



5.8 Eastland County Water Supply Plan

Table 5.8-1 lists each water user group in Eastland 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 subsection

Table 5.8-1. Eastland County Surplus/(Shortage)

Water User Group	Surplus/(Shortage) ¹		Comment
	2040 (acft/yr)	2070 (acft/yr)	
City of Cisco	217	227	Projected surplus
City of Eastland	1,481	1,400	Projected surplus
Fort Griffin SUD			See Stephens County
City of Gorman	82	83	Projected surplus
City of Ranger	1,327	1,330	Projected surplus
City of Rising Star	76	78	Projected surplus
Staff WSC	104	107	Projected surplus
Stephens Regional SUD			See Stephens County
County-Other	32	44	Projected surplus
Manufacturing	42	42	Projected surplus
Steam-Electric	—	—	No projected demand
Mining	(686)	(182)	Projected shortage - see plan below.
Irrigation	79	66	Projected surplus
Livestock	0	0	Demand equals supply

1 - From Tables C-15 and C-16, Appendix C - Comparison of Water Demands with Water Supplies to Determine Needs

5.8.1 City of Cisco

The City of Cisco obtains its water supply through diversions from Lake Cisco under a water right held by the City, which is projected to provide the City with up to 1,075 acft/yr of water supply. The City also provides sales of treated surface water to Eastland County-Other users. No shortages are projected for the City of Cisco and no changes in water supply are recommended.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water management strategies are recommended for the City of Cisco.

- a. Conservation
 - Cost Source: Volume II, Chapter 2

- Date to be Implemented: before 2030
- Unit Cost: \$560/acft
- Annual Cost: maximum of \$29,120 in 2030

Table 5.8-1. Recommended Plan Costs by Decade for City of Cisco

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	199	202	217	225	227	227
Conservation						
Supply From Plan Element (acft/yr)	—	52	52	44	42	42
Annual Cost (\$/yr)	—	\$29,120	\$29,120	\$24,640	\$23,520	\$23,520
<i>Projected Surplus/(Shortage) after Conservation</i>	199	254	269	269	269	269

5.8.2 City of Eastland

The City of Eastland obtains its water supply through purchases of treated surface water under contract with the Eastland County Water Supply District, which is projected to provide an annual supply beginning at 2,302 acft/yr at the beginning of the planning period and decreasing the 2,144 acft/yr at the end. The Eastland County Water Supply District sources raw surface water through diversions Lake Leon under a water right held by the water supply district. The City also provides sales of treated surface water under contract with Staff WSC, the City of Carbon, Westbound WSC, and Olden WSC; the latter three of entities are grouped in the County-Other WUG for Eastland County. No shortages are projected for the City of Eastland 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.

5.8.3 City of Gorman

The City of Gorman obtains its water supply through purchases of treated surface water under contract from the Upper Leon River Municipal Water District, which is projected to provide up to 169 acft/yr of supply. The water supplied by the Upper Leon River Municipal Water District is diverted from Lake Proctor under contracts with the Brazos River Authority. No shortages are projected for the City of Gorman 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.

5.8.4 City of Ranger

The City of Ranger obtains its water supply through purchases of treated surface water from the Eastland County Water Supply District, which is projected to provide up to 2,025 acft/yr across the planning period. The Eastland County Water Supply District sources raw surface water through diversions Lake Leon under a water right held by the water supply



district. The City also provides sales of treated surface water and groundwater to Staff WSC. No shortages are projected for the City of Ranger and no changes in water supply are recommended.

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 Ranger.

a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: before 2030
- Unit Cost: \$560/acft
- Annual Cost: maximum of \$22,090 in 2030

Table 5.8-2. Recommended Plan Costs by Decade for City of Ranger

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	1,314	1,317	1,327	1,329	1,330	1,330
Conservation						
Supply From Plan Element (acft/yr)	—	33	40	38	37	37
Annual Cost (\$/yr)	—	\$18,480	\$22,400	\$21,280	\$20,720	\$20,720
<i>Projected Surplus/(Shortage) after Conservation</i>	1,314	1,350	1,367	1,367	1,367	1,367

5.8.5 City of Rising Star

The City of Rising Star obtains its water supply solely through groundwater production from the Trinity Aquifer, which is projected to provide up to 170 acft/yr of supply. No shortages are projected for the City of Rising Star 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.

5.8.6 Staff WSC

Staff WSC obtains its water supply through purchases of treated surface water under contract with the City of Eastland, and purchases of treated surface and groundwater from the City of Ranger. Total supply purchases are projected to provide 262 acft/yr of supply to Staff WSC through the planning period. No shortages are projected for Staff WSC and no changes in water supply are recommended.

5.8.7 County-Other

The entities comprising Eastland County-Other obtain water supply from multiple sources in the County. The City of Eastland sells treated surface water under contract to the City of Carbon, Westbound WSC, and Olden WSC; additionally, the City of Cisco also sells

treated surface water to Westbound WSC. Entities comprising Eastland County-Other also rely on groundwater production from the Trinity Aquifer to meet demands. Water supply contracts are projected to provide users Eastland County-Other users with up to 267 acft/yr of treated surface water while available groundwater supplies are projected at 203 acft/yr. No shortages are projected through the planning period 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.

5.8.8 Manufacturing

Manufacturing in Eastland County is supplied with treated surface water from the Eastland County Water Supply District. The Eastland County Water Supply District sources raw surface water through diversions Lake Leon under a water right held by the water supply district. No water supply shortages are projected for Manufacturing in Eastland County and no change in water supply is recommended.

5.8.9 Steam-Electric

No Steam-Electric demand exists or is projected for the county.

5.8.10 Mining

Description of Supply

Mining operations in Eastland County obtain water supply solely through groundwater production from the Trinity Aquifer. Current groundwater allocations in the county exceed the MAG supply and are not projected to be available for production in the future.

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 Eastland County-Mining.

- a. Conservation
 - Cost Source: Volume II, Chapter 2
 - Date to be Implemented: before 2030
 - Annual Cost: not determined
- b. Groundwater Development – Trinity Aquifer (Erath County)
 - Cost Source: Volume II, Chapter 14
 - Date to be Implemented: before 2030
 - Project Cost: \$8,115,000
 - Unit Cost: maximum of \$611/acft.

Table 5.8-3. Recommended Plan Costs by Decade for Eastland County – Mining

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(921)	(930)	(686)	(471)	(275)	(189)
Conservation						
Supply From Plan Element (acft/yr)	35	59	65	50	36	30
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(886)	(871)	(621)	(421)	(239)	(159)
Groundwater Development – Trinity Aquifer						
Supply From Plan Element (acft/yr)	886	886	886	886	886	886
Annual Cost (\$/yr)	\$542,069	\$542,069	\$252,069	\$252,069	\$252,069	\$252,069
Unit Cost (\$/acft)	\$612	\$612	\$285	\$285	\$285	\$285

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

5.8.11 Irrigation

Irrigation in Eastland County is supplied through groundwater production from the Trinity Aquifer. No supply shortages are projected throughout the planning period and no change in water supply is recommended.

5.8.12 Livestock

All of the livestock demand for Eastland County is met with local surface water supplies. No change in water supply is recommended.

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