

CHAPTER 4

IDENTIFICATION OF WATER NEEDS

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4 IDENTIFICATION OF WATER NEEDS

Chapter 4 provides projections (~~Table 4-1~~~~Table 4-1~~) of water supply surpluses or deficits by decade based on a comparison of projected water demands by decade for each water-use entity from Chapter 2 (Table 2-2) with water supplies available to meet those demands from Chapter 3 (Table 3-2). ~~Entities are then identified that, in any decade within the 50-year planning period, develop a water supply need (deficit) that is greater than that entity's ability to provide a supply to meet that need.~~ A water supply deficit may develop for individual water-use entities for numerous reasons including supply availability limits, infrastructure limitations, or legal limits. ~~Table 4-2~~~~Table 4-2~~ provides the needs/surpluses analysis for all Major Water Providers within the Far West Texas Region.

Water supply deficits are identified for several municipalities, manufacturing use and steam power electric generation in El Paso County; for irrigation supply use in Culberson and El Paso Counties, and for mining supply in El Paso, Hudspeth and Terrell Counties.

A secondary water needs analysis by all water user groups and by category of use for which conservation or direct reuse water management strategies are recommended is provided in Table 4-3 and 4-4. This secondary water needs analysis calculates the water needs that would remain after assuming all recommended conservation and reuse water management strategies are fully implemented. Tables 4-5 and 4-6 provides similar data by Major Water Providers and category of use. Table 4-67 presents Major Water Provider needs by water-use category~~unmet needs resulting from insufficient supplies to meet certain strategies.~~

Water supply strategy recommendations are then made in Chapter 5 for those water users that have projected water supply deficits based on the comparison between demand and supply. In addition, strategies are also developed for specific entities that although they are not projected to have future shortages, they do have anticipated water-supply projects that deserve to be recognized in the *Regional Plan*. A socioeconomic impact of unmet water needs analysis prepared by the Texas Water Development Board is provided in Chapter 6, Appendix 6A.

**Table 4-1. Identified Water (Needs)/Surpluses
(Acre Feet per Year)**

	2020	2030	2040	2050	2060	2070
Brewster County						
Alpine	622	612	621	623	619	616
Lajitas Municipal Services	228	227	228	228	227	227
Marathon Water Supply	118	116	116	115	115	115
County-Other	275	255	253	250	247	244
Livestock	19	19	19	19	19	19
Irrigation	1,381	1,381	1,381	1,381	1,381	1,381
Brewster County Total Needs/Surplus	2,643	2,610	2,618	2,616	2,608	2,602
Culberson County						
Van Horn	354	305	279	256	242	233
County-Other	92	88	86	84	83	82
Manufacturing	1	0	0	0	0	0
Mining	1,926	1,192	1,039	1,322	1,589	1,792
Livestock	15	15	15	15	15	15
Irrigation	(333)	(333)	(5,858)	(5,858)	(5,858)	(5,858)
Culberson County Total Needs/Surplus	2,055	1,267	1,086	1,344	1,596	1,789
El Paso County						
Anthony	762	627	499	369	241	120
East Biggs Water System	444	444	444	444	444	444
East Montana Water System	435	350	267	177	86	0
El Paso County Tornillo WID	487	495	501	504	504	503
El Paso WCID #4	1,045	1,062	1,074	1,072	1,057	1,039
El Paso Water	20,428	10,685	1,287	(8,978)	(19,601)	(29,792)
Federal Correctional Institution La Tuna	1,664	1,671	1,674	1,676	1,677	1,677
Fort Bliss Water Services	2,277	2,237	2,134	1,976	1,827	1,677
Haciendas Del Norte WID	110	88	66	44	21	0
Horizon Regional MUD	(2,709)	(5,816)	(8,735)	(11,641)	(14,403)	(17,008)
Lower Valley Water District	(1,358)	(2,207)	(3,042)	(3,934)	(4,833)	(5,689)
Paseo Del Este MUD 1	575	462	351	232	114	0
County-Other Vinton Hills Estates	56	35	16	(4)	(24)	(42)
County-Other Vinton Hills Subdivision	131	83	38	(10)	(54)	(96)
County-Other	4,192	3,520	2,883	2,223	1,598	1,006
Manufacturing	269	(860)	(860)	(860)	(860)	(860)
Mining	(1,851)	(2,469)	(3,105)	3,791	(4,536)	(5,382)
Steam Electric Power	(7,260)	(7,260)	(7,260)	(7,260)	(7,260)	(7,260)
Livestock	67	67	67	67	67	67
Irrigation	(46,404)	(46,404)	(46,404)	(46,404)	(46,404)	(46,404)
El Paso County Total Needs/Surplus	(26,640)	(43,190)	(58,105)	(74,098)	(90,339)	(106,000)
Hudspeth County						
Esperanza Water Service	342	332	331	330	329	328
Hudspeth County WCID 1	390	381	380	379	378	377
County-Other Dell City	18	16	16	16	16	16
County-Other Fort Hancock WCID	156	151	151	151	150	149
County-Other	(35)	(38)	(38)	(38)	(38)	(39)
Mining	(196)	(168)	(185)	(200)	(209)	(219)
Livestock	23	23	23	23	23	23
Irrigation	10,412	10,412	10,412	10,412	10,412	10,412
Hudspeth County Total Needs/Surplus	1,114	11,109	11,090	11,073	11,061	11,047

**Table 4-1. (continued) Identified Water (Needs)/Surpluses
(Acre Feet per Year)**

Jeff Davis County						
Fort Davis	149	154	159	161	161	161
County-Other City of Valentine	0	1	1	2	2	2
County-Other	191	195	198	200	200	200
Mining	0	0	0	0	0	0
Livestock	73	73	73	73	73	73
Irrigation	701	701	701	701	701	701
Jeff Davis County Total Needs/Surplus	1,114	1,124	1,132	1,137	1,137	1,137
Presidio County						
Marfa	1,407	1,362	1,316	1,256	1,202	1,150
Presidio	3,028	2,994	2,958	2,910	2,861	2,813
County-Other	382	370	359	343	329	316
Mining	0	403	403	403	403	403
Livestock	38	38	38	38	38	38
Irrigation	4,995	4,995	4,995	4,995	4,995	4,995
Presidio County Total Needs/Surplus	9,850	10,162	10,069	9,945	9,828	9,715
Terrell County						
Terrell County WCID 1	298	298	298	299	299	299
County-Other	54	54	55	55	55	55
Mining	(483)	(586)	(550)	(416)	(293)	(195)
Livestock	55	55	55	55	55	55
Irrigation	163	163	163	163	163	163
Terrell County Total Needs/Surplus	87	(16)	21	156	279	377
Region E Total Needs/Surplus	219	(16,934)	(37,614)	(53,352)	(69,355)	(84,858)

Note: () Indicates an identified water need.

**Table 4-2. Major Water Provider (Needs)/Surpluses
(Acre-Feet per Year)**

Major Water Provider		2020	2030	2040	2050	2060	2070
El Paso County WID#1	Total Supply	103,166	103,166	103,166	103,166	103,166	103,166
	Total Demand	149,570	149,570	149,570	149,570	149,570	149,570
	Surplus / (Need)	(46,404)	(46,404)	(46,404)	(46,404)	(46,404)	(46,404)
El Paso Water	Total Supply	131,000	131,000	131,000	131,000	131,000	131,000
	Total Demand	137,479	150,245	161,496	173,735	186,304	198,364
	Surplus / (Need)	(6,479)	(19,245)	(30,497)	(42,735)	(55,304)	(67,364)
Lower Valley Water District	Total Supply	4,356	4,356	4,356	4,356	4,356	4,356
	Total Demand	5,714	6,563	7,398	8,290	9,189	10,045
	Surplus / (Need)	(2,486)	(3,528)	(4,530)	(5,610)	(6,713)	(7,766)
Horizon MUD	Total Supply	5,227	5,227	5,227	5,227	5,227	5,227
	Total Demand	7,936	11,043	13,962	16,868	19,630	22,235
	Surplus / (Need)	(2,709)	(5,816)	(8,735)	(11,641)	(14,403)	(17,008)

**Table 4-3. Second-Tier Identified Water Needs
(Acre Feet per Year)**

	2020	2030	2040	2050	2060	2070
Brewster County						
Rio Grande Basin						
Alpine	0	0	0	0	0	0
Lajitas Municipal Services	0	0	0	0	0	0
Marathon WSSS	0	0	0	0	0	0
County-Other	0	0	0	0	0	0
Livestock	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Culberson County						
Rio Grande Basin						
Van Horn	0	0	0	0	0	0
County-Other	0	0	0	0	0	0
Manufacturing	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Livestock	0	0	0	0	0	0
Irrigation	226	226	5,751	5,751	5,751	5,751
El Paso County						
Rio Grande Basin						
Anthony	0	0	0	0	0	0
East Biggs WS	0	0	0	0	0	0
East Montana WS	0	0	0	0	0	0
El Paso County Tornillo WID	0	0	0	0	0	0
El Paso WCID #4	0	0	0	0	0	0
El Paso Water	0	0	0	0	0	1,372
Federal Correctional Institution La Tuna	0	0	0	0	0	0
Fort Bliss Water Services	0	0	0	0	0	0
Haciendas Del Norte WID	0	0	0	0	0	0
Horizon Regional MUD	2433	5,432	8,249	11,054	13,720	16,235
Lower Valley WD	1,301	2,141	2,968	3,851	4,741	5,589
Paseo Del Este MUD 1	0	0	0	0	0	0
County-Other	0	0	0	0	0	0
County-Other Vinton Hills Estates	0	0	0	3	23	41
County-Other Vinton Hills Subdivision	0	0	0	7	50	92
Manufacturing	0	860	860	860	860	860
Mining	1,851	2,469	3,105	3,791	4,536	5,382
Steam Electric Power	7,260	7,260	7,260	7,260	7,260	7,260
Livestock	0	0	0	0	0	0
Irrigation	17,941	17,941	17,941	17,941	17,941	17,941

**Table 4-3. (Continued) Second-Tier Identified Water Needs
(Acre Feet per Year)**

	2020	2030	2040	2050	2060	2070
Hudspeth County						
Rio Grande Basin						
Esperanza Water Service	0	0	0	0	0	0
Hudspeth County WCID #1	0	0	0	0	0	0
County-Other	34	36	36	36	36	37
County-Other Dell City	0	0	0	0	0	0
County-Other Fort Hancock WCID	0	0	0	0	0	0
Mining	196	168	185	200	209	219
Livestock	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Jeff Davis County						
Rio Grande Basin						
Fort Davis WSC	0	0	0	0	0	0
County-Other	0	0	0	0	0	0
County-Other City of Valentine	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Livestock	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Presidio County						
Rio Grande Basin						
Marfa	0	0	0	0	0	0
Presidio	0	0	0	0	0	0
County-Other	0	0	0	0	0	0
Mining	0	0	0	0	0	0
Livestock	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0
Terrell County						
Rio Grande Basin						
Terrell County WCID #1	0	0	0	0	0	0
County-Other	0	0	0	0	0	0
Mining	483	586	550	416	293	195
Livestock	0	0	0	0	0	0
Irrigation	0	0	0	0	0	0

**Table 4-4. Second-Tier Identified Water Needs by Use Category
(Acre Feet per Year)**

Water User Group Category	2020	2030	2040	2050	2060	2070
Municipal	3,734	7,573	11,217	14,905	18,461	23,196
County-Other	34	36	36	46	109	170
Manufacturing	0	860	860	860	860	860
Mining	2,530	3,223	3,840	4,407	5,038	5,796
Steam Electric Power	7,260	7,260	7,260	7,260	7,260	7,260
Livestock	0	0	0	0	0	0
Irrigation	18,167	18,167	23,692	23,692	23,692	23,692

**Table 4-5. Second-Tier Identified Water Needs by Major Water Provider
(Acre Feet per Year)**

Major Water Provider	2020	2030	2040	2050	2060	2070
El Paso County WID#1	17,941	17,941	17,941	17,941	17,941	17,941
El Paso Water	0	0	0	0	0	1,372
Lower Valley Water District	1,301	2,141	2,968	3,851	4,741	5,589
Horizon MUD	2,433	5,432	8,249	11,054	13,720	16,235

**Table 4-6. Major Water Provider Needs by Category
(Acre Feet per Year)**

MWP Use Category	2020	2030	2040	2050	2060	2070
Municipal	4,067	8,023	11,777	24,553	38,837	52,489
Irrigation	46,404	46,404	46,404	46,404	46,404	46,404

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