DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

REPORTS OF THE

DIVISION OF WATER RESOURCES

Edward Hyatt, State Engineer

REPORT ON WATER MASTER SERVICE ON OAK RUN CREEK SHASTA COUNTY, CALIFORNIA DURING SEASON OF 1929

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By T. Russel Simpson, Water Master

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Sacramento, California

January 1930

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STATE OF CALIFORNIA

Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

January 10, 1930

Mr. Harold Conkling,
Deputy State Engineer
Sacramento, California

Dear Sir:

A report covering the water master service on Oak Run Creek, in Shasta County, California, during the season of 1929, is submitted herewith.

This report includes a description of the regulation and distribution of the waters of Oak Run Creek, during the 1929 season, in accordance with the provisions of the stipulation for consent judgment, dated March 7, 1927, in the case of F. A. Colby, et al., vs. L. O. Strayer, et al.

Run-off records and other pertinent hydraulic data are included, together with a financial statement showing the cost of the water master service, and the sources from which such cost was met.

Respectfully submitted

T. Russel Simpson

Water Master

REPORT ON

WATER MASTER SERVICE

ON

OAK RUN CREEK, SHASTA COUNTY, CALIFORNIA

DURING SEASON

of 1929

GENERAL DESCRIPTION OF WORK

Water Master service was continued on Oak Run Creek during the 1929 season, in accordance with the provisions of the stipulation for consent judgment in the case of F. A. Colby, et al., vs. L. O. Strayer, et al.

Water Master service was commenced on June 5, 1929, by the writer and was terminated on September 30th.

All diversions on Oak Run Creek except the two ditches of Walter Melton were opened during the 1929 season. A slight shortage of water occurred on Oak Run Creek about July 1, 1930. The deficiency in water supply gradually became more acute until the end of August, when only 55 per cent of full allotments were being delivered. There was a slight increase in the water supply after the first of September, due to cooler weather.

DISCUSSION OF RESULTS FOR SEASON

The precipitation at Redding and at McCloud for the seasonal year, commencing October 1, 1928, and terminating on September 30, 1929, has been compared with the average mean precipitation in Table 1 of this report. It will be noted that the total precipitation during the seasonal

year 1928-29, was only 71.8 per cent of the total average mean, which is even less than the critically dry year of 1925-26, as is tabulated in Table 1 of the report for the 1926 season.

During an average year, approximately 11.6 per cent of the precipitation occurs during the period from May 1st to September 30th. The precipitation during the late spring and summer exercises considerable influence on the dry-weather flow of Oak Run Creek. It will be noted from Table 1 that 5.9 per cent of the total precipitation in 1928-29, occurred after May 1st. Most of this occurred in the storm the middle of June, which served to delay the occurrence of a shortage in the flow of Oak Run Creek about two weeks.

Table 2 is a tabulation of the daily discharge of Oak Run Creek at the division box at the head of the Welch and Strayer Re-Diversion Ditch. The flow of the creek at this point is approximately equal to the net available water supply of Oak Run Creek. Plate 1 submitted at the end of this report graphically shows the water supply of Table 2. The water supplies of the dry year 1926, and the nearly normal year of 1927, are also depicted on Plate 1. Plate 2 is the 1929 rating curve for the Oak Run Creek station at the Division box.

Table 3 is a tabulation of the discharge of the Welch and Strayer Ditch at the Rose Ranch. This represents the amount of water diverted by this ditch from the North Cow Creek watershed and delivered into Oak Run Creek.

Table 4 is a tabulation in weekly periods of the average combined diversions from Oak Run Creek expressed in cubic feet per second and in per cent of full allotments delivered.

A crop census was not taken of the area irrigated from Oak Run

Creek in 1929. It was observed that the meadow hay and first cutting of alfalfa were about normal, but the later crops suffered to some extent from the deficient water supply. The frosts in April and the extreme hot weather in June caused poor fruit crops on the orchards.

Three division boxes equipped with division weirs were installed in the Welch and Strayer ditch system during the 1929 season. Two orifices were also installed for the McCarty tap in the Welch and Strayer ditch system.

CONTROVERSIES

R. M. Murphy complained to the water master that his interest in the Predmore Ditch was being interfered with by Mr. Cook who also owns an interest in the ditch. Mr. Cook was under the impression that he owned a 60 per cent interest in the ditch and that Mr. Murphy owned 40 per cent. Mr. Murphy claims a 50 per cent interest in the ditch. It was explained to Messrs. Cook and Murphy that the ownership of the interests in the Predmore Ditch was not an issue in the pending litigation and that distribution of water in the ditch to the partners was not a function of the water master. The water master offered to supervise the installation of proper division boxes in case both parties so desired.

RECOMMENDATIONS

Parshall Measuring Flumes should be installed in the Alpaugh, Predmore, and Kirkendahl Ditches. Also, a concrete channel control and division box should be installed at the head of the Welch and Strayer Re-Diversion from Oak Run Creek.

FINANCIAL STATEMENT

The investigation and water master service during the 1929 season in Shasta County on North Cow, Oak Run, Clover, Hat, and Burney Creeks were financed partly by subscription from the water users and partly by contribution by the Division of Water Resources.

No segregation was made in the expense of conducting the work on these five stream systems in 1929. The total unit cost of the work on these five stream systems was $0.54 per acre of irrigated land.

A financial statement in which receipts and disbursements are itemized, follows.

FINANCIAL STATEMENT

SHASTA COUNTY WATER DISTRIBUTION

1929 SEASON

RECEIPTS

Contributed by Water Users on North Cow Creek	$ 478.53	
Contributed by Water Users on Oak Run Creek	94.47	
Contributed by Water Users on Clover Creek	400.05	
Contributed by Water Users on Burney Creek	300.00	
Contributed by Water Users on Hat Creek	700.00	
Contributed by Division of Water Resources	2,000.00	3,972.85

DISBURSEMENTS

Salaries and Wages -	2,984.97	
Field Expenses -	945.98	
Printing and Blue printing - - - - - - - - - - - - - - - - - -	41.90	3,972.85

TABLES

TABLE 1

Precipitation for Seasonal Year 1928-29 Compared with Mean Precipitation
Redding 1875-1929; McCloud 1910-1929

Month	Average Mean Redding and McCloud	Precipitation for Seasonal Year 1928-29			
		Redding	McCloud	Average Redding and McCloud	Per Cent of Total Mean
October	2.21	0.08	1.21	0.64	1.5
November	4.63	6.99	7.83	7.41	18.0
December	6.41	4.39	7.11	5.75	13.9
January	8.67	1.74	1.44	1.59	3.9
February	6.25	6.32	4.32	5.32	12.9
March	5.25	2.56	3.25	2.91	7.1
April	3.06	3.52	3.56	3.54	8.6
May	2.26	0.11	0.12	0.11	0.3
June	1.00	2.19	2.45	2.32	5.6
July	0.23	0.00	0.00	0.00	0.0
August	0.17	0.00	0.00	0.00	0.0
September	1.12	0.00	0.00	0.00	0.0
Total	41.26	27.90	31.29	29.59	71.8

NOTE: (Per cent of total mean from May 1st to September 30th in average year - 11.6%
(Per cent of total mean from May 1st to September 30th in 1929 - 5.9%

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF OAK RUN CREEK AT DIVISION BOX FOR THE PERIOD JUNE 4th to SEPTEMBER 30th, 1929.

Day	June	July	August	September	
1	No Record	5.3	3.9	3.0	
2		5.1	3.7	3.0	
3		5.1	3.9	3.0	
4		5.1	3.9	3.2	
5	5.8	4.8	3.9	3.3	
6	5.8	4.6	3.9	3.4	
7	5.6	4.5	3.9	3.5	
8	5.5	4.3	3.9	3.5	
9	5.8	4.3	3.7	3.6	
10	5.6	4.3	3.9	3.6	
11	5.3	4.3	4.0	3.7	
12	5.1	4.3	3.9	3.7	
13	4.8	4.3	3.7	3.9	
14	4.5	4.3	3.7	4.0	
15	7.6	4.2	4.0	4.2	
16	8.6	4.2	4.2	4.2	
17	7.6	4.2	4.0	4.2	
18	7.2	4.2	3.9	4.2	
19	7.0	4.2	3.9	4.3	
20	6.8	4.0	3.7	4.5	
21	6.6	4.0	3.7	4.3	
22	6.4	3.9	3.6	4.2	
23	6.2	3.9	3.6	4.2	
24	6.2	3.9	3.5	4.2	
25	6.0	3.9	3.4	4.2	
26	5.6	3.7	3.3	4.2	
27	5.5	3.7	3.2	4.2	
28	5.3	3.7	3.0	4.2	
29	5.1	3.7	3.0	4.2	
30	5.1	3.9	2.9	4.2	
31	---	4.0	3.0	---	
Total Sec. Ft. Days	156.6	131.9	113.8	116.1	118 Day Period
Mean Sec. Ft.	6.02	4.25	3.67	3.87	4.59
Max. Sec. Ft.	8.6	5.3	4.2	4.5	8.6
Min. Sec. Ft.	4.5	3.7	2.9	3.0	2.9
Total Ac. Ft.	310.	261.	226.	230.	1027.