



Summary of North East Texas (D) Region

The North East Texas Regional Water Planning Area encompasses all or parts of 19 counties (Figure D.1). Largely rural and characterized by numerous, small communities and some medium-sized municipalities, the region includes the cities of Longview, Texarkana, and Greenville. The planning area overlaps large portions of the Red, Sulphur, Cypress, and Sabine river basins and smaller parts of the Trinity and Neches river basins. The North East Texas Region's main economic base is agribusiness, including a variety of crops, as well as cattle and poultry production. Timber, oil and gas, and mining are significant industries in the eastern portion of the region. In the western portion of the region, many residents are employed in the Dallas-Fort Worth metropolitan area. The members of the North East Texas Planning Group are listed on the last page of this summary.

Population and Water Demands

Three percent of the state's total population is projected to live in the region in 2010. By 2060, the North East Texas Region's population is projected to grow 57 percent to 1,213,095 (Figure D.2). Water demands for the region are projected to increase 50 percent, from 561,076 acre-feet in

2010 to 838,977 acre-feet in 2060 (Figure D.3). Throughout the planning period, manufacturing makes up the largest portion of demands, with the total volume of its demands increasing 40 percent, from 301,091 acre-feet in 2010 to 421,496 acre-feet in 2060 (Table D.1). Steam-electric and municipal demands will also increase significantly. By 2060, demand for steam-electric power generation is projected to more than double, from 89,038 acre-feet in 2010 to 186,509 acre-feet in 2060. Municipal demand will increase about 51 percent, from 90,171 acre-feet to 135,811 acre-feet.

Existing Water Supplies

The total existing water supply for the North East Texas Region is projected to be approximately 1,000,165 acre-feet in 2010, increasing slightly to 1,002,145 acre-feet in 2060 (Table D.2). The planning group increased water availability over the planning horizon to reflect new uses of existing supplies, including groundwater wells and surface water contracts. However, supply volumes actually decrease over time due to sedimentation. In 2010, surface water, primarily from the Sabine, Cypress, and Sulphur river basins, is projected to provide

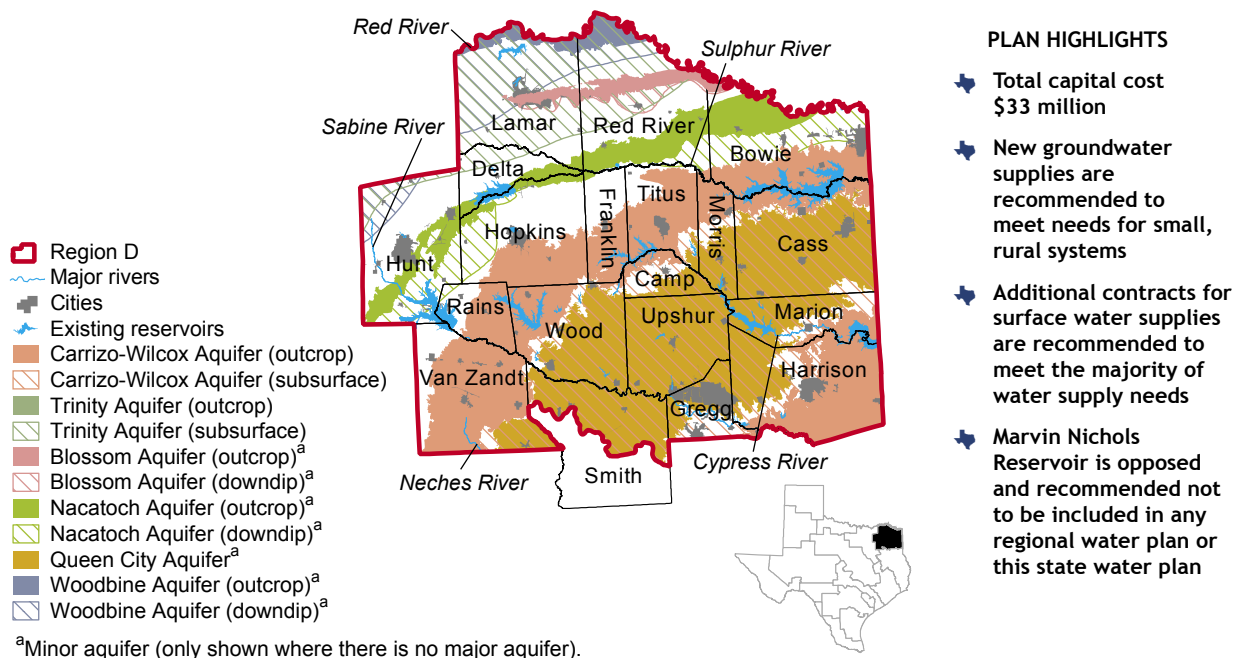


Figure D.1. North East Texas Region.

83 percent of existing supplies, and the remaining 17 percent is equally divided between groundwater and reuse. Major aquifers include the Carrizo-Wilcox Aquifer in the central and southern part of the region and the Trinity Aquifer in the north.

Needs

In 2010, the total water supply volume is not accessible to all users in the region. As a result, the North East Texas Region is projected to have a supply need of 10,764 acre-feet, with steam-electric power generation needs making up approximately 80 percent of the total, or 8,639 acre-feet (Figure D.4, Table D.3). By 2060, water supply needs are projected to total 93,727 acre-feet. Steam-electric power generation needs will account for nearly 79 percent of the total needs, or 73,640 acre-feet, while the remaining needs will affect municipal and rural users.

Recommended Water Management Strategies and Cost

Of the 64 identified shortages in the region, 18 are the result of contract expirations. However, the planning group assumed that all contracts would be renewed. For the remaining projected shortages, the planning group recommended two types of water management strategies to meet needs: new groundwater wells and new surface water purchases. If fully implemented, recommended water management strategies would provide an additional 108,742 acre-feet of supply at a total capital cost of \$32,579,707 (Appendix 2.1).

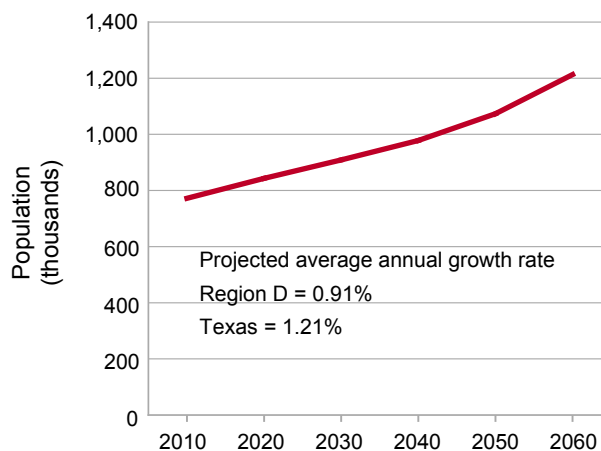


Figure D.2. Projected population for 2010-2060.

Although groundwater will provide more individual water user groups with water, surface water constitutes approximately 93 percent of the total volume of supply from recommended water management strategies (Figure D.5).

Conservation Recommendations

The North East Texas Planning Group considered conservation strategies for each water user group with a need and a per capita water use greater than 140 gallons per capita per day. Because costs of conservation strategies were relatively high due to the small size of the entities and amounts of water involved, the region did not recommend conservation as a water management strategy.

Table D.1. Projected water demands for 2010-2060

Category	2010 (acre-feet)	2060 (acre-feet)	Percent change in demand 2010-2060	Percent of overall demand in 2010	Percent change in relative share of overall demand, 2010-2060
Municipal	90,171	135,811	+51	+16	0
County-other	29,780	42,367	+42	+5	0
Manufacturing	301,091	421,496	+40	+54	-3
Mining	8,802	11,625	+32	+2	0
Irrigation	15,504	14,728	-5	+3	-1
Steam-electric	89,038	186,509	+109	+16	+6
Livestock	26,690	26,441	-1	+5	-2
Region	561,076	838,977	+50		

Figure D.3. Projected total water demand and existing water supplies for 2010-2060.

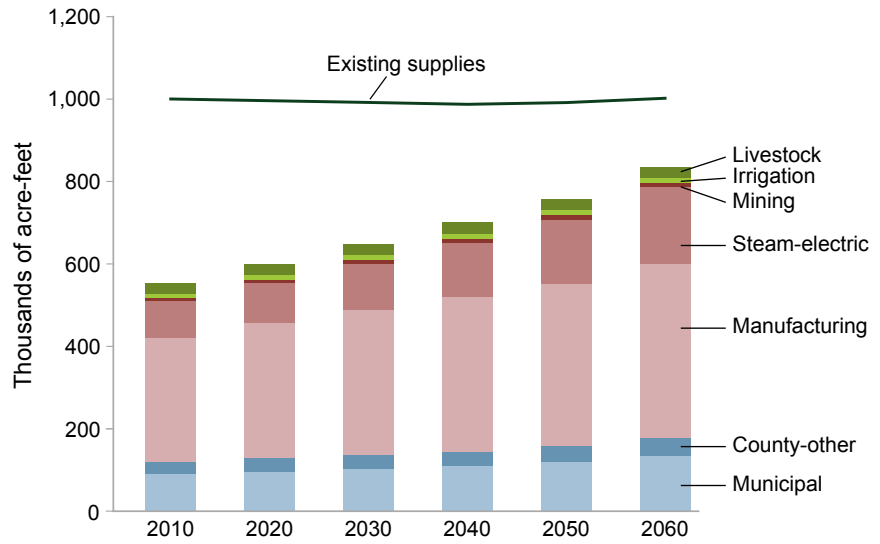


Figure D.4. Projected water needs for 2010-2060.

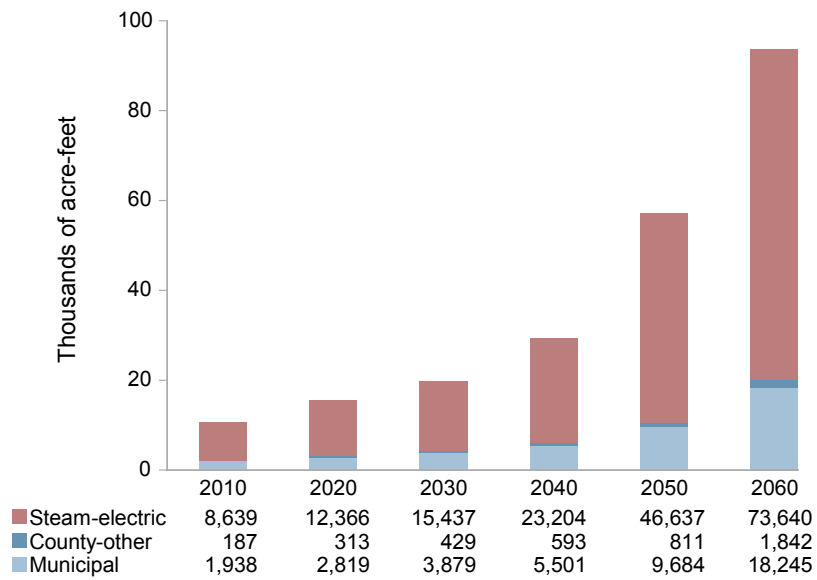


Figure D.5. Recommended water management strategy water supply volumes for 2010-2060.

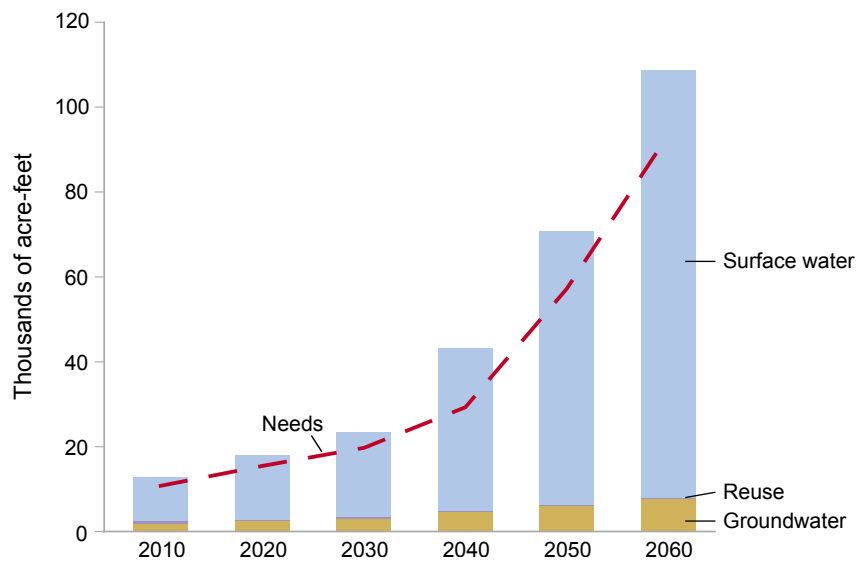


Table D.2. Existing water supplies for 2010 and 2060

Water supply source	2010 (acre-feet)	2060 (acre-feet)
Surface water		
Wright Patman Lake	179,736	179,687
Sabine River run-of-river	157,592	156,949
Lake O' the Pines	139,377	139,383
Lake Bob Sandlin	60,430	59,777
Pat Mayse Lake	50,841	49,327
Lake Tawakoni	37,181	36,383
Lake Fork Reservoir	37,159	36,836
Lake Cherokee	25,675	25,675
Grays Creek run-of-river	16,084	16,084
Livestock local supply	15,576	14,716
Cypress River combined run-of-river	14,592	14,584
Ellison Creek Reservoir	13,857	13,857
Jim Chapman Lake/Cooper Reservoir nonsystem portion	13,446	12,440
Lake Cypress Springs	10,737	9,527
Other surface water	60,695	65,782
Surface water subtotal	832,978	831,007
Groundwater		
Carrizo-Wilcox Aquifer	64,090	73,710
Other groundwater	19,455	19,793
Groundwater subtotal	83,545	93,503
Reuse		
Direct reuse	83,642	77,635
Reuse subtotal	83,642	77,635
Region total	1,000,165	1,002,145

Note: Water supply sources are listed individually if 10,000 acre-feet per year or greater in 2010. Only includes supplies that are physically and legally available to users during a drought of record.

Ongoing Issues

The North East Texas Region is affected by issues of water quality and distribution. In portions of the region, groundwater may require additional treatment for iron and manganese. In addition, due to the rural nature of the region, surface water distribution systems are not always economically feasible. Throughout the planning process the region received public input on another concern: the potential impacts of developing surface water in the region for use in Region C. The 2006 North East Texas Regional Water Plan states that the 2006 Region C Regional Water Plan does not adequately protect the state's water, agricultural, and natural resources in recommending the proposed Marvin Nichols Reservoir and that the proposed reservoir not be included in any regional water plan and this state water plan.

Select Policy Recommendations

- Develop additional state and federal guidelines to compensate for economic and environmental impacts of new reservoir construction
- Encourage the Railroad Commission of Texas to review practices and regulations for groundwater protection in drilling and plugging oil and gas wells
- Improve estimates of groundwater availability that consider obstacles to its use, such as depth and quality of water
- Pursue new reservoirs only after all other viable alternatives have been exhausted

Table D.3. Water needs (acre-feet per year) by county and type of use in years 2010 and 2060

County	Total		Municipal		County-other		Manufacturing		Steam-electric		Mining		Irrigation		Livestock	
	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060	2010	2060
Bowie	1,039	1,710	956	1,601	83	109	-	-	-	-	-	-	-	-	-	-
Camp	-	653	-	653	-	-	-	-	-	-	-	-	-	-	-	-
Cass	92	103	92	103	-	-	-	-	-	-	-	-	-	-	-	-
Delta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Franklin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gregg	251	1,127	251	1,127	-	-	-	-	-	-	-	-	-	-	-	-
Harrison	-	13,453	-	126	-	413	-	-	-	12,914	-	-	-	-	-	-
Hopkins	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hunt	8,895	37,085	256	12,538	-	645	-	-	8,639	23,902	-	-	-	-	-	-
Lamar	-	7,474	-	-	-	-	-	-	-	7,474	-	-	-	-	-	-
Marion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Morris	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rains	104	253	-	-	104	253	-	-	-	-	-	-	-	-	-	-
Red River	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Smith	-	979	-	979	-	-	-	-	-	-	-	-	-	-	-	-
Titus	-	29,350	-	-	-	-	-	-	-	29,350	-	-	-	-	-	-
Upshur	-	51	-	51	-	-	-	-	-	-	-	-	-	-	-	-
Van Zandt	185	1,142	185	720	-	422	-	-	-	-	-	-	-	-	-	-
Wood	198	347	198	347	-	-	-	-	-	-	-	-	-	-	-	-
Region	10,764	93,727	1,938	18,245	187	1,842	-	-	8,639	73,640	-	-	-	-	-	-

SELECT MAJOR WATER MANAGEMENT STRATEGIES

(Dollar amounts are rounded.)

See Appendix 2.1 for all recommended strategies and actual costs.)

- ✦ *Renewed and increased surface water contracts and associated infrastructure would collectively provide 100,636 acre-feet for individual entities—Implementation beginning in 2010; Capital Cost: \$5 million.*
- ✦ *New groundwater wells would collectively provide water to small rural users, 7,801 acre-feet per year—Implementation beginning in 2010; Capital Cost: \$28 million.*

North East Texas Planning Group Members and Interests Represented

Voting members during adoption of 2006 Regional Water Plans:

Jim Thompson (Chair), agriculture; Max Bain, counties; Keith Bonds, municipalities; Adam Bradley, agriculture; John Bryan, public; Larry O. Calvin, environmental, Dean Carrell, municipalities; Greg Carter, electric generating utilities; Gary Cheatwood, public; Mike Dunn, municipalities; John Durgin, counties; George Frost, public; Scott Hammer, industries; Troy Henry, river authorities; Don Hightower, counties; Gary D. Jackson, river authorities; William R. Justiss, agriculture; Richard LeTourneau, environmental; Jim Nickerson, industries; Mendy Rabicoff, small business; Kenneth Shaw, industries; Beth Wisenbaker, small business; Eldon Wold, water districts; Richard Zachary, water utilities

Former voting members during 2001-2006 planning cycle:

Billy Adams, agriculture; Charles Ball, municipalities; Barry Boswell, electric generating utilities; John Bradley, agriculture; Gerald Brewer, water utilities; Maxie Chester, municipalities; Ruth Culver, environmental; Steve Dean, industries; Alton Dockrey, water districts; C.W. Forsyth, small business; Mike Huddleston, river authorities; Larry Olsen, municipalities; David Parsons, river authorities; Stephen Payton, electric generating utilities; William Rice, public; Vernon Rowe, small business; Tony Williams, municipalities; L.D. Williamson, counties; Terry Winn, water utilities