

5B.5 Callahan County Water Supply Plan

Table 5B.5-1 lists each water user group in Callahan County and their corresponding surplus or shortage in years 2030 and 2050. For each water user group with a projected shortage, a water supply plan has been developed and is presented in the following subsections. In addition, long-term considerations are provided for some entities with projected surpluses.

**Table 5B.5-1.
Callahan County Surplus/(Shortage)**

<i>Water User Group</i>	<i>Surplus/(Shortage)¹</i>		<i>Comment</i>
	<i>2030 (acft/yr)</i>	<i>2050 (acft/yr)</i>	
City of Baird	(149)	(118)	Projected shortage – see plan below
City of Clyde	184	236	Projected surplus
City of Cross Plains	238	269	Projected surplus
County-Other	1,478	1,526	Projected surplus
Manufacturing	0	0	No demand or supply
Steam-Electric	0	0	No demand or supply
Mining	90	105	Projected surplus
Irrigation	648	668	Projected surplus
Livestock	102	102	Projected surplus

¹ From Tables 4-9 and 4-10, Section 4 – Comparison of Water Demands with Water Supplies to Determine Needs.

5B.5.1 The City of Baird

5B.5.1.1 Description of Supply

The surface water supply for the City of Baird is from Lake Baird and from the City of Abilene. Baird also receives reuse water from the City of Clyde in trade for potable water; contractual arrangements and quantities for this water supply were not available at the time of writing. These sources are insufficient to meet Baird's current and long-term shortages. For 2030, the City of Baird has a projected shortage of 149 acft, representing about 52 percent of the City's total demand.

5B.5.1.2 Options Considered

Table 5B.5-2 lists the water management strategies, references to the report section discussing the strategy, total project cost, and unit costs that were considered for meeting the City of Baird's shortage.

**Table 5B.5-2.
Water Management Strategies Considered for the City of Baird**

Option	Yield (acft/yr)	Approximate Cost ¹	
		Total	Unit (\$/acft)
Voluntary Redistribution from Abilene	149	\$97,000/year	\$650 ²
Wastewater Reuse (Section 5A.3)	63	\$254,000	\$326
Conservation (Section 5A.2)	14	\$8,000/yr	\$574
Breckenridge Reservoir (Section 5A.14.1)	20,000	\$171,462,000	\$629 ³
No Action	-	\$6,324,000 ⁴	\$42,443 ⁴

¹ Unless otherwise noted, costs are Total Project Cost and Unit Cost (\$/acft per year) for treated water delivered to the water supply entity or entities. Unit cost is for full utilization of project capacity. Operation and maintenance of existing facilities is not included.

² Estimated wholesale rate for treated water from Abilene.

³ Raw water cost in the reservoir.

⁴ Economic impact of not meeting shortage (i.e., "no action" alternative) in 2030 as estimated by TWDB.

5B.5.1.3 Water Supply Plan

The following plan meets the planning criteria established by the Brazos G RWPG.

- Voluntary Redistribution from Abilene. The city currently has the existing infrastructure to obtain additional water from the City of Abilene, but does not have sufficient contractual agreements in place.
- Wastewater Reuse
- Conservation

The Breckenridge Reservoir has been recommended for consideration for long-term needs for the West Central Texas Municipal Water District, as a major water provider, as described in Section 5B.38. The project is much too large to be pursued by any individual municipality, but if it is pursued by the WCTMWD, this source should be considered by local entities.

5B.5.1.4 Costs

Costs of the Recommended Plan for the City of Baird.

- a. Voluntary Redistribution from Abilene:
 - Cost Source: estimated wholesale cost of \$650/acft
 - Date to be Implemented: by 2005
 - Total Annual Cost: \$97,000
- b. Wastewater Reuse
 - Cost Source: Section 5A.3
 - Date to be Implemented: before 2010
 - Total Project Cost: \$254,000
 - Total Annual Cost: \$20,500
- c. Conservation
 - Cost Source: Section 5A.2
 - Date to be Implemented: before 2010
 - Total Annual Cost: \$8,000

**Table 5B.5-3.
Recommended Plan Costs by Decade for City of Baird**

	2000	2010	2020	2030	2040	2050
Projected Surplus/(Shortage) (acft/yr)	(189)	(183)	(164)	(149)	(122)	(118)
Voluntary Redistribution from Abilene						
Supply from Plan Elements (acft/yr)	0	149	149	149	149	149
Annual Costs (\$/yr)	\$0	\$97,000	\$97,000	\$97,000	\$97,000	\$97,000
Unit costs (\$/acft)	\$0	\$650	\$650	\$650	\$650	\$650
Wastewater Reuse						
Supply From Plan Element (acft/yr)	0	63	63	63	63	63
Annual Cost (\$/yr)	\$0	\$20,500	\$20,500	\$20,500	\$2,000	\$2,000
Unit Cost (\$/acft)	\$0	\$326	\$326	\$326	\$32	\$32
Conservation						
Supply From Plan Element (acft/yr)	0	14	14	14	14	14
Annual Cost (\$/yr)	\$0	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Unit Cost (\$/acft)	\$0	\$574	\$574	\$574	\$574	\$574
Total New Supply (acft/yr)	0	226	226	226	226	226

5B.5.2 The City of Clyde

The City of Clyde uses surface water from local sources, and has a supply from the City of Abilene that can cover the city's projected demands. Clyde also has an arrangement with City of Baird to receive potable water in trade for reuse water. No current or future shortages are projected. Therefore, no change in water supply uses are projected or recommended.

5B.5.3 The City of Cross Plains

The City of Cross Plains uses locally available groundwater for all of its water supply and no future shortage is projected. Therefore, no changes in water supply are recommended.

5B.5.4 County-Other Category

The water supply entities for County-Other show a projected surplus and no changes in water supply are recommended.

5B.5.5 Manufacturing

No Manufacturing demand exists or is projected for the county.

5B.5.6 Steam-Electric

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

5B.5.7 Mining

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

5B.5.8 Irrigation

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

5B.5.9 Livestock

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