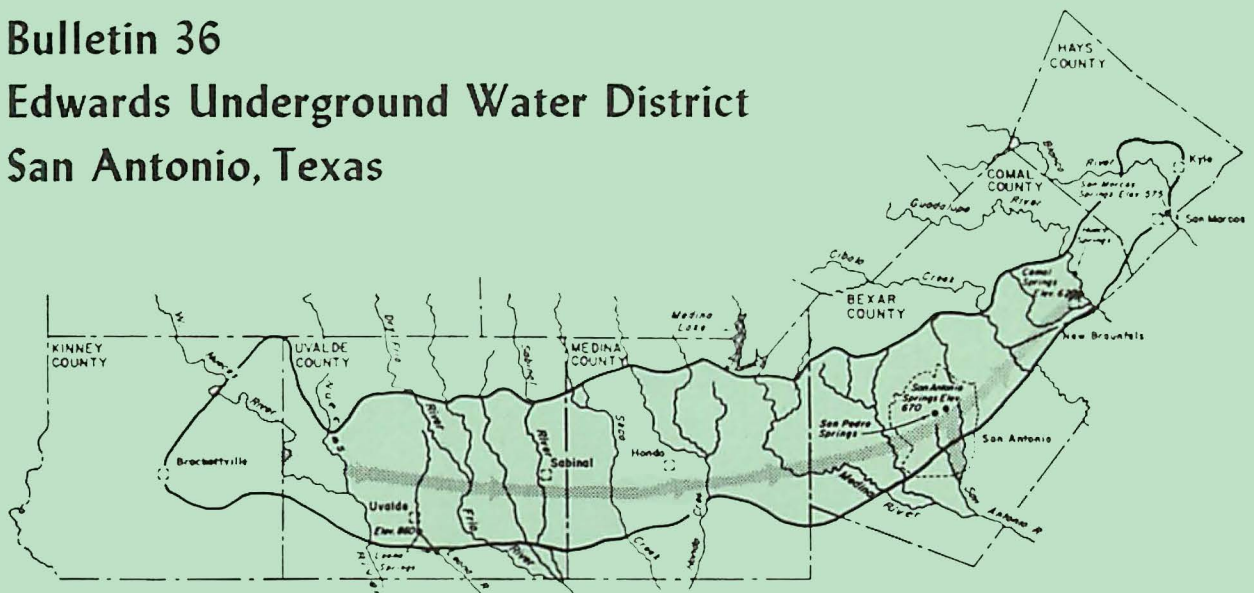


# Ground-Water Discharge from the Edwards and Associated Limestones, San Antonio Area, Texas, 1976

Bulletin 36  
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 36

GROUND-WATER DISCHARGE FROM THE EDWARDS AND ASSOCIATED  
LIMESTONES, SAN ANTONIO AREA, TEXAS, 1976

Compiled by

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Prepared by the U.S. Geological Survey  
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CONTENTS

	Page
Abstract . . . . .	3
Introduction . . . . .	4
Methods of investigation . . . . .	4
Ground-water discharge . . . . .	4
References . . . . .	7

TABLE

Table 1. Estimated discharge from the Edwards and associated limestones in the San Antonio area, 1976 . . . . .	5
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ABSTRACT

The estimated total discharge from wells and springs in the Edwards and associated limestones in the San Antonio area during 1976 was 853,400 acre-feet. The total discharge from wells and springs in 1976 was about 2 percent less than in 1975 and about 50 percent more than the average for 1934-75.

About 41 percent of the total discharge was from wells, and approximately two-thirds of this amount was from wells in Bexar County. The discharge from wells in 1976 was 6 percent more than in 1975; springflow decreased by about 7 percent.

## INTRODUCTION

Records of ground-water discharge from the Edwards and associated limestones in the San Antonio area during 1976 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 on discharge are given in the list of references.

## METHODS OF INVESTIGATION

The discharge from springs was compiled from reports of gages operated by the U.S. Geological Survey at 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 1976 is given in table 1. The discharge from springs was from San Marcos Springs in Hays County, Comal Springs in Comal County, San Antonio and San Pedro Springs in Bexar County, and Leona River Springs in Uvalde County. The recorded discharge from Leona River Springs includes underflow through the gravel below the springs.

Table 1.--Estimated discharge from the Edwards and associated limestones  
in the San Antonio area, 1976

County	Springs	Municipal and military	million gallons per day			Domestic, stock, and miscellaneous	Total (million gallons (per day)	Total (thousand acre-feet per year)
			Agriculture	Industry				
Kinney	--	--	--	--	--	0.2	0.2	0.2
Uvalde	36.5	4.1	78.1	--	--	2.6	121.3	136.2
Medina	--	2.4	14.3	--	--	.6	17.3	19.4
Bexar	36.3	140.0	12.0	11.5	--	25.6	225.4	253.2
Comal	239.4	7.2	.2	1.6	--	.6	249.0	279.7
Hays	136.4	8.4	.6	--	--	1.2	146.6	164.7
Total (million gallons per day)	448.6	162.1	105.2	13.1	--	30.8	759.8	
Total (thousand acre-feet per year)	503.9	182.1	118.2	14.7	--	34.6		853.4

Major discharge by wells was from Bexar, Uvalde, and Medina Counties, while the major springflow was from Comal and Hays Counties. Many 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 84,000 acres. The remaining discharge, principally from wells in Bexar County, was for industrial, domestic, stock, and miscellaneous purposes.

The estimated total discharge from wells and springs in 1976 was 853,400 acre-feet. About 41 percent of the total discharge was from wells, and approximately two-thirds of this amount was from wells in Bexar County. The discharge from wells in 1976 was 6 percent more than in 1975, while springflow decreased by about 7 percent.

The total discharge from wells and springs was about 2 percent less than in 1975 and about 50 percent more than the average discharge for 1934-75.

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