

WATER SUPPLY & DEMAND ESTIMATES

Fact Sheet No. 15

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Kansas Water Office

Background

Estimation of the present and future water needs and the supplies available to meet these needs is an essential first step in state water planning. In order to achieve a comprehensive State Water Plan, the first long-range objective recognized by state law is “the development, to meet the anticipated future needs of the people of the state of sufficient supplies of water for beneficial purposes” (K.S.A. 82a-927(a)). This fact sheet will describe the process used in developing water supply and demand methodology in Kansas.

Water Supply and Demand Report

The first edition of Kansas water supply and demand estimates was published in 1984 and the second edition in 1987. The state water supply and demand fluctuates with the passage of time and with changes in the economy. Consequently, it is necessary to revise and update the water supply and demand estimates on a regular basis.

The Present Methodology

The data sources for the present methodology (finalized in 1998) includes 1980 and 1990 Decennial Census counts, U.S. Census Bureau population estimates for 1992 and 1994, time series data of active residential water service connections for public water suppliers, and extensive on-site interviews with local government officials, and other groups. Also included in the methods development was contact with every public water supplier in Kansas for input on perceived changes in population, water use, and water demand occurring in local communities or rural areas. It may be of interest to note that the Kansas Water Office population projections for Kansas for year 2000 differed from the recent actual population figures published by the U.S. Census by only 0.08 percent.

In order to determine the future water demands for each city, the population projections were first modified to determine the actual number of people served by a city or any other type of public water supplier, based on the actual number of residential connections served. This number was multiplied by the average number of persons served by the city per residential connection. Finally, the total number of persons served by a public water supplier was multiplied by the average gpcd for that area or the region and by the population projection to arrive at the total water demand for the projected year. The individual city water demands were aggregated by county to arrive at the projected water demands for the whole state for year 2000, 2010, 2020, 2030 and 2040.

As for the available water supplies, a process is under way to determine the water available to each of the public water suppliers through their water rights, (appropriated or vested) their contracts with other public water supplies or contracts with the Kansas Water Office under their Water Marketing Program.

Work in Progress

At present Kansas Water Office is engaged in an effort to meet its 2010 objectives, which were formulated by the Kansas Water Authority in a Vision Summit in 1998. The very first of these 2010 Objectives states: “By 2010, ensure that sufficient surface water storage is available to meet projected year 2040 water supply needs for areas of Kansas with current or potential access to surface water storage.”

To meet this objective, the Kansas Water Office is engaged in a process to compile basin by basin the projected water demands for year 2040 for each of the public water suppliers in that basin, and compare it to the water presently available to it from all the sources, such as its own water rights, contracts with other public water suppliers or contracts with the Kansas Water Office under the State Water Marketing Program. On the basis of this comparison a list will be developed to determine which of the public water suppliers are

already facing a shortage of available supply or are likely to face in the future (i.e. by 2040). This information will then be utilized to develop strategy and advice for the public water suppliers to ensure sufficient supplies for their future needs and thus meet the 2010 objective.

Additional Information

Further information on this subject or on many other *Kansas Water Plan* related programs can be obtained from: Kansas Water Office, 901 S. Kansas Avenue, Topeka, KS 66612-1249, phone (785-296-3185), toll free (888-KAN-WATER) or check our WEB site at www.kwo.org.

Top Ten Public Water Suppliers
Largest Quantity Increase in Projected Water Demand
(In Thousand Gallons)
2000-2040

Name of Public Water Supplier	Year		Projected Water Demand Increase	
	2000	2040	Quantity	Percent
Water District 1, Johnson Co.	18,598,799	30,079,553	11,480,754	61.7%
Wichita	21,746,397	29,006,159	7,259,762	33.4%
Olathe	3,315,967	6,407,152	3,091,185	93.2%
Lawrence	4,030,903	7,087,709	3,056,806	75.8%
Topeka	9,665,504	12,712,224	3,046,720	31.5%
Manhattan	2,318,862	3,698,654	1,379,792	59.5%
Derby	899,518	1,797,427	897,909	99.8%
Garden City	1,938,021	2,810,167	872,146	45.0%
El Dorado	2,206,814	3,023,711	816,897	37.0%
Gardner	443,980	1,125,771	681,791	153.6%