Summary of Region B

The Region B Regional Water Planning Area encompasses all or parts of 11 counties in north central Texas bordering the Red River (Figure B.1). Parts of three river basins (Red, Brazos, and Trinity) lie within the region, which stretches from Montague County westward to Cottle County. The major cities in the region include Wichita Falls, Burkburnett, and Vernon. The three main components of the region's economy are farming, mineral production, and ranching. The members of the Region B Planning Group are listed on the last page of this summary.

Population and Water Demands

Just under 1 percent of the state's total population is projected to reside in Region B by the year 2010. Between 2010 and 2060, its population is projected to increase 5 percent to 221,734 (Figure B.2). However, total water demands are projected to decrease slightly (1 percent), from 171,164 acre-feet in 2010 to 169,153 acre-feet in 2060 (Figure B.3). Agricultural irrigation is the largest share of the regional demand but decreases over the planning period by 9 percent, from 99,895 acre-feet in 2010 to 91,292 acre-feet in 2060 due to anticipated future irrigation efficiency (Table B.1). Municipal water demands also decrease—by 5 percent—from 36,695 acre-feet to 34,964 acre-feet by 2060.

Existing Water Supplies

The region relies on both surface and groundwater sources. Its total existing water supply is projected to be 209,683 acre-feet in 2010, decreasing 25 percent to 157,761 acre-feet in 2060 (Table B.2). Surface water supplies to the region come from 11 reservoirs within the region and one reservoir (Greenbelt) located in the Panhandle Region. Because of sedimentation in its basin, the amount of water provided to the region from the Lake Kemp/Lake Diversion system—the largest source of surface water—will decrease from 39 percent of total supplies in 2010 to 23 percent by 2060. Other surface water supplies are projected to provide 33 percent of the region's supplies in 2010. The Seymour Aquifer is the source of most of the groundwater in the region, with 21 percent of the region's projected supplies in 2010. Other aquifers (Blaine and Trinity) are projected to provide 7 percent of the region's supply in 2010. Water quality issues exist with both surface and groundwater sources in the region. In the headwater

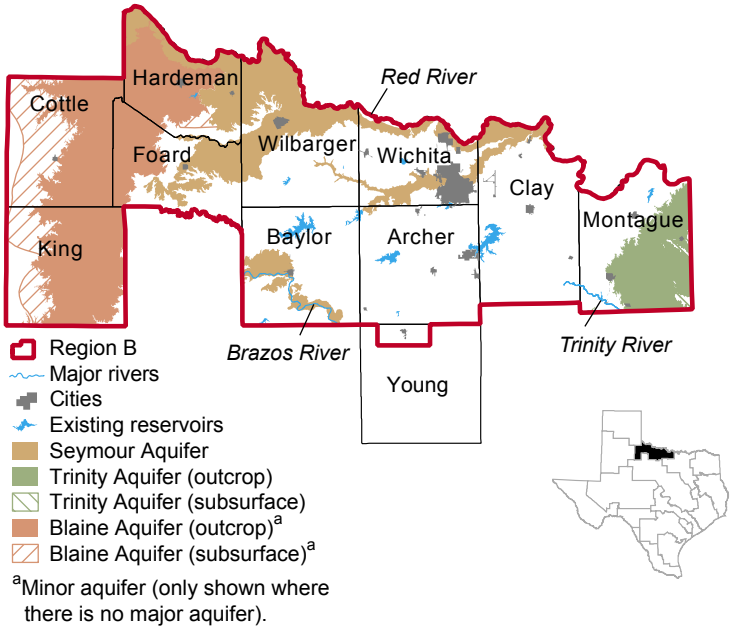


Figure B.1. Region B.

PLAN HIGHLIGHTS

- **Total capital cost $202 million**
- **Lake Kemp/Lake Diversion system operational changes provide 21,950 acre-feet in 2060**
- **Most needs associated with reduced supplies are from the Lake Kemp/Lake Diversion system**
- **No unmet needs**

region of the Wichita River, saline springs affect the quality of surface water supplies from the Lake Kemp/Lake Diversion System. In addition, users of the Seymour Aquifer have had to treat for elevated nitrate concentrations in the water.

Needs

Although current supplies appear sufficient through 2040, some water users in the region do not have adequate supplies as early as 2010, with 39 percent of that need being in the County-other sector of water use (Figure B.4, Table B.3). The volume of needs totals 37,156 acre-feet by the year 2060, and 98 percent of this need is associated with the reduced supplies in Lakes Kemp and Diversion. Of the total needs, 25,460 acre-feet (69 percent) are associated with irrigation in 2060. The region also planned for municipal and manufacturing entities that had little or no supplies above their projected demands by evaluating an additional need for 20 percent of their demands. This criterion generated seven additional water user groups with needs.

Recommended Water Management Strategies and Cost

The Region B Planning Group recommended water management strategies ranging from groundwater development to direct reuse to reservoir system operation changes. In all, the strategies would provide 81,021 acre-feet of additional water supply by the year 2060 (Figure B.5) at a **total capital cost of $202,266,500** (Appendix 2.1). By implementing the recommended water management strategies, all identified needs can be met.

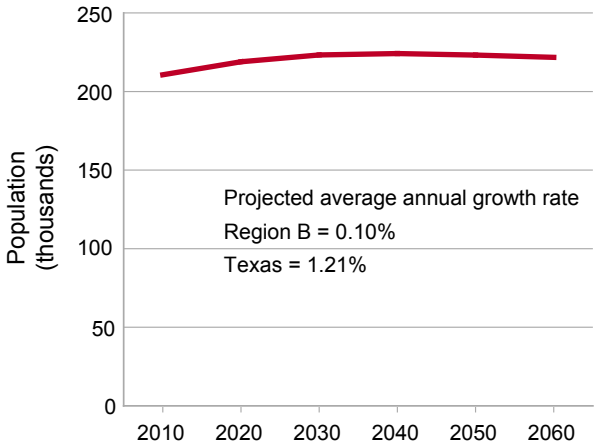


Figure B.2. Projected population for 2010–2060.

Conservation Recommendations

Conservation strategies for municipal and irrigation water users represent 20 percent of the total volume of water associated with all recommended strategies in 2060. Municipal water conserva-

Table B.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	36,695	34,964	-5	+21	-1
County-other	4,269	3,732	-13	+2	0
Manufacturing	3,547	4,524	+28	+2	+1
Mining	909	792	-13	+1	0
Irrigation	99,895	91,292	-9	+58	-4
Steam-electric	13,360	21,360	+60	+8	+5
Livestock	12,489	12,489	0	+7	0
Region	171,164	169,153	-1		

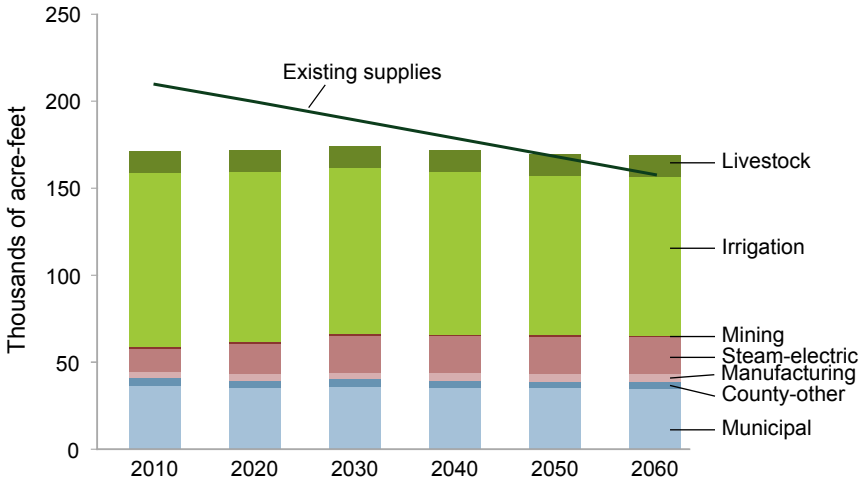
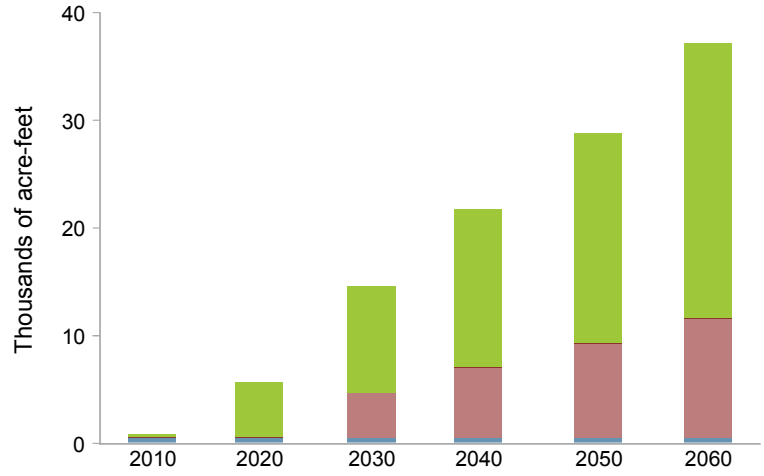


Figure B.3. Projected total water demand and existing water supplies for 2010-2060.



	2010	2020	2030	2040	2050	2060
Irrigation	275	5,071	9,869	14,665	19,463	25,460
Mining	113	92	86	93	108	111
Steam-electric	0	0	4,132	6,453	8,774	11,097
County-other	346	372	394	404	363	365
Municipal	146	126	120	117	117	123

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

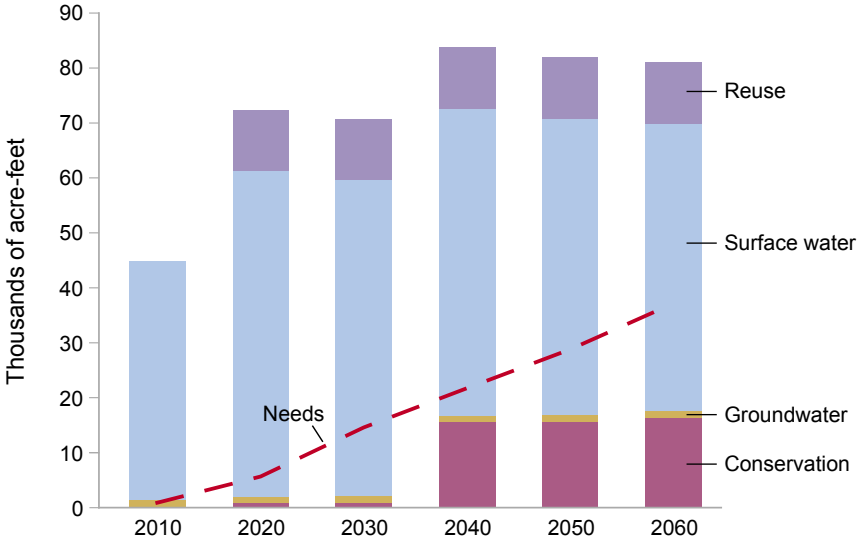


Figure B.5. Recommended water management strategy water supply volumes for 2010-2060.

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

Water supply source	2010 (acre-feet)	2060 (acre-feet)
Surface water		
Lake Kemp-Lake Diversion system	82,659	36,104
Wichita system	35,744	30,947
Livestock local supply	11,309	11,309
Other surface water	21,303	20,786
Surface water subtotal	**151,015**	**99,146**
Groundwater		
Seymour Aquifer	44,288	44,244
Blaine Aquifer	10,785	10,790
Other groundwater	3,595	3,581
Groundwater subtotal	**58,668**	**58,615**
Region total	**209,683**	**157,761**

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.

tion was recommended for every municipal and County-other water user group with a need. Irrigation conservation is accomplished through the canal lining strategy.

Ongoing Issues

Region B is concerned about small water systems that have no cost-effective means to comply with the nitrate drinking water standard. The region is also concerned about the lack of federal appropriations for the Chloride Control Project, which has resulted in the project's suspension.

Select Policy Recommendations

- Enhance water quality in the Lake Kemp/Lake Diversion system through the Chloride Control Project
- Encourage legislative support for voluntary water conservation goals established by each region
- Continue legislative support and funding of the regional water planning process
- Support brush management and land stewardship programs to increase watershed yields

Table B.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
Archer	177	1,538	–	–	168	168	–	–	–	–	–	–	9	1,370	–	–
Baylor	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Clay	52	513	–	–	45	–	–	–	–	–	–	–	7	513	–	–
Cottle	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Foard	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Hardeman	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
King	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Montague	246	308	–	–	133	197	–	–	–	–	113	111	–	–	–	–
Wichita	405	23,700	146	123	–	–	–	–	–	–	–	–	259	23,577	–	–
Wilbarger	–	11,097	–	–	–	–	–	–	–	11,097	–	–	–	–	–	–
Young	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Region	880	37,156	146	123	346	365	–	–	–	11,097	113	111	275	25,460	–	–

SELECT MAJOR WATER MANAGEMENT STRATEGIES

(Dollar amounts are rounded.
See Appendix 2.1 for all recommended strategies and actual costs.)

- *Increasing the conservation elevation of Lake Kemp and providing for a seasonal conservation pool would provide 21,950 acre-feet in 2010 to agricultural producers in Archer, Clay, and Wichita Counties and steam-electric power generation needs in Wilbarger County*—Implementation by: 2010; Capital Cost: $100,000.

- *The Chloride Control Project strategy would provide a total of 26,500 acre-feet per year to agricultural producers in Archer, Clay, and Wichita Counties and steam-electric power generation needs in Wilbarger County*—Implementation by: 2010; Capital Cost: $78 million.

- *Direct reuse projects for the cities of Wichita Falls and Bowie would generate 11,134 acre-feet per year*—Implementation by: 2020; Capital Cost: $50 million.

- *Lining of irrigation canals operated by the Wichita County Water Improvement District No. 2 would conserve 14,607 acre-feet per year for producers in Archer, Clay, and Wichita Counties*—Implementation by: 2040; Capital Cost: $59 million.

Region B Planning Group Members and Interests Represented

Voting members during adoption of 2006 Regional Water Plan:

Curtis Campbell (Chair), river authorities; Jimmy Banks, water districts; Mark Barton, electric generating utilities; J.K. Rooter Brite, environmental; Kelly Couch, municipalities; Paul Hawkins, public; Tommy Holub, water utilities; Norman Horner, environmental; Dale Hughes, agriculture; Joe Johnson, Jr., industries; Robert Kincaid, municipalities; Kenneth Liggett, counties; Mike McGuire, water districts; Kenneth McNabb, counties; Dean Myers, small business; Wilson Scaling, agriculture; Scott Taylor, municipalities

Former voting members during 2001-2006 planning cycle:

Tom Coker, water districts; Ron Glenn, river authorities; Fred Stephens, industries; Kay Yeager, municipalities