

Region C Water Planning Group

Freese and Nichols, Inc.
Alan Plummer Associates, Inc.
CP&Y, Inc.
Cooksey Communications, Inc.

2 Population and Water Demand Projections

2.1 Historical Perspective

This section presents the population and water demand projections for Region C as approved by the Texas Water Development Board (TWDB). The section includes a discussion on historical growth trends in Region C, the basis of projections, and the final population and water demand projections for Region C.

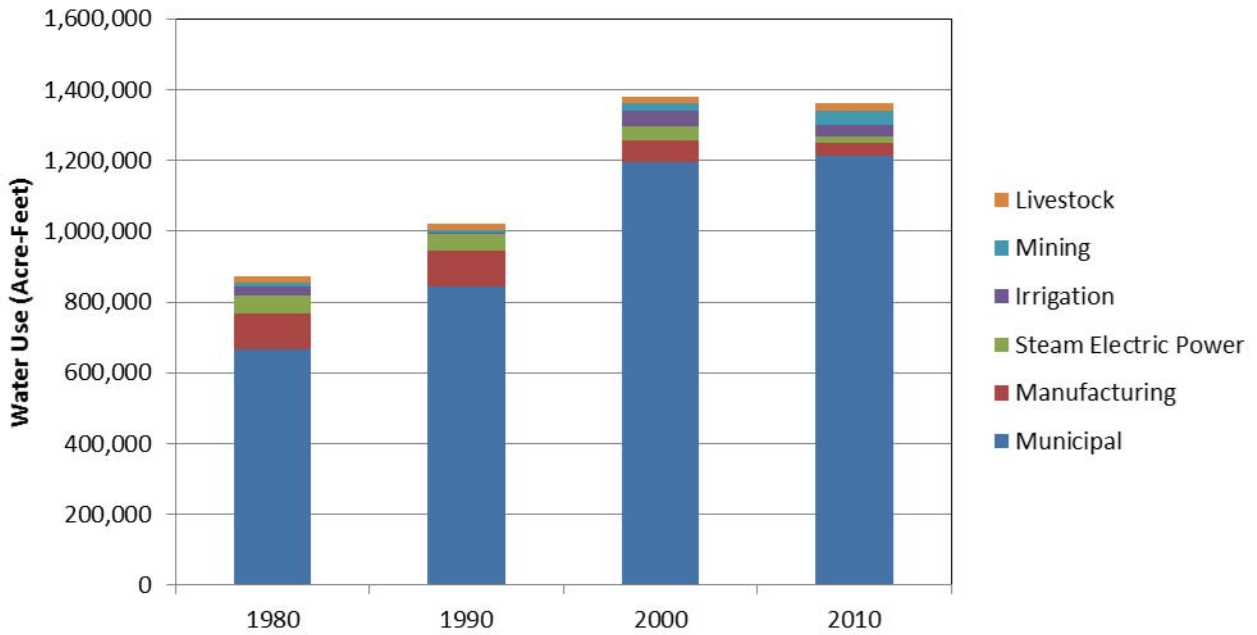
The sixteen counties that comprise Region C have been among the fastest growing areas in Texas and the nation since the 1950s. The region's highest population density is centered in and near Dallas and Tarrant Counties. For many years, the population growth in the region was concentrated in the cities of Dallas and Fort Worth. In the 1960s and 1970s, growth spilled over into near suburbs in Dallas and Tarrant Counties. Then in the 1980s and more so in the 1990s and 2000s, the growth spilled into Collin, Denton, Rockwall and Ellis Counties.

According to the U.S. Census Bureau, the year 2010 population of Region C was 6,477,835 ⁽¹⁾. The State Demographer estimated that the July 1, 2012 population of Region C was 6,716,014 ⁽²⁾. The total Region C water demand was 1,359,917 acre-feet in the year 2010 ⁽⁴⁾. Figure 2.1 shows the historical water use for Region C from 1980 to 2010.

2.2 Population Projections

Population and water demand projections have been developed for all cities with population over 500 and for any retail water supplier (such as a water supply corporation or a utility district) which provides an annual average of over 0.25 million gallons per day of water supply. This group of entities is collectively referred to as water user groups (WUGs). Any rural population not included in a specific water user group has been included in the "County Other" water user group for each county. Nineteen new water user groups have been added for this update of the Region C Plan because their populations have recently reached at least 500 or because they have reached the 0.25 MGD supply threshold. Ten water user groups have been removed because they no longer meet the population or water supply threshold. There are over 280 municipal water user groups in Region C.

**Figure 2.1
Historical Water Use in Region C**



2.2.1 Basis for Population Projections

Population projections presented in this section are based on draft the population projections provided by the Texas Water Development Board on March 5, 2013. Those draft projections were based on population projections developed by the Texas State Demographer using 2010 Census data. Region C analyzed the draft projections and made changes based on input from water user groups, wholesale water providers (WWPs) in Region C, the North Central Texas Council of Governments, and other sources. TWDB allowed population adjustments to be made between WUGs and Counties, but required that the total regional population remain the same as the total of their draft projections.

As stated above, revisions to the projections were made based on input from water user groups and wholesale water providers in Region C. Each WUG in Region C was surveyed regarding their population projections. (A copy of this survey is included in Appendix D.) In the survey, each WUG was provided a copy of their population projections from the *2011 Region C Water Plan*⁽³⁾ and TWDB’s draft population projections for the 2016 Region C Water Plan. Each WUG was asked if they were in agreement with the projections. If the WUG was not in agreement with the projections they were asked to provide alternative projections. Many WUGs responded with suggestions for revisions to the population projections. A summary of these survey responses is included in Appendix E. Additionally, interviews were set up with certain WUGs and WWPs to gather more detailed information. Phone and email correspondence was

also used to gather additional information. The data obtained from all the surveys, interviews, and correspondence was compiled and used to develop a final set of recommended population projections. Email notification was sent to all WUGs for which revisions were proposed. A summary of the justification for all changes made to population projections is included in Appendix E.

As required by TWDB regulations, these projections were posted for public review on the Region C website in advance of the Region C Planning Group meeting at which they were considered for approval. The population projections were approved by the Region C Water Planning Group at the August 5, 2013 Public Meeting, and were subsequently adopted by TWDB.

2.2.2 Water User Group Projections

Table 2.1 presents the projected population for the Region C counties, as adopted by TWDB. The projected 2020 population for Region C is 7,504,200. The 2020 projection is about 6 percent less than the projected 2020 population projection from the 2011 Region C Water Plan of 7,971,728. The projected 2060 population for Region C is 12,742,283. The 2060 projection compares very closely to the projected 2060 population projection from the 2011 Region C Water Plan of 13,045,592 (being about 2% less). Generally, the overall long-term population projections are consistent with previous plan. In addition, the projections presented in this plan reflect lower population growth in Dallas, Tarrant, and Collin Counties than in the 2011 Region C Water Plan with more growth occurring in the surrounding counties.

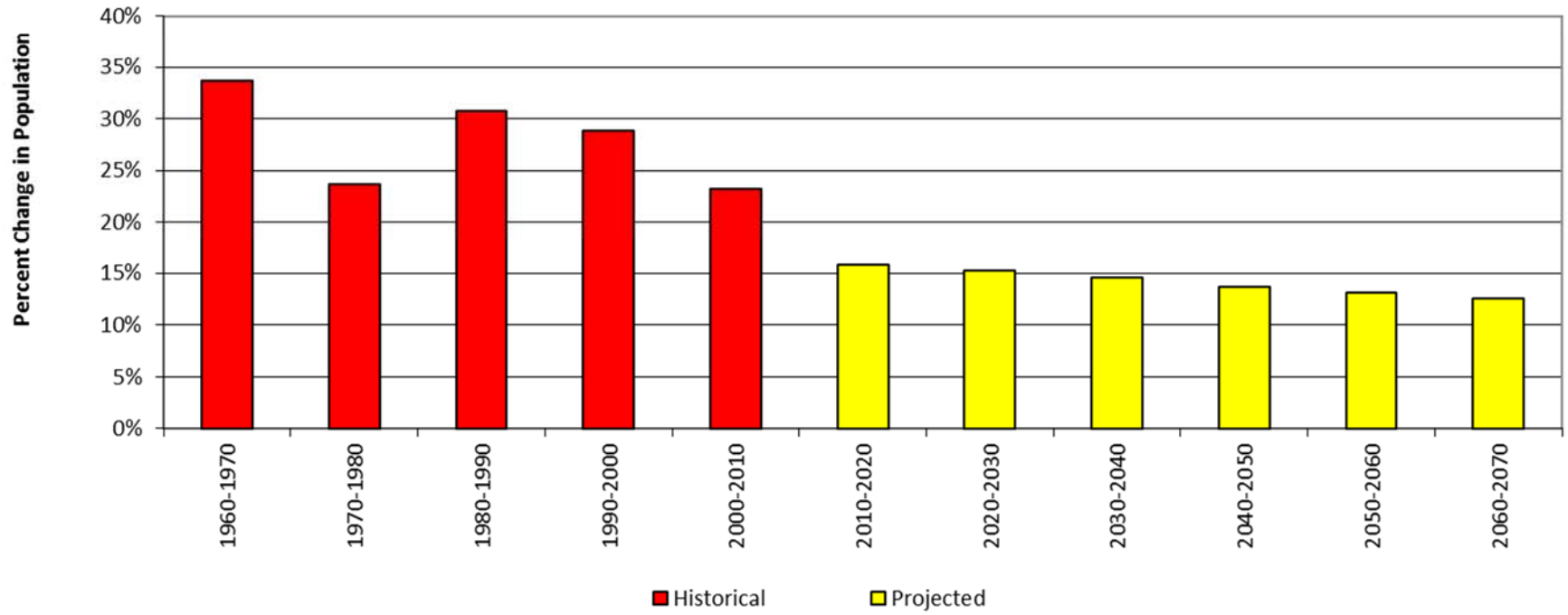
Figure 2.2 shows the historical and projected rate of growth for Region C. This figure shows that the population projections for Region C represent a substantial slowing in the historical rate of growth. Appendix F includes the projected populations for Region C, by water user group, by county, and by basin as approved by the RCWPG and TWDB. The tables in Appendix F are generated directly from TWDB's Regional Water Planning Database (DB17). Many of the water user groups have population that is split among multiple basin, counties, and regions. For convenience, Appendix F also includes the total projected populations for those water user groups in multiple basins, counties, and regions.

**Table 2.1
Adopted Population Projections for Region C by County**

County	Historical 1990	Historical 2000	Historical 2010	2020	2030	2040	2050	2060	2070
Collin	264,036	491,774	782,341	956,716	1,116,830	1,363,229	1,646,663	1,853,878	2,053,638
Cooke	30,777	36,363	38,437	42,033	45,121	48,079	53,532	64,047	96,463
Dallas	1,852,810	2,218,774	2,368,139	2,566,134	2,822,809	3,107,541	3,355,539	3,552,602	3,697,105
Denton	273,525	432,976	662,614	901,645	1,135,397	1,348,271	1,576,424	1,846,314	2,090,485
Ellis	85,167	111,360	149,610	183,814	224,000	276,931	362,668	488,768	683,974
Fannin	24,804	31,242	33,915	38,346	43,391	52,743	69,221	101,915	138,497
Freestone	15,818	17,867	19,816	20,437	21,077	22,947	31,142	44,475	73,287
Grayson	95,021	110,595	120,877	134,785	148,056	164,524	185,564	250,872	344,127
Henderson*	41,309	51,984	78,532	60,175	64,059	69,737	76,204	101,827	136,269
Jack	6,981	8,763	9,044	9,751	10,409	10,817	11,033	11,190	11,291
Kaufman	52,220	71,313	103,350	146,623	191,707	239,940	309,619	428,577	571,840
Navarro	39,926	45,124	47,735	52,544	57,032	61,667	71,452	86,952	107,814
Parker	64,785	88,495	116,927	199,955	255,133	291,007	366,596	480,530	629,277
Rockwall	25,604	43,080	78,337	104,887	137,304	160,918	198,279	249,594	301,970
Tarrant	1,170,103	1,446,219	1,809,034	2,006,473	2,281,666	2,579,553	2,797,060	2,991,972	3,184,348
Wise	34,679	48,793	59,127	79,882	94,734	110,668	149,261	188,770	227,527
Region C Total	4,077,565	5,254,722	6,477,835	7,504,200	8,648,725	9,908,572	11,260,257	12,742,283	14,347,912

*Projections for Henderson County only include the portion of Henderson County located within Region C.

Figure 2.2
Historical and Projected Population Growth Rates by Decade in Region C



2.3 Water Demand Projections

2.3.1 Basis for Municipal Water Demand Projections

The municipal water demand projections presented in this section are based on per capita dry-year water use and the adopted population projections from the previous section. On March 5, 2013 TWDB provided draft per-capita projections for each WUG based on each WUG's 2011 actual per capita use as calculated by TWDB. These 2020 through 2070 projections included estimated water reductions due to savings from plumbing code requirements for low-flow fixtures. TWDB chose the year 2011 as the base year because it represented the most severe drought year in recent history for the majority of the state of Texas, although 2011 was not the most severe recent drought year for much of Region C.

The consultants for Region C met with TWDB staff and pointed out that for many Region C water user groups, 2006 and 2008 were more representative of dry-year, high-demand conditions than 2011. (In parts of Region C, unlike most of Texas, there were periodic light rains in the summer of 2011 that suppressed the demand for water.) The Region C consultants suggested that the dry-year per capita demands should be based on the highest per capita use in recent years and then reduced over time to reflect savings from low flow water fixtures. TWDB staff did not agree. As a result, the projected dry-year demands for some Water User Groups in Region C underestimate true dry-year needs. It is hoped that this will be corrected in future rounds of planning.

TWDB did allow Region C to make changes to this 2011 base-year per capita water use in very limited instances and required substantial justification and documentations in order to allow these changes. Overall, 73% of TWDB's recommended per capita values were retained. For the remaining WUGs, adjustments and corrections were made based on specific information obtained by Region C. A detailed memorandum was developed to outline the changes in select gpcd's and to document the justification to those changes. This memorandum is included in Appendix E. Even with the limited variance from the 2011 per capita water use, consultants for Region C still feel the demands for some Water User Groups adopted for this plan underestimate true dry-year needs.

As with the population projections, a survey was sent to each WUG containing their demand projections from the *2011 Region C Water Plan*⁽¹⁾ and TWDB's draft demand projections for the 2016 Region C Plan. Each WUG was asked if they were in agreement with the projections. If the WUG was not in agreement with the projections they were asked to provide alternative projections. A summary of these survey

responses is included in Appendix E. The survey responses were used to identify instances where TWDB base-year 2011 per capita data may have contained an error. (TWDB data is based on self-reported data submitted by the WUGs each year.) If a potential problem was identified, additional data was gathered and if necessary submitted to TWDB as justification for base per capita adjustment. Email notification was sent to all WUGs for which revisions were made.

As required by TWDB regulations, these projections were posted for public review on the Region C website in advance of the Region C Planning Group meeting at which they were considered for approval. The municipal demand projections were approved by the Region C Water Planning Group at the August 5, 2013 Public Meeting.

After the adoption of the municipal demand projections, it was discovered that the demand for DFW International Airport has been inadvertently left out of the original municipal demand projections. Even though DFWIA is generally considered a non-municipal demand, for the purposes of regional planning it is included in the County Other municipal category. Adjustments were made to the Tarrant County Other and Dallas County Other municipal demands to include the demand of DFWIA. These adjustments were approved by the RCWPG at the March 31, 2014 Public Meeting. A summary of the revisions to this demand is included in Appendix E. All Region C recommended municipal demand projections were subsequently approved by TWDB.

2.3.2 Basis for Non-Municipal Water Demand Projections

Non-municipal water demand projections are reported on a county-wide basis and include manufacturing, steam electric power, irrigation, mining, and livestock use. Projections of the non-municipal water demands were based on the draft projections provided by TWDB on October 12, 2011. TWDB draft irrigation and livestock demands were based on an average of TWDB's 2005-2009 irrigation and livestock water use estimates, respectively. TWDB draft manufacturing demands were based on year 2004-2008 data from TWDB's Water Use Survey (WUS). TWDB draft mining demands were based on a study by the University of Texas' Bureau of Economic Geology ⁽⁶⁾. TWDB draft steam electric power generation demands were based on projections from the *2011 Region C Water Plan* and the 2008 TWDB report *Water Demand Projections for Power Generation in Texas* ⁽⁷⁾.

Region C was given the opportunity to request adjustments to the non-municipal projections if needed. Region C did request a number of revisions, and those revisions are detailed in separate memoranda for

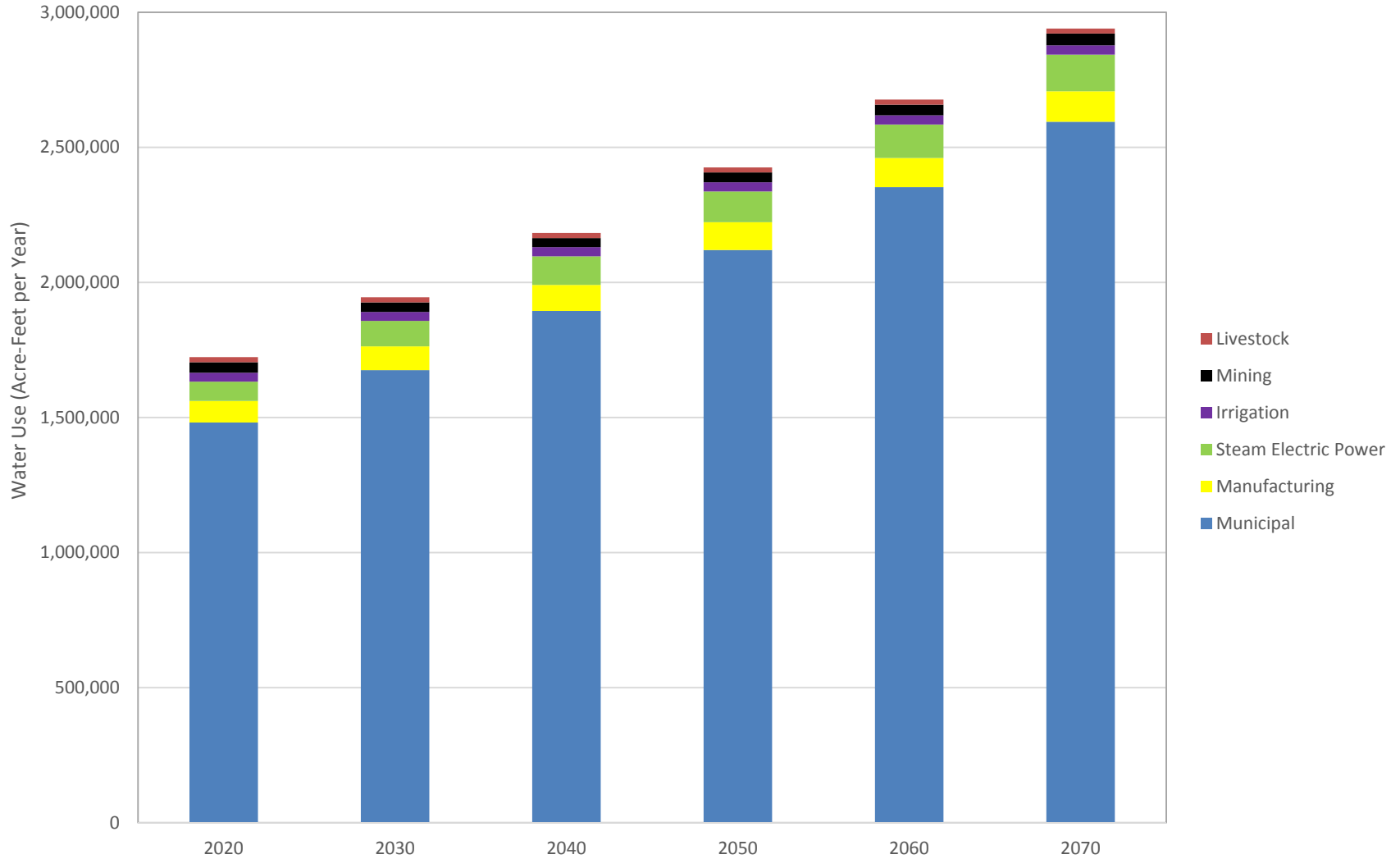
each use category. Appendix E contains the memoranda detailing the revisions to non-municipal demands for Region C. As required by TWDB regulations, the proposed projections were posted for public review on the Region C website in advance of the Region C Planning Group meeting at which they were considered for approval. The projections were approved by the Region C Water Planning Group at the April 30, 2012 Public Meeting.

TWDB subsequently adopted most of the revisions proposed by the RCWPG with the exception of the mining demands in Collin, Grayson and Rockwall Counties. The Region C Water Planning Group then adopted the original TWDB draft mining projections for those three counties at the August 25, 2013 Public Meeting.

2.3.3 Water User Group Projections

Table 2.2 presents the projected total dry-year water demand for the Region C counties, as adopted by TWDB. Table 2.3 and Figure 2.33 show the projected dry-year water demand for the region by type of use. Table 2.4 through Table 2.19 show the projected dry-year water demand for each Region C County by type of use. The water demand projections are listed by water user group, by county, and by basin in Appendix G. The tables in Appendix G are generated directly from TWDB's Regional Water Planning Database (DB17). Again, for convenience, Appendix G also lists the total projected municipal water demand for those water user groups that are split among multiple basins, counties, and regions.

Figure 2.3
Adopted Projections for Dry-Year Water Use by Category in Region C



**Table 2.2
Adopted Total Dry-Year Water Demand Projections for Region C by County**

County	Projected Water Dry Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Collin	224,022	256,375	305,795	354,437	384,105	412,735
Cooke	9,725	9,276	9,005	9,683	11,137	15,366
Dallas	577,785	618,807	674,672	720,897	757,834	782,053
Denton	185,710	226,706	265,820	306,284	353,071	392,342
Ellis	40,255	47,596	58,626	73,656	94,634	127,173
Fannin	21,517	27,201	28,967	31,697	36,106	41,013
Freestone	35,073	34,856	35,121	39,948	46,635	55,960
Grayson	40,623	49,497	52,616	56,853	68,207	85,117
Henderson	13,462	16,928	18,519	20,422	25,705	32,402
Jack	6,498	6,942	7,127	7,382	7,648	7,979
Kaufman	29,204	34,977	40,737	49,301	62,910	78,996
Navarro	20,683	27,025	28,015	29,746	32,110	35,114
Parker	36,785	46,580	51,788	62,476	77,868	98,251
Rockwall	20,419	27,595	31,483	36,966	44,600	53,074
Tarrant	431,918	481,457	536,594	580,170	620,092	659,399
Wise	29,646	33,173	38,063	45,919	54,174	62,906
Region C Total	1,723,325	1,944,991	2,182,948	2,425,837	2,676,836	2,939,880

Table 2.3
Adopted Dry-Year Water Demand Projections for Region C by Type of Use

Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	1,481,530	1,675,385	1,894,722	2,119,813	2,352,818	2,594,833
Manufacturing	79,540	87,958	96,154	103,307	107,899	112,839
Steam Electric Power	71,452	94,176	106,033	113,641	124,001	135,443
Irrigation	33,167	33,383	33,599	33,815	34,032	34,248
Mining	38,858	35,311	33,662	36,483	39,308	43,739
Livestock	18,778	18,778	18,778	18,778	18,778	18,778
Region C Total	1,723,325	1,944,991	2,182,948	2,425,837	2,676,836	2,939,880

Table 2.4
Adopted Dry-Year Water Demand Projections for Collin County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	215,996	248,030	296,881	345,282	374,359	402,609
Manufacturing	3,456	3,888	4,319	4,706	5,109	5,547
Steam Electric Power	715	602	740	594	782	724
Irrigation	2,995	2,995	2,995	2,995	2,995	2,995
Mining	0	0	0	0	0	0
Livestock	860	860	860	860	860	860
Total	224,022	256,375	305,795	354,437	384,105	412,735

**Table 2.5
Adopted Dry-Year Water Demand Projections for Cooke County by Type of Use**

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	6,122	6,335	6,565	7,157	8,522	12,650
Manufacturing	226	247	268	286	310	336
Steam Electric Power	0	0	0	0	0	0
Irrigation	300	300	300	300	300	300
Mining	1,583	900	378	446	511	586
Livestock	1,494	1,494	1,494	1,494	1,494	1,494
Total	9,725	9,276	9,005	9,683	11,137	15,366

**Table 2.6
Adopted Dry-Year Water Demand Projections for Dallas County by Type of Use**

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	521,968	560,015	607,125	651,210	687,875	711,818
Manufacturing	37,791	41,148	44,214	46,703	46,983	47,265
Steam Electric Power	5,000	5,000	11,066	11,066	11,066	11,066
Irrigation	9,134	9,134	9,134	9,134	9,134	9,134
Mining	3,038	2,656	2,279	1,930	1,922	1,916
Livestock	854	854	854	854	854	854
Total	577,785	618,807	674,672	720,897	757,834	782,053

Table 2.7
Adopted Dry-Year Water Demand Projections for Denton County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	176,110	218,419	256,631	295,870	341,498	379,398
Manufacturing	1,446	1,643	1,843	2,020	2,194	2,383
Steam Electric Power	646	733	819	906	993	1,088
Irrigation	2,137	2,137	2,137	2,137	2,137	2,137
Mining	4,326	2,729	3,345	4,306	5,204	6,291
Livestock	1,045	1,045	1,045	1,045	1,045	1,045
Total	185,710	226,706	265,820	306,284	353,071	392,342

Table 2.8
Adopted Dry-Year Water Demand Projections for Ellis County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	32,686	39,053	47,684	60,586	79,481	109,139
Manufacturing	5,247	5,403	5,560	5,716	5,716	5,716
Steam Electric Power	698	1,450	3,741	5,754	7,878	10,786
Irrigation	572	572	572	572	572	572
Mining	147	213	164	123	82	55
Livestock	905	905	905	905	905	905
Total	40,255	47,596	58,626	73,656	94,634	127,173

Table 2.9
Adopted Dry-Year Water Demand Projections for Fannin County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	4,969	5,533	6,854	9,043	12,793	17,006
Manufacturing	88	97	106	114	124	135
Steam Electric Power	6,363	11,474	11,910	12,443	13,092	13,775
Irrigation	8,301	8,301	8,301	8,301	8,301	8,301
Mining	128	128	128	128	128	128
Livestock	1,668	1,668	1,668	1,668	1,668	1,668
Total	21,517	27,201	28,967	31,697	36,106	41,013

Table 2.10
Adopted Dry-Year Water Demand Projections for Freestone County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	2,476	2,480	2,599	3,670	5,030	7,911
Manufacturing	100	111	121	130	136	142
Steam Electric Power	25,000	25,000	25,000	28,712	33,963	40,175
Irrigation	298	298	298	298	298	298
Mining	5,347	5,115	5,251	5,286	5,356	5,582
Livestock	1,852	1,852	1,852	1,852	1,852	1,852
Total	35,073	34,856	35,121	39,948	46,635	55,960

Table 2.11
Adopted Dry-Year Water Demand Projections for Grayson County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	25,580	27,254	29,741	33,410	44,009	60,119
Manufacturing	4,905	5,329	5,729	6,065	6,584	7,147
Steam Electric Power	6,163	12,711	12,711	12,711	12,711	12,711
Irrigation	2,438	2,654	2,870	3,086	3,303	3,519
Mining	79	91	107	123	142	163
Livestock	1,458	1,458	1,458	1,458	1,458	1,458
Total	40,623	49,497	52,616	56,853	68,207	85,117

Table 2.12
Adopted Dry-Year Water Demand Projections for Henderson County (Region C Portion only) by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	7,790	8,237	8,809	9,692	13,956	19,634
Manufacturing	575	594	613	633	652	671
Steam Electric Power	4,000	7,000	8,000	9,000	10,000	11,000
Irrigation	0	0	0	0	0	0
Mining	607	607	607	607	607	607
Livestock	490	490	490	490	490	490
Total	13,462	16,928	18,519	20,422	25,705	32,402

Table 2.13
Adopted Dry-Year Water Demand Projections for Jack County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	1,243	1,283	1,302	1,311	1,327	1,337
Manufacturing	2	2	2	2	2	2
Steam Electric Power	2,665	2,879	3,092	3,305	3,518	3,745
Irrigation	101	101	101	101	101	101
Mining	1,555	1,745	1,698	1,731	1,768	1,862
Livestock	932	932	932	932	932	932
Total	6,498	6,942	7,127	7,382	7,648	7,979

Table 2.14
Adopted Dry-Year Water Demand Projections for Kaufman County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	18,199	23,826	29,422	37,766	51,170	67,015
Manufacturing	813	869	928	993	1,061	1,134
Steam Electric Power	8,000	8,000	8,000	8,000	8,000	8,000
Irrigation	179	179	179	179	179	179
Mining	296	386	491	646	783	951
Livestock	1,717	1,717	1,717	1,717	1,717	1,717
Total	29,204	34,977	40,737	49,301	62,910	78,996

**Table 2.15
Adopted Dry-Year Water Demand Projections for Navarro County by Type of Use**

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	9,084	9,663	10,307	11,613	13,608	16,207
Manufacturing	1,114	1,249	1,384	1,519	1,654	1,789
Steam Electric Power	8,000	13,440	13,440	13,440	13,440	13,440
Irrigation	58	58	58	58	58	58
Mining	883	1,071	1,282	1,572	1,806	2,076
Livestock	1,544	1,544	1,544	1,544	1,544	1,544
Total	20,683	27,025	28,015	29,746	32,110	35,114

**Table 2.16
Adopted Dry-Year Water Demand Projections for Parker County by Type of Use**

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	30,671	39,528	44,667	55,197	70,446	90,498
Manufacturing	638	729	821	912	1,004	1,095
Steam Electric Power	260	260	260	260	260	260
Irrigation	490	490	490	490	490	490
Mining	3,182	4,029	4,006	4,073	4,124	4,364
Livestock	1,544	1,544	1,544	1,544	1,544	1,544
Total	36,785	46,580	51,788	62,476	77,868	98,251

Table 2.17
Adopted Dry-Year Water Demand Projections for Rockwall County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	19,893	27,064	30,947	36,425	44,054	52,522
Manufacturing	35	40	45	50	55	61
Steam Electric Power	0	0	0	0	0	0
Irrigation	374	374	374	374	374	374
Mining	0	0	0	0	0	0
Livestock	117	117	117	117	117	117
Total	20,419	27,595	31,483	36,966	44,600	53,074

Table 2.18
Adopted Dry-Year Water Demand Projections for Tarrant County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	396,470	443,988	497,892	538,525	575,949	612,536
Manufacturing	20,444	23,630	26,924	29,919	32,457	35,210
Steam Electric Power	2,448	4,168	5,000	5,000	5,000	5,000
Irrigation	4,466	4,466	4,466	4,466	4,466	4,466
Mining	7,367	4,482	1,589	1,537	1,497	1,464
Livestock	723	723	723	723	723	723
Total	431,918	481,457	536,594	580,170	620,092	659,399

Table 2.19
Adopted Dry-Year Water Demand Projections for Wise County by Type of Use

Type of Use	Projected Water Dry-Year Demand (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Municipal	12,273	14,677	17,296	23,056	28,741	34,434
Manufacturing	2,660	2,979	3,277	3,539	3,858	4,206
Steam Electric Power	1,494	1,459	2,254	2,450	3,298	3,673
Irrigation	1,324	1,324	1,324	1,324	1,324	1,324
Mining	10,320	11,159	12,337	13,975	15,378	17,694
Livestock	1,575	1,575	1,575	1,575	1,575	1,575
Total	29,646	33,173	38,063	45,919	54,174	62,906

2.3.4 Wholesale Water Provider Projections

Table 2.20 shows the projected dry-year demand in Region C by Wholesale Water Provider, and Appendix H includes details on Wholesale Water Provider demand projections by customer. Appendix H also contains DB17 reports for all Wholesale Water Providers.

Table 2.20
Projected Dry-Year Water Demand by Wholesale Water Provider

Wholesale Water Provider	Projected Dry Year Demand Including Customers (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Argyle Water Supply Corporation	2,391	3,055	3,956	3,951	3,949	3,948
Arlington	72,206	75,437	76,908	77,603	78,891	79,539
Athens Municipal Water Authority	5,666	5,948	6,189	6,537	9,223	12,533
Corsicana	11,463	17,807	18,795	20,337	22,438	25,114
Cross Timbers Water Supply Corporation	1,819	1,923	1,953	1,988	2,037	2,091
Dallas (Dallas Water Utilities)	517,743	565,485	625,283	690,851	757,476	803,344
Dallas County Park Cities MUD	14,989	15,333	15,249	15,171	15,157	15,156
Denison	8,139	8,942	9,687	10,499	12,106	14,720
Denton	31,160	39,934	49,768	62,433	84,594	102,615
East Cedar Creek FWSD	1,758	1,881	2,116	2,374	3,093	4,301
Ennis	6,656	7,409	8,204	10,859	16,385	26,652
Forney	14,035	14,930	16,556	18,740	22,865	27,672
Fort Worth	292,423	348,026	410,390	455,416	497,352	540,757
Gainesville	3,605	3,302	3,268	3,676	5,129	9,377
Garland	50,966	51,291	51,206	50,878	51,026	51,017
Grand Prairie	43,648	49,316	52,715	52,506	52,484	52,520
Greater Texoma Utility Authority	19,725	37,379	41,883	49,665	67,255	90,350
Lake Cities MUA	2,140	2,406	2,715	2,915	2,909	2,908
Mansfield	36,952	40,363	45,168	53,921	59,704	65,931
Midlothian	12,253	14,020	16,282	18,532	20,748	22,765
Mustang SUD	7,182	12,154	14,554	16,837	19,056	20,723
North Richland Hills	15,632	16,169	15,879	15,718	15,686	15,684
North Texas Municipal Water District	379,391	437,208	505,842	573,888	638,060	700,225
Princeton	1,302	1,606	2,171	4,419	6,605	8,928
Rockett SUD	11,093	13,139	15,547	17,707	21,584	28,888
Rockwall	14,693	20,885	23,543	26,270	30,447	34,678
Sabine River Authority ^a	274,907	234,829	234,750	234,672	234,594	234,515
Seagoville	2,819	3,237	3,775	4,440	5,887	7,603
Sherman	22,932	23,758	25,710	27,994	33,405	42,898

Table 2.20, continued

Wholesale Water Provider	Projected Dry Year Demand Including Customers (Acre-Feet per Year)					
	2020	2030	2040	2050	2060	2070
Sulphur River Water District ^a	11,356	11,303	11,251	11,198	11,146	11,094
Tarrant Regional Water District	515,935	584,570	657,778	741,306	833,426	941,664
Terrell	5,336	8,721	10,778	13,693	17,152	20,965
Trinity River Authority	204,914	198,464	199,337	204,978	209,490	231,306
Upper Neches Municipal Water Authority ^a	0	110,670	109,563	108,455	107,347	106,239
Upper Trinity Regional Water District	47,052	67,041	85,399	107,167	120,145	135,564
Walnut Creek SUD	2,579	3,071	3,710	5,042	7,283	9,467
Waxahachie	10,649	11,682	15,531	19,854	23,040	26,848
Weatherford	6,338	7,415	8,648	14,652	22,523	32,604
West Cedar Creek MUD	2,542	2,859	3,209	3,681	4,934	6,652
Wise County WSD	3,558	4,321	5,184	7,898	10,230	12,553

(a) These entities are located mostly in other Regions. For Sabine River Authority, demand is for the Dallas and NTMWD from the Upper Basin only (Lake Fork and Lake Tawakoni). For Sulphur River Water District, the demand is for Upper Trinity Regional Water District from Lake Chapman. For Upper Neches Municipal Water Authority, the demand is for Dallas from Lake Palestine.

CHAPTER 2 LIST OF REFERENCES

- (1) United States Bureau of the Census: Census 2010 Data for the State of Texas; Population by County, Population by Place, [Online], Available URL: <http://quickfacts.census.gov/>, March 2014.
- (2) Texas State Data Center and Office of the State Demographer: Texas Population Estimates for 2011, [ONLINE], Available URL: <http://txsdc.utsa.edu/Data/TPEPP/Estimates/Index.aspx>, March 2014.
- (3) Freese and Nichols, Inc., Alan Plummer Associates, Inc., CP&Y, Inc., and Cooksey Communications, Inc.: *2011 Region C Water Plan*, prepared for the Region C Water Planning Group, Fort Worth, October 2010.
- (4) Texas Water Development Board: 2010 Texas Water Use Summary Estimates for Region C, Austin, [Online], Available URL <http://www.twdb.state.tx.us/waterplanning/waterusesurvey/estimates/index.asp> downloaded March 12, 2014.
- (5) Dallas Morning News: 1998-99 Texas Almanac, Dallas, 1997.
- (6) Bureau of Economic Geology in conjunction with Texas Water Development Board: *Current and Projected Water Use in the Texas Mining and Oil and Gas Industry*. June 2011.
- (7) Bureau of Economic Geology in conjunction with Texas Water Development Board: Water Demand Projections for Power Generation in Texas. August 31, 2008.