

TEXAS BOARD OF WATER ENGINEERS

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HISTORICAL GROUND-WATER USES BY MUNICIPALITIES
FOR THE YEARS 1955 THROUGH 1959
FOR SELECTED AREAS
IN TEXAS

Prepared for

The United States Study Commission on the Neches, Trinity,
Brazos, Colorado, Guadalupe, San Antonio, Nueces, and
San Jacinto River Basins, and Intervening Areas

by

Texas Board of Water Engineers

January 12, 1961

BOARD OF WATER ENGINEERS

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January 12, 1961

Mr. Charles D. Curran
Executive Director
U. S. Study Commission-Texas
980 M and M Building
Houston 2, Texas

Dear Mr. Curran:

In accordance with the terms of a contract identified by the number 61-7, between this agency and the U. S. Study Commission-Texas, executed by this agency on October 11, 1960, I am transmitting to you, this date, a report on Historical Ground-Water Uses by Municipalities. In conformity with Article 1 of said contract, 150 copies of such a report, titled "Historical Ground-Water Uses By Municipalities For The Years 1955 Through 1959 For Selected Areas in Texas," are being provided.

This report represents a diligent effort on the part of our staff to compile in detail and with accuracy the information desired. It is believed that this information will be of use and value to your agency.

Very truly yours,

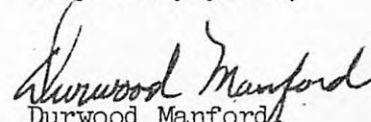

Durwood Manford,
Chairman

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HISTORICAL GROUND - WATER USES BY
MUNICIPALITIES FOR THE YEARS
1955 THROUGH 1959 FOR SELECTED
AREAS IN TEXAS

INTRODUCTION TO TABULAR DATA

This report was prepared by the Texas Board of Water Engineers under the terms of a contract with the United States Study Commission-Texas. It is a compilation of annual ground-water use by municipalities for the years 1955-1959 in the Lower Rio Grande Valley and the Nueces, San Antonio, Guadalupe, Colorado, Brazos, San Jacinto, Trinity, and Neches River Basins and intervening areas; the aquifers supplying the municipalities; historical changes from surface to ground water and ground water to surface water; and additional remarks.

The data are listed by municipal and industrial areas delineated within these basins and intervening areas as shown on maps obtained from the Bureau of Reclamation and are the same as those used in Work Assignment 5.2A for the United States Study Commission by the Bureau of Reclamation. The municipalities listed in Work Assignment 5.2A appear in this report at the beginning of each area and additional municipalities from records of the Texas Board of Water Engineers follow them in alphabetical order. All public water supplies within and associated with a municipality are combined and shown as one supply. For example, Our Lady of the Lake College, within the municipal limits of San Antonio, has its own water supply; but its total ground-water use is included with San Antonio's total use figure. Military installations are shown individually in the listing of municipalities.

Data in this report pertaining to municipal pumpage were obtained from records of an inventory conducted annually by the Texas Board of Water Engineers. Data are reported to the nearest acre-foot. No estimates were made for ground-water use where data were not available. The average annual use was determined for those municipalities having at least four years of record for the 5-year period 1955-1959.

The historical changes reported are those that have occurred since publication of United States Geological Survey Water Supply Papers, 1047, 1069, 1070, and 1106. Additional remarks which have been included for clarification have been based on data contained in files of the Ground-Water Division of the Texas Board of Water Engineers.

Table 1.--Use of Ground Water by Municipalities in the Lower Rio Grande Valley
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u> No municipal use of ground water in this area								
<u>Area 2</u>								
McAllen	767	1,162	1,415	1,141	802	1,058	Goliad - Willis - Lissie - Alluvium	Used water from the Rio Grande River in 1945. Developed well field since that time as supplemental source.
Mercedes	904	1,057	917	559	559	799	Alluvium	Developed well field to supplement use of water from Rio Grande River. Used more surface water during 1958 and 1959.
Pharr	798	1,019	999	921	DNA	<u>1/</u> 934	Lissie - Alluvium	Developed well field to supplement use of water from Rio Grande River.
Raymondville	1,120	954	1,135	NU	NU	<u>2/</u>	Goliad - Willis - Lissie	Used both ground and surface water through 1957. Used surface water from 1958 through present.
San Benito	1,273	1,273	1,273	1,318	1,334	1,294	Alluvium	Used water from Rio Grande River in 1945. Developed well field since that time as supplemental source.
Weslaco	19	NU	NU	NU	NU	<u>2/</u>	Lissie - Alluvium	Used water from the Rio Grande River in 1945. Drilled wells since that time as supplemental supply. Discontinued using wells in 1956.
Combs	30	30	30	DNA	DNA	<u>2/</u>	Alluvium	
Elsa	460	513	507	21	21	305	Lissie - Alluvium	Used water from the Rio Grande River in 1945. Drilled wells since that time as supplemental supply. Used more surface water in 1958 and 1959.
La Feria	DNA	DNA	368	370	355	<u>2/</u>	Alluvium	
San Perlita	21	23	28	26	34	26	Goliad - Willis - Lissie	
Santa Rosa	45	45	45	54	39	45	Lissie - Alluvium	
Total Area	<u>4/5,437</u>	<u>4/6,076</u>	6,717	<u>4/4,410</u>	<u>4/3,144</u>	<u>4/4,461</u>		
<u>Area 3</u>								
Falfurrias	838	931	964	820	820	874	Goliad	

See footnotes at end of table.

Table 1.--Use of Ground Water by Municipalities in the Lower Rio Grande Valley--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Hebbronville	331	331	331	443	443	376	Catahoula - Oakville - Lagarto	
Sarita	12	17	17	34	27	21	Alluvium	
Total Area	1,181	1,279	1,312	1,297	1,290	1,271		
Total Basin	4/6,618	4/7,355	8,029	4/5,707	4/4,434	4/5,732		

NU - Ground water not used.

DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.

Table 2.--Use of Ground Water by Municipalities in the Nueces River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Carrizo Springs	509	420	503	387	387	441	Carrizo	
Crystal City	626	805	668	742	616	691	Carrizo	
Dilley	491	209	299	237	227	293	Carrizo	
Hondo	1,120	1,234	896	539	508	859	Edwards	Decrease in the use of ground water in 1957 and 1958 result of closing Hondo Air Base.
Uvalde	2,912	4,036	3,136	2,206	2,194	2,897	Edwards	
Asherton	39	39	56	38	67	48	Carrizo	
Barksdale	10	12	12	19	11	13	Trinity	
Campbellton	67	67	67	41	DNA	1/ 61	Carrizo - Wilcox	Obtained water from Atascosa River in 1945. City now obtains water from well owned by Lower Nueces River Water Supply District.
Catarina	31	31	31	28	34	31	Carrizo	
Charlotte	123	123	123	118	114	120	Mount Selman	
Christine	25	25	22	20	DNA	1/ 23	Mount Selman	
Cotulla	1,105	1,105	1,105	784	784	854	Carrizo	
D'Hanis	112	112	112	67	84	97	Edwards	
Devine	562	562	562	DNA	DNA	2/	Carrizo - Wilcox	
Encinal	55	55	55	DNA	DNA	2/	Cook Mountain	
Fowlerton	20	20	20	27	27	23	Mount Selman	
Freer	153	215	215	215	215	203	Catahoula	
Jourdanton	243	284	256	232	232	249	Carrizo	
La Pryor	46	78	67	DNA	84	1/ 69	Carrizo	
Leakey	54	43	31	46	DNA	1/ 43	Trinity	
Lytle	DNA	DNA	DNA	DNA	60	2/	Edwards	
Natalia	42	87	87	94	69	76	Carrizo	
North Pleasanton	70	70	70	123	DNA	1/ 83	Carrizo	

See footnotes at end of table.

Table 2.--Use of Ground Water by Municipalities in the Nueces River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Pearsall	588	809	621	608	623	650	Carrizo	
Pleasanton	560	840	560	559	814	664	Mount Selman	
Poteet	276	257	195	179	202	223	Carrizo	
Rocksprings	121	121	121	167	187	143	Trinity	
Sabinal	112	113	114	162	168	134	Edwards	
Tilden	90	90	90	DNA	61	<u>1</u> / 83	Carrizo	
Total Area	<u>4</u> /10,162	<u>4</u> /11,862	<u>4</u> /10,094	<u>4</u> /7,638	<u>4</u> /7,768	<u>4</u> /9,071		
<u>Area 2</u>								
Agua Dulce	47	76	64	138	90	83	Goliad - Willis - Lissie	1958 figure reflects some increased use by Tennessee Gas Transmission Co. for company houses.
Alice	3,195	2,539	2,552	2,431	3,006	2,745	Goliad - Willis - Lissie	
Aransas Pass	638	855	864	820	DNA	<u>1</u> / 794	Alluvium	
Beeville	1,073	1,505	1,301	1,412	1,331	1,324	Catahoula - Oakville - Lagarto	
Bishop	341	341	341	448	414	377	Goliad - Willis - Lissie	
Corpus Christi	10,910	11,528	7,296	NU	NU	<u>2</u> /	Catahoula - Oakville - Lagarto	Used water from Nueces River in 1945. Developed well field in 1952 as supplemental supply. Discontinued using wells in 1958.
George West	119	127	140	145	136	133	Catahoula - Oakville - Lagarto	
Kingsville	3,031	3,416	3,151	2,728	2,463	2,958	Goliad - Willis - Lissie	Includes Texas A & I College.
Robstown	33	33	33	NU	NU	<u>2</u> /	Beaumont	Obtained water from Nueces River in 1945. Since this date water has been obtained from wells owned by Nueces Co. WC & ID #3. Wells were abandoned in 1958.
Taft	495	568	509	368	476	483	Beaumont	

See footnotes at end of table.

Table 2.--Use of Ground Water by Municipalities in the Nueces River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 2</u>								
Banquette	DNA	DNA	DNA	12	18	2/	Goliad - Willis - Lissie	Well owned by Nueces Co. WC & ID #5.
Bayside	13	13	13	13	DNA	1/ 13	Goliad - Willis - Lissie - Beaumont	
Benavides	262	347	347	807	592	471	Goliad	
Driscoll	22	28	28	DNA	DNA	2/	Goliad - Willis - Lissie	
Mathis	641	921	1,673	414	890	908	Goliad - Willis - Lissie	
Orange Grove	138	144	129	114	110	127	Goliad - Willis - Lissie	
Premont	377	506	535	454	540	483	Goliad - Willis - Lissie	
Riviera	34	37	37	43	47	40	Goliad - Willis - Lissie	
Rockport	172	197	195	292	278	228	Alluvium	
San Diego	333	333	333	251	DNA	1/ 312	Goliad	
Sinton	841	784	840	560	DNA	1/ 756	Goliad - Willis - Lissie	
U. S. Naval Auxiliary Air Station - Kingsville	669	669	669	626	595	645	Goliad - Willis - Lissie	
Total Area	4/23,384	4/24,967	4/21,050	4/12,076	4/10,986	4/12,880		
Total Basin	4/33,546	4/36,829	4/31,144	4/19,714	4/18,754	4/21,951		

NU - Ground water not used.

DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.

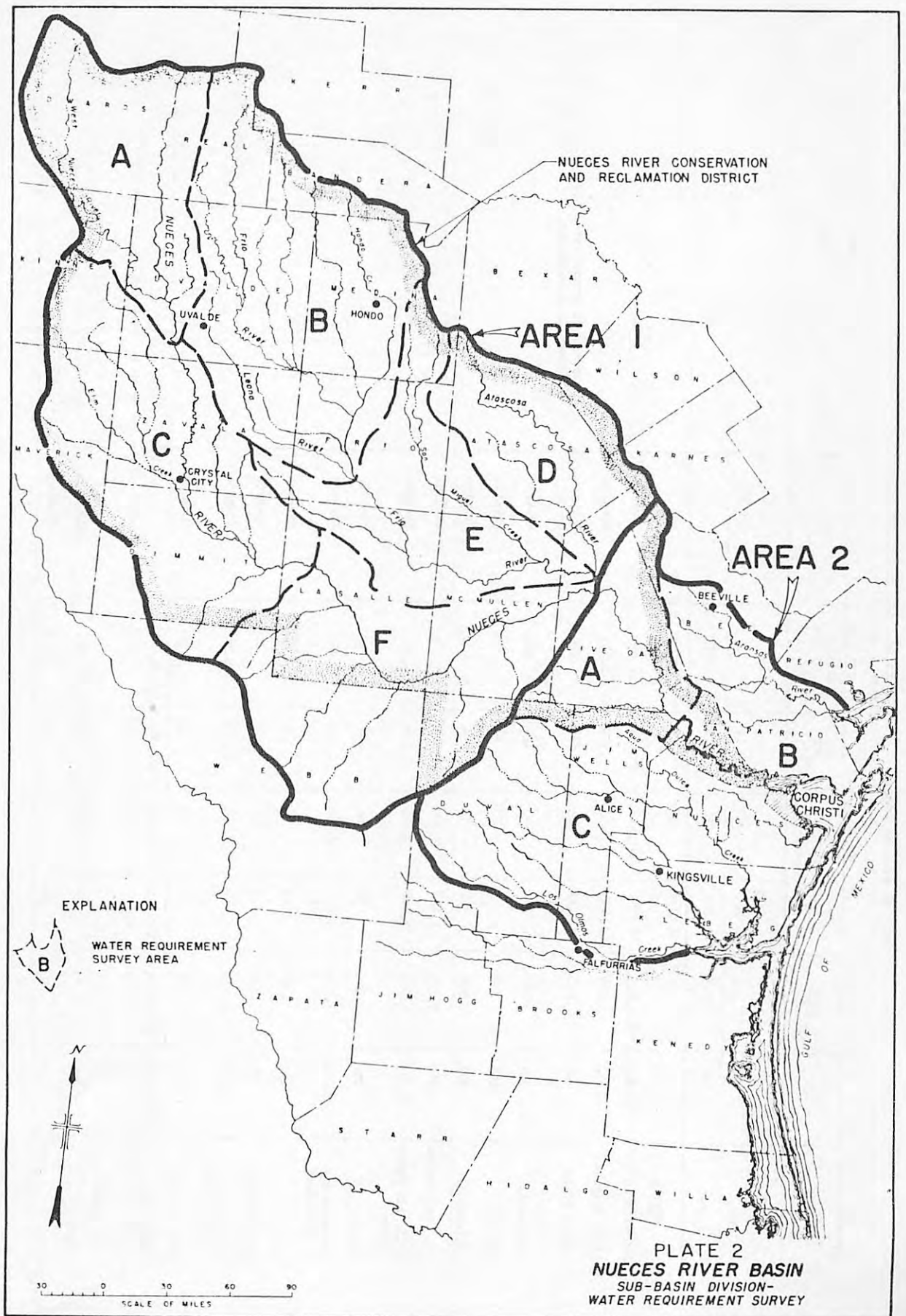


Table 3.--Use of Ground Water by Municipalities in the San Antonio River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Bandera	90	117	105	88	114	103	Trinity	
Total Area	90	117	105	88	114	103		
<u>Area 2</u>								
San Antonio	92,962	110,613	93,783	85,612	95,194	96,484	Edwards	Increase in ground water use in 1956 result of residential development.
Alamo Heights	2,240	2,569	1,488	1,440	1,379	1,823	Edwards	
Castle Hills	90	650	489	483	685	479	Edwards	
Castroville	224	DNA	159	140	126	1/ 162	Edwards	
Converse	148	148	35	28	44	81	Edwards	
Floresville	343	486	412	532	401	435	Carrizo	
Ft. Sam Houston	3,360	3,775	3,124	2,799	2,849	3,181	Edwards	
Kelly Air Force Base	4,593	4,066	3,499	3,448	3,668	3,855	Edwards	
Kirby	DNA	DNA	38	DNA	42	2/	Edwards	
Lackland Air Force Base	3,360	3,674	3,351	3,340	3,455	3,436	Edwards	
Lacoste	49	65	49	36	45	49	Edwards	
Medina Base	204	112	157	130	157	152	Edwards	
Randolph Air Force Base	2,688	2,812	1,952	1,921	1,858	2,246	Edwards	
Shavano Park	112	138	83	71	79	97	Edwards	
Total Area	4/110,373	4/129,108	108,619	4/99,980	109,982	4/112,480		
<u>Area 3</u>								
Boerne	278	273	168	166	234	224	Alluvium	
Cibolo	22	27	20	18	18	21	Edwards	

See footnotes at end of table.

Table 3.--Use of Ground Water by Municipalities in the San Antonio River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Lavernia	31	32	34	41	27	33	Wilcox	
Marion	35	41	50	87	87	60	Austin	
Poth	138	158	131	147	163	148	Carrizo	
Schertz	470	454	335	334	296	378	Edwards	
Stockdale	159	132	153	252	168	173	Queen City	
Total Area	1,133	1,117	891	1,045	993	659		
<u>Area 4</u>								
Karnes City	215	252	197	189	190	209	Catahoula - Jackson	
Kenedy	612	541	428	448	649	536	Oakville	
Falls City	21	25	28	19	20	23	Yegua	Used surface water in 1945 from San Antonio River. Drilled well in 1948 as source of water.
Gillett	1	2	1	DNA	DNA	<u>2</u> / ₂	Yegua	
Goliad	310	347	325	297	268	309	Catahoula - Oakville - Lagarto	
Nordheim	67	67	67	64	DNA	<u>1</u> / ₆₆	Catahoula - Oakville - Lagarto	
Runge	72	96	79	84	83	83	Oakville	
Tivoli	34	34	34	42	DNA	<u>1</u> / ₃₆	Beaumont	
Total Area	1,332	1,364	1,159	<u>4</u> / _{1,143}	<u>4</u> / _{1,210}	<u>4</u> / _{1,262}		
Total Basin	<u>4</u> / _{112,928}	<u>4</u> / _{131,706}	110,774	<u>4</u> / _{102,256}	<u>4</u> / _{112,299}	<u>4</u> / _{114,504}		

NU - Ground water not used.

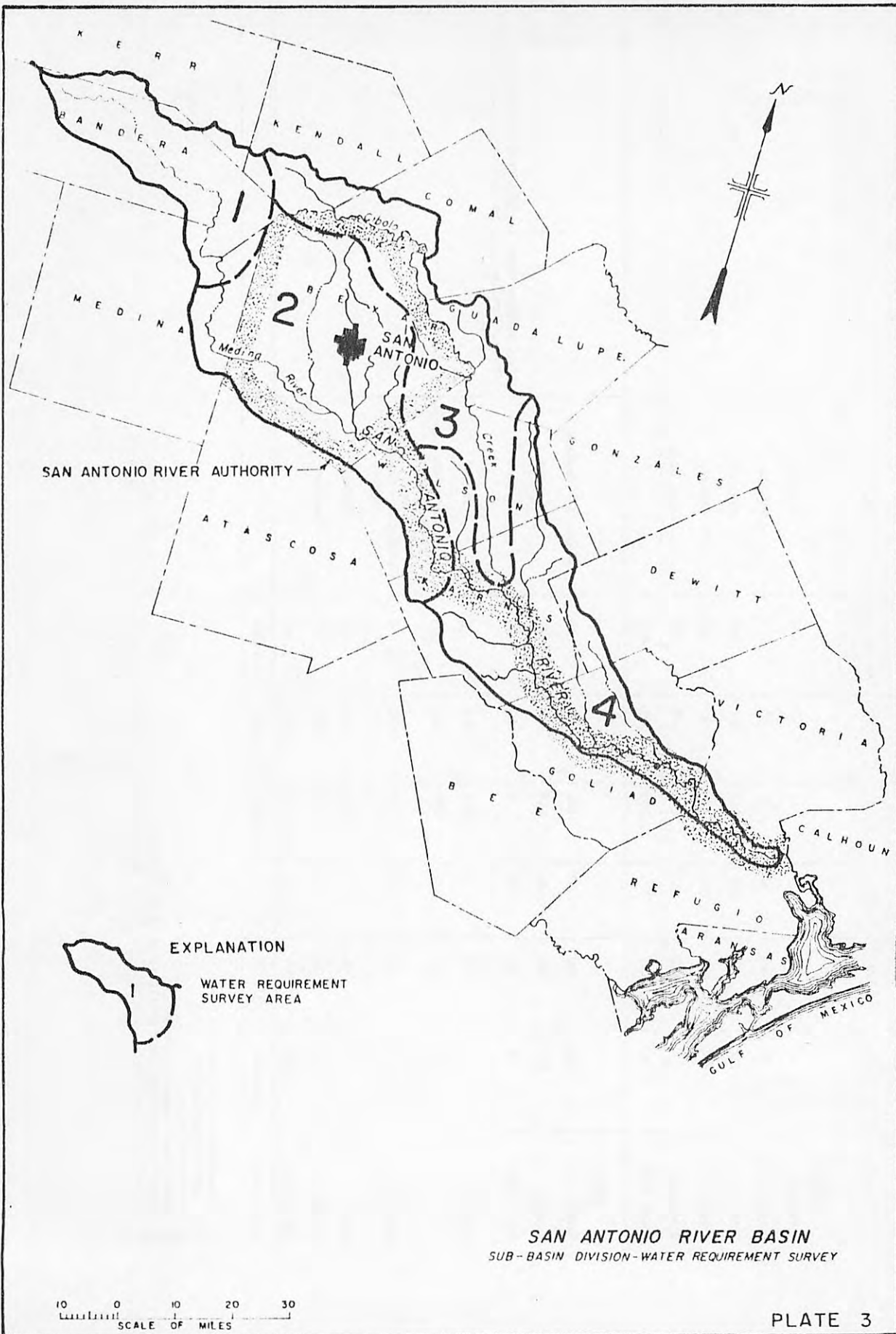
DNA - Data not available.

1/₄ - 4-year average.

2/₂ - Less than 4 years of record.

3/₃ - Used less than one-half acre-foot of ground water.

4/₄ - Items listed as DNA and footnotes 2/₂ and 3/₃ not included in totals.



SAN ANTONIO RIVER BASIN
 SUB-BASIN DIVISION-WATER REQUIREMENT SURVEY

PLATE 3

Table 4.--Use of Ground Water by Municipalities in the Guadalupe River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Kerrville	1,756	2,244	1,699	1,565	1,700	1,793	Trinity	
Total Area	1,756	2,244	1,699	1,565	1,700	1,793		
<u>Area 2</u>								
Comfort	72	77	58	63	76	69	Trinity	
Total Area	72	77	58	63	76	69		
<u>Area 3</u>								
Lockhart	561	675	517	565	639	591	Alluvium	
San Marcos	2,573	3,020	2,220	2,065	1,984	2,372	Edwards	
Blanco	56	31	12	22	NU	1/ 30	Alluvium	Used ground water in 1941. Developed Lake Blanco since that date as a supplemental source. Use of ground water was discontinued in 1959.
Fentress	21	21	21	DNA	DNA	2/	Wilcox	
Kyle	101	90	87	84	98	92	Edwards	
Luling	568	747	628	667	590	640	Wilcox	
Martindale	50	50	50	DNA	45	1/ 49	Alluvium	
Maxwell	24	22	24	24	20	23	Alluvium	
Ottine	4	3	3	21	27	12	Carrizo	
Staples	8	17	17	14	DNA	1/ 14	Austin	
Total Area	3,966	4,676	3,579	4/3,462	4/3,403	4/3,823		
<u>Area 4</u>								
New Braunfels	3,536	4,520	3,725	3,161	3,588	3,706	Edwards	
Seguin	NU	NU	NU	46	NU	2/	Wilcox	Obtained water from the Guadalupe River in 1944. Drilled a well since that date as a supplemental source. Well hasn't been used since 1955, except in 1958 when it was used during summer months.

See footnotes at end of table.

Table 4.--Use of Ground Water by Municipalities in the Guadalupe River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 4</u>								
McQueeny	12	13	12	12	10	12	Wilcox	
Total Area	3,548	4,533	3,737	3,219	3,598	4/3,718		
<u>Area 5</u>								
Nixon	247	248	261	231	357	269	Carrizo	
Waelder	94	108	84	83	75	89	Cook Mountain	
Total Area	341	356	345	314	432	358		
<u>Area 6</u>								
Cuero	673	922	842	878	889	841	Catahoula - Oakville	
Victoria	3,246	4,605	3,951	3,980	3,245	3,805	Goliad - Willis - Lissie - Beaumont	
Foster Air Force Base	407	407	407	429	DNA	1/ 413	Goliad - Willis - Lissie	
Seadrift	73	112	91	79	93	89	Beaumont	
Yorktown	295	261	230	168	168	224	Catahoula - Oakville - Lagarto	
Total Area	4,694	6,307	5,521	5,534	4/4,395	5,372		
<u>Area 7</u>								
Port O'Conner	51	51	51	DNA	DNA	2/	Beaumont	
Total Area	51	51	51	4/	4/	4/		
<u>Area 8</u>								
Port Lavaca	526	812	801	809	776	745	Beaumont	
Total Area	526	812	801	809	776	745		
<u>Area 9</u>								
Yoakum	703	789	811	784	775	773	Catahoula - Oakville - Lagarto	

See footnotes at end of table.

Table 4.--Use of Ground Water by Municipalities in the Guadalupe River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 9</u>								
Hallettsville	503	364	420	399	368	411	Catahoula - Oakville - Lagarto	
Moulton	82	82	105	86	53	82	Catahoula - Oakville - Lagarto	
Shiner	300	393	316	372	297	335	Catahoula - Oakville - Lagarto	
Vanderbilt	13	19	18	20	19	18	Goliad - Willis - Lissie	
Total Area	1,601	1,647	1,670	1,661	1,512	1,619		
<u>Area 10</u>								
Edna	492	658	538	644	481	562	Goliad - Willis - Lissie	
Flatonía	136	128	136	183	187	154	Yegua	
Ganado	101	153	206	149	166	155	Goliad - Willis - Lissie	
Lolita	DNA	DNA	DNA	16	18	2/	Goliad - Willis - Lissie	
Louise	DNA	DNA	171	166	160	2/	Goliad - Willis - Lissie	
Schulenburg	273	321	274	305	291	293	Oakville	
Total Area	4/1,002	4/1,260	4/1,325	1,463	1,303	4/1,164		
<u>Area 11</u>								
Point Comfort	66	91	112	116	117	100	Beaumont	
Total Area	66	91	112	116	117	100		
<u>Area 12</u>								
Austwell	34	35	37	DNA	37	1/ 36	Beaumont	
Pettus	92	92	92	97	DNA	1/ 93	Catahoula - Oakville - Lagarto	

See footnotes at end of table.

Table 4.--Use of Ground Water by Municipalities in the Guadalupe River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 12</u>								
Refugio	523	608	584	672	672	612	Goliad - Willis - Lissie	
Woodsboro	154	174	152	155	139	155	Goliad - Willis - Lissie - Beaumont	
Total Area	803	909	865	<u>4/</u> 924	<u>4/</u> 811	896		
Total Basin	<u>4/</u> 18,426	<u>4/</u> 22,963	<u>4/</u> 19,763	<u>4/</u> 19,130	<u>4/</u> 18,123	<u>4/</u> 19,657		

NU - Ground water not used.

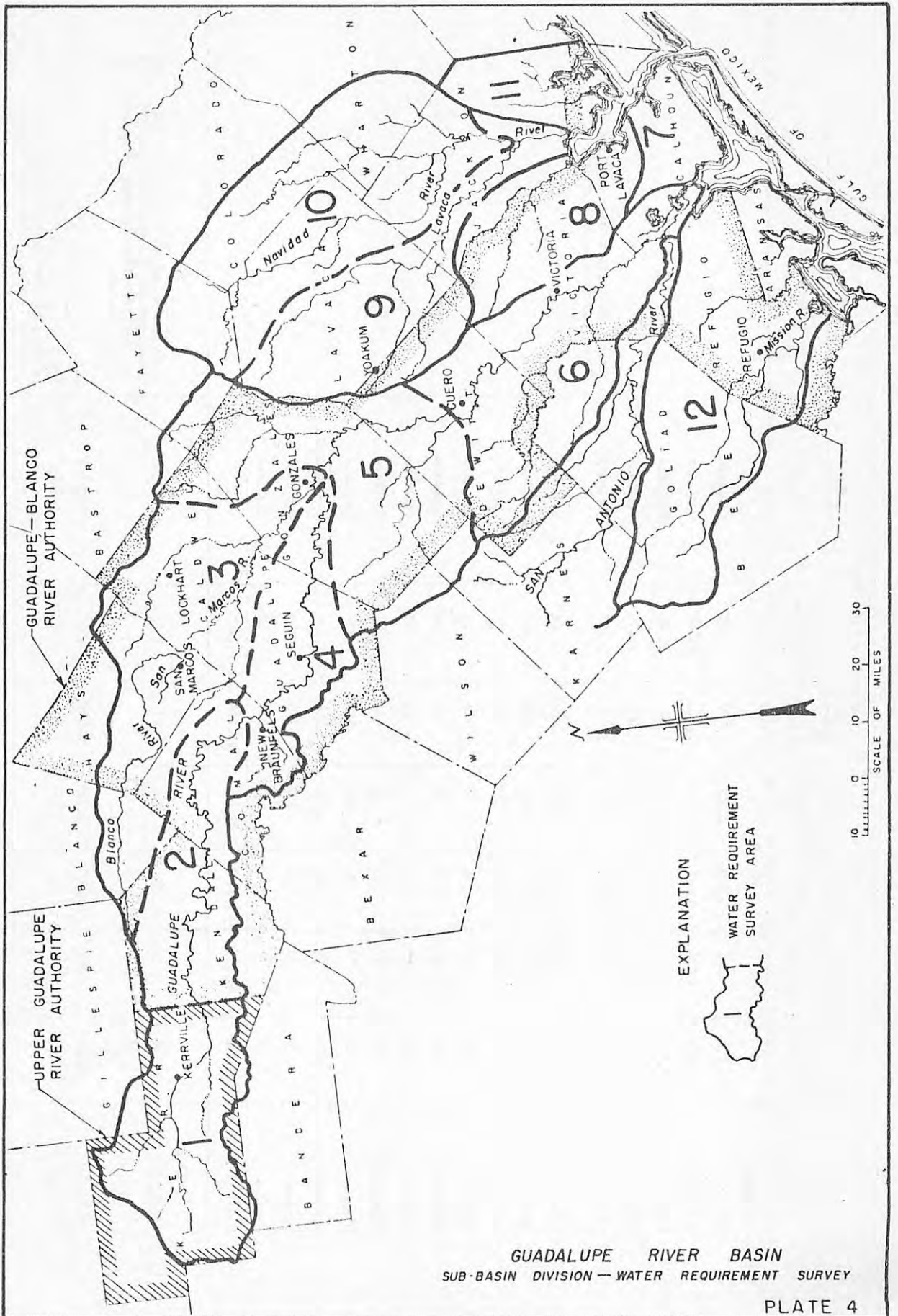
DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.



GUADALUPE RIVER BASIN
 SUB-BASIN DIVISION—WATER REQUIREMENT SURVEY

PLATE 4

Table 5.--Use of Ground Water by Municipalities in the Colorado River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Andrews	672	841	1,102	1,421	1,314	1,070	Ogallala	
Brownfield	1,581	1,718	1,418	1,465	1,550	1,546	Ogallala	
Lamesa	1,800	1,804	1,524	1,737	1,843	1,742	Ogallala	
Midland	9,169	9,149	8,623	8,944	10,068	9,191	Ogallala	
Odessa	7,902	9,378	9,401	7,006	3,698	7,477	Trinity	Ground and surface water supplied by Colorado River Municipal Water District.
Stanton	DNA	DNA	299	DNA	289	2/	Ogallala	
Denver City	504	584	549	596	682	583	Ogallala	
Goldsmith	DNA	DNA	DNA	DNA	46	2/	Trinity	
Meadow	15	10	10	13	15	13	Ogallala	
O'Donnell	85	74	77	66	77	76	Ogallala	
Plains	81	86	77	94	98	87	Ogallala	
Ropesville	76	77	77	56	51	67	Ogallala	
Seagraves	269	278	282	442	497	354	Ogallala	
Seminole	896	896	896	1,680	1,153	1,104	Trinity - Ogallala	
Sundown	134	131	131	227	199	165	Ogallala	
Wellman	8	7	7	17	19	12	Ogallala	
Total Area	4/23,192	4/25,033	4/24,473	4/23,764	21,599	4/23,487		
<u>Area 2</u>								
Big Spring	56	114	NU	NU	NU	2/	Alluvium	Used ground and surface water in 1947. Discontinued use of ground water in 1957. Buy surface water from Colorado River Municipal Water District.
Brady	2,059	2,365	1,962	1,539	1,629	1,910	Hickory	
Colorado City	272	31	NU	NU	NU	2/	Dockum	Used ground water in 1946. Developed lake since that time as supplemental supply. Discontinued using ground water in 1957.

See footnotes at end of table.

Table 5.--Use of Ground Water by Municipalities in the Colorado River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 2</u>								
Goldthwaite	326	336	392	280	276	322	Trinity-- Paluxy	
Snyder	387	NU	NU	NU	307	2/	Dockum - Alluvium	Used ground water in 1946. Supplement this with surface water from Colorado River Municipal Water District. Discontinued use of ground water from 1956 through 1958. Used ground water during the summer months in 1959.
Barnhart	11	12	11	11	13	12	Trinity	
Big Lake	463	601	525	494	388	494	Trinity	
Blanket	9	17	10	13	13	13	Trinity	
Carlsbad	NU	NU	NU	15	18	2/	Blaine	Obtained ground water from McKnight T. B. Hospital up through 1957. In 1958 ground water supplied by Carlsbad Fresh Water District #1.
Christoval	DNA	DNA	DNA	DNA	31	2/	Alluvium	
Cross Plains	61	101	101	101	124	98	Trinity	
Eden	160	168	168	181	181	172	Hickory	
Eldorado	407	335	359	261	232	319	Fredericksburg	
Forsan	17	17	28	34	34	27	Trinity	
Goodfellow Air Force Base	3/ 0	3/ 0	3/ 0	DNA	DNA		Alluvium	
Lawn	28	28	28	19	19	24	Clear Fork	
Loraine	121	122	123	168	108	128	Dockum	
McKnight T. B. Hospital	276	387	387	332	331	343	Alluvium	
Melvin	84	95	77	88	91	87	Hickory	
Menard	204	234	153	170	254	203	Trinity	Obtained water from the San Saba River in 1946. Developed ground water supply since that time.
Mercury	12	12	12	DNA	DNA	2/	Strawn	
Mertzson	32	27	24	DNA	20	1/ 26	Trinity	
Miles	90	73	46	87	78	75	Clear Fork	
Ovalo	7	9	9	7	10	8	Alluvium	

See footnotes at end of table.

Table 5.--Use of Ground Water by Municipalities in the Colorado River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 2</u>								
Richland Springs	58	62	53	50	61	57	Marble Falls	
Rochelle	8	10	10	8	8	9	Trinity	
San Saba	392	503	513	453	527	477	Marble Falls	
Silver	32	28	28	28	34	30	Alluvium	
Sterling City	DNA	DNA	DNA	DNA	41	2/	Trinity	
Tuscola	54	34	34	56	50	45	Alluvium	
Total Area	4/5,626	4/5,721	4/5,053	4/4,395	4/4,878	4/4,926		
<u>Area 3</u>								
Burnet	263	322	227	237	217	253	Ellenburger	
La Grange	413	514	367	369	341	401	Catahoula	
Bastrop	409	604	451	453	411	466	Alluvium	
Bertram	32	33	37	38	34	35	Trinity	
Buda	43	63	46	56	50	52	Edwards	
Columbus	583	610	460	448	438	508	Alluvium	
Elgin	218	215	218	224	199	215	Wilcox	
Ellinger	16	19	19	25	25	21	Oakville	
Fayetteville	22	34	27	39	34	31	Oakville	
Fredericksburg	604	739	593	514	678	626	Ellenburger	
Giddings	203	242	194	223	225	217	Queen City	
Johnson City	56	54	61	87	84	68	Ellenburger	
Junction	638	855	632	655	864	729	Trinity	
McDade	DNA	DNA	DNA	8	9	2/	Wilcox	
Manor	56	56	56	DNA	56	1/ 56	Trinity	
Mason	185	238	181	138	186	232	Hickory	
Pflugerville	36	37	41	54	54	44	Edwards	

See footnotes at end of table.

Table 5.--Use of Ground Water by Municipalities in the Colorado River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Rolling Wood	37	37	37	46	46	42	Edwards - Trinity	
Smithville	338	448	336	560	591	455	Carrizo	
Sunset Valley	7	17	11	10	9	11	Edwards	
Weimar	192	276	227	236	315	249	Catahoula - Oakville	
Total Area	4/4,351	4/5,413	4/4,221	4/4,420	4,866	4/4,711	Lagarto	
<u>Area 4</u>								
Bay City	1,221	1,443	1,294	1,241	1,244	1,288	Goliad - Willis - Lissie - Beaumont	
East Bernard	69	96	77	96	82	84	Goliad - Willis - Lissie	
El Campo	719	947	844	924	780	843	Goliad - Willis - Lissie	
Palacios	560	650	687	716	694	661	Beaumont	
Wharton	614	672	616	840	678	684	Goliad - Willis - Lissie - Beaumont	
Blessing	28	55	56	28	31	40	Goliad - Willis - Lissie - Beaumont	
Boling	91	98	84	67	DNA	1/ 85	Goliad - Willis - Lissie - Beaumont	
Eagle Lake	310	383	312	342	307	331	Goliad - Willis - Lissie	
Hungerford	8	6	6	9	9	7	Goliad - Willis - Lissie	
Matagorda	6	7	7	11	11	8	Beaumont	
Newgulf	460	635	516	DNA	DNA	2/	Goliad - Willis - Lissie - Beaumont	
Sweeny	140	139	165	207	204	171	Beaumont - Alluvium	
West Columbia	182	266	290	364	364	293	Goliad - Willis - Lissie - Beaumont	

See footnotes at end of table.

Table 5.--Use of Ground Water by Municipalities in the Colorado River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 4</u>								
Total Area	4,408	5,397	4,954	<u>4/4,845</u>	<u>4/4,404</u>	<u>4/4,495</u>		
Total Basin	<u>4/37,501</u>	<u>4/41,487</u>	<u>4/38,624</u>	<u>4/37,368</u>	<u>4/35,696</u>	<u>4/37,552</u>		

NU - Ground water not used.

DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Crosbyton	235	249	256	309	276	265	Ogallala	
Levelland	DNA	DNA	1,709	1,937	1,841	<u>2</u> /	Ogallala	
Littlefield	1,126	1,281	1,153	1,271	1,348	1,236	Ogallala	
Lubbock	16,343	19,306	16,536	18,439	19,778	18,080	Trinity - Ogallala	
Plainview	3,100	3,992	3,120	3,314	3,532	3,412	Ogallala	
Ralls	198	263	219	211	223	223	Ogallala	
Slaton	1,043	559	694	733	772	760	Ogallala	
Abernathy	504	390	448	389	453	437	Ogallala	
Amherst	84	92	92	168	123	112	Ogallala	
Anton	87	92	92	154	154	116	Ogallala	
Bovina	101	123	153	132	132	128	Ogallala	
Earth	115	115	115	139	142	125	Ogallala	
Farwell	101	101	104	129	129	113	Ogallala	
Floydada	435	407	513	501	504	472	Ogallala	
Hale Center	280	269	339	342	358	317	Ogallala	
Hart	DNA	DNA	DNA	67	69	<u>2</u> /	Ogallala	
Idalou	134	134	134	215	215	167	Ogallala	
Lockney	338	390	419	257	280	337	Ogallala	
Lorenzo	129	55	77	168	92	104	Ogallala	
Morton	302	304	307	DNA	368	<u>1</u> / 320	Ogallala	
Muleshoe	573	639	556	723	598	618	Ogallala	
Olton	420	420	420	504	672	487	Ogallala	
Petersburg	117	132	113	182	113	131	Ogallala	
Sudan	140	138	145	DNA	161	<u>1</u> / 146	Ogallala	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Tahoka	560	387	362	387	326	404	Ogallala	
Whiteface	134	98	110	74	77	99	Ogallala	
Wilson	45	41	30	45	45	41	Ogallala	
Wolfforth	31	59	59	44	69	52	Ogallala	
Total Area	4/26,675	4/30,036	4/28,275	4/30,834	32,850	4/28,702		
<u>Area 2</u>								
Goree	67	76	84	92	92	82	Seymour	
Haskell	519	530	560	552	552	543	Seymour	
Munday	184	199	206	212	224	205	Seymour	
Post	666	744	659	872	804	749	Ogallala	
Rule	125	125	138	DNA	DNA	2/	Seymour	
Seymour	447	819	644	615	499	605	Seymour	
Spur	365	438	346	353	389	378	Alluvium	
Aspermont	97	97	97	DNA	DNA	2/	Carrizo	Used water from Lake Sellers in 1947. Developed ground water supply since that date.
Benjamin	DNA	DNA	DNA	31	32	2/	Seymour	Used lake water in 1946. Developed ground water supply since that date.
Bryson	32	33	26	45	45	36	Cisco	
Caddo	4	2	2	DNA	DNA	2/	Cisco	Used lake water in 1946. Developed ground water supply since that date.
Cresson	23	23	23	30	DNA	1/ 25	Trinity	
Clyde	92	92	92	73	75	85	Paluxy	
Dickens	43	52	61	44	50	50	Dockum	
Granbury	81	166	207	238	317	202	Paluxy	Increased use of ground water result of residential expansion.
Hermleigh	34	34	34	DNA	56	1/ 39	Dockum	
Jayton	DNA	DNA	77	132	132	2/	Alluvium	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 2</u>								
Jean	5	5	5	5	5	5	Cisco	
Knox City	179	140	168	168	202	171	Seymour	
Loving	29	29	29	DNA	DNA	2/	Cisco	
Perrin	22	28	22	27	26	25	Canyon	
Reese Air Force Base	776	776	776	729	719	755	Ogallala	
Rochester	65	65	65	DNA	85	1/ 70	Seymour	
Roscoe	163	165	173	248	132	176	Ogallala	
Rotan	276	261	246	246	239	253	Dockum	
Trent	6	NU	NU	NU	NU	2/	San Angelo	Used wells up through 1955. Obtained surface water from sweet water 1956-59.
Weinert	DNA	DNA	DNA	13	14	2/	Clear Fork	
Total Area	4/4,300	4/4,899	4/4,740	4/4,725	4/4,689	4/4,454		
<u>Area 3</u>								
Belton	921	890	897	1,008	1,198	983	Trinity	
Bryan	3,499	4,276	3,705	3,728	3,681	3,778	Sparta	
Cleburne	1,853	2,259	1,998	1,645	2,145	1,980	Trinity	
Georgetown	834	1,060	804	867	795	872	Edwards	
Hillsboro	690	690	690	741	706	703	Trinity - Woodbine Paluxy	
McGregor	234	192	234	489	313	292	Trinity	
Mexia	593	997	844	908	545	778	Nacatoch	
Navasota	480	587	494	DNA	484	1/ 511	Catahoula - Oakville - Lagarto	
Rockdale	470	660	561	600	582	575	Wilcox	
Stephenville	2,817	2,302	1,964	DNA	1,680	1/2,191	Trinity - Paluxy	
Taylor	1,023	1,335	1,155	1,113	1,001	1,125	Trinity	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Temple	67	161	43	35	39	69	Trinity	Used water from Leon River in 1943. Developed ground water supply since that time as supplemental source. Increased use of ground water in 1956.
Waco	480	490	494	462	460	477	Trinity	
Abbott	39	49	41	50	53	47	Trinity	
Aquilla	17	15	15	11	DNA	<u>1</u> / 14	Trinity	
Anderson	22	11	12	16	17	16	Catahoula - Oakville - Legarto	
Bartlett	116	116	129	119	114	119	Trinity	
Bellmead	444	444	369	368	392	406	Trinity	
Blum	30	34	36	34	DNA	<u>1</u> / 33	Trinity	
Bremond	83	84	56	56	58	67	Wilcox	
Bryan Air Force Base	311	DNA	DNA	DNA	DNA	<u>2</u> /	Wilcox - Sparta	
Bruceville	21	11	11	22	13	16	Trinity	
Caldwell	226	305	253	219	238	248	Carrizo - Sparta	
Calvert	130	195	159	230	166	176	Wilcox	
Carlton	<u>3</u> / 0	<u>3</u> / 0	<u>3</u> / 0	<u>3</u> / 0	<u>3</u> / 0	<u>3</u> / 0	Trinity	
Chilton	50	49	50	35	35	44	Trinity	
China Springs	11	13	13	DNA	15	<u>1</u> / 13	Trinity	
Clifton	274	278	236	232	238	252	Trinity	
Covington	20	22	20	DNA	DNA	<u>2</u> /	Woodbine	
Cranfills Gap	33	34	36	42	44	38	Trinity	
Crawford	56	54	56	56	56	55	Trinity	
De Leon	158	190	188	155	99	158	Trinity	
Desdemona	3	3	3	5	4	4	Trinity	
Dime Box	23	28	28	31	29	28	Yegua	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Dublin	232	232	232	DNA	392	<u>1</u> / 272	Trinity	
Eddy	20	20	22	28	28	24	Trinity	
Elm Mott	51	28	37	37	DNA	<u>1</u> / 38	Trinity	
Evant	59	57	61	61	DNA	<u>1</u> / 60	Trinity	
Fairy	1	1	1	DNA	DNA	<u>2</u> /	Trinity	
Florence	57	58	61	66	66	61	Trinity	
Franklin	92	130	86	DNA	79	<u>1</u> / 97	Carrizo	
Gatesville	472	602	477	524	513	518	Trinity	
Glen Rose	80	129	138	83	90	106	Trinity	
Godley	18	27	27	DNA	28	<u>1</u> / 25	Trinity	
Gorman	187	175	166	196	193	183	Trinity	
Granger	155	201	201	159	202	184	Trinity	
Gustine	35	35	35	35	DNA	<u>1</u> / 35	Trinity	
Hamilton	321	401	343	240	290	319	Trinity	Obtained water from a lake on Two Mile Creek in 1946. Developed a well field since that date.
Hammond	3	3	3	DNA	DNA	<u>2</u> /	Wilcox	
Hearne	1,063	829	776	745	760	835	Wilcox	
Hewitt	13	17	17	7	11	13	Trinity	
Hico	135	157	122	129	131	135	Trinity	
Holland	82	77	77	79	79	79	Glen Rose - Trinity	
Hubbard	204	196	196	257	338	238	Trinity	Obtained water from an impounding reservoir in 1943. Drilled a well since that time as a source of supply.
Hutto	50	56	56	45	33	48	Edwards	
Iredell	16	12	15	DNA	19	<u>1</u> / 16	Trinity - Paluxy	
Itasca	153	111	79	101	98	109	Trinity - Woodbine	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
Area 3 James Connally Air Force Base	642	642	642	681	767	675	Trinity	
Jarrell	11	10	10	9	DNA	1/ 10	Edwards	
Kosse	17	17	17	DNA	28	1/ 20	Wilcox	
Leroy	DNA	DNA	DNA	30	30	2/	Taylor	
Lexington	90	90	90	109	112	98	Carrizo	
Little River	20	15	16	34	22	21	Trinity	
Lometa	101	101	101	110	110	105	Trinity	
Lorena	3	3	3	DNA	3	1/ 3	Trinity	
Lott	101	101	109	89	89	98	Trinity	
Mart	280	306	308	305	448	330	Trinity	Obtained water from Lake Mart in 1943. Drilled well since that time as source of supply.
Meridian	118	116	118	DNA	126	1/ 119	Trinity	
Moody	84	110	95	95	110	99	Trinity	
Morgan	22	28	20	25	17	22	Trinity	
New Baden	6	6	6	DNA	6	1/ 6	Wilcox	
Normangee	61	61	61	55	44	57	Carrizo	
Oglesby	26	39	39	34	33	34	Trinity	
Priddy	5	6	6	DNA	6	1/ 6	Trinity	
Riesel	49	54	55	77	77	63	Trinity	
Rio Vista	31	18	18	DNA	DNA	2/	Trinity	
Rising Star	74	110	120	84	166	111	Trinity	
Rogers	168	168	168	133	134	154	Trinity	
Ross	4	4	4	6	DNA	1/ 5	Trinity	
Round Rock	182	144	146	165	137	155	Edwards	
Stipe Springs	3/	3/	3/	3/	1	3/	Trinity	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Snook	8	8	8	10	11	9	Yegua	
Somerville	143	168	168	168	144	158	Yegua - Alluvium	
Speegleville	10	10	10	10	10	10	Trinity	
Texas A & M College	1,484	1,484	1,637	1,841	1,668	1,623	Sparta	
Thrall	61	59	67	66	69	64	Alluvium	
Tolar	11	10	9	9	DNA	1/ 10	Paluxy	
Troy	42	53	55	59	61	54	Trinity	
Valley Mills	123	166	131	DNA	131	1/ 138	Trinity	
Walburg	6	4	4	4	4	4	Woodbine	
Walnut Springs	82	83	83	117	DNA	1/ 91	Trinity	
Weir	1	2	2	1	1	1	Austin	
West	237	314	257	264	258	269	Trinity	
Whitney	151	155	158	169	163	159	Trinity	
Total Area	4/23,990	4/26,053	4/23,563	4/20,828	4/23,536	4/24,244		
<u>Area 4</u>								
Alvin	579	505	570	522	589	553	Beaumont	
Brazoria	166	166	166	173	175	169	Beaumont	
Brenham	694	909	758	924	807	819	Oakville	
Dickinson	338	343	441	557	540	444	Beaumont	
Freeport	1,131	862	1,046	1,344	1,135	1,104	Beaumont - Alluvium	
Friendswood	DNA	DNA	DNA	DNA	94	2/	Beaumont	
Galveston	12,779	13,692	12,679	12,770	13,038	12,991	Goliad - Willis - Lissie - Beaumont	
Hitchcock	252	325	301	301	302	296	Beaumont	
Kemah	90	111	112	123	115	110	Beaumont	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 4</u>								
La Marque	1,120	952	863	1,680	1,960	1,315	Beaumont	Increased use of water in 1958 result of residential development.
Rosenburg	741	917	876	871	806	842	Goliad - Willis - Lissie - Beaumont	
Texas City	1,889	2,167	2,347	2,522	2,657	2,316	Goliad - Willis - Lissie - Beaumont	
Brookshire	37	60	57	68	77	59	Goliad - Willis - Lissie	
Clute	140	186	207	DNA	DNA	2/	Beaumont	
Damon	DNA	31	31	29	27	1/ 29	Goliad - Willis - Lissie - Beaumont	
Hempstead	141	185	162	209	219	183	Catahoula - Oakville - Lagarto	
Lake Jackson	409	468	467	577	479	480	Beaumont - Alluvium	
Needville	48	67	66	48	DNA	1/ 57	Goliad - Willis - Lissie	
Prairie View A-M College	577	550	570	734	556	598	Catahoula - Oakville - Lagarto	
Richmond	308	398	360	388	397	370	Goliad - Willis - Lissie - Beaumont	
Rosharon	11	9	10	8	7	9	Goliad - Willis - Lissie - Beaumont	
Sealy	178	207	196	224	173	196	Goliad - Willis - Lissie	
Stafford and Missouri City	92	153	233	264	267	202	Goliad - Willis - Lissie	
Sugarland	690	733	693	605	767	697	Goliad - Willis - Lissie	
Wallis	DNA	DNA	DNA	DNA	34	2/	Goliad - Willis - Lissie	

See footnotes at end of table.

Table 6.--Use of Ground Water by Municipalities in the Brazos River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 4</u>								
Total Area	4/22,410	4/23,996	4/23,211	4/24,941	4/25,221	4/23,839		
Total Basin	4/77,375	4/84,984	4/79,789	4/81,328	4/86,296	4/81,239		

NU - Ground water not used.

DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.

Table 7.--Use of Ground Water by Municipalities in the San Jacinto River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Cleveland	337	350	353	368	368	355	Catahoula - Oakville - Lagarto	
Fostoria	93	93	93	DNA	DNA	<u>2/</u>	Catahoula - Oakville - Lagarto	
Total Area	430	443	446	<u>4/</u> 368	<u>4/</u> 368	<u>4/</u> 355		
<u>Area 2</u>								
Conroe	770	901	1,057	1,095	1,038	972	Catahoula - Oakville - Lagarto	
Montgomery	21	12	20	DNA	18	<u>1/</u> 18	Catahoula - Oakville - Lagarto	
Shiro	11	7	5	7	7	7	Catahoula - Oakville - Lagarto	
Waller	47	65	53	57	58	56	Willis	
Willis	98	98	98	103	98	99	Catahoula - Oakville - Lagarto	
Total Area	1,315	1,083	1,233	<u>4/</u> 1,262	1,219	1,152		
<u>Area 3</u>								
Houston	73,135	75,619	81,901	83,102	82,804	79,312	Goliad - Willis - Lissie - Beaumont	Obtained water from wells in 1944. Developed Lake Houston in 1948 as a supplemental supply.
Bellaire	2,930	3,995	3,326	3,858	3,495	3,053	Goliad - Willis - Lissie - Beaumont	
Channelview	526	577	700	728	818	674	Lissie - Beaumont	
Cloverleaf	309	303	249	299	347	301	Lissie	
Cody	DNA	DNA	DNA	112	46	<u>2/</u>	Lissie	
Crosby	258	168	168	190	179	193	Lissie	
Deer Park	97	106	224	403	448	256	Goliad - Willis - Lissie - Beaumont	Increased use of ground water in 1957 and 1958 result of residential development.
Ellington Air Force Base	1,108	622	969	523	541	752	Beaumont	Use of ground water varies proportional to the number of personnel served by the base.

See footnotes at end of table.

Table 7.--Use of Ground Water by Municipalities in the San Jacinto River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Fairmount Park	DNA	DNA	16	25	31	2/	Beaumont	HCWC & ID #56 began supplying water to town in 1957.
Galena Park	1,120	1,344	1,344	1,456	1,008	1,255	Lissie	
Highlands	306	353	308	336	280	317	Lissie - Beaumont	
Humble	84	224	392	448	306	297	Goliad - Willis - Lissie - Beaumont	Increased use of ground water in 1956 through 1958 result of residential development.
Jacinto City	941	999	1,302	1,196	1,044	1,042	Lissie	
Katy	224	280	168	224	146	208	Goliad - Willis - Lissie - Beaumont	
La Porte	346	431	437	456	420	418	Beaumont	
League City	142	196	185	334	321	236	Beaumont	Increased use of ground water in 1958 result of residential development.
Linder Lake	82	67	67	67	71	71	Lissie	
McNair	56	112	123	246	112	130	Lissie - Beaumont	
Manchester	DNA	DNA	DNA	34	34	2/	Lissie	
Morgan's Point	56	56	56	56	22	49	Beaumont	
Pasadena	4,850	5,150	4,704	5,250	5,167	4,935	Lissie	
Pearland	86	130	146	155	160	135	Beaumont	
Seabrook	DNA	DNA	78	78	78	2/	Beaumont	No public water supply prior to 1957. Harris County WC & ID #55 began supplying water to town in 1957.
Shore Acres	81	108	46	56	56	69	Beaumont	
South Houston	759	885	814	851	970	856	Goliad - Willis - Lissie - Beaumont	
Southside Place	293	370	380	388	370	360	Goliad - Willis - Lissie - Beaumont	Increased use of ground water in 1956 result of residential development.
Timbercove	DNA	DNA	DNA	DNA	6	2/	Lissie	
Tomball	448	448	336	336	336	381	Lissie	
Webster	22	33	53	37	41	37	Beaumont	

See footnotes at end of table.

Table 7.--Use of Ground Water by Municipalities in the San Jacinto River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
West University Place	2,274	2,833	2,226	2,300	2,836	2,494	Goliad - Willis - Lissie - Beaumont	
Wooster	426	448	372	392	143	356	Beaumont	
Total Area	<u>4/90,959</u>	<u>4/95,854</u>	<u>4/101,090</u>	<u>4/103,936</u>	102,636	<u>4/98,187</u>		
<u>Area 4</u>								
Baytown	2,352	2,688	2,628	2,935	3,000	2,721	Goliad - Willis - Lissie - Beaumont	
Mount Belvieu	191	155	153	153	175	166	Beaumont	
Total Area	2,543	2,843	2,781	3,088	3,175	2,887		
Total Basin	<u>4/95,247</u>	<u>4/100,223</u>	<u>4/105,550</u>	<u>4/108,654</u>	<u>4/107,398</u>	<u>4/102,581</u>		

NU - Ground water not used.

DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.

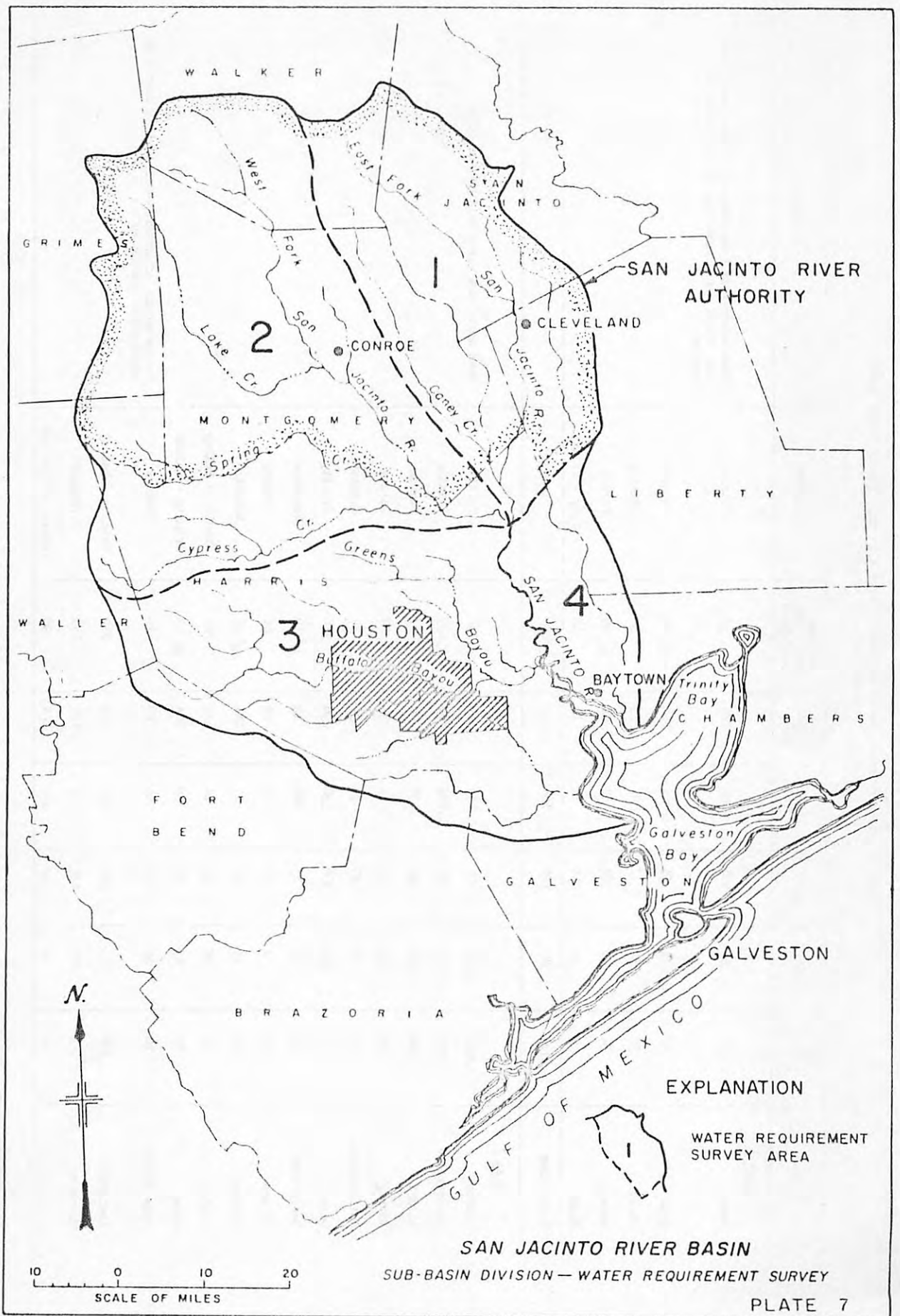


Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks	
<u>Area 1</u>									
Bowie	168	168	168	DNA	DNA	2/	Trinity	Used water from Lake Bowie in 1946. Developed well field since that time as supplemental source.	
Boyd	78	78	78	78	DNA	1/ 78	Paluxy		
Chico	37	37	37	27	33	34	Trinity		
Newark	34	18	22	42	DNA	1/ 29	Paluxy		
Rhome	15	14	15	17	18	16	Trinity - Paluxy		
Total Area	332	315	320	4/ 164	4/ 51	4/236			
<u>Area 2</u>									
Denton	3,097	3,609	3,314	456	114	2,118	Trinity	Used more lake water in 1958 and 1959.	
Gainesville	2,420	2,420	2,098	1,880	1,880	2,139	Trinity		
Alvord	DNA	DNA	DNA	97	88	2/	Canyon		
Aubrey	22	22	22	34	34	27	Paluxy		
Collinsville	37	37	37	23	39	34	Trinity		
Decatur	280	307	368	338	298	318	Trinity		
Dorchester	13	13	13	DNA	12	1/ 12	Woodbine		
Frisco	43	61	74	75	75	66	Trinity		
Gunter	46	55	57	67	DNA	1/ 56	Woodbine		
Justin	19	20	30	18	19	21	Trinity - Paluxy		
Krum	56	43	43	59	DNA	1/ 43	Trinity - Paluxy		
Lake Dallas	10	12	12	16	29	16	Paluxy		Increased use of ground water in 1959 result of residential development.
Lewisville	166	143	250	224	312	219	Trinity - Paluxy		
Muenster	143	169	133	132	127	141	Trinity		
Pilot Point	90	92	92	107	109	98	Trinity - Woodbine		

See footnotes at end of table.

Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 2</u>								
Ponder	20	22	22	22	23	22	Paluxy	
Roanoke	81	79	81	81	82	81	Trinity	
Saint Jo	114	153	89	69	84	102	Trinity	
Sanger	101	148	163	113	118	129	Trinity	
Tioga	168	90	67	44	67	87	Woodbine	
Valley View	46	54	58	61	46	53	Trinity	
Whitesboro	168	336	325	246	246	264	Trinity	
Total Area	<u>4/7,140</u>	<u>4/7,885</u>	<u>4/7,348</u>	<u>4/4,162</u>	<u>4/3,802</u>	<u>4/6,046</u>		
<u>Area 3</u>								
Forney	92	NU	NU	DNA	DNA	<u>2/</u>	Paluxy - Woodbine	
Garland	2,242	2,242	684	478	478	1,225	Trinity - Woodbine - Paluxy	Used ground water until 1957, then obtained water from Lake Lavon (NIMWD) and supplemented supply with ground water.
McKinney	1,494	1,247	329	DNA	DNA	<u>2/</u>	Trinity - Paluxy	Used ground water until 1957, then obtained water from Lake Lavon (NIMWD) and supplemented supply with ground water.
Mesquite	443	443	DNA	NU	71	<u>2/</u>	Trinity	Used ground water until 1957, then obtained water from Lake Lavon (NIMWD) in 1958. Supplemented this source with ground water in 1959.
Plano	184	224	NU	DNA	DNA	<u>2/</u>	Woodbine	Used ground water until 1957, then obtained water from Lake Lavon (NIMWD)
Princeton	20	24	24	23	24	23	Woodbine	Member of NIMWD for emergency supply.
Rockwall	143	140	59	8	3	71	Trinity	Used ground water until 1957, then obtained water from Lake Lavon (NIMWD) and supplemented supply with ground water.
Rowlett	15	15	15	17	11	15	Paluxy	
Wylie	92	101	DNA	DNA	DNA	<u>2/</u>	Trinity	
Allen	19	28	26	34	34	28	Woodbine	
Anna	61	47	50	43	43	49	Woodbine	

See footnotes at end of table.

Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 3</u>								
Balch Springs	74	74	74	146	146	102	Trinity	
Blue Ridge	46	40	45	48	50	46	Trinity	
Celina	84	112	90	112	82	96	Woodbine - Paluxy	
Crandall	133	101	101	84	81	100	Woodbine	
Howe	26	56	62	38	32	43	Woodbine	
Leonard	102	139	123	122	78	113	Woodbine	
Melissa	8	9	11	14	11	11	Woodbine	
Prosper	16	19	17	22	23	19	Woodbine	
Richardson	295	295	295	850	DNA	<u>1/</u> 433	Trinity	Population increase since 1950 probable cause of increased use of ground water reported for 1958.
Van Alstyne	112	137	124	DNA	DNA	<u>2/</u>	Woodbine	
Weston	21	16	17	15	15	17	Woodbine	
Whitewright	119	141	127	127	133	129	Woodbine	
Total Area	5,841	5,650	<u>4/2,273</u>	<u>4/2,181</u>	<u>4/1,315</u>	<u>4/2,520</u>		
<u>Area 4</u>								
Burleson	101	134	133	147	162	135	Trinity - Paluxy	
Ft. Worth	2,116	2,117	2,116	1,734	1,185	1,854	Trinity - Paluxy - Woodbine	Ground water used as a supplemental supply.
Weatherford	788	891	951	DNA	DNA	<u>2/</u>	Trinity - Paluxy	Ground water used as a supplemental supply.
Arlington	3,473	3,423	4,122	2,543	1,422	3,006	Trinity - Paluxy	Ground water used as a supplemental supply.
Azle	223	223	223	134	276	216	Trinity - Paluxy	
Benbrook	22	22	104	133	182	93	Trinity - Woodbine Paluxy	Increase in use of ground water in 1957 result of residential development.
Dalworthington Gardens	38	38	38	37	37	37	Paluxy	
Everman	45	45	45	40	49	45	Paluxy	

See footnotes at end of table.

Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 4</u>								
Grapevine	218	218	216	278	275	241	Trinity - Woodbine - Paluxy	
Halton City	1,470	1,470	1,738	1,586	2,532	1,759	Trinity - Woodbine - Paluxy	
Hurst	539	539	408	810	1,141	687	Trinity - Paluxy	
Joshua	78	94	96	56	56	76	Paluxy	
Keene	101	101	101	128	DNA	1/ 108	Paluxy	
Keller	28	28	28	22	25	26	Paluxy	
Kennedale	35	35	DNA	80	75	1/ 56	Trinity	
Lake Worth	193	193	193	194	209	197	Trinity - Paluxy	
North Richland Hills	DNA	DNA	DNA	DNA	755	2/	Paluxy	
Richland Hills	777	777	832	748	943	816	Paluxy	
Saginaw	61	61	DNA	DNA	67	2/	Paluxy	
Saginaw Park	48	48	48	135	90	74	Paluxy	
Sanscom Park	304	304	304	306	253	294	Trinity - Woodbine - Paluxy	
S.E. Ft. Worth	59	59	59	75	DNA	1/ 63	Trinity	
Westover Hills	56	56	56	110	DNA	1/ 69	Trinity - Paluxy	
White Settlement	752	752	840	1,242	840	885	Trinity - Paluxy	
Total Area	4/11,525	4/11,678	4/12,651	4/10,538	4/10,574	4/10,737		
<u>Area 5</u>								
Dallas	4,268	4,268	1,269	1,893	1,931	3,010	Trinity - Woodbine - Paluxy	Ground water used as a supplemental source.
Addison	11	11	11	15	DNA	1/ 12	Woodbine	
Buckingham	34	34	34	22	22	29	Woodbine	
Carrollton	368	368	368	311	311	345	Trinity - Paluxy	

See footnotes at end of table.

Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 5</u>								
Cedar Hill	75	75	75	77	88	79	Trinity - Woodbine	
Coppell	12	12	12	18	17	15	Woodbine - Paluxy	
De Soto	22	22	22	46	59	34	Woodbine	
Duncanville	249	249	249	261	264	254	Trinity - Woodbine - Paluxy	
Eagle Ford	77	77	77	106	95	86	Woodbine - Paluxy	
Farmers Branch	39	39	58	DNA	DNA	2/	Woodbine	Ground water used as a supplemental source.
Ferris	195	210	210	178	197	198	Woodbine	
Grand Prairie	2,158	2,158	2,158	2,539	2,554	2,314	Trinity - Woodbine - Paluxy	
Hensley Field	3	3	3	58	47	23	Woodbine	
Hutchins	63	63	75	67	73	68	Woodbine	
Irving	2,548	2,548	2,869	3,050	2,771	2,757	Trinity - Woodbine - Paluxy	Ground water used as a supplemental source.
Lancaster	435	435	484	455	435	449	Trinity - Woodbine	
Mansfield	134	134	134	107	132	129	Trinity - Woodbine	
Ovilla	4	5	5	4	DNA	1/ 5	Woodbine	
Palmer	31	31	31	28	28	30	Woodbine	
Red Oak	18	23	19	20	DNA	1/ 20	Trinity	
Seagoville	251	251	251	279	104	227	Woodbine - Paluxy	
U. S. Naval Air Station	255	255	255	235	245	249	Trinity - Woodbine	
Wilmer	80	80	34	56	78	65	Paluxy	
Total Area	11,330	11,351	8,703	11,825	11,945	11,103,397		
<u>Area 6</u>								
Ennis	916	914	998	965	837	926	Woodbine	Ground water used as a supplemental source.
Waxahachie	1,300	1,503	1,290	83	83	852	Trinity	Ground water used as a supplemental source.

See footnotes at end of table.

Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 6</u>								
Alvarado	258	247	224	184	202	223	Trinity - Paluxy	
Avalon	20	20	20	19	19	20	Woodbine	
Bardwell	38	34	34	41	41	38	Woodbine	
Barry	18	18	18	DNA	DNA	2/	Woodbine	
Bloomington Grove	84	56	67	89	89	77	Woodbine	
Boyce	8	8	8	DNA	DNA	2/	Woodbine	
Brandon	15	15	15	DNA	DNA	2/	Woodbine	
Bynum	29	29	29	DNA	DNA	2/	Woodbine	
Forrester	9	9	8	8	6	8	Woodbine	
Frost	75	67	67	74	53	67	Trinity	
Garrett	DNA	23	23	19	DNA	2/	Woodbine	
Grandview	116	74	58	106	84	88	Woodbine - Paluxy	
Irene	11	3	3	3	DNA	1/ 5	Woodbine	
Italy	50	47	47	50	34	45	Woodbine	
Malone	35	84	84	45	46	59	Trinity	
Midlothian	184	124	196	92	122	144	Trinity - Woodbine	
Milford	85	84	85	DNA	84	1/ 84	Trinity	
Purdon	DNA	DNA	DNA	3	3	2/	Woodbine	
Venus	42	22	24	23	25	28	Paluxy	
Total Area	4/3,293	4/3,381	4/3,298	4/1,804	4/1,728	4/2,664		
<u>Area 7</u>								
Eustace	38	38	38	DNA	DNA	2/	Wilcox	
Malakoff	84	112	140	181	137	131	Wilcox	
Trinidad	46	46	46	DNA	DNA	2/	Wilcox	Ground water used as a supplemental supply.
Total Area	168	196	224	4/ 181	4/ 137	4/ 131		

See footnotes at end of table.

Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 8</u>								
Crockett	704	690	687	1,109	1,109	860	Sparta	
Huntsville	1,315	1,576	1,229	1,602	1,802	1,505	Catahoula - Oakville - Lagarto	
Bedias	48	49	49	37	51	47	Yegua	
Buffalo	168	168	168	110	123	148	Wilcox	
Cayuga	8	8	8	8	8	8	Queen City - Wilcox	
Centerville	112	84	90	112	112	102	Queen City	
Country Campus	50	39	39	39	DNA	<u>1/</u> 42	Catahoula - Oakville - Lagarto	
Elkhart	34	50	45	67	45	48	Carrizo	
Fairfield	127	164	159	174	171	159	Wilcox	
Grapeland	141	139	143	149	153	145	Carrizo	
Iola	17	17	17	14	22	17	Yegua	
Jewett	31	31	31	28	DNA	<u>1/</u> 30	Carrizo	
Madisonville	343	336	364	381	381	361	Yegua	
Midway	3	3	3	DNA	DNA	<u>2/</u>	Yegua	
North Zulch	17	17	17	10	DNA	<u>1/</u> 15	Yegua	
Total Area	3,118	3,371	3,049	<u>4/</u> 3,840	<u>4/</u> 3,977	<u>4/</u> 3,487		
<u>Area 9</u>								
Coldspring	12	12	12	DNA	11	<u>1/</u> 12	Willis - Lagarto - Oakville	
Goodrich	10	11	10	14	11	11	Catahoula - Oakville - Lagarto	
Groveton	68	68	68	112	160	95	Jackson	
Livingston	405	323	350	377	414	374	Lagarto	
Lovelady	45	45	45	43	25	41	Yegua	

See footnotes at end of table.

Table 8.--Use of Ground Water by Municipalities in the Trinity River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 9</u>								
New Willard	15	15	15	DNA	DNA	<u>2/</u>	Catahoula - Oakville - Lagarto	
Oakhurst	2	2	3	2	2	2	Catahoula - Oakville - Lagarto	
Onalaska	3	4	4	DNA	DNA	<u>2/</u>	Catahoula - Oakville - Lagarto	
Trinity	239	266	262	392	215	275	Jackson	
Woodlake	12	18	17	22	11	16	Jackson	
Total Area	798	764	786	<u>4/</u> 962	<u>4/</u> 849	<u>4/</u> 826		
<u>Area 10</u>								
No municipal use of ground water in this area								
<u>Area 11</u>								
Anahuac	93	103	102	137	137	114	Beaumont	
Total Area	93	103	102	137	137	114		
Total Basin	<u>4/</u> 43,638	<u>4/</u> 44,694	<u>4/</u> 38,754	<u>4/</u> 33,794	<u>4/</u> 32,041	<u>4/</u> 37,158		

NU - Ground water not used.

DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.

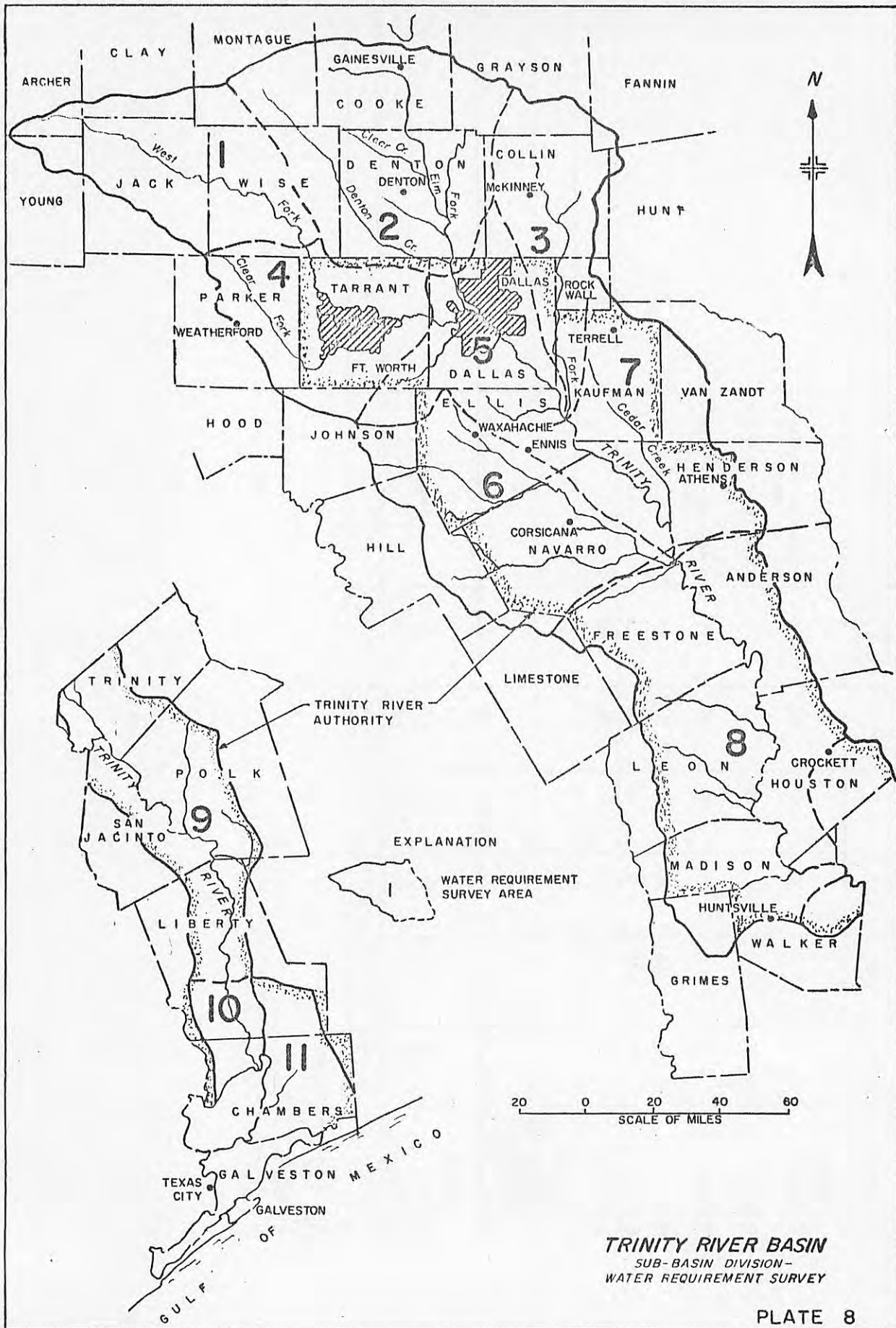


Table 9.--Use of Ground Water by Municipalities in the Neches River Basin
(Acre-feet per year)

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 1</u>								
Jasper	620	838	731	847	958	799	Catahoula - Oakville - Lagarto	
Kountz	140	140	168	153	162	153	Goliad - Willis - Lissie - Beaumont	
Daisetta	92	85	91	DNA	92	1/ 90	Goliad - Willis - Lissie	
Devers	7	7	7	DNA	DNA	2/	Goliad - Willis - Lissie - Beaumont	
Doucette	2	3	3	3	5	3	Oakville - Lagarto	
Honey Island	25	25	25	DNA	DNA	2/	Goliad - Willis - Lissie	
Liberty	34	31	22	27	27	28	Goliad - Willis - Lissie - Beaumont	
Raywood	14	11	13	14	12	13	Goliad - Willis - Lissie - Beaumont	
Silsbee	632	755	736	588	673	668	Goliad - Willis - Lissie - Beaumont	
Sour Lake	91	92	93	90	94	92	Goliad - Willis - Lissie - Beaumont	
Vidor	DNA	221	224	221	DNA	2/	Beaumont	
Woodville	276	221	230	DNA	203	1/ 232	Catahoula - Oakville - Lagarto	
Total Area	4/1,933	2,429	2,343	4/1,943	4/2,226	4/2,078		
<u>Area 2</u>								
Athens	810	825	803	860	755	869	Wilcox	
Henderson	973	1,270	1,116	1,194	1,128	1,136	Wilcox	
Jacksonville	1,480	1,912	1,589	1,429	1,380	1,556	Queen City	Used impounding reservoir in 1944. Developed well field since that time as supplemental source.
Lufkin	2,373	2,658	2,083	2,083	2,380	2,315	Carrizo	

See footnotes at end of table.

Table 9.--Use of Ground Water by Municipalities in the Neches River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 2</u>								
Nacogdoches	1,619	1,824	1,557	1,439	1,708	1,629	Carrizo	
Palestine	1,684	2,133	1,750	1,762	1,528	1,771	Wilcox	
Rusk	364	505	448	503	604	485	Wilcox	Obtained water from impounding reservoir in 1944. Since that time wells were drilled as source of supply.
Tyler	265	464	491	605	909	547	Wilcox	Use both ground and surface water. Increased use of ground water in 1956, 1958, and 1959.
Alto	215	215	215	168	166	196	Carrizo	
Appleby	11	9	9	10	8	9	Carrizo	
Arp	60	60	60	DNA	55	1/ 56	Wilcox	
Brownsboro	23	22	22	DNA	20	1/ 22	Wilcox	
Camden	84	84	123	166	166	124	Catahoula - Oakville - Lagarto	
Corrigan	134	139	140	134	134	136	Jackson	
Cushing	56	56	56	45	53	53	Carrizo	
Diboll	314	336	325	268	268	302	Jackson	
Frankston	103	101	105	118	118	107	Queen City	
Garrison	50	45	47	64	78	57	Wilcox	
Huntington	84	84	87	72	72	80	Jackson	
Keltys	206	246	246	DNA	242	1/ 235	Yegua	
Poyner	8	7	7	DNA	10	1/ 8	Queen City	
San Augustine	298	393	402	399	252	349	Wilcox	
Troup	224	328	199	157	160	214	Wilcox	
Turnertown	30	24	24	22	17	24	Queen City	
Wells	21	23	24	23	23	23	Cook Mountain	

See footnotes at end of table.

Table 9.--Use of Ground Water by Municipalities in the Neches River Basin--Continued

Areas	1955	1956	1957	1958	1959	Average Annual Use 1955-1959	Aquifer	Remarks
<u>Area 2</u>								
Total Area	11,784	13,763	11,928	<u>4</u> /11,521	12,234	12,273		
Total Basin	<u>4</u> /13,717	16,192	14,271	<u>4</u> /13,464	<u>4</u> /14,460	<u>4</u> /14,351		

NU - Ground water not used.

DNA - Data not available.

1/ - 4-year average.

2/ - Less than 4 years of record.

3/ - Used less than one-half acre-foot of ground water.

4/ - Items listed as DNA and footnotes 2/ and 3/ not included in totals.

