DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

REPORTS OF THE

DIVISION OF WATER RESOURCES

EDWARD HYATT, State Engineer

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REPORT ON WATER MASTER SERVICE ON EMERSON CREEK MODOC COUNTY, CALIFORNIA 1932 SEASON

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By

Leslie C. Jopson, Modoc County Water Master

Sacramento, California

March 1933

TABLE OF CONTENTS

	PAGE
LETTER OF TRANSMITTAL	
ORGANIZATION	
GENERAL DESCRIPTION OF WORK	1
DISCUSSION OF RESULTS FOR SEASON	2
RECOMMENDATIONS	3
FINANCIAL STATEMENT	4

TABLES:

1. Precipitation Data
2. Continuous Records of Daily Discharge in Cubic Feet per Second of Emerson Creek above Diversions for the Period April 19th to August 31, 1932.
3. Water Deliveries on Emerson Creek Compared with Allotments - 1932 Season.
4. Crop Yields on Typical Lands Irrigated from Emerson Creek - 1932.

PLATE:

Hydrograph of Emerson Creek Showing Total Water Supply 1927 and 1932.

STATE OF CALIFORNIA

Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

March 1933.

Mr. Harold Conkling,
Deputy State Engineer,
Sacramento, California.

Dear Sir: Attention: Mr. Gordon Zander
Supervising Hydraulic Engineer

The report herewith submitted covers the water distribution work of the water master in the Emerson Creek Water Master District, Modoc County, California, during the 1932 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
Modoc County Water Master.

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	Modoc County Water Master
Heath Stanley	Deputy Water Master

GENERAL DESCRIPTION OF WORK

Water master service on Emerson Creek was conducted during the 1932 season in accordance with the provisions of the decree in the case entitled F. A. Murphey, et al., vs. W. G. Warren, et al., dated March 25, 1930.

The field work was commenced by the writer about the first of April and was terminated for the season on August 31st. Mr. Heath Stanley was employed on a part time basis as a deputy water master.

The water supply of Emerson Creek was not adequate to fully supply all needs except for a limited period during May and June. There was no surplus water over and above the capacity of the various ditches at any time in 1932.

DISCUSSION OF RESULTS FOR SEASON

The precipitation at Cedarville for the seasonal year September 1, 1931 to August 31, 1932, has been compared with that of the preceding seasons of water master service in Surprise Valley in Table 1. The seasonal precipitation for 1931-32 was 110.7 per cent of the mean for the period 1894 to 1932. If it had not been for the extremely dry spring and summer following the wet winter the seasonal precipitation would have been even further above the normal.

Table 2 is a tabulation of the water supply of Emerson Creek at the register station. There are no ditches above this station so the Table shows the total supply. Due to considerable trouble with the register it was necessary to estimate a portion of the runoff by comparison with the flow of Mill Creek. The hydrograph at the end of the report is a graphical comparison of the flows in 1927 and 1932.

Although the precipitation was above normal in the vicinity the water supply on Emerson Creek was not adequate to supply the demand for irrigation water except for a limited time during May and June.

Table 4 is a tabulation of crop yields on various ranches irrigated from Emerson Creek. The results on the ranches for which reports were filed were very satisfactory.

No structures were installed on Emerson Creek in 1932 as the existing ones were adequate.

RECOMMENDATIONS

A dividing device in Emerson Creek at the head of the Scott and Erramouspe ditches would be of considerable value in saving the water master's time. The device should be of an adjustable type that would divide the flow proportionally and automatically take care of most of the fluctuations.

FINANCIAL STATEMENT

The funds collected from the water users in the various water master districts to defray the costs of water master service are placed to the credit of the various water master district funds by the State Treasurer.

The State contributes an amount to the funds 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 the water master service.

FINANCIAL STATEMENT

EMERSON CREEK WATER DISTRICT FUND

March 1, 1933

RECEIPTS

Balance on March 1, 1932	$193.13	
Contributed by State in 1932	200.00	
Contributed by Taxpayers (Mar. 1/32 to Mar. 1/33)	145.39	$538.52

DISBURSEMENTS

Water Master Compensation.....	$120.99	
Water Master Travel Expense	89.56	
Cost of Publication of Financial Statement.....	22.50	$233.05

BALANCE $305.47

TABLES

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
Mean 1894 to 1932	0.55	1.01	1.59	1.61	1.76	1.55	1.45	.90	1.03	.65	.24	.18	12.52
1931-32 in per cent of total mean	2.6	25.6	7.8	14.8	17.8	5.6	15.7	14.9	4.2	1.8	.0	.0	110.7

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF EMERSON CREEK ABOVE DIVERSIONS FOR THE PERIOD APRIL 19th TO AUGUST 31st, 1932.

Day	Apr.	May	June	July	Aug.	Sept.	
1		13.3	21.0	10.5	*3.50		
2		*12.0	20.0	10.0	*3.50		
3		*12.0	*21.0	9.30	*3.40		
4		*11.0	*22.0	8.60	*3.30		
5		*12.0	22.0	7.90	*3.20		
6		14.3	18.2	7.60	3.20		
7		16.5	17.0	7.00	*3.10		
8		22.0	16.5	6.80	*3.00		
9		26.0	17.6	*6.30	*3.10		
10		29.0	19.5	*5.90	*3.10		
11		32.0	20.0	*5.60	*3.00		
12	NO	*33.0	*22.0	*5.30	*2.90	NO	
13		*33.0	*22.0	5.40	*2.80		
14	RECORD	*33.0	25.0	*5.40	*2.80	RECORD	
15		*34.0	*24.0	*5.40	*2.70		
16		*34.0	*23.0	*5.30	*2.60		
17		*34.0	22.0	*5.30	*2.50		
18		*38.0	20.0	*5.20	2.40		
19	12.3	*35.0	18.8	*5.20	*2.40		
20	11.4	*32.0	18.2	5.20	*2.40		
21	10.5	*28.0	17.0	*5.10	*2.40		
22	*9.00	*26.0	17.0	*5.00	*2.40		
23	*9.20	*25.0	17.0	*4.80	*2.40		
24	*9.50	* 24.0	16.5	*4.60	*2.50		
25	*9.80	24.0	15.4	*4.40	*2.50		
26	8.90	24.0	14.3	*4.30	*2.50		
27	*11.0	22.0	13.8	*4.20	*2.50		
28	*17.0	22.0	12.1	*4.00	*2.50		
29	*19.0	22.0	11.8	*3.80	2.50		
30	*17.0	*22.0	10.9	3.60	*2.50		
31		22.0		*3.60	*2.50		
Total Sec. Feet Days	**144.60	767.1	555.6	180.60	86.10		135 Day Period
Mean Sec. Feet	12.0	24.7	18.5	5.83	2.78		12.8
Maximum Sec. Feet	19.0	38.0	25.0	10.5	3.50		38.0
Minimum Sec. Feet	8.9	11.0	10.9	3.60	2.40		2.40
Total Ac. Feet	287	1520	1100	358	171		3440

* Discharge Estimated by Comparison with Mill Creek
** 12 Day Period

TABLE 3

WATER DELIVERIES ON EMERSON CREEK COMPARED WITH ALLOTMENTS - 1932 SEASON

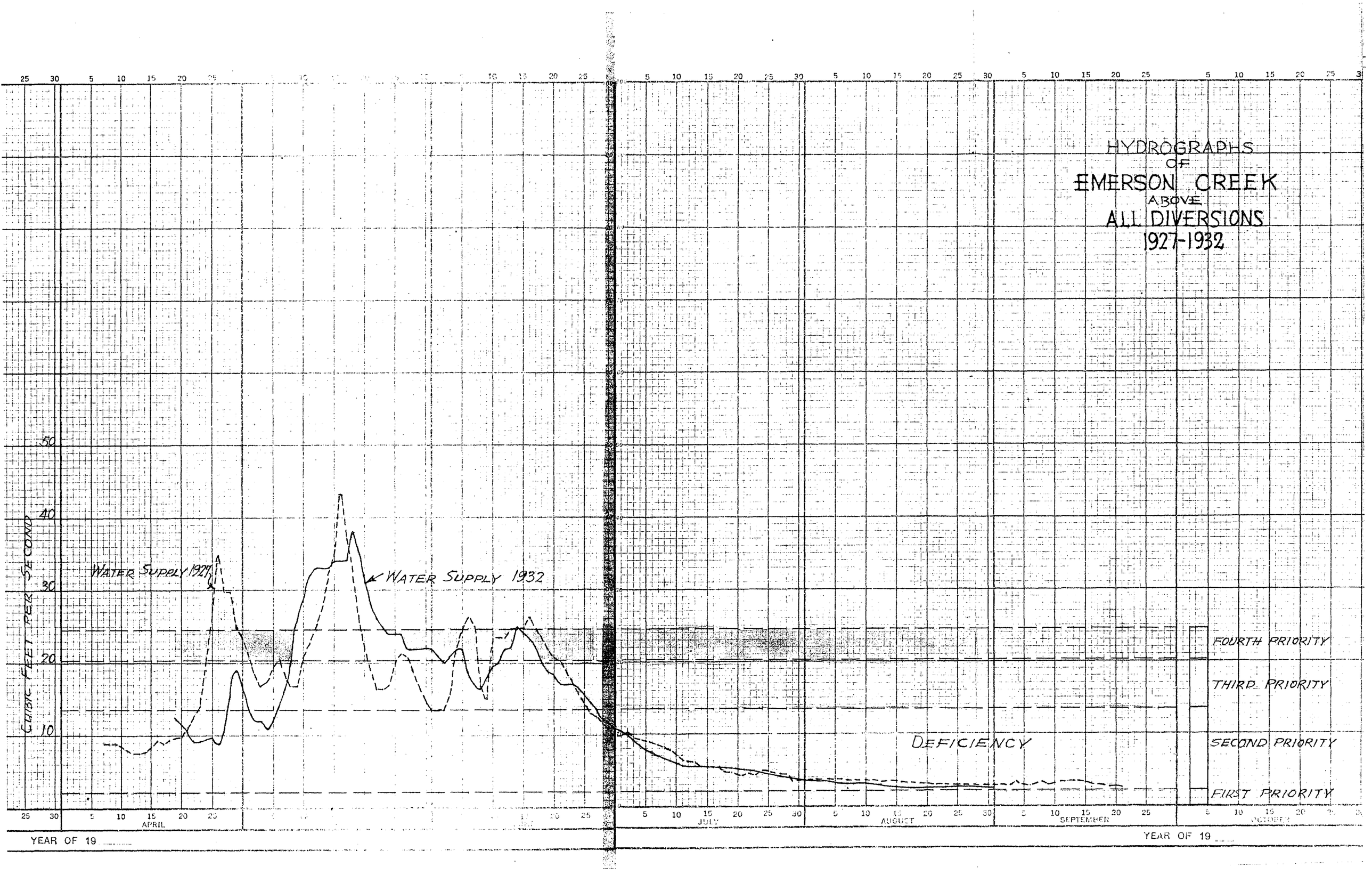
Period	Per Cent of Allotment Delivered				Total Deliveries c.f.s.	Per Cent of Total Allotment Delivered (24.65 c.f.s.)	Continuous Flow Above All Diversions (c.f.s.)	Per Cent Channel Loss
	1st Priority (2.05 c.f.s)	2nd Priority (11.55 c.f.s)	3rd Priority (6.50 c.f.s)	4th Priority (4.55 c.f.s)				
4/19 to 4/28	100	62	0	0	9.23	37	10.86	15
4/29 to 5/8	100	92	0	0	12.67	51	14.91	15
5/9 to 5/18	100	100	100	239	30.97	126	32.60	5
5/19 to 5/28	100	100	100	105	24.89	101	26.20	5
5/29 to 6/7	100	100	87	0	19.27	78	20.72	7
6/8 to 6/17	100	100	87	0	19.26	78	21.16	9
6/18 to 6/27	100	100	16	0	14.61	59	16.80	13
6/28 to 7/7	100	53	0	0	8.13	33	9.57	15
7/8 to 7/17	100	22	0	0	4.55	18	5.67	20
7/18 to 7/27	100	15	0	0	3.84	16	4.80	20
7/28 to 8/6	100	7	0	0	2.81	11	3.51	20
8/7 to 8/16	100	2	0	0	2.33	9	2.91	20
8/17 to 8/26	95	0	0	0	1.95	8	2.44	20
8/27 to 8/31	98	0	0	0	2.00	8	2.50	20
Seasonal					11.19	46	12.48	15

TABLE 4

ESTIMATED CROP YIELDS ON TYPICAL LANDS
IRRIGATED FROM EMERSON CREEK - 1932

Owner	Crop	Acres	Total Yield		Yield per Acre	
			Tons	Sacks	Tons	Sacks
W.F. Cockrell	Alfalfa	40.0	80		2.0	
	Meadow Hay	200.0	450		2.2	
	Wheat	10.0		260 Bu.		26 Bu.
	Garden	1.0	good			
John Erramouspe	Alfalfa	140.0	370		2.6	
	Meadow Hay	60.0	105		1.8	
	Garden	0.8	good			
Lena H. Scott	Alfalfa and Grain	110.0	230		2.1	
	Alfalfa	120.0	300		2.5	
	Meadow Hay	320.0	700		2.2	
	Barley	22.0		600		28.3
	Orchard		fair			
	Garden		fair			
J. W. Taylor	Alfalfa	47.0	50			1.1
W. G. Warren	Alfalfa	50.0	100		2.0	
	Barley	30.0		580		19.7
	Wheat	27.0		320		11.9
	Orchard	2.9	fair			
	Garden	1.6	good			

P L A T E


HYDROGRAPHS
OF
EMERSON CREEK
ABOVE
ALL DIVERSIONS
1927-1932
CUBIC FEET PER SECOND
50
40
30
20
10
WATER SUPPLY 1927
WATER SUPPLY 1932
DEFICIENCY
FOURTH PRIORITY
THIRD PRIORITY
SECOND PRIORITY
FIRST PRIORITY
APRIL
JULY
AUGUST
SEPTEMBER
OCTOBER
YEAR OF 19
YEAR OF 19