

5.5 Callahan County Water Supply Plan

Table 5.5-1 lists each water user group in Callahan 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 5.5-1. Callahan County Surplus/(Shortage)¹

| Water User Group | Surplus/(Shortage) ¹ | | Comment |
|----------------------|---------------------------------|----------------|----------------------------|
| | 2040 (acft/yr) | 2070 (acft/yr) | |
| City of Baird | 80 | 81 | Projected surplus |
| City of Clyde | 261 | 257 | Projected surplus |
| Coleman County SUD | (16) | (18) | Projected shortage |
| City of Cross Plains | 223 | 217 | Projected surplus |
| Potosi WSC | | | See Taylor County for Plan |
| County-Other | 20 | 9 | Projected surplus |
| Manufacturing | 0 | 0 | No projected demand |
| Steam-Electric | 0 | 0 | No projected demand |
| Mining | (214) | (180) | Projected shortage |
| Irrigation | 188 | 214 | Projected surplus |
| Livestock | 0 | 0 | Demand equals supply |

1 – From Tables C-9 and C-10, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

5.5.1 City of Baird

Description of Supply

The City of Baird obtains its water supply from surface water supplied from Lake Baird and from the City of Abilene. From 2020 through 2070, the City’s contractual purchase from the City of Abilene is 77 acft/yr and the total amount of surface water availability from Lake Baird is 230 acft/yr. Baird also receives reuse water from the City of Clyde in trade for potable water. Supplies are sufficient to meet demands through 2070. Conservation is recommended to reduce the City’s gallons per capita per day (gpcd) in 2020 to a goal of 140 gpcd.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended for the City of Baird. Associated costs are included for each strategy.

- a. Conservation:
- Cost Source: Volume II, Section 2
 - Date to be Implemented: before 2020
 - Annual Cost: maximum of \$3,173 in 2020
 - Unit Cost: \$496/acft

Table 5.5-2. Recommended Plan Costs by Decade for the City of Baird

| Plan Element | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|--|---------|------|------|------|------|------|
| <i>Projected Surplus/(Shortage) (acft/yr)</i> | 66 | 74 | 80 | 81 | 81 | 81 |
| Conservation | | | | | | |
| Supply from Plan Element (acft/yr) | 6 | — | — | — | — | — |
| Annual Cost (\$/yr) | \$3,173 | — | — | — | — | — |
| <i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i> | 72 | 74 | 80 | 81 | 81 | 81 |

5.5.2 City of Clyde

The City of Clyde uses surface water from local sources which is projected to supply 500 acft/yr from 2020 through 2070. Clyde also has a contractual purchase plan of 307 acft/yr from the City of Abilene that can cover the city’s projected demands. Clyde also has an arrangement with the City of Baird to receive potable water in trade for reuse water. No current or future shortages are projected. Clyde also has contractual sales to Eula WSC of 221 acft/yr through 2070. Clyde has recently acquired a 2,500 acft/yr water right for supplies from Fort Phantom Hill Reservoir; however, the full amount of the water right is not firm and supply will be less than 2,500 acft/yr. In addition, this supply cannot be applied until infrastructure is in place to deliver and treat the water. No change in water supply is recommended. Conservation was also considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

5.5.3 Coleman County SUD

Description of Supply

Coleman County SUD obtains its water supply from the City of Coleman via Lake Brownwood in Region F. Shortages are projected beginning in 2020. This WUG is located in multiple counties (Callahan and Taylor). The values shown in Table 5.5-1 represent the cumulative totals for Coleman County WSC in these two counties.

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 supply plan is recommended for Coleman County SUD. Conservation was considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.



- a. Subordination Lake Coleman (Region F):
 - Cost Source: 2016 Region F Water Plan
 - Date to be Implemented: 2020
 - Total Project Cost: no cost
 - Unit Cost: none

Table 5.5-3. Recommended Plan Costs by Decade for the City of Baird

| Plan Element | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|--|------|------|------|------|------|------|
| <i>Projected Surplus/(Shortage) (acft/yr)</i> | (16) | (16) | (16) | (16) | (17) | (18) |
| Conservation | | | | | | |
| Supply from Plan Element (acft/yr) | — | — | — | — | — | — |
| Annual Cost (\$/yr) | — | — | — | — | — | — |
| <i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i> | (16) | (16) | (16) | (16) | (17) | (18) |
| Subordination Lake Coleman (Region F) | | | | | | |
| Supply from Plan Element (acft/yr) | 17 | 18 | 18 | 18 | 18 | 18 |
| Annual Cost (\$/yr) | — | — | — | — | — | — |
| Unit Cost (\$/acft) | — | — | — | — | — | — |

5.5.4 City of Cross Plains

Description of Supply

The City of Cross Plains uses locally available groundwater for all of its water supply and a surplus is projected. Conservation is recommended to reduce the City's gpcd between 2020 and 2070 to a goal of 140 gpcd.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended for the City of Cross Plains. Associated costs are included for each strategy.

- a. Conservation:
 - Cost Source: Volume II, Section 2
 - Date to be Implemented: before 2020
 - Annual Cost: maximum of \$4,750 in 2020
 - Unit Cost: \$496/acft

Table 5.5-4. Recommended Plan Costs by Decade for the City of Cross Plains

| Plan Element | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|--|---------|---------|---------|---------|---------|---------|
| <i>Projected Surplus/(Shortage) (acft/yr)</i> | 232 | 225 | 223 | 220 | 218 | 217 |
| Conservation | | | | | | |
| Supply from Plan Element (acft/yr) | 5 | 10 | 5 | 5 | 5 | 4 |
| Annual Cost (\$/yr) | \$2,369 | \$4,750 | \$2,631 | \$2,486 | \$2,311 | \$2,029 |
| <i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i> | 236 | 234 | 228 | 225 | 222 | 221 |

5.5.5 County-Other

The water supply entities comprising County-Other mostly rely on groundwater systems and show a projected surplus. Currently there is a contractual purchase of 61 acft/yr through 2070 from the City of Abilene to Eula WSC. No changes in water supply are recommended for Callahan County-Other. Conservation was also considered; however, the entity’s current per capita use rate is below the selected target rate of 140 gpcd.

5.5.6 Manufacturing

No Manufacturing demand exists or is projected for the county.

5.5.7 Steam-Electric

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

5.5.8 Mining

Description of Supply

Mining activities are projected to increase in Callahan County requiring local water management strategies to meet the projected water demand. Conservation is recommended to reduce the Mining demand between 2020 and 2070. Available Trinity Aquifer supplies in Callahan County will also be used to meet the projected demands.

Water Supply Plan

Working within the planning criteria established by the Brazos G RWPG and TWDB, the following water supply plan is recommended for Mining in Callahan County. Associated costs are included for each strategy.

a. Conservation:

- Cost Source: Volume II, Section 2
- Date to be Implemented: before 2020
- Annual Cost: not determined



b. Trinity Groundwater:

- Cost Source: Volume II, Section 12
- Date to be Implemented: before 2020
- Project Cost: \$1,695,000
- Annual Cost: maximum of \$155,732 in 2020

Table 5.5-5. Recommended Plan Costs by Decade for the Callahan County – Mining

| Plan Element | 2020 | 2030 | 2040 | 2050 | 2060 | 2070 |
|--|-----------|-----------|----------|----------|----------|----------|
| <i>Projected Surplus/(Shortage) (acft/yr)</i> | (228) | (227) | (214) | (201) | (190) | (180) |
| Conservation | | | | | | |
| Supply from Plan Element (acft/yr) | 7 | 11 | 15 | 14 | 13 | 13 |
| Annual Cost (\$/yr) | ND | ND | ND | ND | ND | ND |
| <i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i> | (221) | (216) | (199) | (187) | (177) | (167) |
| Trinity Groundwater | | | | | | |
| Supply from Plan Element (acft/yr) | 221 | 216 | 199 | 187 | 177 | 167 |
| Annual Cost (\$/yr) | \$155,732 | \$155,732 | \$13,732 | \$13,732 | \$13,732 | \$13,732 |
| Unit Cost (\$/acft) | \$692 | \$692 | \$61 | \$61 | \$61 | \$61 |

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

5.5.9 Irrigation

Irrigation water use shows a projected surplus and no changes in water supply are recommended.

5.5.10 Livestock

No Livestock shortage exists or is projected for the county.

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