

## 5.11 Fisher County Water Supply Plan

Table 5.11-1 lists each water user group in Fisher County and their corresponding surplus or shortage in years 2040 and 2070. For each water user group with a projected shortage, a water supply plan has been developed and is presented in the following subsections.

**Table 5.11-1. Fisher County Surplus/(Shortage)**

Water User Group	Surplus/(Shortage) <sup>1</sup>		Comment
	2040 (acft/yr)	2070 (acft/yr)	
Bitter Creek WSC			See Nolan County for Plan
City of Roby	268	270	Projected surplus
City of Rotan	(60)	(84)	Projected shortage – see plan below
County-Other	50	51	Projected surplus
Manufacturing	(79)	(159)	Projected shortage – see plan below
Steam-Electric	0	0	Demand equals supply
Mining	(359)	(238)	Projected shortage – see plan below
Irrigation	1,066	1,428	Projected surplus
Livestock	0	0	Demand equals supply

1 – From Tables C-19 and C-20, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

### 5.11.1 City of Roby

#### Description of Supply

Water supplies are obtained from the Seymour Aquifer and the City of Sweetwater. No shortage is projected for the City of Roby throughout the planning period.

#### Water Supply Plan

The supplies projected are adequate to meet the City’s water demand through 2070. Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategy is recommended for the City of Roby.

##### a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: 2020
- Annual Cost: maximum of \$7,133 in 2040
- Unit Cost: \$496/acft

**Table 5.11-2. Recommended Plan Costs by Decade for the City of Roby**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	263	266	268	269	270	270
Conservation						
Supply From Plan Element (acft/yr)	5	13	14	13	12	12
Annual Cost (\$/yr)	\$2,460	\$6,448	\$6,944	\$6,448	\$5,952	\$5,952
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	268	280	283	283	283	283

### 5.11.2 City of Rotan

#### Description of Supply

The City of Rotan is currently purchasing water under contract from the City of Snyder. Shortages are projected by 2020. The city also provides supply for Manufacturing demand. Conservation was considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

#### Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB and in coordination with Region F, the following water management strategies are recommended to meet water needs for the City of Rotan.

- a. Water Supply from City of Snyder to meet Contract
  - Cost Source: Costs applied to CRMWD to meet contracts (2016 Region F Water Supply Plan)
  - Date to be Implemented: 2020
  - Project Cost: none, existing infrastructure assumed sufficient
  - Annual Cost: already contracted supplies



**Table 5.11-3. Recommended Plan Costs by Decade for City of Rotan**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(89)	(50)	(60)	(67)	(76)	(84)
<b>Conservation</b>						
Supply from Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(89)	(50)	(60)	(67)	(76)	(84)
<b>Water Supply from City of Snyder</b>						
Supply from Plan Element (acft/yr)	89	50	60	67	76	84
Annual Cost (\$/yr)	\$0	\$0	\$0	\$0	\$0	\$0
Unit Cost (\$/acft)	\$0	\$0	\$0	\$0	\$0	\$0

### 5.11.3 County-Other

Entities in Fisher County-Other receive supplies from the Seymour Aquifer and are projected to have a surplus of water through the year 2070. No changes in water supply are recommended. Conservation was also considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

### 5.11.4 Manufacturing

#### Description of Supply

Manufacturing obtains most of its supply from the Dockum Aquifer in combination with minimal supplies from Hamlin and Rotan. Manufacturing is projected to have a shortage of water through the year 2070.

#### Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended to meet the projected shortage for Fisher County Manufacturing.

- a. Conservation
  - Cost Source: Volume II, Chapter 2
  - Date to be Implemented: 2020
  - Annual Cost: not determined

b. Groundwater Development - Dockum Aquifer (Brackish)

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: 2020
- Project Cost: \$10,081,000
- Unit Cost: Max of \$14,040 (2020)

**Table 5.11-3. Recommended Plan Costs by Decade for Fisher County – Manufacturing**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(20)	(50)	(79)	(105)	(131)	(159)
<b>Conservation</b>						
Supply from Plan Element (acft/yr)	7	13	20	22	24	25
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(14)	(38)	(59)	(84)	(108)	(134)
<b>Groundwater Development - Dockum Aquifer (Brackish)</b>						
Supply from Plan Element (acft/yr)	50	50	140	140	140	140
Annual Cost (\$/yr)	\$702,011	\$702,011	\$1,517,030	\$1,517,030	\$1,066,030	\$1,066,030
Unit Cost (\$/acft)	\$14,040	\$14,040	\$10,836	\$10,836	\$7,614	\$7,614

ND – Not Determined. Costs to implement industrial conservation technologies will vary based on each location and have not been determined.

### 5.11.5 Steam-Electric

No Steam-Electric demand exists nor is projected for the county.

### 5.11.6 Mining

#### Description of Supply

Mining is projected to have a shortage of water through the year 2070. Conservation will be applied as a recommended strategy to reduce the Mining demand.

#### 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 the projected shortage of Fisher County Mining.

a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: before 2020
- Annual Cost: Costs to implement industrial conservation technologies will vary based on each location and have not been determined.



b. Groundwater Development - Dockum Aquifer (Brackish)

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: 2020
- Project Cost: \$3,035,000
- Unit Cost: Max of \$696/acft (2020)

**Table 5.11-4. Recommended Plan Costs by Decade for Fisher County – Mining**

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(407)	(402)	(359)	(313)	(273)	(238)
<b>Conservation</b>						
Supply from Plan Element (acft/yr)	12	20	25	22	19	17
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(395)	(382)	(334)	(291)	(254)	(221)
<b>Groundwater Development – Dockum Aquifer (Brackish)</b>						
Supply from Plan Element (acft/yr)	400	400	400	400	400	400
Annual Cost (\$/yr)	\$278,431	\$278,431	\$23,431	\$23,431	\$23,431	\$23,431
Unit Cost (\$/acft)	\$696	\$696	\$59	\$59	\$59	\$59

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

### 5.11.7 Irrigation

Irrigation uses water supplies from the Blaine and Seymour Aquifers and run-of-the river water rights. Irrigation in Fisher County is projected to have a surplus of water through the year 2070 and no change in water supply is recommended.

### 5.11.8 Livestock

Livestock is projected to have a no additional need for water through the year 2070 and no changes in water supply are recommended.

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