Summary of Far West Texas (E) Region

Stretching from the city of El Paso at the Texas-New Mexico state line over salt flats and southeastward toward the sparsely populated mountainous Big Bend country and the Pecos River, the Far West Texas Planning Area includes seven counties and lies within the Rio Grande Basin (Figure E.1). The largest economic sectors in the region are agriculture, agribusiness, manufacturing, tourism, wholesale and retail trade, government, and military. About 96 percent of the region's residents reside in El Paso County, where the population density is 760 persons per square mile. The other six counties have a density of 1.1 persons per square mile. The members of the Far West Texas Planning Group are listed on the last page of this summary.

Population and Water Demands

Less than 4 percent of the state's total population is projected to reside in the Far West Texas Region by 2010. Between 2010 and 2060, its population is projected to increase 79 percent to 1,527,713 (Figure E.2). Its water demands, however, will increase less dramatically. By 2060, the total water demands for the region are projected to increase 9 percent, from 662,608 acre-feet to 721,071 acre-feet (Figure E.3). Agricultural irrigation water use makes up the largest share of these demands in all decades even though it is projected to decrease 9 percent over the planning period, dropping from 481,042 acre-feet to 435,657 acre-feet (Table E.1). Municipal water demand, however,

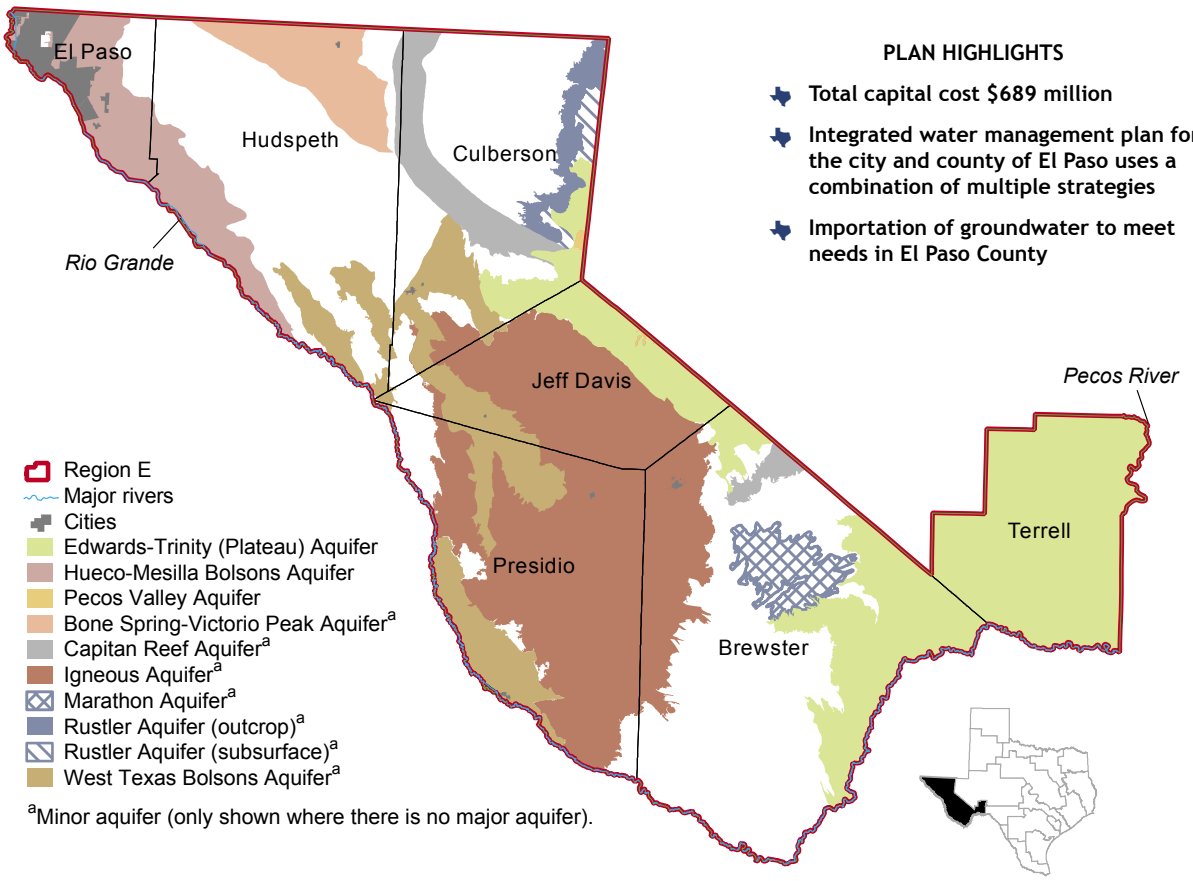


Figure E.1. Far West Texas Region.

is projected to increase 51 percent, from 155,375 acre-feet in 2010 to 234,351 acre-feet in 2060.

Existing Water Supplies

The total water supply for 2010 is projected to be 524,301 acre-feet (Table E.2). Other than some irrigation use and El Paso municipal use, the region relies on groundwater for most of its water supply. Approximately 75 percent (395,458 acre-feet per year) of the region's water supply consists of groundwater from two major aquifers (Edwards-Trinity [Plateau] outcrop, and the Hueco-Mesilla Bolsons) and six minor aquifers (Bone Spring-Victorio Peak, West Texas Bolsons, Capitan Reef Complex, Rustler, Igneous, and Marathon). The principal surface water sources are the Rio Grande and the Pecos River, supplying 82,246 acre-feet per year, although both are limited by river operations and water quality, respectively. Although no reservoirs are located in the planning area, a reservoir system in New Mexico, administered by the U.S. Bureau of Reclamation, regulates the Rio Grande and, thus, a portion of the area's water supplies. Direct reuse provides another 5,000 acre-feet. Because of treaty and compact agreements, as well as groundwater management district regulations, the total surface and groundwater supply is projected to remain relatively constant throughout the planning period.

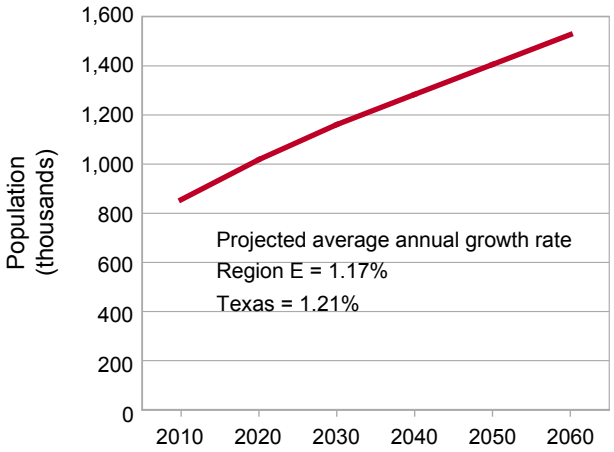


Figure E.2. Projected population for 2010–2060.

Needs

In 2010, total water needs for the region are projected to be 193,171 acre-feet, with agricultural irrigation making up approximately 91 percent of the total, or 175,540 acre-feet (Figure E.4, Table E.3). By 2060, water needs are expected to increase to 244,172 acre-feet, with irrigation again making up the largest share of the needs, 133,191 acre-feet (55 percent). Municipal needs are projected to constitute 81,883 acre-feet (34 percent) of the total 2060 needs. In addition, manufacturing, steam-electric power generation,

Table E.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	155,375	234,351	+51	+23	+9
County-other	6,757	17,623	+161	+1	+1
Manufacturing	9,187	12,861	+40	+1	0
Mining	2,273	2,326	+2	0	0
Irrigation	481,042	435,657	-9	+73	-12
Steam-electric	3,131	13,410	+328	0	+1
Livestock	4,843	4,843	0	+1	0
Region	662,608	721,071	+9		

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

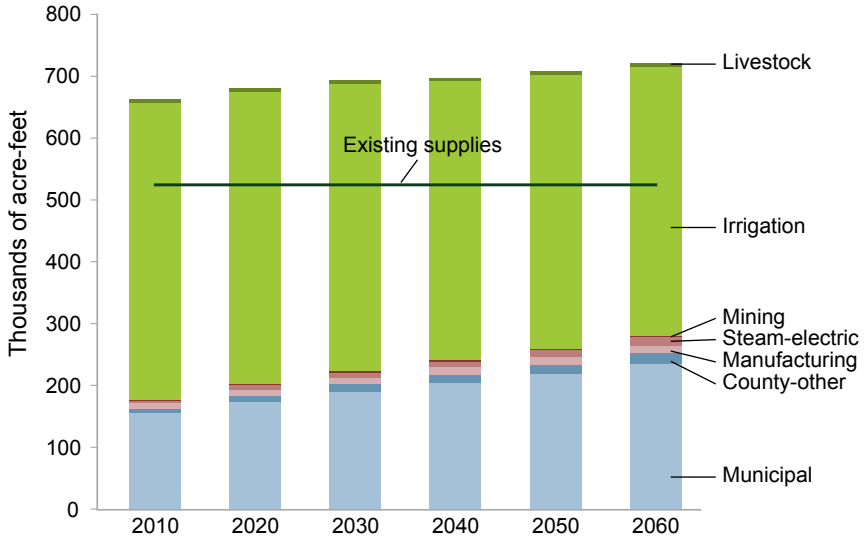
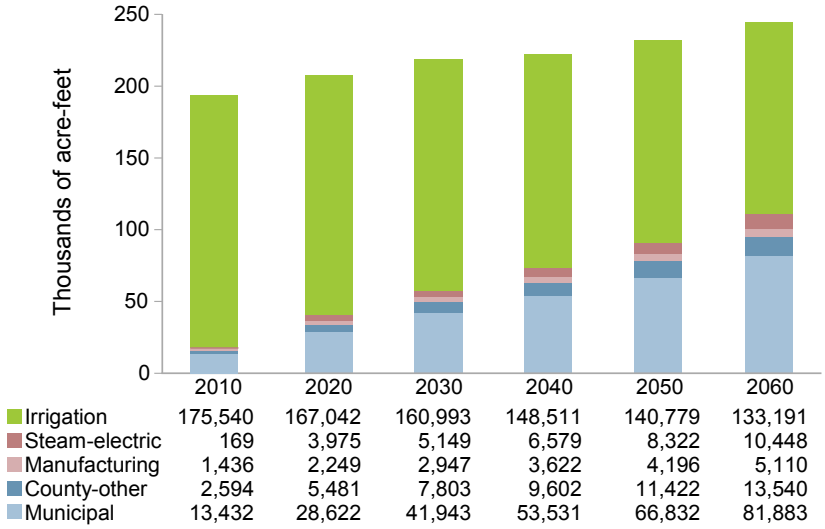


Figure E.4. Projected water needs for 2010-2060.



	2010	2020	2030	2040	2050	2060
Irrigation	175,540	167,042	160,993	148,511	140,779	133,191
Steam-electric	169	3,975	5,149	6,579	8,322	10,448
Manufacturing	1,436	2,249	2,947	3,622	4,196	5,110
County-other	2,594	5,481	7,803	9,602	11,422	13,540
Municipal	13,432	28,622	41,943	53,531	66,832	81,883

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

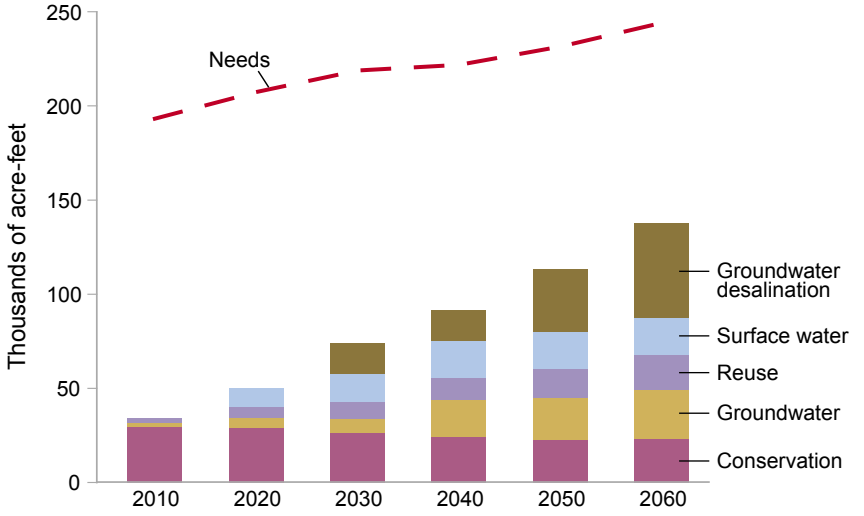


Table E.2. Existing water supplies for 2010 and 2060

Water supply source	2010 (acre-feet)	2060 (acre-feet)
Surface water		
Upper Rio Grande combined run-of-river	66,631	66,631
Lower Rio Grande combined run-of-river	11,523	11,523
Other surface water	8,092	8,092
Surface water subtotal	**86,246**	**86,246**
Groundwater		
Hueco-Mesilla Bolsons Aquifer	162,260	162,260
Other aquifer	98,076	98,076
Bone Spring-Victorio Peak Aquifer	63,000	63,000
West Texas Bolsons Aquifer	44,511	44,511
Igneous Aquifer	13,946	13,946
Capitan Reef Complex Aquifer	10,012	10,012
Other groundwater	3,653	3,653
Groundwater subtotal	**395,458**	**395,458**
Reuse		
Indirect reuse	37,597	37,597
Reuse other	5,000	5,000
Reuse subtotal	**42,597**	**42,597**
Region total	**524,301**	**524,301**

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.

and County-other categories are also projected to face needs.

Recommended Water Management Strategies and Cost

The Far West Texas Planning Group recommended an integrated water management strategy to meet needs in El Paso. The combined strategies include municipal conservation, direct reuse of reclaimed water, increases from the Rio Grande managed conjunctively with local groundwater, and imports of additional, desalinated groundwater from more remote parts of the planning area. In all, the strategy would provide an additional 137,737 acre-feet of additional water supply by the year 2060 (Figure E.5) at a **total capital cost of $688,858,000** (Appendix 2.1). Because there were no economically feasible strategies identified to meet their needs, **three counties in the region have unmet irrigation needs (over 133,000 acre-feet in 2060).**

Conservation Recommendations

The city of El Paso has a goal of 140 gallons per capita per day of water use. Total water conservation savings in the plan, including savings from efficient plumbing fixtures, is 29,359 acre-feet in 2010 and 23,437 acre-feet in 2060.

Ongoing Issues

The Far West Texas Planning Group is concerned about their ability to use and amend water demand numbers and to initiate more local planning efforts with minimal state oversight.

Select Policy Recommendations

- Allow planning groups to contract directly for services
- Improve coordination among groundwater conservation districts, groundwater management area councils, and the planning group to ensure the sustainable use of groundwater
- Provide training for planning group members

Table E.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
Brewster	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Culberson	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
El Paso	90,991	162,070	13,432	81,883	2,594	13,540	1,436	5,110	169	10,448	–	–	73,360	51,089	–	–
Hudspeth	98,634	80,470	–	–	–	–	–	–	–	–	–	–	98,634	80,470	–	–
Jeff Davis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Presidio	3,546	1,632	–	–	–	–	–	–	–	–	–	–	3,546	1,632	–	–
Terrell	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Region	193,171	244,172	13,432	81,883	2,594	13,540	1,436	5,110	169	10,448	–	–	175,540	133,191	–	–

SELECT MAJOR WATER MANAGEMENT STRATEGIES

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

- *Importing desalinated brackish groundwater from Dell City to El Paso would provide 50,000 acre-feet per year—**Implementation by: 2030; Capital Cost: $503 million.***
- *Reuse (El Paso's purple pipeline project) would provide up to 18,109 acre-feet per year—**Implementation by: 2010; Capital Cost: $46 million.***

Far West Texas Planning Group Members and Interests Represented

Voting members during adoption of 2006 Regional Water Plan:

Tom Beard (Chair), agriculture; Jesse Acosta, counties; Janet Adams, water utilities; Jerry Agan, other; Loretta Akers, other; Ed Archuleta, municipalities; Randy Barker, water districts; Thomas Brady, environmental; Rebecca L. Brewster, municipalities; Elza Cushing, public; Michael Davidson, travel/tourism; Edward Drusina, municipalities; David Etzold, other; Howard Goldberg, industries; Carl Lieb, environmental; Ralph H. Meriwether, small business; Jim Ed Miller, water districts; Albert Miller, water districts; Jesus Reyes, water districts; Charles Stegall, counties; Teresa Todd, counties; Teodora Trujillo, public; Jim Voorhies, electric generating utilities; Paige Waggoner, other

Former voting members during 2001-2006 planning cycle:

Tom Brady, environmental; Dolores Briones, counties; Edd Fifer, water districts; Katy Hoskins, water districts; Kenn Norris, counties; Adrian Ocegueda, municipalities; Victoria Perea, electric generating utilities; Daniel Salazar, building/real estate