



5.7 Coryell County Water Supply Plan

Table 5.7-1 lists each water user group in Coryell 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 5.7-1. Coryell County Surplus/(Shortage)

Water User Group	Surplus/(Shortage)		Comment
	2040 (acft/yr)	2070 (acft/yr)	
Central Texas College District	0	0	Projected surplus
City of Copperas Cove	3,473	(1,802)	Projected shortage - see plan below.
Coryell City Water Supply District	329	324	Projected surplus
Elm Creek WSC			See Bell County
Flat WSC	(23)	(62)	Projected shortage - see plan below.
Fort Gates WSC	(353)	(500)	Projected shortage - see plan below.
Fort Hood			See Bell County
City of Gatesville	(2,455)	(4,688)	Projected shortage - see plan below.
Kempner WSC			See Lampasas County
Mountain WSC	110	13	Projected surplus
Multi-County WSC	(91)	(174)	Projected shortage - see plan below.
Mustang Valley WSC			See Bosque County
City of Oglesby	148	129	Projected surplus
The Grove WSC			See Bell County
County-Other	(259)	(1,107)	Projected shortage - see plan below.
Manufacturing	0	0	No projected surplus or shortage
Steam-Electric	—	—	No projected demand
Mining	(296)	(242)	Projected shortage - see plan below.
Irrigation	736	736	Projected surplus
Livestock	0	0	No projected surplus or shortage

5.7.1 Central Texas College District

Description of Supply

The service area for the Central Texas College District is within both Coryell and Bell Counties. The quantities shown in Table 5.7-1 represent the cumulative totals for the Central Texas College District as a whole. Surpluses are projected from 2030 to 2070.

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 Central Texas College District. Conservation is recommended to reduce usage to a goal of 140 gpcd.

Table 5.7-2. Recommended Plan Costs by Decade for the Central Texas College District

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	0	0	0	0	0	0
Conservation						
Supply From Plan Element (acft/yr)	—	7	4	3	3	3
Annual Cost (\$/yr)	—	\$4,000	\$2,000	\$2,000	\$2,000	\$2,000
<i>Projected Surplus/(Shortage) after Conservation</i>	—	7	4	3	3	3

5.7.2 City of Copperas Cove

Description of Supply

The service area for the City of Copperas Cove is within both Coryell and Lampasas Counties. The quantity shown in Table 5.7-1 represents the cumulative totals for the City of Copperas Cove as a whole. The City obtains its water supply solely through purchases of treated surface water under contract from Bell County WCID No.1. Bell County WCID No. 1 is projected to provide up to the contracted 8,824 acft/yr of treated surface water sourced from Lake Belton to the City of Copperas Cove at the beginning of the planning period; however, this contracted supply is prorated in later years and will only provide 5,304 acft/yr of supply by 2070, based on water availability analyses prescribed under water planning guidelines. Shortages are projected to begin by 2060. Conservation was considered; however, the entity’s usage is below the selected goal of 140 gpcd.

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 Copperas Cove.

- a. Purchase Raw Water Supply from Fort Hood.
 - Cost Source: Volume II
 - Date to be Implemented: before 2060
 - Annual Cost: \$1,255,445
 - Unit Cost: \$100/acft
- b. Firm Up BRA Supplies.
 - Cost Source: Volume II

- Date to be Implemented: before 2070
- Annual Cost: Costs borne by BRA
- Unit Cost: Costs borne by BRA

Table 5.7-3. Recommended Plan Costs by Decade for the City of Copperas Cove

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	4,388	3,973	3,473	2,992	(125)	(1,802)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	4,388	3,973	3,473	2,992	(125)	(1,802)
Purchase Raw Water Supply from Fort Hood						
Supply From Plan Element (acft/yr)	—	—	—	—	125	1,285
Annual Cost (\$/yr)	—	—	—	—	\$12,500	\$128,500
Unit Cost (\$/acft)	—	—	—	—	\$100	\$100
Firm Up BRA Supplies						
Supply From Plan Element (acft/yr)	—	—	—	—	—	517
Annual Cost (\$/yr)	—	—	—	—	—	—
Unit Cost (\$/acft)	—	—	—	—	—	—

5.7.3 Coryell City Water Supply District

Description of Supply

Coryell City Water Supply District obtains its water supply primarily through purchases of treated surface water under contract from the City of Gatesville; the supply available to the District under this contract is projected to range from 933 acft/yr to 1,542 acft/yr. The District also purchases raw surface water under contract from the Brazos River Authority in the amount of 300 acft/yr which is treated by the City of Gatesville. Coryell City Water Supply District has contracted for 300 acft/yr of surface water supplies from the Brazos River Authority, which can supply 249 acft/yr in 2020 and 241 acft/yr in 2070, based on water availability analyses prescribed under water planning guidelines. The remainder of the District’s water supply is obtained through groundwater production from the Trinity Aquifer which is projected to provide 83 acft/yr of supply through the planning period. No shortages are projected for Coryell City Water Supply District and no changes in water supply are recommended. This WUG is located in Coryell and McLennan Counties. The quantity shown in Table 5.7-1 represents the cumulative totals for Coryell City Water Supply District.

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 Coryell City Water Supply District. Conservation is recommended to reduce usage to a goal of 140 gpcd.

- a. Conservation
 - Cost Source: Volume II, Chapter 2
 - Date to be Implemented: before 2030
 - Annual Cost: maximum of \$10,640 in 2030
 - Unit Cost: \$560/acft
- b. Firm Up BRA Little River Supplies
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Project Cost: Costs borne by BRA
 - Unit Cost: Costs borne by BRA

Table 5.7-4. Recommended Plan Costs by Decade for Coryell City Water Supply District

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	332	331	329	327	326	324
Conservation						
Supply From Plan Element (acft/yr)	—	19	8	—	—	—
Annual Cost (\$/yr)	—	\$10,640	\$4,480	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	332	350	337	327	326	324
Firm Up BRA Little River Supplies						
Supply From Plan Element (acft/yr)	—	52	54	56	57	59
Annual Cost (\$/yr)	—	—	—	—	—	—
Unit Cost (\$/acft)	—	—	—	—	—	—

5.7.4 Flat WSC

Description of Supply

Flat Creek WSC obtains its water supply solely through purchases of treated surface water under contract with the City of Gatesville, which is projected to supply up to 102 acft/yr through the planning period. Shortages are projected for Flat Creek WSC beginning in 2030.

Water Supply Plan

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

- a. Conservation
 - Cost Source: Volume II
 - Date to be Implemented: 2030
 - Annual Cost: maximum of \$22,240 in 2070
 - Unit Cost: \$560/acft
- b. Purchase Additional Water from Gatesville
 - Cost Source: Volume II
 - Date to be Implemented: 2030
 - Project Cost: N/A
 - Unit Cost: \$1,309/acft

Table 5.7-5. Recommended Plan Costs by Decade for Flat WSC

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	2	(10)	(23)	(35)	(48)	(62)
Conservation						
Supply From Plan Element (acft/yr)	—	9	20	32	36	40
Annual Cost (\$/yr)	—	\$5,040	\$11,200	\$17,920	\$20,160	\$22,400
<i>Projected Surplus/(Shortage) after Conservation</i>	2	(1)	(3)	(3)	(12)	(22)
Purchase Additional Water from Gatesville						
Supply From Plan Element (acft/yr)	—	1	3	3	12	22
Annual Cost (\$/yr)	—	\$1,309	\$3,927	\$3,927	\$15,708	\$28,798
Unit Cost (\$/acft)	—	\$1,309	\$1,309	\$1,309	\$1,309	\$1,309

5.7.5 Fort Gates WSC

Description of Supply

Fort Gates WSC obtains its water supply through purchases of treated surface water from the City of Gatesville, which is projected to supply 120 acft/yr during the planning period. The entity also has a contract for purchasing raw surface water from the Brazos River Authority; however, Fort Gates WSC does not have facilities necessary to treat this water. Fort Gates WSC has contracted for 200 acft/yr of surface water supplies from the Brazos River Authority, which can supply 166 acft/yr in 2020 and 161 acft/yr in 2070, based on

water availability analyses prescribed under water planning guidelines. Shortages are projected for the across the planning period for Fort Gates WSC.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended for Flat WSC. Conservation is recommended to reduce usage to a goal of 140 gpcd. Needs remain unmet in 2020. These needs will only occur during a drought equivalent or worse than the drought of record. While not a strategy recommended by the Brazos G RWPG, the impacts of the unmet needs can be mitigated through demand management in the event of a serious drought prior to the recommended strategies coming online.

- a. Conservation
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Annual Cost: maximum of \$61,600
 - Unit Cost: \$560/acft
- b. Firm Up BRA Little River Supplies
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Annual Cost: Costs borne by BRA
 - Unit Cost: Costs borne by BRA
- c. Purchase Additional Diversion, Treatment, and Delivery of Supply from Gatesville. Strategy involves the City of Gatesville treating and delivering Fort Gates WSC's raw water supply under contract with the Brazos River Authority.
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Annual Cost: maximum of \$234,400
 - Unit Cost: \$1,172/acft
- d. Purchase Additional Water from Gatesville. Strategy involves purchasing additional treated water supply.
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Annual Cost: maximum of \$248,740
 - Unit Cost: \$1,309/acft



Table 5.7-6. Recommended Plan Costs by Decade for Fort Gates WSC

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(260)	(303)	(353)	(399)	(449)	(500)
Conservation						
Supply From Plan Element (acft/yr)	—	33	73	93	101	110
Annual Cost (\$/yr)	—	\$18,480	\$40,880	\$52,080	\$56,560	\$61,600
<i>Projected Surplus/(Shortage) after Conservation</i>	(260)	(270)	(280)	(306)	(348)	(390)
Gatesville Treat and Deliver Existing Raw Supply (firmed up BRA supplies)						
Supply From Plan Element (acft/yr)		200	200	200	200	200
Annual Cost (\$/yr)		\$234,400	\$234,400	\$234,400	\$234,400	\$234,400
Unit Cost (\$/acft)		\$1,172	\$1,172	\$1,172	\$1,172	\$1,172
Purchase Additional Water from Gatesville (firmed up BRA supplies)						
Supply From Plan Element (acft/yr)		70	80	106	148	190
Annual Cost (\$/yr)		\$91,630	\$104,720	\$138,754	\$193,732	\$248,710
Unit Cost (\$/acft)		\$1,309	\$1,309	\$1,309	\$1,309	\$1,309

5.7.6 City of Gatesville

Description of Supply

The City of Gatesville obtains its water supply through purchases of raw water under contract from the Brazos River Authority. The City of Gatesville has contracted for 5,898 acft/yr of surface water supplies from the Brazos River Authority, which can supply 4,902 acft/yr in 2020 and 4,740 acft/yr in 2070, based on water availability analyses prescribed under water planning guidelines. The contracted supply volume is for 5,898 acft/yr; however, this contract is projected to be prorated and only provide a maximum of 4,902 acft/yr during the planning period. The City of Gatesville also provides treated surface water to a number of nearby WUGs through wholesale supply contracts.

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 the City of Gatesville. Conservation is recommended to reduce usage to a goal of 140 gpcd. Needs remain unmet in 2020. These needs will only occur during a drought equivalent or worse than the drought of record. While not a strategy recommended by the Brazos G RWPG, the impacts of the unmet needs can be mitigated through demand management in the event of a serious drought prior to the recommended strategies coming online.

- a. Conservation
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Annual Cost: maximum of \$1,339,520 in 2070
 - Unit Cost: \$560/acft
- b. Firm Up BRA Little River Supplies
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Project Cost: Costs borne by BRA
 - Unit Cost: Costs borne by BRA
- c. Water Treatment Plant Expansion
 - Cost Source: Volume II
 - Date to be Implemented: before 2030.
 - Project Cost: \$9,577,000
 - Unit Cost: maximum of \$979 acft/yr
- d. Purchase Raw Water Supply from Multi-County WSC; supply would be provided out of the Coryell County OCR.
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Annual Cost: maximum of \$1,660,000
 - Unit Cost: \$2,017/acft

Table 5.7-7. Recommended Plan Costs by Decade for the City of Gatesville

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(1,041)	(1,692)	(2,455)	(3,154)	(3,917)	(4,688)
Conservation						
Supply From Plan Element (acft/yr)	—	384	852	1,386	1,988	2,392
Annual Cost (\$/yr)	—	\$215,040	\$477,120	\$776,160	\$1,113,280	\$1,339,520
<i>Projected Surplus/(Shortage) after Conservation</i>	(1,041)	(1,308)	(1,603)	(1,768)	(1,929)	(2,296)
Additional Demands from Recommended Strategies from Others						
Increase Contract to Flat WSC (acft/yr)	—	(1)	(3)	(3)	(12)	(22)
Increase Contract to Fort Gates WSC (acft/yr)	—	(270)	(280)	(306)	(348)	(390)

Table 5.7-7. Recommended Plan Costs by Decade for the City of Gatesville

Plan Element	2020	2030	2040	2050	2060	2070
<i>Total Surplus/(Shortage) including Recommended Strategies</i>	—	(1,579)	(1,886)	(2,077)	(2,289)	(2,708)
Firm Up BRA Little River Supplies						
Supply From Plan Element (acft/yr)	—	1,028	1,060	1,093	1,125	1,158
Annual Cost (\$/yr)	—	—	—	—	—	—
Unit Cost (\$/acft)	—	—	—	—	—	—
Purchase Raw Water Supply from Multi-County WSC (Coryell County OCR)						
Supply From Plan Element (acft/yr)	—	550	823	981	1,152	1,528
Annual Cost (\$/yr)	—	\$1,109,000	\$1,660,000	\$1,019,000	\$1,197,000	\$680,000
Unit Cost (\$/acft)	—	\$2,017	\$2,017	\$1,039	\$1,039	\$445

5.7.7 Mountain WSC

Mountain WSC obtains its water supply through groundwater production from the Trinity Aquifer and through purchases of treated surface water under contract from the City of Gatesville which is projected to provide up to 280 acft/yr of supply. Available supply from the Trinity Aquifer is projected at 147 acft/yr. No shortages are projected for Mountain WSC and no changes to water supply are recommended. Conservation was considered; however, the entity’s usage is below the selected goal of 140 gpcd.

5.7.8 Multi-County WSC

Description of Supply

Multi-County WSC obtains its water supply through purchases of treated surface water under contract from the City of Hamilton, which is projected to provide 245 acft/yr of supply through the planning period. This WUG is located in Coryell and Hamilton Counties. The quantity shown in Table 5.7-1 represents the cumulative totals for Multi-County WSC.

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 the Multi-County WSC. Conservation was considered; however, the entity’s usage is below the selected goal of 140 gpcd. Local officials have requested that the Coryell County Off-Channel Reservoir be evaluated and recommended as a water management strategy to meet future needs in Coryell County. The project would likely be developed in cooperation with the Brazos River Authority. The Multi-County WSC has been identified as the current project sponsor.

- a. Purchase additional water from City of Hamilton
 - Cost Source: Volume II
 - Date to be Implemented: before 2020
 - Unit Cost: \$250/acft
 - Annual Cost: maximum of \$41,750
- b. Coryell County Off-Channel Reservoir
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Unit Cost: maximum of \$2,017/acft
 - Annual Cost: maximum of \$2,574,000

Table 5.7-8. Recommended Plan Costs by Decade for Multi-County WSC

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(46)	(67)	(91)	(115)	(144)	(174)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	(46)	(67)	(91)	(115)	(144)	(174)
Additional Demands from Recommended Strategies from Others						
Coryell County-Other (acft/yr)		1,308	1,308	1,308	1,308	1,308
<i>Total Surplus/(Shortage) Including Recommended Strategies</i>	(46)	(1,375)	(1,399)	(1,423)	(1,452)	(1,482)
Purchase from City of Hamilton						
Supply From Plan Element (acft/yr)	146	167	91	115	144	174
Annual Cost (\$/yr)	\$36,500	\$41,750	\$22,750	\$28,750	\$36,000	\$43,500
Unit Cost (\$/acft)	\$250	\$250	\$250	\$250	\$250	\$250
Coryell County Off-Channel Reservoir						
Supply From Plan Element (acft/yr)	—	1,276	1,001	843	663	277
Annual Cost (\$/yr)	—	\$2,574,000	\$2,019,000	\$876,000	\$689,000	\$123,000
Unit Cost (\$/acft)	—	\$2,017	\$2,017	\$1,039	\$1,039	\$455

5.7.9 City of Oglesby

The City of Oglesby obtains its water supply solely through groundwater production from the Trinity Aquifer which is projected to provide 211 acft/yr of groundwater supply. No shortages are projected for the City during the planning period and no changes to water supply are recommended. Conservation was considered; however, the entity's usage is below the selected target rate of 140 gpcd.

5.7.10 County-Other

Description of Supply

Water supply for County-Other entities is obtained through groundwater production from the Trinity Aquifer, which is projected to provide 614 acft/yr of groundwater supply. Shortages for Coryell County-Other are projected to occur before 2040. Local officials have requested that the Coryell County Off-Channel Reservoir be evaluated and recommended as a water management strategy to meet future needs in Coryell County. The project would likely be developed in cooperation with the Brazos River Authority. The Multi-County WSC has been identified as the current project sponsor.

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 the entities in Coryell County-Other. Conservation was also considered; however, the entity's usage is below the selected goal of 140 gpcd.

- a. Purchase from Multi-County WSC (Coryell County Off-Channel Reservoir)
 - Strategy to develop new raw supply, only. Delivery and treatment would be required when supplies are needed and location is known.
 - Cost Source: Volume II
 - Date to be Implemented: before 2030
 - Project Cost: borne by Multi-County WSC
 - Unit Cost: maximum of \$2,017 acft/yr
- b. Groundwater Development – Trinity Aquifer
 - Cost Source: Volume II
 - Date to be Implemented: before 2040
 - Project Cost: \$4,710,000
 - Unit Cost: maximum of \$784/acft

Table 5.7-9. Recommended Plan Costs by Decade for Coryell County – Other

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	324	52	(259)	(525)	(815)	(1,107)
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	324	52	(259)	(525)	(815)	(1,107)
Purchase from Multi-County WSC (Coryell County Off-Channel Reservoir)						
Supply From Plan Element (acft/yr)	—	1,308	1,308	1,308	1,308	1,308
Annual Cost (\$/yr)	—	\$2,638,236	\$2,638,236	\$1,359,000	\$1,359,000	\$595,140
Unit Cost (\$/acft)	—	\$2,017	\$2,017	\$1,039	\$1,039	\$455
Groundwater Development – Trinity Aquifer						
Supply From Plan Element (acft/yr)	—	—	259	525	815	1,107
Annual Cost (\$/yr)	—	—	\$203,000	\$305,000	\$407,000	\$376,000
Unit Cost (\$/acft)	—	—	\$784	\$581	\$499	\$340

5.7.11 Manufacturing

Coryell County Manufacturing obtains water supply through purchases of treated surface water under contract from the City of Gatesville. No shortage is projected and no changes in water supply are recommended.

5.7.12 Steam-Electric

Coryell County has no current or projected future demand for Steam-Electric; therefore, no recommendations have been made.

5.7.13 Mining

Description of Supply

Mining demand in Coryell County is projected to peak in 2020, and slowly decrease until 2070. Water supply to meet Mining demands is obtained solely through groundwater production from the Trinity Aquifer. Shortages are projected throughout the planning period.

Recommended Strategy

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 Coryell

County-Mining. Conservation is recommended. Associated costs are included for each strategy.

a. Conservation

- Cost Source: Volume II
- Date to be Implemented: before 2030
- Annual Cost: Not determined.

b. Groundwater Development – Trinity Aquifer

- Cost Source: Volume II
- Date to be Implemented: before 2030
- Project Cost: \$3,145,856
- Unit Cost: maximum of \$222/acft

Table 5.7-10. Recommended Plan Costs by Decade for Coryell County – Mining

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(1,315)	(877)	(296)	(168)	(203)	(242)
Conservation						
Supply From Plan Element (acft/yr)	45	54	34	25	28	31
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(1,270)	(823)	(262)	(143)	(175)	(211)
Groundwater Development - Trinity						
Supply From Plan Element (acft/yr)	1,270	1,270	1,270	1,270	1,270	1,270
Annual Cost (\$/yr)	\$282,000	\$282,000	\$61,000	\$61,000	\$61,000	\$61,000
Unit Cost (\$/acft)	\$222	\$222	\$48	\$48	\$48	\$48

ND – Not determined. Costs to implement industrial conservation technologies will vary based on each location.

5.7.14 Irrigation

No shortages are projected for Coryell County Irrigation and no changes in water supply are recommended.

5.7.15 Livestock

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

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