



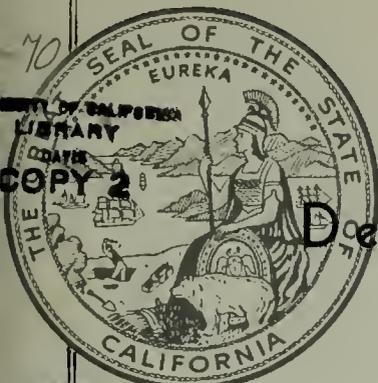
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# WATERMASTER SERVICE

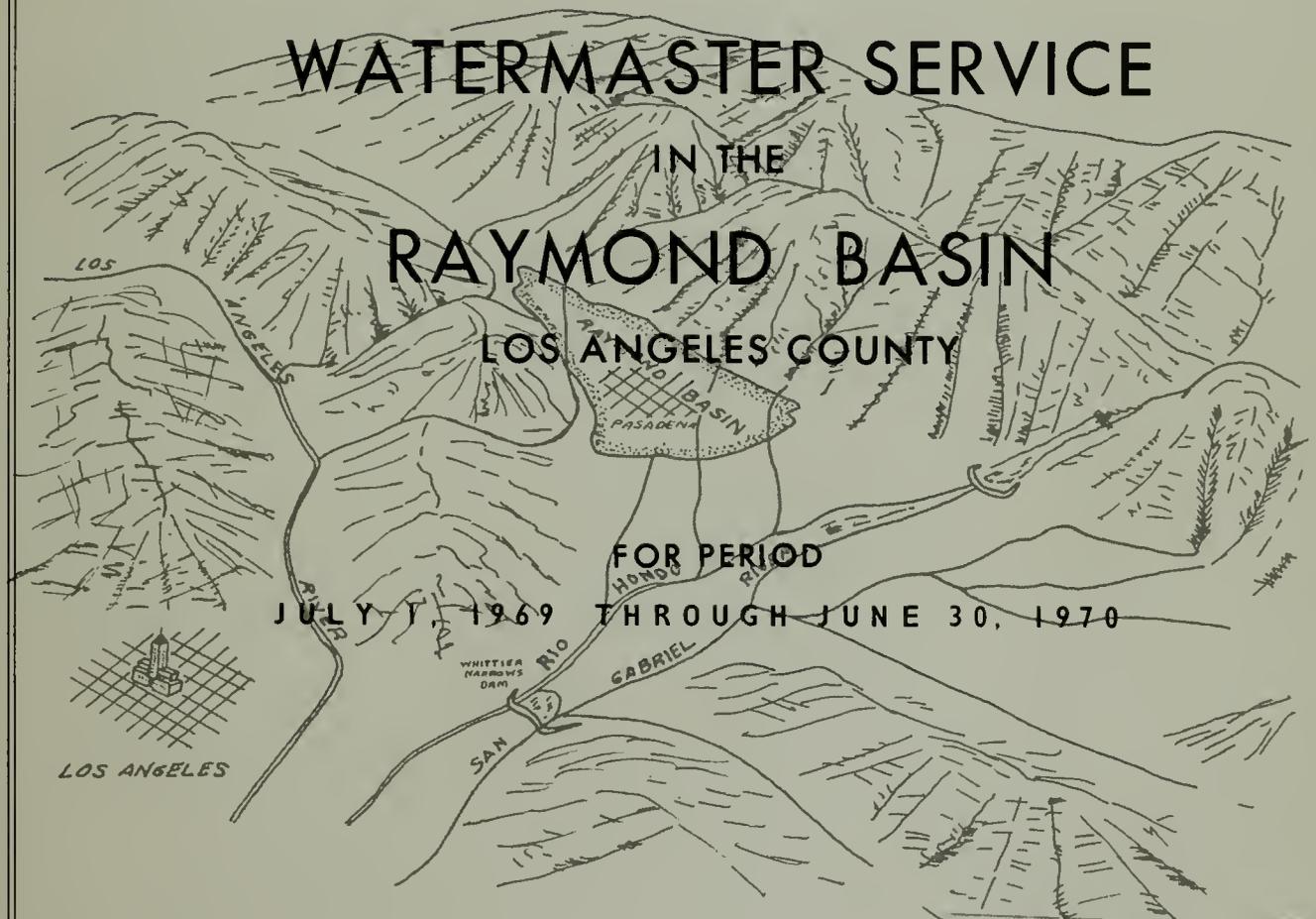
IN THE

# RAYMOND BASIN

LOS ANGELES COUNTY

FOR PERIOD

JULY 1, 1969 THROUGH JUNE 30, 1970



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**NORMAN B. LIVERMORE, JR.**  
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**WILLIAM R. GIANELLI**  
Director  
Department of Water Resources



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REPORT OF THE  
COMMISSIONERS OF THE  
LAND OFFICE  
OF THE STATE OF NEW YORK

FOR THE YEAR 1887

ALBANY: J. B. LIPPINCOTT & CO. PRINTERS, 1888.

## FOREWORD

This annual report has been prepared by the Watermaster for the parties to that certain Judgment made and entered December 23, 1944, in the Superior Court of the State of California in and for the County of Los Angeles in Case No. Pasadena C-1323, entitled "City of Pasadena, a municipal corporation, Plaintiff, vs. City of Alhambra, a municipal corporation et al, Defendants", and for the Court to present a comprehensive review of the water conditions of the Raymond Basin during the 1969-1970 water year.

The Raymond Basin has been operating under a well defined management plan for several years. One phase of the management plan limits ground water extractions from the Basin. This phase is monitored by the Watermaster (California Department of Water Resources) appointed under paragraph IX of the above-mentioned Judgment.

This report covers: scope of the Watermaster's work, conditions of ground water supply, water use, ground water replenishment, variations from guidelines in the Judgment, and a complete financial report for the 1969-70 fiscal year.



James J. Doody  
District Engineer  
Southern District  
and Watermaster  
Reg. C.E. No. 6500



State of California  
The Resources Agency  
DEPARTMENT OF WATER RESOURCES

Ronald Reagan, Governor  
Norman B. Livermore, Jr., Secretary for Resources  
William R. Gianelli, Director, Department of Water Resources  
John R. Teerink, Deputy Director

-----  
SOUTHERN DISTRICT

James J. Doody . . . . . District Engineer and Watermaster  
Mitchell L. Gould . . . . . Chief, Operations Branch and Deputy  
Watermaster

Watermaster service in this area was conducted  
and report prepared under the direction

of

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by

Carlos Madrid . . . . . Deputy Watermaster

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TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
FOREWORD . . . . .	iii	CHAPTER IV. ADMINISTRATION OF THE JUDGMENT. . . . .	37
ORGANIZATION . . . . .	v	The Raymond Basin Advisory Board . . . . .	37
ABSTRACT . . . . .	viii	Exchange Pool . . . . .	38
CHAPTER I. THE RAYMOND BASIN . . . . .	1	Transfer of Decreed Right . . . . .	38
Introduction . . . . .	1	Variations of Extractions from Decreed Rights . . . . .	38
Scope of Report. . . . .	1	Annual Variation in Ground Water Extractions . . . . .	40
History of Water Resources Development. . . . .	1	Five-Year Period Variation in Ground Water Extraction . . . . .	40
Activities of the Watermaster. . . . .	4	Annual Extractions and Varia- tions from Safe Yield . . . . .	40
Summary of Operating Conditions . . . . .	5	CHAPTER V. ADMINISTRATIVE COSTS . . . . .	45
CHAPTER II. WATER SUPPLY CONDITIONS . . . . .	7	Cost of Watermaster Service for 1969-70 . . . . .	45
Precipitation. . . . .	7	Costs of Determining Water Sal- vaged by City of Sierra Madre . . . . .	47
Ground Water Recharge. . . . .	9		
Salvage Credit for Water Spread by City of Sierra Madre. . . . .	10		
Runoff . . . . .	12		
Ground Water Table Elevations . . . . .	12		
CHAPTER III. WATER USE . . . . .	25		
Ground Water Extractions . . . . .	25		
Water Wells in the Raymond Basin. . . . .	30		
Nonparty Ground Water Extractions. . . . .	31		
Ground Water Extractions Outside of Raymond Basin . . . . .	31		
Surface Diversions . . . . .	33		
Use of Imported Colorado River Water. . . . .	33		
Exports of Ground Water. . . . .	34		
Exports of Sewage. . . . .	34		
		APPENDIXES. . . . .	49
		Appendix A: Mean Daily Discharge at Surface Runoff Stations Operated by the Watermaster. . . . .	51
		Appendix B Table B-1: Ground Water Extractions. . . . .	56
		Table B-2: Gross Water Supply. . . . .	58

	<u>Page</u>
FIGURES	
<u>Figure No.</u>	
1 Representative Rainfall Characteristics for Valley Stations . . .	8
2 Fluctuation of Water Levels at Wells. . . . .	21
3 Fluctuation of Water Levels at Wells. . . . .	22
4 Fluctuation of Water Levels at Wells. . . . .	23
5 Climatic Conditions and Water Use. . . . .	26

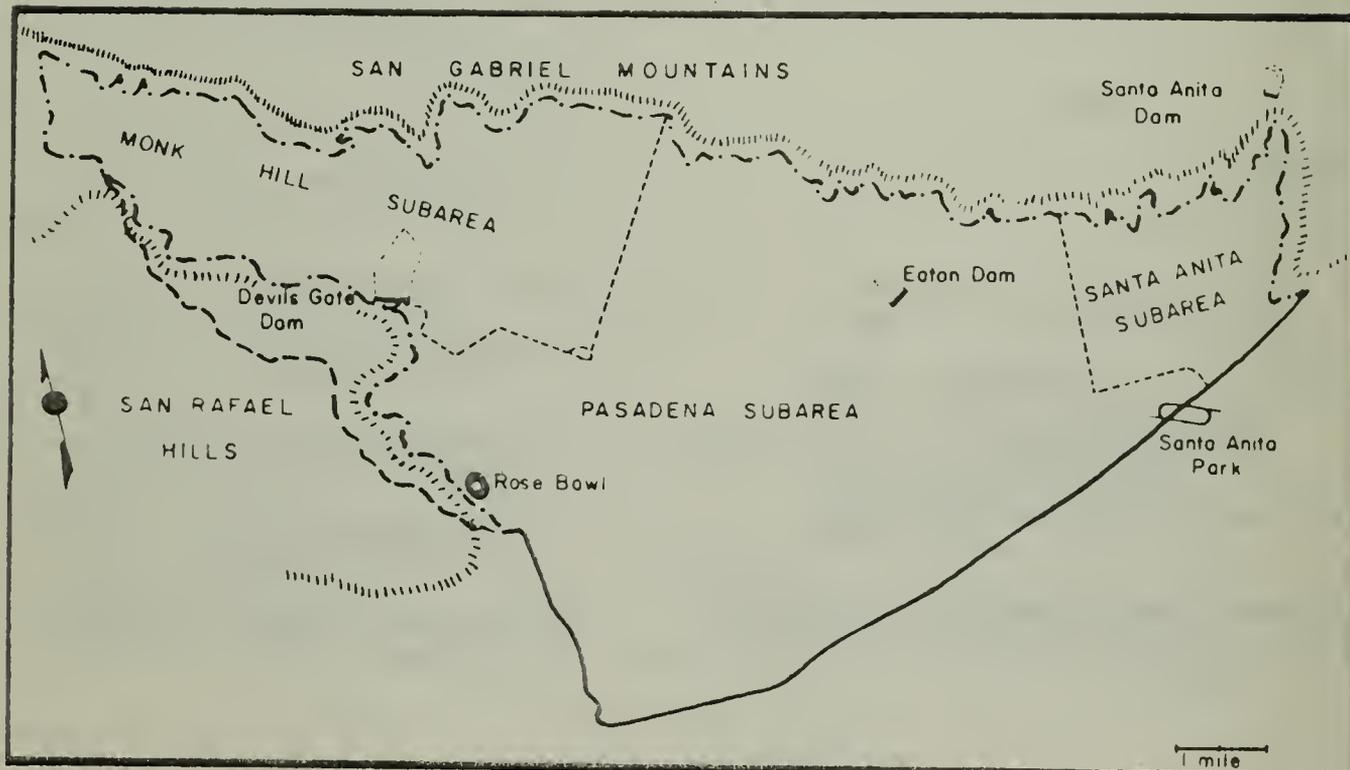
PLATES	
<u>Plate No.</u>	
1 Location Map . . . . .	2
2 Lines of Equal Elevation of Ground Water, Fall of 1969 . . .	14
3 Lines of Equal Change of Ground Water Elevation, Fall of 1968 to Fall of 1969 . . . . .	16
4 Lines of Equal Elevation of Ground Water, Spring of 1970 . .	18
5 Water Service Areas of Parties to Watermaster Service, June 1970 . . . . .	28

	<u>Page</u>
TABLES	
<u>Table No.</u>	
1 Precipitation . . . . .	9
2 Amounts of Water Spread for Ground Water Recharge . . . . .	10
3 Credit for Water Spread by the City of Sierra Madre . . . . .	11
4 Inflow and Outflow at Gaging Stations. . . . .	13
5 Deceed Rights and Amounts of Water Pumped and Exchanged. . .	27
6 Ground Water Extractions Outside of Raymond Basin. . . . .	31
7 Surface Water Diversions. . . . .	32
8 Imported Colorado River Water . .	33
9 Ground Water Exports. . . . .	34
10 Exchange Water Pool . . . . .	39
11 Overextractions In percent of "Deceed Right 1955". . . . .	41
12 Annual and Five-Year Variation. .	42
13 Variations of Annual Extractions from Safe Yield . . . . .	43
14 Approved Budget for 1969-70 Season. . . . .	45
15 Apportionment of Parties' Share of 1969-70 Budget . . . . .	46
16 Statement of 1969-70 Income and Expenditures. . . . .	47

ABSTRACT

A reliable source of potable ground water is a valuable asset to any community. The Raymond Basin, located in the northwest corner of the San Gabriel Valley, is such a source for the cities of Alhambra, Altadena, Arcadia, Monrovia, Pasadena, San Marino, Sierra Madre, and the community of La Canada. Watermaster Service, provided by the California Department of Water Resources, helps to protect the rich supply of ground water for the residents and industries of the area.

The Watermaster has prepared this annual report for the Superior Court and the parties to that certain Judgment made and entered December 23, 1944, in the Superior Court of the State of California in and for the County of Los Angeles in Case No. Pasadena C-1323. This report contains information on ground water extractions, use of imported water, recharge operations, and the administration of the Judgment. It also serves as a financial report on the cost of watermaster service during the 1969-70 fiscal year.



RAYMOND BASIN

## CHAPTER I. THE RAYMOND BASIN

### Introduction

The Raymond Basin is a small ground water reservoir underlying the north-west corner of the San Gabriel Valley. Mountains flank the Basin on two sides -- the north and west. The third boundary is a seven mile long impervious dike formed by movement of the earth's crust along the Raymond Fault. It effectively separates the Raymond Basin from the Main San Gabriel Basin. (See Plate 1, page 2.)

Most of the 40 square mile Raymond Basin supports an urban-suburban culture. Several cities overlie the area -- each one using a large amount of fresh water daily. A substantial portion of that water is pumped directly from the Raymond Basin.

Ground water has always had an impact on the people who live and work in the Raymond Basin area. Some years ago, when the ground water supply was being endangered by rapidly falling water levels, timely legal action by interested water users halted the overdraft and prevented serious damage to the Basin. Presently, all water used in the Raymond Basin, especially ground water, is monitored by a Court-appointed Watermaster whose job consists of reporting all significant water related events occurring within the Raymond Basin.

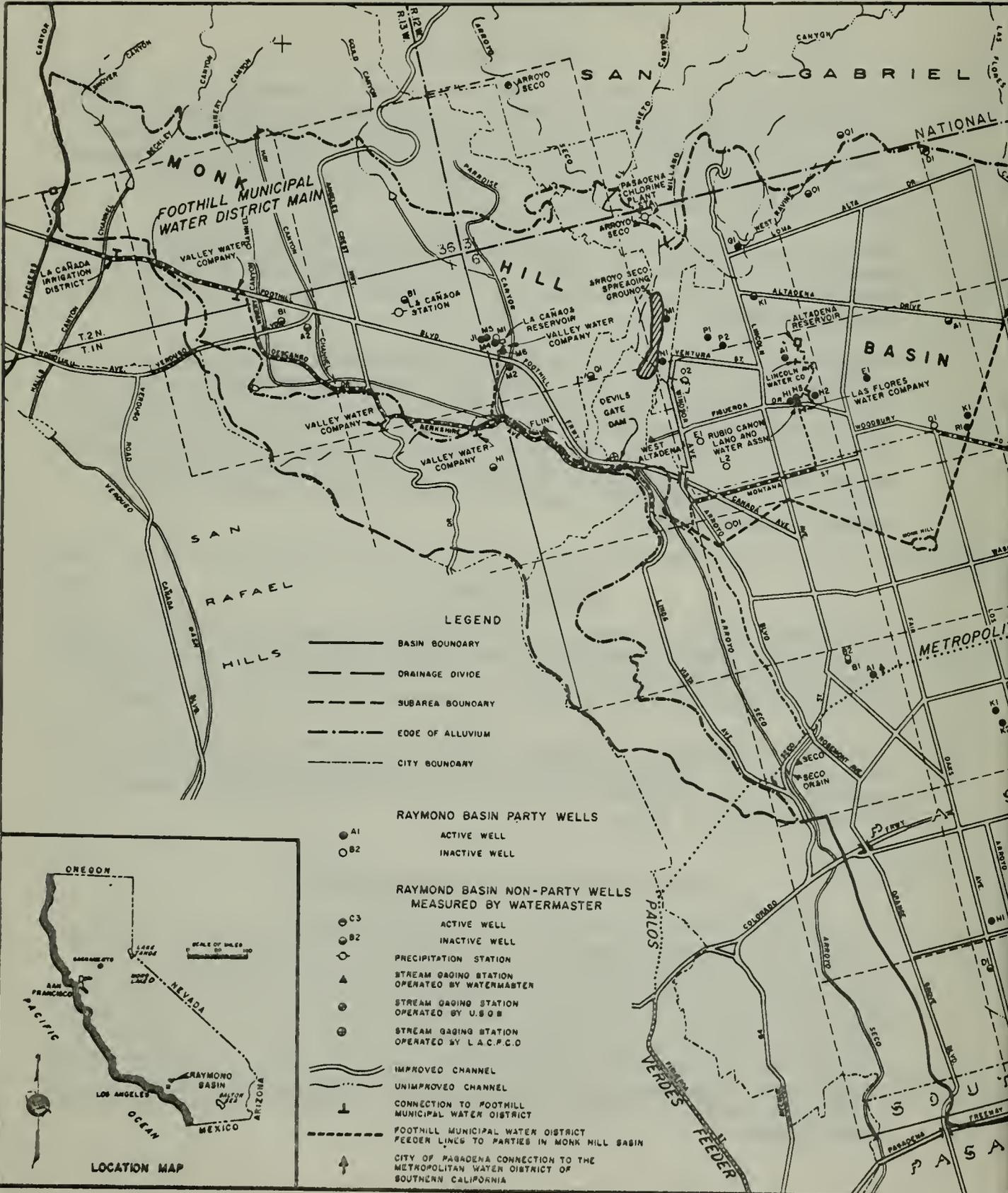
### Scope of Report

This annual report is prepared for the Superior Court and the parties to that certain Judgment made and entered December 23, 1944, in the Superior Court of the State of California in and for the County of Los Angeles in Case No. Pasadena C-1323, pursuant to Paragraph XII(e) of the Judgment.

The report consists of five main chapters; the first three being general discussions on: the Raymond Basin, Water Supply Conditions, and Water Use, and the last two detailed coverage on: Administration of the Judgment, and Administrative Costs.

### History of Water Resources Development

The history of water resources development, litigation, and watermaster service in the Raymond Basin has been described in detail in the 1967-68 annual report of the Watermaster. In the interest of brevity, it will again be omitted from this year's report. However, the history will be repeated in subsequent years and will be brought up to date at that time. With the exception of the basin management study, which is described in Chapter IV, no significant activities have transpired in the Raymond Basin. Adjacent to the south and east, the main San Gabriel Valley basin is currently progressing toward a settlement of the action to adjudicate its water rights.



FOOTHILL MUNICIPAL WATER DISTRICT MAIN

LEGEND

- BASIN BOUNDARY
- - - - DRAINAGE DIVIDE
- - - - SUBAREA BOUNDARY
- · - · - · EDGE OF ALLUVIUM
- - - - CITY BOUNDARY

RAYMOND BASIN PARTY WELLS

- A1 ACTIVE WELL
- B2 INACTIVE WELL

RAYMOND BASIN NON-PARTY WELLS MEASURED BY WATERMASTER

- C3 ACTIVE WELL
- B2 INACTIVE WELL
- PRECIPITATION STATION
- ▲ STREAM GAGING STATION OPERATED BY WATERMASTER
- STREAM GAGING STATION OPERATED BY U.S.G.
- ⊕ STREAM GAGING STATION OPERATED BY L.A.C.P.C.O.

- IMPROVED CHANNEL
- - - - UNIMPROVED CHANNEL
- ⊥ CONNECTION TO FOOTHILL MUNICIPAL WATER DISTRICT
- - - - FOOTHILL MUNICIPAL WATER DISTRICT FEEDER LINES TO PARTIES IN MONK HILL BASIN
- ⬆ CITY OF PASADENA CONNECTION TO THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LOCATION MAP



## Activities of the Watermaster

The Watermaster has now administered the Raymond Basin Judgment for a number of years. Always, the focal point of activity has been the annual report to the Superior Court and the parties to the Judgment.

The annual report is filled with information gathered through the fiscal year. So much information, in fact -- that it has become necessary to use electronic data processing machines extensively. It is felt that the speed and accuracy of machines easily offsets the small expense charged for machine rental.

Once a month, every ground water pumper reports his ground water extractions to the Watermaster. This makes possible updating of his water right account (Watermaster Water Production Summary) by computing the amount pumped during the previous month, the total amount pumped during the current fiscal year, and the amount that can legally be pumped during the remainder of the year. A copy of the updated account is then mailed to the pumper.

Occasionally, the Summary will indicate a pump and/or water meter malfunction. If electric meter readings are reported along with water meter readings, electric power consumption can be correlated with water production. Erratic or rapidly increasing electric power consumption vs. water production, for instance, may suggest an inefficient pump, system losses, or an inaccurate water meter.

The Watermaster field staff calibrates the water meter on every active water well at least once every two years. Accurate measurement of ground water extractions is absolutely necessary to the success of the Basin's management plan. Every available means, including system efficiency tests, are used to confirm water meter test results. Inaccurate meters must be repaired within thirty days. Initial tests and follow-up tests on new wells are scheduled whenever necessary. One copy of each test is furnished to the well owner and another copy is retained by the Watermaster for comparison with future tests.

Twice last year, once in the fall, once in the spring, the depth to the static ground water level was measured in about 115 water wells sprinkled about the Basin. The measurements were used to prepare "fall" and "spring" contour maps of the ground water surface and a "fall to fall" map showing areas of equal elevation change over a one-year period.

The Watermaster initiated a sewage outflow measurement program during the 1968-69 season, using F-type water stage recorders on 11 major sewage trunk lines leaving the Raymond Basin. Due to shortage of personnel, recorders were not used during the 1969-70 season. A report on the program is discussed in Chapter III.

These are the major activities of the Raymond Basin Watermaster. Of course, there are many other -- like operating and maintaining nine stream gaging stations to measure surface flow -- but most do not require enough time to be considered major activities. Therefore, instead of trying to list them, the report will continue with the results of the various activities.

Summary of Operating Conditions

Below normal precipitation and runoff prevailed throughout the entire Raymond Basin area and the State as a whole. As expected, water levels in the vicinity of Arroyo Seco spreading grounds and in the Eastern Unit decreased.

The net water use increased by 4,078 acre-feet or 8 percent more than last season. The increase in net water use was reflected in an increase in extractions by 13 percent and imports of 7 percent. The decrease in rainfall resulted in a decrease of surface water diversions of 2 percent and a decrease in spreading operations of 50 percent.

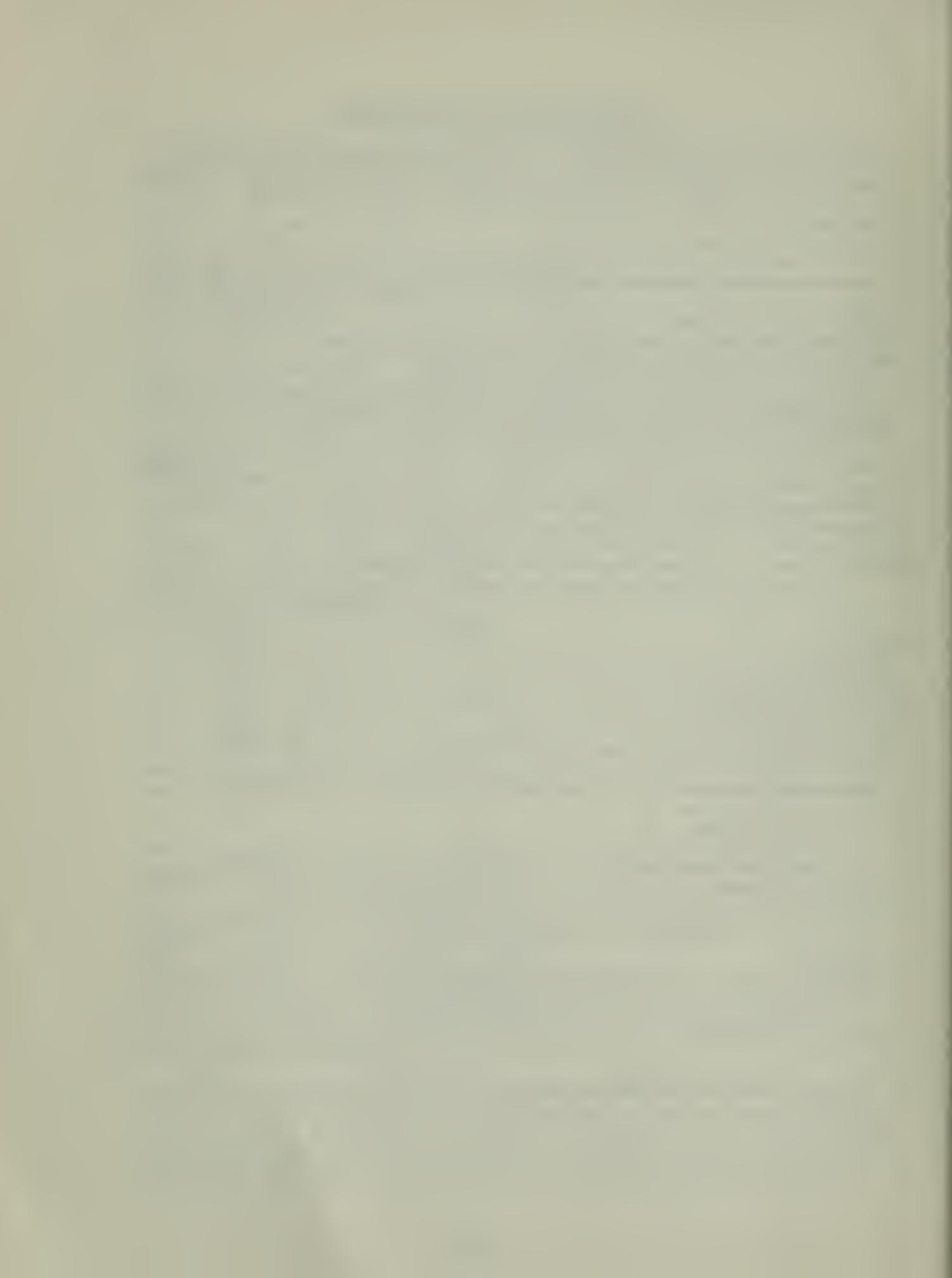
There were no permanent transfers of water rights during the year and the Exchange Pool was used to temporarily transfer 50 acre-feet.

The Watermaster expenditures decreased to 74 cents per acre-foot of ground water extracted by the parties during the 1969-70 season. A brief comparison of general operating conditions during the past two years is shown below.

Comparison of Past Two Seasons

Item	Fiscal Year	
	1968-69	1969-70
Parties	21	21
Active pumpers	21	21
Active nonparties	3	2
"Decreed Right 1955" in acre-feet	30,622.00	30,622.00
Watermaster expenses	\$ 26,289.54	\$ 24,080.38
Watermaster expenses per acre-foot pumped	\$ 0.93	\$ 0.74
Valley rainfall, in inches	43.03	13.44
Spreading operation	7,359 acre-feet	3,521 acre-feet
Extractions inside basin	28,398 acre-feet	32,577 acre-feet
Diversions	8,300 acre-feet	8,102 acre-feet
Imports	20,461 acre-feet	21,888 acre-feet
Exports	- 8,836*acre-feet	-10,166 acre-feet
Net Water Use	48,323*acre-feet	52,401 acre-feet

\*Quantity shown in 1968-69 report was in error by an amount of -1758.

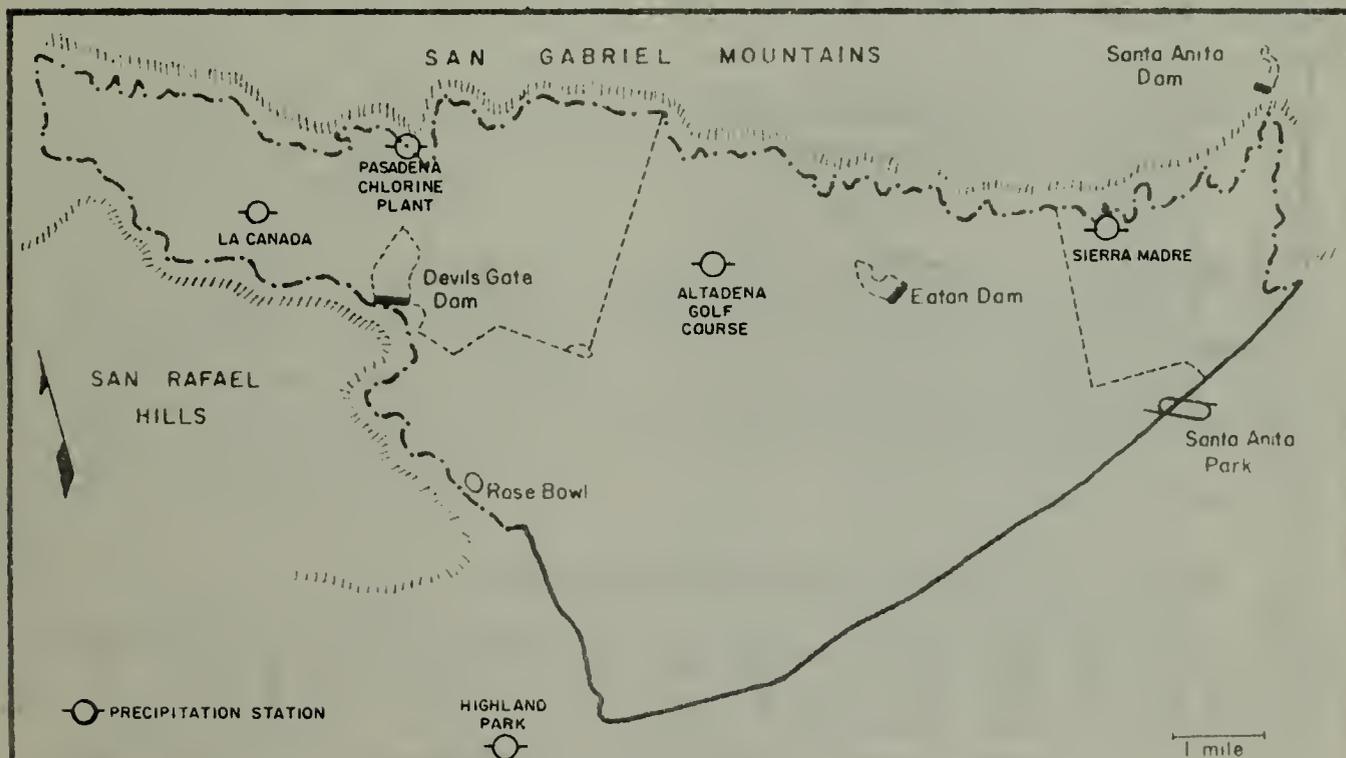


## CHAPTER II. WATER SUPPLY CONDITIONS

Water from many sources is required to serve the needs of Southern California's thriving urban economy. Water from the Colorado River, water from the Owens River, runoff from the mountains, ground water, reclaimed wastewater, and desalination plants along the coast contribute to one of the largest, most reliable water supply systems in the world. Soon, water from Northern California will be available. Even so, current forecasts indicate that additional supplies must be found and developed by 1990 to prevent possible shortages. This chapter explores the sources and uses of current supplies and their effect on water conditions in the Raymond Basin.

### Precipitation

Southern California enjoys a Mediterranean type climate characterized by hot, dry summers and sparse precipitation during the winter months. The below-normal rainfall on the Raymond Basin Valley area during the 1969-70 season was 13.44 inches, considerably less than the 43.03 inches that fell the year before. In the mountains to the north, the difference was much larger. This year 16.69 inches fell on the watersheds, compared to 58.30 inches the year before. The locations of the precipitation stations used to determine the average valley rainfall are shown on Plate 1, page 2 and on the map below. Table 1 compares this season's rainfall to last season's and the average for the period of record.



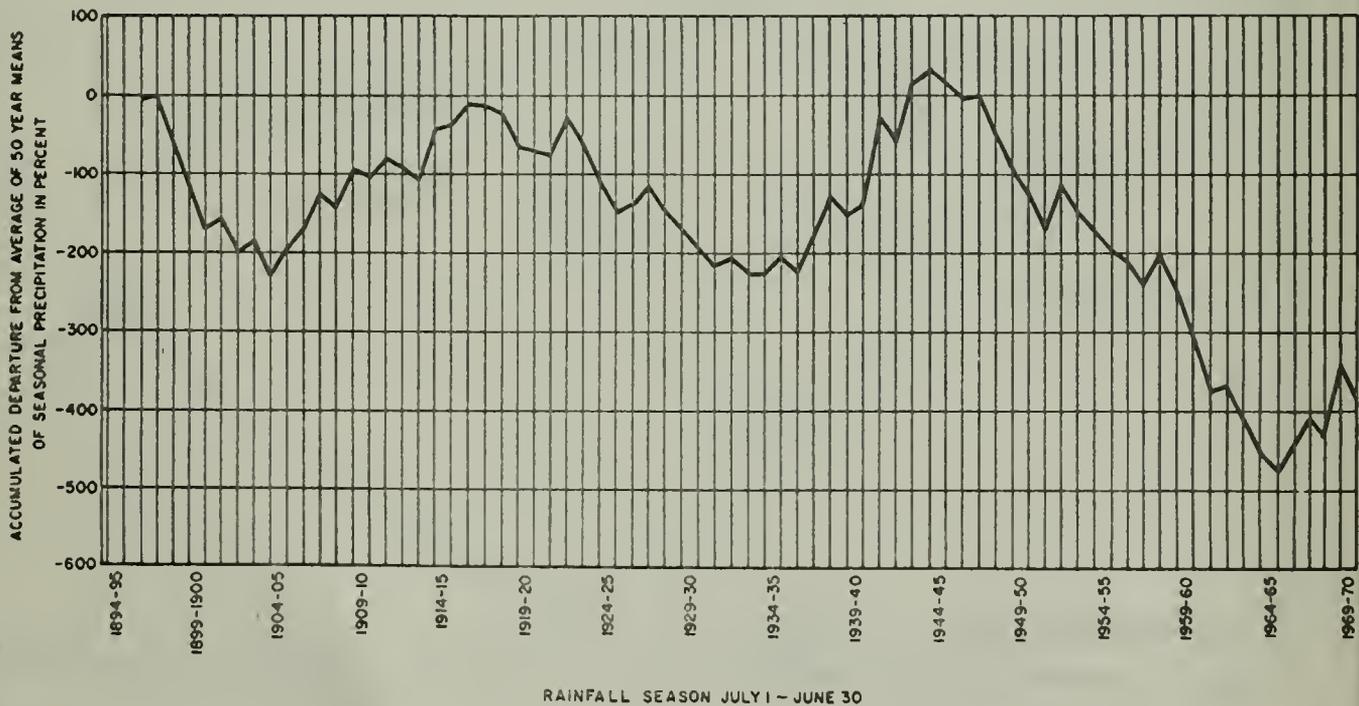
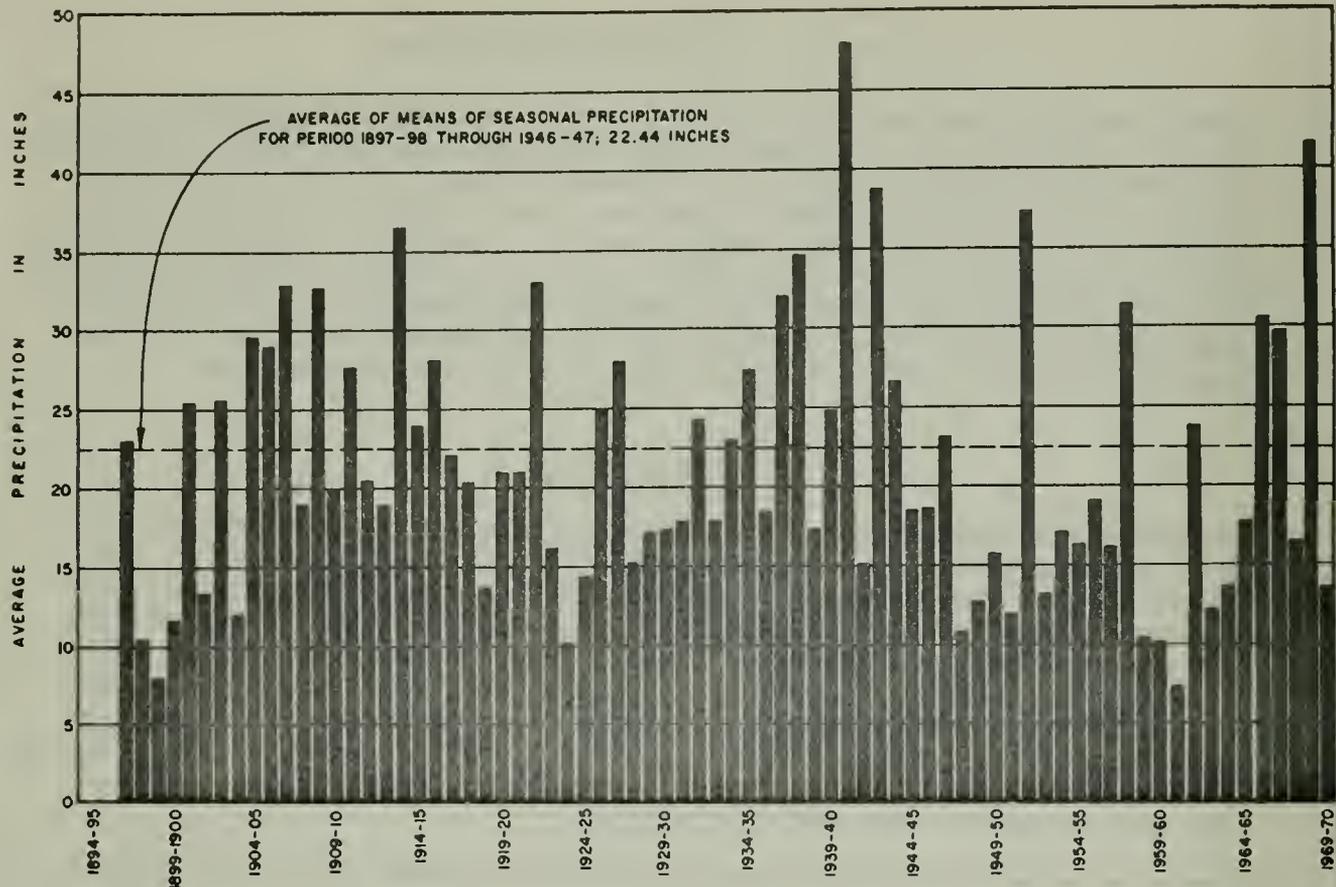


Figure 1 — REPRESENTATIVE RAINFALL CHARACTERISTICS FOR VALLEY STATIONS

TABLE 1

## PRECIPITATION

Precipitation Station	Type <sup>a/</sup> :		July through June precipitation in inches			Period of record in years
	V	M	1968-69	1969-70	50-year mean	
Altadena Golf Course	X		43.56	14.76 <sup>b/</sup>	23.11	73
Highland Park	X		31.48	10.24 <sup>b/</sup>	18.52 <sup>b/</sup>	75
La Canada	X		44.04	12.16	23.20 <sup>b/</sup>	58
Mt. Wilson Airways		X	66.09	20.36	36.40 <sup>b/</sup>	37
Oakwilde		X	40.56	11.02	28.19 <sup>b/</sup>	43
Opid's Camp		X	88.79	24.78	41.19 <sup>b/</sup>	53
Pasadena Chlorine Plant		X	45.44	12.43 <sup>b/</sup>	23.40 <sup>b/</sup>	54
Sierra Madre	X	X	53.00	16.63	25.00 <sup>b/</sup>	75
Switzer's Camp		X	62.57	16.26	27.72 <sup>b/</sup>	43
Upper Haine's Canyon		X	51.69	15.34	30.06 <sup>b/</sup>	52

a/ V = Valley station; M = Mountain station

b/ Value is estimated

Long term precipitation trends are shown graphically on Figure 1. The relative magnitude of the past (hopefully) drought, which began in 1944, is illustrated by the curve of cumulative departures from the mean. A downward slope indicates a continued "dry period" and an upward slope indicates an above normal increase in precipitation. During the 1969-70 season, precipitation was about 40 percent of the long time mean at valley stations and about 46 percent of the mean at mountain stations. The below-normal precipitation during the past season reversed the upward **slope**.

Local precipitation could influence the ground water supply of the Raymond Basin considerably because of the highly permeable nature of the basin. Natural replenishment of the Raymond Basin easily occurs when water has time to percolate into the storage zone. Unfortunately, most of the area is urban, and much of the land surface is paved with asphalt and concrete. Hence, much of the rainfall runs off into paved channels before it can penetrate into the ground and replenish the ground water supply.

#### Ground Water Recharge

Overdraft is a condition where water is removed from a ground water basin faster than it can be replenished by natural processes. Ground water aquifers usually recharge themselves so slowly that a few years of concentrated pumping may upset a balance that took centuries to establish. Basically, this is the situation that existed in the Raymond Basin several years ago.

Today, attempts are being made to re-establish and maintain nature's balance in several ways. One method of artificially recharging aquifers is water spreading. Water is flooded on areas where it can percolate into the underground aquifers and supplement the natural recharge supply. Large quantities of water can be returned to the ground by spreading water, but the process is limited by the space available for spreading facilities and the capacity for the ground water basin to accept it.

The Los Angeles County Flood Control District (LACFCD) operates three spreading grounds (Arroyo Seco, Eaton, and Santa Anita Grounds) in the Raymond Basin. Another project (Sierra Madre Grounds) is operated by the City of Sierra Madre. Since the spread water is added directly to the Raymond Basin, water levels in the vicinity of the spreading grounds, especially the Eastern Unit and Monk Hill Basin, reflect the additional supply quickly. Thus, the spreading operation benefits all of the parties in the Basin considerably. The entire spreading operation is summarized in Table 2.

TABLE 2

AMOUNTS OF WATER SPREAD FOR  
GROUND WATER RECHARGE  
In acre-feet

Spreading grounds	Source of Supply	Amount spread
Arroyo Seco	Arroyo Seco	195
Eaton Wash	Eaton Canyon	483
Santa Anita	Santa Anita Canyon	1,314
Sierra Madre	Santa Anita Canyon, Little Santa Anita Canyon, and street runoff	<u>1,529</u>
	TOTAL	3,521

Salvage Credit for Water Spread  
by City of Sierra Madre

The City of Sierra Madre spreads local street runoff and water diverted from Santa Anita Creek and Sierra Madre Wash in its spreading grounds.

Essentially, the City uses the Eastern Unit as a storage facility, a privilege it obtained several years ago through an agreement with Arcadia. The Watermaster determines the total quantity of water spread in the Sierra Madre Grounds and credits the City with the portion of the spreading that is not part of the natural replenishment of the Eastern Unit.

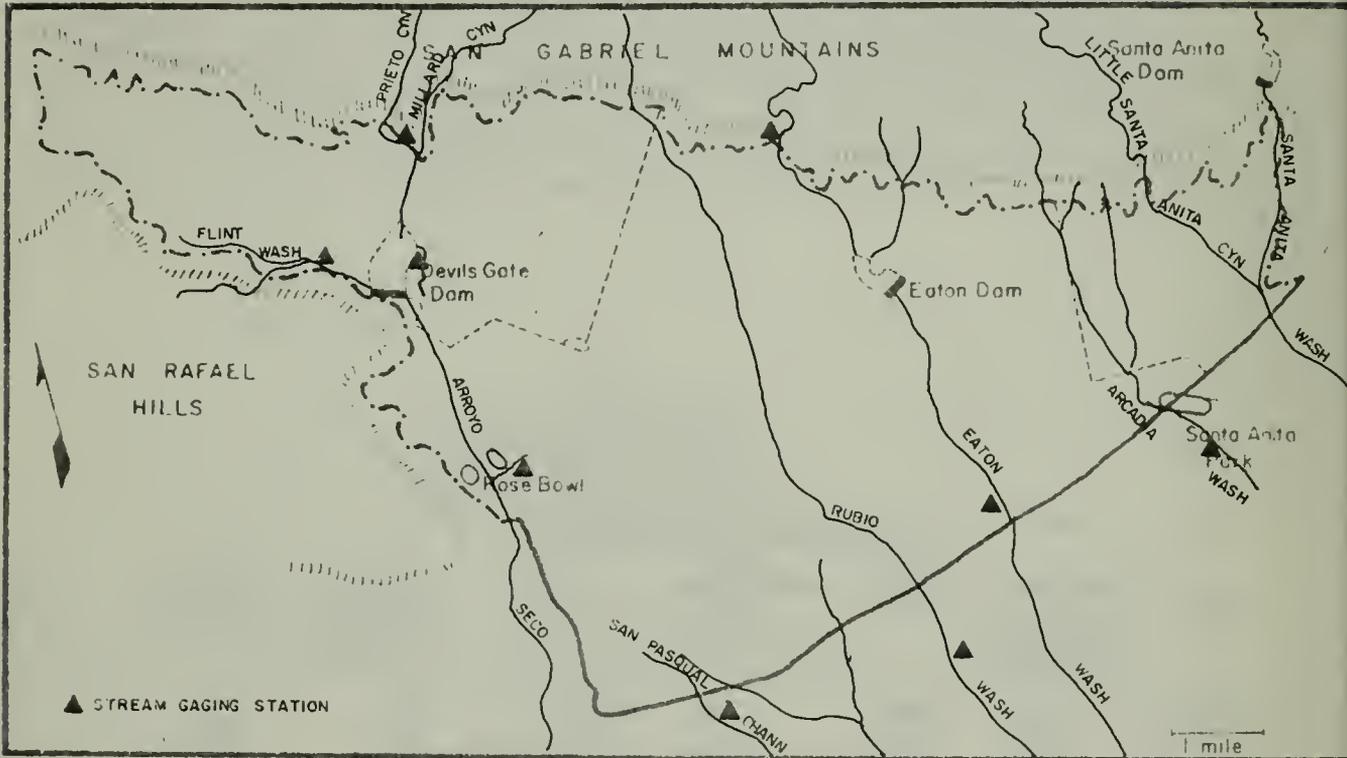
"Salvage Credit" water (the quantity of water stored in the Eastern Unit by the City which is not part of natural replenishment) may not be pumped by the City until both its exchange water purchase, if any, and decreed right are fully used. A summary of the "salvage credit" remaining at the end of each season since 1951 is presented in Table 3. The City did not pump any of its "salvage credit" water during the past season. It did, however, lose some of the stored water because of subsurface outflow.

TABLE 3  
CREDIT FOR WATER SPREAD BY  
THE CITY OF SIERRA MADRE  
In acre-feet

Season	Water spread for salvage						
	(1) Salvage water at beginning of year	(2) Amount	(3) Lost through natural percolation	(4) Water stored	(5) Salvage water lost to subsurface outflow	(6) Salvage water extracted	(7) Salvage water at end of year
				(2)-(3)=(4)			(1)+(4)-(5)-(6)=(7)
1951-52	0	1,937.0	526.9	1,410.1	124.4	449.4	836.3
52-53	836.3	258.0	94.6	163.4	243.1	334.9	421.7
53-54	421.7	580.0	4.6	575.4	115.4	596.1	285.6
54-55	285.6	341.0	21.5	319.5	15.1	559.1	30.9
55-56	30.9	429.0	90.9	338.1	9.6	128.0	231.4
56-57	231.4	331.0	167.1	163.9	42.1	62.0	291.2
57-58	291.2	3,409.0	811.9	2,597.1	278.8	0.0	2,609.5
58-59	2,609.5	1,308.0	521.0	787.0	945.1	37.5	2,413.9
59-60	2,413.9	45.0	10.4	34.6	705.6	208.2	1,534.7
1960-61	1,534.7	51.0	16.0	35.0	214.1	1,116.3	239.3
61-62	239.3	1,283.0	445.6	837.4	43.1	292.9	740.8
62-63	740.8	1,121.0	544.4	576.6	241.7	253.9	821.8
63-64	821.8	699.0	164.4	534.6	180.2	451.3	724.9
64-65	724.9	904.0	208.0	696.0	142.8	837.3	440.2
65-66	440.2	4,233.0	979.0	3,254.0	553.9	433.1	3,140.3
66-67	3,140.3	4,537.0	945.1	3,591.9	1,204.6	0.0	5,527.6
67-68	5,527.6	2,625.0	1,069.2	1,555.8	1,749.8	0.0	5,333.5
68-69	5,333.5	2,984.0	371.9	2,612.1	1,590.4	0.0	6,355.2
69-70	6,355.2	1,529.3	932.2	597.1	1,535.3	0.0	5,417.0
TOTALS		28,604.3	7,924.7	20,679.6	9,935.1	5,760.0	

## Runoff

Thirteen stream gaging stations are used to determine the volume of surface water moving through the Raymond Basin. The Watermaster operates nine, and the Los Angeles County Flood Control District operates the remaining four. The location of each station is shown on Plate 1, page 2, and on the map below.



Appendix A summarizes the information collected at gaging stations operated by the Watermaster. The seasonal summary of "measured" flow at each gaging station is presented in Table 4.

## Ground Water Table Elevations

During the past season, the Watermaster collected and processed data to determine prevailing ground water conditions in the Raymond Basin. The results of this study are presented on Plates 2, 3, and 4 in the succeeding pages of this report.

Plate 2 shows the elevations of the ground water table that existed during the fall of 1969. Plate 3 shows the changes in elevation that occurred in the water table between the 1968 and 1969 fall seasons. Any area of significant change is easily detected. Plate 4 represents the water table that existed during the spring of 1970 at the end of the rainy season. This plate shows the conditions resulting from the dry winter months just concluded.

TABLE 4

INFLOW AND OUTFLOW AT GAGING STATIONS  
In acre-feet

Station	: Inflow	: Outflow
Arroyo Seco <sup>a/</sup> (above Millard Canyon)	1,008	
Diversions by City of Pasadena above Arroyo Seco	3,854	
Arroyo Seco-Devil's Gate Dam releases <sup>b/</sup>		2,456
Seco Drain (Seco St. west of Rosemont Ave.)		515
Broadway Drain (above Mission St. west of Las Flores Dr.)		2,838
Rubio Drain (at Rose Ave.)		1,975
Eaton Wash <sup>a/</sup> (at Old Mt. Wilson Toll Road)	364	
Diversions by City of Pasadena above Eaton Wash	1,610	
Eaton Wash (at Lombardy Road)		1,154
Arcadia Wash (near Huntington Dr. in Santa Anita Park)		1,875
Sierra Madre Wash <sup>a/</sup> (below Sierra Madre Dam)	430	
Santa Anita Wash-Santa Anita Dam releases <sup>a/</sup>	3,452	
Santa Anita Wash (at Foothill Blvd.)	_____	<u>1,583</u> <sup>c/</sup>
TOTALS	10,718	12,396

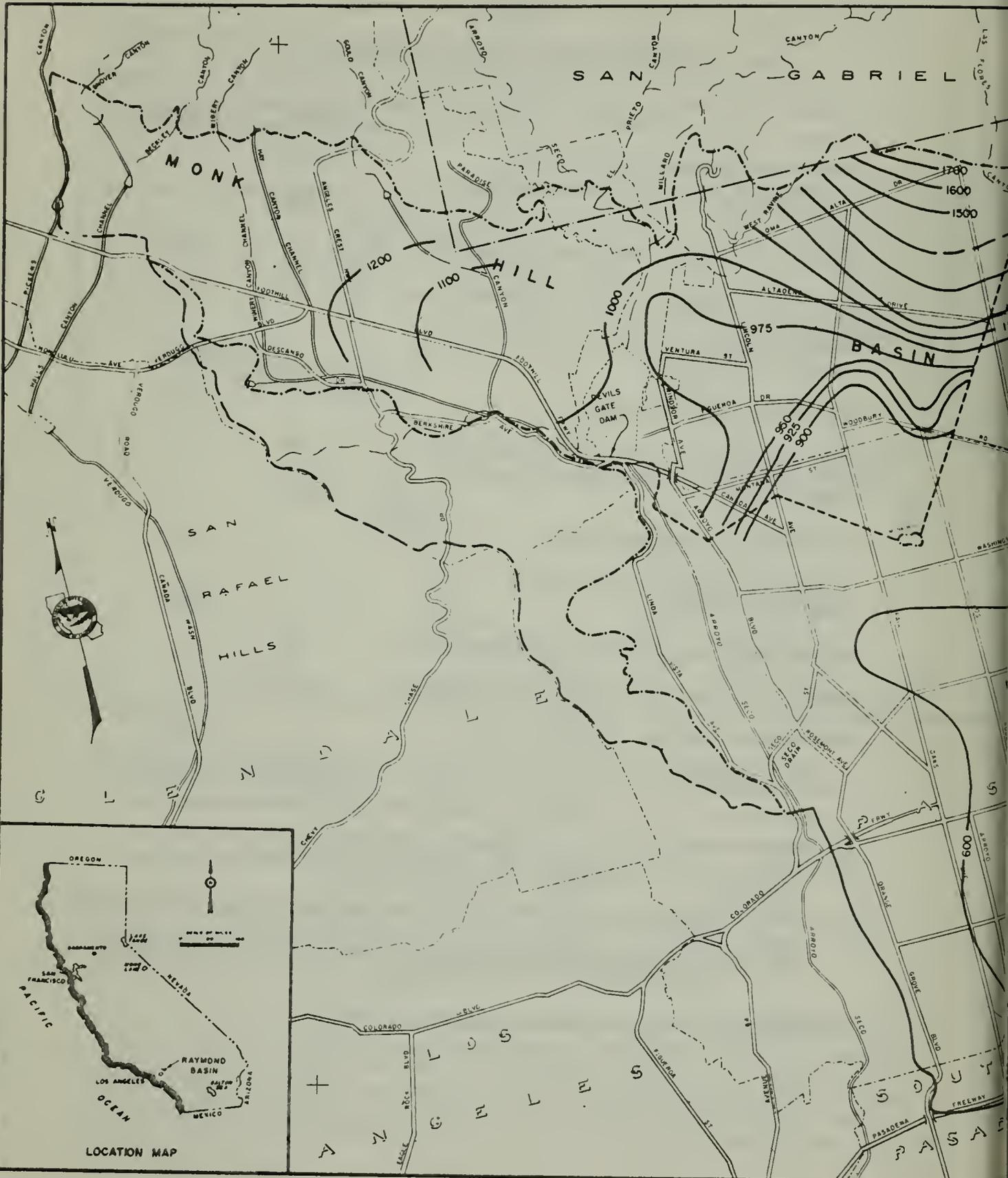
a/ Includes water diverted to spreading grounds within the basin.

b/ Measured inflow to Devil's Gate Reservoir other than Arroyo Seco includes:

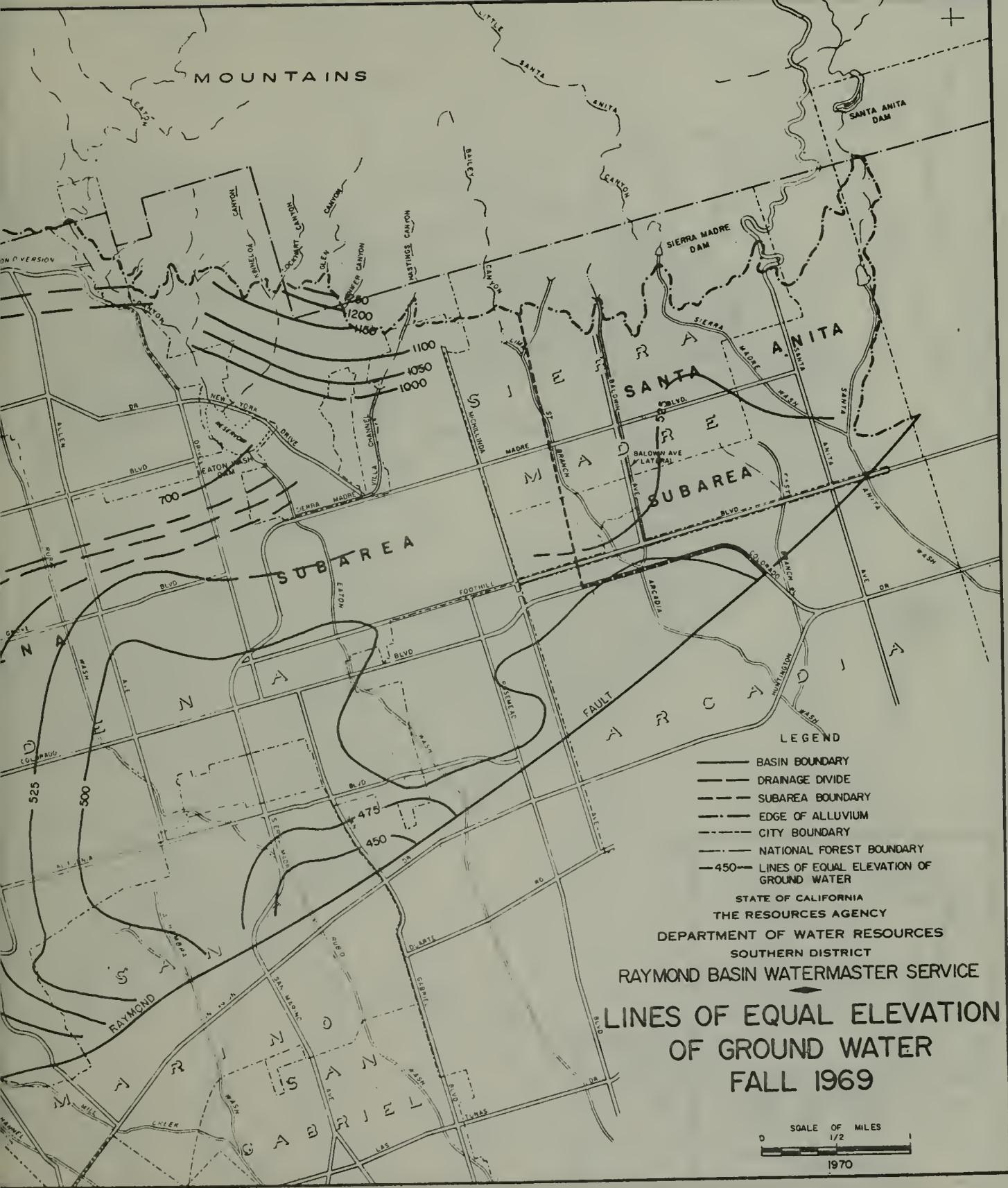
(1) Flint Wash - 1,307 acre-feet from western portion of Monk Hill Basin.

(2) West Altadena Storm Drain - 423 acre-feet from a portion of eastern part of Monk Hill Basin.

c/ Approximate due to excessive sanding of station.



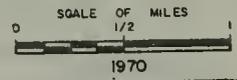
LOCATION MAP

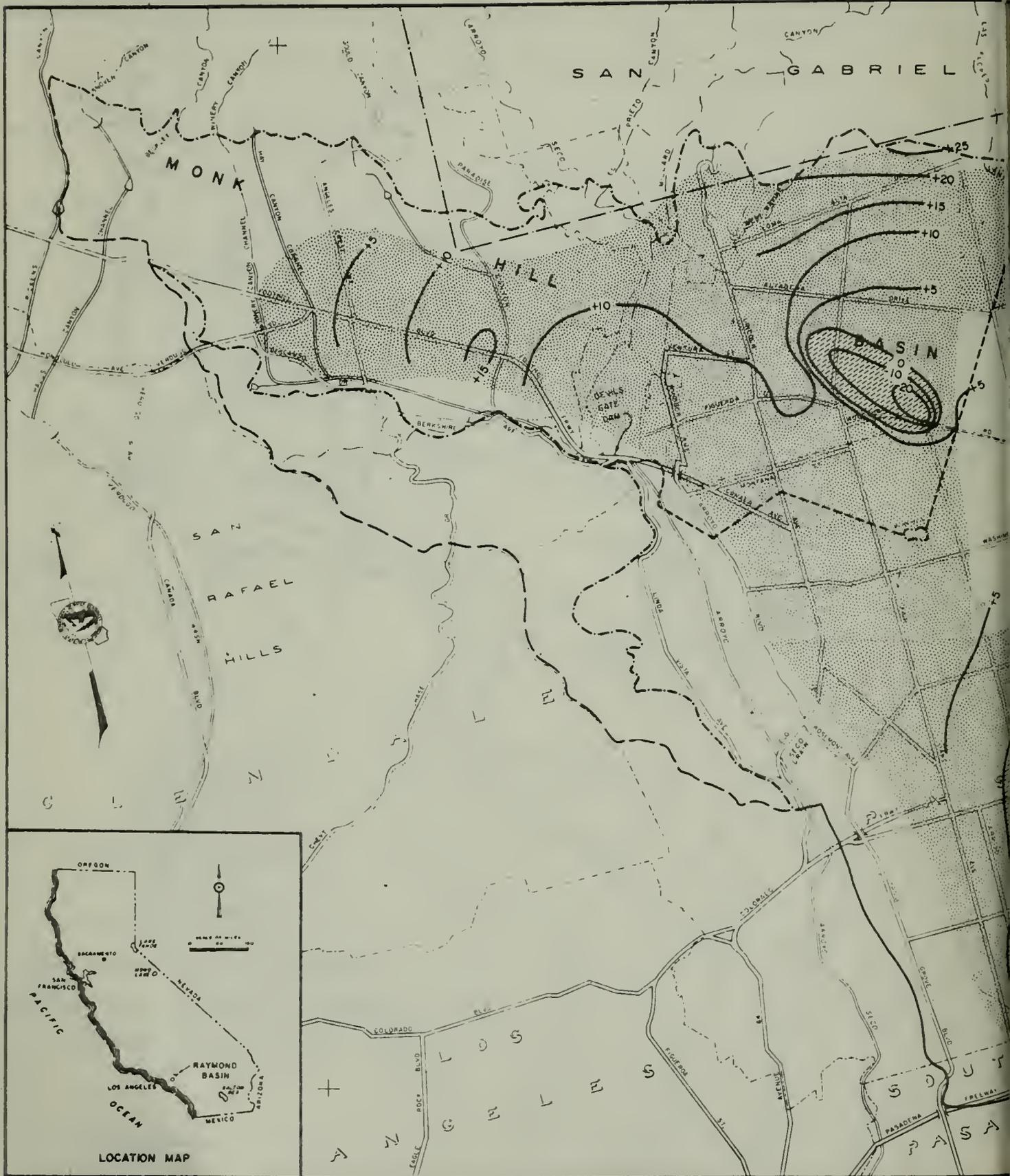


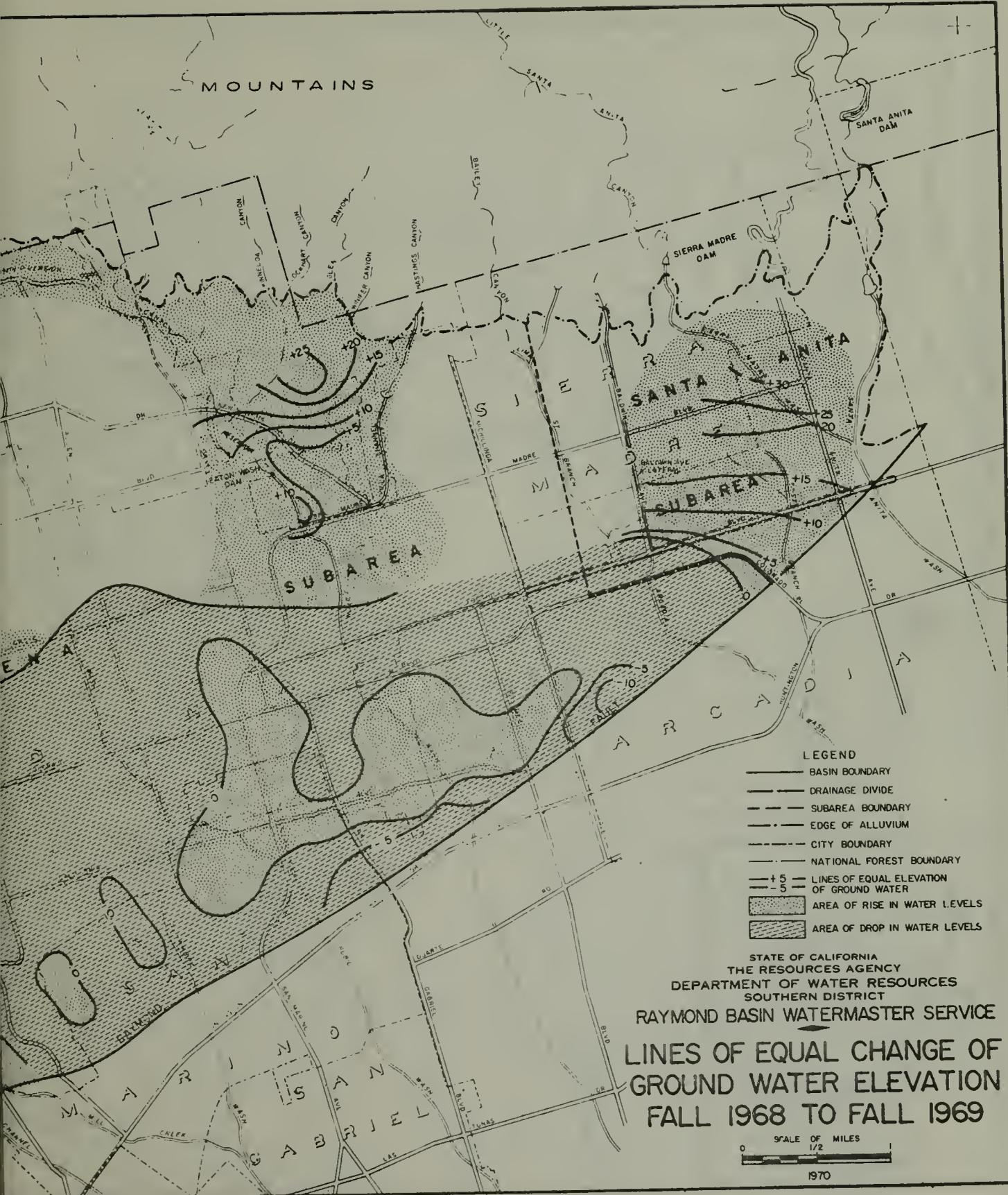
- LEGEND
- BASIN BOUNDARY
  - DRAINAGE DIVIDE
  - SUBAREA BOUNDARY
  - - - - EDGE OF ALLUVIUM
  - CITY BOUNDARY
  - NATIONAL FOREST BOUNDARY
  - - - - 450' LINES OF EQUAL ELEVATION OF GROUND WATER

STATE OF CALIFORNIA  
 THE RESOURCES AGENCY  
 DEPARTMENT OF WATER RESOURCES  
 SOUTHERN DISTRICT  
 RAYMOND BASIN WATERMASTER SERVICE

**LINES OF EQUAL ELEVATION  
 OF GROUND WATER  
 FALL 1969**







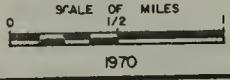
LEGEND

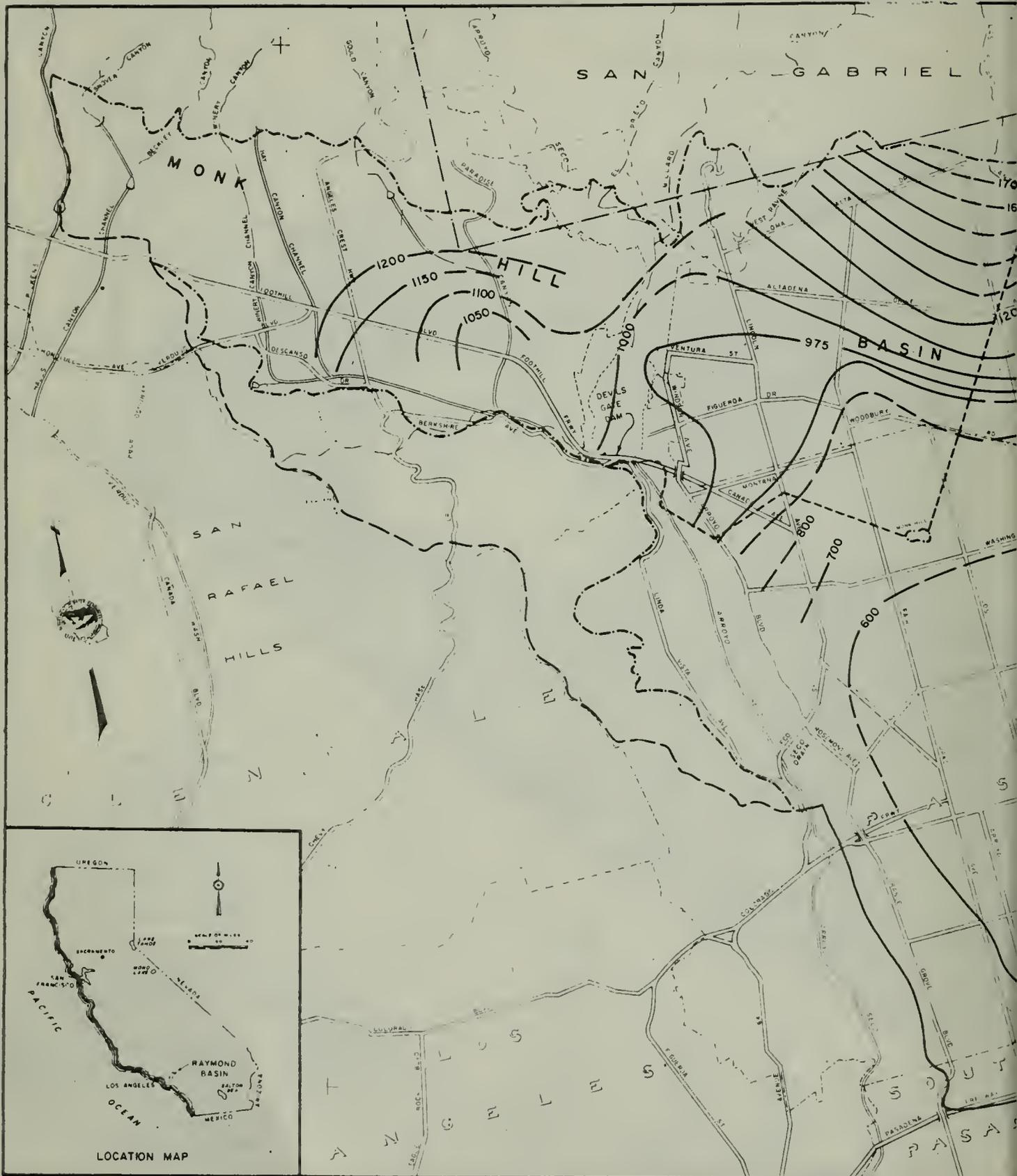
- BASIN BOUNDARY
- DRAINAGE DIVIDE
- SUBAREA BOUNDARY
- EDGE OF ALLUVIUM
- CITY BOUNDARY
- NATIONAL FOREST BOUNDARY
- +5—— LINES OF EQUAL ELEVATION OF GROUND WATER
- 5——
- [Stippled Area] AREA OF RISE IN WATER LEVELS
- [Hatched Area] AREA OF DROP IN WATER LEVELS

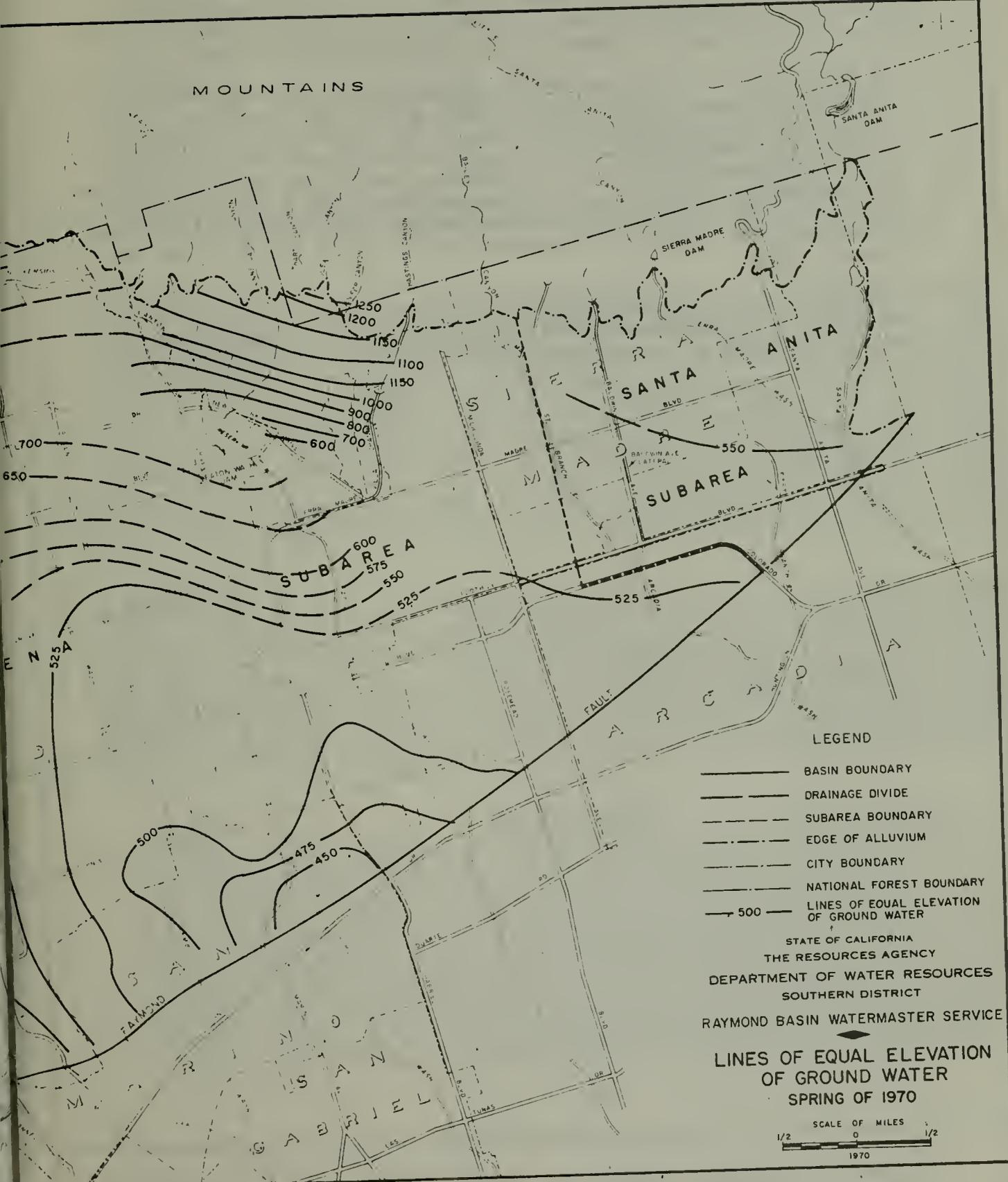
STATE OF CALIFORNIA  
 THE RESOURCES AGENCY  
 DEPARTMENT OF WATER RESOURCES  
 SOUTHERN DISTRICT

RAYMOND BASIN WATERMASTER SERVICE

**LINES OF EQUAL CHANGE OF  
 GROUND WATER ELEVATION  
 FALL 1968 TO FALL 1969**







LEGEND

- BASIN BOUNDARY
- DRAINAGE DIVIDE
- - - - SUBAREA BOUNDARY
- - - - EDGE OF ALLUVIUM
- CITY BOUNDARY
- NATIONAL FOREST BOUNDARY
- 500 — LINES OF EQUAL ELEVATION OF GROUND WATER

STATE OF CALIFORNIA  
 THE RESOURCES AGENCY  
 DEPARTMENT OF WATER RESOURCES  
 SOUTHERN DISTRICT  
 RAYMOND BASIN WATERMASTER SERVICE

**LINES OF EQUAL ELEVATION  
 OF GROUND WATER  
 SPRING OF 1970**

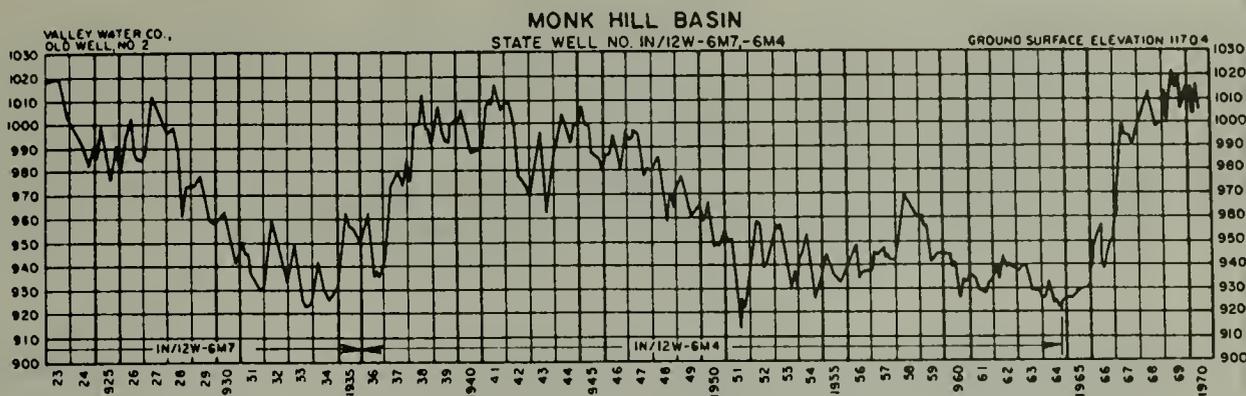


Hydrographs presenting historical ground water table fluctuations in selected wells throughout the Raymond Basin are shown on Figures 2, 3, and 4. The locations of these wells are shown on Plate 1. Many more hydrographs are available for inspection at the Watermaster's Office.

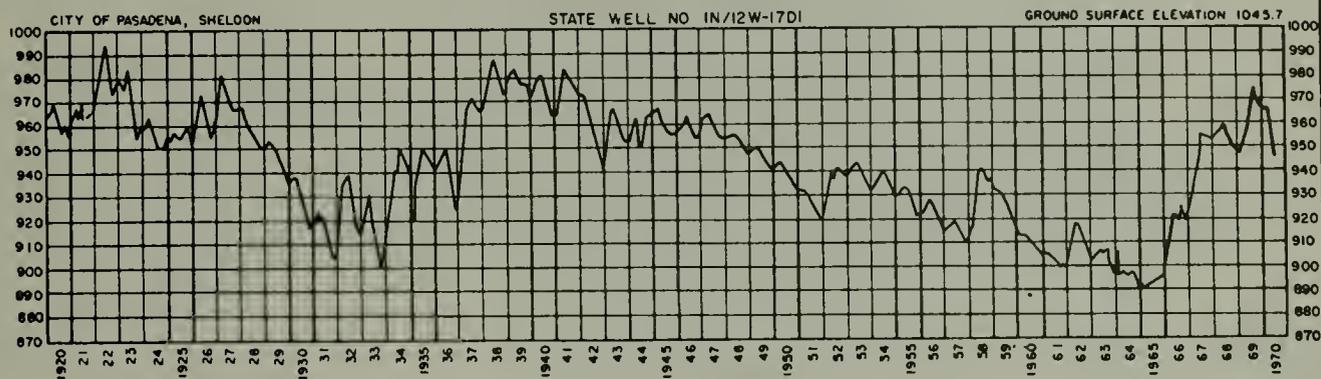
The hydrograph of the City of Arcadia's Orange Grove No. 4 well (Figure 4) is one of the Arcadia group of wells which governs the limitation of pumping the Eastern Unit of the Raymond Basin. The limitation is imposed if the water surface at the Arcadia group of wells drops below an elevation of 500 feet above sea level. The limitation reduces the annual extraction from the Eastern Unit during the following season from 5,290 acre-feet to 3,261 acre-feet. As the water surface was above the 500-foot limit during spring 1970, the limitation of pumping will not be in effect during the 1970-71 season.

An examination of the hydrographs also indicates that the past rainy season and moderate water spreading has effected a very slight rise of water levels throughout the entire Eastern Unit and the Monk Hill Basin.

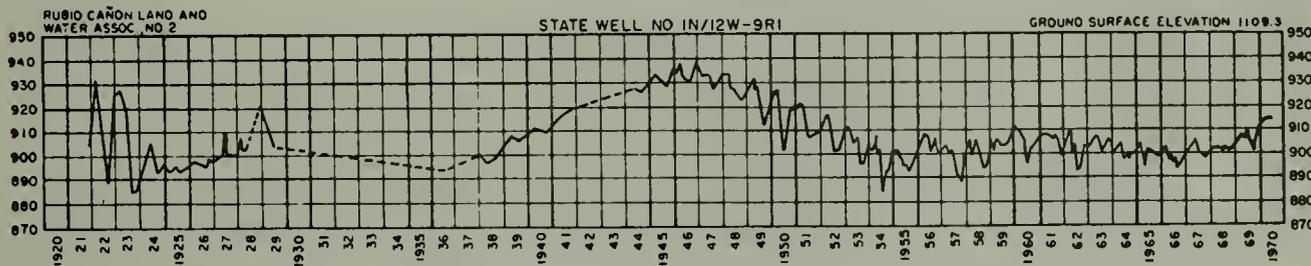
U. S. G. S. DATUM



WELLS IN FEET



AT WATER LEVELS



ELEVATION OF

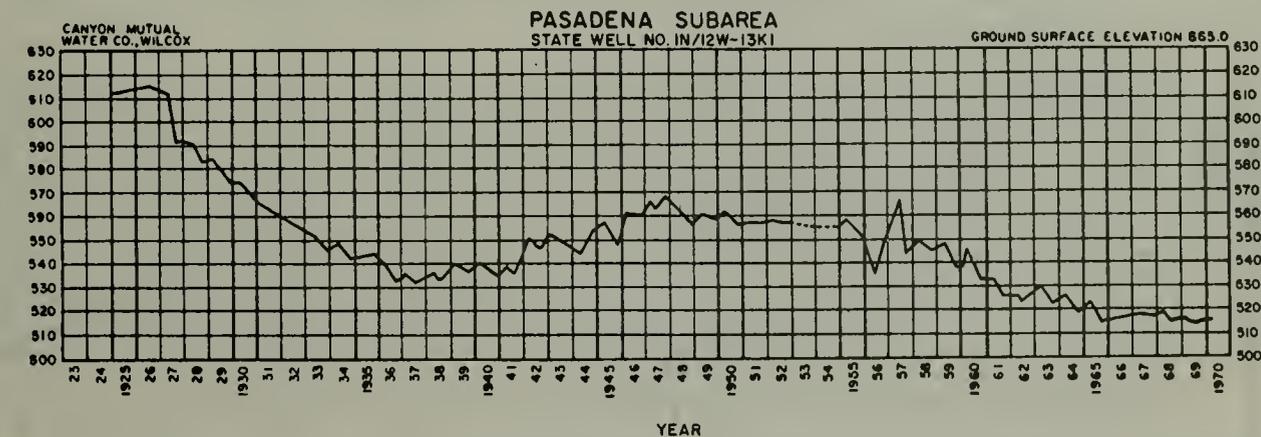


Figure 2 — FLUCTUATION OF WATER LEVELS AT WELLS

U. S. G. S. DATUM

ELEVATION OF WELLS IN FEET

WATER LEVELS AT WELLS

ELEVATION OF

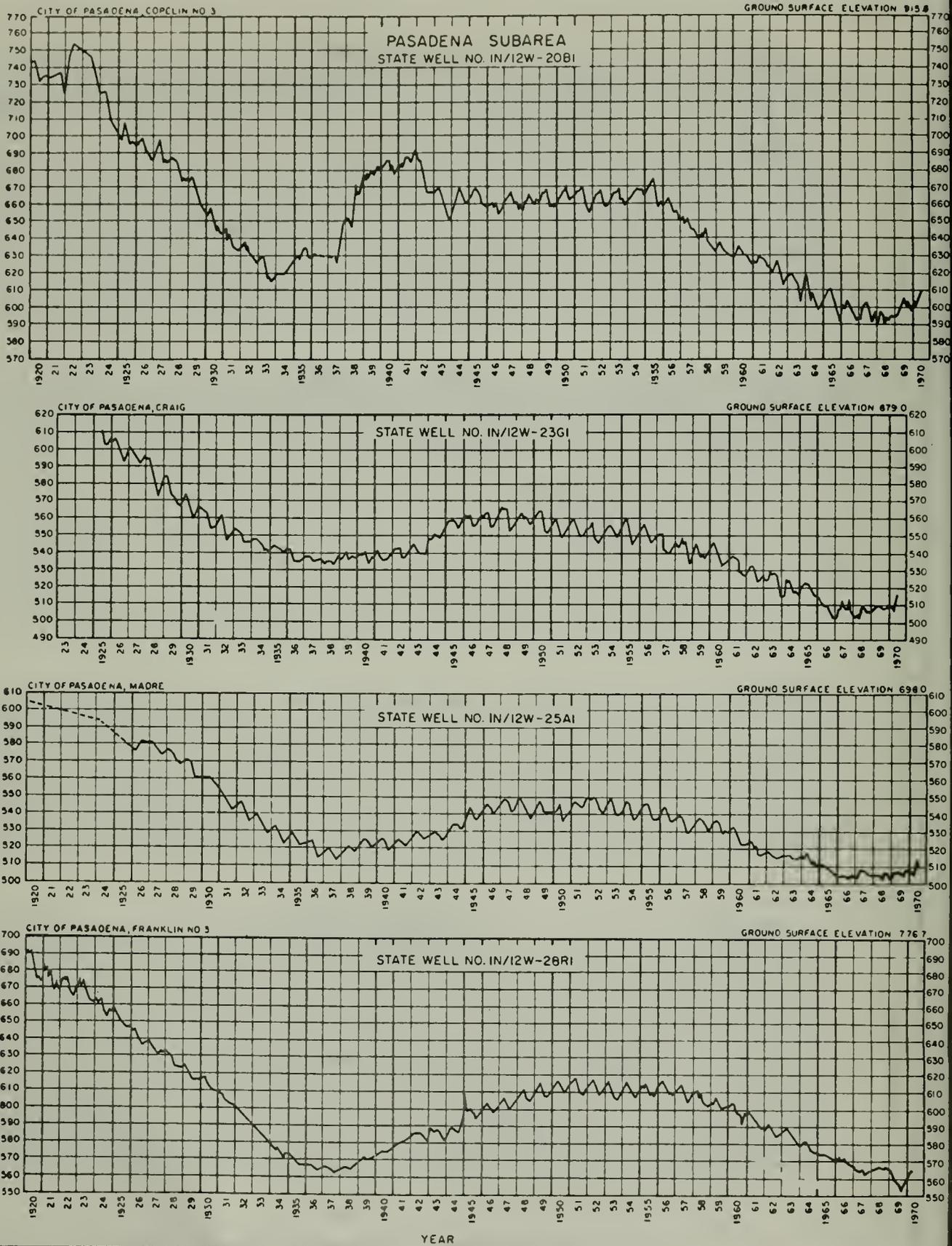


Figure 3 — FLUCTUATION OF WATER LEVELS AT WELLS

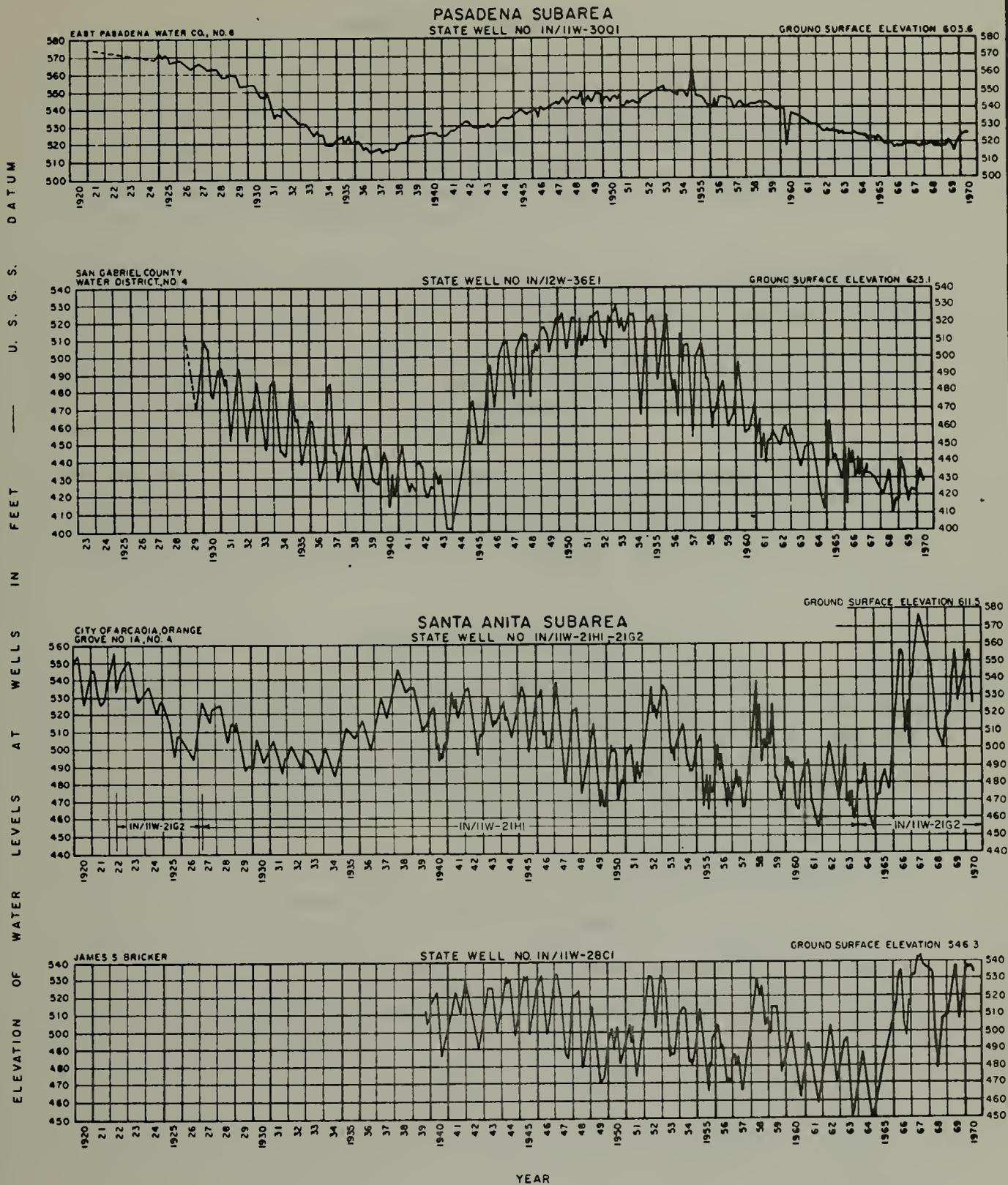


Figure 4 — FLUCTUATION OF WATER LEVELS AT WELLS



### CHAPTER III. WATER USE

A rapid population increase in the Raymond Basin area has caused the parties' net water use (see Figure 5) to increase substantially since 1944. The net water use is the summation of ground water extractions, salvage water extractions (City of Sierra Madre), surface water diversions tributary to the Raymond Basin, and water imported to the Basin, minus the exports from the Basin. Water which is diverted for spreading is not included in the net water use computations.

Despite the large increase in net water use, which has leveled off since 1958-59, the use of local ground water supplies has been held to the decreed rights since 1944. Most of the increased water requirement has been met by Colorado River water imports. Historical water use and the correlation between current climatic conditions and monthly water use are also presented on Figure 5. Rainfall values are based on valley station records (Table 1) and, temperature values are based on the average temperatures at the Cities of Pasadena and Sierra Madre.

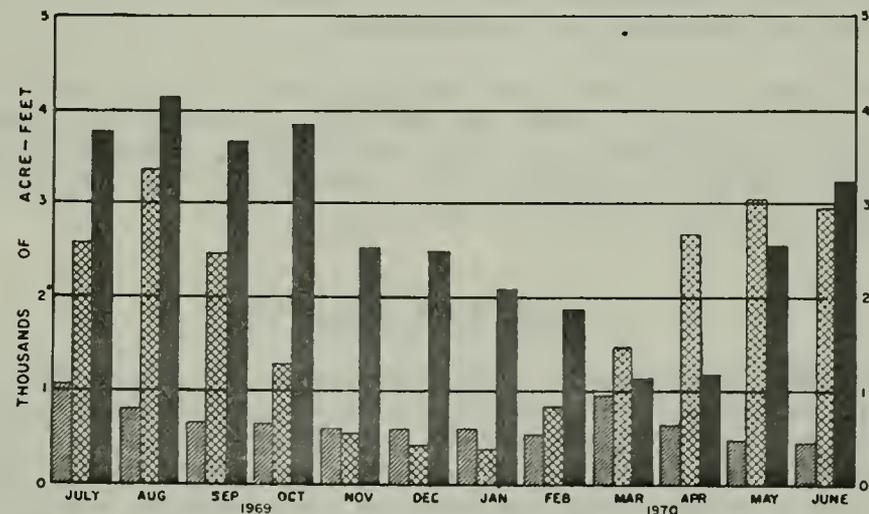
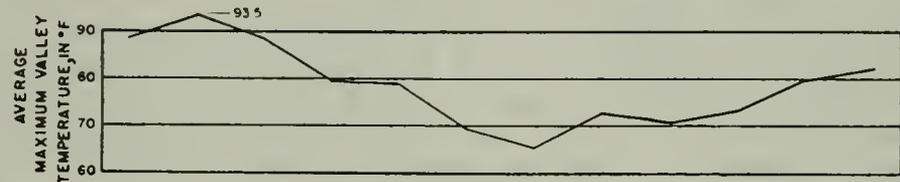
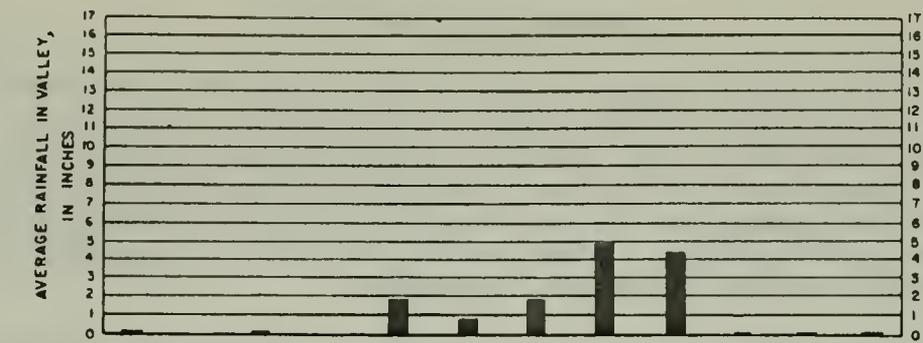
The bar-graphs on Figure 5 are striking proof of the relationship between climate and water use. Note the similarity between the average temperature curve and monthly water use. Also note that an increase in rainfall instantly reduces the water demand. Obviously, climate is one of the most important phenomena regulating water use.

#### Ground Water Extractions

The Raymond Basin Judgment limits the amount of ground water that each party can extract annually from the Raymond Basin, or release to the Water Exchange Pool for pumping by other parties. Recipients of exchange water may pump the amount released to them in addition to their "Decreed Right 1955". Table 5 is a balance sheet summarizing each party's "water account" by listing each party's decreed right, carryover, and ground water extraction during the past season.

The metered ground water production from each active well in the Basin is listed by party in Appendix B, Table B-1. This tabulation shows the total ground water production as reported by each party.

A report on the gross water supply of all parties appears in Table B-2 of Appendix B. The gross water supply includes all sources of water supply necessary to provide each party's total water requirement for its service area, as shown on Plate 5.



SEASONAL CLIMATIC CONDITIONS AND WATER USE

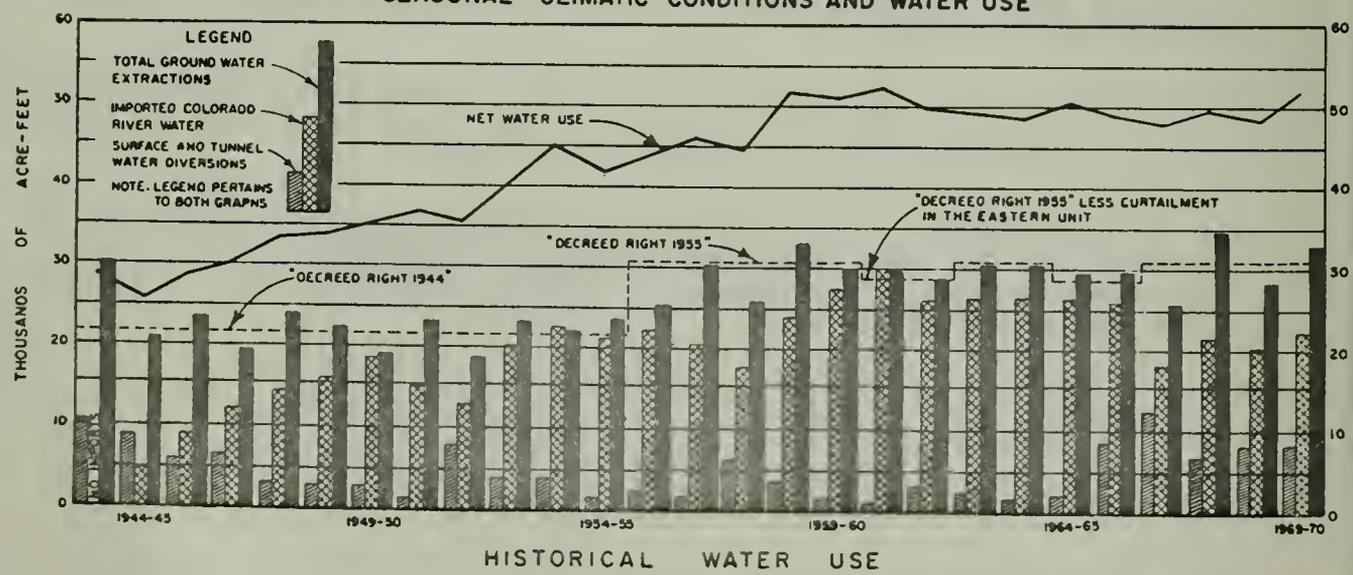


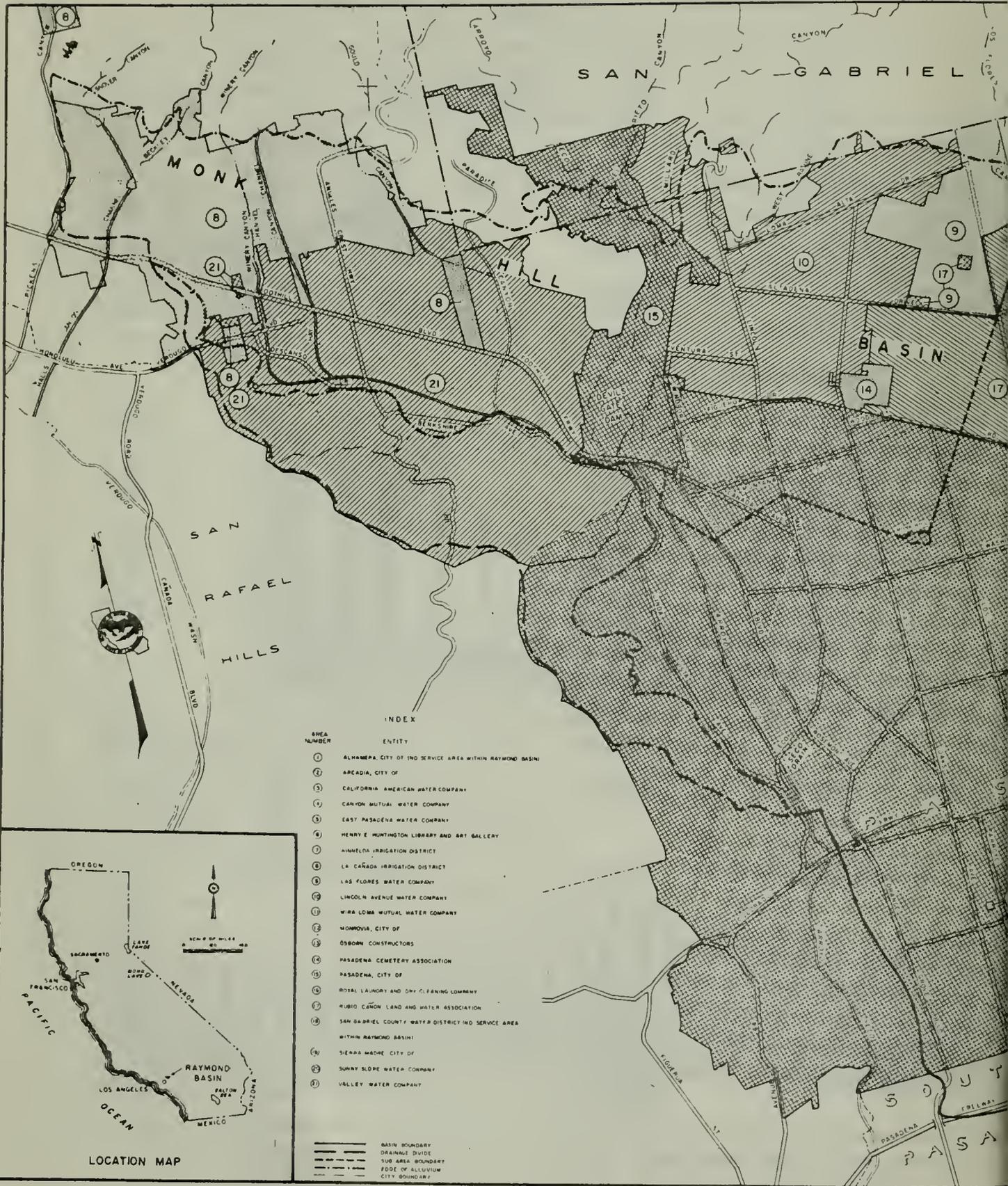
Figure 5 - CLIMATIC CONDITIONS AND WATER USE

TABLE 5

DECREED RIGHTS AND AMOUNTS OF WATER PUMPED AND EXCHANGED  
In acre-feet

Party	(1) Decreed Right 1955	(2) Exchange water: Purchased(+) Sold (-)	(3) Carryover from 1968-69	(4) Amount Pumped	(5) Balance on July 1, 1970 (1)+(2)+(3)-(4)=(5)
<u>WESTERN UNIT (Monk Hill Basin)</u>					
La Canada Irrigation District	100.00		+ 21.51	- 43.68	+ 77.83
Las Flores Water Company	249.00		+ 56.47	- 295.92	+ 9.55
Lincoln Avenue Water Company	567.00		- 91.61	- 563.46	- 88.07
Pasadena Cemetery Association	91.00		+ 74.28	- 114.06	+ 51.22
Pasadena, City of	4,464.00		+3,047.50	- 4,990.94	+2,520.56
Rubio Canon Land and Water Association	1,221.00		+ 161.18	- 1,487.64	- 105.46
Valley Water Company	<u>797.00</u>		<u>+ 231.81</u>	<u>- 926.17</u>	<u>+ 102.64</u>
SUBTOTALS	7,489.00		+3,501.14	- 8,421.87	+2,568.27
(Pasadena Basin)					
Alhambra, City of	1,031.00		+1,020.92	- 769.02	+1,282.90
Arcadia, City of	1,167.00		+ 14.58	- 977.81	+ 203.77
California-American Water Company	2,299.00		- 104.46	- 2,276.30	- 81.76
Canyon Mutual Water Company	127.00		+ 539.38	- 54.34	+ 612.04
East Pasadena Water Company	515.00		+ 551.44	- 439.03	+ 627.41
Henry E. Huntington Library and Art Gallery	262.00		+ 292.93	- 282.65	+ 272.28
Kinneloa Irrigation District	229.00	-50.00	+1,302.63	- 84.23	+1,397.40
Mira Loma Mutual Water Company	148.00		+ 360.27	- 103.17	+ 405.10
Monrovia, City of	951.00		+ 113.52	- 1,050.31	+ 14.21
Osborne Constructors	12.00		+ 434.04	- 27.33	+ 418.71
Pasadena, City of	8,343.00		- 917.00	- 9,811.97	-2,385.97
Royal Laundry and Dry Cleaning Company	110.00	+50.00	- 14.95	- 150.84	- 5.79
San Gabriel County Water District	1,091.00		+ 12.01	- 1,105.92	- 2.91
Sunny Slope Water Company	<u>1,558.00</u>		<u>+ 13.97</u>	<u>- 1,577.40</u>	<u>- 5.43</u>
SUBTOTALS	17,843.00		+3,619.28	-18,710.32	+2,751.96
TOTALS - WESTERN UNIT	25,332.00		+7,120.42	-27,132.19	+5,320.23
Recapitulation for City of Pasadena - Western Unit	12,807.00		+2,130.50	-14,802.91	+ 134.59
<u>EASTERN UNIT ( Santa Anita Basin)</u>					
Arcadia, City of	3,526.00		+ 390.19	- 3,858.61	+ 57.58
Sierra Madre, City of	<u>1,764.00</u>		<u>+ 624.47</u>	<u>- 1,586.56</u> <sup>1/</sup>	<u>+ 801.91</u>
TOTALS - EASTERN UNIT	<u>5,290.00</u>		<u>+1,014.66</u>	<u>- 5,445.17</u>	<u>+ 859.49</u>
GRAND TOTALS	<u>30,622.00</u>		<u>+8,135.08</u>	<u>-32,577.36</u>	<u>+6,179.72</u>

<sup>1/</sup> Value equal to total water pumped. No salvage water was pumped during 1969-70.

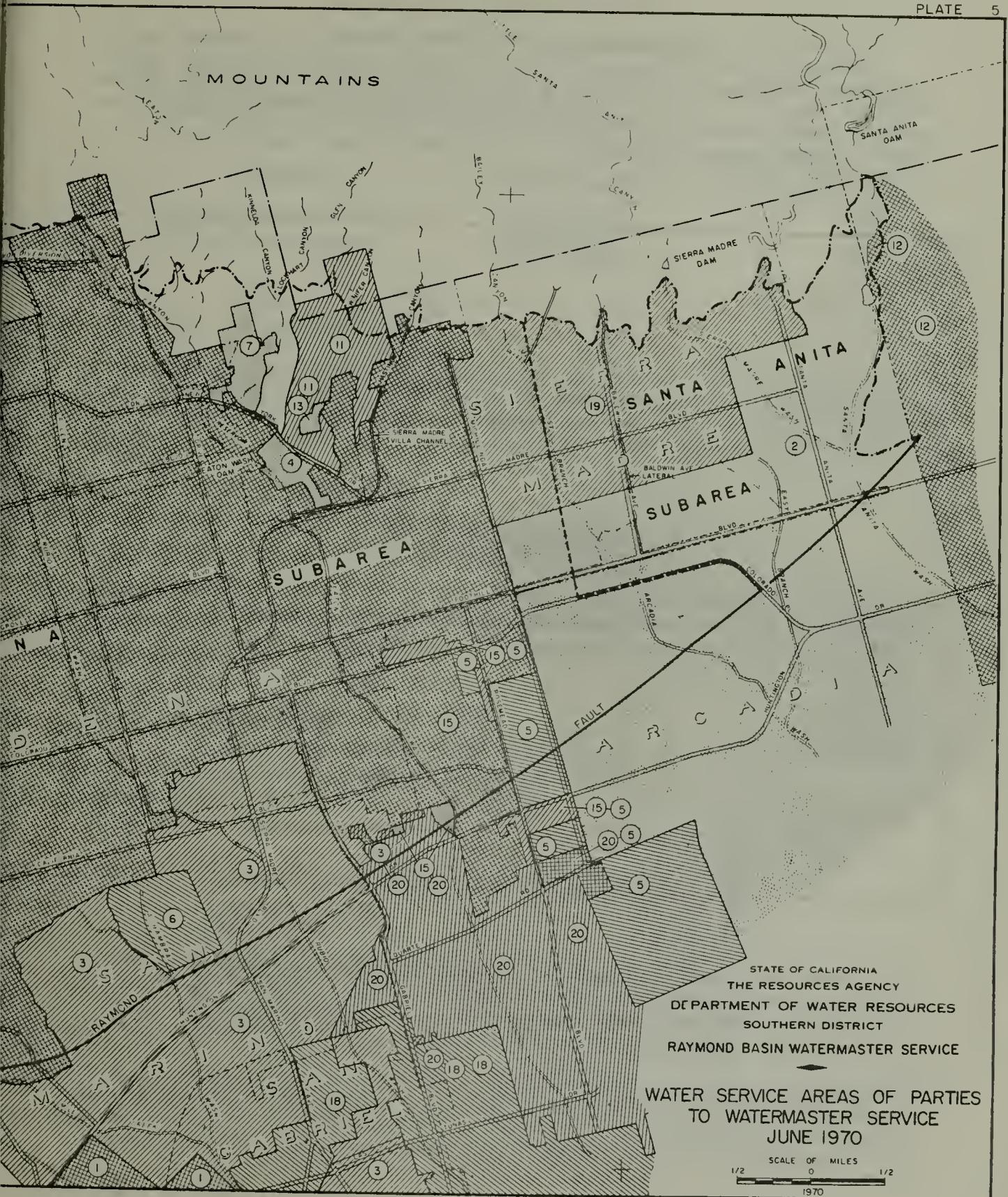


INDEX

- | AREA NUMBER | ENTITY   |
|-------------|--|
| ①           | ALHAMBRA, CITY OF (NO SERVICE AREA WITHIN RAYMOND BASIN)                 |
| ②           | ARCADIA, CITY OF   |
| ③           | CALIFORNIA AMERICAN WATER COMPANY  |
| ④           | CANYON MUTUAL WATER COMPANY  |
| ⑤           | EAST PASADENA WATER COMPANY  |
| ⑥           | HENRY E. HUNTINGTON LIBRARY AND ART GALLERY                              |
| ⑦           | MINNELDA IRRIGATION DISTRICT   |
| ⑧           | LA CARADA IRRIGATION DISTRICT  |
| ⑨           | LAS FLORES WATER COMPANY   |
| ⑩           | LINCOLN AVENUE WATER COMPANY   |
| ⑪           | WIRA LOMA MUTUAL WATER COMPANY   |
| ⑫           | MONROVIA, CITY OF  |
| ⑬           | OSBORN CONSTRUCTORS  |
| ⑭           | PASADENA CEMETERY ASSOCIATION  |
| ⑮           | PASADENA, CITY OF  |
| ⑯           | ROYAL LAUNDRY AND DRY CLEANING COMPANY                                   |
| ⑰           | RUBIO CANON LAND AND WATER ASSOCIATION                                   |
| ⑱           | SAN GABRIEL COUNTY WATER DISTRICT (NO SERVICE AREA WITHIN RAYMOND BASIN) |
| ⑲           | SIERRA MADRE CITY OF   |
| ⑳           | SUNNY SLOPE WATER COMPANY  |
| ㉑           | VALLEY WATER COMPANY   |

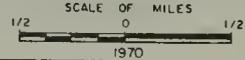
- |     |                   |
|-----|-------------------|
| ——— | BASIN BOUNDARY    |
| ——— | DRAINAGE DIVIDE   |
| ——— | SUB AREA BOUNDARY |
| ——— | EDGE OF ALLUVIUM  |
| ——— | CITY BOUNDARY     |

LOCATION MAP



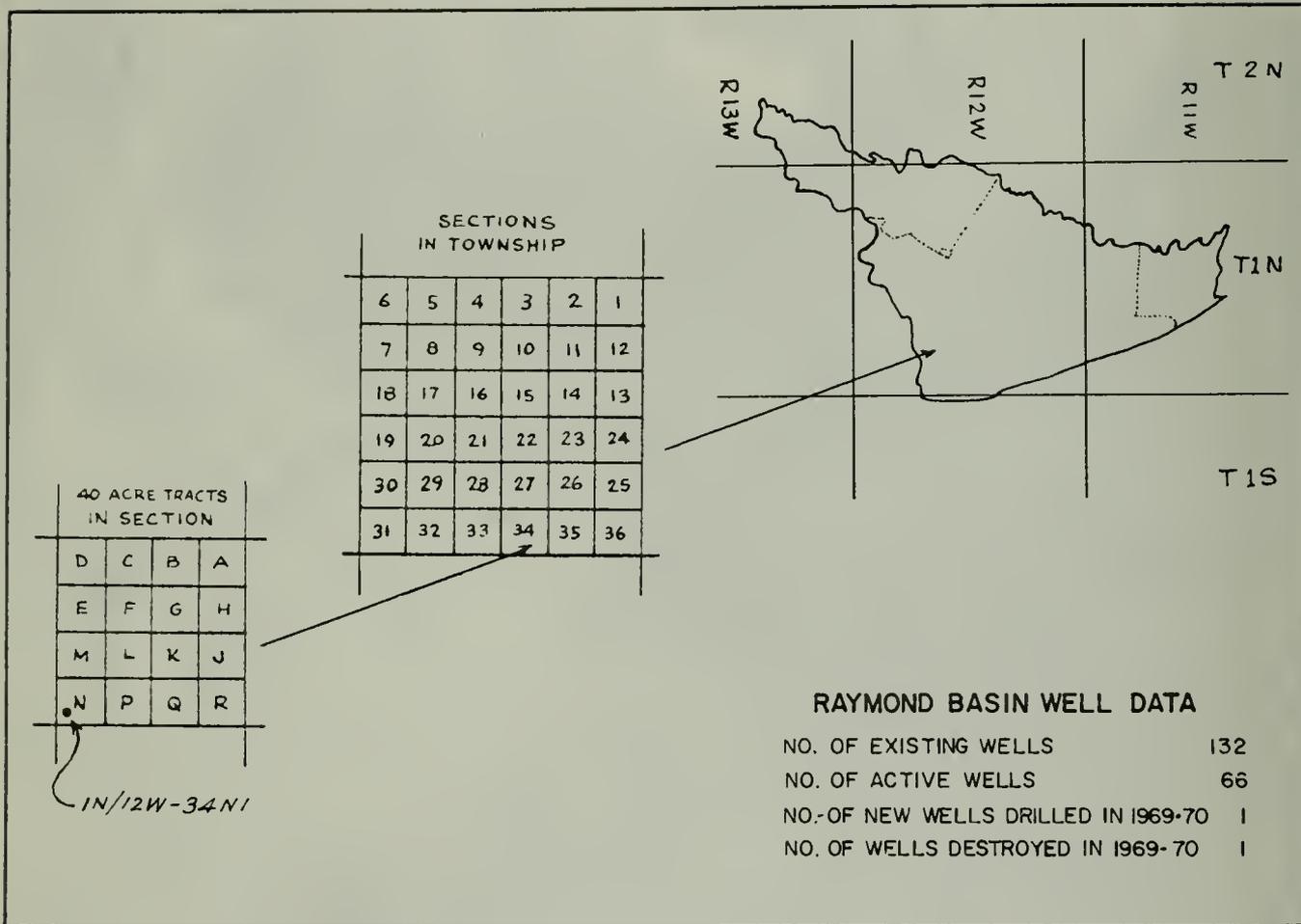
STATE OF CALIFORNIA  
 THE RESOURCES AGENCY  
 DEPARTMENT OF WATER RESOURCES  
 SOUTHERN DISTRICT  
 RAYMOND BASIN WATERMASTER SERVICE

WATER SERVICE AREAS OF PARTIES  
 TO WATERMASTER SERVICE  
 JUNE 1970



## Water Wells in the Raymond Basin

Each water well in the Raymond Basin is assigned a state well number to simplify locating the well. A state well numbering system was adopted several years ago which utilizes the United States Public Land Survey System. A graphical illustration of the system in the Raymond Basin is shown below.



Each state well number consists of a township, range, and section number; a letter to indicate the 40-acre plot where the well is located; a number to identify the particular well in a section; and the letter "S" indicating that the well location is referenced to the San Bernardino Base and Meridian.

For instance, state well number 1N/12W-34N1 would be the first well assigned a number in Township 1 North, Range 12 West, Section 34, and in the 40-acre Tract "N". All wells in the Raymond Basin are referenced to the San Bernardino Base and Meridian, so the letter "S" is sometimes dropped in this report.

Nonparty Ground Water Extractions

At the request of the Raymond Basin Advisory Board, the Watermaster continued to monitor nonparty ground water extractions within the Raymond Basin. Two nonparty pumpers, all pumping from the Western Unit, continue to pump ground water. Their extractions were:

<u>Nonparty</u>	<u>State Well No.</u>	<u>Amount pumped, in acre-feet</u>
Huntington-Sheraton Hotel	1N/12W-34N1	16
Las Encinas Hospital	1N/12W-25K1	
	1N/12W-25L2	<u>69</u>
TOTAL		85

The California Consumers Corporation did not pump any water during the past year, because of continued problems with their water well. The Huntington-Sheraton Hotel extractions were estimated and submitted by the hotel plant engineer. The Las Encinas Hospital based its water use on water meter readings.

Ground Water Extractions  
Outside of Raymond Basin

Several parties extracted ground water from the basin adjacent to the Raymond Basin. These parties and their extractions are shown on Table 6. The City of Arcadia and East Pasadena Water Company imported ground water into the Raymond Basin this year.

TABLE 6

GROUND WATER EXTRactions  
OUTSIDE OF RAYMOND BASIN  
In acre-feet

Party	:	Total
	:	extracted
Alhambra, City of		10,694.04
Arcadia, City of		9,555.65
California-American Water Company		4,555.59
East Pasadena Water Company		1,636.56
Monrovia, City of		5,809.86
San Gabriel County Water District		5,297.98
Sunny Slope Water Company		<u>2,818.18</u>
TOTAL		40,367.86

TABLE 7

## SURFACE WATER DIVERSIONS

Party	Maximum allowable diversion of tributary water, in second-feet	Monk Hill Basin Diversions tributary to Raymond Basin, in acre-feet	Diversions nontributary to Raymond Basin, in acre-feet <sup>a/</sup>	Total diversions in acre-feet
<u>WESTERN UNIT</u>				
		<u>Monk Hill Basin</u>		
La Canada Irrigation District	1.20	0.00	209.20	209.20
Las Flores Water Company	0.50	236.40	0.00	236.40
Lincoln Avenue Water Company	6.59	495.32	0.00	495.32
Pasadena, City of	25.00	3,853.87	0.00	3,853.87
Rubio Canon Land and Water Association	2.20	<u>414.94</u>	<u>0.00</u>	<u>414.94</u>
Subtotals		5,000.53	209.20	5,209.73
		<u>Pasadena Subarea</u>		
Kinneloa Irrigation District	1.20	275.48	0.00	275.48
Mira Loma Mutual Water Company	0.81	94.26	0.00	94.26
Monrovia, City of	0.00	0.00	565.76	565.76
Pasadena, City of	8.90	<u>1,604.72</u>	<u>0.00</u>	<u>1,604.72</u>
Subtotals		1,974.46	565.76	2,540.22
TOTALS - WESTERN UNIT		6,974.99	774.96	7,749.95
<u>EASTERN UNIT</u>				
		<u>Santa Anita Subarea</u>		
Sierra Madre, City of	6.00	<u>1,126.67<sup>b/</sup></u>	<u>0.00</u>	<u>1,126.67<sup>b/</sup></u>
GRAND TOTALS		8,101.66	774.96	8,876.62

a/ Used by parties in areas outside the Raymond Basin.

b/ Does not include 1,529 acre-feet diverted for spreading to recharge the ground water supply. Quantity shown in 1968-69 should have been 770.68 acre-feet rather than the reported figure of 896.83 acre-feet.

### Surface Diversions

The Judgment allows certain parties to divert surface waters tributary to the Raymond Basin. In addition, nontributary surface water is also diverted and imported by parties. Two types of diversions are used: surface and tunnel diversions.

Surface diversions are used to collect surface water such as streams or springs. Tunnel diversions are used to collect subsurface water. Tunnel diversion facilities may be either horizontal or vertical galleries. In both cases, the water is diverted to a reservoir, treatment plant, or service facility. Table 7 summarizes all surface water diversion during the 1969-70 season.

### Use of Imported Colorado River Water

Colorado River water was first available within the Basin to the City of Pasadena in June 1941. However, the City did not start using the source continuously until June 1945. Table 8 shows the amount of Colorado River water imported last season by each party connected to Foothill Municipal Water District.

TABLE 8

#### IMPORTED COLORADO RIVER WATER In acre-feet

Party	:	Total imported
<u>Monk Hill Basin<sup>a/</sup></u>		
La Canada Irrigation District		2,129.75
Las Flores Water Company		354.06
Lincoln Avenue Water Company		1,397.06
Rubio Canon Land and Water Association		580.55
Valley Water Company		<u>2,112.19</u>
Subtotal		6,573.61 <sup>b/</sup>
<u>Pasadena Subarea</u>		
Pasadena, City of		<u>15,272.59</u>
TOTAL		21,846.20

<sup>a/</sup> Parties in Monk Hill Basin obtain supplies through facilities of Foothill Municipal Water District.

<sup>b/</sup> Excludes 603 acre-feet delivered to Mesa Crest Water Company, a nonparty located in Monk Hill Basin.

### Exports of Ground Water

The Watermaster assumes that parties with service areas both inside and outside the Basin export ground water only if their water sales within the Basin are less than the summation of water pumped, diverted, and purchased within the Basin. Table 9 lists each party that exported ground water and the amount. Since the City of Pasadena's supply of water comes from several sources, its total export contains Colorado River and diverted surface water, as well as ground water.

TABLE 9

#### GROUND WATER EXPORTS In acre-feet

Party	Total exported <sup>a/</sup>
Alhambra, City of	769.02
Arcadia, City of	163.36
East Pasadena Water Co.	1.08
Monrovia, City of	1,050.31
Pasadena, City of	5,616.29 <sup>b/</sup>
San Gabriel County Water Co.	1,105.92
Sunny Slope Water Co.	1,459.73
<b>TOTAL</b>	<b>10,165.71</b>

a/ Distribution system losses were not considered in determining the amount of water exported.

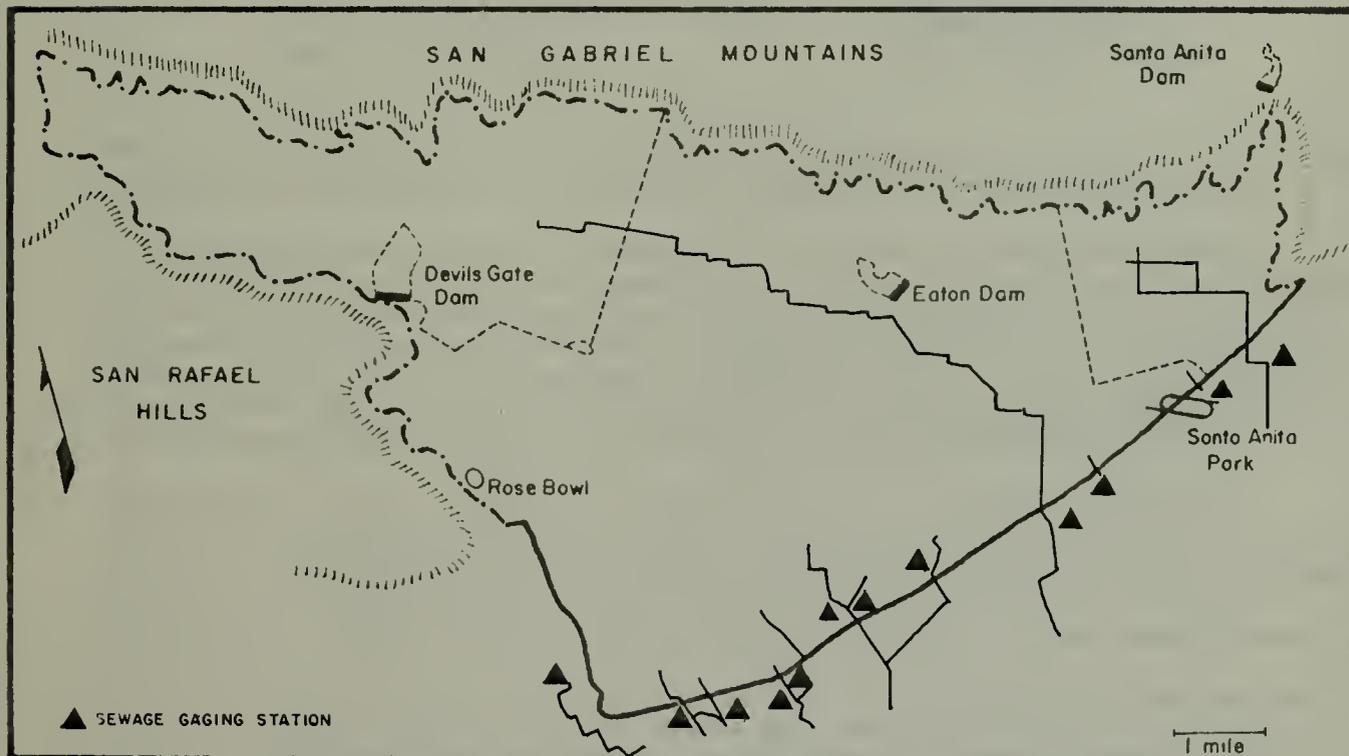
b/ Includes undetermined amounts of Colorado River water and surface diversions.

### Exports of Sewage

At the request of the Raymond Basin Advisory Board, the Watermaster initiated a program to determine the sewage outflow from the Raymond Basin. During the 1967-68 season, the Watermaster evaluated and selected several key stations on large sewage trunk lines leaving the Raymond Basin across the fault. Permission was granted by each of the cities and public authorities having jurisdiction over the selected lines so that the Watermaster could temporarily install a recorder at each of these key stations. In all cases, the cities and agencies were very cooperative with the Watermaster.

During the 1968-69 season the Watermaster installed F-type water stage recorders in 11 trunk lines for a period of one week at each sewage trunk line. A shortage of personnel at the Watermaster's office during the 1969-70 season precluded the installation of the recorders and, instead, made water level measurements at each trunk line by using manually inserted staff gages. These measurements were made on one day only; once in the morning and once in the afternoon. A comparison of the flow computations for the two seasons was inclusive and unacceptable. It is presently planned to again use the F-type water stage recorders during the 1970-71 season. The approximate location of each sewage gaging station is shown on the map below.

Annual sewage outflow from the Raymond Basin has increased yearly. Previous estimates of the annual outflow were as follows: 1938-39 .... 5,900 acre-feet; 1951-52 .... 9,500 acre-feet. The 1968-69 outflow computed from the data obtained as described above would indicate that approximately 14,000 acre-feet are leaving the Raymond Basin.





## CHAPTER IV. ADMINISTRATION OF THE JUDGMENT

The Raymond Basin Judgment was a logical step toward preserving the usefulness of a most valuable natural resource. It provided a flexible tool to limit extractions and still allow for a beneficial use of the ground water supply. However, the reduction of extractions imposed by the Judgment forced the parties to look for other supplies. Fortunately, other sources of water were available. If they had not been, the rapidly increasing demand for water might have literally bankrupted the Basin before other basin management techniques could have been developed.

### The Raymond Basin Advisory Board

The Superior Court appointed the Watermaster to administer the Raymond Basin Judgment. In addition, the Court created a four-man Advisory Board to assist and advise the Watermaster on questions of policy and budget preparation. The Advisory Board currently consists of the following members:

Mr. K. A. Johnson, Chairman	City of Pasadena
Mr. E. D. Richards, Secretary	Monk Hill Basin
Mr. L. Magoffin	Pasadena Subarea
Mr. J. A. Grivich	Santa Anita Subarea
Mr. B. Westcamper	" " "

Messrs. Grivich and Westcamper alternate annually as board members; Mr. Grivich serving in odd numbered years and Mr. Westcamper in even numbered years.

The Board has been working diligently in its effort to manage the Basin. A cooperative water resource management study for the Raymond Basin was initiated by the Board during the fiscal year 1967-68. The program initiated under an agreement which was signed on March 21, 1968, between the Department of Water Resources and the City of Pasadena on behalf of all the parties, continues to forge ahead. The objective of the program is to design a mathematical model of the Raymond Basin for use in developing various management plans.

The purpose of this ground water basin model is to simulate the dynamic behavior of ground water basin under various plans of basin operation in conjunction with surface water facilities. In order to simulate the ground water system, the Raymond Basin was divided into 79 subzones to provide future ground water level information with sufficient detail for long-range planning.

Prior to future projections, the model had to be verified using past historic hydraulic data. This was done to assure that the model could be used for future predictions with confidence. Having been verified, numerous alternative plans of utilizing ground water in conjunction with surface water supplies are being imposed upon the model. With this information, a wide range of operational and economic information can be developed for future management planning. During the 1970-71 fiscal year the operational and economic analysis will be completed and a report covering the findings of this cooperative investigation will be published.

It is anticipated that the use of the mathematical model will lead to a modification of the Raymond Basin Judgment. The modification will provide a means for increasing the efficient use of the ground water basin by adding flexibility to the control of ground water extractions and providing for ground water recharge programs.

#### Exchange Pool

The Court and parties foresaw that adjudicating the water rights in the Raymond Basin and limiting the total ground water extraction would not be satisfactory to all parties. Therefore, the Exchange Water Agreement authorized by the Court created a water Exchange Pool to provide a source of additional water rights for members without supplementary supplies. Membership in the Exchange Pool was voluntary, and any party could join simply by signing the Agreement.

Table 10 summarizes historical Exchange Pool transactions. As you can see, the Agreement was important during the first years of the Judgment. At that time, only Pasadena had access to Colorado River water. Now, six parties receive water from the Foothill Municipal Water District and the importance of the Exchange Pool has declined considerably.

Once each year, during April, the Watermaster mails an Exchange Pool form to all parties, thus opening the Exchange Pool to permit inter-member water right leases in accordance with the Exchange Agreement. This year, the Royal Laundry and Dry Cleaning Company leased 50 acre-feet from the Kinnelea Irrigation District. The unit price was \$25 per acre-foot -- a total cost of \$1,250.

#### Transfer of Decreed Right

The Raymond Basin Exchange Pool is not the only method of obtaining additional pumping rights. Water rights may be leased or sold outright. There were no sale agreements made this year among the Raymond Basin parties.

#### Variations of Extractions from Decreed Rights

To prevent eventual depletion of the ground water supply in the Basin, the annual extraction of each party was limited by the Court, to a specified amount. In 1955, the original Judgment was modified and the water rights increased. Since then, the water rights have been referred to as the "Decreed Right 1955". The total "Decreed Right 1955" is equal to 30,622 acre-feet.

Provisions were made in the original Judgment for specific allowable variations from the decreed right during any one season. However, no variance may prevail over a five-year period. These provisions were included in the "Modification of Judgment", which adjusted the decreed right in 1955.

TABLE 10

## EXCHANGE WATER POOL

Season	Quantity of water purchased, in acre-feet				Average cost, per acre-foot	
	Western Unit	Eastern Unit	Raymond			
	Monk Hill Basin	Pasadena Subarea	Santa Anita Subarea	Basin Area	Western Unit	Eastern Unit
1944-45	925	53	0	978	\$ 29.88	\$
45-46	550	82	600	1,232	17.49	4.00
46-47	2,750	64	300	3,114	29.39	4.00
47-48	3,150	142	0	3,292	29.88	
48-49	5,150	115	0	5,265	32.16	
49-50	3,782	160	300	4,242	34.77	15.00
1950-51	3,938	96	700	4,734	31.82	15.00
51-52	3,929	100	0	4,029	35.55	15.00
52-53	3,929	72	0	4,001	31.62	
53-54	3,929	67	0	3,996	35.29	
54-55	3,929	215	0	4,144	34.35	
55-56	2,850	41	0	2,891	34.14	
56-57	1,700	10	0	1,710	27.89	
57-58	1,050	0	0	1,050	26.67	
58-59	0	70	0	70	20.00	
59-60	0	45	0	45	25.00	
1960-61	0	25	0	25	20.00	
61-62	0	40	600	640	18.00	31.00
62-63	0	25	0	25	17.00	
63-64	0	30	0	30	17.00	
64-65	0	35	200	235	17.00	64.55
65-66	0	25	300	325	17.00	37.58
66-67	0	0	0	0		
67-68	0	10	0	10	10.00	
68-69	0	40	0	40	25.00	
69-70	0	50	0	50	25.00	
TOTALS	41,561	1,612	3,000	46,173		

### Annual Variation in Ground Water Extractions

The annual amount extracted by each party and the percentage variation from the "Decreed Right 1955" is shown in Table 11. Exchange water sold or purchased is accounted for in the "Decreed Right, 1955". In accordance with the Judgment, the annual amount extracted cannot exceed 120 percent of the "Decreed Right 1955", plus or minus exchange water, except in emergencies. Three parties (Pasadena Cemetery, Rubio Canon Land and Water Association, and Osborn Constructors) exceeded this limitation imposed by the Judgment. However, when you consider the balance carried over from the previous season, no party exceeded this limitation.

Table 11 also shows the amount extracted by the City of Pasadena in the Monk Hill Basin and in the Pasadena Subarea. However, the City's "Decreed Right 1955" is the total volume of water that can be taken from the Western Unit; therefore, a separate recapitulation is listed in the table.

### Five-Year Period Variation in Ground Water Extraction

The Judgment also states that the total amount pumped or taken by any party in any period of 60 consecutive months (five years) shall not exceed the amount of water released to it pursuant to the exchange agreement and five times the decreed right of said party. As a result, the permissible limit is equal to five times the "Decreed Right 1955" for all parties in the Monk Hill Basin and Pasadena Subarea, and four times the "Decreed Right 1955" plus one times the limitations on extractions during the last five years, by order of the Watermaster, in the Santa Anita Subarea. Table 12 summarizes the annual variation from the "Decreed Right 1955" for each party to the Raymond Basin Judgment as well as the accumulative five-year variation. Volumes designated with a negative sign are greater than the permissible amounts.

The Watermaster believes that all parties now exceeding their five-year limitation have attempted to comply with the terms of the Judgment and recommends that no punitive action be taken.

### Annual Extractions and Variations from Safe Yield

Table 13 summarizes annual extractions from 1950-51 to date and compares the average annual extraction with the safe yield of the Raymond Basin. Examination of this table shows the years in which extractions exceeded the safe yield and the overall trend. Presently, the average annual extraction in each subarea is less than the safe yield. Undoubtedly, the above average precipitation and runoff of the three years prior to this report period have helped to reduce the total annual extraction below the safe yield.

TABLE 11

## OVEREXTRACTIONS IN PERCENT OF "DECREED RIGHT 1955"

Party	(1)	(2)	(3)	(4)		(5)	(6)		(7)
	"Decreed Right 1955"	Carryover from 1968-69	Amount pumped 1969-70	Ending Balance June 30, 1970 Excluding carryover from 1968-69	Including carryover from 1968-69	Including carryover from 1968-69	Overextraction in percent of "Decreed Right 1955" <sup>a/</sup> Excluding carryover from 1968-69	Including carryover from 1968-69	(1) x 100 = (6) : (5) : (1) x 100 = (7)
<b>WESTERN UNIT</b>									
<b>Monk Hill Basin</b>									
La Canada Irrigation District	100.00	+ 21.51	- 43.68	+ 56.32	+ 77.83				
Las Flores Water Company	249.00	+ 56.47	- 295.92	- 46.92	+ 9.55		18.84		
Lincoln Avenue Water Company	567.00	- 91.61	- 563.46	+ 3.54	- 88.07				15.53
Pasadena Cemetery Association	91.00	+ 74.28	- 114.06	- 23.06	+ 51.22		25.34		
Pasadena, City of	4,464.00	+3,047.50	- 4,990.94	- 526.94	+2,520.56		11.80		
Rubio Canon Land and Water Association	1,221.00	+ 161.18	- 1,487.64	- 266.64	- 105.46		21.84		8.63
Valley Water Company	797.00	+ 231.81	- 926.17	- 129.17	+ 102.64		16.20		
Subtotals	7,489.00	+3,501.14	- 8,421.87	- 932.87	+2,568.27				
<b>Pasadena Subarea</b>									
Alhambra, City of	1,031.00	+1,020.92	- 769.02	+ 261.98	+1,282.90				
Arcadia, City of	1,167.00	+ 14.58	- 977.81	+ 189.19	+ 203.77				
California-American Water Company	2,299.00	- 104.46	- 2,276.30	+ 22.70	- 81.76				3.55
Canyon Mutual Water Company	127.00	+ 539.38	- 54.34	+ 72.66	+ 612.04				
East Pasadena Water Company	515.00	+ 551.44	- 439.03	+ 75.97	+ 627.41				
Henry E. Huntington Library and Art Gallery	262.00	+ 292.93	- 282.65	- 20.65	+ 272.28		7.88		
Kinneloa Irrigation District	179.00 <sup>b/</sup>	+1,302.63	- 84.23	+ 94.77	+1,397.40				
Mira Loma Mutual Water Company	148.00	+ 360.27	- 103.17	+ 44.83	+ 405.10				
Monrovia, City of	951.00	+ 113.52	- 1,050.31	- 99.31	+ 14.21		10.44		
Osborn Constructors	12.00	+ 434.04	- 27.33	- 15.33	+ 418.71		127.75		
Pasadena, City of	8,343.00	- 917.00	- 9,811.97	-1,468.97	-2,385.97		17.60		28.59
Royal Laundry and Dry Cleaning Company	160.00 <sup>c/</sup>	- 14.95	- 150.84	+ 9.16	- 5.79				3.61
San Gabriel County Water District	1,091.00	+ 12.01	- 1,105.92	- 14.92	- 2.91		1.36		0.26
Sunny Slope Water Company	1,558.00	+ 13.97	- 1,577.40	- 19.40	- 5.43		1.24		0.24
Subtotals	17,843.00	+3,619.28	-18,710.32	- 867.32	+2,751.96				
<b>TOTALS - WESTERN UNIT</b>	<b>25,332.00</b>	<b>+7,120.42</b>	<b>-27,132.19</b>	<b>-1,800.19</b>	<b>+5,320.23</b>				
Recapitulation for City of Pasadena (WESTERN UNIT)	12,807.00	+2,130.50	-14,802.91	-1,995.91	+ 134.59				
<b>EASTERN UNIT</b>									
<b>Santa Anita Subarea</b>									
Arcadia, City of	3,526.00	+ 390.19	- 3,858.61	- 332.61	+ 57.58				9.43
Sierra Madre, City of	1,764.00	+ 624.47	- 1,586.56 <sup>d/</sup>	+ 177.44	+ 801.91				
<b>TOTALS - EASTERN UNIT</b>	<b>5,290.00</b>	<b>+1,014.66</b>	<b>- 5,445.17</b>	<b>- 155.17</b>	<b>+ 859.49</b>				
<b>GRAND TOTALS</b>	<b>30,622.00</b>	<b>+8,135.08</b>	<b>-32,577.36</b>	<b>-1,955.36</b>	<b>+6,179.72</b>				

a/ Positive (+) values or "underextractions" have been omitted.

b/ Decreed Right (229 acre-feet) less 50 acre-feet released to Exchange Pool.

c/ Decreed Right (110 acre-feet) plus 50 acre-feet received from Exchange Pool.

d/ No salvage water pumped this year, amount given equals total amount of water pumped.

TABLE 12  
ANNUAL AND FIVE-YEAR VARIATION<sup>a/</sup>  
In acre-feet

Party	Year					Variation from five-year Decreased Right
	1965-66	1966-67	1967-68	1968-69	1969-70 <sup>b/</sup>	
<b>WESTERN UNIT</b>						
(Monk Hill Basin)						
La Canada Irrigation District	- 74.35	+ 9.27	- 135.29	+ 29.85	+ 56.42	- 114.20
Las Flores Water Company	+ 11.97	+ 7.06	- 5.29	+ 56.74	- 46.92	+ 23.56
Lincoln Avenue Water Company	- 20.57	+ 119.01	- 173.30	- 62.64	+ 3.54	- 133.96
Pasadena Cemetery Association	+ 6.89	- 1.87	- 17.35	- 8.08	- 23.06	- 43.44
Pasadena, City of	+ 937.08	+1,776.18	+1,092.58	- 995.10	- 526.94	+2,283.80
Rubio Canon Land and Water Association	+ 92.74	+ 423.14	- 287.09	- 145.24	- 266.64	- 183.09
Valley Water Company	- 47.58	+ 60.57	- 44.66	+ 216.55	- 129.17	+ 55.71
Subtotals	+ 906.18	+2,393.36	+ 429.60	- 307.92	- 932.87	+1,888.35
Pasadena subarea						
Alhambra, City of	+ 188.56	- 108.32	+ 739.47	- 1.67	+ 261.98	+1,080.02
Arcadia, City of	- 38.54	- 55.90	- 30.65	+ 53.89	+ 189.19	+ 117.99
California-American Water Company	- 682.09	- 570.78	- 187.03	- 41.03	+ 22.70	-1,458.23
Canyon Mutual Water Company	+ 58.11	+ 100.15	+ 94.02	+ 95.85	+ 72.66	+ 420.79
East Pasadena Water Company	+ 146.85	+ 166.38	- 117.70	+ 154.73	+ 75.97	+ 426.23
Huntington Library and Art Gallery	+ 38.91	+ 63.57	+ 3.03	+ 46.80	- 20.65	+ 131.66
Kinneloa Irrigation District	+ 121.07	+ 149.78	+ 73.32	- 2.45	+ 94.77	+ 436.49
Mira Loma Mutual Water Company	+ 25.41	+ 35.18	+ 89.77	+ 19.46	+ 44.83	+ 214.65
Monrovia, City of	- 254.04	- 92.61	- 2.46	- 39.27	- 99.31	- 487.69
Osborn Constructors	+ 42.33	+ 44.16	- 10.87	- 7.08	- 15.33	+ 53.21
Pasadena, City of	-1,082.10	+ 914.02	-2,699.10	+2,041.14	- 1,468.97	-2,295.01
Royal Laundry and Dry Cleaning Company	+ 19.61	- 24.38	- 49.95	- 0.18	+ 9.16	- 45.74
San Gabriel County Water District	+ 91.44	- 29.77	- 21.64	+ 38.39	- 14.92	+ 53.50
Sunny Slope Water Company	- 229.27	+ 10.65	- 20.77	+ 4.71	- 19.40	- 254.08
Subtotals	-1,553.75	+ 602.13	-2,140.56	+2,353.29	- 867.32	-1,606.21
<b>TOTALS - WESTERN UNIT</b>	<b>- 647.57</b>	<b>+2,995.49</b>	<b>-1,710.96</b>	<b>+1,445.37</b>	<b>- 1,800.19</b>	<b>+ 282.14</b>
Recapitulation for City of Pasadena	- 145.02	+2,690.20	-1,606.52	+1,046.04	- 1,995.91	- 11.21
<b>EASTERN UNIT</b>						
(Santa Anita Subarea)						
Arcadia, City of	- 127.48	+1,551.14	-1,782.66	+ 565.32	- 332.61	- 126.29
Sierra Madre, City of <sup>c/</sup>	0	+ 370.20	+ 41.36	+ 212.91	+ 177.44	+ 801.91
<b>TOTALS - EASTERN UNIT</b>	<b>- 127.48</b>	<b>+1,921.34</b>	<b>-1,741.30</b>	<b>+ 778.23</b>	<b>- 155.17</b>	<b>+ 675.62</b>
<b>GRAND TOTALS</b>	<b>- 775.05</b>	<b>+4,916.83</b>	<b>-3,452.26</b>	<b>+2,223.60</b>	<b>- 1,955.36</b>	<b>+ 957.76</b>

a/ Difference between extractions and decreed rights as shown in past reports. Carryover balances are not accounted for in this tabulation. Overextractions are shown as negative (-) values.

b/ Values from Column (4), Table 11.

c/ Excludes salvage water pumped.

TABLE 13

VARIATIONS OF ANNUAL EXTRACTIONS FROM SAFE YIELD  
In acre-feet

July 1 through June 30	Annual extractions				
	Western Unit			Eastern Unit <sup>a/</sup>	Raymond Basin Area
	Monk Hill Basin	Pasadena Subarea	Subtotal		
1950-51	7,098	13,418	20,516	2,861	23,377
51-52	5,903	10,750	16,653	2,041	18,694
52-53	5,973	12,471	18,444	4,535	22,979
53-54	6,283	11,765	18,048	4,163	22,211
54-55	<u>6,420</u>	<u>12,783</u>	<u>19,203</u>	<u>4,399</u>	<u>23,602</u>
Average Annual extractions	6,363	11,683	18,046	3,639	21,685
Safe yield 1938 <sup>b/</sup>	6,039	11,621	17,660	3,791	21,451
Average difference <sup>c/</sup>	+ 324	+ 62	+ 386	- 152	+ 234
1955-56	6,319	14,060	20,379	4,687	25,066
56-57	7,057	17,474	24,531	5,685	30,216
57-58	5,916	16,054	21,970	3,823	25,793
58-59	8,160	18,027	26,187	7,018	33,205
59-60	7,992	16,428	24,420	4,858	29,278
1960-61	7,141	18,796	25,937	3,342 <sup>d/</sup>	29,279
61-62	6,742	18,419	25,161	3,496 <sup>d/</sup>	28,657
62-63	8,084	16,630	24,714	5,268	29,982
63-64	7,937	17,469	25,406	4,778	30,184
64-65	7,450	17,682	25,132	3,599 <sup>d/</sup>	28,731
65-66	6,583	19,397	25,980	3,388 <sup>d/</sup>	29,368
66-67	5,096	17,241	22,337	3,369	25,706
67-68	7,059	19,984	27,043	7,031	34,074
68-69	8,397	15,490	23,887	4,511	28,398
69-70	8,422	18,710	27,132	5,445	32,577
Average annual extractions	7,224	17,457	24,681	4,686	29,367
Safe yield 1952 <sup>e/</sup>	7,489	17,843	25,332	5,290	30,622
Average difference <sup>c/</sup>	- 265	- 386	- 651	- 604	- 1,255

a/ Excludes salvaged water pumped by City of Sierra Madre.

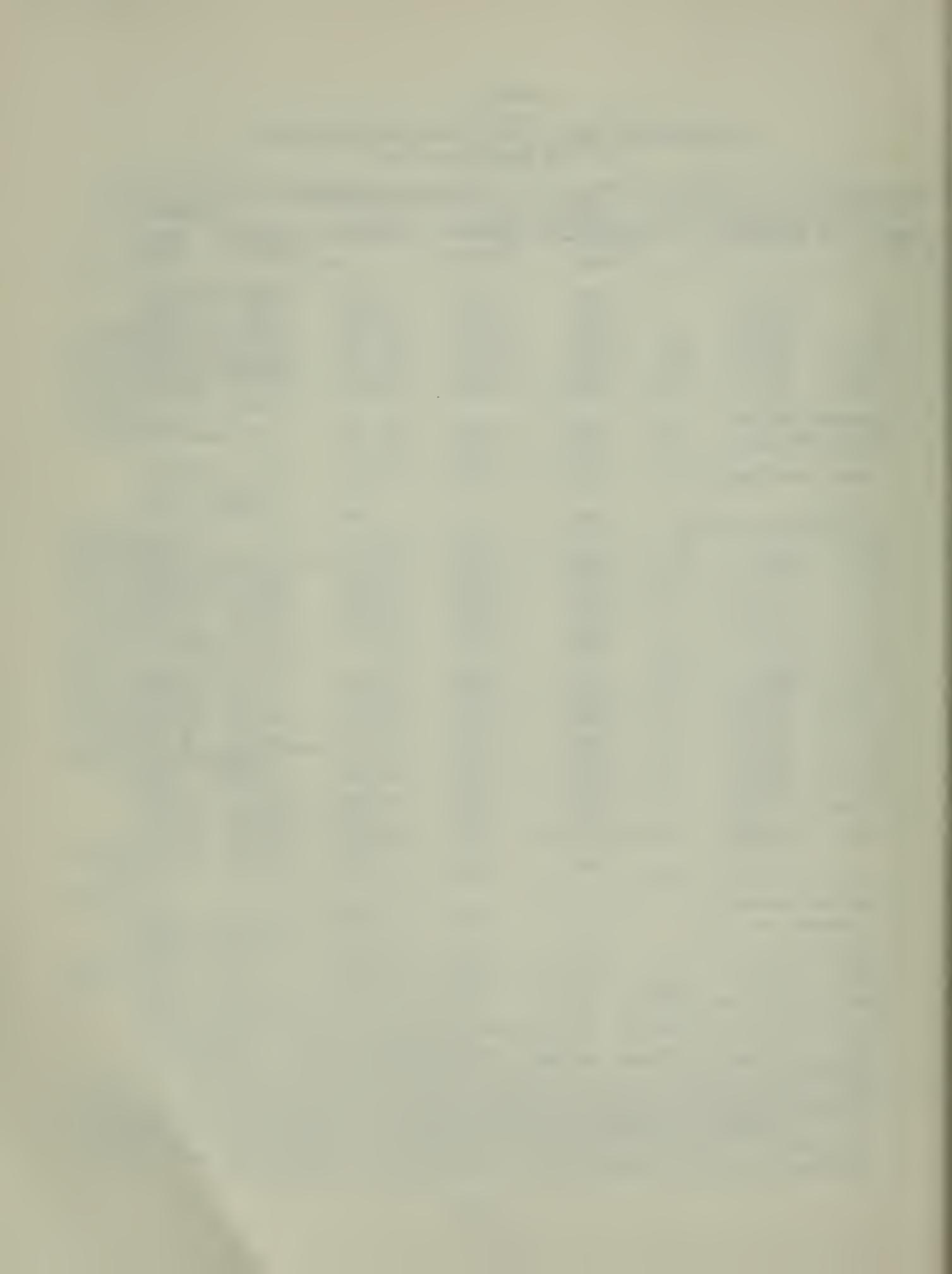
b/ Effective 1944-45 through 1954-55 and excludes nonparty pumpage.

c/ Extractions greater than safe yield: (+)

Extractions less than safe yield: (-).

d/ Reduction in extraction by order of Watermaster.

e/ Effective 1955-56 through present and excludes nonparty pumpage.



CHAPTER V. ADMINISTRATIVE COSTS

The Raymond Basin area was established as a watermaster service area in accordance with Part 4, Division 2, of the Water Code of the State of California. Under the provisions of Section 4201 thereof, the cost of Watermaster Service is payable one-half by the State and one-half by the parties.

Cost of Watermaster Service for 1969-70

Before December 15 of each year, the Watermaster, in cooperation with an Advisory Board, prepares the annual budget for the fiscal year commencing the following July 1. The 1969-70 budget, approved by the Raymond Basin Advisory Board on December 11, 1968, is presented in Table 14.

TABLE 14

APPROVED BUDGET FOR 1969-70 SEASON

PART "A" - Cost Other Than Exchange Water Program

Salaries and wages	\$16,195	
Operating expenses	5,627	
Retirement and compensation plus administration	<u>5,114</u>	
Total Amount		\$26,936
One-half payable by State		\$13,468
One-half payable by parties		13,468
Less estimated carryover from 1968-69		<u>- 7,000</u>
Total collectable from parties		\$ 6,468

PART "B" - Cost of Exchange Water Program

Salaries and wages	\$ 43	
Retirement and compensation plus administration	<u>13</u>	
Total Amount		\$ 56
One-half payable by State		\$ 28
One-half payable by participants in release and receipt of water		28

TOTAL ESTIMATED COST of Watermaster Service -  
July 1, 1969 through June 30, 1970 \$26,992

TABLE 15

APPORTIONMENT OF PARTIES  
SHARE OF 1969-70 BUDGET

PART "A" OF BUDGET		
Party	: "Decreed : Right 1955" : in acre-feet :	: : : Apportionment : paid
Alhambra, City of	1,031	\$ 217.77
Arcadia, City of	4,693	1,991.26
California-American Water Company	2,299	485.60
Canyon Mutual Water Company	127	26.83
East Pasadena Water Company, Ltd.	515	108.78
Henry E. Huntington Library and Art Gallery	262	55.34
Kinneloa Irrigation District	229	48.37
La Canada Irrigation District	100	21.12
Las Flores Water Company, The	249	52.59
Lincoln Avenue Water Company	567	119.76
Mira Loma Mutual Water Company	148	31.26
Monrovia, City of	951	200.87
Osborn Constructors	12	2.53
Pasadena Cemetery Association	91	19.22
Pasadena, City of	12,807	2,705.12
Royal Laundry and Dry Cleaning Company	110	23.23
Rubio Canon Land and Water Association	1,221	257.90
San Gabriel County Water District	1,091	230.44
Sierra Madre, City of	1,764	372.59
Sunny Slope Water Company	1,558	329.08
Valley Water Company	797	168.34
TOTALS	30,622	\$ 6,468.00

PART "B" OF BUDGET		
Party	: Amount of water : : exchanged, : in acre-feet :	: : : Amount paid
Kinneloa Irrigation District	50	\$ 14.00
Royal Laundry and Dry Cleaning Company	50	14.00
TOTALS		\$ 28.00

There are two parts to the Raymond Basin budget. Part "A" supports the cost of administering the Raymond Basin Judgment. Each party's share of that cost is directly proportionate to the party's "Decreed Right 1955". Part "B" supports the cost of operating the Raymond Basin Exchange Water Pool. Only the parties that participated in the Exchange Water Pool were charged for Part "B" costs. Each party's share of the 1969-70 budget is shown in Table 15. There were no penalty charges assessed for late payments.

Income and expenditures under Parts "A" and "B" of the budget are shown on Table 16. Credit or debit balances shown on this table are carried forward into the succeeding fiscal year, according to Section 4358 and 4406 of the California Water Code, Paragraph XIII of the Judgment.

Costs of Determining Water Salvaged by City of Sierra Madre

On June 30, 1969, there was a balance of \$11.12 remaining in the special account established to provide funds to pay the cost of determining amounts of water salvaged by the City of Sierra Madre. Delayed charges reduced this balance to a debit balance of -\$105.19. During the 1969-70 season, the City was requested to deposit \$400 in the account, and they complied. Expenditures during 1969-70 amounted to \$472.90, leaving a credit balance of \$32.29 in this account on June 30, 1970.

TABLE 16  
STATEMENT OF 1969-70 INCOME AND EXPENDITURES

Item	Parties	State	State and Parties
<u>Income</u>			
From Part "A" of the budget	\$6,468.00	\$13,468.00	\$19,936.00
From Part "B" of the budget	28.00	28.00	56.00
Carryover from 1968-69 year	<u>7,488.49<sup>a/</sup></u>		<u>7,488.49</u>
Total Income	\$13,984.49	\$13,496.00	\$27,480.49
<u>Expenditures</u>			
From Part "A" of the budget			
Salaries and wages	\$7,322.17	\$ 7,322.24	\$14,644.41
Operating expenses			
Miscellaneous indirect costs <sup>b/</sup>	3,118.42	3,118.53	6,236.95
Travel in State	110.91	110.92	221.83
Mobil Equipment rental	172.96	172.97	345.93
Printing plates and covers for annual report	256.91	256.91	513.82
Electronic machine computing	1,030.72	1,030.72	2,061.44
From Part "B" of the budget			
Salaries and wages	19.00	19.00	38.00
Operating expenses	<u>9.00</u>	9.00	18.00
Total expenditures	<u>\$12,040.09</u>	<u>\$12,040.29</u>	<u>\$24,080.38</u>
BALANCE	<u>\$ 1,944.40<sup>c/</sup></u>	<u>\$ 1,455.71</u>	<u>\$ 3,400.11</u>

a/ Adjusted for 1968-69 delayed credits.

b/ Rent, utilities, auto rental, janitorial services, communications, retirement, employees' health plan, and workmen's compensation insurance.

c/ Subject to delayed charges and adjustments.



APPENDIXES

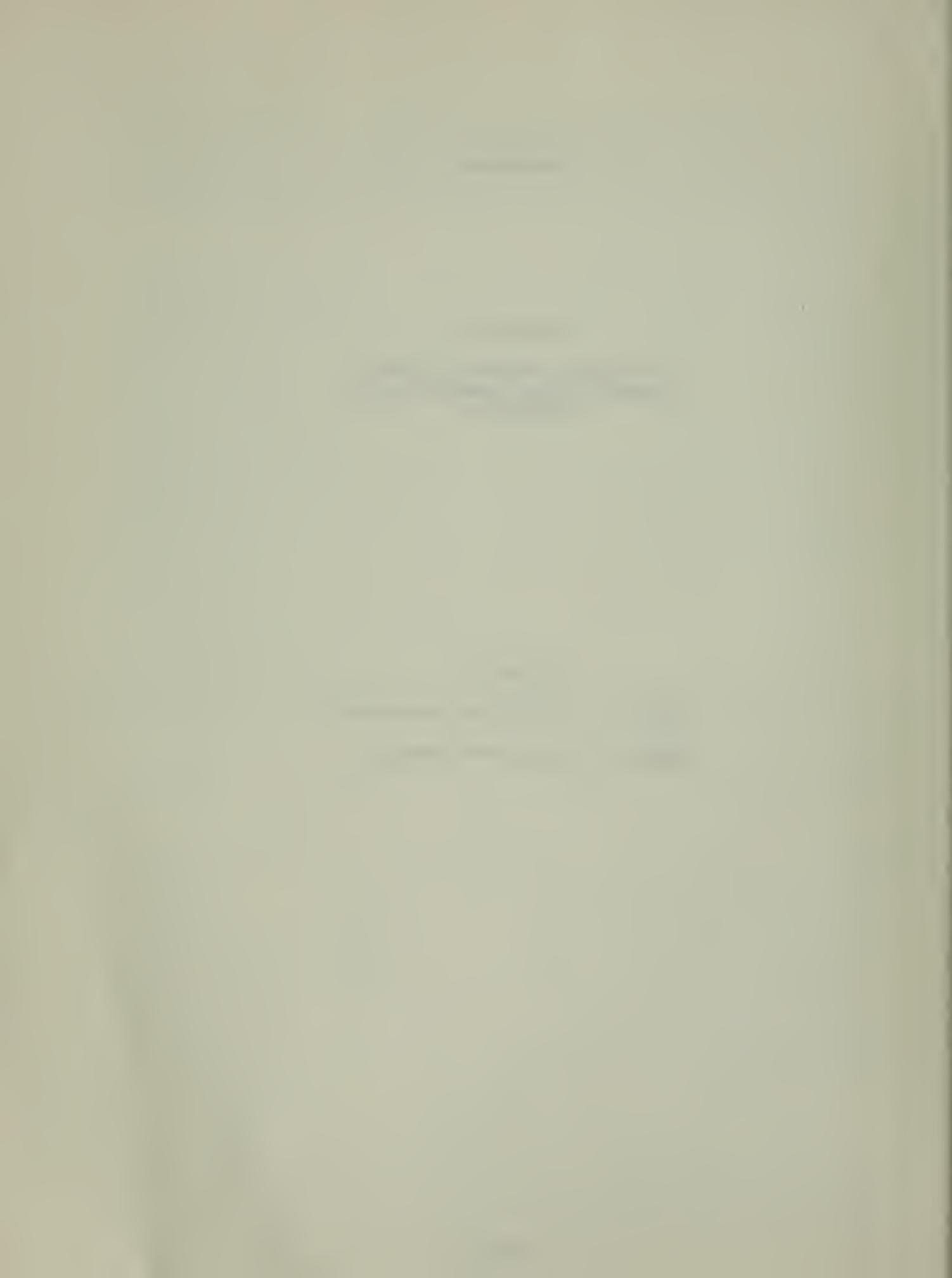
Appendix A

Mean Daily Discharge at Surface  
Runoff Stations Operated by the  
Watermaster

Appendix B

Table B-1: Ground Water Extractions

Table B-2: Gross Water Supply



STATION: ARCADIA WASH										MEAN DAILY DISCHARGE in second-feet		STATION NO. 75450		WATERMASTER YEAR 1969-70	
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY		
1	0.6	1.6	1.9	1.4	1.0	0.5	3.6	0.9	69.0	1.5	2.8	1.0	1		
2	0.8	1.7	2.2	1.0	0.9	0.6	2.1	1.5	20.9	2.0	2.0	0.4	2		
3	0.9	2.2	2.1	0.9	0.7	0.7	2.4	1.4	0.6	2.9	2.8	0.5	3		
4	0.9	1.6	2.1	0.9	0.8	0.7	2.2	1.8	33.1	2.3	2.7	0.6	4		
5	0.9	1.8	2.4	0.7	0.9	0.6	2.0	1.9	1.0	2.3	2.4	0.6	5		
6	0.9	1.7	2.2	0.6	37.7	0.7	2.2	2.1	0.5	3.3	2.3	0.7	6		
7	1.0	2.0	2.4	0.7	3.4	0.6	2.4	1.9	0.3	4.2	2.4	0.9	7		
8	1.2	2.3	1.7	0.6	0.6	1.4	2.5	2.0	0.4	5.1	2.8	1.0	8		
9	1.3	2.4	0.6	0.7	0.5	0.7	6.7	3.8	0.5	6.4	3.5	1.1	9		
10	1.6	1.9	1.0	0.8	0.5	0.6	6.9	43.1	0.4	7.3	3.1	1.4	10		
11	5.6	1.9	1.1	0.7	0.4	0.7	3.8	3.2	0.6	6.8	3.9	1.2	11		
12	1.5	2.1	0.9	0.8	0.3	0.8	1.8	1.6	0.5	7.6	4.2	1.5	12		
13	1.2	0.9	1.1	0.7	0.3	0.9	1.6	1.6	0.5	8.0	5.5	1.1	13		
14	1.1	0.9	0.9	0.8	0.4	0.9	4.3	1.5	0.6	7.1	3.6	1.1	14		
15	1.1	1.0	0.9	1.0	0.4	0.9	2.0	1.3	0.5	6.8	4.1	1.3	15		
16	1.0	1.0	0.7	1.2	0.4	1.1	11.9	1.4	0.6	6.8	3.8	1.4	16		
17	0.9	1.0	0.8	1.2	0.5	1.1	0.8	1.4	0.6	6.1	4.7	1.4	17		
18	1.0	1.6	0.5	1.3	0.5	1.3	0.7	1.2	0.5	6.1	4.5	1.5	18		
19	1.0	1.8	0.5	1.1	0.5	1.4	0.7	1.3	0.4	5.2	4.5	1.9	19		
20	1.0	2.2	0.5	1.3	0.5	1.4	0.7	1.5	0.5	3.5	4.7	2.1	20		
21	1.2	1.6	0.4	1.4	0.5	1.5	0.6	1.2	0.6	2.9	3.9	2.3	21		
22	1.0	2.1	0.4	1.6	0.5	1.9	0.6	1.5	0.4	3.1	3.7	2.3	22		
23	1.1	1.8	0.4	1.7	0.5	1.8	0.6	2.1	0.5	2.1	3.2	2.0	23		
24	1.1	1.9	0.5	1.4	0.5	1.8	0.6	2.1	0.6	2.2	3.2	2.1	24		
25	1.2	2.4	0.6	1.1	0.5	2.1	0.5	2.2	0.6	2.3	3.1	2.0	25		
26	1.6	2.1	0.6	1.1	0.5	2.0	0.6	2.1	0.7	2.4	2.3	1.7	26		
27	1.3	1.9	0.7	0.9	0.5	2.1	0.6	2.2	0.6	2.4	0.6	1.5	27		
28	1.2	1.1	0.7	1.1	0.6	2.1	0.6	121.5	0.8	2.1	0.6	1.2	28		
29	1.3	1.5	1.0	1.1	0.6	1.9	0.7	0.8	0.8	2.3	0.7	0.8	29		
30	1.4	1.3	0.8	1.2	0.6	2.5	0.8	2.2	0.6	2.3	0.6	0.7	30		
31	1.6	1.4		1.0		3.5	0.8		1.7		0.7		31		
MEAN	1.3	1.7	1.1	1.0	1.9	1.3	2.2	7.6	4.9	4.2	3.0	1.3	MEAN		
MAX.	5.6	2.4	2.4	1.7	37.7	3.5	11.9	121.5	69.0	8.0	5.5	2.3	MAX.		
MIN.	0.6	0.9	0.4	0.6	0.3	0.5	0.5	0.9	0.3	1.5	0.6	0.4	MIN.		
ACFT	78.3	104.4	64.3	63.9	111.9	80.9	135.3	419.4	302.3	250.3	185.4	78.2	ACFT		

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE 2.62	MAXIMUM					MINIMUM					TOTAL ACFE-FEET 1874.60
	DISCHARGE 734.90	GAGE HT 2.00	MO 2	DAY 28	TIME 2116	DISCHARGE 0.30	GAGE HT 0.07	MO 11	DAY 12	TIME 0000	

STATION: ARROYO SECO										MEAN DAILY DISCHARGE in second-feet		STATION NO. 62250		WATERMASTER YEAR 1969-70	
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY		
1	0.3	0.4	0.1	0.8	0.5	0.4	0.1	0.2	57.7	0.0	0.0	0.0	1		
2	0.4	0.2	0.3	0.9	0.6	0.5	0.1	0.4	54.8	0.0	0.0	0.0	2		
3	0.5	0.2	0.4	0.9	0.5	0.6	0.1	0.3	22.9	0.0	0.1	0.0	3		
4	0.2	0.4	0.9	0.6	0.5	0.5	0.1	0.3	18.4	0.0	0.0	0.0	4		
5	0.2	0.5	1.2	0.7	0.5	0.3	0.1	0.3	31.9	0.0	0.0	0.0	5		
6	2.2	0.5	0.6	0.9	9.7	0.2	0.1	0.2	14.7	0.0	0.0	0.0	6		
7	3.5	0.5	0.8	0.8	20.2	0.1	0.1	0.1	2.1	0.0	0.0	0.0	7		
8	1.4	0.5	1.0	0.7	8.7	0.2	0.1	0.0	0.3	0.3	0.0	0.0	8		
9	0.7	0.2	1.0	0.7	7.2	0.1	0.2	1.5	0.2	0.3	0.2	0.1	9		
10	0.6	0.1	1.1	0.7	4.6	0.1	0.2	40.3	0.2	0.2	0.2	0.0	10		
11	0.7	0.3	1.1	0.6	0.5	0.1	0.2	29.2	0.2	0.2	0.2	0.0	11		
12	0.3	0.5	0.7	0.6	0.5	0.1	0.3	12.7	0.2	0.1	0.2	0.0	12		
13	0.3	0.4	0.6	0.6	0.5	0.1	0.3	6.5	0.1	0.0	0.2	0.0	13		
14	0.5	0.5	0.6	0.6	0.5	0.1	0.4	2.1	0.1	0.0	0.0	0.3	14		
15	0.5	0.5	1.1	0.8	0.5	0.1	0.4	1.6	0.1	0.0	0.0	0.1	15		
16	0.9	0.2	1.3	0.8	0.4	0.1	4.6	1.1	0.1	0.0	0.0	0.0	16		
17	0.5	0.1	1.5	0.8	0.4	0.1	8.0	0.4	0.6	0.0	0.0	0.0	17		
18	0.5	0.5	1.4	0.7	0.4	0.1	3.1	0.2	0.2	0.0	0.0	0.0	18		
19	0.3	0.6	1.2	0.6	0.4	0.1	0.6	0.1	0.1	0.0	0.0	0.0	19		
20	0.2	0.5	0.7	0.7	0.4	0.1	0.3	0.1	0.1	0.0	0.0	0.0	20		
21	0.3	0.4	0.6	0.7	0.4	0.1	0.3	0.1	0.0	0.0	0.0	0.0	21		
22	0.4	0.2	1.0	1.2	0.4	0.1	0.3	0.1	0.0	0.0	0.0	0.0	22		
23	0.5	0.1	1.3	1.3	0.4	0.1	0.3	0.2	0.0	0.0	0.0	0.0	23		
24	0.5	0.1	1.1	1.2	0.4	0.1	0.3	0.2	0.0	0.0	0.0	0.0	24		
25	0.5	0.0	1.0	0.6	0.4	0.1	0.3	0.2	0.0	0.0	0.0	0.0	25		
26	0.2	0.4	1.0	0.6	0.4	0.1	0.3	0.2	0.0	0.0	0.0	0.0	26		
27	0.2	0.5	0.6	0.6	0.4	0.1	0.3	0.2	0.0	0.0	0.0	0.0	27		
28	0.4	0.4	0.7	0.6	0.4	0.0	0.3	31.2	0.0	0.0	0.0	0.0	28		
29	0.5	0.4	0.8	0.6	0.4	0.5	0.3	0.0	0.0	0.0	0.0	0.0	29		
30	1.6	0.2	0.8	0.6	0.4	0.1	0.3	0.0	0.0	0.0	0.0	0.0	30		
31	0.5			0.5		0.1	0.3		0.0		0.0		31		
MEAN	0.7	0.3	0.9	0.4	2.0	0.2	0.7	4.6	6.6	0.0	0.0	0.0	MEAN		
MAX.	3.5	0.6	1.5	1.3	20.2	0.6	8.0	40.3	57.7	0.3	0.2	0.3	MAX.		
MIN.	0.2	0.0	0.1	0.5	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	MIN.		
ACFT	41.3	20.5	52.4	46.4	121.8	10.4	45.0	258.0	406.8	2.1	2.2	1.1	ACFT		

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE 1.40	MAXIMUM					MINIMUM					TOTAL ACFE-FEET 1008.00
	DISCHARGE 75.80	GAGE HT 1.17	MO 3	DAY 1	TIME 0116	DISCHARGE 0.00	GAGE HT 0.00	MO 8	DAY 22	TIME 1052	

STATION: BROADWAY DRAIN  
 MEAN DAILY DISCHARGE  
 In second-foot  
 STATION NO. 75135  
 WATERMASTER YEAR 1969-70

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	5.2	2.7	4.8	7.4	0.9	1.9	2.7	1.7	45.0	2.9	4.3	4.5	1
2	5.2	2.9	3.6	5.3	1.1	1.1	2.9	2.2	12.2	2.0	3.0	3.2	2
3	3.9	2.3	2.8	5.0	2.1	1.4	2.1	1.3	2.6	2.2	2.7	2.8	3
4	3.7	5.4	2.9	2.3	2.8	1.2	1.7	1.0	31.1	1.4	2.9	2.0	4
5	3.1	5.6	2.8	2.3	3.2	1.2	1.1	1.3	2.9	1.5	2.5	2.5	5
6	3.0	6.8	3.1	3.4	35.3	1.1	1.5	2.1	2.2	2.9	4.4	1.6	6
7	4.3	7.2	3.2	2.2	5.0	1.3	1.4	1.3	1.9	3.6	6.0	1.5	7
8	4.1	7.2	3.3	1.0	2.9	2.5	1.1	1.3	2.1	4.7	4.3	1.4	8
9	3.9	7.2	3.4	1.1	1.3	2.1	9.2	10.0	2.1	4.2	1.8	2.0	9
10	4.0	7.6	3.0	1.2	1.9	1.8	7.4	42.2	2.8	4.8	1.7	1.1	10
11	4.7	6.5	2.4	1.1	1.8	2.1	6.3	5.8	2.6	4.1	1.9	1.6	11
12	4.1	7.4	2.6	0.8	1.6	1.9	2.8	1.9	2.3	4.4	2.3	0.7	12
13	3.5	6.9	2.7	1.0	1.7	1.7	1.8	2.7	1.9	3.6	1.7	1.3	13
14	3.9	8.9	3.6	1.2	2.5	1.7	6.5	2.0	1.8	3.9	3.5	1.0	14
15	5.4	9.4	3.4	1.4	2.8	1.9	2.1	2.0	1.0	3.4	4.6	1.1	15
16	5.5	11.5	3.1	1.6	3.0	1.7	23.1	4.0	1.8	3.7	2.7	1.2	16
17	5.1	8.4	3.4	2.2	2.7	1.9	2.6	4.5	1.8	4.0	3.8	0.6	17
18	4.4	7.4	3.5	2.2	1.8	2.0	2.7	3.0	2.4	2.5	5.0	1.0	18
19	4.2	7.6	3.2	1.7	2.3	2.1	2.6	4.6	2.1	2.4	3.3	1.0	19
20	3.4	7.5	2.9	1.5	2.0	1.7	4.3	6.1	2.4	2.6	6.6	0.7	20
21	2.9	7.0	3.6	1.5	2.4	1.9	4.2	3.1	2.5	2.6	5.1	0.9	21
22	3.0	7.3	2.8	1.3	2.0	2.2	2.9	6.5	3.2	2.5	2.5	0.9	22
23	4.1	7.2	3.1	2.1	2.6	2.8	2.7	5.2	4.2	3.8	5.2	1.1	23
24	4.8	7.0	3.2	2.0	2.2	2.0	3.0	5.3	3.0	3.4	2.3	1.8	24
25	4.1	6.8	3.1	1.7	2.1	1.0	2.7	4.4	3.1	2.5	2.0	1.7	25
26	4.6	5.4	3.6	2.1	1.5	1.6	2.7	5.2	4.1	3.0	2.4	1.8	26
27	4.2	5.9	3.4	1.4	1.4	1.6	2.9	6.3	4.0	4.1	3.3	3.3	27
28	5.2	6.1	3.1	1.8	1.8	2.2	2.0	91.4	2.7	3.3	2.6	4.7	28
29	4.1	6.0	4.9	3.9	2.1	2.3	1.7	2.7	4.3	4.6	2.7	4.3	29
30	4.4	5.5	5.6	1.4	1.5	2.6	2.2		11.3	4.1	3.2	3.7	30
31	4.0	6.3		1.9		2.9	1.8		2.5		3.4		31
MEAN	4.2	6.7	3.3	2.2	3.3	1.8	3.7	8.2	5.4	3.3	3.3	1.9	MEAN
MAX.	5.5	11.5	5.6	7.4	35.3	2.9	23.1	91.4	45.0	4.8	6.6	4.7	MAX.
MIN.	2.9	2.2	2.4	0.8	0.9	1.0	1.1	1.0	1.0	1.4	1.7	0.6	MIN.
ACFT	257.9	409.9	198.7	132.9	195.6	113.7	227.8	453.0	334.2	195.6	205.7	113.0	ACFT

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE 3.94	MAXIMUM					MINIMUM					TOTAL ACRE-FEET 2038.00
	DISCHARGE 578.60	GAGE HT 3.02	MO 3	DAY 1	TIME 0000	DISCHARGE 0.10	GAGE HT 0.06	MO 6	DAY 13	TIME 0000	

STATION: EATON CREEK NEAR PASADENA  
 MEAN DAILY DISCHARGE  
 In second-foot  
 STATION NO. 75360  
 WATERMASTER YEAR 1969-70

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	21.5	0.0	0.0	0.0	1
2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	23.4	0.0	0.0	0.0	2
3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	13.9	0.0	0.0	0.0	3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	13.7	0.0	0.0	0.0	4
5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	14.3	0.0	0.0	0.0	5
6	1.9	0.0	0.0	0.0	0.0	0.1	0.0	0.0	9.2	0.0	0.0	0.0	6
7	1.7	0.0	0.0	0.0	1.4	0.1	0.0	0.0	4.9	0.0	0.0	0.0	7
8	0.5	0.0	0.0	0.0	0.0	0.2	0.0	0.0	2.9	0.0	0.0	0.0	8
9	0.3	0.0	0.0	0.0	0.0	0.2	1.1	0.1	1.2	0.0	0.0	0.0	9
10	0.0	0.0	0.0	0.0	0.0	0.1	1.9	13.9	0.6	0.0	0.0	0.0	10
11	0.0	0.1	0.0	0.0	0.0	0.1	0.8	11.2	0.4	0.0	0.0	0.0	11
12	0.0	0.0	0.0	0.0	0.0	0.1	0.0	4.8	0.2	0.0	0.0	0.0	12
13	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.0	0.0	0.0	13
14	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	14
15	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	15
16	0.0	0.0	0.0	0.0	0.0	0.1	1.2	0.0	0.2	0.0	0.0	0.0	16
17	0.0	0.0	0.0	0.0	0.0	0.1	1.4	0.0	0.0	0.0	0.0	0.0	17
18	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.0	0.0	18
19	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	19
20	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	20
21	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	21
22	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	22
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	25
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26
27	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	27
28	0.0	0.0	0.0	0.0	0.0	1.0	0.0	26.6	0.0	0.0	0.0	0.0	28
29	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	29
30	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	30
31	0.8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	31
MEAN	0.2	0.0	0.0	0.0	0.1	0.1	0.2	2.1	3.6	0.0	0.0	0.0	MEAN
MAX.	1.9	0.1	0.0	0.0	1.4	1.0	1.9	26.6	23.4	0.1	0.0	0.0	MAX.
MIN.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	MIN.
ACFT	11.1	0.5	0.0	0.0	3.6	8.0	14.9	114.0	211.3	0.6	0.1	0.1	ACFT

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE 0.52	MAXIMUM					MINIMUM					TOTAL ACRE-FEET 364.20
	DISCHARGE 145.40	GAGE HT 2.01	MO 2	DAY 28	TIME 1521	DISCHARGE 0.00	GAGE HT 0.00	MO 7	DAY 3	TIME 0	

STATION: EATON WASH												MEAN DAILY DISCHARGE in second-feet		STATION NO.	WATERMASTER YEAR	
												75300	1969-70			
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY			
1	1.1	1.2	0.2	0.3	0.3	0.8	0.0	1.9	44.7	0.1	0.2	0.1	1			
2	1.0	0.6	0.5	0.0	0.3	0.5	0.0	1.6	15.6	0.0	0.2	0.1	2			
3	0.9	0.4	0.7	0.1	0.4	2.0	0.1	0.9	0.5	0.0	0.1	0.1	3			
4	0.8	0.3	0.5	0.1	0.3	1.6	0.0	0.7	28.1	0.0	0.1	0.3	4			
5	0.7	0.3	0.6	0.0	0.3	1.2	0.0	0.8	4.9	0.0	0.2	0.2	5			
6	0.7	0.7	0.6	0.0	39.7	0.4	0.1	0.9	3.2	0.1	0.2	0.2	6			
7	1.2	1.0	0.5	0.0	3.1	0.2	0.0	0.5	0.0	0.2	0.3	0.1	7			
8	1.2	1.0	0.9	0.1	1.2	0.7	0.1	0.4	0.0	0.2	0.2	0.1	8			
9	1.0	1.1	0.8	0.1	1.4	0.1	6.4	6.2	1.7	0.3	0.1	0.1	9			
10	0.9	0.7	0.7	0.0	1.4	0.1	11.4	42.5	0.1	0.2	0.1	0.1	10			
11	1.7	1.0	0.6	0.0	1.3	0.1	6.9	1.7	0.2	0.2	0.1	0.0	11			
12	1.8	1.0	0.5	0.0	1.3	0.0	0.3	0.2	1.5	0.1	0.1	0.2	12			
13	1.0	0.6	0.4	0.0	1.2	0.0	0.3	0.2	0.2	0.1	0.1	0.0	13			
14	1.7	0.6	0.4	0.0	1.3	0.0	9.1	0.2	0.0	0.2	0.3	0.1	14			
15	1.2	0.9	0.4	0.1	1.3	0.1	0.4	0.1	0.0	0.2	0.2	0.1	15			
16	0.9	0.7	0.8	0.0	1.3	0.1	21.1	0.2	0.1	0.2	0.1	0.5	16			
17	0.7	0.5	0.8	0.1	1.5	0.1	0.2	0.1	0.1	0.3	0.2	0.1	17			
18	0.5	0.5	0.8	0.2	1.5	0.1	3.7	0.1	0.1	0.2	0.2	0.1	18			
19	0.8	0.9	0.7	0.3	1.5	0.1	8.0	0.1	0.8	0.1	0.1	0.2	19			
20	0.8	0.6	0.6	0.4	1.6	0.0	7.1	0.0	3.4	0.4	0.4	0.1	20			
21	0.6	0.4	0.4	0.6	1.6	0.0	8.1	0.0	0.3	0.1	0.2	0.1	21			
22	0.5	0.6	0.4	0.7	1.5	0.0	7.5	0.0	0.1	0.2	0.2	0.1	22			
23	0.4	0.5	0.8	0.9	1.7	0.0	7.2	0.0	0.1	0.1	0.2	0.1	23			
24	0.7	0.3	0.7	1.4	1.5	0.0	6.4	0.0	0.1	0.1	0.2	0.2	24			
25	0.6	0.2	0.7	0.9	1.4	0.0	5.5	0.0	0.1	0.2	0.2	0.1	25			
26	0.5	0.5	0.6	0.5	1.4	0.0	8.4	0.0	0.1	0.1	0.3	0.1	26			
27	0.5	0.5	0.5	0.7	1.4	0.0	8.1	0.0	0.0	0.4	0.1	0.1	27			
28	0.4	0.4	0.4	0.5	1.6	0.4	8.9	87.6	0.0	0.1	0.1	0.0	28			
29	0.2	0.5	0.5	0.4	1.5	0.7	7.8	0.0	0.0	0.1	0.1	0.1	29			
30	0.7	0.4	0.4	0.2	1.3	0.1	2.4	0.0	7.0	0.1	0.1	0.2	30			
31	0.7	0.4		0.4		0.0	1.9		1.6		0.1		31			
MEAN	0.8	0.6	0.6	0.3	2.6	0.3	4.8	5.2	3.7	0.2	0.2	0.1	MEAN			
MAX.	1.8	1.2	0.9	1.4	39.7	2.0	21.1	87.6	44.7	0.4	0.4	0.5	MAX.			
MIN.	0.2	0.2	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	MIN.			
ACFT	51.5	37.7	34.8	18.3	152.9	18.8	292.4	291.5	227.2	9.4	11.0	8.1	ACFT			

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.62	578.30	1.78	2	28	2204	0.00	0.02	10	2	0000	1153.60

STATION: FLINT WASH												MEAN DAILY DISCHARGE in second-feet		STATION NO.	WATERMASTER YEAR	
												62190	1969-70			
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY			
1	0.5	0.8	0.6	0.4	0.5	0.3	0.4	0.5	55.8	1.8	0.4	0.3	1			
2	0.2	0.7	0.5	0.3	0.6	0.3	0.5	0.3	28.1	1.7	0.5	0.3	2			
3	0.4	0.7	0.5	0.3	0.5	0.3	0.5	0.3	1.7	1.0	0.5	0.3	3			
4	0.1	0.8	0.5	0.3	0.4	0.4	0.5	0.2	75.4	2.6	0.5	0.3	4			
5	0.0	0.6	0.4	0.3	0.3	0.3	0.5	0.3	7.6	1.0	0.5	0.3	5			
6	0.0	0.6	0.3	0.3	82.8	0.4	0.5	0.3	1.9	2.7	0.6	0.3	6			
7	0.4	0.5	0.4	0.4	8.9	0.4	0.5	0.3	1.4	2.2	0.5	0.3	7			
8	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.3	1.3	1.5	0.6	0.3	8			
9	1.0	0.5	0.4	0.3	0.2	0.3	4.0	14.2	1.0	0.5	0.5	0.3	9			
10	1.0	0.5	0.3	0.3	0.3	0.2	4.2	70.7	0.8	0.4	0.4	0.3	10			
11	5.0	0.6	0.2	0.2	0.4	0.1	0.9	4.2	0.7	0.4	0.3	0.2	11			
12	1.4	0.5	0.2	0.3	0.5	0.1	0.6	1.1	0.7	0.3	0.3	0.3	12			
13	0.8	0.5	0.3	0.3	0.4	0.1	0.5	0.7	0.9	0.3	0.4	0.4	13			
14	0.8	0.5	1.0	0.3	0.3	0.1	1.8	0.5	0.9	0.3	0.3	0.5	14			
15	0.7	0.5	0.3	0.3	0.2	0.2	0.6	0.5	1.9	0.3	0.3	0.4	15			
16	0.4	0.5	0.4	0.3	0.2	0.2	20.6	0.4	3.5	0.3	0.3	0.5	16			
17	0.4	0.5	0.3	0.3	0.3	0.2	0.5	0.4	3.3	0.3	0.4	0.4	17			
18	0.5	0.5	0.3	0.3	0.3	0.2	0.5	0.4	5.7	0.3	0.4	0.3	18			
19	0.5	0.5	0.4	0.3	0.3	0.2	0.5	0.3	0.6	0.4	0.4	0.3	19			
20	0.5	0.4	0.4	0.3	0.3	0.2	0.5	0.2	0.5	0.4	0.3	0.3	20			
21	0.5	0.6	0.4	0.4	0.3	0.2	0.5	0.2	0.5	0.3	0.4	0.3	21			
22	0.5	0.7	0.5	0.3	0.3	0.2	0.5	0.2	0.4	0.3	0.3	0.3	22			
23	0.5	0.5	0.7	0.4	0.3	0.2	0.5	0.2	0.4	0.3	0.3	0.2	23			
24	0.5	0.5	0.5	0.4	0.4	0.2	0.5	0.2	0.4	0.3	0.3	0.3	24			
25	0.5	0.5	0.4	0.4	0.4	0.2	0.5	0.2	0.4	0.3	0.3	0.3	25			
26	0.5	0.5	0.5	0.5	0.4	0.2	0.5	0.2	0.7	0.4	0.4	0.4	26			
27	0.6	0.5	0.4	0.4	0.4	0.3	0.5	0.1	1.0	0.6	0.3	0.3	27			
28	0.5	0.5	0.5	0.8	0.3	0.3	0.5	95.3	0.9	0.5	0.4	0.2	28			
29	0.8	0.5	0.5	0.8	0.3	0.4	0.5	0.4	0.4	0.4	0.3	0.2	29			
30	0.5	0.5	0.4	0.5	0.3	0.4	0.5	0.0	6.1	0.4	0.3	0.2	30			
31	0.5	0.5		0.4		0.4	0.5		1.9		0.3		31			
MEAN	0.7	0.5	0.4	0.4	3.4	0.3	1.4	6.9	6.7	0.8	0.4	0.3	MEAN			
MAX.	5.0	0.8	1.0	0.8	82.8	0.5	20.6	95.3	75.4	2.7	0.6	0.5	MAX.			
MIN.	0.0	0.4	0.2	0.2	0.2	0.1	0.4	0.1	0.4	0.3	0.3	0.2	MIN.			
ACFT	42.1	33.8	25.6	22.0	201.8	15.9	87.6	381.6	410.2	44.8	23.2	18.3	ACFT			

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.85	627.60	3.88	2	28	2104	0.00	0.00	7	1	1843	1306.90

DAY	MEAN DAILY DISCHARGE in second-feet												DAY
	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	
STATION: RUBIO DRAIN													
STATION NO. 7520										WATERMASTER YEAR 1969-70			
1	1.2	2.2	2.7	1.1	1.2	1.7	0.7	0.6	75.7	0.2	1.1	1.4	1
2	1.6	2.0	1.4	1.2	1.0	1.3	0.7	1.1	25.3	0.4	1.4	1.3	2
3	1.8	1.8	1.7	1.3	3.2	1.2	0.9	0.7	0.5	0.4	1.3	1.6	3
4	1.8	1.8	1.7	1.5	0.9	1.2	0.6	0.9	16.5	0.7	1.2	1.6	4
5	1.6	1.7	1.3	1.1	0.7	1.1	0.4	0.6	0.3	0.8	1.1	1.2	5
6	1.5	1.6	1.3	1.1	69.2	1.1	0.5	0.5	0.3	1.3	1.1	1.4	6
7	1.7	1.8	1.4	1.8	19.2	0.9	0.9	0.4	0.3	1.4	1.5	1.0	7
8	1.7	1.7	1.4	1.3	0.4	1.7	0.7	0.4	0.2	1.8	1.3	1.2	8
9	1.7	1.6	1.6	1.3	0.2	0.8	0.7	11.0	0.2	1.7	1.0	1.2	9
10	1.6	1.6	1.4	1.3	0.6	0.8	23.9	71.6	0.2	3.2	0.9	0.9	10
11	2.6	1.6	1.7	1.2	0.4	0.7	16.3	11.0	0.4	2.9	0.8	1.1	11
12	1.6	2.0	1.5	1.1	0.6	1.0	1.1	0.7	0.2	2.2	0.9	3.2	12
13	1.4	2.0	1.5	1.2	0.6	0.8	1.6	0.6	0.4	2.3	0.7	3.5	13
14	1.5	2.3	1.2	1.1	0.5	0.9	20.4	0.6	0.4	2.0	1.3	1.3	14
15	1.6	2.4	1.2	1.3	0.5	0.9	1.5	0.5	0.3	2.9	1.4	1.3	15
16	1.9	2.4	1.2	1.2	0.6	1.0	37.6	0.5	0.3	2.7	1.3	1.3	16
17	1.6	2.1	1.2	1.3	0.6	0.9	1.6	0.5	0.5	2.2	1.2	1.4	17
18	1.4	2.1	1.3	1.3	0.8	1.2	1.0	0.5	0.2	2.9	1.2	1.3	18
19	1.4	2.1	1.9	1.6	0.9	0.9	0.7	0.6	0.2	2.2	1.3	1.4	19
20	1.4	2.3	1.7	1.4	0.8	1.2	0.8	0.5	0.3	2.0	1.3	1.5	20
21	1.4	2.3	1.1	1.2	0.8	0.9	0.8	0.5	0.4	1.4	1.4	1.3	21
22	1.6	2.8	1.5	1.2	0.9	1.2	0.9	0.6	0.4	1.6	1.6	1.4	22
23	1.0	1.8	1.4	1.3	0.8	1.2	0.4	0.6	0.2	1.6	1.4	1.5	23
24	1.2	1.9	1.1	1.6	0.8	1.2	0.8	0.5	0.2	1.7	1.2	1.4	24
25	1.1	2.3	1.3	1.5	0.9	0.5	0.9	0.6	0.3	1.7	1.4	1.8	25
26	1.4	2.4	1.3	1.4	1.0	0.9	0.9	0.5	0.2	1.5	1.4	1.2	26
27	1.4	2.0	1.4	1.2	1.0	0.7	0.9	0.5	0.3	1.9	1.4	1.4	27
28	1.1	2.2	1.4	1.2	1.0	0.6	1.0	117.3	0.4	1.4	1.5	1.3	28
29	1.2	2.4	1.4	1.4	1.0	0.9	0.9	0.5	0.5	1.7	1.4	1.3	29
30	1.5	2.4	1.5	1.2	1.0	1.0	0.6		38.2	1.2	1.3	1.4	30
31	1.7	2.0		1.3		1.1	0.9		0.5		1.2		31
MEAN	1.5	2.1	1.5	1.3	3.8	1.0	4.2	8.0	5.4	1.7	1.2	1.5	MEAN
MAX.	2.6	2.8	2.7	1.8	69.2	1.7	37.6	117.3	75.7	3.2	1.6	3.5	MAX.
MIN.	1.0	1.6	1.1	1.1	0.2	0.5	0.4	0.4	0.2	0.2	0.7	0.9	MIN.
ACFT	95.2	126.2	86.8	79.6	223.8	62.5	257.6	445.8	330.2	102.8	76.7	87.8	ACFT

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM					MINIMUM					TOTAL ACRE-FEET
	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	
2.77	703.40	1.02	2	28	2245	0.00	0.00	11	9	1414	1978.00

DAY	MEAN DAILY DISCHARGE in second-feet												DAY
	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	
STATION: SECO DRAIN													
STATION NO. 62150										WATERMASTER YEAR 1969-70			
1	0.3	0.2	0.3	0.3	0.5	0.2	0.1	0.2	10.2	0.3	0.3	0.2	1
2	0.2	0.3	0.3	0.4	0.4	0.1	0.0	0.0	4.3	0.3	0.4	0.2	2
3	0.1	0.3	0.3	0.4	0.0	0.0	0.1	0.0	0.5	0.3	0.3	0.1	3
4	0.1	0.3	0.3	0.2	0.3	0.3	0.2	0.0	18.0	0.3	0.2	0.2	4
5	0.1	0.2	0.3	0.3	0.2	0.3	0.1	0.0	0.3	0.3	0.3	0.2	5
6	0.1	0.3	0.3	0.6	25.7	0.3	0.1	0.0	0.1	0.6	0.1	0.2	6
7	0.1	0.3	0.3	0.6	0.9	0.3	0.0	0.0	0.0	0.6	0.1	0.2	7
8	0.1	0.3	0.3	0.5	0.1	0.4	0.0	0.0	0.1	0.4	0.0	0.2	8
9	0.1	0.2	0.3	0.5	0.0	0.2	0.2	4.6	0.1	0.4	0.2	0.2	9
10	0.1	0.3	0.3	0.7	0.1	0.0	2.9	26.5	0.0	0.5	0.1	0.2	10
11	0.1	0.3	0.3	0.7	0.1	0.1	2.5	0.7	0.1	0.4	0.0	0.1	11
12	0.1	0.3	0.3	0.7	0.0	0.1	0.3	0.0	0.0	0.5	0.0	0.2	12
13	0.1	0.3	0.3	0.7	0.0	0.2	0.1	0.1	0.0	0.6	0.0	0.4	13
14	0.1	0.4	0.3	0.7	0.0	0.2	3.5	0.1	0.0	0.6	0.0	0.3	14
15	0.1	0.4	0.4	0.9	0.0	0.2	0.5	0.0	0.1	0.4	0.1	0.2	15
16	0.1	0.5	0.4	0.5	0.1	0.2	16.4	0.0	0.1	0.4	0.1	0.3	16
17	0.1	0.5	0.3	0.4	0.0	0.2	0.6	0.0	0.1	0.4	0.0	0.2	17
18	0.1	0.3	0.3	0.3	0.0	0.1	0.3	0.0	0.2	0.4	0.0	0.1	18
19	0.1	0.3	0.3	0.2	0.1	0.1	0.1	0.0	0.3	0.4	0.2	0.1	19
20	0.0	0.2	0.4	0.3	0.1	0.2	0.1	0.0	0.1	0.6	0.1	0.1	20
21	0.1	0.2	0.3	0.3	0.1	0.2	0.1	0.0	0.1	0.4	0.0	0.1	21
22	0.2	0.3	0.3	0.3	0.1	0.4	0.1	0.0	0.2	0.5	0.1	0.1	22
23	0.2	0.3	0.3	1.4	0.1	0.3	0.3	0.0	0.3	0.4	0.2	0.2	23
24	0.3	0.3	0.3	0.7	0.2	0.2	0.3	0.0	0.2	0.6	0.1	0.1	24
25	0.3	0.1	0.3	0.7	0.3	0.2	0.2	0.0	0.2	0.4	0.2	0.1	25
26	0.4	0.2	0.3	0.7	0.5	0.1	0.2	0.5	0.2	0.4	0.2	0.1	26
27	0.4	0.3	0.3	0.6	0.2	0.1	0.2	1.0	0.2	0.3	0.1	0.1	27
28	0.4	0.3	0.3	0.4	0.1	0.1	0.3	52.9	0.1	0.3	0.1	0.1	28
29	0.5	0.3	0.2	0.2	0.4	0.0	0.3		0.1	0.4	0.1	0.1	29
30	0.5	0.3	0.2	0.4	0.2	0.1	0.3		3.3	0.3	0.0	0.0	30
31	0.0	0.3		0.5		0.1	0.2				0.0		31
MEAN	0.2	0.3	0.3	0.5	1.0	0.2	1.2	3.1	1.3	0.4	0.1	0.2	MEAN
MAX.	0.8	0.5	0.4	1.4	25.7	0.4	16.4	52.9	18.0	0.6	0.4	0.4	MAX.
MIN.	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	MIN.
ACFT	13.3	16.9	16.3	31.5	61.0	11.1	72.9	171.6	78.4	24.6	7.3	9.7	ACFT

WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM					MINIMUM					TOTAL ACRE-FEET
	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	
0.73	411.30	2.28	2	28	1309	0.00	0.00	7	19	2352	514.00

STATION: WEST ALTADENA

MEAN DAILY DISCHARGE  
in second-feet

STATION NO.	WATERMASTER YEAR
62985	1969-70

DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	0.1	0.3	0.2	0.6	0.6	0.5	0.5	0.0	10.7	0.4	0.5	0.2	1
2	0.1	0.2	0.8	0.7	0.5	0.2	0.5	0.1	1.5	0.3	0.5	0.1	2
3	0.5	0.2	0.4	0.8	0.4	0.3	0.6	0.1	0.2	0.3	0.4	0.1	3
4	0.2	0.2	1.7	0.8	0.1	0.3	0.6	0.1	8.6	0.2	0.4	0.0	4
5	0.2	0.2	0.5	0.7	0.2	0.5	0.4	0.1	0.7	0.2	0.2	0.1	5
6	0.0	0.1	0.6	0.8	11.4	0.5	0.2	0.1	0.2	0.3	0.1	0.1	6
7	0.1	0.1	0.5	1.0	1.0	0.7	0.1	0.0	0.1	0.1	0.1	0.2	7
8	0.2	0.2	0.6	0.6	0.3	1.0	0.0	0.2	0.2	0.2	0.2	0.1	8
9	0.3	0.2	0.5	0.7	0.3	0.4	1.7	2.6	0.2	0.1	0.2	0.2	9
10	0.2	0.5	0.5	0.6	0.3	0.5	2.6	18.3	0.1	0.1	0.2	0.2	10
11	0.2	0.1	0.3	0.7	0.3	0.4	1.1	0.6	0.2	0.2	0.1	0.1	11
12	0.2	0.2	0.4	0.6	0.4	0.4	0.4	0.3	0.2	0.3	0.1	0.3	12
13	0.2	0.2	0.3	0.6	0.3	0.5	0.1	0.4	0.2	0.2	0.2	0.2	13
14	0.1	0.2	0.4	0.6	0.3	0.5	1.5	0.4	0.1	0.1	0.2	0.1	14
15	0.1	0.2	0.4	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.4	0.1	15
16	0.2	0.2	0.2	0.5	0.3	0.2	4.8	0.2	0.2	0.3	0.6	0.1	16
17	0.1	0.2	0.3	0.6	0.1	0.3	0.2	0.2	0.3	0.3	0.3	0.0	17
18	0.1	0.2	0.4	0.7	0.1	0.4	0.2	0.3	0.3	0.3	0.3	0.1	18
19	0.1	0.2	0.3	0.7	0.2	0.4	0.2	0.2	0.3	0.3	0.4	0.1	19
20	0.2	0.2	0.3	0.5	0.2	0.4	0.2	0.3	0.2	0.4	0.4	0.1	20
21	0.1	0.3	0.3	0.5	0.2	0.5	0.2	0.4	0.6	0.3	0.5	0.1	21
22	0.2	0.2	0.5	0.6	0.3	0.5	0.0	0.1	0.3	0.3	0.3	0.1	22
23	0.2	0.2	0.3	0.6	0.3	0.4	0.0	0.3	0.2	0.3	0.3	0.1	23
24	0.1	0.2	0.2	0.6	0.2	0.5	0.1	0.3	0.5	0.5	0.6	0.3	24
25	0.1	0.2	0.3	0.7	0.2	0.5	0.0	0.5	0.3	0.5	0.4	0.1	25
26	0.3	0.2	0.3	0.7	0.4	0.5	0.0	0.4	0.3	0.4	0.4	0.1	26
27	0.9	0.2	0.3	0.5	0.4	0.5	0.1	0.5	0.2	0.5	0.3	0.2	27
28	0.1	0.2	0.3	0.3	0.5	0.4	0.1	38.2	0.2	0.4	0.3	0.2	28
29	0.1	0.1	0.3	0.5	0.4	0.4	0.1	0.2	0.2	0.4	0.3	0.1	29
30	0.1	0.2	0.3	0.4	0.2	0.4	0.0	1.4	0.4	0.4	0.4	0.2	30
31	0.1	0.1		0.7		0.6	0.0		0.3		0.4		31
MEAN	0.2	0.2	0.4	0.6	0.7	0.5	0.5	2.3	1.0	0.3	0.3	0.1	MEAN
MAX.	0.9	0.5	1.7	1.0	11.4	1.0	4.8	38.2	10.7	0.5	0.6	0.3	MAX.
MIN.	0.0	0.1	0.2	0.3	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.0	MIN.
ACFT	11.9	11.9	25.5	38.7	40.7	27.8	33.0	129.8	58.7	17.5	20.2	7.7	ACFT

WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	
0.59	266.90	2.48	2	28	1150	0.00	0.00	7	1	0000	423.40

TABLE B-1  
GROUND WATER EXTRACTIIONS  
IN ACRE-FEET

STATE	OWNERS	PRODUCTION												TOTAL
		1969						1970						
WELL NUMBER	OES10-NATION	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
WESTERN UNIT (MONK HILL BASIN)														
LA CANADA IRRIGATION DISTRICT														
1N/13W-01J01S	RAYM6	0.00	0.15	0.00	8.27	0.83	0.22	0.00	0.00	0.00	0.00	0.00	0.00	9.47
1N/12W-06M05S	RAYM1	0.00	7.55	0.00	6.85	1.57	0.07	0.00	0.00	0.00	0.57	16.49	1.11	34.21
TOTALS		0.00	7.70	0.00	15.12	2.40	0.29	0.00	0.00	0.00	0.57	16.49	1.11	43.68
LAS FLORES WATER COMPANY														
1N/12W-08H02S	00002	40.17	40.07	32.42	23.04	11.23	11.28	17.51	20.72	17.58	25.21	27.68	29.01	295.92
TOTALS		40.17	40.07	32.42	23.04	11.23	11.28	17.51	20.72	17.58	25.21	27.68	29.01	295.92
LINCOLN AVENUE WATER COMPANY														
1N/12W-05P01S	3	60.83	61.26	23.27	34.69	29.66	20.01	6.27	18.41	17.65	0.00	6.24	0.00	278.29
1N/12W-05P02S	2	2.58	5.39	6.71	5.86	4.20	0.49	0.00	4.87	3.23	0.00	0.83	0.00	34.16
1N/12W-08A01S	00004	62.78	55.93	7.50	18.28	23.34	24.26	11.41	29.59	12.46	0.00	5.46	0.00	251.01
TOTALS		126.19	122.58	37.48	58.83	57.20	44.76	17.68	52.87	33.34	0.00	12.53	0.00	563.46
PASAUENA CEMETERY ASSOCIATION														
1N/12W-09E01S	2-3	11.12	11.79	12.09	11.21	3.11	2.08	2.55	0.72	3.27	6.74	13.45	12.24	90.37
1N/12W-05G01S	00004	4.53	2.55	2.13	2.83	1.14	0.96	0.62	0.41	1.05	1.48	2.75	3.24	23.69
TOTALS		15.65	14.34	14.22	14.04	4.25	3.04	3.17	1.13	4.32	8.22	16.20	15.48	114.06
PASAUENA, CITY OF														
1N/12W-05M01S	AHROY	291.56	305.17	287.03	301.59	280.71	289.00	261.35	243.90	87.77	0.00	2.20	0.00	2350.28
1N/12W-05N01S	VENTU	161.75	169.86	254.12	247.90	258.38	267.76	265.97	236.53	151.07	160.97	238.23	228.12	2640.66
TOTALS		453.31	475.03	541.15	549.49	539.09	556.76	527.32	480.43	238.84	160.97	240.43	228.12	4990.94
RUBIO CAÑON LAND AND WATER ASSN														
1N/12W-08H01S	00005	125.12	190.18	123.76	90.85	28.78	1.44	0.00	15.36	21.81	42.51	97.57	104.74	842.12
1N/12W-08H03S	00004	11.90	4.91	3.17	25.59	52.55	69.42	53.79	61.47	43.10	53.54	37.08	27.69	444.21
1N/12W-09K01S	00006	13.82	11.96	8.60	8.23	4.58	5.37	4.51	3.68	3.51	7.91	10.43	10.40	93.00
1N/12W-09R01S	00002	7.88	14.40	11.61	8.39	8.17	6.81	7.06	5.90	10.73	8.33	10.58	8.45	108.31
TOTALS		158.72	221.45	147.14	133.06	94.08	83.04	65.36	86.41	79.15	112.29	155.66	151.28	1487.64
VALLEY WATER COMPANY														
1N/12W-06M02S	FLINT	19.34	39.84	17.33	4.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.93
1N/12W-06M04S	00002	0.00	0.00	0.00	2.18	0.00	0.00	0.00	0.00	0.00	0.00	2.12	2.30	6.60
1N/12W-06M06S	00001	116.91	129.89	99.71	79.66	31.15	24.91	15.07	42.17	40.41	76.39	90.27	92.10	838.64
TOTALS		136.25	169.73	117.04	86.26	31.15	24.91	15.07	42.17	40.41	76.39	92.39	94.40	926.17
ALHAMBRA, CITY OF (PASADENA SUBAREA)														
1N/12W-34E01S	2	81.81	81.94	68.82	63.35	18.87	5.01	5.10	10.17	21.56	74.59	90.54	92.03	613.79
1N/12W-34E04S	6	36.71	30.16	7.44	3.68	8.33	3.83	0.73	4.91	4.76	1.35	15.53	37.80	155.23
TOTALS		118.52	112.10	76.26	67.03	27.20	8.84	5.83	15.08	26.32	75.94	106.07	129.83	769.02
ARCADIA, CITY OF														
1N/11W-29M01S	RCH8A	11.12	13.50	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.12	4.61	1.73	31.31
1N/11W-30R01S	RCH06	119.51	115.15	28.34	0.00	0.00	0.00	0.00	0.00	0.15	0.13	50.85	80.86	394.99
1N/11W-30R03S	MHE10	1.22	25.73	178.56	189.19	0.00	0.00	0.00	0.00	0.46	0.41	0.71	155.23	551.51
TOTALS		131.85	154.38	207.13	189.19	0.00	0.00	0.00	0.00	0.61	0.66	56.17	237.82	977.81
CALIFORNIA-AMERICAN WATER CO														
1N/12W-25E01S	19218	76.45	84.39	61.66	18.76	7.93	5.08	1.82	92.25	50.80	35.92	63.12	51.69	649.87
1N/12W-26A01S	1928	86.82	112.67	94.25	9.27	2.22	7.24	8.75	50.94	15.38	9.53	18.34	18.99	434.40
1N/12W-26R01S	1924	111.01	108.89	55.87	86.36	36.87	11.38	1.09	7.55	7.66	6.44	20.14	45.91	499.17
1N/12W-34C01S	1923	39.43	41.34	36.74	15.60	3.83	0.34	0.00	5.80	14.09	24.90	45.17	22.37	249.61
1N/12W-34E02S	1921A	10.56	13.62	4.37	0.50	0.72	0.18	0.21	1.69	5.49	1.29	3.94	3.38	45.95
1N/12W-35B01S	1917	56.89	54.84	14.52	7.72	21.21	10.96	0.91	23.93	9.18	77.69	106.43	113.02	497.30
TOTALS		381.16	415.75	267.41	138.21	72.78	35.18	12.78	182.16	102.60	155.77	257.14	255.36	2276.30
CANYON MUTUAL WATER COMPANY														
1N/12W-13K01S	WILCX	5.24	8.44	7.53	6.50	2.82	4.40	3.44	3.51	3.09	4.31	2.57	2.49	54.34

TABLE 8-1  
GROUND WATER EXTRACTIIONS  
(CONTINUED)  
IN ACRE-FEET

STATE WELL NUMBER	OWNERS DESIG- NATION	PRODUCTION												TOTAL
		1969						1970						
		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
<b>EAST PASADENA WATER COMPANY</b>														
1N/11W-30J015	00007	17.78	6.47	11.08	3.24	1.89	1.36	0.11	0.91	7.46	7.81	17.74	17.30	93.15
1N/11W-30K015	8	44.97	58.54	37.37	26.58	14.02	15.28	11.77	13.63	14.45	19.83	34.23	34.00	324.67
1N/11W-300035	1	2.90	17.41	0.03	0.06	0.00	0.03	0.03	0.04	0.00	0.00	0.68	0.03	21.21
TOTALS		65.65	82.42	48.48	29.88	15.91	16.67	11.91	14.58	21.91	27.64	52.65	51.33	439.03
<b>H E HUNTINGTON LIBRARY AND ART GALL</b>														
1N/12W-34H015	CANYN	2.75	3.84*	- 0.00*	0.00	2.04	0.00	1.70	0.00	2.20	1.31	4.93	1.82	20.59
1N/12W-35C015	ORLDO	41.08	46.77	32.86	20.90	6.84	9.39	4.57	5.50	7.66	18.96	30.74	36.79	262.06
TOTALS		43.83	50.61	32.86	20.90	8.88	9.39	6.27	5.50	9.86	20.27	35.67	38.61	282.65
<b>KINNELOA IRRIGATION DISTRICT</b>														
1N/12W-13E035	00003	9.59	24.56	10.57	1.03	4.50	12.75	1.74	0.43	0.36	2.04	6.43	8.65	82.65
1N/12W-13L015	WGNER	0.26	0.17	0.21	0.18	0.02	0.01	0.09	0.02	0.02	0.05	0.42	0.11	1.58
TOTALS		9.87	24.73	10.78	1.21	4.52	12.76	1.83	0.45	0.38	2.09	6.85	8.76	84.23
<b>MIRA LOMA MUTUAL WATER COMPANY</b>														
1N/11W-07N015	GLEN	11.63	9.47	8.51	1.78	0.44	0.00	0.00	0.00	0.00	0.00	1.34	3.30	36.47
1N/11W-07N025	BROWN	6.74	8.22	6.01	5.00	1.39	0.00	0.96	2.72	2.35	4.53	6.20	7.11	53.23
1N/11W-18C015	SHAW	2.05	1.71	1.64	1.19	1.57	1.46	0.00	0.00	0.83	0.00	1.53	1.49	13.47
TOTALS		22.42	19.40	16.16	7.97	3.40	1.46	0.96	2.72	3.18	4.53	9.07	11.90	103.17
<b>MONROVIA, CITY OF</b>														
1N/11W-30H015	CHAP6	111.82	116.22	106.70	112.95	115.04	118.70	97.71	0.89	0.97	61.23	115.79	92.29	1050.31
TOTALS		111.82	116.22	106.70	112.95	115.04	118.70	97.71	0.89	0.97	61.23	115.79	92.29	1050.31
<b>0580MN CONSTRUCTORS</b>														
1N/12W-13M015	FARPT	4.36	3.81	3.41	1.56	1.75	1.31	1.53	1.38	1.48	1.59	3.00	2.15	27.33
TOTALS		4.36	3.81	3.41	1.56	1.75	1.31	1.53	1.38	1.48	1.59	3.00	2.15	27.33
<b>PASADENA, CITY OF</b>														
1N/12W-20A015	SUNST	103.54	136.77	119.68	160.58	151.57	105.60	50.63	51.37	0.00	2.14	79.80	80.00	1041.68
1N/12W-20B015	COPO3	69.10	113.26	48.54	180.30	121.18	131.84	93.39	60.51	7.69	0.02	26.33	76.04	928.20
1N/12W-21K015	GARFO	139.66	132.89	64.83	193.01	158.79	193.17	164.46	74.67	14.86	9.19	103.23	76.97	1325.73
1N/12W-21K025	VILLA	256.64	143.85	164.56	234.40	269.84	291.25	270.81	92.46	53.52	33.55	221.02	144.84	2176.74
1N/12W-23G015	CRAIG	0.00	15.75	12.25	36.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.59
1N/12W-25B015	JODAN	0.00	224.70	284.39	284.74	284.98	285.97	256.68	247.05	37.69	0.21	0.00	137.36	2043.77
1N/12W-26C015	W08RY	206.77	110.85	212.69	247.52	251.65	259.35	240.05	149.68	94.18	30.89	193.35	221.32	2218.30
1N/12W-33G025	OH105	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.06	2.70	12.96
TOTALS		775.91	878.07	906.94	1337.14	1238.01	1267.18	1076.02	675.74	207.94	76.00	633.79	739.23	9811.97
<b>ROYAL LAUNDRY AND DRY CLEANING CO</b>														
1N/12W-28N015	SWELL	13.21	11.75	11.88	13.81	11.63	13.03	12.70	12.16	13.20	13.20	13.20	11.07	150.84
TOTALS		13.21	11.75	11.88	13.81	11.63	13.03	12.70	12.16	13.20	13.20	13.20	11.07	150.84
<b>SAN GABRIEL COUNTY WATER DISTRICT</b>														
1N/12W-36E015	VN004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.52
1N/12W-36E025	VN003	115.64	107.51	116.35	121.90	122.63	126.09	117.94	108.62	21.81	26.83	67.86	52.22	1105.40
TOTALS		115.64	107.51	116.35	121.90	122.63	126.09	117.94	108.62	21.81	26.83	68.38	52.22	1105.92
<b>SUNNY SLOPE WATER COMPANY</b>														
1N/12W-36A015	00006	31.94	0.00	0.00	0.00	0.00	0.00	0.00	0.34	118.37	0.00	0.63	4.97	156.25
1N/12W-36H015	00001	60.44	69.22	41.74	55.96	42.44	45.78	30.57	45.55	76.89	63.54	76.41	57.02	655.56
1N/12W-36H025	00003	91.82	83.86	53.68	67.14	53.34	60.66	38.98	57.81	4.03	79.85	93.49	70.13	785.59
TOTALS		184.20	153.08	95.42	123.10	95.78	106.44	69.55	103.70	200.09	143.39	170.53	132.12	1577.40
<b>EASTERN UNIT (SANTA ANITA SUBAREA)</b>														
<b>ARCAVIA, CITY OF</b>														
1N/11W-21G025	00014	224.59	247.69	241.38	241.10	0.00	0.00	0.00	0.00	0.67	0.40	38.32	262.03	1256.18
1N/11W-21G035	00005	160.00	148.20	137.44	137.63	0.00	0.00	0.00	0.00	0.00	0.20	3.46	117.16	704.09
1N/11W-21H025	0002A	184.56	230.28	208.59	194.34	0.00	0.00	0.00	0.00	0.36	0.37	126.13	220.72	1169.38
1N/11W-21H035	00006	126.93	140.74	125.48	110.25	0.00	0.00	0.00	0.00	0.34	0.34	79.41	145.54	728.98
TOTALS		696.08	766.91	712.89	687.32	0.00	0.00	0.00	0.00	1.33	1.31	247.32	745.45	3858.61
<b>SIERRA MADRE, CITY OF WATER DEPT</b>														
1N/11W-21C025	00004	41.70	63.41	14.78	28.96	19.54	25.93	17.62	5.01	11.13	12.07	34.27	43.35	317.77
1N/11W-21C035	3	66.81	46.09	24.93	41.39	14.05	16.12	13.24	19.05	38.32	28.68	91.84	5.05	407.57
1N/11W-21C065	00005	0.00	0.00	122.89	25.91	24.28	17.09	4.06	50.17	1.47	83.76	83.66	129.28	542.57
1N/11W-21C075	6	56.14	106.28	23.21	16.29	5.97	4.22	8.42	2.83	31.57	23.32	5.97	34.93	318.65
TOTALS		166.65	215.78	185.81	112.55	63.34	63.36	43.34	77.06	82.49	147.83	215.74	212.61	1586.56
TOTALS ALL PARTIES		3776.70	4171.86	3695.46	3851.06	2523.09	2508.89	2107.92	1887.28	1110.90	1146.24	2555.32	3242.64	32577.36

\*Estimated

TABLE B-2

GROSS WATER SUPPLY  
In acre-feet

Party	"Decreed Right 1955"	Ground water extractions		Surface water diversions <sup>c/</sup>	Purchased supply <sup>d/</sup>	Total Supply
		Inside Basin <sup>a/</sup>	Outside Basin <sup>b/</sup>			
Alhambra, City of		769.02	10,694.04			11,463.06
Arcadia, City of		4,836.42	9,555.65			14,392.07
California-American Water Company		2,276.30	4,555.59			6,831.89
Canyon Mutual Water Company		54.34				54.34
East Pasadena Water Company		439.03	1,636.56			2,075.59
Henry E. Huntington Library and Art Gallery		282.65				282.65
Kinneloa Irrigation District		84.23		275.48		359.71
La Canada Irrigation District		43.68		209.20	2,288.86 <sup>e/</sup>	2,541.74
Las Flores Water Company		295.92		236.40	354.06	886.38
Lincoln Avenue Water Company		563.46		495.32	1,397.06	2,455.84
Mira Loma Mutual Water Company		103.17		94.26		197.43
Monrovia, City of		1,050.31	5,809.86	565.76		7,425.93
Osborn Constructors		27.33				27.33
Pasadena Cemetery Association		114.06				114.06
Pasadena, City of		14,802.91		5,458.59	15,272.59	35,534.09
Royal Laundry and Dry Cleaning Company		150.84				150.84
Rubio Canon Land and Water Association		1,487.64		414.94	580.55	2,483.13
San Gabriel County Water District		1,105.92	5,297.98			6,403.90
Sierra Madre, City of		1,586.56		1,126.67		2,713.23
Sunny Slope Water Company		1,577.40	2,818.18			4,395.58
Valley Water Company		926.17			2,112.19	3,038.36
<b>TOTALS</b>		<b>32,577.36</b>	<b>40,367.86</b>	<b>8,876.62</b>	<b>22,005.31</b>	<b>103,827.15</b>

a/ See Table B-1 for individual well totals

b/ See Table 6.

c/ See Table 7 for source of diversions.

d/ Colorado River water except as noted (See Table 9).

e/ Includes 159.11 acre-feet of Colorado River water which was purchased and used outside the basin.







