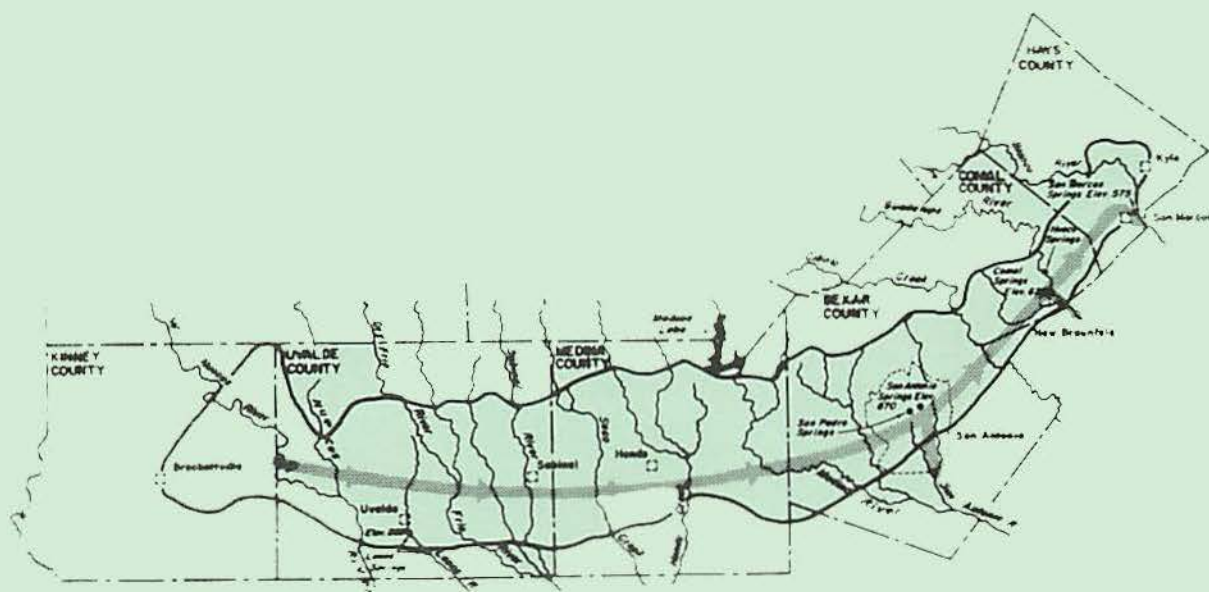


Ground-Water Discharge from the Edwards and Associated Limestones, San Antonio Area, Texas, 1972

Bulletin 31

Edwards Underground Water District
San Antonio, Texas



Prepared in cooperation with the U.S. Geological Survey and the Texas Water Development Board

EDWARDS UNDERGROUND WATER DISTRICT
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BULLETIN 31

GROUND-WATER DISCHARGE FROM THE EDWARDS AND ASSOCIATED
LIMESTONES, SAN ANTONIO, AREA, TEXAS, 1972

Compiled by

Celso Puente
United States Geological Survey

Prepared by the U. S. Geological Survey
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LIMESTONES, SAN ANTONIO AREA, TEXAS, 1972

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ABSTRACT

The estimated total well and spring discharge from the Edwards and associated limestones in the San Antonio area during 1972 was 747,100 acre-feet, which is the record high for the period 1934-72. The increase was due primarily to above-average springflow.

The total discharge from wells and springs for 1972 was about 10 percent more than in 1971, and 38 percent greater than the average for 1934-71.

About 50 percent of the total discharge came from wells, and approximately two-thirds of this discharge was from wells in Bexar County. Well discharge in 1972 was 10 percent less than in 1971, while springflow increased by about 37 percent.

INTRODUCTION

Records of ground-water discharge from the Edwards and associated limestones in the San Antonio area during 1972 are summarized in this report. The compilation of these basic records is part of a continuing hydrologic investigation by the U. S. Geological Survey in cooperation with the Edwards Underground

Water District and the Texas Water Development Board. Previous reports are given in the list of references.

METHODS OF INVESTIGATION

The spring discharge was compiled from records of gages operated by the U. S. Geological Survey at the points of discharge. Pumpage for agriculture was estimated from records of power consumption and irrigated acreage. Records of the annual canvass of pumpage in the San Antonio area by the Texas Water Development Board were used to compile municipal, military, and industrial usage.

GROUND-WATER DISCHARGE

The estimated discharge from the Edwards and associated limestones during 1972 is given in table 1. The discharge by springs was from San Marcos Springs in Hays County, Comal Springs in Comal County, San Antonio and San Pedro Springs in Bexar County, and the Leona River Springs in Uvalde County. The recorded discharge for Leona River Springs includes underflow through the gravel below the springs.

Major discharge by wells was from Bexar, Uvalde, and Medina Counties, while the major springflow was from Comal and Hays Counties. Wells in Bexar County supplied water for municipal and military use. Other wells in Bexar County and most of the large wells in Uvalde and Medina Counties supplied the irrigation needs

for an estimated 60,000 acres. The remaining discharge, principally from wells in Bexar County, was for industrial, domestic, stock, and miscellaneous purposes.

The 1972 estimated total well and spring discharge from the Edwards and associated limestones was 747,100 acre-feet, which is the record high for the period 1934-72. The increase was due primarily to above-average springflow. About 50 percent of the total discharge came from wells, and approximately two-thirds of this discharge was from wells in Bexar County. Well discharge in 1972 was 10 percent less than in 1971, while springflow increased by about 37 percent.

The total discharge from wells and springs was about 10 percent more than 1971. Compared to the 1934-71 average, the total discharge was 38 percent greater.

ESTIMATED DISCHARGE FROM THE EDWARDS AND ASSOCIATED LIMESTONES
IN THE SAN ANTONIO AREA, 1972

(in millions of gallons per day)

<u>County</u>	<u>Springs</u>	<u>USE</u>				<u>TOTAL</u>	
		<u>Municipal and military</u>	<u>Agri- culture</u>	<u>Industry</u>	<u>Domestic stock & misc.</u>	<u>Million gallons per day</u>	<u>Thousand acre-feet per year</u>
Kinney	-	-	-	-	0.2	0.2	0.2
Uvalde	25.4	3.9	68.7	-	2.1	100.1	112.4
Medina	-	2.1	22.8	0.1	.6	25.6	28.8
Bexar	4.9	151.9	22.3	17.6	23.8	220.5	247.7
Comal	200.4	6.3	.3	1.1	.5	208.6	234.3
Hays	103.9	5.4	.6	-	.2	110.1	123.7
Total million gallons per day	334.6	169.6	114.7	18.8	27.4	665.1	
Total thousand acre-ft per year	375.8	190.5	128.8	21.1	30.8		747.1

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