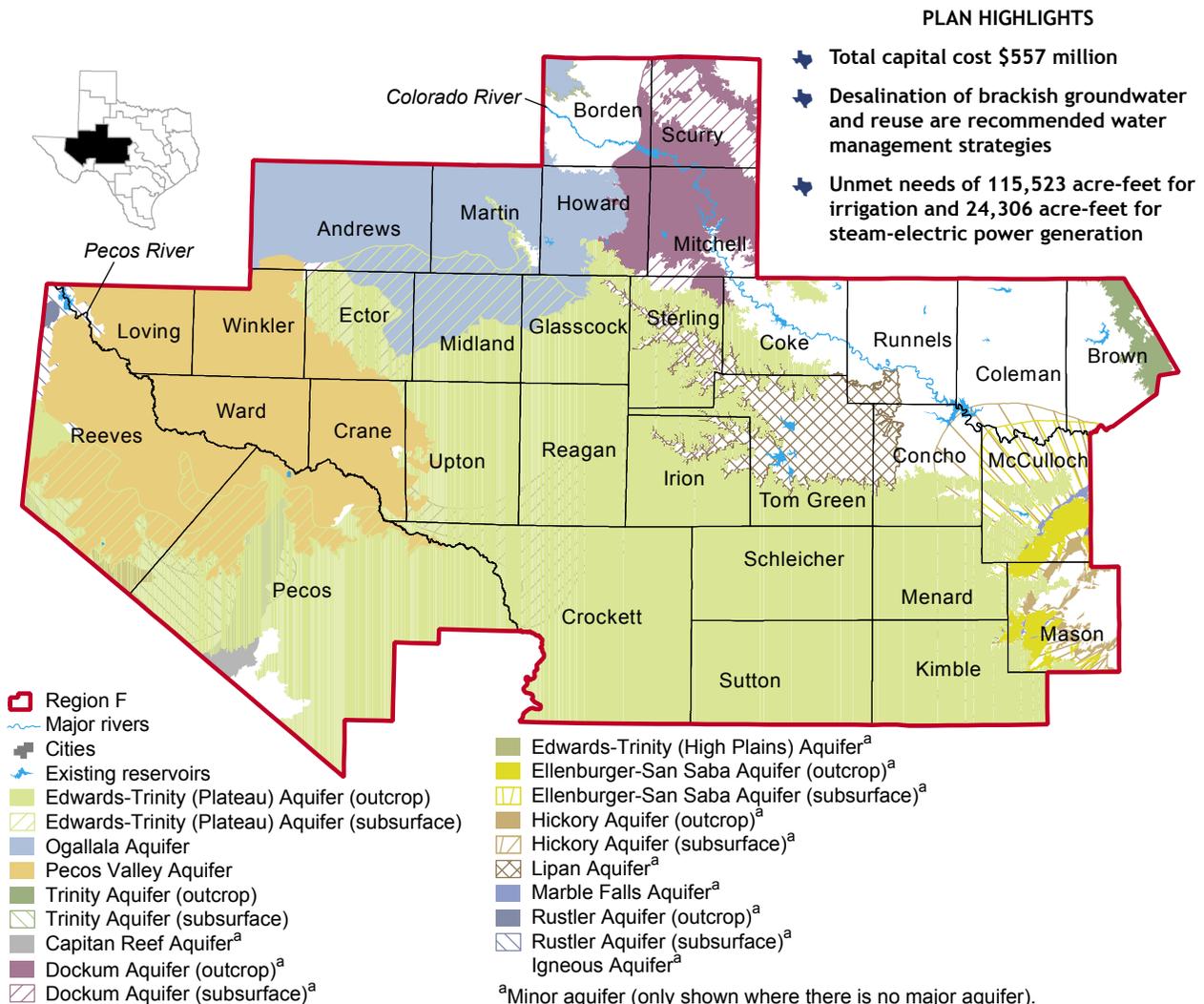


Figure F.1. Region F.

by 2060 (Figure F.3). Agricultural irrigation makes up the largest share of these demands in all decades, although it is projected to decrease 5 percent, from 578,606 acre-feet in 2010 to 551,774 acre-feet in 2060 (Table F.1). Municipal demands, however, are projected to increase 11 percent over the same period, from 122,593 acre-feet to 135,597 acre-feet. All other demands are expected to remain relatively constant.

Existing Water Supplies

Seventy-eight percent (478,929 acre-feet) of the region’s 613,969 acre-feet of existing water supply in 2010 is projected to consist of groundwater from four major aquifers (Ogallala, Edwards-Trinity [Plateau], Trinity, and Pecos Valley) and seven minor aquifers (Table F.2). Reservoirs provide 14 percent (88,785 acre-feet per year) of supply, and run-of-river supplies and alternative sources, such as desalination and wastewater reuse, account for 8 percent, or 46,255 acre-feet per year.

Needs

Total regional needs are projected to grow by 14 percent, from 223,023 acre-feet in 2010 to 253,455 acre-feet in 2060 (Figure F.4, Table F.3). Agricultural irrigation is projected to be the single largest need throughout the planning period, peaking at 81 percent of total need (180,947 acre-feet) in 2010 and dropping to 66 percent (167,339

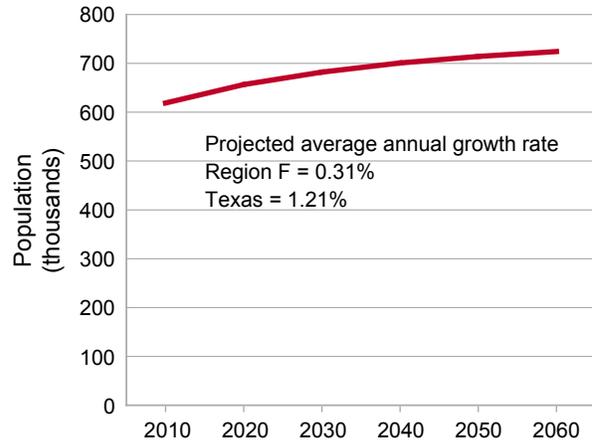


Figure F.2. Projected population for 2010-2060.

acre-feet) in 2060. By 2060, municipal needs are projected to account for 20 percent (50,232 acre-feet) of total needs and steam-electric 12 percent (29,944 acre-feet).

Recommended Water Management Strategies and Cost

Region F recommended a variety of water management strategies to provide slightly more water than is required to meet future needs. In all, the strategies would provide 239,250 acre-feet of ad-

Table F.1. Projected water demands for 2010-2060

Category	2010 (acre-feet)	2060 (acre-feet)	Percent change in demand 2010-2060	Percent of overall demand in 2010	Percent change in relative share of overall demand, 2010-2060
Municipal	122,593	135,597	+11	+15	+1
County-other	19,372	22,035	+14	+2	0
Manufacturing	9,757	13,313	+36	+1	0
Mining	31,850	35,794	+12	+4	0
Irrigation	578,606	551,774	-5	+72	-5
Steam-electric	22,215	44,008	+98	+3	+3
Livestock	23,060	23,060	0	+3	0
Region	807,453	825,581	+2		

Figure F.3. Projected total water demand and existing water supplies for 2010-2060.

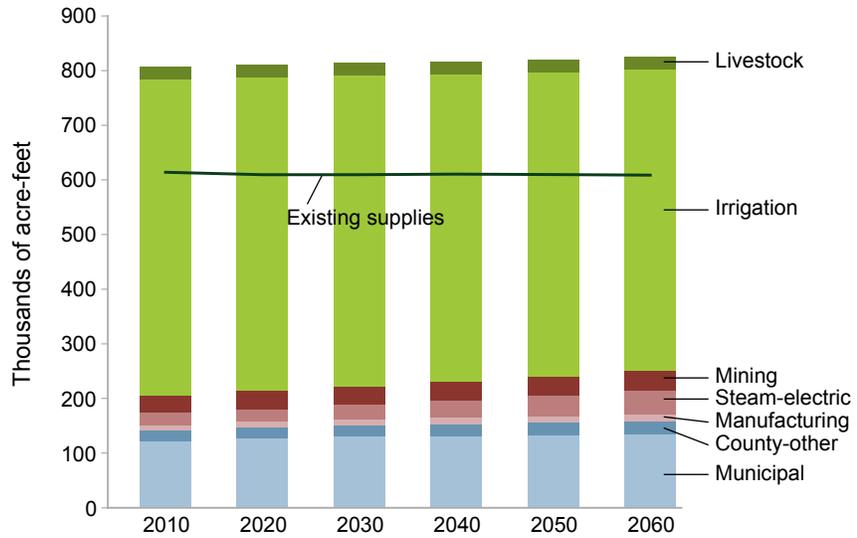


Figure F.4. Projected water needs for 2010-2060.

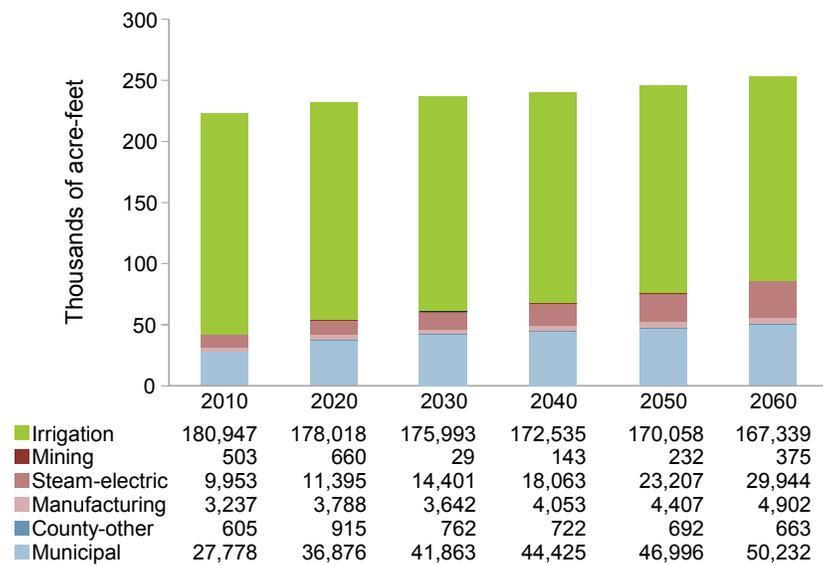


Figure F.5. Recommended water management strategy water supply volumes for 2010-2060.

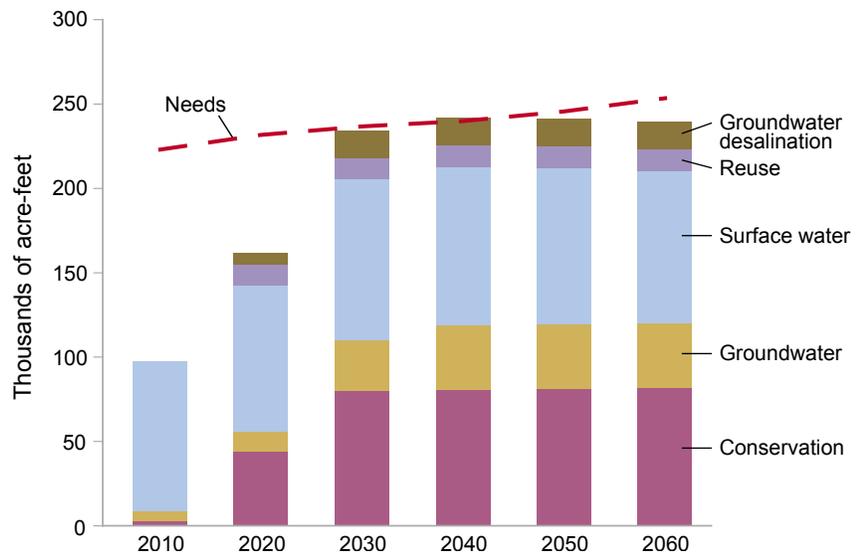


Table F.2. Existing water supplies for 2010 and 2060

Water supply source	2010 (acre-feet)	2060 (acre-feet)
Surface water		
Colorado River Municipal Water District system	33,731	30,382
O.H. Ivie Reservoir nonsystem portion	21,948	19,716
Lake Brownwood	16,846	16,996
Red Bluff Reservoir	16,260	16,260
Other surface water	27,820	27,820
Surface water subtotal	116,605	111,174
Groundwater		
Edwards-Trinity (Plateau) Aquifer	169,711	169,774
Pecos Valley Aquifer	120,029	115,125
Ogallala Aquifer	67,086	67,768
Lipan Aquifer	42,523	42,523
Hickory Aquifer	27,099	27,505
Dockum Aquifer	24,419	24,266
Other aquifer	18,634	18,678
Other groundwater	9,428	13,611
Groundwater subtotal	478,929	479,250
Reuse		
Direct reuse	18,435	18,435
Reuse subtotal	18,435	18,435
Region total	613,969	608,859

Note: Water supply sources are listed individually if 10,000 acre-feet per year or greater in 2010. Only includes supplies that are physically and legally available to users during a drought of record.

ditional water supply by the year 2060 (Figure F.5) at a **total capital cost of \$557,434,543** (Appendix 2.1). Because economically feasible strategies were not identified to meet some irrigation needs and any of the steam-electric needs, **in 2060, 115,523 acre-feet per year of irrigation needs in 15 counties and steam-electric needs of 24,306 acre-feet per year in four counties are unmet.**

Conservation Recommendations

Conservation strategies, including municipal and advanced irrigation, provide the second largest volume of supply for all strategies in the region. By 2060, they account for 81,974 acre-feet (34 percent) of the total volume associated with all recommended strategies. The bulk of conservation savings are provided by advanced irrigation strategies that accrue over 72,247 acre-feet of savings, or 30 percent, of the total volume, by 2060.

Ongoing Issues

Region F is concerned about its inability to meet drinking water standards because of associated high costs and the uncertainties associated with disposing of waste from desalination and radionuclide treatment.

Select Policy Recommendations

- Encourage legislative review of surface water policy of prior appropriation
- Retain junior water rights provision for interbasin transfers
- Provide assistance or exemptions from the U.S. Environmental Protection Agency's secondary water treatment requirements for small, rural communities
- Request that Texas Commission on Environmental Quality develop rules for disposing of radionuclide waste residuals

Table F.3. Water needs (acre-feet per year) by county and type of use in years 2010 and 2060

County	Total		Municipal		County-other		Manufacturing		Steam-electric		Mining		Irrigation		Livestock	
	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060
Andrews	14,765	12,938	671	773	-	-	-	-	-	-	-	-	14,094	12,165	-	-
Borden	1,847	1,826	-	-	-	-	-	-	-	-	-	-	1,847	1,826	-	-
Brown	3,110	2,945	-	-	104	104	-	-	-	-	-	-	3,006	2,841	-	-
Coke	1,004	1,101	217	177	28	15	-	-	310	477	86	72	363	360	-	-
Coleman	2,675	2,613	1,285	1,223	19	18	6	6	-	-	17	18	1,348	1,348	-	-
Concho	-	42	-	42	-	-	-	-	-	-	-	-	-	-	-	-
Crane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ector	4,885	19,873	4,819	8,453	-	-	66	158	-	11,262	-	-	-	-	-	-
Glasscock	27,784	25,722	-	-	-	-	-	-	-	-	-	-	27,784	25,722	-	-
Howard	1,971	1,330	1,394	825	-	-	177	220	-	-	400	285	-	-	-	-
Irion	1,302	1,000	-	-	-	-	-	-	-	-	-	-	1,302	1,000	-	-
Kimble	1,644	1,909	936	910	9	-	699	999	-	-	-	-	-	-	-	-
Loving	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Martin	1,180	393	392	393	-	-	-	-	-	-	-	-	788	-	-	-
Mason	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
McCulloch	870	913	870	913	-	-	-	-	-	-	-	-	-	-	-	-
Menard	2,511	2,393	50	35	20	16	-	-	-	-	-	-	2,441	2,342	-	-
Midland	22,197	38,599	5,964	22,606	-	-	-	-	-	-	-	-	16,233	15,993	-	-
Mitchell	9,100	14,730	-	-	-	-	-	-	9,100	14,730	-	-	-	-	-	-
Pecos	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reagan	10,997	8,393	-	-	-	-	-	-	-	-	-	-	10,997	8,393	-	-
Reeves	36,097	31,847	-	-	-	-	-	-	-	-	-	-	36,097	31,847	-	-
Runnels	3,236	3,373	1,485	1,934	330	77	63	94	-	-	-	-	1,358	1,268	-	-
Schleicher	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scurry	565	348	511	315	54	33	-	-	-	-	-	-	-	-	-	-
Sterling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sutton	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tom Green	59,084	62,367	9,184	11,633	41	-	2,226	3,425	543	1,502	-	-	47,090	45,807	-	-
Upton	10,672	9,539	-	-	-	-	-	-	-	-	-	-	10,672	9,539	-	-
Ward	5,527	9,261	-	-	-	400	-	-	-	1,973	-	-	5,527	6,888	-	-
Winkler	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Region	223,023	253,455	27,778	50,232	605	663	3,237	4,902	9,953	29,944	503	375	180,947	167,339	-	-

SELECT MAJOR WATER MANAGEMENT STRATEGIES

(Dollar amounts are rounded. See Appendix 2.1 for all recommended strategies and actual costs.)

- ✦ *Subordination of downstream senior water rights would provide 76,710 acre-feet in 2060. With subordination, major senior water rights in the lower Colorado Basin would have to agree to subordinate to more junior water rights in Region F—Implementation by: 2010; Capital Cost for all subordination strategies: \$16 million.*
- ✦ *Reuse of treated municipal wastewater by the Colorado River Municipal Water District would provide 12,710 acre-feet by 2060—Implementation by: 2020; Capital Cost: \$101 million.*
- ✦ *Desalination of brackish groundwater would provide a maximum of 16,221 acre-feet per year for San Angelo and Colorado River Municipal Water District customers—Implementation by: 2020 and 2030, respectively; Capital Cost: \$131 million.*
- ✦ *New well fields for Midland and San Angelo would provide 13,600 and 12,000 acre-feet per year of supply, respectively—Implementation by: 2030; Capital Cost: \$207 million.*

Region F Planning Group Members and Interests Represented

Voting members during adoption of 2006 Regional Water Plan:

John Grant (Chair), river authorities; Stephen Brown, river authorities; Cindy Cawley, water districts; Stuart Coleman, small business; Kenneth Dierschke, agriculture; Marilyn Egan, counties; Richard Gist, water utilities; Charles L. Hagood, municipalities; Steven C. Hofer, environmental; Scott Holland, water districts; Wendell Moody, public; Caroline Runge, environmental; Terry Scott, agriculture; Buddy Sipes, industries; Larry Turnbough, water districts; Andrew Valencia, electric generating utilities; Will Wilde, municipalities; Len Wilson, public; Lowell Woodward, agriculture

Former voting members during 2001-2006 planning cycle:

John Gayle, municipalities; Johnny Jones, counties; Larry Sanders, industries; Bert Striegler, agriculture