

5.28 Robertson County Water Supply Plan

Table 5.28-1 lists each water user group in Robertson County and their corresponding surplus or shortage in years 2040 and 2070. A brief summary of the water user groups and the plan for the selected water user are presented in the following subsections.

Table 5.28-1. Robertson County Surplus/(Shortage)

Water User Group	Surplus/(Shortage)		Comment
	2040 (acft/yr)	2070 (acft/yr)	
Bethany-Hearne WSC	0	0	No projected surplus or shortage
City of Bremond	186	141	Projected surplus
City of Calvert	349	350	Projected surplus
City of Franklin	917	738	Projected surplus
City of Hearne	1,729	1,724	Projected surplus
Robertson County WSC	(235)	(526)	Projected shortage - see plan below.
Twin Creek WSC	390	325	Projected surplus
Wellborn SUD			See Brazos County
Wickson Creek SUD			See Brazos County
County-Other	10	11	Projected surplus
Manufacturing	4,566	4,566	Projected surplus
Steam-Electric	0	0	No projected surplus or shortage
Mining	3,687	3,687	Projected surplus
Irrigation	(17,100)	(17,921)	Projected shortage - see plan below.
Livestock	0	0	No projected surplus or shortage

5.28.1 Beathany-Hearne WSC

Bethany-Hearne WSC purchases its water supply from the City of Hearne. Supply is projected to meet demand throughout the planning period. Conservation was considered; however, the entity's usage is below the selected goal of 140 gpcd.

5.28.2 City of Bremond

Description of Supply

The City of Bremond obtains its water supply from the Carrizo-Wilcox Aquifer. No shortages are projected for the City.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended for the City of Bremond. Conservation is recommended to reduce usage to a goal of 140 gpcd.

a. Conservation

- Cost Source: Volume II
- Date to be Implemented: by 2030
- Annual Cost: maximum of \$13,365 in 2070
- Unit Cost: \$560/acft

Table 5.28-2. Recommended Plan Costs by Decade for City of Bremond

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	210	198	186	171	156	141
Conservation						
Supply From Plan Element (acft/yr)	0	13	21	21	23	24
Annual Cost (\$/yr)	\$0	\$7,514	\$11,700	\$12,021	\$12,605	\$13,365
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	210	211	207	192	179	165

5.28.3 City of Calvert

The City of Calvert obtains its water supply from the Carrizo-Wilcox Aquifer. No shortages are projected for the City. Conservation was considered; however, the entity's usage is below the selected goal of 140 gpcd.

5.28.4 City of Franklin

The City of Franklin obtains its water supply from the Carrizo-Wilcox Aquifer. No shortages are projected for the City of Franklin. Conservation was considered; however, the entity's usage is below the selected goal of 140 gpcd.

5.28.5 City of Hearne

Description of Supply

The City of Hearne obtains its water supply from the Carrizo-Wilcox Aquifer. The City also provides supply to Robertson County Manufacturing and Bethany Hearne WSC. No shortages are projected for the City of Hearne.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended for the City of Hearne. Conservation is recommended to reduce usage to a goal of 140 gpcd.



- a. Conservation
 - Cost Source: Volume II
 - Date to be Implemented: by 2030
 - Annual Cost: \$23,914 in 2030
 - Unit Cost: \$560/acft

Table 5.28-3. Recommended Plan Costs by Decade for City of Hearne

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	2,040	1,899	1,729	1,729	1,728	1,724
Conservation						
Supply From Plan Element (acft/yr)	0	43	22	19	17	17
Annual Cost (\$/yr)	\$0	\$23,914	\$12,577	\$10,897	\$9,777	\$9,777
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	2,040	1,942	1,751	1,748	1,745	1,741

5.28.6 Robertson County WSC

Description of Supply

Robertson County WSC obtains its water supply from the Carrizo-Wilcox Aquifer. The entity also provides supply to Robertson County Steam and Electric. Robertson County WSC has a projected shortage throughout the planning period.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended for Robertson County WSC. Conservation was also considered; however, the entity’s usage is below the selected goal of 140 gpcd.

- a. Groundwater Development
 - Cost Source: Volume II
 - Date to be Implemented: by 2030
 - Project Cost: \$3,440,000
 - Unit Cost: \$813/acft

Table 5.28-4. Recommended Plan Costs by Decade for Robertson County WSC

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(81)	(157)	(235)	(332)	(433)	(526)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(81)	(157)	(235)	(332)	(433)	(526)
Groundwater Development – Carrizo-Wilcox Aquifer						
Supply From Plan Element (acft/yr)	550	550	550	550	550	550
Annual Cost (\$/yr)	\$447,000	\$447,000	\$205,000	\$205,000	\$205,000	\$205,000
Unit Cost (\$/acft)	\$813	\$813	\$373	\$373	\$373	\$373

5.28.7 Twin Creek WSC

Description of Supply

Twin Creek WSC obtains its water supply from the Carrizo-Wilcox Aquifer. A surplus is projected for Twin Creek WSC throughout the planning period.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended for the City of Hearne. Conservation is recommended to reduce usage to a goal of 140 gpcd.

a. Conservation

- Cost Source: Volume II
- Date to be Implemented: by 2030
- Annual Cost: \$13,811 in 2070
- Unit Cost: \$560/acft

Table 5.28-5. Recommended Plan Costs by Decade for Twin Creek WSC

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	427	408	390	368	347	325
Conservation						
Supply From Plan Element (acft/yr)	0	21	23	23	23	25
Annual Cost (\$/yr)	\$0	\$11,642	\$13,153	\$13,003	\$12,995	\$13,811
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	427	429	413	391	370	350

5.28.8 County-Other

Description of Supply

Robertson County-Other entities obtain water supply from groundwater from the Carrizo-Wilcox Aquifer. No shortages are projected for Robertson County-Other. Conservation was considered; however, the entity's usage is below the selected goal of 140 gpcd.

5.28.9 Manufacturing

Water supply for manufacturing in Robertson County is obtained by purchase from the City of Hearne and from Carrizo-Wilcox wells operated by the manufacturing entity. Manufacturing is projected to have a surplus of 4,566 acft/yr through the year 2070 and no changes in water supply are recommended.

5.28.10 Steam-Electric

Robertson County Steam-Electric entities obtain water supply from the Carrizo-Wilcox Aquifer, contracts with the Brazos River Authority, and groundwater purchased from Robertson County WSC. No shortages are projected and no change in water supply is recommended.

5.28.11 Mining

Mining operations in Robertson County are supplied by Carrizo-Wilcox Groundwater. Surpluses are projected for Robertson County Mining throughout the planning period.

5.28.12 Irrigation

Description of Supply

Robertson County Irrigation is supplied by the Carrizo-Wilcox, Queen City, Sparta, and Brazos River Alluvium Aquifers. Current pumping in the Brazos River Alluvium greatly exceeds the MAG for Robertson County. Irrigation is projected to have shortages beginning in 2020 and continuing through 2070.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategies are recommended to meet water needs for Robertson County-Irrigation. Conservation is recommended.

- a. Conservation
 - Cost Source: Volume II
 - Date to be Implemented: by 2030
 - Unit Cost: \$857/acft

b. Leave Needs Unmet

- New supplies for irrigation would be cost prohibitive to develop and most farms would switch to dry-land crops or allow fields to go fallow during a prolonged drought.
- Cost Source: Cost of not meeting needs – see Appendix G
- Date to be Implemented: 2020

Table 5.28-6. Recommended Plan Costs by Decade for Robertson County – Irrigation

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(12,851)	(16,181)	(17,100)	(17,718)	(17,829)	(17,921)
Conservation						
Supply From Plan Element (acft/yr)	2,375	3,959	5,579	5,612	5,612	5,612
Annual Cost (\$/yr)	\$561,438	\$935,730	\$1,318,692	\$1,326,302	\$1,326,319	\$1,326,319
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(10,476)	(12,222)	(11,521)	(12,106)	(12,217)	(12,309)
Leave Needs Unmet (acft/yr)	(10,476)	(12,222)	(11,521)	(12,106)	(12,217)	(12,309)

5.28.13 Livestock

Livestock water supply is projected to meet demands through 2070 and no changes in water supply are recommended.