

ROSWELL BASIN WATERMASTER

24th

ANNUAL REPORT

1989

Robert R. Marr, Watermaster

909 East Second Street

Roswell, New Mexico 88201

## TABLE OF CONTENTS

INTRODUCTION	1
MAP of ROSWELL UNDERGROUND BASIN	2
ADMINISTRATION	
General	3
Metering Program	6
Changes in the Adjudication Decree	8
Violations	9
WATER DIVERSION	
Use of Water in the Roswell Basin in 1989	10
Tabulations of Annual Diversions 1967 thru 1989	11
Summary of Annual Diversions	12
Map Indicating Areas of Irrigation Use	14
FINANCIAL STATEMENTS	
Approved Budget July 1989 thru June 30, 1990	15
Actual Expenditures January 1, thru June 30, 1989	16
Actual Expenditures July 1, thru December 30, 1989	17
SUMMARY	18

## INTRODUCTION

On January 10, 1966 Partial Judgment and Decree was entered under Cause No. 20294 and No. 22600 Consolidated in Chaves County, New Mexico. This Decree which adjudicated all ground water rights for irrigation, municipal, and industrial purposes in the Roswell Artesian Basin in Chaves and Eddy Counties, further provided for the metering of wells to commence January 1, 1967 and the establishment of a watermaster as follows:

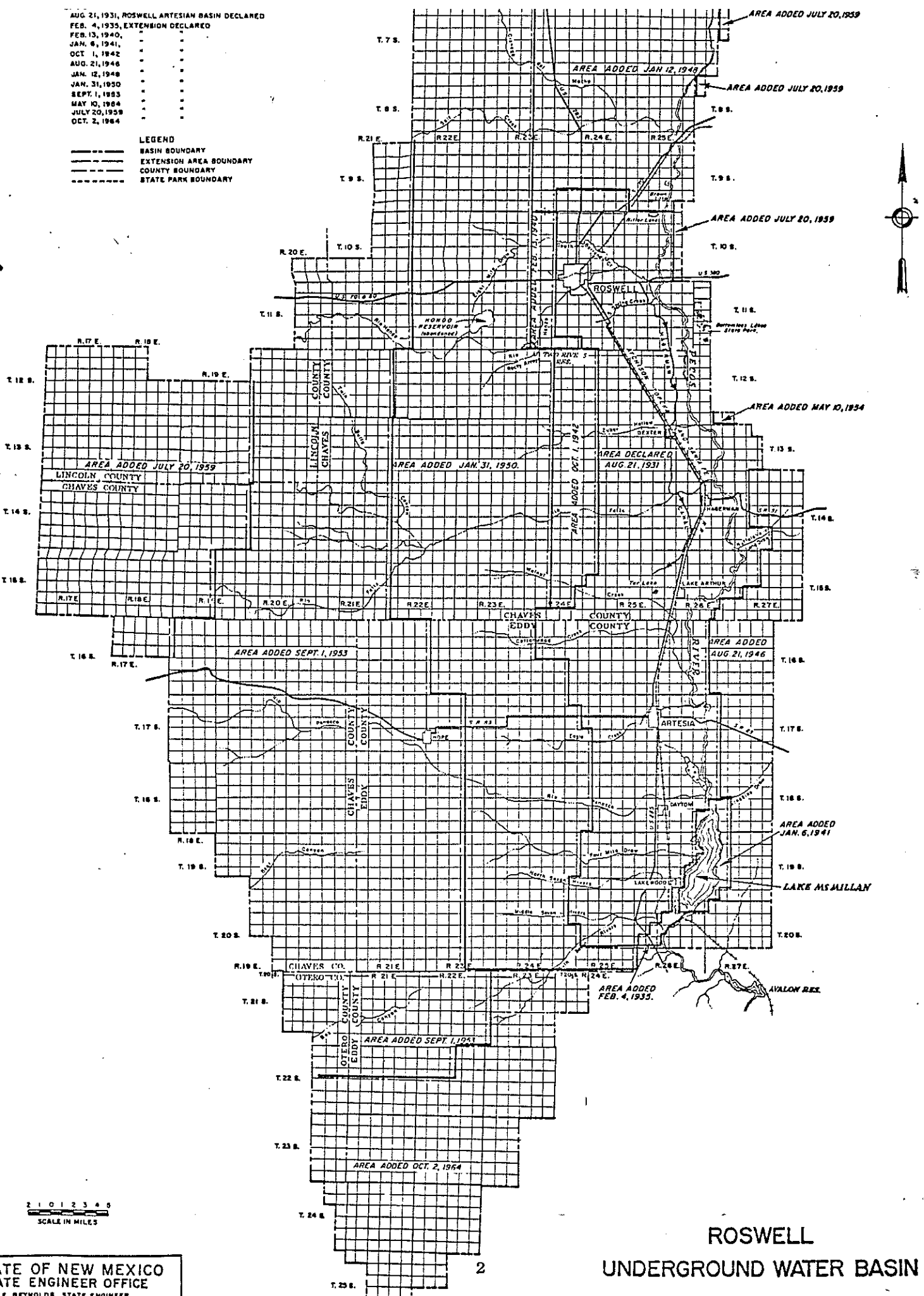
"5. The state engineer shall appoint and employ a watermaster and such assistants as are necessary in the administration and enforcement of this judgment and decree, provided that the appointment of the watermaster shall be subject to the approval of the Court. Such watermaster shall be appointed to commence work not later than July 1, 1966. The watermaster and any assistants appointed shall serve under the direction of the state engineer and under the general supervision of the Court."

The office was established with the appointment of a watermaster on February 2, 1966. The present Watermaster, Robert R. Marr was appointed by State Engineer, S. E. Reynolds on April 5, 1988.

This is the 24th Annual Report of the Watermaster Office.

AUG. 21, 1931, ROSWELL ARTESIAN BASIN DECLARED  
 FEB. 4, 1935, EXTENSION DECLARED  
 FEB. 13, 1940, . . . . .  
 JAN. 6, 1941, . . . . .  
 OCT. 1, 1942, . . . . .  
 AUG. 21, 1946, . . . . .  
 JAN. 12, 1948, . . . . .  
 JAN. 31, 1950, . . . . .  
 SEPT. 1, 1953, . . . . .  
 MAY 10, 1954, . . . . .  
 JULY 20, 1959, . . . . .  
 OCT. 2, 1964, . . . . .

**LEGEND**  
 - - - - - BASIN BOUNDARY  
 - - - - - EXTENSION AREA BOUNDARY  
 - - - - - COUNTY BOUNDARY  
 - - - - - STATE PARK BOUNDARY



1 0 1 2 3 4 5  
 SCALE IN MILES

STATE OF NEW MEXICO  
 STATE ENGINEER OFFICE  
 S. E. REYNOLDS, STATE ENGINEER  
 ROSWELL ARTESIAN BASIN

**ROSWELL  
 UNDERGROUND WATER BASIN**

## GENERAL

The Roswell Basin Watermaster administers the diversion of water under the Adjudication Decree in an area extending, in general, six to eighteen miles west of the Pecos River and twenty miles north of Roswell in Chaves County to twenty miles south of Artesia, in Eddy County. A distance of approximately eighty miles. The principal use of water in the area is for agricultural purposes which accounts for about 94% of the total water diverted. Municipal use of water accounts for less than 5% and the remainder is used for commercial and industrial purposes.

Ground water is the principal source of water diverted under the Decree and this is further divided into artesian and shallow ground water. Generally, a little less than two-thirds of the water is diverted from the artesian source, about one-third is diverted from the shallow source. A small portion is diverted from a combination of surface and well waters primarily through the Hagerman Canal.

Approximately, 130,000 acres of land were adjudicated irrigation rights under this Decree. The amount of acreage actually irrigated, however, varies from year to year as some rights have, under permit, been spread over larger acreages. Some rights have been transferred to municipal and industrial uses, while some rights have been retired by the Pecos Valley Artesian Conservancy District, and some acreage is fallow.

Procedures for accounting of water diverted under the Hagerman Canal were revised in January 1977. Rights under the Hagerman Canal not having a supplemental source from individually owned shallow or artesian wells are considered by this office to be adjudicated under the Hope Community Ditch Decree and not under Chaves County Cause No. 22600 and No. 20294 Consolidated. Thereafter, diversion of water for rights under the Hagerman Canal were accounted by the Roswell Basin Watermaster as follows:

- (1) Water diverted to farms having canal rights only will not be accounted.
- (2) Water diverted to farms having an underground right adjudicated or permitted to supplement the entire canal right shall be accounted as other adjudicated ground water rights with appropriate provisions for 5-year accounting, carriage loss and carryover.
- (3) Water diverted to farms having a combined or commingled right (either as decreed or permitted) where part of the canal right is not supplemented by ground water shall be accounted by considering the canal water diverted to be in direct proportion to the ratio of the unsupplemented canal right and only the supplemented right shall be accounted unless otherwise indicated by conditions of approval of an individual permit.

The Honorable Lafel Oman, retired State Supreme Court Chief Justice, sitting by designation as Judge in the Adjudication suit, served during the 1989 reporting period. Personnel of the watermaster office at the beginning of the 1989 season consisted of Robert R. Marr, Watermaster; Rita Valdez, Secretary-Clerk; and Ramon Torres, as assistant to the Watermaster.

On April 3, 1989, Mary Nunez and Robert Turner were transferred from the Water Rights Division to the Watermaster Office to assist during the irrigation season. On May 22, 1989, Mary Nunez returned to the Water Rights Division. Robert Turner returned to the Water Rights Division October 2, 1989. The

operations of the Watermaster office are financed through the Pecos Valley Artesian Conservancy District. Under the terms of the Adjudication Decree the state engineer annually submits to PVACD a budget for the operations of the watermaster office and the PVACD Board then moves the Court to approve or modify the budget submitted. PVACD then reimburses the state engineer for monthly expenses incurred. The funds of PVACD are derived from a levy of lands within the district.

### METERING PROGRAM

Six hundred and eleven meters were found inoperative during the 1989 irrigation season. Based on a total of 1686 meters installed on irrigation, feed pen, dairy, and Hagerman Canal wells, this is 36.2% as compared to 34.7% found inoperative in 1988. Each meter was read an average of 10.0 times, including the beginning and year end readings.

The number of totalizing meters, by brand installed on these wells and the number of each brand found to be inoperative during the 1989 irrigation season, are listed as follows:

Make of Meter	Total	% of Total	Total Inoperative	Make Inoperative	% of Total Installed
BRAND A	190	11.3	65	34.2	3.86
BRAND B	1354	80.3	503	37.1	29.83
BRAND C	29	1.7	17	58.6	1.01
BRAND D	89	5.3	21	23.6	1.25
BRAND E	20	1.2	5	25.0	.30
MISC.	4	.2	0	-0-	-0-
	1686	100.00	611		36.25

Adjustments in amounts of water diverted through inoperative meters for 1989 totaled 7209.6 acre-feet of which 4685.2 acre-feet was artesian and 2524.4 acre-feet of which was shallow. The total adjustment is 1.98% of the total diverted for irrigation use.



The problem remains of having a large percentage of the water meters inoperative at the onset of spring pumping. The maintenance program initiated by the Pecos Valley Artesian Conservancy District is alleviating some of this problem.

Meters are being maintained, repaired and/or replaced by field personnel of the PVACD at no cost to the water user.

CHANGES IN THE ADJUDICATION DECREE

There were no changes in the Adjudication Decree during the 1989 water year.

## VIOLATION ACTIONS

There was one instance of overuse in 1989. The problem was resolved as the individual entered into a Consent Agreement.

## USE OF WATER IN THE ROSWELL BASIN IN 1989

The total water diverted in the Roswell Ground Water Basin for the water year 1989 (November 1, 1988 - October 31, 1989) under the administrative jurisdiction of the Roswell Basin Watermaster, was 386,774.6 acre-feet. Under the decree adjudicating water rights in the basin, discrete five-year periods were set-up for accounting of the metered water. The third year of the fifth five-year period was 1989.

Of the total diversion, 255,652.7 acre-feet (66.1%) was from the artesian source, 118,603.5 acre-feet (30.7%) was from the shallow source and 12,518.4 acre-feet (3.2%) was diverted from combined underground and surface sources primarily under the Hagerman Canal and the Rio Hondo.

Irrigation use accounted for 94.2% of the total diverted, municipal type use accounted for 4.6% and miscellaneous, industrial and commercial uses accounted for the remaining 1.2%.

The irrigation use on 115,088.0 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 3.17 acre-feet per acre for the basin as a whole varying from a high of 3.40 acre-feet per acre in the Lakewood-Seven Rivers area to a low of 1.83 acre-feet per acre in the Northern Extension. The equivalent acreage figures and pumpage figures do not include unmetered stock and domestic uses or water right acreage retired from irrigation under the program of the Pecos Valley Artesian Conservancy District. There are nine hundred and thirty-seven farming units.

ROSWELL BASIN WATERMASTER

TABULATION OF ANNUAL WATER DIVERTED

1967 - 1989

YEAR	ACRE-FEET	IRRIGATION EQ. AC.	ACRE-FEET PER ACRE	MUNICIPAL ACRE-FEET	INDL./COML. ACRE-FEET	TOTAL ACRE-FEET
1967	371,250.6	130,132.7	2.85	14,528.3	1,582.6	387,361.5
1968	323,917.1	128,245.0	2.53	13,596.3	1,611.1	339,124.5
1969	345,087.1	128,330.6	2.69	15,586.9	899.1	361,573.1
1970	358,686.8	126,002.4	2.85	15,888.5	916.3	375,491.6
1971	384,228.1	126,121.0	3.05	16,439.6	3,082.0	403,749.7
5-Year						
AVER.	356,633.9	127,766.3	2.79	15,207.9	1,618.2	373,460.0
1972	367,363.6	125,233.8	2.93	14,821.2	2,398.9	384,583.7
1973	386,288.8	125,293.0	3.08	15,335.0	2,983.0	404,606.8
1974	392,413.3	124,240.1	3.16	18,318.5	3,646.3	414,378.1
1975	368,512.6	123,740.7	2.98	16,145.9	3,083.9	387,742.4
1976	419,491.9	123,170.1	3.41	18,182.2	3,271.9	440,946.0
5 Year						
AVER.	386,814.0	124,335.5	3.11	16,560.6	3,076.8	406,451.4
1977	387,858.0	122,703.7	3.16	18,422.7	3,071.4	409,352.2
1978	359,011.0	122,233.7	2.94	15,569.7	3,270.7	377,851.4
1979	355,163.8	122,002.4	2.91	16,181.9	2,853.0	374,198.7
1980	360,484.4	121,763.3	2.96	17,804.3	2,388.6	380,677.3
1981	317,225.2	121,530.0	2.61	14,558.1	2,340.8	334,124.1
5 Year						
AVER.	355,948.5	122,046.6	2.92	16,507.3	2,784.9	375,240.7
1982	377,179.4	120,932.0	3.12	18,292.1	2,747.2	398,218.7
1983	356,836.0	120,277.7	2.97	19,312.3	2,818.3	378,966.6
1984	304,691.9	119,415.2	2.55	19,246.4	2,424.1	326,362.4
1985	293,465.1	119,333.3	2.46	17,494.4	2,863.7	313,823.2
1986	259,739.9	118,634.1	2.19	17,800.6	2,673.0	280,213.5
5 Year						
AVER.	318,382.5	119,718.5	2.66	18,429.2	2,705.3	339,516.9
1987	285,389.6	118,324.9	2.41	15,775.5	2,892.5	304,057.6
1988	306,838.7	115,696.1	2.65	16,734.6	4,887.4	328,460.7
1989	364,436.7	115,088.0	3.17	17,771.4	4,566.5	386,774.6

NEW MEXICO STATE ENGINEER  
METERED PUMPAGE SUMMARY SHEET

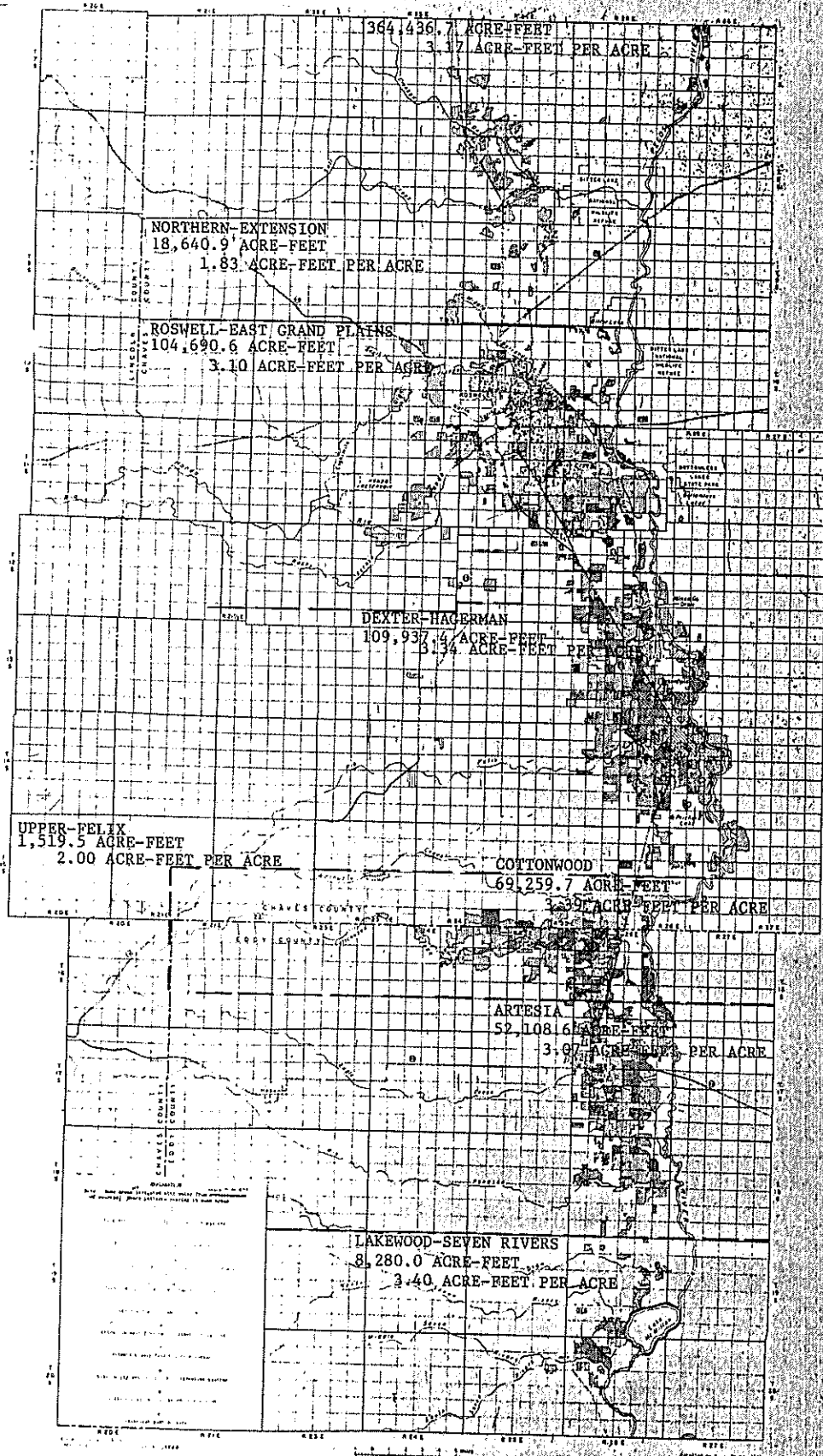
TOWNSHIP RANGE SECTIONS

TOWNSHIP	RANGE	SECTIONS	Location	Right Acres	Surface	PUMPAGE - ACRE FEET		Total	Date	Rate of Applicati
						Shallow	Artesian			
T 7, 8, 9 S; R 23 Thru 26 E			Northern Extension	30,539.9	-0-	460.7	18,180.2	18,640.9	1.83	
T 10, 11, 12 S; R 22, 23, 24 E			Roswell - East	101,328.0	177.0	25,174.7	79,338.9	104,690.6	3.10	
T 10, 11, 12 S; R 25, 26 E			Grand Plains							
T 13, 14, 15 S; R 23, 24 E			Dexter-lagerman	91,686.8	12,341.0	44,401.0	53,195.0	109,937.4	3.34	
T S $\frac{1}{2}$ 12, 13, 14; N $\frac{1}{2}$ 15 S; R 25, 26, 27 E			Area							
T S $\frac{1}{2}$ 15; N 2/3 16 S; R 23 thru 26 E			Cottonwood Area	61,255.0		21,578.9	47,680.8	69,259.7	3.39	
T 15 S; R 17, 18 E			Upper Rio Felix	2,281.0			1,519.5	1,519.5	2.00	
T S 1/3 16, 17, 18 S; R 25, 26 E			Artesia Area	50,868.8		18,620.0	33,488.6	52,108.6	3.07	
T 19, 20 S; R 25, 26 E			Lakewood - Seven Rivers	7,304.4		4,800.4	3,479.6	8,280.0	3.40	
			Total Irrigation	345,263.9	12,518.4	115,035.7	236,882.6	364,436.7	3.17	
			Use							

NEW MEXICO STATE ENGINEER  
 METERED PUMPAGE SUMMARY SHEET

Water Right No.	Well No.	Source	Use	Well Location	Right Acre Feet	RANGE			SECTIONS			Total	Date	Remarks	
						Surface	Shallow	Artesian	PUMPAGE - ACRE FEET	Artesian	Total				
			MUNICIPAL & MUNICIPAL TYPE USE												
				Roswell							10,001.7	10,001.7			
				Dexter				440.2			338.9	779.1			
				Hagerman							466.1	466.1			
				Lake Arthur					7.3		47.7	55.0			
				Artesia							4,432.0	4,432.0			
				Hope							56.4	56.4			
				Co-Ops							1,809.7	1,809.7			
				Domestic Utilities					56.4		115.0	171.4			
				TOTAL					503.9		17,267.5	17,771.4			
				FEED PEN OPERATIONS (NOT FARM CONNECTED)					7.3		58.5	65.8			
				FEED PEN OPERATIONS (FARM CONNECTED)					222.3		36.9	259.2			
				DAIRIES-FARM CONNECTED- CHARGED TO					751.7		649.3	1,401.0			
				IRRIGATION WATER RIGHTS											
				SCHOOL SYSTEMS: ROSWELL							81.0	81.0			
				MISCELLANEOUS INDUSTRIAL & COMMERCIAL											
				Chaves County					1,994.3		314.7	2,309.0			
				Eddy County					88.3		362.2	450.5			
				TOTALS					3,063.9		1,502.6	4,566.5			
				GRAND TOTALS					3,567.8		18,770.1	22,337.9			

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ROSWELL BASIN WATERMASTER  
BUDGET FOR THE 78TH FISCAL YEAR  
1989 - 1990

'89 MAY 10 AM 8 16

STATE ENGINEER OFFICE  
ROSWELL, NEW MEXICO

SALARIES:

Watermaster	\$37,341.00	
Assistant	19,931.00	
Secretary	13,566.00	
Aide - 6 months	10,977.00	
Aide - 6 months	7,119.00	
Temporary	<u>7,119.00</u>	
		\$96,053.00

BENEFITS:

Group Insurance	6,543.00	
Retirement	13,285.00	
FICA	7,281.00	
Workman's Compensation	270.00	
Unemployment Compensation	204.00	
Liability Insurance	<u>342.00</u>	
		27,925.00

TRAVEL:

Mileage & Fares	19,487.00	
Per Diem	<u>3,738.00</u>	
		23,225.00

POSTAGE 389.00

MAINTENANCE - RADIO COMMUNICATIONS 765.00

COMMUNICATIONS 742.00

RENT & UTILITIES 4,301.00  
\$153,400.00

It is anticipated that line items will vary, but that the total will not exceed \$153,400.00 for the 78th fiscal year.

	1988												
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	FIRST HALF	LAST HALF					
<b>SALARIES:</b>													
Watermaster	\$1,532.96	\$1,716.00	\$1,830.40	\$1,693.12	\$1,738.88	\$2,768.48	\$11,279.84	\$20,428.60					
Assistant Watermaster	2,169.39	1,558.59	1,242.66	1,432.21	1,474.35	2,358.94	10,236.14	19,502.29					
Secretary	1,245.49	1,005.20	1,008.58	879.97	937.51	1,353.80	6,430.55	11,677.40					
Other				2,292.46	2,509.93	2,304.67	7,107.06	16,088.70					
Insurance, State Share	287.31	214.09	185.11	313.47	369.33	544.99	1,914.30	2,627.35					
Social Security	362.10	314.43	300.65	462.40	487.91	641.88	2,569.37	4,976.50					
Retirement	684.26	591.88	564.48	870.96	921.17	1,215.08	4,847.83	9,360.61					
Workman's Compensation						450.00	450.00	533.34					
Unemployment						90.00	90.00	100.26					
Mileage, Gas, Maint. & Repairs	1,021.90	936.98	1,383.58	1,774.08	1,658.58	1,488.96	8,264.08	12,939.96					
Per Diem	96.00	198.00	138.00	138.00	348.00	120.00	1,038.00	2,082.00					
Liability Insurance						230.00	230.00	288.54					
Communications	64.17	64.17	64.17	64.17	64.17	36.17	357.02	731.48					
Rent	192.50	192.50	192.50	192.50	192.50	2,183.50	3,146.00	2,194.50					
Maint., Fixt., Supplies Postage	33.33	33.33	33.33	33.33	33.33	22.33	188.98	561.52					
Service to other Agency													
	\$7,669.49	\$6,825.17	\$6,943.46	\$10,146.67	\$10,735.66	\$15,808.80	\$58,149.17	\$104,093.02					

	July	August	September	October	November	December	1989 LAST HALF	1989 TOTAL
Watermaster	\$ 887.76	\$1,808.50	\$2,712.75	\$1,749.01	\$1,409.91	\$1,618.13	\$10,186.06	\$21,465.90
Assistant Watermaster	1,255.27	1,467.57	2,299.91	1,358.04	1,358.05	679.02	8,417.86	18,654.00
Secretary	644.43	1,126.40	1,566.40	1,056.00	746.24	1,077.12	6,216.59	12,647.14
Other				1,510.02	1,112.74		6,143.03	13,250.09
Insurance, State Share	293.36	375.50	529.34	270.53	212.61	81.25	1,762.59	3,676.89
Social Security	262.18	406.45	589.30	415.72	339.44	250.45	2,263.54	4,832.91
Retirement	501.21	771.64	1,118.25	784.59	639.90	466.66	4,282.25	9,130.08
Workman'S Compensation	22.50	22.50	22.50	22.50	22.50	22.50	135.00	585.00
Unemployment	17.00	17.00	17.00	17.00	17.00	17.00	102.00	192.00
Mileage, Gas, Maint. & Repairs	1,289.86	1,544.40	1,236.40	1,287.22	46.42	319.00	5,723.30	14,987.38
Winter Diem	108.00	210.00	168.00	186.00	96.00		768.00	1,806.00
Liability Insurance	28.50	28.50	28.50	28.50	28.50	28.50	171.00	401.00
Communications	61.85	61.83	61.83	61.83	61.83	61.83	371.00	728.02
Content	358.40	358.42	358.42	358.42	358.42	358.42	2,150.50	5,296.50
Maint., Fixt., Supplies Postage	32.40	32.42	32.42	32.42	32.42	32.42	194.50	383.48
Service to other Agency								
TOTALS	\$6,599.32	\$9,408.17	\$12,247.65	\$9,137.80	\$6,481.98	\$5,012.30	\$48,887.22	\$108,036.39

ARTICLES:

## SUMMARY

Metered use of water during 1989 resulted in an average use, for irrigation purposes, of 3.17 acre-feet per water right acre. The total quantity diverted for all uses was the ninth highest since metering began in 1967.

Inoperative meters continued to present some problems, however, under the present system of making adjustments essentially all of the water diverted through inoperative meters is accounted for. The program of checking and rating meters with the present staff seems to be working satisfactory.