

ROSWELL BASIN WATERMASTER

27th

ANNUAL REPORT

1992

Robert R. Marr, Watermaster

1900 West Second Street

Roswell, New Mexico 88201

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## 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:

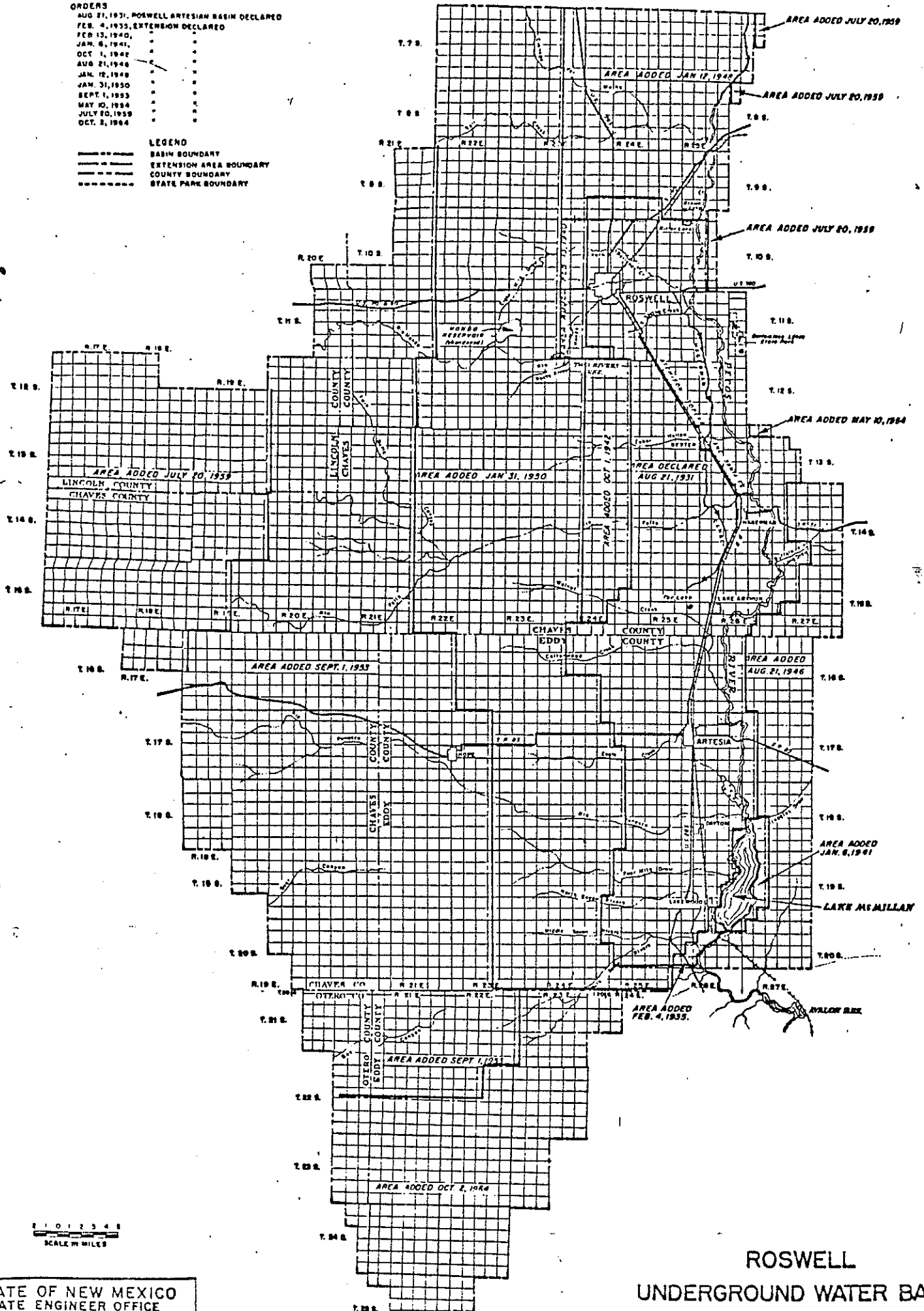
"5. The state engineer shall appoint and employ a watermaster and such assistants as are necessary in the administration and enforcement of this judgment and decree, provided that the appointment of the watermaster shall be subject to the approval of the Court. Such watermaster shall be appointed to 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 27th Annual Report of the Watermaster Office.

- ORDERS**
- AUG 21, 1931, ROSWELL ARTESIAN BASIN DECLARED
  - FEB. 4, 1933, EXTENSION DECLARED
  - FEB 13, 1940, " " " "
  - JAN. 6, 1941, " " " "
  - OCT. 1, 1942, " " " "
  - AUG 21, 1946, " " " "
  - JAN. 12, 1949, " " " "
  - 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



STATE OF NEW MEXICO  
STATE ENGINEER OFFICE  
E. 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 93% of the total water diverted. Municipal use of water accounts for about 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 Judge Paul Snead served during the 1992 reporting period.

Personnel of the watermaster office at the beginning of the 1992 season consisted of Robert R. Marr, Watermaster; Rita Valdez, Secretary-Clerk, and David Thomas, Assistant Roswell Basin Watermaster.

On March 30, 1992, Sheldon Dorman and Dirk Sanders transferred from the Water Rights Division to the Watermaster office to assist during the irrigation season.

On June 30, 1992, Dirk Sanders employment with the State Engineers office was terminated.

On August 17, 1992, Phillip Fields came to work for the Watermaster office and transferred to the Water Rights Division on September 28, 1992.

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

Eight hundred and sixty seven meters were found inoperative during the 1992 irrigation season. Based on a total of 1663 meters installed on irrigation, feed pen, dairy, and Hagerman Canal wells, this is 52.1% as compared to 40.9% found inoperative in 1991. Each meter was read an average of 9.0 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 1992 irrigation season, are listed as follows:

Make of Meter	Total	% of Total	Total Inoperative	Make Inoperative	% of Total Installed
BRAND A	98	5.9	41	41.8	2.47
BRAND B	1433	86.2	790	55.1	47.50
BRAND C	92	5.5	26	28.3	1.56
BRAND D	40	2.4	10	25.0	0.60
	1663	100.00	867		52.13

Adjustments in amounts of water diverted through inoperative meters for 1992 totaled 11,501.5 acre-feet of which 7,323.6 acre-feet was artesian and 4,177.9 acre-feet of which was shallow. The total adjustment is 3.77% 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.

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 1992 water year.

VIOLATION ACTIONS

There were no instances of overuse in 1992.

## USE OF WATER IN THE ROSWELL BASIN IN 1992

The total water diverted in the Roswell Ground Water Basin for the water year 1992 (November 1, 1991 - October 31, 1992) under the administrative jurisdiction of the Roswell Basin Watermaster, was 327,323.9 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 first year of the sixth five-year period was 1992.

Of the total diversion, 220,294.4 acre-feet (67.3%) was from the artesian source, 95,526.4 acre-feet (29.2%) was from the shallow source and 11,503.1 acre-feet (3.5%) was diverted from combined underground and surface sources primarily under the Hagerman Canal and the Rio Hondo.

Irrigation use accounted for 93.2% of the total diverted, municipal type use accounted for 5.4% and miscellaneous, industrial and commercial uses accounted for the remaining 1.4%.

The irrigation use on 115,510.4 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 2.64 acre-feet per acre for the basin as a whole varying from a high of 3.07 acre-feet per acre in the Dexter-Hagerman area to a low of 0.83 acre-feet per acre in the Upper Rio Felix. 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 eight hundred and eighty farming units.

ROSWELL BASIN WATERMASTER

TABULATION OF ANNUAL WATER DIVERTED

1967 - 1992

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
1990	356,612.1	115,433.0	3.09	20,569.6	4,733.2	381,914.9
1991	314,893.3	115,378.3	2.73	18,887.1	9,768.9	343,549.3
5 Year						
AVER.	325,634.1	115,984.1	2.81	17,947.6	5,369.7	348,951.4
1992	305,168.4	115,510.4	2.64	17,765.7	4,389.8	327,323.9

NEW MEXICO STATE ENGINEER  
METERED PUMPAGE SUMMARY SHEET  
1992

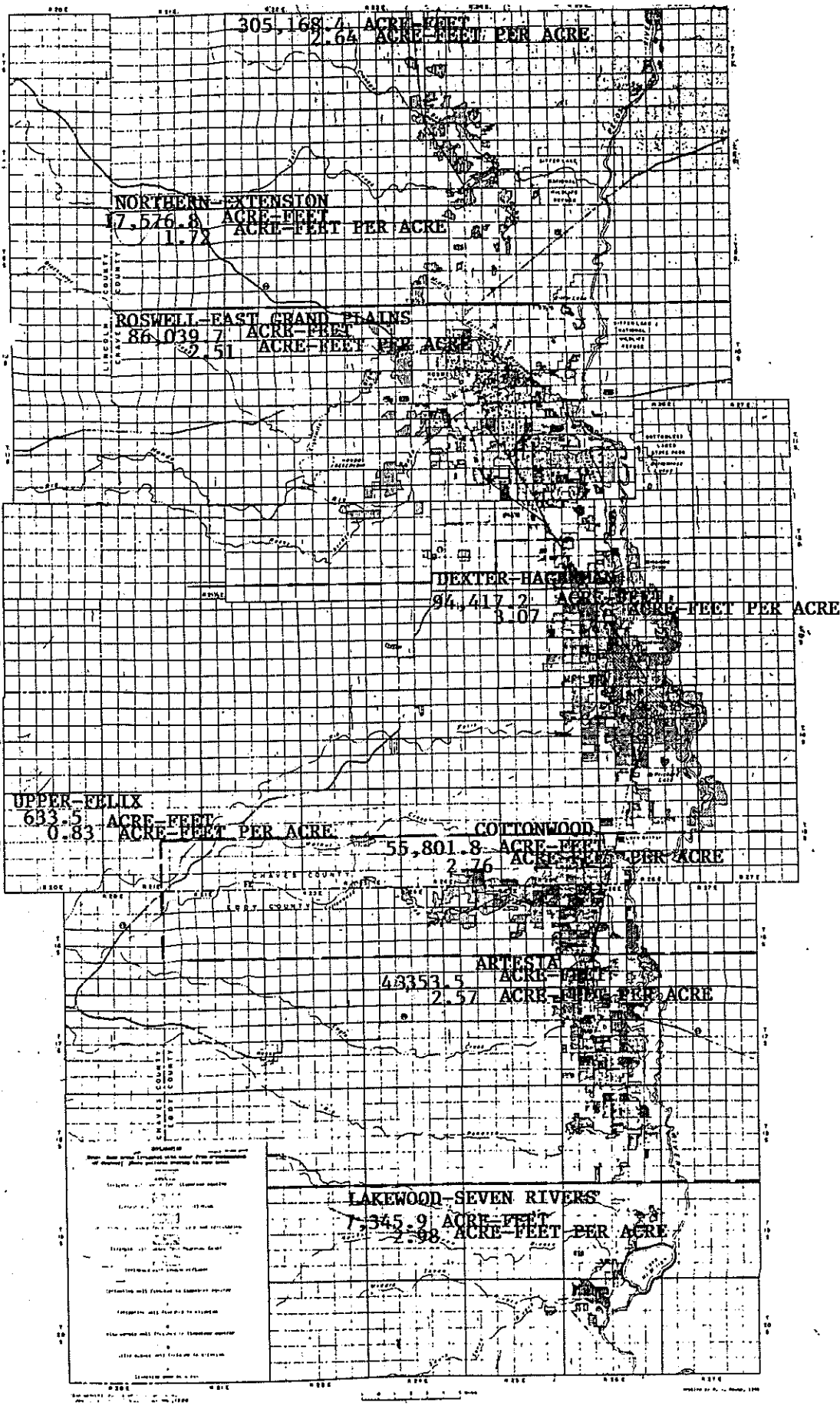
TOWNSHIP	RANGE	SECTIONS	Location	Right Acre Feet	PUMPAGE - ACRE FEET			Total	Date	Rate of Appl.
					Surface	Shallow	Artesian			
T 7, 8, 9 S; R 23 Thru 26 E			Northern	30580.7			17,576.8	17,576.8		1.72
			Extension							
T 10, 11, 12 S; R 22, 23, 24 E			Roswell - East	102,866.3	991.3	21,060.7	63,987.7	86,039.7		2.51
T 10, 11, 12 S; R 25, 26 E			Grand Plains							
T 13, 14, 15 S; R 23, 24 E			Dexter-Wagerman	92,049.1	10,511.8	35,235.5	48,669.9	94,417.2		3.07
T 12, 13, 14, 15 S; R 25, 26, 27 E			Area		5,582.9					
Non-Supplemental Canal only										
T 15 S; R 23 Thru 26 E			Cottonwood	60,716.4		16,799.1	39,002.7	55,801.8		2.76
			Area							
T 15 S; R 17, 18 E			Upper Rio	2,281.0			633.5	633.5		0.83
			Felix							
T 1/3 16, 17, 18 S; R 25, 26 E			Artesia	50,654.6		16,463.7	26,889.8	43,353.5		2.57
			Area							
T 19, 20 S; R 25, 26 E			Lakerood -	7,383.0		3,134.7	4,211.2	7,345.9		2.98
			Seven Rivers							
			Total Irrigation	316,531.1	11,503.1	92,693.7	200,971.6	305,168.4		2.64
			Use							

NEW MEXICO STATE ENGINEER  
 METERED PUMPAGE SUMMARY SHEET  
 1992

Water Right No.	Well No.	Source	Use	Well Location	Right Acre Feet	SECTION			Remarks
						Surface	Shallow	Artesian	
						PUMPAGE - ACRE FEET			
						Surface	Shallow	Artesian	Total
			MUNICIPAL & MUNICIPAL TYPE USE						
			Roswell				10,667.3		10,667.3
			Dexter			548.2	377.9		926.1
			Hegerman				428.7		428.7
			Lake Arthur				71.7		71.7
			Artesia				3,827.6		3,827.6
			Hope				34.5		34.5
			Co-Ops				1,641.0		1,641.0
			Domestic Utilities			33.3	135.5		168.8
			TOTAL			581.5	16,184.2		16,765.7
			FEED PEN OPERATIONS (NOT FARM CONNECTED)			19.8	5.1		24.9
			FEED PEN OPERATIONS (FARM CONNECTED)			7.7			7.7*
			DAIRIES-FARM CONNECTED- CHARGED TO			5,841.9	16,637.2		22,479.1*
			IRRIGATION WATER RIGHTS						
			DAIRIES-NFC			556.8	1,182.9		1,739.7**
			SCHOOL SYSTEMS: ROSWELL				42.5		42.5
			MISCELLANEOUS INDUSTRIAL & COMMERCIAL						
			Chaves County			1,659.6	155.4		1,815.0
			Eddy County			15.0	752.7		767.7
			TOTALS			2,251.2	2,138.6		4,389.8

\* INCLUDED IN IRRIGATION TOTAL  
 \*\* NOT INCLUDED in irrigation total

RNG





# ROSWELL BASIN WATERMASTER

BUDGET  
81ST FY  
(1992 - 1993)

## Salaries:

Watermaster	25,835
Assistant	19,494
Secretary	19,013
Water Resource Spec. I	12,334
Water Resource Tech. III	<u>8,847</u>

Total Salaries: 85,523

## Benefits:

Group Insurance	3,601
Retirement	11,796
FICA	6,525
Workman's Compensation	782
Unemployment Compensation	140
Liability Insurance	548
Retiree Health Care	<u>853</u>

Total Benefits: 24,245

## Travel:

Mileage	9,000
Perdiem	<u>3,770</u>

Total Travel: 12,770

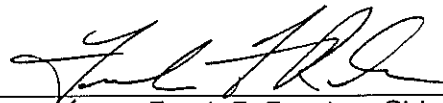
## Other Costs:

Postage	450
Maintenance	512
Rent & Utilities	<u>8,500</u>

Total Other Costs: 9,462

Total Budget: 132,000

It is anticipated that line items will vary, but that the total will not exceed \$132,000 for the 81st fiscal year.



Frank F. Rendon, Chief  
Management Services Division

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	1992 FIRST HALF	1991 LAST HALF
<b>SALARIES:</b>								
Watermaster	989.84	1781.71	1930.19	1880.70	2872.93	2678.71	12,134.08	10,345.37
Assistant Watermaster	296.78			494.64			791.42	8,438.07
Secretary	1156.47	1343.14	1402.32	1238.41	1980.55	1181.04	8,301.93	7,699.16
Other	1176.34	1274.36	1451.75	2579.47	4066.52	3198.74	13,747.18	9,370.47
Insurance, State Share	228.14	213.78	242.90	402.45	421.48	384.28	1,893.03	2,157.03
Social Security	268.19	328.81	357.16	457.48	665.66	527.59	2,604.89	2,674.79
Retirement	500.56	608.40	661.65	856.51	1233.62	976.19	4,836.93	4,969.42
Workman's Compensation	65.58	65.58	65.58	65.58	65.58	65.58	393.48	393.52
Unemployment	13.33	13.33	13.33	13.33	13.33	13.33	79.98	80.82
Mileage, Gas, Maint. & Repairs	968.70	760.82	80.07	965.80	301.74	164.06	3,241.19	1,629.34
Per Diem			54.00				54.00	-0-
Liability Insurance	42.17	42.17	42.17	42.17	42.17	42.17	253.02	252.98
Communications	42.67	42.67	42.67	42.67	42.67	42.67	256.02	255.98
Rent	685.92	685.92	685.92	685.92	685.92	685.92	4,115.52	4,115.48
POSTAGE	37.50	37.50	37.50	37.50	37.50	37.50	225.00	225.00
RETREE HEALTH CARE	36.15	43.94	47.78	61.85	89.09	70.53	349.34	358.85
	6508.34	7242.13	7114.99	9824.48	12518.76	10068.31	53,277.01	52,965.48

	July	August	September	October	November	December	LAST HALF	YEAR
<b>SALARIES:</b>								
Watermaster	2,280.42	2,011.73	1,873.94	1,984.18	1,763.70	1,653.47	11,567.44	23,701.52
Assistant Watermaster	1,493.75	1,120.32	1,344.38	1,269.69	508.81	1,820.51	7,557.46	8,348.88
Secretary	1,302.14	1,373.71	1,138.14	1,321.96	644.52	1,605.02	7,385.84	15,687.77
Other	984.0	2,318.10	2,614.56	-0-	600.30	-0-	6,517.41	20,264.59
Insurance, State Share	168.00	160.85	161.57	123.52	73.60	120.91	808.45	2,701.48
Social Security	453.80	512.84	523.59	343.38	239.27	301.14	2,374.02	4,978.91
Retirement	375.75	435.56	430.83	282.79	196.66	248.95	1,970.54	6,807.47
Workman's Compensation	2.17	2.49	2.61	1.63	1.08	1.43	11.41	404.89
Unemployment							-0-	79.98
<b>GAS, OIL &amp; MAINTENANCE</b>								
		1,314.29	809.93	487.67	1,068.01	245.21	3,925.11	7,166.30
Per Diem				54.00			54.00	108.00
Liability Insurance							-0-	253.02
Communications	42.67	42.67	42.67	42.67	42.67	42.67	256.02	512.04
Rent	711.64	784.75	784.75	784.75	784.75	784.75	4,635.39	8,750.91
<b>POSTAGE</b>	38.67	38.67	38.67	37.50	37.50	37.50	228.51	453.51
<b>RETIREE HEALTH CARE</b>	27.11	34.09	35.21	22.87	15.91	20.12	155.31	504.65
<b>TOTALS</b>	<b>7,880.57</b>	<b>10,150.07</b>	<b>9,801.20</b>	<b>6,756.78</b>	<b>5,976.78</b>	<b>6,881.68</b>	<b>47,446.90</b>	<b>100,723.91</b>

## SUMMARY

Metered use of water during 1992 resulted in an average use, for irrigation purposes, of 2.64 acre-feet per water right acre. The total quantity diverted for all uses was the seventh lowest 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.