4.10 Summary of Needs and Strategies by County

Table 4.10-1 is a summary of the recommended water management strategies for water user groups in Region F grouped by county, as well as a summary by strategy type. Table 4.10-2 shows additional strategies whose capital costs are associated with wholesale water providers. (There is some overlap for the supplies in these two tables, but no overlap in capital costs.) Only three counties, Crane, Crockett, and Loving, do not have water management strategies. The largest single category of water management strategies is conservation, totaling over 82,000 acre-feet per year in 2060. The largest contribution to this strategy comes from irrigation conservation, which contributes about 88 percent of the total. Other significant strategies include subordination, new groundwater sources, and voluntary redistribution. Altogether, these strategies result in nearly 195,000 acre-feet of water becoming available to water user groups by 2060, with an overall capital cost of about \$897 million (includes costs developed by wholesale water providers).

Table 4.10-3 shows the unmet needs in Region F. All of these needs are for irrigation and steam-electric power generation. Unmet irrigation needs are the result of either insufficient groundwater supplies to meet projected demand or limited surface water availability for run-of-the-river irrigation rights from the Colorado WAM (any run-of-the-river right with a priority date after 1926 will have no supply by definition). In most cases conservation is the only cost-effective method to reduce irrigation needs. In every county except Martin County conservation was insufficient to prevent unmet needs.

In this plan, the default method to allocate groundwater was to first meet municipal, manufacturing, livestock, mining and steam-electric demands. (Steam-electric demands were limited to current use. Any growth in steam-electric demand was given last priority). In most cases, irrigation was allocated water last, resulting in a need if insufficient supplies were available to meet all demands. For most of the aquifers in counties with irrigation shortages, irrigation represents from 70 to 99 percent of the demand from these aquifers in 2010, so it is appropriate to assign water supply needs to irrigation demands. An exception is Ward County, where irrigation accounts for only 34 percent of the 2010 demand from the Pecos Valley aquifer. In Ward County there are significant demands for municipal, mining and steam-electric use. For

the purposes of this plan, it was assumed that these demand categories would have priority over irrigation demand.

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Unmet irrigation needs for surface water supplies are primarily the result of the priority of the water rights in each county as allocated by the Colorado and Rio Grande WAMs. In the Colorado Basin, any run-of-the-river water right with a priority date after 1926 will have no reliable supply. Water rights with priority dates senior to 1926 may not have sufficient supplies in all years. (Run-of-the-river irrigation rights were not part of the subordination analysis performed with Region K.) Although historical surface water use from these sources may be greater than indicated, the shortage may be appropriate if it is assumed that senior downstream rights make priority calls on these irrigation rights.

In most cases steam-electric power generation demands are the result of the projections exceeding available supplies at existing generation facilities. Although it is likely that the steamelectric power generation industry will meet these demands, there is a great deal of uncertainty regarding the type of strategy or the location of future generation facilities used to meet the needs. Therefore these demands have been left as unmet needs.

Water User Group Name	County	Basin Name	Water Management Strategy Name	Source Name	Implemen-tation Date	Strategy Supply for 2010	Strategy Supply for 2020	Strategy Supply for 2030	Strategy Supply for 2040	Strategy Supplyfor 2050	Strategy Supply for 2060	Capital Cost
City of Andrews	Andrews	Colorado	Voluntary Redistribution	Ogallala aquifer		0	0	0	750	760	773	\$0
City of Andrews	Andrews	Colorado	Desalination	Dockum aquifer		0	950	950	950	950	950	\$6,717,000
City of Andrews	Andrews	Colorado	Conservation			84	191	240	265	287	310	\$0
Irrigation	Andrews	Colorado	Conservation			0	2,727	5,455	5,455	5,455	5,455	\$4,822,904
Andrews County Total						84	3,868	6,645	7,420	7,452	7,488	\$11,539,904
Irrigation	Borden	Brazos	Conservation			0	94	189	189	189	189	\$196,062
Irrigation	Borden	Colorado	Conservation			0	136	271	271	271	271	\$282,138
Borden County Total						0	230	460	460	460	460	\$478,200
Irrigation	Brown	Colorado	Conservation			0	93	185	185	185	185	\$54,917
Brown County Total						0	93	185	185	185	185	\$54,917
City of Bronte	Coke	Colorado	Subordination	Oak Creek Reservoir		129	129	129	129	129	129	\$0
City of Bronte	Coke	Colorado	Infrastructure Improvements	Oak Creek Reservoir		0	0	0	0	0	0	\$1,364,900
City of Bronte	Coke	Colorado	Conservation			16	45	48	48	50	51	\$0
City of Robert Lee	Coke	Colorado	Conservation			16	40	44	45	46	48	\$0
City of Robert Lee	Coke	Colorado	Infrastructure Improvements	Spence Reservoir		0	0	0	0	0	0	\$2,436,000
City of Robert Lee	Coke	Colorado	Subordination	Colorado River MWD System		95	115	2	21	34	55	\$0
County-Other	Coke	Colorado	Subordination	Colorado River MWD System		28	32	0	6	9	15	\$0
Mining	Coke	Colorado	Subordination	Colorado River MWD System		86	119	2	24	43	72	\$0
Steam Electric Power	Coke	Colorado	Subordination	Oak Creek Reservoir		310	247	289	339	401	477	\$0
Coke County Total						680	727	514	612	712	847	\$3,800,900
City of Coleman	Coleman	Colorado	Subordination	Lake Coleman		1,650	1,651	1,647	1,645	1,639	1,631	\$0
City of Coleman	Coleman	Colorado	Subordination	Hords Creek Reservoir		380	380	380	380	380	380	\$0
City of Coleman	Coleman	Colorado	Conservation			33	75	90	95	101	107	\$0
Coleman County WSC	Coleman	Colorado	Subordination	Lake Coleman		126	114	109	103	101	99	\$0
County-Other	Coleman	Colorado	Subordination	Lake Coleman		20	19	19	18	18	18	\$0
Irrigation	Coleman	Colorado	Subordination	Lake Coleman		1.348	1.348	1.348	1.348	1.348	1.348	\$0
Manufacturing	Coleman	Colorado	Subordination	Lake Coleman		6	6	6	6	6	6	\$0
Mining	Coleman	Colorado	Subordination	Lake Coleman		17	18	18	18	18	18	\$0
Coleman County Total						3.580	3.611	3.617	3.613	3.611	3.607	\$0
						0,000	0,011	0,017	0,010	0,011	2,007	φü
City of Eden	Concho	Colorado	New well *	Hickory aquifer		0	0	0	0	0	0	\$1,800.000
City of Eden	Concho	Colorado	Advanced treatment *	Hickory aguifer		0	0	0	0	0	0	\$2.582.000
County-Other	Concho	Colorado	Subordination	OC Fisher Reservoir		25	25	25	25	25	25	,2 =,300
Irrigation	Concho	Colorado	Conservation			0	748	1.496	1,496	1.496	1.496	\$1.895.367
Millersview-Doole WSC	Concho	Colorado	Subordination	Colorado River MWD System		34	42	1,	7	0	0	\$0
Millersview-Doole WSC	Concho	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	0	0	74	74	
Concho County Total						59	815	1,522	1,528	1,595	1,595	\$4,477,367

 Table 4.10 -1
 Strategy Summary by County (Volume in Acre-Feet per Year)

Water User Group Name	County	Basin Name	Water Management Strategy Name	Source Name	Implemen-tation	Strategy Supply for	Strategy Supply for	Strategy Supply for	Strategy Supply for	Strategy Supplyfor	Strategy Supply for	Capital Cost
					Date	2010	2020	2030	2040	2050	2060	- · · · ·
Ector County UD	Ector	Colorado	Subordination	Colorado River MWD System		400	613	11	151	272	478	\$0
Irrigation	Ector	Colorado	Conservation			0	243	485	485	485	485	\$301,633
Irrigation	Ector	Rio Grande	Conservation			0	2	5	5	5	5	\$3,047
Manufacturing	Ector	Colorado	Subordination	Colorado River MWD System		366	149	3	46	86	158	\$0
Manufacturing	Ector	Colorado	Reuse	Direct Reuse		0	350	105	350	300	250	
City of Odessa	Ector	Colorado	Conservation			540	1,168	1,488	1,657	1,854	2,074	\$0
City of Odessa	Ector	Colorado	Voluntary Redistribution	Pecos Valley aquifer		0	4,708	10,508	10,507	10,502	10,498	\$0
City of Odessa	Ector	Colorado	Reuse			0	3,943	4,168	3,912	3,958	4,006	\$0
City of Odessa	Ector	Colorado	Subordination	Colorado River MWD System		4,019	5,611	59	1,085	1,913	3,314	\$0
Ector County Total						5,325	16,787	16,832	18,198	19,375	21,268	\$304,680
Irrigation	Glasscock	Colorado	Conservation			0	3,631	7,262	7,262	7,262	7,262	\$11,422,560
City of Big Spring	Howard	Colorado	Conservation			241	603	676	698	725	754	\$0
City of Big Spring	Howard	Colorado	Reuse			0	1,855	1,855	1,855	1,855	1,855	\$0
City of Big Spring	Howard	Colorado	Subordination	Colorado River MWD System		1,345	1,672	24	299	491	796	\$0
City of Coahoma	Howard	Colorado	Subordination	Colorado River MWD System		49	61	1	11	18	29	\$0
Irrigation	Howard	Colorado	Conservation			0	327	653	653	653	653	\$647,652
Manufacturing	Howard	Colorado	Subordination	Colorado River MWD System		267	349	5	71	124	220	\$0
Mining	Howard	Colorado	Subordination	Colorado River MWD System		400	523	9	101	171	285	\$0
Howard County Total						2,302	5,390	3,223	3,688	4,037	4,592	\$647,652
Irrigation	Irion	Colorado	Conservation			0	37	73	73	73	73	\$21,137
Irrigation	Irion	Colorado	Weather Modification			0	0	0	0	0	0	\$0
Irion County Total						0	37	73	73	73	73	\$21,137
City of Junction	Kimble	Colorado	Subordination	Llano River		991	991	991	991	991	991	\$0
County-Other	Kimble	Colorado	Subordination	Llano River		9	9	9	9	9	9	\$0
Irrigation	Kimble	Colorado	Conservation			0	74	147	147	147	147	\$141,658
Manufacturing	Kimble	Colorado	Subordination	Llano River		1,000	1,000	1,000	1,000	1,000	1,000	\$0
Kimble County Total						2,000	2,074	2,147	2,147	2,147	2,147	\$141,658
City of Stanton	Martin	Colorado	Voluntary Redistribution	Colorado River MWD System		392	422	429	430	415	393	\$0
Irrigation	Martin	Colorado	Conservation	-		0	1,751	3,502	3,502	3,502	3,502	\$4,001,621
Martin County Total						392	2,173	3,931	3,932	3,917	\$3,895	\$4,001,621
Irrigation	Mason	Colorado	Conservation			0	746	1,491	1,491	1,491	1,491	\$713,460

 Table 4.10 -1
 Strategy Summary by County (Volume in Acre-Feet per Year)

Water User Group Name	County	Basin Name	Water Management Strategy Name	Source Name	Implemen-tation Date	Strategy Supply for 2010	Strategy Supply for 2020	Strategy Supply for 2030	Strategy Supply for 2040	Strategy Supplyfor 2050	Strategy Supply for 2060	Capital Cost
City of Brady	McCulloch	Colorado	Conservation			77	192	214	222	230	239	\$0
City of Brady	McCulloch	Colorado	Subordination	Brady Creek Reservoir		2,170	2,170	2,170	2,170	2,170	2,170	\$0
County-Other	McCulloch	Colorado	Bottled Water Program Hickory aquifer			0	0	0	0	0	0	\$0
Irrigation	McCulloch	Colorado	Conservation			0	197	394	394	394	394	\$166,844
Millersview-Doole WSC	McCulloch	Colorado	Subordination	Colorado River MWD System		67	81	1	14	0	0	\$0
Millersview-Doole WSC	McCulloch	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	0	0	143	143	\$0
Richland SUD	McCulloch	Colorado	Bottled Water Program	Hickory aquifer		1	1	1	1	1	1	\$3,000
Richland SUD	McCulloch	Colorado	Infrastructure Improvements	Ellenburger aquifer		0	200	200	200	200	200	\$5,148,000
Richland SUD	McCulloch	Colorado	Infrastructure Improvements	Hickory aquifer		0	0	0	0	0	0	\$1,700,979
McCulloch County Total						2,315	2,841	2,980	3,001	3,138	3,147	\$7,018,823
City of Menard	Menard	Colorado	New Groundwater	Hickory aquifer		140	139	140	140	141	141	\$1,684,000
City of Menard	Menard	Colorado	Conservation			10	24	28	30	32	33	\$0
County-Other	Menard	Colorado	New Groundwater	Hickory aquifer		20	21	20	20	19	19	\$0
Irrigation	Menard	Colorado	Conservation			0	23	46	46	46	46	\$16,029
Menard County Total						170	207	234	236	238	239	\$1,700,029
City of Midland	Midland	Colorado	Conservation			1,344	2,616	3,061	3,261	3,457	3,663	\$0
City of Midland	Midland	Colorado	Reuse			0	5,389	5,389	5,389	5,389	5,389	\$0
City of Midland	Midland	Colorado	Subordination	Colorado River MWD System		4,488	6,152	211	324	438	553	\$0
City of Midland	Midland	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	10,000	9,800	9,600	9,400	\$0
City of Midland	Midland	Colorado	Subordination	O.H. Ivie Reservoir		17	(97)	(211)	(324)	(438)	(553)	\$0
City of Midland	Midland	Colorado	New Groundwater	Pecos Valley aquifer		0	0	13,600	13,600	13,600	13,600	\$168,507,000
Irrigation	Midland	Colorado	Conservation			0	1,800	3,600	3,600	3,600	3,600	\$3,169,471
City of Odessa	Midland	Colorado	Subordination	Colorado River MWD System		186	176	28	66	97	150	\$0
City of Odessa	Midland	Colorado	Conservation			11	32	48	58	66	75	\$0
City of Odessa	Midland	Colorado	Voluntary Redistribution	Pecos Valley aquifer		0	0	200	201	206	210	\$0
City of Odessa	Midland	Colorado	Reuse			0	117	137	148	152	154	\$0
City of Odessa	Midland	Colorado	Voluntary Redistribution	Pecos Valley aquifer		0	92	92	92	92	92	\$0
Midland County Total						6,046	16,277	36,155	36,215	36,259	36,333	\$171,676,471
Colorado City	Mitchell	Colorado	New Groundwater	Dockum aquifer	2011	0	2,200	2,200	2,200	2,200	2,200	\$17,855,000
Irrigation	Mitchell	Colorado	Conservation	-		0	865	1,729	1,729	1,729	1,729	\$2,548,056
Irrigation	Mitchell	Colorado	Weather Modification			0	0	0	0	0	0	\$0
Steam Electric Power	Mitchell	Colorado	Subordination	Colorado City/Champion Creek		5,023	4,847	4,670	4,493	4,317	4,140	\$0
Mitchell County Total						5,023	7,912	8,599	8,422	8,246	8,069	\$20,403,056
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Irrigation	Pecos	Rio Grande	Conservation			0	6,300	12,600	12,600	12,600	12,600	\$8,329,226
Irrigation	Reagan	Colorado	Conservation			0	1,968	3,936	3,936	3,936	3,936	\$6,275,976
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 Table 4.10 -1
 Strategy Summary by County (Volume in Acre-Feet per Year)

Water User Group Name	County	Basin Name	Water Management Strategy Name	Source Name	Implemen-tation Date	Strategy Supply for 2010	Strategy Supply for 2020	Strategy Supply for 2030	Strategy Supply for 2040	Strategy Supplyfor 2050	Strategy Supply for 2060	Capital Cost
Irrigation	Reeves	Rio Grande	Conservation			0	5,824	11,648	11,648	11,648	11,648	\$8,253,318
City of Ballinger	Runnels	Colorado	Conservation			33	88	107	119	131	144	\$0
City of Ballinger	Runnels	Colorado	Subordination	Lake Ballinger		917	930	920	910	900	890	\$0
City of Ballinger	Runnels	Colorado	Subordination	Colorado River MWD System		141	169	68	115	0	0	\$0
City of Ballinger and customers	Runnels	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	0	0	493	508	\$0
Coleman County WSC	Runnels	Colorado	Subordination	Lake Coleman		18	30	39	48	56	66	\$0
County-Other	Runnels	Colorado	Subordination	Lake Ballinger		23	0	0	0	0	0	\$0
County-Other	Runnels	Colorado	Subordination	Lake Winters		114	89	69	49	31	0	\$0
County-Other	Runnels	Colorado	Subordination	Colorado River MWD System		193	177	148	116	0	0	\$0
County-Other	Runnels	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	0	0	94	77	\$0
Manufacturing	Runnels	Colorado	Subordination	Lake Winters		54	60	65	70	74	79	\$0
Manufacturing	Runnels	Colorado	Subordination	Colorado River MWD System		9	10	11	12	0	0	\$0
Manufacturing	Runnels	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	0	0	13	15	\$0
City of Miles	Runnels	Colorado	Subordination	OC Fisher Reservoir		200	200	200	200	200	200	\$0
Millersview-Doole WSC	Runnels	Colorado	Subordination	Colorado River MWD System		25	31	0	6	0	0	\$0
Millersview-Doole WSC	Runnels	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	0	0	58	58	\$0
City of Winters	Runnels	Colorado	Conservation			21	55	63	67	71	76	\$0
City of Winters	Runnels	Colorado	Reuse			0	0	0	110	110	110	\$2,158,000
City of Winters	Runnels	Colorado	Subordination	Lake Winters		552	561	566	571	575	591	\$0
Runnels County Total						2,300	2,400	2,256	2,393	2,806	2,814	\$2,158,000
Irrigation	Schleicher	Colorado	Conservation			0	89	178	178	178	178	\$146,895
Irrigation	Schleicher	Rio Grande	Conservation			0	18	36	36	36	36	\$30,087
Schleicher County Total						0	107	214	214	214	214	\$176,982
County-Other	Scurry	Colorado	Subordination	Colorado River MWD System		54	66	1	12	20	33	\$0
Irrigation	Scurry	Brazos	Conservation			0	160	320	320	320	320	\$361,342
Irrigation	Scurry	Colorado	Conservation			0	411	823	823	823	823	\$929,166
City of Snyder	Scurry	Colorado	Conservation			70	154	191	205	220	234	\$0
City of Snyder	Scurry	Colorado	Reuse			0	726	726	726	726	726	\$0
City of Snyder	Scurry	Colorado	Subordination	Colorado River MWD System		511	641	9	117	194	315	\$0
Scurry County Total						635	2,158	2,070	2,203	2,303	2,451	\$1,290,509
Irrigation	Sterling	Colorado	Conservation			0	45	89	89	89	89	\$25,860
Irrigation	Sutton	Colorado	Conservation			0	44	88	88	88	88	\$60,431
Irrigation	Sutton	Rio Grande	Conservation			0	98	196	196	196	196	\$134,509
Sutton County Total						0	142	284	284	284	284	\$194,940

 Table 4.10 -1
 Strategy Summary by County (Volume in Acre-Feet per Year)

Water User Group Name	County	Basin Name	e Water Management Strategy Name	Source Name	Implemen-tation Date	Strategy Supply for 2010	Strategy Supply for 2020	Strategy Supply for 2030	Strategy Supply for 2040	Strategy Supplyfor 2050	Strategy Supply for 2060	Capital Cost
County-Other	Tom Green	Colorado	Subordination	Nasworthy/Twin Buttes		250	250	250	250	250	250	\$0
Irrigation	Tom Green	Colorado	Conservation			0	5,774	11,548	11,548	11,548	11,548	\$10,120,488
Irrigation	Tom Green	Colorado	Subordination	Nasworthy/Twin Buttes		3,377	3,273	3,170	3,066	2,693	2,860	\$0
Manufacturing	Tom Green	Colorado	Subordination	Nasworthy/Twin Buttes		2,226	2,498	2,737	2,971	3,175	3,425	\$0
Millersview-Doole WSC	Tom Green	Colorado	Subordination	Colorado River MWD System		64	87	1	19	0	0	\$0
Millersview-Doole WSC	Tom Green	Colorado	Voluntary Redistribution	Colorado River MWD System		0	0	0	0	225	225	\$0
City of San Angelo	Tom Green	Colorado	Desalination	Other aquifer		0	0	0	5,600	5,600	5,600	See WWP
City of San Angelo	Tom Green	Colorado	New Groundwater	Hickory aquifer		0	6,700	10,000	12,000	12,000	12,000	See WWP
City of San Angelo	Tom Green	Colorado	Conservation			701	1,705	2,009	2,127	2,255	2,371	\$0
City of San Angelo	Tom Green	Colorado	Infrastructure Improvements	Spence Reservoir		0	0	2,281	2,267	2,254	2,240	See WWP
City of San Angelo	Tom Green	Colorado	Subordination	Nasworthy/Twin Buttes		5,436	5,078	4,752	4,431	4,141	3,804	\$0
City of San Angelo	Tom Green	Colorado	Subordination	OC Fisher Reservoir		3,637	3,518	3,400	3,282	3,163	3,045	\$0
City of San Angelo	Tom Green	Colorado	Subordination	OH Ivie Reservoir		17	(97)	(211)	(324)	(438)	(553)	\$0
City of San Angelo	Tom Green	Colorado	Brush Control			8,362	8,362	8,362	8,362	8,362	8,362	See WWP
Steam Electric Power	Tom Green	Colorado	Subordination	Nasworthy/Twin Buttes		1,021	1,021	1,021	1,021	1,021	1,021	\$0
Tom Green County Total						25,091	38,169	49,320	56,620	56,249	56,198	\$10,120,488
Irrigation	Upton	Colorado	Conservation			0	911	1,822	1,822	1,822	1,822	\$2,885,269
Irrigation	Upton	Rio Grande	Conservation			0	9	18	18	18	18	\$58,883
Upton County Total						0	920	1,840	1,840	1,840	1,840	\$2,944,152
County-Other	Ward	Rio Grande	Voluntary Redistribution	Pecos Valley aquifer		0	400	400	400	400	400	\$0
Irrigation	Ward	Rio Grande	Conservation			0	785	1,570	1,570	1,570	1,570	\$437,760
Irrigation	Ward	Rio Grande	Weather Modification			0	0	0	0	0	0	\$0
Ward County Total						0	1,185	1,970	1,970	1,970	1,970	\$437,760
Irrigation	Winkler	Rio Grande	Conservation			0	195	389	389	389	389	\$196,902
			Conservation			3,197	43,113	80,551	81,141	81,769	82,423	\$68,650,668
			Desalination			0	950	950	6,550	6,550	6,550	\$6,717,000
			New Groundwater			160	9,060	25,960	27,960	27,960	27,960	\$188,046,000
			Infrastructure Improvements			0	200	2,481	2,467	2,454	2,440	\$15,031,879
			Reuse			0	12,380	12,380	12,490	12,490	12,490	\$2,158,000
			Bottled Water Program			1	1	1	1	1	1	\$3,000
			Brush Control			8,362	8,362	8,362	8,362	8,362	8,362	\$0
			Subordination			43,890	47,144	30,172	31,518	31,865	34,039	\$0
			Voluntary Redistribution			392	5,622	21,629	22,180	23,075	22,866	\$0
			Weather Modification			0	0	0	0	0	0	\$0
			Total for All Strategies			56,002	126,832	182,486	192,669	194,526	197,131	\$280,606,547

 Table 4.10 -1
 Strategy Summary by County (Volume in Acre-Feet per Year)

Wholesale Water Provider	Water Management Strategy Name	Source Name	Strategy Supply for 2010	Strategy Supply for 2020	Strategy Supply for 2030	Strategy Supply for 2040	Strategy Supplyfor 2050	Strategy Supply for 2060	Capital Cost
CRMWD	Reuse		0	12,380	12,380	12,380	12,380	12,380	\$128,748,000
	Subordination	CRMWD System	48,027	47,133	46,240	45,347	44,453	43,560	\$0
	Renew contract with University Lands	Ogallala aquifer		5,200	5,200	5,200	5,200	5,200	\$8,964,000
	Supplemental wells	Pecos Valley, Ogallala aquifers	0	0	0	0	0	0	\$10,440,000
	New Groundwater	Pecos Valley aquifer	0	0	6,000	6,000	6,000	6,000	\$76,268,000
	Desalination	Capitan Reef aquifer	0	0		9,500	9,500	9,500	\$131,603,990
CRMWD Total			48,027	64,713	69,820	78,427	77,533	76,640	\$356,023,990
San Angelo	Subordination	San Angelo system	16,147	15,838	15,530	15,221	14,643	14,605	\$0
	Rehabilitation of Spence pipeline	Spence reservoir (non-system)	0	0	2,281	2,267	2,254	2,240	\$6,157,000
	Desalination	Other aquifer	0	0	0	5,600	5,600	5,600	\$75,440,000
	New Groundwater	Hickory aquifer	0	6,700	10,000	12,000	12,000	12,000	\$173,307,000
	Brush Control	San Angelo system	8,362	8,362	8,362	8,362	8,362	8,362	\$23,020,000
San Angelo Total			24,509	22,538	27,811	35,088	34,497	34,445	\$254,904,000
UCRA	Subordination	OC Fisher Reservoir	3,862	3,743	3,625	3,507	3,388	3,270	\$0
University Lands	Renew contract with CRMWD	Ogallala aquifer	0	5,200	5,200	5,200	5,200	5,200	\$0
	Renew contract with Andrews	Ogallala aquifer	0	0	0	750	760	773	\$0
	Reuse		0	12,380	12,380	12,380	12,380	12,380	\$128,748,000
	Subordination		64,174	62,971	61,770	60,568	59,096	58,165	\$0
	Infrastructure Improvements		0	0	2,281	2,267	2,254	2,240	\$16,597,000
	New Groundwater		0	6,700	16,000	18,000	18,000	18,000	\$249,575,000
	Voluntary Distribution		0	5,200	5,200	5,950	5,960	5,973	\$8,964,000
	Desalination		0	0	0	15,100	15,100	15,100	\$207,043,990
	Brush Control		8,362	8,362	8,362	8,362	8,362	8,362	\$23,020,000
	Total for All Strategies		72,536	95,613	105,993	122,627	121,152	120,220	\$633,947,990

Table 4.10-2 Strategy Summary by Wholesale Water Provider

Table 4.10-3Unmet Needs in Region F

(Values in Acre-Feet per Year)

Water User Group	County	Basin	Source(s)	2010	2020	2030	2040	2050	2060
Irrigation	Andrews	Colorado	Ogallala aquifer	(12,875)	(10,118)	(7,252)	(5,862)	(5,659)	(5,491)
Irrigation	Borden	Brazos	Ogallala aquifer	(1,019)	(924)	(827)	(824)	(821)	(819)
Irrigation	Borden	Colorado	Ogallala aquifer	(828)	(690)	(552)	(551)	(548)	(547)
Irrigation	Brown	Colorado	Trinity aquifer, run-of- river	(3,006)	(2,889)	(2,761)	(2,720)	(2,683)	(2,656)
Irrigation	Coke	Colorado	Other aquifer, run-of-river	(363)	(363)	(361)	(360)	(360)	(360)
Irrigation	Glasscock	Colorado	Edwards-Trinity aquifer, Ogallala aquifer	(27,784)	(23,750)	(19,710)	(19,290)	(18,869)	(18,460)
Steam-Electric Power	Ector	Colorado	Ogallala aquifer	(1,219)	(3,969)	(5,512)	(7,393)	(9,686)	(12,481)
Irrigation	Irion	Colorado	Run-of-river	(1,302)	(1,204)	(1,108)	(1,047)	(987)	(927)
Irrigation	Martin	Colorado	Ogallala aquifer	(788)	0	0	0	0	0
Irrigation	Menard	Colorado	Run-of-river	(2,441)	(2,398)	(2,356)	(2,337)	(2,315)	(2,296)
Irrigation	Midland	Colorado	Edwards-Trinity aquifer, Ogallala aquifer	(16,233)	(14,559)	(12,748)	(12,654)	(12,512)	(12,393)
Irrigation	Reeves	Rio Grande	Pecos Valley aquifer	(14,253)	(7,577)	(895)	(33)	0	0
Irrigation	Runnels	Colorado	Run-of-river	(1,358)	(1,344)	(1,325)	(1,306)	(1,287)	(1,268)
Irrigation	Tom Green	Colorado	Lipan aquifer, run-of-river	(43,713)	(37,784)	(31,858)	(31,707)	(31,821)	(31,399)
Steam-Electric Power	Tom Green	Colorado	Twin Buttes/Nasworthy System	0	0	0	(48)	(243)	(481)
Irrigation	Upton	Colorado	Edwards-Trinity aquifer	(10,672)	(9,540)	(8,401)	(8,170)	(7,940)	(7,717)
Irrigation	Ward	Rio Grande	Pecos Valley aquifer	(5,527)	(4,188)	(4,151)	(4,969)	(5,335)	(5,318)
Steam-Electric Power	Ward	Rio Grande	Pecos Valley aquifer	0	0	0	0	(679)	(1,973)
Total				(154,378)	(129,936)	(105,997)	(104,894)	(106,785)	(109,043)

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