

ROSWELL BASIN WATERMASTER

16th

ANNUAL REPORT

1981

Glenn W. Brim, Watermaster

909 East Second Street

Roswell, New Mexico

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INTRODUCTION

On January 10, 1966, Partial Judgment and Decree was entered under Causes Nos. 20294 and 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:

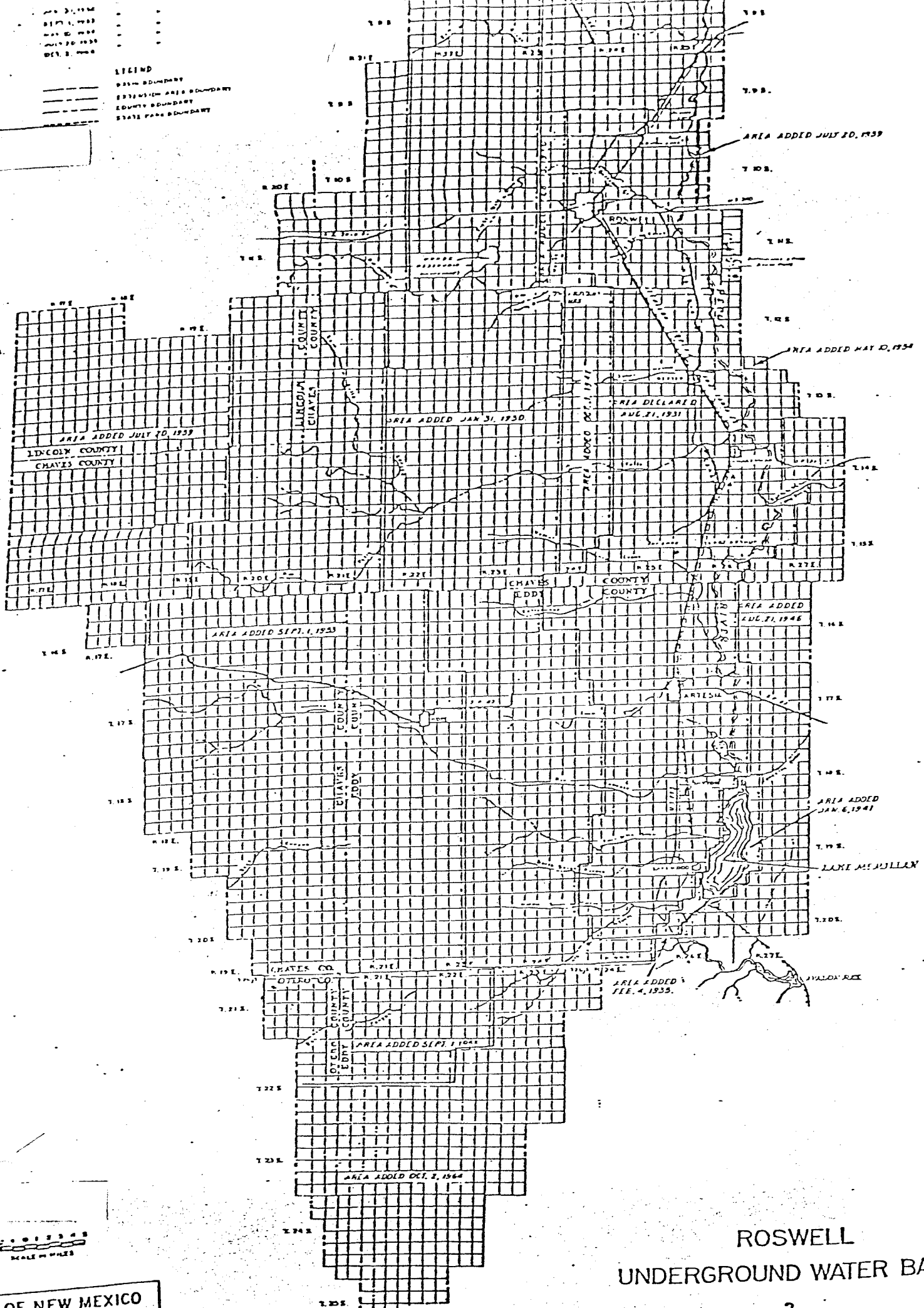
"5. The state engineer shall appoint and employ a watermaster and such assistants as are necessary in the administration and enforcement of this judgment and decree, provided that the appointment of the watermaster shall be subject to the approval of the Court. Such watermaster shall be appointed to 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, Glenn W. Brim, was appointed by State Engineer, S.E. Reynolds, on January 31, 1969.

This is the 16th Annual Report of the Watermaster Office.

APR. 21, 1938
 SEP. 1, 1939
 MAY 10, 1939
 JULY 20, 1939
 OCT. 1, 1940

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



**ROSWELL
 UNDERGROUND WATER BASIN**

OFFICE OF NEW MEXICO
 ENGINEER OFFICE

ADMINISTRATION

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 from twenty miles north of Roswell in Chaves County to twenty miles south of Artesia in Eddy County, a distance of about eighty miles. The principal use of water in the area is for agricultural purposes which accounts for about 95% of the total diverted. Municipal use 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 and 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 the Decree. The amount of acreage actually irrigated, however, varies from year to year as some rights have, under permit, been spread over larger acreages, a few rights have been "stacked" to permit larger diversions on reduced acreages, some rights have been transferred to municipal and industrial uses, some rights have been retired by the Pecos Valley Artesian Conservancy District, and some acreage is fallowed.

Procedures for accounting of water diverted under the Hagerman Canal were revised in January of 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 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 Paul Snead, Judge of the Fifth Judicial District, serving by designation as judge in the adjudication suit during the 1981 reporting period, was replaced by the Honorable Lafel Oman on September 25, 1981.

Personnel of the watermaster office at the beginning of 1981 consisted of Glenn W. Brim, watermaster; JoAnn Romero, secretary-clerk; and Robert Marr, as an assistant to the watermaster. On December 19, 1980, JoAnn Romero resigned. Rita Valdez was employed on February 9, 1981, as secretary-clerk.

On April 6, 1981, Ramon Torres and Richard Jones were transferred from the water rights division to the watermaster's office to assist during the irrigation season. Richard Jones resigned May 24, 1981, and Hugh Puckett transferred into the watermaster's office temporarily (May 4, thru July 7). On June 19th, J. C. Walker was hired. Ramon Torres and J. C. Walker transferred to the water rights division on October 5. Ramon Torres returned on October 26th thru December 1, 1981 to assist in the annual and five year accounting, and J. C. Walker assisted in the accounting for three weeks during November 1981.

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 the Pecos Valley Artesian Conservancy District a budget for the operations of the watermaster office and the District Board then moves the Court to approve or modify the budget submitted. The District then reimburses the State Engineer for monthly expenses incurred. The funds of the Conservancy District are derived from a levy of lands within the District.

METERING PROGRAM

Five hundred and five meters were found inoperative during the 1981 irrigation season. Based on a total of 1590 meters installed on irrigation, feed pen, dairy, and Hagerman Canal wells, this is 31.76% as compared to 29.45% found inoperative in 1980. Each meter was read an average of 9.8 times.

The number of totalizing meters, by brand, installed on these wells and the number of each brand found to be inoperative during the 1981 irrigation season, are listed as follows:

Make of Meter	Total	% of Total	Total Inoperative	Make % Inoperative	% of Total Installed
Brand A	81	5.09	22	27.16	1.38
Brand B	979	61.57	306	31.26	19.25
Brand C	403	25.35	142	35.24	8.93
Brand D	103	6.48	22	21.36	1.38
Misc.	<u>24</u>	<u>1.51</u>	<u>13</u>	54.17	<u>0.82</u>
	1590	100.00	505		31.76

Adjustments in amounts of water diverted through inoperative meters for 1981 totaled 6887.7 acre-feet; 4189.8 acre-feet of which was artesian and 2697.9 acre-feet of which was shallow. The total adjustment is 2.17% 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. It is still believed that an extensive winter maintenance program would alleviate most of this problem.

Meters are being maintained, repaired and/or replaced by field personnel of the Pecos Valley Artesian Conservancy District, at no cost to the water user.

CHANGES IN THE ADJUDICATION DECREE

There were no changes in the Adjudication Decree during the 1981 water year.

VIOLATION ACTIONS

The two violations from 1980 were resolved early in the Spring of 1981.

In accordance with the Order of the Court dated September 2, 1980 consent agreements in uncontested matters involving the diversion and use of water in excess of the five-year adjudicated right during the third five-year accounting period (1977-1981) were executed in twenty-four cases. These cases involved a total overuse of 809.3 acre-feet, and the consent agreements provided for a repayment of 1618.6 acre-feet during the fourth five-year accounting period commencing on November 1, 1981 and total fines in the amount of \$9,400.00 payable to the Irrigation Works Construction Fund of the Interstate Stream Commission.

One case of overuse has been referred to the court, in another, litigation is pending.

WATER DIVERSION

Use of Water in the Roswell Basin in 1981

The total water diverted in the Roswell Ground Water Basin for the water year 1981 (November 1, 1980 - October 31, 1981) under the administrative jurisdiction of the Roswell Basin Watermaster, was 334,124.1 acre-feet the lowest quantity diverted and the second lowest application rate (acre-feet per acre) since metering began. Under the decree adjudicating water rights in the basin, five year periods were set up for accounting of the metered water and the 1981 water year was the fifth year of the third five year period.

Of the total diversion, 212,242.7 acre-feet (63.5%) was from the artesian source, 109,370.8 acre-feet (32.7%) was from the shallow source and 12,510.6 acre-feet (3.8%) was diverted from combined underground and surface sources primarily under the Hagerman Canal and the Rio Hondo.

Irrigation use accounted for 95% of the total diverted, municipal type use accounted for 4% and miscellaneous industrial and commercial uses accounted for the remaining 1%.

The irrigation use on 121,530.0 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 2.61 acre-feet per acre for the basin as a whole, varying from a high of 3.39 acre-feet per acre in the Lakewood-Seven Rivers area to a low of 1.16 acre-feet per acre in the Upper Felix area. The equivalent acreage figures and pumpage figures do not include unmetered stock and domestic uses, water right acreage retired from irrigation under the program of the Pecos Valley Artesian Conservancy District. Eight hundred and forty-one farming units are included.

Included in the totals are 6,887.7 acre-feet (2.2% of the total irrigation diversion) which was computed for periods when meters were inoperative.

Roswell Basin Watermaster Office
December 1981

ROSWELL BASIN WATERMASTER

Tabulation of Annual Water Diverted

1967-1981

: Year :	: Ac. Ft. :	: Irrigation : : Eq. Ac. :	: Ac. Ft./Ac. :	: Municipal : : Ac. Ft. :	: Ind. & Com. : : Ac. Ft. :	: TOTAL : : Ac. Ft. :
:1967 :	: 371,250.6 :	: 130,132.7 :	: 2.85 :	: 14,428.3 :	: 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 Yr. :	:	:	:	:	:	:
: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 Yr. :	:	:	:	:	:	:
: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 Yr. :	:	:	:	:	:	:
:Aver. :	: 355,948.5 :	: 122,046.6 :	: 2.92 :	: 16,507.3 :	: 2,784.9 :	: 375,240.7 :

NEW MEXICO STATE ENGINEER
METERED PUMPAGE SUMMARY SHEET

1981

TOWNSHIP _____ RANGE _____ SECTIONS _____

Water Right No.	Well No.	Source	Use	Well Location	Right Acre Feet	PUMPAGE - ACRE FEET				Date	Remarks
						Surface	Shallow	Artesian	Total		
				MUNICIPAL & MUNICIPAL TYPE USE							
				Roswell				9349.3	9349.3		
				Dexter			314.0	189.5	503.5		
				Hagerman				412.6	412.6		
				Lake Arthur				51.7	51.7		
				Artesia				3887.4	3887.4		
				Hope				84.1	84.1		
				Co-ops				896.2	896.2		
				Domestic Utilities			26.5	49.0	75.5		
				TOTAL			340.5	14919.8	15260.3		
				FEED PEN OPERATIONS (NOT FARM CONNECTED)			284.0	16.7	300.7		
				(FEED PEN OPERATIONS-FARM CONNECTED Charged to Irrigation Water Right)			* 101.7	* 254.0	* 355.7		* Not to be included in total
				SCHOOL SYSTEMS: ROSWELL				74.9	74.9		
				POWER GENERATION: S.W.P.S. Co.				-0-	-0-		
				MISCELLANEOUS INDUSTRIAL & COMMERCIAL							
				Chaves County			1484.0	144.0	1628.0		
				Eddy County			101.6	235.6	337.2		
				TOTALS			2210.1	15391.0	17601.1		

TWP _____ RNG _____

TOWNSHIP _____ RANGE _____ SECTIONS _____

	Well Location	Right Acre Feet	PUMPAGE - ACRE FEET				Date	Remarks
			Surface	Shallow	Artesian	Total		
T 7,8,9 S; R 23 thru 26 E	Northern	30232.1		903.3	19314.6	20217.9	2.01	
	Extension							
T 10,11,12 S; R 22,23,24 E	Roswell -East	103846.2		20239.5	59485.8	79725.3	2.30	
T 10,11,N $\frac{1}{2}$ 12 S; R25,26 E	Grand Plains							
T 13,14 N $\frac{1}{2}$ 15 S; R 23,24,E	Dexter-Hagerman	103398.2	12510.6	41991.3	44215.4	98717.3	2.86	
T S $\frac{1}{2}$ 12,13,14; N $\frac{1}{2}$ 15 S; R24,25,26,27E	Area							
T S $\frac{1}{2}$ 15; N 2/3 16 S; R 23 thru 26 E	Cottonwood	60640.8		20079.9	37295.6	57375.5	2.68	
	Area							
T 15 S; R 17,18 E	Upper Rio	2281.0			884.1	884.1	1.16	
	Felix							
T S 1/3 16, 17,18, S: R 25,26,E	Artesia	52470.2		16820.7	30238.0	47058.7	2.69	
	Area							
T 19,20 S; R 25, 26 E	Lakewood	11721.5		7126.0	6120.4	13246.4	3.39	
	Seven Rivers							
	Total Irrigation	364590.0	12510.6	107160.7	197553.9	317225.2	2.61	

1981 Metered Use (irrigation)

Basin-Wide: 317,225.2 acre feet
2.61 acre feet per acre

Northern Extension
20,217.9 acre feet
2.01 acre feet per acre

Roswell-East Grand Plains
79,725.3 acre feet
2.30 acre feet per acre

Dexter-Hagerman
98,717.3 acre feet
2.86 acre feet per acre

Upper Felix **Cottonwood**
884.1 acre feet **57,375.5 acre feet**
1.16 acre feet/acre **2.68 acre feet/acre**

Artesia
47,058.7 acre feet
2.69 acre feet/acre

Lakewood-Seven Rivers
13,246.4 acre feet
3.39 acre feet/acre

- EXPLANATION**
- Shaded area irrigated with water from unconsolidated aquifers (Note: Some areas irrigated with water from unconsolidated aquifers; some patterns overlap in some areas)
 - Irrigation with water from limestone aquifer
 - Irrigation with water from unconsolidated aquifer
 - Irrigation with water from limestone aquifer
 - Irrigation with water from Artesia Canal
 - Irrigation with surface water
 - Irrigation well finished in limestone aquifer
 - Irrigation well finished in alluvium
 - Public supply well finished in limestone aquifer
 - Public supply well finished in alluvium
 - Shaded area not irrigated

FINANCIAL STATEMENTS

State Of New Mexico

Roswell Basin Watermaster Office
Glenn W. Brim, Watermaster

Approved Budget for the
70th Fiscal Year
(1981-1982)

Salaries

Watermaster	\$25,751.00
Assistant	13,830.00
Secretary	9,099.00
Aide	6,292.00
Aide	5,210.00
Temporary	2,700.00
Total:	62,882.00
Group Insurance	860.00
Social Security	4,017.00
Retirement	3,702.00
Liability Insurance	80.00
Unemployment Compensation	100.00
Workmen's Compensation	523.00
Total:	9,282.00
Mileage & Fares	18,260.00
Meals & Lodging	3,328.00
Total:	21,588.00
Maintenance, Supplies,	120.00
Services of Other Agencies	468.00
Communications	500.00
Rent	1,620.00
Total:	2,708.00
Grand Total:	\$96,460.00

It is anticipated that line items will vary, but the total will not exceed \$96,460.00 for the 70th fiscal year.



R. B. Collins Jr.
District II Supervisor
May 20, 1981

Roswell Basin Watermaster

Itemized Expenditures

1981

	1981												1980	
	January	February	March	April	May	June	First Half	June	May	April	March	February	January	Last Half
Salaries:														
Watermaster	\$1,729.66	\$1,729.66	\$1,729.66	\$1,859.30	\$2,724.15	\$2,451.73	\$12,224.16	\$2,451.73	\$2,724.15	\$1,859.30	\$1,729.66	\$1,729.66	\$1,729.66	\$10,354.86
Assistant Watermaster	856.10	856.10	856.10	856.10	1,304.84	1,211.60	5,940.84	1,211.60	1,304.84	856.10	856.10	856.10	856.10	5,292.23
Secretary		369.66	638.16	638.16	825.57	861.52	3,333.07	861.52	825.57	638.16	638.16	369.66		4,527.41
Other	15.97	15.97	34.36	1,147.02	3,300.92	4,020.17	8,534.41	4,020.17	3,300.92	1,147.02	34.36	15.97		6,857.15
Insurance, State Share	33.19	56.58	40.19	71.73	156.84	153.03	511.56	153.03	156.84	71.73	40.19	56.58		556.55
Social Security	173.02	197.60	216.69	299.30	542.37	568.28	1,997.26	568.28	542.37	299.30	216.69	197.60		1,682.83
Retirement	160.02	182.75	200.40	276.78	501.59	525.53	1,847.07	525.53	501.59	276.78	200.40	182.75		1,689.14
Workman's Compensation				112.50			112.50			112.50				
Unemployment				482.85			482.85			482.85				
Mileage, Gas Maint. & Repairs	895.28	941.83	1,036.07	1,655.66	1,788.85	1,548.12	7,865.81	1,548.12	1,788.85	1,655.66	1,036.07	941.83		6,826.44
Per Diem	67.50	121.50	175.50	261.00	247.50	283.50	1,156.50	283.50	247.50	261.00	175.50	121.50		1,149.00
Liability Insurance				72.15			72.15			72.15				
Communications	33.33	33.33	33.33	33.33	33.33	33.33	199.98	33.33	33.33	33.33	33.33	33.33		199.98
Rent: Parking Office	100.00	100.00	100.00	360.00	100.00	100.00	960.00	100.00	100.00	360.00	100.00	100.00		600.00
Maint., Fixt., Supplies					47.15	865.84	912.99	865.84	47.15					33.49
Serv.to other agency				375.00			375.00			375.00				
TOTALS	\$4,064.07	\$4,604.98	\$5,060.46	\$8,600.88	\$11,573.11	\$12,622.65	\$46,526.15	\$12,622.65	\$11,573.11	\$8,600.88	\$5,060.46	\$4,604.98		\$39,769.08

	July	August	September	October	November	December	1981 Last Half	Year 1981
Salaries:								
Watermaster	\$1,254.49	\$1,964.14	\$1,964.14	\$2,946.21	\$2,062.52	\$2,062.52	\$12,254.02	\$24,478.18
Assistant Watermaster	606.80	1,040.92	1,040.92	1,561.38	1,040.92	1,040.92	6,331.86	12,272.70
Secretary	431.35	671.26	671.26	1,006.89	671.26	671.26	4,123.28	7,456.35
Other	1,650.29	1,753.21	1,743.48	1,338.31	3,049.28	777.83	10,312.40	18,846.81
Insurance, State Share	73.96	104.62	104.90	112.40	406.68	118.20	920.76	1,432.32
Social Security	262.22	361.07	350.29	455.71	450.01	292.61	2,171.91	4,169.17
Retirement	242.51	333.92	333.33	421.46	419.68	279.97	2,030.87	3,877.94
Workman:s Compensation								112.50
Unemployment								482.85
Mileage, Gas Maint. & Repairs	2,373.36	1,858.56	1,582.90	1,692.90	40.92	99.44	7,648.08	15,513.89
Per Diem	252.00	390.50	264.00	346.50	192.50	16.50	1,462.00	2,618.50
Liability Insurance								72.15
Communications	42.00	42.00	42.00	42.00	42.00	42.00	252.00	451.98
Rent: Parking Office	135.00	135.00	135.00	135.00	135.00	135.00	810.00	1,770.00
Maint., Fixt., Supplies			16.58				16.58	929.57
Serv. to other agency								375.00
TOTALS	\$7,323.98	\$8,655.20	\$8,248.80	\$10,058.76	\$8,510.77	\$5,536.25	\$48,333.76	\$94,859.91

SUMMARY

SUMMARY

Metered use of water during 1981 resulted in an average use, for irrigation purposes, of 2.61 acre-feet per water right acre. The total quantity diverted for all uses was the lowest during the past fifteen years.

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.