

5.29 Shackelford County Water Supply Plan

Table 5.29-1 lists each water user group in Shackelford 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 5.29-1. Shackelford County Surplus/(Shortage)

Water User Group	Surplus/(Shortage) ¹		Comment
	2030 (acft/yr)	2060 (acft/yr)	
City of Albany	183	185	Projected surplus
Stephens County Rural SUD			See Stephens County for Plan
County-Other	0	0	Demand equals supply
Manufacturing	50	50	Projected surplus
Steam-Electric	0	0	No projected demand
Mining	(551)	(236)	Projected shortage –see plan below
Irrigation	0	0	Demand equals supply
Livestock	0	0	Demand equals supply

1 – From Tables C-57 and C-58, Appendix C – Comparison of Water Demands with Water Supplies to Determine Needs.

5.29.1 City of Albany

Description of Supply

Water supply for the City of Albany is from Hubbard Creek Reservoir, owned by the West Central Texas MWD and from Lake McCarty. Although the City has sufficient supplies, conservation is recommended as the current per capita use rate is above the selected target rate of 140 gpcd.

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 water shortage for City of Albany. Associated costs are included for each strategy.

a. Conservation:

- Cost Source: Volume II, Chapter 5.2
- Date to be Implemented: before 2020
- Annual Cost: maximum of \$126,615 in 2070
- Unit Cost \$474/acft

Table 5.29-2. Recommended Plan Costs by Decade for the City of Albany

Plan Element	2010	2020	2030	2040	2050	2060
<i>Projected Surplus/(Shortage) (acft/yr)</i>	188	167	183	184	185	185
Conservation						
Supply From Plan Element (acft/yr)	32	85	133	181	225	267
Annual Cost (\$/yr)	\$15,293	\$40,258	\$63,028	\$85,617	\$106,876	\$126,615
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	220	251	316	364	410	452

5.29.2 County-Other

Description of Supply

Projections indicate sufficient water supply for County-Other; however, a change in water supply is recommended. Shackelford WSC provides water to rural entities in the area and is not large enough to be classified as a WUG and is aggregated with County-Other. Even though Shackelford County-Other shows a surplus for the planning horizon, they are currently participating in a project referred to as the Midway Group. This project is comprised of multiple entities from Shackelford, Stephens and Throckmorton Counties that aim to serve the rural portions of their counties.

Water Supply Plan

Participate in the Midway Group project with Stephens Regional SUD, the City of Throckmorton and other potential participants. This project was described as part of the West Central Brazos Water Distribution System (WCBWDS) in the 2006 Brazos G Regional Water Plan. Working within the planning criteria established by the Brazos G RWPG and the TWDB, the following water supply plan is recommended for Shackelford County-Other. Associated costs are included for each strategy.

a. Water Supply from Midway Group and WCBWDS:

- Cost Source: Volume II, Chapter 8.4
 - Supply dependent on BRA obtaining the System Operations permit from TCEQ
- Date to be Implemented: 2020
- Project Cost: \$21,148,000 at full implementation.
- Unit Cost: \$2,492/acft

Conservation was also considered; however, the entity's current per capita use rate is below the selected target rate of 140 gpcd.

Table 5.29-3. Recommended Plan Costs by Decade for Shackelford County – Other

Plan Element	2010	2020	2030	2040	2050	2060
<i>Projected Surplus/(Shortage) (acft/yr)</i>	423	423	423	423	423	423
Conservation						
Supply From Plan Element (acft/yr)	—	—	—	—	—	—
Annual Cost (\$/yr)	—	—	—	—	—	—
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	423	423	423	423	423	423
Water Supply from Midway Group and WCBWDS						
Supply From Plan Element (acft/yr)	250	250	250	250	250	250
Annual Cost (\$/yr)	\$623,000	\$623,000	\$307,000	\$307,000	\$307,000	\$307,000
Unit Cost (\$/acft)	\$2,492	\$2,492	\$1,228	\$1,228	\$1,228	\$1,228

5.29.3 Manufacturing

Projections indicate a surplus of water for Manufacturing and no changes in water supply are recommended.

5.29.4 Steam-Electric

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

5.29.5 Mining

Description of Supply

Surface water for Mining in Shackelford County is obtained from Fort Griffin SUD and run of river water rights. Projections indicate an increase in water demand for Mining and shortages projected beginning in 2020. 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 to meet water needs for Mining. Associated costs are included for each strategy.

a. Conservation

- Cost Source: Volume II, Chapter 2
- Date to be Implemented: 2020
- Unit Cost: not determined

b. Groundwater Development (Other Aquifer):

- Cost Source: Volume II, Chapter 12
- Date to be Implemented: 2020
- Project Cost: \$8,095,000
- Unit Cost: Max of \$1,044/acft (2020)

Table 5.29-4. Recommended Plan Costs by Decade for Shackelford County – Mining

Plan Element	2020	2030	2040	2050	2060	2070
<i>Projected Surplus/(Shortage) (acft/yr)</i>	(555)	(740)	(551)	(435)	(321)	(236)
Conservation						
Supply From Plan Element (acft/yr)	17	37	39	31	23	17
Annual Cost (\$/yr)	ND	ND	ND	ND	ND	ND
Unit Cost (\$/acft)	ND	ND	ND	ND	ND	ND
<i>Projected Surplus/(Shortage) after Conservation (acft/yr)</i>	(538)	(703)	(512)	(404)	(298)	(219)
Groundwater Well Development						
Supply From Plan Element (acft/yr)	710	710	710	710	710	710
Annual Cost (\$/yr)	\$741,015	\$741,015	\$60,015	\$60,015	\$60,015	\$60,015
Unit Cost (\$/acft)	\$1,044	\$1,044	\$85	\$85	\$85	\$85

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

5.29.6 Irrigation

No Irrigation demand exists or is projected for the county. There are some irrigation rights located along the Clear Fork of the Brazos River; however, there is no surface water availability for those rights during a repeat of the drought of record.

5.29.7 Livestock

No future shortages are projected in the Livestock category and no changes in water supply are recommended.