STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

REPORTS OF THE
DIVISION OF WATER RESOURCES
EDWARD HYATT, STATE ENGINEER

REPORT ON WATER MASTER SERVICE ON SHASTA RIVER AND ITS TRIBUTARIES SISKIYOU COUNTY, CALIFORNIA FOR THE SEASON OF 1937

By

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DIVISION OF WATER RESOURCES
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Mr. Harold Conkling
Deputy State Engineer
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Attention: Mr. Gordon Zander,
Supervising Hydraulic Engineer

Dear Sir:

Herewith is submitted a report covering water master service within the Shasta River Water Master District, Siskiyou County, California, during the 1937 season.

The report presents a general description of the work and a discussion of the results obtained. Records of precipitation, run-off and other pertinent data are included.

Respectfully submitted,

Senior Hydraulic Engineer

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INTRODUCTION

The Shasta River Water Master District was created by order of the Division of Water Resources under date of March 1, 1933 to embrace the water rights on Shasta River and its tributaries in Siskiyou County, California, excepting certain tributaries and springs named in said order, as established by Decree of the Superior Court, Siskiyou County, California, in the Shasta River Proceeding No. 7035, entered on December 30, 1932. Subsequent to the creation of the district, the boundaries were changed to exclude the water rights on Willow Creek and its tributaries by "Order Changing Shasta River Water Master District, Siskiyou County, California and containing a Description of All of the Lands Within Said District as So Changed", dated December 30, 1935.

Water master service in the Shasta River Water Master District was carried on throughout the 1937 season in accordance with the "Distribution of Water" procedure contained in sections 37 to 37f, inclusive, of the Water Commission Act. Such service extended over the period from April 1 to October 1. Harrison Smitherum, Water Master, Shasta River Water Master District, administered the distribution of water from the streams within the district during the entire period.

DISCUSSION OF RESULTS

Precipitation

Data on precipitation, as compiled from the records kept at Mt. Shasta City and Montague, are presented in Tables 1 and 2 at the end of this report. Table 1 also gives the monthly precipitation as recorded at Edgewood from August 1, 1934 to October 1, 1937.

Based on the data presented in the above mentioned tables, the precipitation for the 1936-1937 season was about two per cent above normal. The total precipitation was 25.53 inches, or 102 per cent of the mean for the 48 seasonal years 1889 to 1937. Of this total 17.56 inches, or 75 per cent, fell during the period October 1 to April 1 as compared with the long time mean of 80 per cent for the same months. The rainfall during June of this year was 3.20 inches as compared with the long time mean of .75 inches. The total snow fall as recorded at Mt. Shasta City for the 1936-1937 season was 232 inches as compared with the normal of 105.5 inches.

Water Supply

Measuring stations, equipped with water stage recorders were maintained at the stream gaging stations listed below. The records of discharge for the several streams and springs are presented in Tables 3 to , inclusive.

Shasta River above Edson-Foulke, Yreka Ditch
Parks Creek above Edson-Foulke, Parks Creek Ditch
Shasta River at Rowe Ranch
Shasta River near Montague
Little Shasta River above Harp Ditch

The gaging station on Shasta River near Edgewood is maintained by the Montague Water Conservation District throughout the winter period of each season. The record obtained during the 1936-37 winter is shown along with the run-off data of Shasta River at Rowe Ranch.

Measuring stations equipped with water stage recorders were also maintained on streams, reservoirs, and diversion conduits at critical control points, as an aid in the distribution of the available water supply. A list of these stations follows:

Shasta River at Grenada Pumps
Little Shasta River at Rowe Dam
Beaugham Creek at Long-Bell Lower Weir
Corrick Creek at Jackson Weir
M.W.C.D. Parks Creek Canal at Head
Lake Dwinnell Reservoir
Dennis-Terwilliger Weir
Soule Weir
M.W.C.D. Shasta River Canal at Head
McKee Weir
Big Springs Lake

Water supply conditions throughout the entire stream system, for the 1937 season, were considerably better than the three previous seasons during the early irrigation period, but was about the same during the latter part of the season.

DISTRIBUTION

Distribution for the 1937 season followed the practices initiated during the past three seasons with little modification. The results accomplished in the several sections into which the stream system has been divided follow.

Shasta River above Confluence of Boles Creek

The water supply available to this area is the summation of the flow of Shasta River above the Edson-Foulke Yreka Ditch, shown in Table 3 hereof, and the combined discharge of the Dow-Eddy Creek Ditch and the Hammond-Scott Ditch diverting from Eddy Creek.

A summary of the distribution for the 1937 season is set forth in the following tabulation:

Month	Average available water supply Cu.Ft. per Sec.	Distribution in per cent of Priority Allotments		
		Hammond-Scott	Foulke et al	Dow
April	71.5	100	100	100
May	88.5	100	100	100
June	72.8	96	100	100
July	27.0	58	60	23
August	7.4	25	18	0
September	4.5	27	7	0

This area had sufficient water supply to supply all irrigation demands until August 1 of this season. Subsequent to this time and for the remainder of the irrigation season considerably more water was available than is normally expected.

Shasta River below Junction of Boles Creek and Boles Creek

One hundred per cent allotments were available for all priorities during the 1937 season, excepting the storage rights of Montague Water Conservation District, up to about August 1. Beginning on August 1 and subsequent thereto, the available water was distributed on an equal and correlative basis among water right owners down to and including Frank H. Mills. Under this arrangement an average of 60 per cent of allotments was delivered.

Shasta River below Lake Dwinnell Reservoir

Water master service on this section of the stream system involves the operation of the Montague Water Conservation District's Lake Dwinnell Reservoir. The water master in cooperation with the District exercises control over deliveries from the reservoir both to the District and to the water right owners below the reservoir, who are entitled to

water from the reservoir in accordance with agreements with the District.

Delivery of water to the water right owners below the reservoir commenced on April 26 and continued until September 15, at which time the available storage in the reservoir was exhausted.

Delivery of water for district use commenced on May 5 and continued until about September 7.

Summaries of the operation of the reservoir during the 1937 season are given in the following tabulations:

Operation of Lake Dwinnell Reservoir during the 1937 Season

Date	Storage			Inflow to Reservoir Ac. Ft.	Total Draft Ac. Ft.	Measured Deliveries Ac.Ft.		Seepage and evaporation loss from reservoir acre feet
	On hand Ac. Ft.	Increase Ac. Ft.	Draft Ac. Ft.			District	Below Dam	
April 1	5940							
May 1	9550	3590		5310	1700		110	1590
June 1	9150		400	5950	6350	2912	648	2790
July 1	7260		1890	2490	4380	1583	387	2410
Aug. 1	2720		4540	260	4800	1972	748	2080
Sept. 1	600		2120	30	2150	727	643	780
Sept. 22	00		600	0	600	166	154	280 320
Totals		3590	9550	14040	19980	7360	2690	30 9970

Deliveries from Lake Dwinnell Reservoir
to Prior Right Owners below Reservoir
during 1937 Season

Name of Water Right Owner	Allotment as per agreement acre feet	Amount delivered from Montague Reservoir for 1937 Season	
		Acre Feet	Per cent of allotment
J. L. Jones	198	198	100
John Soule	692	633	92
J. W. and Mary L. Dennis	696	489	70
McKee Company	1200	1200	100
E. S. Terwilliger	596	120	20

In Table 11 of this report is set forth the diversion from Parks Creek through the Parks Creek Canal for storage purposes in Lake Dwinnell Reservoir.

In Table 12 of this report is set forth the daily storage of Lake Dwinnell Reservoir during the 1937 season.

Beaughan Creek

One measurement was made during the 1937 season at the 8.0 foot rectangular weir, Long-Bell Upper Weir, located at the head of the Creek. The results are given below.

Date	Gage Height in Feet	Discharge Cu. Ft. per Sec.
Sept. 17, 1937		4.90

This amount of water was sufficient to supply 59 per cent of the total second priority allotments of 8.28 cubic feet per second. Distribution to the second priority water right owners was made in accordance

with this percentage during the 1937 season.

Carrick Creek

Distribution on this stream during the 1937 season was confined largely to the first, second, third, fourth, fifth and ninth priorities on Carrock Creek and the fifth and seventh priorities on Stone Creek.

A summary of the distribution on this stream during the 1937 season is shown in the following tabulation:

Month	Average available water supply		Distribution in per cent of Priority Allotments		
	Cu. Ft. per Sec.	% of Total allotments	1st to 5th Incl.	7th	9th
April	9.30	110	100	100	100
May	9.00	106	100	100	100
June	7.80	92	100	100	25
July	7.10	84	100	50	0
August	6.80	80	100	20	0
September	6.80	80	100	20	0

Parks Creek

Distribution on Parks Creek for the 1937 season was in accordance with the practices followed during the past three seasons with little modification.

A summary of the distribution made during the 1937 season is set forth in the following tabulation:

Month	Measured water supply Cu. Ft. per Sec.	Distribution in per cent of priority allotments			
		Duke 1	Caladonia 2	Foulke 3	Robertson 4, 6, 11, 12, 13
April	50.2	100	100	100	100
May	80.2	100	100	100	100
June	36.4	100	100	99	85
July	8.2	96	42	18	25
August	3.3	63	0	0	0
September	3.1	52	0	0	0

Records of the available flow for the above distribution are shown in Table 4 of this report.

The 21st and 24th priority rights of M. A. Silva on the extreme lower end of Parks Creek received 100% allotments throughout the season.

Big Springs

Under agreement between Stallcup and Sons and the Big Springs Irrigation District, 7.50 cubic feet per second of water was delivered through the Big Springs Irrigation District's pumping plant. The Big Springs Plant started operation on March 31, and continued throughout the season until September 29. Irrigation head was delivered to Stallcup and Sons continuously during the periods April 21 to June 18, June 21 to July 1, July 13 to July 22, August 1 to August 9, August 22 to August 30 and September 10 to September 22. Stock water was supplied to Stallcup and Sons during the time they were not diverting an irrigation head. Louie Bros. diverted an average of 10 cubic feet per second or 100% allotment throughout the season.

The following tabulation presents a summary of the distribution during the 1937 season:

Month	Measured water supply Cu. Ft. per Sec.	Distribution in per cent of priority allotments: Louie Bros. 1 & 2	Stallcup 3	Big Springs I. D. 4
April	28.9	100	100	41
May	33.0	100	100	49
June	34.4	100	70	48
July	34.6	100	71	64
August	34.9	100	69	65
September	34.2	100	49	65

Lower Shasta River

The following tabulation sets forth the summary of the distribution in this section during the 1937 season:

Month	Net Available Water Supply: Cu. Ft. per Second	Per cent of Total allotments	Per cent of Priority allotments: First	Second	Distribution in per cent of priority allotments: First	Second
April	194	148	100	156	82	0
May	189	98	100	95	92	61
June	134	102	100	106	78	49
July	100	76	100	22	100	36
August	102	78	100	27	97	48
September	114	87	100	57	90	46

Table 6 of this report shows the flow available for the lower most users of Shasta River.

Tables 13 and 14 set forth the daily diversions of Shasta River Water Association and Grenada Irrigation District, respectively.

Little Shasta River

A summary of the distribution during the 1937 season is shown in the following tabulation:

Month	Available Water Supply		Distribution in per cent of Priority Allotments						
	Cu. Ft. per Sec.	% of Total Allotments	1	3	4	5	6	7
April 1	57.2	* 74	100	100	71	96	70	70
May	34.6	45	100	100	77	92	10	0
June	19.9	26	100	100	83	38	0	0
July	11.9	15	100	100	52	2	0	0
August	9.7	13	92	92	0	0	0	0
September	9.3	12	88	88	0	0	0	0

* Per cent of total allotments for first, third, fourth, fifth, sixth, and seventh priorities.

The flow of Little Shasta River above Harp Ditch is shown in Table 7 of this report.

Intermittent measurements made at Cleland Springs are recorded in Table 10 of this report.

TABLE 1

Average of Precipitation at Mount Shasta City and Montague - 1889 to 1937 (1)

Monthly, seasonal and average amounts in inches

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Seasonal
1930-31	0.41	1.26	0.77	3.59	1.19	1.16	0.41	0.24	2.71	0.00	0.00	0.94	12.68
1931-32	1.95	.92	6.81	2.32	1.13	1.77	1.39	3.20	.50	.19	.00	.00	20.18
1932-33	.46	3.50	2.35	4.98	.64	5.86	.57	1.28	.34	.12	.00	.20	20.30
1933-34	1.24	.02	5.38	2.13	3.16	1.46	1.64	1.16	1.54	.58	.40	.24	18.95
1934-35	2.77	5.29	1.48	4.00	1.63	1.87	3.96	.34	.05	.22	.26	.31	22.18
1935-36	1.14	.96	3.04	6.00	3.76	.74	1.96	1.46	2.11	.34	.62	.14	22.27
1936-37	.02	.00	2.01	3.92	4.91	6.70	1.86	.50	3.20	.15	.00	.26	23.53
Totals	74.42	136.97	173.59	196.38	163.33	136.08	80.26	60.57	35.86	11.05	11.85	30.76	1111.12
Mean 48 yrs.	1.55	2.85	3.62	4.09	3.40	2.84	1.67	1.26	.75	.23	.25	.64	23.15

(1) See 1930 Water Master Report for records 1889-1930

Precipitation at Edgewood--Elevation 2952 feet

1933-34											.38	.00	
1934-35	1.30	3.53	1.80	1.65	1.15	2.62	2.58	.43	.57	.38	.06	.21	15.56
1935-36	.81	.82	1.51	3.15	1.65	1.22	1.09	1.04	.45	.15	.00	.13	12.02
1936-37	.00	.00	.41	1.90	1.28	3.53	.86	1.06	1.27	.00	.00	.33	10.64

TABLE 2

Monthly Precipitation for Seasonal Year 1936-37
Compared with Mean Monthly Precipitation - 1889
to 1937

Month	Monthly Mean-48 yrs. Inches	Monthly Mean-48 yrs. Per cent of total	Monthly 1936-37 Inches	Monthly 1936-37 Per cent of total	Snowfall at Mt. Shasta City in inches Normal	Snowfall at Mt. Shasta City in inches 1936-37
October	1.55	6.7	0.02	0.1		
November	2.85	12.3	.00	0.0		
December	3.62	15.6	2.01	8.5	24.9	26
January	4.09	17.7	3.92	16.7	37.0	68
February	3.40	14.7	4.91	20.9	19.4	67
March	2.84	12.3	6.70	28.5	17.8	70
April	1.67	7.2	1.86	7.9	4.4	1
May	1.26	5.4	.50	2.1		
June	.75	3.2	3.20	13.6		
July	.23	1.0	.15	0.6		
August	.25	1.1	.00	0.0		
September	.64	2.8	.26	1.1		
Totals	23.15	100.0	23.53	100.0	103.5	232

TABLE 3

Daily Discharge in Cubic Feet Per Second

SHASTA RIVER ABOVE YREKA DITCH

April 1 to September 30, 1937

Day	April	May	June	July	August	September
1	73.0	44.9	65.3	41.6	10.5	3.00
2	60.0	60.6	69.2	36.8	9.70	2.80
3	45.0	78.3	81.4	33.1	8.50	1.90
4	41.0	85.7	74.2	31.7	8.20	2.50
5	36.8	71.2	70.2	29.8	8.20	3.00
6	33.8	86.3	67.2	27.2	8.20	3.00
7	31.7	65.3	61.5	24.0	7.80	2.80
8	40.8	59.7	62.5	21.6	4.90	2.20
9	40.8	60.6	80.4	22.2	9.70	1.70
10	36.0	56.1	70.2	19.8	6.00	1.80
11	33.1	57.0	76.3	18.8	6.00	1.80
12	38.4	66.3	57.0	17.8	5.70	2.00
13	134	79.3	49.1	16.8	5.40	1.90
14	151	93.4	45.7	16.3	5.40	1.70
15	130	89.0	60.6	15.8	5.40	1.80
16	89.0	92.3	92.3	14.4	4.50	1.70
17	68.2	93.4	69.2	12.6	3.30	1.70
18	61.5	102	58.8	12.6	3.00	1.90
19	59.7	85.7	59.7	12.2	3.30	2.00
20	63.4	75.2	69.2	12.2	3.50	2.20
21	70.2	73.2	71.2	12.2	3.00	2.00
22	57.0	81.4	70.2	12.6	3.50	2.00
23	52.5	90.1	60.6	12.2	3.50	1.90
24	53.4	102	52.5	12.6	3.00	1.80
25	61.5	104	46.6	12.2	2.80	1.90
26	65.3	86.8	41.6	11.7	2.50	2.50
27	57.9	83.5	39.2	11.7	2.80	3.00
28	51.7	86.8	40.0	11.3	2.50	3.00
29	43.2	82.5	48.3	10.9	2.20	2.50
30	43.2	73.2	44.9	10.5	2.50	2.50
31	--	67.2	--	10.5	2.80	--
Tot. Sec. Ft. Days	1823.1	2413.0	1855.1	565.7	160.0	66.2
Mean Sec. Ft.	60.77	77.84	61.84	18.24	5.16	2.14
Total Ac. Ft.	3620	4780	3680	1120	317	131

TABLE 4

Daily Discharge in Cubic Feet Per Second

PARKS CREEK ABOVE DUKE NORTH DITCH

April 1 to September 30, 1957

Day	April	May	June	July	August	September
1	63.0	54.3	48.4	14.2	4.90	3.30
2	50.0	69.1	50.6	13.5	4.90	3.30
3	38.0	96.4	56.7	12.7	4.90	3.20
4	35.0	100	50.6	12.0	4.90	3.20
5	19.4	79.9	46.3	11.7	4.90	3.40
6	18.3	75.1	44.2	11.2	5.00	3.50
7	17.8	70.7	40.4	10.6	4.40	3.40
8	18.8	63.6	40.4	10.2	5.10	3.30
9	19.3	65.0	50.6	9.40	4.40	3.10
10	18.3	57.0	46.3	8.80	3.40	3.10
11	16.8	62.2	48.4	8.30	3.40	3.10
12	18.3	79.8	43.2	10.2	3.40	3.00
13	99.7	111	35.8	10.2	3.60	3.00
14	151	111	31.8	9.90	3.80	2.90
15	128	103	35.8	9.40	3.80	2.90
16	72.9	106	36.4	7.40	3.90	2.90
17	56.8	102	40.2	7.00	3.60	2.90
18	50.4	102	35.6	6.60	3.50	3.00
19	47.1	79.8	34.8	6.40	3.40	3.30
20	58.7	72.1	34.8	6.40	3.20	3.50
21	65.4	78.1	31.6	6.20	3.20	3.30
22	49.8	79.6	30.7	5.90	3.40	3.30
23	46.4	92.8	27.1	5.70	3.50	3.20
24	48.7	102	24.5	5.50	3.50	3.10
25	62.4	89.3	22.5	5.20	3.20	3.10
26	62.3	70.3	19.1	5.10	3.10	3.10
27	50.7	71.6	16.1	5.20	3.10	3.00
28	43.2	75.3	14.6	5.20	3.10	2.90
29	37.6	64.6	17.1	5.20	2.90	2.90
30	40.3	52.9	16.5	5.10	2.90	2.90
31		49.5		4.90	2.80	
Tot. Sec. Ft. Days	1504.4	2486.0	1091.1	255.3	117.1	93.9
Mean Sec. Ft.	50.15	80.2	36.37	8.24	3.78	3.13
Total Ac. Ft.	2980	4930	2160	506	232	186

TABLE 5

Daily Discharge in Cubic Feet Per Second
SHASTA RIVER AT EDGEWOOD AND ROWE RANCH
October 1, 1936 to September 15, 1937

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	0.60	1.70	16.0	22.0	23.0	130	105	41.1	33.5	18.2	0.80	
2	.60	1.70	16.0	22.0	23.0	130	87.4	67.5	33.5	14.8	0.70	
3	.70	1.70	16.2	22.0	23.0	101	65.1	104	37.2	13.6	.70	
4	.60	1.70	16.5	21.0	23.0	110	50.9	144	40.0	11.2	.70	
5	.50	1.70	16.7	21.0	23.0	130	45.7	110	36.1	9.20	.70	
6	.50	6.40	17.0	22.0	23.0	107	45.7	88.7	29.5	7.60	.60	
7	.50	6.40	17.2	22.0	23.0	80.8	39.3	81.5	26.3	6.80	.60	
8	.50	6.40	17.5	22.0	22.0	84.0	38.2	56.8	25.0	6.00	.60	
9	.50	6.40	17.7	22.0	22.0	200	47.0	62.0	44.9	5.60	.50	
10	.60	6.40	18.0	22.0	22.0	126	57.0	55.5	56.2	4.70	.50	
11	.60	6.50	18.2	22.0	22.0	136	29.0	42.2	71.0	3.30	.50	
12	.60	6.50	18.5	22.0	22.0	193	26.5	41.6	65.4	2.50	.50	
13	.70	6.00	18.7	22.0	22.0	95.9	183	96.2	41.6	2.00	.50	
14	1.00	6.00	19.0	22.0	22.0	60.7	354	131	29.5	2.00	.40	
15	.80	6.00	19.2	22.0	22.0	40.5	315	126	27.7	1.80	.40	.10
16	.70	6.00	19.5	23.0	21.0	35.9	199	122	130	1.20	.40	
17	.70	6.00	19.7	23.0	19.0	51.3	123	116	85.0	1.00	.40	
18	.70	16.0	20.0	23.0	23.0	33.6	94.0	198	56.2	1.00	.40	
19	.70	16.0	20.2	24.0	19.0	35.6	87.2	138	47.7	.90	.30	
20	.70	16.0	20.5	24.0	19.0	37.0	88.0	96.2	53.6	.90	.30	
21	.70	16.0	20.7	25.0	19.0	62.2	103	91.0	48.2	2.50	.30	
22	.70	16.0	21.0	25.0	27.0	47.0	83.6	106	44.3	2.20	.30	
23	.70	16.0	20.0	25.0	76.0	53.5	66.8	124	36.1	2.00	.30	
24	.70	16.0	23.0	25.0	211	101	57.5	144	30.5	2.00	.20	
25	.70	16.0	22.0	25.0	144	87.4	71.0	154	24.1	.90	.20	
26	1.70	16.0	22.0	24.0	105	79.2	87.2	116	21.4	.90	.20	
27	1.70	16.0	22.0	24.0	97.6	87.4	79.4	93.2	22.7	.90	.20	
28	1.70	16.0	22.0	24.0	120	79.2	72.4	91.7	15.2	.90	.20	
29	1.70	16.0	22.0	24.0		68.0	47.7	71.0	17.3	.80	.20	
30	1.70	16.0	22.0	24.0		84.0	40.0	49.9	26.3	.80	.20	
31	1.70		22.0	24.0		89.1		38.9		.80	.20	

2768.6

TABLE 5 (Cont'd)

Total Sec.Ft. Days	26.5	171.5	601.0	714.0	1227.6	2734.3	2680.4	2998.0	1256.6	129.0	13.1	
Mean Sec.Ft.	0.84	5.72	19.4	23.0	44.2	88.2	89.3	96.7	41.9	4.16	0.42	
Total Ac.Ft.	51.6	340	1190	1410	2450	5420	5510	5950	2490	256	25.8	

TABLE 6

Daily Discharge in Cubic Feet Per Second

SHASTA RIVER NEAR MONTAGUE

April 7 to September 23, 1937

Day	April	May	June	July	August	September	Remarks
1		78.7	32.2	21.4	15.9	37.8	
2		68.6	30.3	22.9	17.5	36.6	
3		59.0	27.5	22.1	18.1	37.8	
4		63.8	25.6	23.8	17.5	16.9	
5		41.6	29.4	22.9	18.7	25.6	
6		39.0	24.7	19.3	19.3	30.3	
7	103.	39.0	28.4	25.6	22.1	29.4	
8	98.0	40.3	36.6	20.0	21.4	25.6	
9	107.	31.3	78.7	18.1	16.4	18.1	
10	107.	18.7	87.3	15.5	16.4	17.5	
11	99.8	15.1	94.4	13.4	16.9	18.7	
12	111.	14.2	109.	12.5	16.9	20.0	
13	195.	29.4	109.	11.9	15.5	19.3	* 24 Day
14	290.	32.2	98.0	14.6	18.7	20.7	Period
15	330.	26.5	105.	19.3	15.1	21.4	
16	250.	24.7	128.	15.9	12.5	27.5	** 23 Day
17	198.	23.8	140.	16.9	15.5	39.0	Period
18	186.	47.1	142.	14.6	18.7	48.5	
19	188.	109.	140.	13.8	18.1	51.5	
20	160.	152.	136.	14.2	15.1	87.3	
21	148.	102.	111.	13.8	12.1	82.1	
22	105.	45.6	63.8	13.4	17.5	73.6	
23	94.4	40.3	37.8	17.5	20.0	65.4	
24	92.6	39.0	31.3	19.3	16.9		
25	96.2	34.4	26.5	22.1	21.4		
26	98.0	34.4	29.4	27.5	19.3		
27	92.6	30.3	22.9	19.3	15.5		
28	85.5	27.5	20.7	16.9	16.4		
29	82.1	20.7	22.1	16.9	16.9		
30	80.4	19.3	28.4	20.0	21.4		
31		26.5		17.5	40.3		
Total Sec. Ft. Days	* 3417.6	1374.0	1996.0	562.9	564.0	** 850.6	
Mean Sec. Ft.	142.4	44.3	66.5	18.2	18.2	37.0	
Total Ac. Ft.	6780	2720	3960	1120	1120	1690	

TABLE 7

Daily Discharge in Cubic Feet Per Second

LITTLE SHASTA RIVER ABOVE HARP DITCH

April 6 to September 30, 1937

Day	April	May	June	July	August	September	Remarks
1		39.5	16.4	7.80	3.80	2.70	
2		43.0	15.6	7.40	3.70	2.70	
3		45.8	14.9	7.20	3.40	2.70	
4		43.0	14.2	6.80	3.30	2.70	
5		38.3	13.9	6.80	3.30	2.90	
6	25.0	35.9	13.2	6.40	3.10	2.60	
7	20.0	33.5	12.6	6.20	3.00	2.60	
8	22.0	31.7	13.2	6.00	3.00	2.60	
9	27.5	29.5	14.9	5.80	3.00	2.50	
10	27.5	26.0	16.0	5.60	3.00	2.50	
11	22.0	25.0	18.0	5.50	3.00	2.50	
12	24.0	26.5	13.9	5.50	3.00	2.50	
13	114.	27.5	12.9	5.30	2.90	2.40	
14	138.	26.5	12.6	5.20	2.90	2.40	
15	106.	25.0	13.9	5.20	2.90	2.40	* 25 Day
16	76.0	23.5	26.0	5.00	2.80	2.40	Period
17	58.5	22.5	16.0	4.90	2.80	2.30	
18	55.5	33.5	14.9	4.70	2.80	2.50	
19	56.1	34.7	13.9	4.60	2.80	3.30	
20	58.5	27.5	13.2	4.40	2.80	2.90	
21	60.9	23.5	11.7	4.40	2.80	2.70	
22	46.5	22.5	10.8	4.30	2.80	2.60	
23	44.4	22.0	10.2	4.30	2.90	2.60	
24	47.3	21.0	9.70	4.40	2.90	2.60	
25	52.1	27.5	9.20	4.40	2.80	2.40	
26	46.5	22.0	8.70	4.40	2.70	2.40	
27	38.3	21.5	8.20	4.10	2.70	2.50	
28	34.7	20.0	7.80	4.00	2.70	2.50	
29	32.3	18.8	10.2	4.00	2.70	2.60	
30	34.7	18.0	8.40	3.80	2.70	2.60	
31		17.2		3.80	2.80		
Total Sec. Ft. Days	* 1268.1	872.2	395.1	162.2	91.8	76.6	
Mean Sec. Ft.	* 50.72	28.14	13.17	5.23	2.96	2.55	
Total Ac. Ft.	* 2510	1730	783	322	182	152	

TABLE 8

Discharge in Cubic Feet Per Second

CARRICK SPRING

April 1 to September 30, 1937

Day	April	May	June	July	August	September
1						
2						
3				5.58	5.52	
4						
5						
6						
7			5.59			
8	5.41	5.66				
9	5.46					
10					5.55	
11						
12				5.60		
13						
14						5.49
15						
16						
17		5.47				
18				5.58		
19						
20						
21			5.56			
22			5.56			
23						
24						
25						
26						
27						
28						
29	5.61					
30						
31					5.57	
Mean Sec.Ft.	5.50	5.54	5.58	5.58	5.55	5.53
Total Ac. Ft.	328	340	332	344	342	329
Total Acre Feet - 6 Months Period						2020

TABLE 9

Discharge in Cubic Feet Per Second

BIG SPRINGS

April 1 to September 30, 1937

Day	April	May	June	July	August	September
1						
2						
3						34.9
4		31.0			34.2	
5						
6				33.3		
7					36.0	
8			35.3			
9	28.6					
10		31.1				34.2
11				34.1	35.5	
12						
13						
14				35.0	33.8	33.6
15						
16						34.1
17						
18				34.9	35.0	
19		33.5				
20					34.2	
21	* 28.3			35.2		
22						
23					34.5	
24			33.9			
25		33.4				
26		34.1	33.4			
27	29.2				35.2	
28				34.9		34.1
29		34.7	34.3			
30						
31				34.9	36.1	
Mean Sec.Ft.	28.9	33.0	34.4	34.6	34.9	34.2
Total Ac. Ft.	1720	2030	2050	2130	2150	2040
Total Acre-Feet - 6 Month Period						12120

TABLE 10

Discharge in Cubic Feet Per Second

CLELAND SPRINGS

April 1 to September 30, 1937

Day	April	May	June	July	August	September
1						
2				6.67		
3						6.78
4						
5					6.73	
6						
7						
8						
9				6.67		6.78
10						
11			6.75			6.78
12						
13						
14				6.67		
15						
16	6.50			6.71		6.78
17						
18			6.59			6.77
19					6.79	
20						
21					6.79	
22						
23				6.70		
24				6.70		
25			6.67			
26		6.44		6.83	6.78	
27						
28		6.53				
29						
30				6.78		
31						
Mean Sec.Ft.	6.50	6.50	6.65	6.70	6.78	6.78
Total Ac. Ft.	386	399	395	411	416	403
Total Acre Feet - 6 Month Period						2410

TABLE 11

Daily Discharge in Cubic Feet per Second

M.W.C.D. PARKS CREEK CANAL

February 23 to June 23, 1937

Day	February	March	April	May	June
1				20.7	1.5
2				36.5	1.1
3				76.4	3.5
4				67.9	2.4
5				49.8	1.3
6				43.5	.3
7				40.5	.4
8		59.7		32.5	1.1
9				31.5	13.9
10				22.5	18.0
11				29.7	29.7
12		24.3	0.0	13.9	27.0
13			112	59.7	14.7
14			119	63.0	9.9
15			100	56.4	10.7
16			52.5	57.5	43.5
17			29.7	53.1	24.3
18			24.3	75.2	10.7
19			24.3	46.5	11.9
20			27.0	36.0	12.3
21			34.5	41.5	7.2
22			22.9	53.1	1.7
23	70.7		17.5	61.3	
24	59.7		17.1	67.4	
25	48.7		26.5	54.7	
26	19.8		30.1	36.5	
27	15.5		23.4	32.5	
28			19.8	32.5	
29			11.1	12.3	
30			11.9	4.6	
31				3.3	
Total Sec. Ft.	214.4	84.0	703.6	1312.5	247.1
Mean Sec. Ft.			23.5	42.3	8.24
Total Ac. Ft.	425	167	1400	2600	507
Total Acre Feet for Season					5100

TABLE 12

LAKE DWINNELL RESERVOIR

Storage in Acre Feet

April 5 to September 22, 1957

Day	April	May	June	July	August	September
1		9500	8915	7140	2630	565
2		9500	8770	7010	2520	512
3		9550	8630	6925	2450	451
4		9700	8440	6800	2295	390
5	6585	9750	8250	6630	2210	320
6		9800	8070	6460	2110	302
7		9750	7890	6300	2010	276
8		9650	7710	6180	1890	234
9	6670	9550	7620	6020	1780	202
10		9500	7575	5860	1675	186
11	6630	9350	7575	5700	1570	170
12	6630	9250	7620	5490	1475	146
13	6970	9200	7620	5315	1400	130
14	7665	9250	7620	5175	1325	114
15	8205	9300	7530	5000	1240	106
16	8490	9350	7665	4870	1150	98
17	8770	9350	7800	4710	1100	90
18	8820	9550	7800	4545	1050	90
19	9010	9600	7845	4380	1025	82
20	9105	9600	7845	4260	1000	74
21	9200	9550	7890	4140	960	66
22	9300	9550	7890	3990	920	58
23	9350	9550	7890	3840	890	
24	9400	9550	7845	3695	880	
25	9400	9650	7755	3560	860	
26	9450	9650	7710	3420	850	
27	9500	9600	7620	3255	800	
28	9600	9550	7485	3125	770	
29	9600	9450	7395	3000	700	
30	9550	9300	7265	2875	640	
31		9150		2725	600	

TABLE 13

Daily Discharge in Cubic Feet Per Second

SHASTA RIVER WATER ASSOCIATION PUMPING PLANT

April 8 to September 20, 1937

Day	April	May	June	July	August	September
1		42	42	42	42	14
2		42	42	42	42	14
3		42	42	42	42	17
4		42	42	42	42	28
5		42	39	42	42	28
6		32	42	42	42	28
7	22	28	35	42	42	28
8	33	28	20	42	42	38
9	33	28	0	42	42	42
10	33	28	0	42	42	42
11	33	28	0	42	42	42
12	33	28	0	42	42	42
13	28	28	0	42	42	42
14	42	28	0	42	42	42
15	42	28	0	42	42	42
16	42	40	0	42	42	42
17	28	42	0	42	32	42
18	8.7	42	0	42	28	42
19	0	12	0	42	28	33
20	0	0	0	42	38	7
21	24	30	0	42	42	0
22	22	42	31	42	42	0
23	14	42	42	42	42	0
24	14	42	42	42	42	
25	14	42	42	42	42	
26	14	42	42	42	42	
27	14	42	42	42	42	
28	34	42	38	42	42	
29	42	42	40	42	37	
30	42	42	42	42	14	
31		42		42	14	
Total Sec.Ft. Days	611.7	1080.	665	1302	1199.	655
Mean Sec.Ft.	25.5	34.5	22.2	42.0	38.7	328
Total Ac.Ft.	1210	2140	1320	2580	2380	1300
Total Acre Feet - 6 Months Period						10900

TABLE 14

Daily Discharge in Cubic Feet Per Second

GRENADA IRRIGATION DISTRICT PUMPING PLANT

May 1 to September 30, 1957

Day	May	June	July	August	September
1	10.7	31.0	17.2	18.0	22.0
2	16.0	31.0	2.7	18.0	22.0
3	5.3	31.0	0	16.0	22.0
4	20.7	31.0	0	16.0	22.0
5	31.0	31.0	15.0	16.0	22.0
6	31.0	31.0	20.0	16.0	22.0
7	31.0	31.0	16.7	21.0	22.0
8	31.0	16.8	20.0	21.0	22.0
9	31.0	0	20.0	21.0	22.0
10	31.0	0	20.0	21.0	22.0
11	31.0	20.7	20.0	21.0	22.0
12	31.0	31.0	20.0	21.0	22.0
13	31.0	31.0	9.2	21.0	22.0
14	31.0	21.0	10.7	21.0	22.0
15	31.0	4.7	16.0	21.0	10.1
16	31.0	0	16.0	21.0	0
17	10.3	0	16.0	21.0	0
18	0	0	16.0	21.0	0
19	0	0	16.0	21.0	0
20	20.7	0	16.0	21.0	13.6
21	31.0	0	16.0	8.7	22.0
22	31.0	0	8.0	10.0	22.0
23	31.0	22.0	8.7	16.0	22.0
24	31.0	31.0	13.8	16.0	22.0
25	31.0	31.0	14.8	18.5	22.0
26	31.0	31.0	15.0	21.0	22.0
27	31.0	31.0	15.0	21.0	22.0
28	31.0	31.0	12.8	21.0	22.0
29	31.0	31.0	13.5	21.0	22.0
30	31.0	31.0	18.5	21.0	22.0
31	31.0		20.0	21.0	
Total Sec.Ft. Days	765.7	581.2	443.6	589.2	531.7
Mean Sec. Ft.	24.4	19.4	14.3	19.0	18.3
Total Ac.Ft.	1520	1150	880	1170	1050
Total Acre Feet - 6 Months Period					5770