DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

REPORTS OF THE

DIVISION OF WATER RESOURCES

EDWARD HYATT, State Engineer

REPORT ON WATER MASTER SERVICE ON EMERSON CREEK MODOC COUNTY, CALIFORNIA 1934 SEASON

BY

LESLIE C. JOPSON, Water Master

Sacramento, California

March 1935

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TABLES:

1. Precipitation Data.
2. Continuous Records of Daily Discharge in Cubic Feet per Second of Emerson Creek above Diversions for the period March 23rd to September 23, 1934.
3. Water Deliveries on Emerson Creek Compared with Allotments - 1934 Season.
4. Estimated Crop Yields on Typical Lands Irrigated from Emerson Creek - 1934.

PLATE:

Hydrograph of Emerson Creek Showing Total Water Supply in 1932 and 1934.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

March 1, 1935

Mr. Harold Conkling,
Deputy State Engineer
Sacramento, California

Attention: Mr. Gordon Zander,
Supervising Hydraulic Engineer

Dear Sir:

The report submitted herewith covers the water distribution work of the water master in the Emerson Creek Water Master District, Modoc County, California, during the 1934 season.

The report describes the methods and practices followed in the distribution of the waters of Emerson Creek in accordance with the provisions of the decree in the case of F. A. Murphey, et al. vs. W. G. Warren, et al., and presents the results obtained under this distribution.

Respectfully submitted,

LESLIE C. JOPSON
Water Master

COPY

ORGANIZATION

Earl Lee Kelly	Director of Public Works
Edward Hyatt	State Engineer
Harold Conkling	Deputy State Engineer

GORDON ZANDER

Supervising Hydraulic Engineer

T. Russel Simpson	Senior Hydraulic Engineer
Leslie C. Jopson	Water Master

GENERAL DESCRIPTION OF WORK

Water master service was continued in the Emerson Creek water master district in 1934 in accordance with the provisions of Section 37a of the Water Commission Act. The service was commenced for the season on March 23rd and terminated on September 23rd, when water master service was discontinued for the season in Surprise Valley.

Mr. Leslie C. Jopson, Water Master, handled the distribution of the waters of Emerson Creek in conjunction with other Surprise Valley streams.

The Taylor, Hill, Old Channel and Lower Channel diversions were not opened in 1934. There was no water available for the Taylor and Hill Ditches. A portion of the area ordinarily served by the Old Channel and the Lower Channel diversions was irrigated by putting in new laterals from the Scott Ditch.

The Erramouspe and Brown Ditches were not used throughout the season as the amount of water available for these ditches became too small to overcome the ditch losses. The water available for the Erramouspe Ditch was diverted by the Warren Ditch and released into the Erramouspe Ditch about one-half mile below its head. Finally the water became too low to reach through the Erramouspe Ditch and thereafter the entire Warren and Erramouspe allotment was used on the Warren Ranch. The Brown Ditch allotment was diverted by the Scott Ditch after about June 20th.

A rotation schedule embodying all of the second priority users

was inagurated on May 11th and used until June 20th when the creek dropped too low to supply the necessary stock water with the rotation schedule in effect; consequently, all ditches were put back on a continuous flow basis, except as described above in the case of the Erramouspe and Brown Ditches.

DISCUSSION OF RESULTS FOR SEASON

Table 1 contains the precipitation data at Cedarville. The monthly and seasonal precipitation for the period of water master service in Surprise Valley and a comparison of the 1933-34 seasonal precipitation with the 1894-1934 mean are shown in the table. The 1933-34 record shows the precipitation of that season as 70.3 per cent of the mean.

Table 2 is a tabulation of the water supply of Emerson Creek, above all diversions, for the 1934 season. The hydrograph at the end of the report shows graphically the water supply above all diversions for the years 1932 and 1934 compared with the allotments to the various water rights on the creek. The 1932 water supply is considered as being approximately normal.

Table 3 is a tabulation of the amounts of water delivered to each priority class during the periods shown. The table also shows the per cent of total allotments delivered during the indicated periods. The maximum amount delivered during the periods shown was 35 per cent of the total allotment and the minimum was 2 per cent of the total. The low flow dropped to 27 per cent of the first priority right.

Table 4 is a tabulation of crop yields on typical lands irrigated from Emerson Creek. The crops as shown by the table were poor.

The extreme low water in 1934 made necessary some deviations from the decreed allotments in order to insure the delivery of stock water under pro-ration conditions. The actual delivery of water was used as a criterion of the amount diverted during this period.

CONTROVERSIES

There were no controversies in regard to the distribution of the water on Emerson Creek in 1934.

RECOMMENDATIONS

No recommendations appear necessary in addition to those made in 1934.

FINANCIAL STATEMENT

The funds collected from the water users in the Emerson Creek water master district, to defray the expenses of water master service, are placed to the credit of the Emerson Creek water master district fund by the State Treasurer. The state contributes an amount to the fund equal to that contributed by the water users. These funds are then drawn on by the Division of Water Resources to meet the costs of water master service.

FINANCIAL STATEMENT

EMERSON CREEK WATER DISTRICT FUND

JANUARY 1, 1935

RECEIPTS

Balance as of January 1, 1934	$ 53.85	
Contributed by State in 1934	150.00	
Contributed by Taxpayers (Jan.1/34 to Jan.1/35)	180.40	
	384.25	$384.25

DISBURSEMENTS
(Jan. 1/34 to Jan. 1/35)

Water Master Compensation	$221.96	
Water Master Travel Expense	85.13	
Contingencies		
	307.09	307.09
BALANCE		77.16

T A B L E S

TABLE 1

PRECIPITATION

Cedarville, California

Season	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Seasonal
1924-25	0.25	2.06	1.86	1.66	1.08	1.34	0.61	0.65	1.59	0.49	0.29	0.30	12.18
1925-26	1.34	1.57	1.31	1.25	1.06	1.18	.13	1.26	1.07	T	.09	.09	10.35
1926-27	.15	.53	2.73	1.16	1.82	2.02	1.73	.81	.95	.35	T	T	12.25
1927-28	.32	.86	2.87	.86	.92	.75	2.93	.81	T	.55	.00	.00	10.87
1928-29	.40	.15	1.43	.42	2.08	.59	1.20	1.85	.29	1.98	.00	T	10.39
1929-30	.07	.19	.00	3.02	3.39	1.53	.83	.51	.67	T	.02	T	10.23
1930-31	1.64	.59	1.22	.18	.67	.66	1.68	.58	.25	2.25	.00	.00	9.72
1931-32	.33	3.20	.96	1.85	2.23	.70	1.97	1.87	.53	.22	T	T	13.86
1932-33	T	.13	.78	1.20	1.31	.81	.63	.86	1.06	.26	.25	T	7.33
1933-34	.42	1.23	T	.87	1.37	1.44	.98	.19	.94	1.14	.00	.13	8.71
Mean 1894 to 1934	.56	.98	1.59	1.54	1.74	1.52	1.47	.91	1.00	.68	.22	.17	12.38
1933-34 in per cent of total mean	3.4	10.0	0.0	7.0	11.1	11.6	7.9	1.5	7.6	9.2	0.00	1.0	70.3

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF EMERSON CREEK ABOVE DIVERSIONS FOR THE PERIOD MARCH 23rd to SEPTEMBER 23rd, 1934

Day	March	April	May	June	July	August	Sept.	
1	No	11.0	6.55	3.50	1.50	0.90	0.90	
2	Record	10.6	6.10	2.90	1.40	.90	.90	
3		9.20	6.10	2.70	1.50	.95	.95	
4		8.30	5.20	2.70	1.40	.95	.95	
5		7.80	5.20	2.90	1.35	.90	1.00	
6		7.80	4.90	5.30	1.35	.90	1.00	
7		8.30	4.90	3.80	1.35	.90	.95	
8		8.30	5.70	3.20	1.35	.90	1.05	
9		8.30	4.90	2.90	1.30	.90	1.05	
10		8.30	4.15	2.60	1.30	.90	1.00	
11		8.30	4.15	2.40	1.20	.90	1.00	
12		8.70	3.75	2.40	1.20	.90	1.00	
13		8.70	3.75	2.60	1.20	.90	1.00	
14		9.20	3.50	2.40	1.10	.90	1.05	
15		9.20	3.25	2.20	1.10	.85	1.00	
16		8.70	3.10	2.00	1.20	.85	1.00	
17		7.80	3.10	2.00	1.20	.85	1.00	
18		7.40	2.90	2.00	1.05	.90	1.00	
19		7.40	2.90	1.90	1.05	.90	1.00	
20		6.95	2.90	1.80	1.00	.90	1.05	
21		7.40	2.70	1.70	1.05	.85	1.05	
22		7.40	2.70	1.65	1.05	.90	1.10	
23	4.30	8.30	2.40	1.65	1.05	.90	1.35	
24	4.30	7.80	2.40	1.65	1.05	.90	No	
25	6.00	7.80	3.10	1.70	1.00	.90	Record	
26	5.10	6.95	3.10	1.90	1.00	.90		
27	6.70	6.55	2.60	1.80	.95	.90		
28	11.8	6.10	2.40	1.70	.95	1.00	No	
29	18.0	5.70	2.70	1.65	.90	1.00	Record	
30	13.4	5.70	2.90	1.50	.90	.95		
31	11.9	--	3.10		.95	.90		
Total Sec. Feet Days	81.50	239.95	117.10	71.10	35.95	28.05	23.35	185 Day Period
Mean Sec. Feet	9.06	8.00	3.78	2.37	1.16	.91	1.02	3.23
Maximum Sec. Feet	18.0	11.0	6.55	5.30	1.50	1.00	1.35	18.0
Minimum Sec. Feet	4.30	5.70	2.40	1.50	.90	.85	.90	.85
Total Acre Feet	162.	476	232.	141.	71.3	55.6	46.3	1180.

* 9-day period
** 23-day period

Gage heights from automatic water stage recorder.

TABLE 3

WATER DELIVERIES ON EMERSON CREEK COMPARED WITH ALLOTMENTS - 1934 SEASON

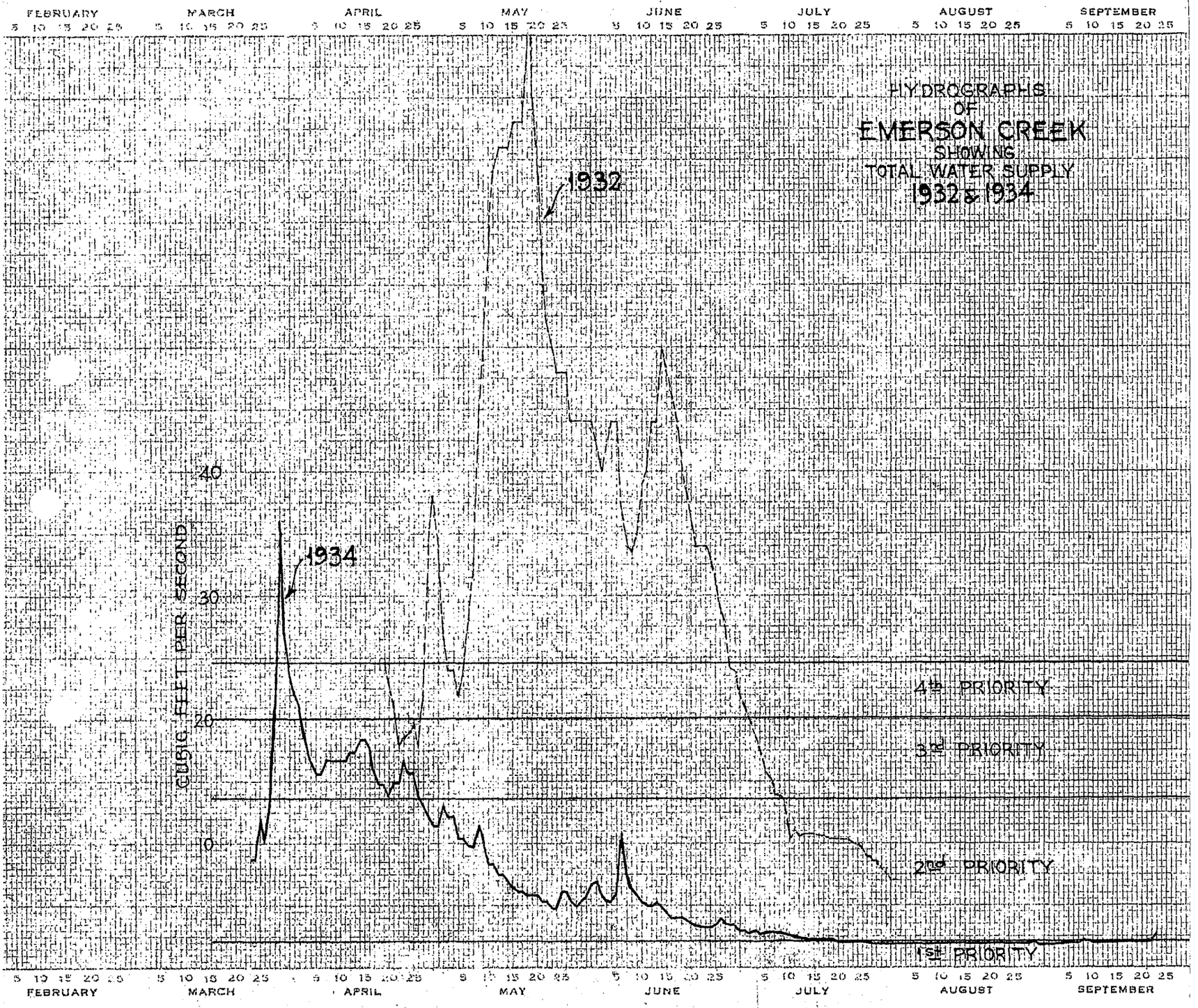
Period	Per Cent of Allotment Delivered					Total Deliveries c.f.s.	Per Cent Channel Loss	Continuous Flow Above All Diversions c.f.s.
	First Priority 2.05 c.f.s.	Second Priority 11.55 c.f.s.	Third Priority 6.50 c.f.s.	Fourth Priority 4.55 c.f.s.	Total Allotment 24.65 c.f.s.			
3/23 to 4/1	100	53	6	0	35	8.51	8	9.25
4/2 to 4/11	100	50	0	0	32	7.84	8	8.52
4/12 to 4/21	100	46	0	0	30	7.41	9	8.14
4/22 to 5/1	100	36	0	0	25	6.19	10	6.88
5/2 to 5/11	100	22	0	0	18	4.62	10	5.13
5/12 to 5/21	100	6	0	0	11	2.70	15	3.18
5/22 to 5/31	100	1	0	0	9	2.19	20	2.74
6/1 to 6/10	100	6	0	0	11	2.76	15	3.25
6/11 to 6/20	85	0	0	0	7	1.74	20	2.17
6/21 to 6/30	62	0	0	0	5	1.27	25	1.69
7/1 to 7/10	51	0	0	0	4	1.04	25	1.38
7/11 to 7/20	39	0	0	0	3	.79	30	1.13
7/21 to 7/30	34	0	0	0	3	.69	30	.99
7/31 to 8/9	29	0	0	0	2	.60	35	.92
8/10 to 8/19	27	0	0	0	2	.56	35	.88
8/20 to 8/29	29	0	0	0	2	.60	35	.92
8/30 to 9/8	33	0	0	0	3	.67	30	.96
9/9 to 9/18	35	0	0	0	3	.71	30	1.01
Seasonal					11	2.83	14	3.29

TABLE 4

ESTIMATED CROP YIELDS ON TYPICAL LANDS
IRRIGATED FROM EMERSON CREEK - 1934

Owner	Crop	Acres	Total Yield		Yield per Acre	
			Tons	Sacks	Tons	Sacks
L. H. Scott (Brown)	Alfalfa Hay	60.0	60		1.0	
L. H. Scott (Home Ranch)	Alfalfa Hay	40.0	100		2.5	
	Meadow Hay	340.0	400		1.2	
	Alfalfa Seed	25.0		40		1.6
	Pasture	(Uncertain)			Poor	Poor
Niels H. Finmand	Alfalfa Hay	45.0	100		2.2	
	Meadow Hay	240.0	200		.8	

PLATES


HYDROGRAPHS
OF
EMERSON CREEK
SHOWING
TOTAL WATER SUPPLY
1932 & 1934
1932
1934
CUBIC FEET PER SECOND
40
30
20
10
4th PRIORITY
3rd PRIORITY
2nd PRIORITY
1st PRIORITY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
5 10 15 20 25