

ROSWELL BASIN WATERMASTER

14th

ANNUAL REPORT

1979

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:

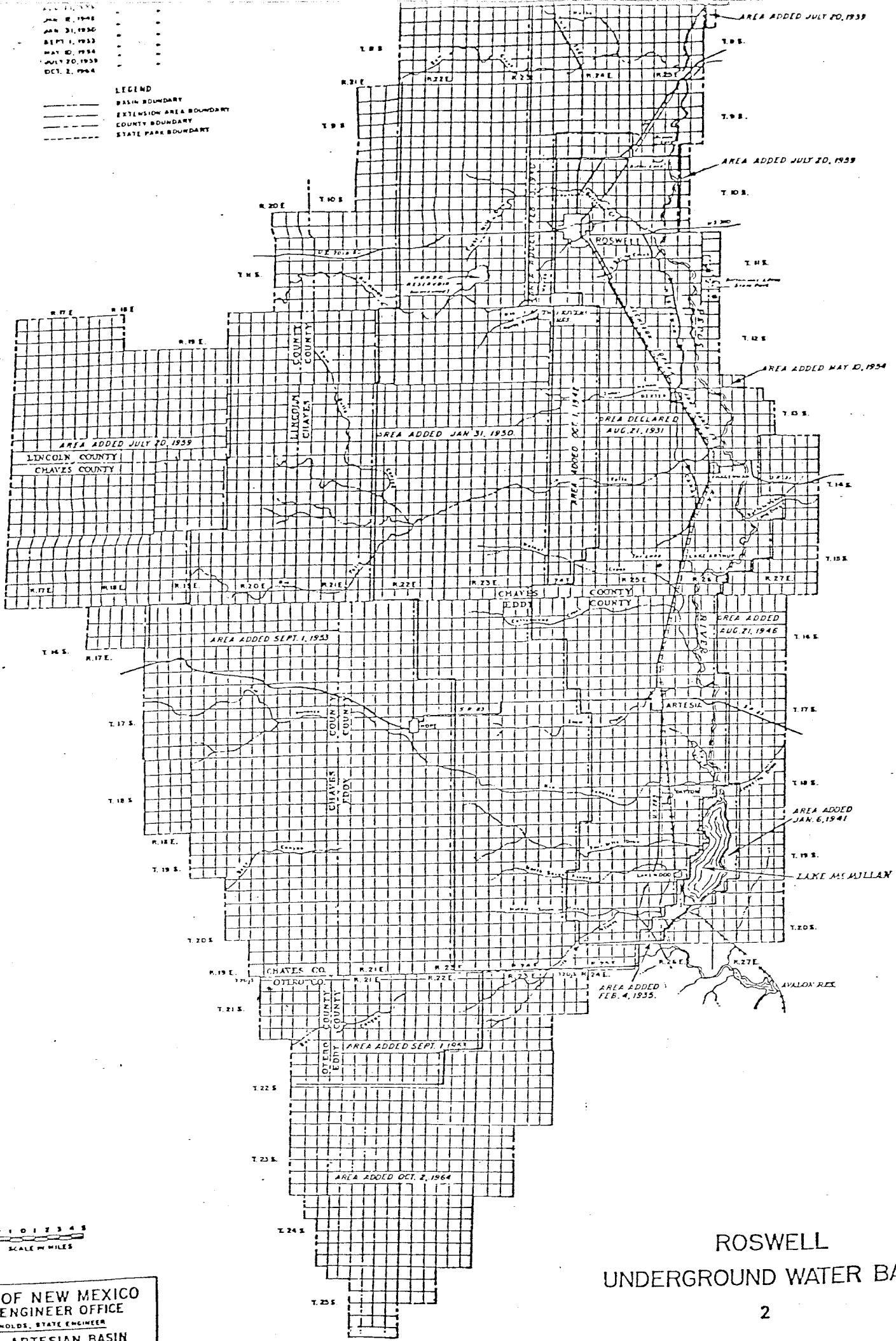
"5. The state engineer shall appoint and employ a watermaster and such assistants as are necessary in the administration and enforcement of this judgment and decree, provided that the appointment of the watermaster shall be subject to the approval of the Court. Such watermaster shall be appointed to 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 14th Annual Report of the Watermaster Office.

JAN. 2, 1933
 JAN. 31, 1930
 SEPT. 1, 1933
 MAY 10, 1934
 JULY 20, 1939
 OCT. 2, 1964

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



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

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 to the supplemented canal right and only the supplemented right shall be accounted, unless otherwise indicated by conditions of approval of an individual permit.

The Honorable Paul Sneed, Judge of the Fifth Judicial District, served by designation as judge in the adjudication suit during the 1979 reporting period.

Personnel of the Watermaster office at the beginning of 1979 consisted of Glenn W. Brim, Watermaster; Jo Ann Romero, Secretary-Clerk; and Robert Marr as an assistant to the Watermaster. On April 2, 1979, Johnny Hernandez and Richard Jones were transferred from the Water Rights Division to the Watermaster's office as assistants during the irrigation season. On October 1, 1979, Johnny Hernandez and Richard Jones were transferred to the Water Rights Division, and on November 1, 1979, Lynda Patton transferred to the Watermaster's office where she remained until November 30, 1979, 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 of lands within the District.

METERING PROGRAM

Five hundred and thirty-four meters were found inoperative during the 1979 irrigation season. Based on a total of 1566 meters installed on irrigation, feed pen and Hagerman Canal wells this is 34.10% as compared to 25.59% found inoperative in 1978. Each meter was read an average of 9.0 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 1979 irrigation season, are listed as follows:

Make of Meter	Installed Total	% of Total	Total Inoperative	Make % Inoperative	% of Total Installed
Brand A	110	7.02	60	54.55	3.83
Brand B	919	58.69	284	30.90	18.14
Brand C	395	25.22	130	32.91	8.30
Brand D	120	7.66	39	32.50	2.49
Misc.	<u>22</u>	<u>1.41</u>	<u>21</u>	95.45	<u>1.34</u>
	1566	100.00	534		34.1

Adjustments in amounts of water diverted through inoperative meters for 1979 totaled 6,397.4 acre feet; 4,099.0 acre feet of which was artesian and 2,298.4 acre feet of which was shallow. The total adjustment is 1.80% 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 1979 water year.

VIOLATIONS

One farm in the Hagerman area having shallow ground water rights, Hagerman Canal rights, and Hagerman Canal rights supplemented by shallow ground water rights, overused on the shallow ground water duty for the five year accounting period. One industrial well, having a shallow right, has exceeded the five year duty.

As of this date, these violations have not been resolved although both parties have been in contact with this office in reference to the overuse.

WATER DIVERSION

USE OF WATER IN THE ROSWELL BASIN IN 1979

The total water diverted in the Roswell Ground Water Basin for the water year 1979 (November 1, 1978 - October 31, 1979) under the administrative jurisdiction of the Roswell Basin Watermaster, was 374,198.7 acre feet, the lowest quantity diverted since the year 1969. Under the decree adjudicating water rights in the basin, five year periods were set up for accounting of the metered water and the 1979 water year was the third year of the third five year period.

Of the total diversion, 236,130.9 acre feet (63%) was from the artesian source, 123,044.0 acre feet (33%) was from the shallow source and 15,023.8 acre feet (4%) was diverted from combined underground and surface sources primarily under the Hagerman Canal.

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 122,002.4 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 2.91 acre feet per acre for the basin as a whole, varying from a high of 3.06 acre feet per acre in the Cottonwood area to a low of 1.11 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 forty-five farming units are included.

Included in the totals are 6,397.4 acre feet (1.80% of the total irrigation diversion) which was computed for periods when meters were inoperative.

Roswell Basin Watermaster Office
December 1979

ROSWELL BASIN WATERMASTER

Tabulation of Annual Water Diverted

1967-1979

: 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	: 14,528.3	: 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:
:1977 :	387,858.0	: 122,703.7	: 3.16	: 18,422.7	: 3,071.5	: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:

NEW MEXICO STATE ENGINEER
METERED PUMPAGE SUMMARY SHEET

1979

TOWNSHIP _____

RANGE _____

SECTIONS _____

T	R	S	E	Location	Right Acre Feet	PUMPAGE - ACRE FEET				Date	Rate of Application
						Surface	Shallow	Artesian	Total		
T 7,8,9	R 23 Thru 26	S	E	Northern	30354.8		671.9	24091.1	24763.0		2.45
				Extension	10118.3						
T 10,11,12	R 22,23,24	S	E	Roswell - East	103874.7	341.0	29283.9	71385.0	101009.9		2.92
T 10,11,N $\frac{1}{2}$	R 25,26	S	E	Grand Plains	34624.9						
T 13,14, N $\frac{1}{2}$	R 23,24	S	E	Dexter-Wagerman	104042.1	14682.8	43570.3	45720.5	103973.6		3.00
T S $\frac{1}{2}$	R 25,26,27	S	E	Area	34680.7						
T S $\frac{1}{2}$	R 23 thru 26	S	E	Cottonwood	60641.0		21433.4	40509.3	61942.7		3.06
				Area	20213.7						
T 15	R 17, 18	S	E	Upper Rio	2281.0			845.7	845.7		1.11
				Felix	760.3						
T S 1/3	R 25,26	S	E	Artesia	53092.2		19385.1	31929.3	51314.4		2.90
				Area	17697.4						
T 19,20	R 25,26	S	E	Lakewood -	11721.5		6663.8	4650.7	11314.5		2.90
				Seven Rivers	3907.5						
				Total Irrigation	366007.3	15023.8	121008.4	219131.6	355163.8		2.91
				Use	122002.4						

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				10408.4	10408.4			
				Dexter			361.2	262.6	623.8			
				Hagerman				511.0	511.0			
				Lake Arthur			-0-	48.7	48.7			
				Artesia				3706.9	3706.9			
				Hope				61.0	61.0			
				Co-ops				717.4	717.4			
				Domestic Utilities			32.0	72.7	104.7			
				Total			(393.2)	(15788.7)	(16181.9)			
				FEED PEN OPERATIONS (NOT FARM CONNECTED)				249.8	25.3	275.1		
				(Feed Pen Operations - Farm Connected Charged to Irrigation Water Right)				(169.7)	(349.5)	(519.2)		Not included in totals
				SCHOOL SYSTEMS					82.9	82.9		
				POWER GENERATION								
				S.W.P.S. Co.				408.7	408.7			
				MISCELLANEOUS INDUSTRIAL & COMMERCIAL								
				Chaves County			1314.0	389.3	1703.3			
				Eddy County			78.6	304.4	383.0			
				TOTALS			(2035.6)	(16999.3)	(19034.9)			

1979 METERED USE
(IRRIGATION)

NORTHERN EXTENTION

24,763.0 AC. FT.
2.45 AC. FT./AC.

ROSWELL
EAST GRAND PLAINS

101,009.9 AC. FT.
2.92 AC. FT./AC.

DEXTER - HAGERMAN

103,973.6 AC. FT.
3.00 AC. FT./AC.

UPPER FELIX

845.7 AC. FT.
1.11 AC. FT./AC.

COTTONWOOD

61,942.7 AC. FT.
3.06 AC. FT./AC.

ARTESIA

51,314.4 AC. FT.
2.90 AC. FT./AC.

LAKEWOOD
SEVEN RIVERS

11,314.5 AC. FT.
2.90 AC. FT./AC.

1979-1980

Water from irrigation with water from transmission of storage; these portions overlap in some areas

- ✓ Irrigation with water from transmission of storage
- ✓ Irrigation with water from storage
- ✓ Irrigation with water from transmission of storage and water from storage
- ✓ Irrigation with water from transmission of storage and water from storage and water from transmission of storage
- ✓ Irrigation with water from storage and water from transmission of storage
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- ✓ Irrigation with water from storage and water from transmission of storage and water from transmission of storage and water from transmission of storage and water from transmission of storage

Reservoir pool in 1979

BASIN WIDE
355,163.8 AC. FT.
2.91 AC. FT./AC.

FINANCIAL STATEMENTS

STATE OF NEW MEXICO

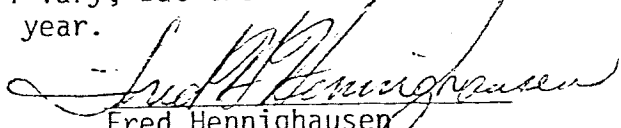
Roswell Basin Watermaster Office
Glenn W. Brim, Watermaster

Approved Budget for the
68th Fiscal Year
(1979-1980)

Salaries

Watermaster	\$18,751.00
Secretary	8,224.00
Assistant	9,234.00
Aide	4,165.00
Aide	4,060.00
Temporary	2,000.00
Total:	46,434.00
Group Insurance	1,938.00
Social Security	2,847.00
Retirement	2,856.00
Liability Insurance	209.00
Unemployment Compensation	372.00
Workmen's Compensation	364.00
Total:	8,586.00
Mileage and Fares	13,200.00
Per Diem	2,300.00
Total:	15,500.00
Maintenance, Supplies, Tools, and Equipment	150.00
Services of Agencies	370.00
Communications	450.00
Rent	1,200.00
Total:	2,170.00
Grand Total:	72,690.00

It is anticipated that line items will vary, but the total will not exceed \$72,690.00 for the 68th fiscal year.


Fred Hennighausen
District II Supervisor
May 1, 1979

Itemized Expenditures
1979

	January	February	March	April	May	June	1979 First Half	1978 Last Half
Salaries								
Watermaster	\$ 1,370.76	\$ 1,370.76	\$ 1,370.76	\$ 1,370.76	\$ 1,370.76	\$ 2,056.14	\$ 8,909.94	\$ 8,619.24
Assistant	659.08	329.54	659.08	659.08	659.08	1,039.86	4,005.72	4,127.12
Secretary	543.70	543.70	569.54	598.16	598.16	897.24	3,750.50	3,534.05
Other				1,168.29	1,078.16	1,633.86	3,880.31	5,048.85
Insurance								
State Share	52.90	46.90	52.90	99.48	127.02	190.53	569.73	563.58
Social Security	157.74	137.54	159.34	232.70	227.15	344.91	1,259.38	1,290.48
Retirement	154.40	134.63	155.96	227.76	222.34	337.59	1,232.68	1,279.66
Workman's Comp				287.50			287.50	0
Unemployment				233.30			233.30	0
Mileage	892.67	599.42	974.10	1,649.17	1,768.68	1,677.90	7,561.94	6,539.05
Gas, Maint., & Repairs								
Per Diem	60.00	116.00	164.00	268.00	208.00	220.00	1,036.00	1,160.00
Liability Insurance				162.50			162.50	0
Postcards, Env., Stamps	33.33	33.33	33.33	33.33	33.33	33.33	199.98	238.75
Communications								
Capitol Outlay	100.00	100.00	100.00	100.00	100.00	100.00	600.00	600.00
Rent								
Maint., Fixt., Equip.								
Supplies			4.70				4.70	102.96
Totals	\$ 4,024.58	\$ 3,411.82	\$ 4,243.71	\$ 7,090.03	\$ 6,392.68	\$ 8,531.36	\$33,694.18	\$33,103.74

Itemized Expenditures
1979

	July	August	September	October	November	December	1979 Last Half	1979 Year
Salaries								
Watermaster	\$ 1,041.00	\$ 1,396.62	\$ 1,396.62	\$ 1,396.62	\$ 1,431.69	\$ 2,200.14	\$ 8,862.69	\$17,772.63
Assistant	525.39	706.16	706.16	706.16	825.65	1,110.45	4,579.97	8,585.69
Secretary	454.16	609.24	609.24	639.70	639.70	959.55	3,911.59	7,662.09
Other	987.00	1,269.46	1,109.54	554.77	1,479.44	239.08	5,639.29	9,519.60
Insurance								
State Share	103.51	135.29	127.02	93.92	91.23	91.23	642.20	1,211.93
Social Security	184.38	244.04	234.24	202.12	268.30	277.29	1,410.37	2,669.75
Retirement	183.52	244.83	235.00	202.77	269.15	276.44	1,411.71	2,644.39
Workman's Comp								287.50
Unemployment Comp								233.30
Mileage	1,684.70	1,660.22	1,294.89	1,418.14	387.94	351.90	6,797.79	14,359.73
Gas, Maint., & Repairs								
Per Diem		296.00	256.00	316.00	232.00	164.00	1,264.00	2,300.00
Liability Insurance								162.50
Postcards, Env., Stamps					1.66	33.33	201.64	401.62
Communications	33.33	33.33	33.33	33.33	33.33	33.33		
Capitol Outlay								
Rent	100.00	100.00	100.00	100.00	100.00	100.00	600.00	1,200.00
Maint., Fixt., Equip.								
Supplies								4.70
Totals	\$ 5,296.99	\$ 6,695.19	\$ 6,102.04	\$ 5,665.19	\$ 5,758.43	\$ 5,803.41	\$35,321.25	\$69,015.43

SUMMARY

SUMMARY

Metered use of water during 1979 resulted in an average use, for irrigation purposes, of 2.9 acre feet per water right acre. The total quantity diverted for all uses was the third lowest in the thirteen 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.

In addition to the two instances of over-use, notices were sent out on seven farm units advising the owners that they are nearing their allowable. Each of these has less than 4.0 af. remaining for the five years.