

## 5.33 Taylor County Water Supply Plan

Table 5.33-1 lists each water user group in Taylor 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 5.33-1. Taylor County Surplus/(Shortage)**

Water User Group	Surplus/(Shortage) <sup>1</sup>		Comment
	2040 (acft/yr)	2070 (acft/yr)	
City of Abilene	(26,575)	(26,575)	Projected shortage – see Chapter 5.38
Coleman County WSC			See Callahan County
Hawley WSC			See Jones County
City of Merkel	6	(9)	Projected shortage – see plan below
Potosi WSC	(500)	(542)	Projected shortage – see plan below
Steamboat Mountain WSC	(189)	(210)	Projected shortage – see plan below
City of Tuscola	0	0	Demand equals supply
City of Tye	(6)	(15)	Projected shortage – see plan below
County-Other	416	378	Projected surplus
Manufacturing	0	0	Demand equals supply
Steam-Electric	0	0	Demand equals supply
Mining	(366)	(315)	Projected shortage – see plan below
Irrigation	(981)	(873)	Projected shortage – see plan below
Livestock	0	0	Demand equals supply

1 – From Tables C-65 and C-66, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

### 5.33.1 City of Abilene

#### Description of Supply

The City of Abilene obtains its water supply from surface water from Fort Phantom Hill, Hubbard Creek and O.H. Ivie (Region F) Reservoirs. Abilene also has a wastewater reuse system for non-potable use, with water stored in Lake Kirby. The City supplies several neighboring communities and projected demands indicate shortages through 2070. This WUG is located in multiple counties (Taylor and Jones). Refer to Chapter 5.38 for the City’s plan as a Wholesale Water Provider.

### 5.33.2 City of Merkel

#### Description of Supply

The City of Merkel obtains surface water from local sources and from the City of Abilene. A shortage is projected starting in year 2060 for the City of Merkel.

#### Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended to meet water needs for the City of Merkel. Conservation was considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

- a. Water Supply from Abilene
  - Cost Source: Assumed Treated Wholesale Rate
  - Date to be Implemented: before 2060
  - Project Cost: \$0 (Current infrastructure assumed to be adequate)
  - Unit Cost: \$100/acft

**Table 5.33-2. Recommended Plan Costs by Decade for the City of Merkel**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	10	8	6	3	(4)	(9)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	10	8	6	3	(4)	(9)
<b>Purchase from Abilene</b>						
Supply From Plan Element (acft/yr)	—	—	—	—	4	9
Annual Cost (\$/yr)	—	—	—	—	\$400	\$900
Unit Cost (\$/yr)	—	—	—	—	\$100	\$100

### 5.33.3 Potosi WSC

#### Description of Supply

The Potosi WSC purchases water from the City of Abilene, and shows a projected shortage. This WUG is located in multiple counties (Taylor and Callahan). The shortages shown in Table 5.33-1 represent the cumulative totals for Potosi WSC.

#### Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended to meet water needs for Potosi



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 Supply from Abilene
  - Cost Source: Assumed Treated Wholesale Rate
  - Date to be Implemented: before 2020
  - Project Cost: \$0 (Current infrastructure assumed to be adequate)
  - Unit Cost: \$100/acft

**Table 5.33-3. Recommended Plan Costs by Decade for Potosi WSC**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(466)	(485)	(500)	(515)	(529)	(542)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(466)	(485)	(500)	(515)	(529)	(542)
<b>Purchase from City of Abilene</b>						
Supply From Plan Element (acft/yr)	466	485	500	515	529	542
Annual Cost (\$/yr)	\$46,600	\$48,500	\$50,000	\$51,500	\$52,900	\$54,200
Unit Cost (\$/acft)	\$100	\$100	\$100	\$100	\$100	\$100

### 5.33.4 Steamboat Mountain WSC

#### Description of Supply

Steamboat Mountain WSC purchases water from the City of Abilene, and shows a projected shortage.

#### Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended to meet water needs for Steamboat Mountain WSC.

- a. Water Supply from Abilene
  - Cost Source: Assumed Treated Wholesale Rate
  - Date to be Implemented: before 2020
  - Project Cost: \$0 (Current infrastructure assumed to be adequate)
  - Unit Cost: \$100/acft

**Table 5.33-4. Recommended Plan Costs by Decade for Steamboat Mountain WSC**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(182)	(185)	(189)	(194)	(203)	(210)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	(182)	(185)	(189)	(194)	(203)	(210)
<b>Purchase from City of Abilene</b>						
Supply From Plan Element (acft/yr)	182	185	189	194	203	210
Annual Cost (\$/yr)	\$18,200	\$18,500	\$18,900	\$19,400	\$20,300	\$21,000
Unit Cost (\$/acft)	\$100	\$100	\$100	\$100	\$100	\$100

### 5.33.5 City of Tuscola

The City of Tuscola purchases water from Steamboat Mountain WSC and shows a supply equal to demand. No changes in water supply are recommended. Conservation was considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

### 5.33.6 City of Tye

#### Description of Supply

The City of Tye purchases water from the City of Abilene, and shows a small need 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 Tye. Conservation was considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

- a. Water Supply from Abilene
  - Cost Source: Assumed Treated Wholesale Rate
  - Date to be Implemented: before 2020
  - Project Cost: \$0 (Current infrastructure assumed to be adequate)
  - Unit Cost: \$100/acft



**Table 5.33-5. Recommended Plan Costs by Decade for the City of Tye**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(2)	(4)	(6)	(9)	(13)	(15)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation</i>	(2)	(4)	(6)	(9)	(13)	(15)
<b>Purchase from Abilene</b>						
Supply From Plan Element (acft/yr)	2	4	6	9	13	15
Annual Cost (\$/yr)	\$200	\$400	\$600	\$900	\$1,300	\$1,500
Unit Cost (\$/yr)	\$100	\$100	\$100	\$100	\$100	\$100

### 5.33.7 County-Other

The water supply entities for Taylor County-Other show a projected surplus and no changes in water supply are recommended. Conservation was considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

### 5.33.8 Manufacturing

The water supply for Manufacturing equals demand and no changes in water supply are recommended.

### 5.33.9 Steam-Electric

The water supply entities for Taylor County Steam-Electric show no projected demand.

### 5.33.10 Mining

#### Description of Supply

Mining operations in Taylor County have no supplies currently allocated, and demands for Mining are projected to show shortages beginning in 2020.

#### 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 Taylor 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. Purchase from Abilene

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: before 2020
- Project Cost: Not enough information to cost delivery
- Unit Cost: \$100/acft (BRA wholesale rate only)

**Table 5.33-6. Recommended Plan Costs by Decade for Taylor County – Mining**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(391)	(391)	(366)	(346)	(329)	(315)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	12	20	26	24	23	22
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(379)	(371)	(340)	(322)	(306)	(293)
<b>Purchase from Abilene</b>						
Supply From Plan Element (acft/yr)	379	371	340	322	306	293
Annual Cost (\$/yr)	\$37,900	\$37,100	\$34,000	\$32,200	\$30,600	\$29,300
Unit Cost (\$/acft)	\$100	\$100	\$100	\$100	\$100	\$100

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

### 5.33.11 Irrigation

#### Description of Supply

Taylor County Irrigation is supplied by groundwater from the Edwards-Trinity and Trinity Aquifers. Irrigation is projected to have shortages beginning in 2020.

#### 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 Taylor County-Irrigation.

a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: before 2020
- Annual Cost: \$230/acft



b. Purchase from Abilene

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: before 2020
- Project Cost: Not enough information to cost delivery
- Unit Cost: \$100/acft (BRA wholesale rate only)

**Table 5.33-7. Recommended Plan Costs by Decade for Taylor County – Irrigation**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(1,057)	(1,019)	(981)	(944)	(906)	(873)
<b>Conservation</b>						
Supply From Plan Element (acft/yr)	47	76	104	101	98	96
Annual Cost (\$/yr)	\$10,743	\$17,469	\$23,844	\$23,248	\$22,637	\$22,105
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(1,010)	(943)	(877)	(842)	(807)	(776)
<b>Purchase from Abilene</b>						
Supply From Plan Element (acft/yr)	1,010	943	877	842	807	776
Annual Cost (\$/yr)	\$101,000	\$94,300	\$87,700	\$84,200	\$80,700	\$77,600
Unit Cost (\$/acft)	\$100	\$100	\$100	\$100	\$100	\$100

### 5.33.12 Livestock

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

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