

## 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) <sup>1</sup>		Comment
	2040 (acft/yr)	2070 (acft/yr)	
City of Copperas Cove	3,593	1,203	Projected surplus
Coryell City Water Supply District	255	241	Projected surplus
Elm Creek WSC			See Bell County
Fort Hood			See Bell County
City of Gatesville	(1,406)	(3,995)	Projected shortage – see 5.38
Kempner WSC			See Lampasas County
Multi-County WSC	(151)	(248)	Projected shortage – see plan below
County-Other	234	(515)	Projected shortage – see plan below
Manufacturing	0	0	Demand equals supply
Steam-Electric	0	0	Demand equals supply
Mining	(491)	(437)	Projected shortage – see plan below
Irrigation	566	566	Projected surplus
Livestock	0	0	Demand equals supply

1 – From Tables C-13 and C-14, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

### 5.7.1 City of Copperas Cove

The City of Copperas Cove contracts for treated surface water from Bell County WCID No.1 and currently reuses a portion of its supply for non potable uses. No shortages are projected for the City of Copperas Cove and no changes in water supply are recommended. Kempner WSC also has service area within the city limits and therefore shows a portion of supply to the City of Copperas Cove. This city is located in Coryell and Lampasas Counties. The quantity shown in Table 5.7-1 represents the cumulative totals for the City of Copperas Cove. Conservation was considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

### 5.7.2 Coryell City Water Supply District

#### Description of Supply

Coryell City Water Supply District holds a contract for supply from BRA treated by the City of Gatesville to meet demands. 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.

- a. Conservation
  - Cost Source: Volume II, Chapter 2
  - Date to be Implemented: before 2020
  - Annual Cost: maximum of \$15,850 in 2020
  - Unit Cost: \$470/acft

**Table 5.7-2. 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>	234	245	255	250	247	241
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	34	21	9	1	—	—
Annual Cost (\$/yr)	\$15,850	\$9,955	\$4,240	\$470	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	268	266	264	251	247	241

### 5.7.3 City of Gatesville

The City of Gatesville is projected to have a shortage through the year 2070. Refer to Chapter 5.38 for Gatesville’s plan as a Wholesale Water Provider.

### 5.7.4 Multi-Country WSC

#### Description of Supply

Multi-County WSC contracts for treated surface water from the City of Hamilton. 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 current per capita use rate is below the selected target rate of 140 gpcd.



- a. Purchase additional water from City of Hamilton
  - Cost Source: Volume II, Chapter 12
  - Date to be Implemented: 2020
  - Unit Cost: assumed \$250/acft
  - Annual Cost: \$25,000
- b. Coryell County Off-Channel Reservoir
  - Cost Source: Volume II, Chapter 4.3
    - Strategy potentially dependent on BRA securing System Operations permit from TCEQ
  - Date to be Implemented: 2030
  - Project Cost: \$42,246,000
  - Unit Cost: \$1,405/acft

**Table 5.7-3. Recommended Plan Costs by Decade for Multi-County WSC**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(99)	(122)	(151)	(179)	(213)	(248)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	(99)	(122)	(151)	(179)	(213)	(248)
<b>Purchase from City of Hamilton</b>						
Supply From Plan Element (acft/yr)	100	100	—	—	—	—
Annual Cost (\$/yr)	\$25,000	\$25,000	—	—	—	—
Unit Cost (\$/acft)	\$250	\$250	—	—	—	—
<b>Coryell County Off-Channel Reservoir</b>						
Supply From Plan Element (acft/yr)	—	3,135	3,135	3,135	3,135	3,135
Annual Cost (\$/yr)	—	\$4,405,000	\$4,405,000	\$3,194,000	\$3,194,000	\$1,463,000
Unit Cost (\$/yr)	—	\$1,405	\$1,405	\$1,019	\$1,019	\$467

### 5.7.5 County-Other

#### Description of Supply

Water supply for county-other entities is obtained from Trinity Aquifer groundwater and a treated surface water contract with the City of Gatesville. Shortages are projected for Coryell County-Other starting by 2020. Local officials have requested that the Coryell County 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. Some users included in Coryell County-Other receive water from BRA 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 entities in Coryell County-Other. Conservation was considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

- a. Groundwater Development – Trinity Aquifer
  - Cost Source: Volume II, Chapter 12
  - Date to be Implemented: 2050
  - Project Cost: \$4,428,000
  - Unit Cost: Max of \$931/acft (2050)
- b. Alternative: Purchase from Gatesville (Coryell County OCR)
  - Cost Source: Volume II, Chapter 4.3
    - Strategy potentially dependent on BRA securing System Operations permit from TCEQ
  - Date to be Implemented: 2050
  - Project Cost: N/A
  - Unit Cost: \$1,309/acft

**Table 5.7-4. Recommended Plan Costs by Decade for Coryell County – Other**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	870	594	234	(93)	(171)	(515)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	870	594	234	(93)	(171)	(515)
<b>Groundwater Development – Trinity Aquifer</b>						
Supply From Plan Element (acft/yr)	—	—	—	100	200	525
Annual Cost (\$/yr)	—	—	—	\$488,806	\$488,806	\$136,806
Unit Cost (\$/yr)	—	—	—	\$931	\$931	\$261
<b>Alternative: Purchase from Gatesville (Coryell County Off-Channel Reservoir)</b>						
Supply From Plan Element (acft/yr)	—	—	—	100	200	525
Annual Cost (\$/yr)	—	—	—	\$130,900	\$261,800	\$687,225
Unit Cost (\$/yr)	—	—	—	\$1,309	\$1,309	\$1,309



### 5.7.6 Manufacturing

Coryell County Manufacturing holds a contract with Gatesville to meet needs. No shortage is projected and no changes in water supply are recommended.

### 5.7.7 Steam-Electric

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

### 5.7.8 Mining

#### Description of Supply

Mining demand in Coryell County is projected to peak in 2020, and slowly decrease until 2070. There are no supplies allocated to Coryell County Mining. Shortages are projected beginning in 2020.

#### 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. Associated costs are included for each strategy.

- a. Conservation
  - Cost Source: Volume II, Chapter 2
  - Date to be Implemented: before 2020
  - Annual Cost: Not determined.
- b. Groundwater Development – Trinity Aquifer
  - Cost Source: Volume II, Chapter 12
  - Date to be Implemented: 2020
  - Project Cost: \$20,220,000
  - Unit Cost: Max of \$1,236/acft (2020)

**Table 5.7-5. Recommended Plan Costs by Decade for Coryell County – Mining**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(1,510)	(1,072)	(491)	(363)	(398)	(437)
<b>Conservation</b>						
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>	(1,465)	(1,018)	(457)	(338)	(370)	(406)

**Table 5.7-5. Recommended Plan Costs by Decade for Coryell County – Mining**

Plan Element	2020	2030	2040	2050	2060	2070
Groundwater Development - Trinity						
Supply From Plan Element (acft/yr)	1,500	1,500	500	500	500	500
Annual Cost (\$/yr)	\$1,853,751	\$1,853,751	\$159,751	\$159,751	\$159,751	\$159,751
Unit Cost (\$/acft)	\$1,236	\$1,236	\$107	\$107	\$107	\$107

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

### 5.7.9 Irrigation

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

### 5.7.10 Livestock

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