



Summary of Region H

Composed of all or parts of 15 counties, Region H includes portions of the Trinity, San Jacinto, and Brazos river basins (Figure H.1). The Houston metropolitan area is located within this region. The largest economic sector in Region H is the petrochemical industry, which accounts for two-thirds of the petrochemical production in the United States. Other major economic sectors in the region include medical services, tourism, banking, construction, transportation, government, agriculture, and fisheries. The members of the Region H Planning Group are listed on the last page of this summary.

Population and Water Demands

Approximately 23 percent of the state's population is projected to reside in the region in 2010. By 2060, Region H is projected to grow 89 percent to 10.9 million (Figure H.2). Total demand for the region is projected to increase 47 percent, from 2,314,094 acre-feet in 2010 to 3,412,457 acre-

feet in 2060 (Figure H.3). The largest consumers of water in the region are the 264 municipal entities, and municipal demand is expected to grow 65 percent, from 897,553 acre-feet in 2010 to 1,480,339 acre-feet in 2060 (Table H.1). Manufacturing also constitutes a large share of the region's demand and is projected to grow 31 percent over the planning period, from 722,873 acre-feet in 2010 to 950,102 acre-feet in 2060.

Existing Water Supplies

In 2010, the total water supply is projected to be 2,712,744 acre-feet, decreasing approximately 6 percent to 2,562,755 million acre-feet by 2060 (Table H.2). This decrease is primarily due to reduced supplies in the Gulf Coast Aquifer because of subsidence district regulations. The decline in groundwater supply will result in the increased use of surface water to meet future needs. In 2010, surface water is projected to provide 2,051,666 acre-feet of supplies and groundwater 661,078

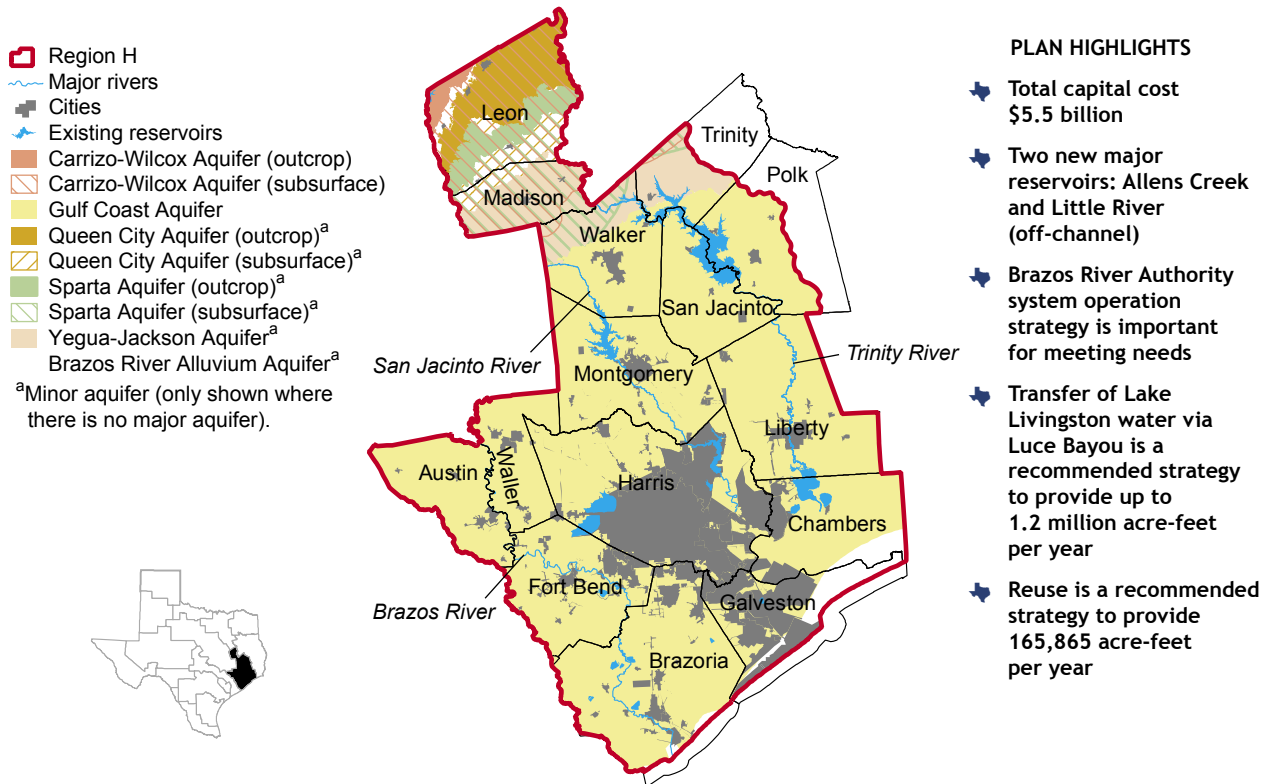


Figure H.1. Region H.

acre-feet. By 2060, surface water is projected to provide 2,053,040 acre-feet and groundwater 509,715 acre-feet. Region H has four major reservoirs, with the largest supplies of available surface water coming from the Lake Livingston/Wallisville System in the Trinity River Basin and run-of-river water rights in the Trinity and Brazos river basins.

Needs

In 2010, Region H is projected to have a need of 279,996 acre-feet, with municipalities accounting for approximately 25 percent of the total, or 69,659 acre-feet (Figure H.4, Table H.3). By 2060, water supply needs are projected to total 1,119,307 acre-feet. Municipal users will account for 46 percent of that need, or 518,646 acre-feet. Total manufacturing needs are projected to be 92,372 acre-feet, or 33 percent, of total needs in 2010 and 251,836 acre-feet, or 22 percent, of total needs by 2060.

Recommended Water Management Strategies and Cost

Region H Planning Group’s recommended 23 water management strategies that would provide 1,300,639 acre-feet of additional water supply to meet all projected needs by the year 2060 (Figure H.5) at a total capital cost of \$5,460,520,392 (Appendix 2.1).

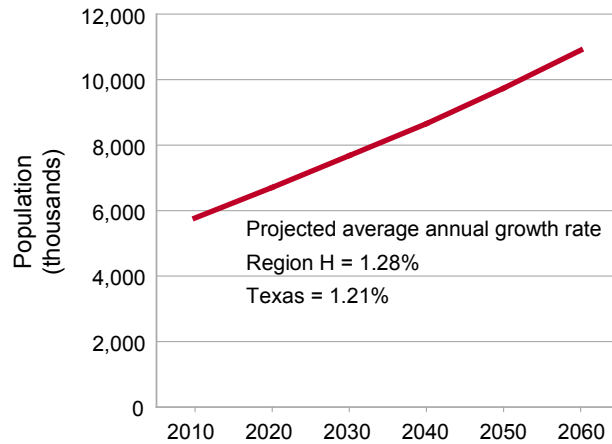


Figure H.2. Projected population for 2010-2060.

Conservation Recommendations

The planning group first considered water conservation strategies for water user groups with water supply needs. Recommended municipal and irrigation water conservation strategies provide for a total of 178,868 acre-feet per year of needs. Municipal conservation accounts for 100,987 acre-feet of savings and irrigation conservation is recommended to save almost 77,881 acre-feet per year by 2060.

Table H.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	897,553	1,480,339	+65	+39	+5
County-other	82,991	252,269	+204	+4	+4
Manufacturing	722,873	950,102	+31	+31	-3
Mining	57,043	69,457	+22	+2	0
Irrigation	450,175	430,930	-4	+19	-7
Steam-electric	91,231	217,132	+138	+4	+2
Livestock	12,228	12,228	0	+1	0
Region	2,314,094	3,412,457	+47		

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

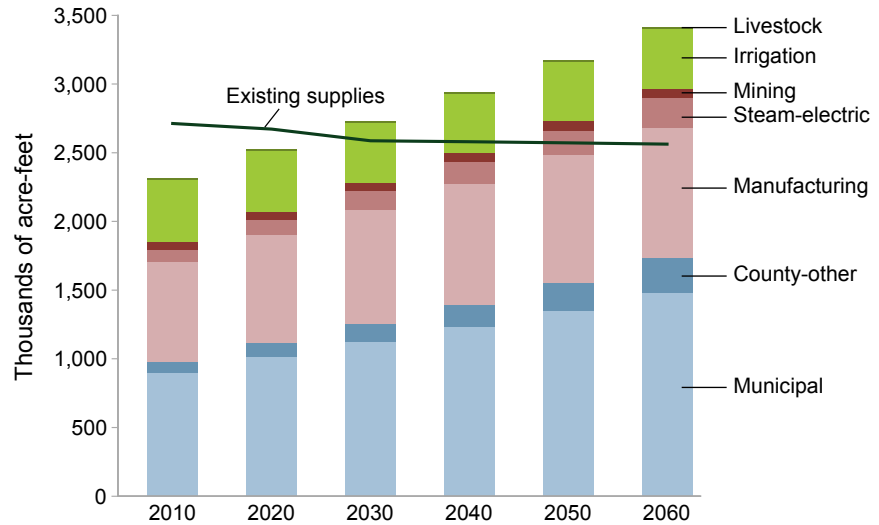


Figure H.4. Projected water needs for 2010-2060.

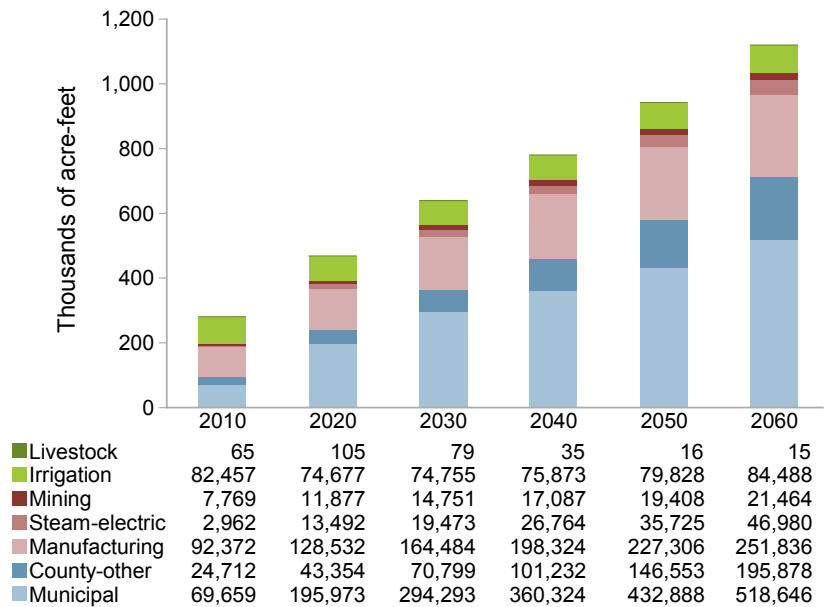


Figure H.5. Recommended water management strategy water supply volumes for 2010-2060.

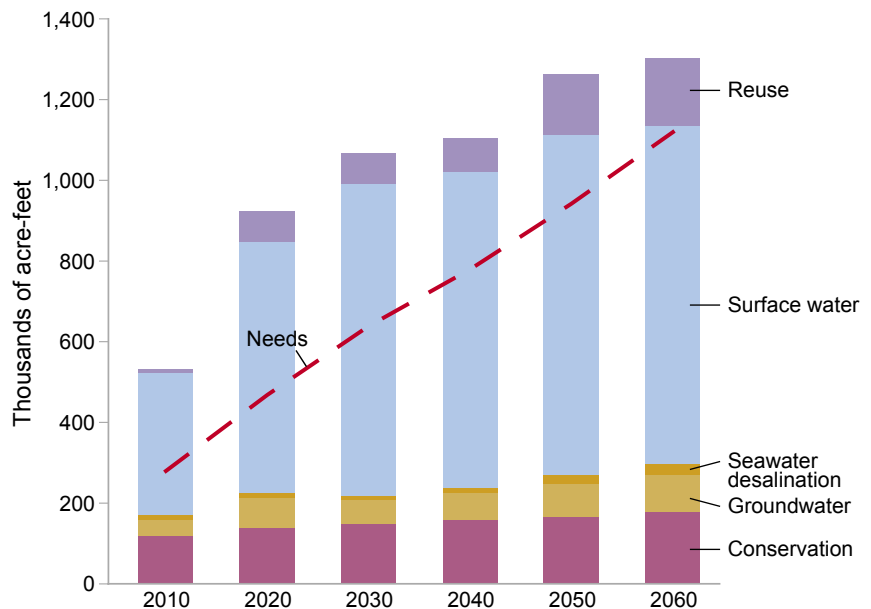


Table H.2. Existing water supplies for 2010 and 2060

Water supply source	2010 (acre-feet)	2060 (acre-feet)
Surface water		
Lake Livingston-Wallisville system	985,142	985,116
Brazos River run-of-river	452,185	452,239
Lake Houston	159,014	159,014
Brazos River Authority main stem system	138,913	138,913
Trinity River run-of-river	78,886	78,886
Sam Rayburn-B.A. Steinhagen Reservoir system	60,727	60,727
San Jacinto River run-of-river	34,428	34,428
Trinity-San Jacinto River run-of-river	34,232	34,232
San Jacinto-Brazos River run-of-river	33,291	33,291
Other local supply	27,061	27,061
Neches-Trinity River run-of-river	21,129	21,129
Lake Conroe	19,097	19,097
Other surface water	7,561	8,907
Surface water subtotal	2,051,666	2,053,040
Groundwater		
Gulf Coast Aquifer	627,584	476,848
Brazos River Alluvium Aquifer	23,423	23,008
Other groundwater	10,071	9,859
Groundwater subtotal	661,078	509,715
Region total	2,712,744	2,562,755

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

Two issues that will continue to affect Region H are subsidence and the health of Galveston Bay. The transition from groundwater to surface water, necessitated by subsidence, is an ongoing challenge requiring development of new supplies to replace lost groundwater production, and fresh-water inflows into Galveston Bay are important ecologically.

Select Policy Recommendations

- Encourage legislative revision of current law to remove barriers to interbasin transfers
- Support an expedited process for amendments affecting a limited portion of the region
- Define consistency with the plan as simply not competing for a currently allocated supply
- Allow the use of alternative water management strategies in order to maintain flexibility
- Endorse legislative designation of the eight ecologically unique stream segments recommended in the 2006 Region H Regional Water Plan

Table H.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
Austin	435	1,392	192	626	191	595	43	146	—	—	9	25	—	—	—	—
Brazoria	92,249	233,681	2,994	23,553	8,245	17,194	47,629	164,097	—	—	805	2,141	32,511	26,696	65	—
Chambers	43,584	61,675	1,217	3,012	368	324	8,551	13,871	—	—	6,395	16,715	27,053	27,753	—	—
Fort Bend	28,081	174,376	19,828	92,584	6,816	76,681	1,386	4,240	—	—	51	871	—	—	—	—
Galveston	14,211	15,532	4,033	5,648	—	—	—	—	—	—	35	77	10,143	9,792	—	15
Harris	61,593	409,686	28,058	305,107	—	11,464	33,264	62,535	—	29,786	271	794	—	—	—	—
Leon	411	1,310	192	461	50	81	169	768	—	—	—	—	—	—	—	—
Liberty	15,966	34,498	297	2,183	636	4,643	97	440	2,962	8,195	116	415	11,858	18,622	—	—
Madison	126	575	31	158	39	223	55	193	—	—	1	1	—	—	—	—
Montgomery	19,371	170,249	11,902	80,072	6,931	78,323	458	2,442	—	8,999	80	413	—	—	—	—
Polk	337	1,544	69	345	263	1,188	—	—	—	—	5	11	—	—	—	—
San Jacinto	831	1,669	230	787	100	361	9	29	—	—	—	—	492	492	—	—
Trinity	5	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—
Walker	1,536	4,633	160	334	685	1,299	690	2,999	—	—	1	1	—	—	—	—
Waller	1,260	8,487	451	3,776	388	3,502	21	76	—	—	—	—	400	1,133	—	—
Region	279,996	1,119,307	69,659	518,646	24,712	195,878	92,372	251,836	2,962	46,980	7,769	21,464	82,457	84,488	65	15

SELECT MAJOR WATER MANAGEMENT STRATEGIES

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

- ✦ *Luce Bayou interbasin transfer project would convey 1,232,000 acre-feet per year of Trinity River and Lake Livingston supplies to Lake Houston—Implementation by 2020; Capital Cost: \$239 million.*
- ✦ *Allens Creek Reservoir in Austin County would provide 97,410 acre-feet per year to Houston and the Brazos River Authority—Implementation by 2030; Capital Cost: \$471 million.*
- ✦ *Indirect reuse of wastewater by Houston and the North Harris County Regional Water Authority is recommended at 20 percent of available wastewater effluent to provide 83,925 acre-feet per year—Implementation by 2050; Capital Cost: \$0.*

Region H Planning Group Members and Interests Represented

Voting members during adoption of 2006 Regional Water Plan:

Jim Adams (Chair),* river authorities; Roosevelt Alexander, public; John Baker, river authorities; John R. Bartos, environmental; John Blount, counties; Robert Bruner, agriculture; Mark Evans, counties; Jason Fluharty, electric generating utilities; Mary Alice Gonzalez, small business; Jack Harris, counties; Robert Istre, municipalities; David B. Jenkins, agriculture; Carolyn Johnson, industries; Marvin Marcell, water district; James Morrison, water utility; James Murray, industries; Ron J. Neighbors, water districts; Jack C. Searcy, Jr., water districts; Michael S. Sullivan, small business; Jeff Taylor, municipalities; William Teer, water utilities; Steve Tyler, small business; Danny F. Vance, river authorities; C. Harold Wallace, water utilities

Former voting members during 2001-2006 planning cycle:

Tom Clark, river authorities; Susan Morgan, river authorities; Jack Searcy, water districts; Gary Stobb, counties; Mike Sullivan, small business; Larry Taylor, municipalities; Bill Teer, water utilities; Kerry Whelan, electric generating utilities

*Deceased