

ROSWELL BASIN WATERMASTER

11th

ANNUAL REPORT

Year

1976

Glenn W. Brim, Watermaster

909 East Second Street

Roswell, New Mexico

TABLE OF CONTENTS

	<u>Page</u>
Introduction.....	1
Map of Roswell Underground Basin.....	2
Administration	
General.....	3
Metering Program.....	5
Changes or Order in the Adjudication Decree.....	7
Violation Actions.....	8
Water Diversion	
Use of Water in the Roswell Basin in 1976.....	9
Summary of Annual Diversion.....	10
Map Indicating Areas of Irrigation Use.....	12
Tabulation of Annual Diversions..1967-.1976.....	13
Financial Statements	
Approved Budget July 1, 1976 - June 30, 1977.....	14
Actual Expenditures January 1 - June 30, 1976....	15
Actual Expenditures July 1 - December 31, 1976... 16	
Summary.....	17

INTRODUCTION

On January 10, 1966 Partial Final 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 11th Annual Report of The Watermaster Office.

ADMINISTRATIVE

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.

Groundwater is the principal source of water diverted under the Decree and this is further divided into artesian and shallow groundwaters. 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.

The Honorable Paul Snead, Judge of the Fifth Judicial District, served by designation as judge in the adjudication suit during the 1976 reporting period.

Personnel of the Watermaster Office at the beginning of 1976 consisted of Glenn W. Brim, Watermaster, Kathryn H. Kendall, Secretary-Clerk, and Charles H. Marson, Assistant Watermaster. On March 1st Mike Ramirez and Ramon Torres transferred from the Water Rights Division to serve as assistants during the irrigation season. On March 5, 1976 Charles H. Marson retired on disability, and on April 26th Danny Aragon was hired to replace Mike Ramirez who resigned April 9th. On May 1st Dale Berning was transferred from the Water Rights Division to the Watermaster's office and Elizabeth Pendergraft was hired as an assistant. On August 26th Elizabeth Pendergraft resigned to return to E.N.M.U. On September 20th Donna Vogel was hired as Elizabeth Pendergraft's replacement. On October 1st Ramon Torres, Danny Aragon, and Dale Berning were transferred to the Water Rights Division, and Frank Bradley transferred to the Watermaster's office where he and Donna Vogel remained until November 30th to assist in the annual accounting.

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 on lands within the District.

METERING PROGRAM

Four hundred and seventy-four meters were found inoperative during the 1976 irrigation season. Based on a total of 1614 meters installed on irrigation, feed pen and Hagerman Canal wells this is 29.36% as compared to 34.94% found inoperative in 1975. Each meter was read an average of 9.8 times.

The number of totalizing meters, by brand, installed on irrigation and feed pen wells and the number of each brand found to be inoperative during the 1976 irrigation season, are listed as follows:

Make of Meter	Installed Total	% of Total	Total Inoperative	Make % Inoperative	% of Total Installed
Brand A	254	15.74	76	29.92	4.71
Brand B	848	52.54	266	31.37	16.48
Brand C	364	22.55	89	24.45	5.51
Brand D	131	8.12	26	14.50	1.61
Misc.	<u>17</u>	<u>1.05</u>	<u>17</u>	100.00	<u>1.05</u>
	1614	100.00	474		29.36

Adjustment in amounts of water diverted through inoperative meters for 1976 totaled 6,846.6 acre feet; 3,539.0 acre feet of which was artesian and 3,307.6 acre feet of which was shallow. The total adjustment is 1.63% 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 OR ORDERS IN THE ADJUDICATION DECREE

In August of 1975 an Order was entered wherein the Watermaster was authorized, when he determined that a consent agreement was appropriate, to enter into consent agreements in uncontested matters involving the diversion and use of water in excess of the adjudicated five year water right, with suitable fines and penalties. The penalties provide for the double repayment of excess water diverted to be deducted from the third five-year accounting period (1977 - 1981) and the payment of a fine to the Irrigation Works Construction Fund of the Interstate Stream Commission. The fine schedule is as follows:

<u>Fine Factor</u>	<u>Fine</u>
under 1	\$0
1 - 10	\$100
11 - 20	\$200
21 - 50	\$300
51 - 100	\$400
over 100	\$500

and the fine factor is determined by multiplying the total acre feet diverted in excess of the five-year water right by the percentage of excess diversion to the one-year adjudicated water right.

VIOLATION ACTIONS

In accordance with the Order of the Court dated August 28, 1975 consent agreements in uncontested matters involving the diversion and use of water in excess of the five year adjudicated right during the second five year accounting period (1972-1976) were executed in forty-three cases. These cases involved a total overuse of 3142.24 acre feet, and the consent agreements provided for a repayment of 6228.38 acre feet during the third five year accounting period commencing on November 1, 1976 and total fines in the amount of \$5900.00 payable to the Irrigation Works Construction Fund of the Interstate Stream Commission.

Three of the cases of overuse, amounting to a total of 349.3 acre feet, were to be referred to the court with stipulated agreements at the end of this report period.

One case involving overuse of 10.9 acre feet in a subdivision was not settled at the end of this report period.

WATER DIVERSION

Use of Water in the Roswell Basin in 1976

The total water diverted in the Roswell ground water basin for the water year 1976 (November 1, 1975 - October 31, 1976) under the administrative jurisdiction of the Roswell Basin Watermaster, was 440,946.0 acre feet, the highest for the 10 years of record. Under the decree adjudicating water rights in the basin, five year periods were set up for accounting of the metered water and the 1976 water year was the fifth year of the second five year period.

Of the total diversion, 279,581.8 acre feet (63%) was from the artesian source, and 144,483.4 acre feet (33%) was from the shallow source, and 16,880.8 acre feet (4.0%) was diverted from combined underground and surface sources primarily under the Hagerman Canal.

Included in the totals are 6,846.6 acre feet (1.63% of the total irrigation diversion) which was computed for periods when meters were inoperative.

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

The irrigation use on 123,170.1 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 3.41 acre feet per acre for the basin as a whole, varying from a high of 3.63 acre feet per acre in the Cottonwood area to a low of 1.97 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 (less than 200) not metered and not farmed, and water right acreage retired from irrigation under the program of the Pecos Valley Artesian Conservancy District. Eight hundred and eighty-three farming units are included.

Roswell Basin Watermaster Office
December 1976

NEW MEXICO STATE ENGINEER
METERED PUMPAGE SUMMARY SHEET
1976

TOWNSHIP _____ RANGE _____ SECTIONS _____

	Location	Right Acre Feet	PUMPAGE - ACRE FEET				Date	Rate of Application
			Surface	Shallow	Artesian	Total		
T 7,8,9 S; R 23 Thru 26 E	Northern	30,974.3	-0-	1,814.1	28,590.6	30,404.7		2.94
	Extension	10,324.77						
T 10,11,12 S; R 22,23,24 E	Roswell - East	104,110.4	-0-	30,807.2	86,204.9	117,012.1		3.37
T 10,11,N $\frac{1}{2}$ 12 S; R 25,26 E	Grand Plains	34,703.47						
T 13,14, N $\frac{1}{2}$ 15 S; R 23,24 E	Dexter-Hagerman	105,726.4	16,880.8	53,595.9	49,936.3	120,413.0		3.42
T S $\frac{1}{2}$ 12,13,14; N $\frac{1}{2}$ 15 S; R 25,26,27 E	Area	35,242.13						
T S $\frac{1}{2}$ 15; N 2/3 16 S; R 23 thru 26 E	Cottonwood	60,333.6	-0-	24,688.3	48,343.2	73,031.5		3.63
	Area	20,111.2						
T 15 S; R 17, 18 E	Upper Rio	2,281.0	-0-	-0-	1,500.0	1,500.0		1.97
	Felix	760.3						
T S 1/3 16,17,18 S; R 25,26 E	Artesia	54,363.1	-0-	23,645.6	40,564.8	64,210.4		3.54
	Area	18,121.03						
T 19,20 S; R 25,26 E	Lakewood -	11,721.5	-0-	7,097.3	5,822.9	12,920.2		3.31
	Seven Rivers	3,907.2						
	Total Irrigation	369,510.3	16,880.8	141,648.4	260,962.7	419,491.9		3.41
	Use	123,170.1						

NEW MEXICO STATE ENGINEER
METERED PUMPAGE SUMMARY SHEET
1976

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				12,009.9	12,009.9		
				Dexter			527.5	392.0	919.5		
				Hagerman				697.9	697.9		
				Lake Arthur			-0-	34.7	34.7		
				Artesia				4,056.3	4,056.3		
				Hope				37.6	37.6		
				Co-ops			29.8	396.5	426.3		
				Total			(557.3)	(17,624.9)	(18,182.2)		
				FEED PEN OPERATIONS (NOT FARM CONNECTED)			270.5	13.9	284.4		
				(Feed Pen Operations - Farm Connected Charged to Irrigation Water Right)			(31.2)*	(208.7)*	(239.9)*		*Do not include in total
				SCHOOL SYSTEMS			-0-	94.0	94.0		
				POWER GENERATION							
				S.W.P.S. Co.				639.2	639.2		
				MISCELLANEOUS INDUSTRIAL & COMMERCIAL							
				Chaves County			1,915.0	183.5	2,098.5		
				Eddy County			92.2	63.6	155.8		
				TOTALS			2,835.0	18,619.1	21,454.1		

1976 METERED USE
(IRRIGATION)

NORTHERN EXTENSION

30,404.7 AC. FT.

2.94 AC. FT. / AC.

ROSWELL -
EAST GRAND PLAINS

117,012.1 AC. FT.

3.37 AC. FT. / AC.

DEXTER - HAGERMAN

120,413.0 AC. FT.

3.42 AC. FT. / AC.

UPPER FELIX

1,500.0 AC. FT.

1.97 AC. FT. / AC.

COTTONWOOD

73,031.5 AC. FT.

3.63 AC. FT. / AC.

ARTESIA

64,210.4 AC. FT.

3.54 AC. FT. / AC.

LAKE WOOD - SEVEN RIVERS

12,920.2 AC. FT.

3.31 AC. FT. / AC.

BASIN WIDE
419,491.9 AC. FT.

3.41 AC. FT. / AC.

ROSWELL BASIN WATERMASTER

Tabulation of Annual Water Diverted

1967-1976

:Year :	Irrigation			: Municipal :	Ind. & Com. :	Total :
	Ac. Ft. :	Eq. Ac. :	Ac.Ft./Ac. :			
: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 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 :

FINANCIAL STATEMENTS


STATE OF NEW MEXICO
ROSWELL BASIN WATERMASTER OFFICE
Glenn W. Brim, Watermaster

APPROVED BUDGET

for the
65th Fiscal Year
(1976-1977)

Salaries	
Watermaster	\$ 13,925.00
Secretary	10,512.00
Assistant	8,708.00
Aide	4,834.00
Aide	3,003.00
Aide	2,859.00
Temporary	2,000.00
Total:	<u>45,841.00</u>
Group Insurance	926.00
Social Security	2,750.00
Retirement	2,682.00
Workmen's Compensation	207.00
Total:	<u>6,565.00</u>
Mileage and Fares	10,000.00
PVACD Vehicle	600.00
Per Diem	1,600.00
Total:	<u>12,200.00</u>
Maintenance, Supplies, Tools and Equipment	150.00
Services of Agencies	229.00
Communications	450.00
Rent	1,200.00
Total:	<u>2,029.00</u>
Grant Total:	\$ 66,635.00

It is anticipated that line items will vary, but that the total will not exceed \$66,635.00 for the 65th fiscal year.


Fred H. Hennighausen
District II Supervisor
March 25, 1976

ROSWELL BASIN WATERMASTER

ITEMIZED EXPENDITURES

	1976												1975		
	January	February	March	April	May	June	1976	1975	1976	1975	1976	1975	1976	1975	
									First Half	Last Half	First Half	Last Half	First Half	Last Half	
Salaries:															
Watermaster	\$ 983.08	983.08	983.08	983.08	983.08	1474.62	983.08	6135.42	6390.02	1474.62	983.08	6135.42	6390.02	1474.62	
Assistant Watermaster	634.16	634.16	444.08	12.19	302.31	921.70	12.19	1569.84	2948.60	921.70	302.31	1569.84	2948.60	921.70	
Secretary	770.76	770.76	770.76	770.76	770.76	1156.14	770.76	4971.41	5009.94	1156.14	770.76	4971.41	5009.94	1156.14	
Other			248.31	701.46	940.22	1870.62	701.46	6868.07	3760.61	1870.62	940.22	6868.07	3760.61	1870.62	
Insurance															
State Share	34.04	34.04	37.90	45.20	44.92	75.10	45.20	334.61	271.20	75.10	44.92	334.61	271.20	75.10	
Social Security	139.70	139.70	143.11	144.35	175.32	317.27	144.35	1144.05	1059.45	317.27	175.32	1144.05	1059.45	317.27	
Retirement	143.26	143.26	146.76	148.05	179.79	325.39	148.05	1172.61	1086.51	325.39	179.79	1172.61	1086.51	325.39	
Mileage	588.36	516.48	712.41	660.36	1239.84	1274.88	660.36	4591.66	4992.33	1274.88	1239.84	4591.66	4992.33	1274.88	
Gas, Maint, Repairs #2552	10.87							246.07	10.87			246.07	10.87		
Per Diem	18.00	96.00	57.00	156.00	60.00	186.00	156.00	896.50	573.00	186.00	60.00	896.50	573.00	186.00	
Postcards, Env., & Stamps															
Communications	33.33	36.47	33.33	33.33	33.33	33.98	33.33	204.44	203.77	33.98	33.33	204.44	203.77	33.98	
Capitol Outlay															
Rent	100.00	100.00	100.00	100.00	100.00	100.00	100.00	600.00	600.00	100.00	100.00	600.00	600.00	100.00	
Maint., Fixt., Equip.															
Supplies		23.21							23.21				23.21		
Totals	\$ 3455.56	3477.16	3676.74	3754.78	4829.57	7735.70	3754.78	28,765.92	26,929.51	7735.70	4829.57	28,765.92	26,929.51	7735.70	

ROSWELL BASIN WATERMASTER

ITEMIZED EXPENDITURES

	1976											
	July	August	September	October	November	December	1976 Last Half	Year 1976				
Salaries:												
Watermaster	\$ 1032.00	1032.00	1032.00	1032.00	1057.85	1625.55	6811.40	13,201.42				
Assistant Watermaster	665.54	665.54	665.54	332.77			2329.39	5277.99				
Secretary	809.54	809.54	809.54	809.54	809.54	1214.31	5262.01	10,271.95				
Other	1308.94	1308.94	999.18	1371.25	1664.11	728.08	7380.50	11,141.11				
Insurance State Share	52.64	60.36	71.24	61.94	68.54	58.40	373.12	644.32				
Social Security	223.24	223.28	205.15	207.45	206.61	208.74	1274.47	2333.92				
Retirement	228.98	228.98	210.39	212.75	211.90	214.09	1307.09	2393.60				
Mileage	1425.36	1287.60	1093.12	1024.56	93.36		4924.00	9916.33				
Gas, Maint, Repairs OF-2552	10.78	51.02	109.27	129.51			300.58	311.45				
Per Diem	249.00	216.00	162.00	258.00	126.00	30.00	1041.00	1614.00				
Postcards, Env., & Stamps Communications	33.33	35.42	33.33	35.16	37.03	36.96	211.23	415.00				
Capitol Outlay Rent	100.00	100.00	100.00	100.00	100.00	100.00	600.00	1200.00				
Maint., Fixt., Equip. Supplies				1.56			1.56	24.77				
Totals	\$ 6139.35	6018.68	5490.76	5576.49	4374.94	4216.13	31,816.35	58,745.86				

SUMMARY

SUMMARY

Metered use of water during 1976 resulted in an average use, for irrigation purposes, of 3.41 acre feet per water right acre. The total quantity diverted for all uses was the highest in the ten years since metering began.

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 satisfactorily.

The order of the Court permitting the Watermaster to enter into consent agreements with water users in uncontested matters involving the use of water in excess of the five year adjudicated right has greatly facilitated the settlement of problems concerning overuse of water.