

## Appendix 4D-A

### Water Management Strategy Evaluation

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Water management strategies identified to meet water needs during the planning period were evaluated based on criteria described in Chapter 4D.

The evaluation was undertaken through the development of a matrix to rate the above consideration from most desirable (1) to least desirable (5). Rating of the Environmental Factors was evaluated using a separate matrix with consideration of nine factors; total acres impacted, wetland acres, environmental water needs, habitat, threatened and endangered species, cultural resources, bays and estuaries, environmental water quality and other noted factors.

Table 4D-A.1 depicts the summary of evaluation of WMSs in the ETRWPA. Table 4D-A.2 depicts the summary of environmental assessment.

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**Table 4D-A.1 Summary of Evaluation of Water Management Strategies**

County	Entity	Basin Used	Strategy	Strategy Key	Quantity (Ac-Ft/Yr)	Reliability	Cost (\$/Ac-Ft)	Impacts of Strategy on:					Political Feasibility	Implementation Issues	Comments
								Environmental Factors	Water Resources and Other WMS	Agricultural Resources/Rural Areas	Other Natural Resources	Key Water Quality Parameters			
Name	Name(s)	Name	Name	Name	#	(1-5)	\$	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)			
Anderson	County-Other	Neches	Increase supply from Queen City	ADC-1	100	3	\$321	1	1	1	2	2	1		
Anderson	County-Other	Neches	Increase supply from Carrizo-Wilcox	ADC-2	100	2	\$406	1	3	1	2	2	1		
Anderson	Frankston	Neches	Increase supply from Carrizo-Wilcox	FR-1	120	2	\$357	1	3	1	2	1	1		
Anderson	Mining	Neches	Increase supply from Carrizo-Wilcox	ADN-1	120	2	\$233	1	2	1	2	1	1		
Anderson	Steam-Electric	Neches	Water from Lake Palestine	ADS-1	21,853	2	\$343	1	1	1	2	2	2	Requires agreement with City of Palestine	
Anderson	Steam-Electric	Neches	Water from Lake Fastrill Replacement Project	ADS-2	21,853	1	\$343	See UNRMWA Lake Fastrill Strategy					Requires agreement with UNRMWA		
Angelina	County-Other	Neches	Voluntary Redistribution from City of Lufkin	ANC-1	1,100	1	\$1,627	1	1	1	1	1	2	Requires contract with Lufkin	
Angelina	County-Other	Neches	Increase supply from Yegua-Jackson	ANC-2A	300	2	\$214	1	1	1	2	1	1		
Angelina		Neches	Purchase water from the City of Lufkin (Phase I-II)	DI-1	1,600	1	\$1,431	1	1	1	1	1	1		
Angelina	Diboll	Neches	Increase supply from Yegua-Jackson	DI-3	600	3	\$234	1	1	1	2	2	2		
Angelina	Four Way WSC	Neches	Obtain water from the City of Lufkin	FW-1	225	1	\$940	1	1	1	1	1	2	Requires contract with Lufkin	
Angelina	Hudson	Neches	Purchase Water from Hudson WSC	HU-1A	1,200	2	\$317	1	1	1	2	1	1		
Angelina	Hudson WSC	Neches	Increase supply from Carrizo-Wilcox (Phase I)	HW-1A	600	2	\$317	1	1	1	2	1	1		
Angelina	Hudson WSC	Neches	Increase supply from Carrizo-Wilcox (Phase II)	HW-1B	1,400	2	\$320	1	1	1	2	1	1		
Angelina	Manufacturing	Neches	Obtain water from City of Lufkin	ANM-1	18,800	1	\$454	1	1	1	1	1	2		
Angelina	Manufacturing	Neches	Obtain raw water from Lake Columbia via contract with ANRA	ANM-2	8,551	1	\$320	See ANRA Lake Columbia Strategy							
Angelina	Livestock	Neches	Increase stock Ponds	ANL-1	90	3	\$163	1	1	2	1	1	1		
Angelina	Mining	Neches	Obtain Water from ANRA (Lake Columbia or Angelina River)	ANMI-1	4,000	1	\$382	2	1	1	1	1	3		
Angelina	Mining	Neches	Obtain water from Lufkin (Lake Kurth)	ANMI-2	4,000	1		1	1	1	1	1	1		
Angelina	Steam-Electric	Neches	New wells in the Carrizo-Wilcox	ANP-1	1,000	1	\$1,538	1	1	1	2	2	1		
Cherokee	Mining	Neches	Purchase water from ANRA (Lake Columbia or Angelina River)	CHMI-1	1,500	1	\$485	2	1	1	1	1	3	Requires contract with ANRA	
Cherokee	New Summerfield	Neches	Obtain treated water from Lake Columbia via contract with ANRA	NS-1	1,000	1	\$1,140	See ANRA Lake Columbia Strategy					Requires contract with ANRA		
Cherokee	New Summerfield	Neches	Increase supply from Carrizo-Wilcox	NS-3	242	1	\$262	1	1	1	2	1	1		
Cherokee	Rusk	Neches	Obtain treated water from Lake Columbia via contract with ANRA	RU-1	3,000	1	\$1,323	See ANRA Lake Columbia Strategy					Requires contract with ANRA		
Cherokee	Rusk	Neches	Increase supply from Carrizo-Wilcox	RU-3	212	1	\$285	1	1	1	2	1	1		
Hardin	County-Other	Neches	Increase supply from Gulf Coast Aquifer (Phases I-III)	HAC-1	459	2	\$430	1	3	1	2	1	1	May place additional stress on aquifer	
Hardin	Manufacturing	Neches	Use additional water from Gulf Coast Aquifer	HAM-1	114	2	\$381	1	3	1	2	1	1		
Hardin	Irrigation	Neches	Use surface water sources	HAI-1	1,002	2	\$296	1	1	1	3	2	1		
Henderson	Athens	Neches	Water from Athens MWA	AT-3	See Athens MWA Below.										
Henderson	County-Other	Neches	Expand use of Carrizo-Wilcox	HECo-2	50	3	\$1,298	1	3	1	3	1	3	Requires coordination with Neches	
Henderson	County-Other	Neches	Expand use of Queen City	HECo-3	500	3	\$1,009	1	1	1	1	2	2	Requires coordination with Neches	
Henderson	County-Other	Neches	Water from UNRMWA	HECo-4	500	5	\$1,964	1	1	1	1	1	1	Requires agreement with UNRMWA	
Henderson	Irrigation	Neches	Obtain water Lake Athens	HEI-1	121	1	\$163	1	1	1	1	1	1		
Henderson	Livestock	Neches	Fish Hatchery Reuse	HEL-1	2,872	1	\$0	1	1	1	1	1	1		
Houston	Irrigation	Neches/Trinity	Increase supply from Carrizo-Wilcox (Phase I-VI)	HOI-1	2,298	2	\$207	1	1	1	2	1	1		
Houston	Livestock	Neches/Trinity	Increase supply from Carrizo-Wilcox (Phase I-V)	HOL-1	1,080	2	\$375	1	1	1	2	1	1		
Houston	Manufacturing	Neches/Trinity	Obtain water from Houston County WCID	HOMa-1	15	1	\$163	1	1	1	1	1	1		
Jasper	County-Other	Neches	Use additional supply from Gulf Coast Aquifer	JAC-1	632	3	\$650	1	3	1	2	1	1	May place additional stress on aquifer	
Jefferson	Mining	Neches	Use additional supply from Gulf Coast Aquifer	JEM-1	9	2	\$1,416	1	3	1	1	1	1	May place additional stress on aquifer	
Jefferson	Steam-Electric	Neches	Use water from the Neches River	JESE-1	25,951	3	\$92	2	1	2	3	2	2		
Nacogdoches	D&M WSC	Neches	Increase supply from Carrizo-Wilcox	DM-1	310	1	\$324	1	1	1	1	1	1		
Nacogdoches	Lilly Grove SUD	Neches	Increase supply from Carrizo-Wilcox	LG-2	500	1	\$270	1	1	1	2	1	1		
Nacogdoches	Livestock	Neches	Increase supply from Carrizo-Wilcox	NCL-1	1,350	2	\$234	1	1	1	2	1	1		
Nacogdoches	Mining	Neches	Purchase water from ANRA (Lake Columbia or Angelina River)	NCMI-1	7,000	1	\$368	2	1	1	1	1	3		
Nacogdoches	Mining	Neches	Purchase water from LNVA	NCMI-2	7,000	1		1	1	1	1	1	1		
Nacogdoches	Nacogdoches	Neches	Additional groundwater from Carrizo-Wilcox	NA-1	2,800	1	\$259	1	1	1	1	1	2	Minimal impacts to downstream water rights	
Nacogdoches	Nacogdoches	Neches	Obtain and treat water from Lake Columbia	NA-3	8,551	1	\$852	See ANRA Lake Columbia Strategy					Requires contract with ANRA		
Nacogdoches	Nacogdoches	Sabine	Obtain and treat water from Toledo Bend	NA-4	5,175	1	\$2,049	2	1	1	2	1	1	Requires agreement with SRA	
Nacogdoches	Steam-Electric	Neches	Obtain raw water from Lake Columbia	NCS-1	13,358	1	\$315	See ANRA Lake Columbia Strategy					Requires contract with ANRA		
Nacogdoches	Steam-Electric	Neches	Obtain raw water from Houston County Lake	NCS-2	340	2	\$774	1	1	1	1	1	1		
Nacogdoches	Swift WSC	Neches	Increase supply from Carrizo-Wilcox	SW-1	350	2	\$307	1	1	1	2	1	1		
Nacogdoches	Swift WSC	Neches	Obtain Treated water from Lake Columbia via contract with ANRA	SW-3	688	1	\$1,140	See ANRA Lake Columbia Strategy							
Nacogdoches	Multiple	Neches	Lake Nacoinche Regional System	Multiple	3,239	1	\$1,686	2	2	1	1	1	2	Requires WR permit amendment	
Newton	Manufacturing	Sabine	Additional groundwater Well Gulf Coast Aquifer	NWM-1	800	1	\$254	1	1	1	1	1	2	Requires coordination with Southeast Texas GCD	
Newton	Manufacturing	Sabine	Purchase water from SRA	NWM-2	700	1	\$285	1	1	1	1	1	1	Requires agreement with SRA.	
Newton	Steam-Electric	Sabine	Purchase water from SRA	NWP-1	15,000	1	\$266	1	1	1	1	1	1	Highly renewable resource should minimize impacts.	
Orange	County-Other	Sabine	Use additional supply from Gulf Coast Aquifer	ORC-1	140	2	\$413	1	3	1	1	1	1	May place additional stress on aquifer	
Orange	Manufacturing	Sabine	Raw surface water supply from SRA Canal	OR-1SRA	36,000	1	\$82	1	1	1	1	1	1	Requires agreement with SRA.	
Orange	Manufacturing	Sabine	Raw Water from Toledo Bend Reservoir	ORM-2	5,000	1	\$81	1	1	1	1	1	1	Highly renewable resource should minimize impacts.	
Orange	Mauriceville WSC	Sabine	New well in Gulf Coast aquifer	ORMa-1	203	2	\$526	1	3	1	1	1	2	Requires coordination with Southeast Texas GCD	
Panola	Manufacturing		Purchase water from Carthage		187	1	\$978	1	1	1	1	1	1	May place additional stress on aquifer	
Polk	County-Other	Neches	Use additional supply from Gulf Coast Aquifer (Phase I-IV)	POC-1	832	2	\$363	1	1	1	2	1	1		
Polk	Manufacturing	Neches	Expand existing supplies form Gulf-Coast aquifer (Phase I-II)	POM-1	450	2	\$884	1	1	1	3	2	1		

Table 4D-A.1 Summary of Evaluation of Water Management Strategies (Cont.)

County	Entity	Basin Used	Strategy	Strategy Key	Quantity (Ac-Ft/Yr)	Reliability	Cost (\$/Ac-Ft)	Impacts of Strategy on:					Political Feasibility	Implementation Issues	Comments
								Environmental Factors	Water Resources and Other WMS	Agricultural Resources/Rural Areas	Other Natural Resources	Key Water Quality Parameters			
Rusk	Mining	Neches	Increase supply from Carrizo-Wilcox	RUL-1	158	2	\$174	1	1	1	2	1	1		
Rusk	Steam-Electric	Neches	Supply from SRA, Toledo Bend Reservoir	RUSE-1	1,500	1	\$203	1	1	1	2	1	3		
Rusk	Steam-Electric	Neches	Supply from ANRA (Lake Columbia)	RUSE-2	8,500	1	\$282	See ANRA Lake Columbia Strategy							
Sabine	County-Other	Sabine	Increase supply from Carrizo-Wilcox, Additional groundwater (Phase I-II)	SBC-1	64	1	\$552	1	1	1	1	1	1		
Sabine	County-Other	Sabine	Purchase water from Hemphill	SBC-2	100	1	\$1,482	1	1	1	1	1	1	Requires water contract with City of Hemphill	
Sabine	Livestock	Sabine	Expand Carrizo-Wilcox supplies (Sabine)	SBL-1	100	1	\$427	1	1	1	1	1	1		
Sabine	Livestock	Sabine	Expand local surface water (stock ponds)	SBL-2	300	2	\$164	1	1	1	2	1	1	Implemented by local users	
San Augustine	Irrigation	Neches	Obtain Water from Carrizo-Wilcox Aquifer	SAI-1	100	1	\$485	1	1	1	1	1	1		
San Augustine	Livestock	Neches	Increase local surface water supplies (stock ponds)	SAL-1	300	3	\$164	1	1	2	1	1	1		
San Augustine	Livestock	Sabine	Increase groundwater supply from Carrizo-Wilcox Aquifer (Sabine)	SAL-2	100	1	\$528	1	1	1	1	1	1		
San Augustine	Livestock	Neches	Increase groundwater supply from Carrizo-Wilcox Aquifer (Neches)	SAL-3	300	1	\$528	1	1	1	1	1	1		
San Augustine	Mining	Neches	Purchase water from ANRA (Angelina river)	SAMI-1	500	2	\$726	2	1	1	1	1	1		
San Augustine	Mining	Neches	Purchase water from LNVA (Sam Rayburn)	SAMI-2	6,500	1	\$307	1	1	1	1	1	1		
Shelby	County-Other	Sabine	Expand groundwater from Carrizo-Wilcox (wells)	SHCo-1	350	1	\$786	1	1	1	1	1	1		
Shelby	County-Other	Sabine	Purchase water from City of Center	SHCo-2	50	1	\$978	1	1	1	1	1	1	Requires water contract with City of Center	
Shelby	County-Other	Sabine	Purchase water from SRA (Toledo Bend Reservoir)	SHCo-3	150	1	\$2,316	1	1	1	1	1	1	Requires agreement with SRA.	Highly renewable resource should minimize impacts.
Shelby	Livestock	Sabine	Additional groundwater wells (Sabine Basin)	SHL-1	2,000	2	\$107	1	1	1	1	1	1		
Shelby	Livestock	Neches	Additional groundwater wells (Neches Basin)	SHL-2	1,500	2	\$106	1	1	1	1	1	1		
Shelby	Livestock	Sabine	Increase local supplies	SHL-3	500	2	\$120	1	1	1	2	1	1	Implemented by local users	
Shelby	Livestock	Sabine	Purchase raw water from SRA (Toledo Bend)	SHL-4	4,000	1	\$294	1	1	1	1	1	1	Requires agreement with SRA.	Highly renewable resource should minimize impacts.
Shelby	Manufacturing	Sabine	Purchase surface water from City of Center	SHM-1	12	1	\$978	1	1	1	1	1	1	Requires water contract with City of Center	
Shelby	Mining	Neches	Purchase water from ANRA (Attoyac Bayou)	SHMi-1	250	2	\$836	3	1	1	1	1	1		
Shelby	Mining	Sabine	Purchase water from SRA (Toledo Bend )	SHMi-2	1,250	1	\$495	1	1	1	1	1	1		
Smith	Bullard	Neches	Increase supply from Carrizo-Wilcox	BU-1A	200	3	\$517	1	3	1	2	1	1		May place additional stress on aquifer
Smith	Community Water Co.	Neches	Purchase water from the City of Tyler or other local provider	CW-1A	227	1	\$1,743	1	1	1	2	1	1		
Smith	Jackson WSC	Neches	Purchase water from ANRA (Lake Columbia)	JA-1	600	1	\$1,235	See ANRA Lake Columbia Strategy							
Smith	Lindale Rural WSC	Neches	Increase supply from Carrizo-Wilcox	LIR-1	80	3	\$824	1	3	1	2	1	1		
Smith	Irrigation	Neches	Increase supply from Queen City	SMI-1	168	2	\$234	1	1	1	2	1	1		May place additional stress on aquifer
Smith	Manufacturing	Neches	Purchase water from City of Tyler	SMMa-1	295	1	\$1,493	1	1	1	1	1	1		
Smith	Mining	Neches	Increase supply from Queen City	SMM-1	329	2	\$219	1	1	1	2	2	1		
Smith	Whitehouse	Neches	Purchase water from ANRA	WH-1	1,200	1	\$1,140	See ANRA Lake Columbia Strategy							
Smith	Whitehouse	Neches	Purchase additional water from Tyler	WH-2	27	1		1	1	1	1	1	1		
Trinity	County-Other	Neches/Trinity	Increase supply from Yegua-Jackson	TRC-1	60	2	\$616	1	2	1	2	2	2		
Tyler	County-Other	Neches	Increase supply from Gulf Coast Aquifer	TYC-1	251	1	\$197	1	1	1	2	1	1		
Tyler	Woodville	Neches	Increase supply from Gulf Coast Aquifer	WDV-1	300	1	\$242	1	1	1	1	1	2		
Multiple	ANRA	Neches	Lake Columbia Reservoir	ANRA-1	75,700	1	\$215	3	2	2	2	1	3		
Multiple	ANRA	Neches	Water Treatment Plant and Distribution	ANRA-2	5,100	1	\$1,151	1	1	1	1	1	3		
Henderson	Athens MWA	Multiple	Fish Hatchery Reuse to Lake Athens	AMWA-1	2,872	1	\$0	1	1	1	1	1	1	Requires agreement with Fish Hatchery	
Henderson	Athens MWA	Multiple	Water from Forest Grove	AMWA-2	2,240	1	\$1,173	2	2	1	1	1	2	Requires agreement with Luminant, TRWD and modification of water rights permit	
Henderson	Athens MWA	Multiple	Additional Lake Athens	AMWA-3	1,000	1	\$643	1	1	1	1	1	2	Requires modification of hatchery intake	
Cherokee	Jacksonville	Neches	Water from Lake Columbia	JAC-02	1,700	1	\$1,472	1	1	1	1	1	3		
Multiple	LNVA	Neches	Saltwater Barrier conjunctive operation with Rayburn/Steinhagen	LNVA-2	111,000	2	\$5	1	1	1	1	2	3		
Multiple	LNVA	Neches	Permit Amendment for Sam Rayburn	LNVA-3	28,000	1	\$0	1	1	1	1	1	2		
Multiple	LNVA	Neches	Sediment Reduction	LNVA-5	5,000	2	\$2,813	2	2	1	2	2	3		
Multiple	LNVA	Neches	Purchase of water from SRA	LNVA-6	36,000	1	\$166	1	1	1	1	1	2		
Multiple	LNVA	Neches	Rockland Reservoir	LNVA-7	614,400	2	\$115	4	4	3	2	2	3		
Multiple	LNVA	Neches	Reallocation of Flood Storage	LNVA-4	122,000	1	\$25	2	1	1	1	1	1		
Angelina	Lufkin	Neches	Develop Sam Rayburn Reservoir Water Rights	LU-1	11,200	1	\$1,577	1	1	1	1	1	1		
Angelina	Lufkin	Neches	Develop additional groundwater Carrizo-Wilcox	LU-2	4,650	1	\$427	1	1	1	1	1	1		
Angelina	Lufkin	Neches	Develop Lake Kurth Surface Water	LU-3	18,400	1	\$455	1	1	1	1	1	2	Requires water right ammendment	
Multiple	SRA	Sabine	Toledo Bend Pipeline Project	SRA-1	100,000	2	\$598	2	1	2	1	1	3		
Tyler	Tyler	Neches/Sabine	Lake Palestine	TYL-2	16,815	1	\$830	1	1	1	1	1	1		
Multiple	UNRMWA	Neches/ Trinity	Lake Fastrill Replacement Project		134,500	1	\$1,437	3	2	2	3	1	5		

1 Most desirable  
5 Least desirable

**Table 4D-A.2 Summary of Environmental Assessment**

County	Entity	Basin	Strategy	Strategy Key	Environmental Factors										Comments	
					Total Acres Impacted	Wetland Acres <sup>1</sup>	Environmental Water Needs	Habitat	Threatened & Endangered Species	Cultural Resources	Bays & Estuaries	Environmental Water Quality	Other	Overall Environmental Impacts		
Name	Name(s)	Name	Name	Name	#	#	(1-5)	(1-5)	#	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)		
Anderson	County-Other	Neches	Increase supply from Queen City	ADC-1	0	NA	1	1	5	1	1	2	1	1	Pending water quality of Queen City, may increase TDS of wastewater discharges	
Anderson	County-Other	Neches	Increase supply from Carrizo-Wilcox	ADC-2	0	NA	1	1	5	1	1	1	1	1		
Anderson	Frankston	Neches	Increase supply from Carrizo-Wilcox	FR-1	0	NA	1	1	5	1	1	1	1	1		
Anderson	Mining	Neches	Increase supply from Carrizo-Wilcox	ADN-1	0	NA	1	1	5	1	1	1	1	1		
Anderson	Steam-Electric	Neches	Water from Lake Palestine	ADS-1	40	NA	2	1	5	1	2	1	1	1		
Anderson	Steam-Electric	Neches	Water from Lake Fastrill	ADS-2	NA	NA	See UNRMWA Lake Fastrill Strategy									
Angelina	County-Other	Neches	Voluntary Redistribution from City of Lufkin	ANC-1	46	NA	1	1	8	1	1	1	1	1		
Angelina	County-Other	Neches	Increase supply from Yegua-Jackson	ANC-2A	0	NA	1	1	8	1	1	1	1	1		
Angelina		Neches	Purchase water from the City of Lufkin (Phase I-II)	DI-1	28	NA	1	1	8	1	1	1	1	1		
Angelina	Diboll	Neches	Increase supply from Yegua-Jackson	DI-3	0	NA	1	1	8	1	1	1	1	1		
Angelina	Four Way WSC	Neches	Obtain water from the City of Lufkin	FW-1	0	NA	1	1	8	1	1	1	1	1		
Angelina	Hudson	Neches	Purchase Water from Hudson WSC	HU-1A	0	NA	1	1	8	1	1	1	1	1		
Angelina	Hudson WSC	Neches	Increase supply from Carrizo-Wilcox (Phase I)	HW-1A	0	NA	1	1	8	1	1	1	1	1		
Angelina	Hudson WSC	Neches	Increase supply from Carrizo-Wilcox (Phase II)	HW-1B	0	NA	1	1	8	1	1	1	1	1		
Angelina	Manufacturing	Neches	Obtain water from City of Lufkin	ANM-1	24	NA	1	1	8	1	1	1	1	1		
Angelina	Manufacturing	Neches	Obtain raw water from Lake Columbia via contract with ANRA	ANM-2	7	NA	See ANRA Lake Columbia Strategy									
Angelina	Livestock	Neches	Increase stock Ponds	ANL-1	3	NA	1	1	8	1	1	1	1	1		
Angelina	Mining	Neches	Obtain Water from ANRA (Lake Columbia or Angelina River)	ANMI-1	12	NA	2	2	8	2	2	2	2	2		
Angelina	Mining	Neches	Obtain water from Lufkin (Lake Kurth)	ANMI-2	0	NA	1	1	8	1	1	1	1	1		
Angelina	Steam-Electric	Neches	New wells in the Carrizo-Wilcox	ANP-1	0	NA	1	1	8	1	1	1	1	1		
Cherokee	Mining	Neches	Purchase water from ANRA (Lake Columbia or Angelina River)	CHMI-1	12	NA	2	2	4	2	2	2	2	2		
Cherokee	New Summerfield	Neches	Obtain treated water from Lake Columbia via contract with ANRA	NS-1	6	NA	See ANRA Lake Columbia Strategy									
Cherokee	New Summerfield	Neches	Increase supply from Carrizo-Wilcox	NS-3	0	NA	1	1	4	2	2	1	1	1		
Cherokee	Rusk	Neches	Obtain treated water from Lake Columbia via contract with ANRA	RU-1	23	NA	See ANRA Lake Columbia Strategy									
Cherokee	Rusk	Neches	Increase supply from Carrizo-Wilcox	RU-3	0	NA	1	1	4	1	1	1	1	1		
Hardin	County-Other	Neches	Increase supply from Gulf Coast Aquifer (Phases I-III)	HAC-1	2	NA	1	1	6	1	1	1	3	1	May place additional stress on aquifer	
Hardin	Manufacturing	Neches	Use additional water from Gulf Coast Aquifer	HAM-1	2	NA	1	1	6	1	1	1	1	1		
Hardin	Irrigation	Neches	Use surface water sources	HAI-1	6	NA	2	2	6	1	2	1	1	1		
Henderson	Athens	Neches	Water from Athens MWA	AT-3	NA	NA	see Athens MWA strategies									
Henderson	County-Other	Neches	Expand use of Carrizo-Wilcox	HECo-2	4	NA	1	1	7	1	1	1	3	1	May place additional stress on aquifer	
Henderson	County-Other	Neches	Expand use of Queen City	HECo-3	11	NA	1	1	7	1	1	1	2	1	Pending water quality of Queen City, may increase TDS of wastewater discharges	
Henderson	County-Other	Neches	Water from UNRMWA	HECo-4	12	NA	1	1	7	1	1	1	1	1		
Henderson	Irrigation	Neches	Obtain water Lake Athens	HEI-1	see Athens MWA	NA	1	1	7	1	1	1	1	1		
Henderson	Livestock	Neches	Fish Hatchery Reuse	HEL-1	0	NA	1	1	7	1	1	2	1	1		
Houston	Irrigation	Neches/Trinity	Increase supply from Carrizo-Wilcox (Phase I-VI)	HOI-1	2	NA	1	1	8	1	1	1	1	1		
Houston	Livestock	Neches/Trinity	Increase supply from Carrizo-Wilcox (Phase I-V)	HOL-1	2	NA	1	1	8	1	1	1	1	1		
Houston	Manufacturing	Neches/Trinity	Obtain water from Houston County WCID	HOMa-1	0	NA	1	1	8	1	1	1	1	1		
Jasper	County-Other	Neches	Use additional supply from Gulf Coast Aquifer	JAC-1	2	NA	1	1	7	1	1	1	3	1	May place additional stress on aquifer	
Jefferson	Mining	Neches	Use additional supply from Gulf Coast Aquifer	JEM-1	0	NA	1	1	7	1	1	1	3	1	May place additional stress on aquifer	
Jefferson	Steam-Electric	Neches	Use water from the Neches River	JESE-1	12	NA	2	2	9	1	2	1	1	2		
Nacogdoches	D&M WSC	Neches	Increase supply from Carrizo-Wilcox	DM-1	0	NA	1	1	8	1	1	1	1	1		
Nacogdoches	Lilly Grove SUD	Neches	Increase supply from Carrizo-Wilcox	LG-2	0	NA	1	1	8	1	1	1	1	1		
Nacogdoches	Livestock	Neches	Increase supply from Carrizo-Wilcox	NCL-1	0	NA	1	1	8	1	1	1	1	1		
Nacogdoches	Mining	Neches	Purchase water from ANRA (Lake Columbia or Angelina River)	NCMI-1	12	NA	2	2	8	2	2	2	2	2		
Nacogdoches	Mining	Neches	Purchase water from LNVA	NCMI-2	12	NA	1	1	8	1	1	1	1	1		
Nacogdoches	Nacogdoches	Neches	Additional groundwater from Carrizo-Wilcox	NA-1	0	NA	1	1	8	1	1	1	1	1		
Nacogdoches	Nacogdoches	Neches	Obtain and treat water from Lake Columbia	NA-3	0	NA	See ANRA Lake Columbia Strategy									
Nacogdoches	Nacogdoches	Sabine	Obtain and treat water from Toledo Bend	NA-4	165	NA	2	2	8	1	2	1	1	2		
Nacogdoches	Steam-Electric	Neches	Obtain raw water from Lake Columbia	NCS-1	12	NA	See ANRA Lake Columbia Strategy									
Nacogdoches	Steam-Electric	Neches	Obtain raw water from Houston County Lake	NCS-2	12	NA	1	1	12	1	1	1	1	1		
Nacogdoches	Swift WSC	Neches	Increase supply from Carrizo-Wilcox	SW-1	0	NA	1	1	8	1	1	1	1	1		
Nacogdoches	Swift WSC	Neches	Obtain Treated water from Lake Columbia via contract with ANRA	SW-3		NA	See ANRA Lake Columbia Strategy									
Nacogdoches	Multiple	Neches	Lake Naconiche Regional System	Multiple	0	NA	1	1	1	1	1	1	1	1		
Newton	Manufacturing	Sabine	Additional Groundwater Well Gulf Coast Aquifer	NWM-1	2	NA	1	1	6	1	1	1	1	1		

**Table 4D-A.2 Summary of Environmental Assessment (Cont.)**

County	Entity	Basin	Strategy	Strategy Key	Environmental Factors										Comments
					Total Acres Impacted	Wetland Acres <sup>1</sup>	Environmental Water Needs	Habitat	Threatened & Endangered Species	Cultural Resources	Bays & Estuaries	Environmental Water Quality	Other	Overall Environmental Impacts	
Name	Name(s)	Name	Name	Name	#	#	(1-5)	(1-5)	#	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)	
Newton	Manufacturing	Sabine	Purchase water from SRA	NWM-2	12	NA	1	2	6	1	1	1	1	1	
Newton	Steam-Electric	Sabine	Purchase water from SRA	NWP-1		NA	1		6	1	1	1	1	1	
Orange	County-Other	Sabine	Use additional supply from Gulf Coast Aquifer	ORC-1	0	NA	1	1	8	1	1	1	3	1	May place additional stress on aquifer
Orange	Manufacturing	Sabine	Raw surface water supply from SRA Canal	OR-ISRA	0	NA	2	1	8	1	2	1	1	1	
Orange	Manufacturing	Sabine	Raw Water from Toledo Bend Reservoir	ORM-2	2	NA	1	1	8	1	1	1	1	1	
Orange	Mauriceville WSC	Sabine	New well in Gulf Coast aquifer	ORMa-1	0	NA	1	1	8	1	1	1	3	1	May place additional stress on aquifer
Panola	Manufacturing		Purchase water from Carthage		0	NA	1	1	4	1	1	1	1	1	
Polk	County-Other	Neches	Use additional supply from Gulf Coast Aquifer (Phase I-IV)	POC-1	2	NA	1	1	8	1	1	1	1	1	
Polk	Manufacturing	Neches	Expand existing supplies form Gulf-Coast aquifer	POM-1	0	NA	1	1	8	1	1	1	1	1	
Rusk	Mining	Neches	Increase supply from Carrizo-Wilcox	RUL-1	0	NA	1	1	8	1	1	1	1	1	
Rusk	Steam-Electric	Neches	Supply from SRA, Toledo Bend Reservoir	RUSE-1	0	NA	1	1	8	1	1	1	1	1	
Rusk	Steam-Electric	Neches	Supply from ANRA (Lake Columbia)	RUSE-2	NA	NA				See ANRA Lake Columbia Strategy					
Sabine	County-Other	Sabine	Increase supply from Carrizo-Wilcox (Neches)	SBC-1	0	NA	1	1	5	1	1	1	1	1	
Sabine	County-Other	Sabine	Purchase water from Hemphill	SBC-2	9	NA	1	1	5	1	1	1	1	1	
Sabine	Livestock	Sabine	Expand Carrizo-Wilcox supplies (Sabine)	SBL-1	0	NA	1	1	5	1	1	1	1	1	
Sabine	Livestock	Sabine	Expand current surface water supplies (Neches and Sabine)	SBL-2	20	NA	2	2	5	1	1	1	1	1	
San Augustine	Irrigation	Neches	Obtain Water from Carrizo-Wilcox Aquifer	SAI-1	12	NA	1	1	8	1	1	1	1	1	
San Augustine	Livestock	Neches	Increase local surface water supplies (stock ponds)	SAL-1	3	NA	1	1	8	1	1	1	1	1	
San Augustine	Livestock	Sabine	Increase groundwater supply from Carrizo-Wilcox Aquifer (Sabine)	SAL-2	0	NA	1	1	8	1	1	1	1	1	
San Augustine	Livestock	Neches	Increase groundwater supply from Carrizo-Wilcox Aquifer (Neches)	SAL-3	0	NA	1	1	8	1	1	1	1	1	
San Augustine	Mining	Neches	Purchase water from ANRA (Angelina river)	SAMI-1	12	NA	2	2	8	2	2	2	2	2	Run of River
San Augustine	Mining	Neches	Purchase water from LNVA (Sam Rayburn)	SAMI-2	12	NA	1	1	8	1	1	1	1	1	
Shelby	County-Other	Sabine	Expand groundwater from Carrizo-Wilcox (Sabine)	SHCo-1	12	NA	1	1	8	1	1	1	1	1	
Shelby	County-Other	Sabine	Purchase water from City of Center	SHCo-2	0	NA	1	1	8	1	1	1	1	1	
Shelby	County-Other	Sabine	Purchase water from SRA (Toledo Bend Reservoir)	SHCo-3	9	NA	1	1	8	1	1	1	1	1	
Shelby	Livestock	Sabine	Additional groundwater wells (Sabine Basin)	SHL-1	0	NA	1	1	8	1	1	1	1	1	Potential impacts to stream flows.
Shelby	Livestock	Neches	Additional groundwater wells (Neches Basin)	SHL-2	0	NA	1	1	8	1	1	1	1	1	Potential impacts to stream flows.
Shelby	Livestock	Sabine	Increase local supplies	SHL-3	33	NA	2	2	8	1	1	1	1	1	May decrease runoff to local streams
Shelby	Livestock	Sabine	Purchase raw water from SRA (Toledo Bend)	SHL-4	12	NA	1	1	8	1	2	1	1	1	
Shelby	Manufacturing	Sabine	Purchase surface water from City of Center	SHM-1	0	NA	1	1	8	1	1	1	1	1	
Shelby	Mining	Neches	Purchase water from ANRA (Attoyac Bayou)	SHMI-1	5	NA	3	4	8	3	3	2	3	3	Run of River
Shelby	Mining	Sabine	Purchase water from SRA (Toledo Bend )	SHMI-2	12	NA	1	1	8	1	1	1	1	1	
Smith	Bullard	Neches	Increase supply from Carrizo-Wilcox	BU-1A	2	NA	1	1	8	1	1	1	3	1	May place additional stress on aquifer
Smith	Community Water Co.	Neches	Purchase water from the City of Tyler or other local provider	CW-1A	2	NA	1	1	8	1	1	1	1	1	
Smith	Jackson WSC	Neches	Purchase water from ANRA (Lake Columbia)	JA-1	2	NA				See ANRA Lake Columbia Strategy					
Smith	Lindale Rural WSC	Neches	Increase supply from Carrizo-Wilcox	LIR-1	2	NA	1	1	8	1	1	1	1	1	
Smith	Irrigation	Neches	Increase supply from Queen City	SMI-1	0	NA	1	1	8	1	1	1	3	1	May place additional stress on aquifer
Smith	Manufacturing	Neches	Purchase water from City of Tyler	SMMa-1	7	NA	1	1	8	1	1	1	1	1	
Smith	Mining	Neches	Increase supply from Queen City	SMM-1	0	NA	1	1	8	1	1	1	1	1	
Smith	Whitehouse	Neches	Purchase water from ANRA	WH-1		NA				See ANRA Lake Columbia Strategy					
Smith	Whitehouse	Neches	Purchase additional water from Tyler	WH-2		NA	1	1	8	1	1	1	1	1	
Trinity	County-Other	Neches/Trinity	Increase supply from Yegua-Jackson	TRC-1	2	NA	1	1	8	1	1	1	1	1	
Tyler	County-Other	Neches	Increase supply from Gulf Coast Aquifer	TYC-1	2	NA	1	1	5	1	1	1	1	1	
Multiple	ANRA	Neches	Lake Columbia Reservoir	ANRA-1	10,200	5,900	3	4	12	3	2	2	2	3	
Multiple	ANRA	Neches	Water Treatment Plant and Distribution	ANRA-2	86	NA	1	2	12	1	1	1	1	1	
Henderson	Athens MWA	Multiple	Fish Hatchery Reuse to Lake Athens	AMWA-1	0	NA	2	1	7	1	1	1	1	1	Will decrease flows in current receiving stream and increase flows in Lake Athens watershed
Henderson	Athens MWA	Multiple	Water from Forest Grove	AMWA-2	9	NA	2	2	7	1	2	2	1	2	
Henderson	Athens MWA	Multiple	Additional Lake Athens	AMWA-3	0	NA	2	1	7	1	1	1	1	1	
Cherokee	Jacksonville	Neches	Water from Lake Columbia	JAC-02	12	NA	1	2	12	1	1	1	1	1	
Multiple	LNVA	Neches	Saltwater Barrier conjunctive operation with Rayburn/Steinhagen	LNVA-2	0	NA	2	1	8	1	2	1	1	1	
Multiple	LNVA	Neches	Permit Amendment for Sam Rayburn	LNVA-3	0	NA	1	1	8	1	1	1	1	1	
Multiple	LNVA	Neches	Sediment Reduction	LNVA-4	0	N/A	3	3	2	1	1	2	2	2	
Multiple	LNVA	Neches	Purchase of water from SRA	LNVA-6	35	NA	1	1	13	1	1	1	1	1	
Multiple	LNVA	Neches	Rockland Reservoir	LNVA-7	99,102	NA	3	5	8	3	5	3	5	4	
Multiple	LNVA	Neches	Reallocation of Flood Storage	LNVA-4		NA	3	3	8	1	3	2	2	2	
Angelina	Lufkin	Neches	Develop Sam Rayburn Reservoir Water Rights	LU-1	30	NA	1	1	8	1	2	1	1	1	
Angelina	Lufkin	Neches	Develop additional groundwater Carrizo-Wilcox	LU-2	22	NA	1	1	8	1	1	1	1	1	
Angelina	Lufkin	Neches	Develop Lake Kurth Surface Water	LU-3	17	NA	2	1	8	1	1	1	1	1	
Multiple	SRA	Sabine	Toledo Bend Pipeline Project	SRA-1	2,077	NA	2	2	13	2	2	2	1	2	
Smith	Tyler	Neches/Sabine	Lake Palestine	TYL-2	12	NA	1	1	7	1	1	1	1	1	
Multiple	UNRMWA	Neches/ Trinity	Lake Fastrill Replacement Project		24,948	2,377	3	5	9	3	3	2	3	3	
Multiple	Multiple	Multiple	Water Conservation	Multiple	0	NA	1	1	0	1	1	1	1	1	