DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

REPORTS OF THE

DIVISION OF WATER RESOURCES

EDWARD HYATT, State Engineer

oOo

REPORT ON WATER MASTER SERVICE ON EMERSON CREEK

MODOC COUNTY, CALIFORNIA

1933 SEASON

oOo

By

Leslie C. Jopson, Modoc County Water Master

Sacramento, California

March, 1934

TABLE OF CONTENTS

	PAGE
LETTER OF TRANSMITTAL	
ORGANIZATION	
GENERAL DESCRIPTION OF WORK	1
DISCUSSION OF RESULTS FOR SEASON	2
CONTROVERSIES	4
RECOMMENDATIONS	5
FINANCIAL STATEMENT	6

TABLES:

1. Precipitation Data.
2. Continuous Records of Daily Discharge in Cubic Feet per Second of Emerson Creek above all Diversions for the period April 7 to September 24, 1933.
3. Water Deliveries on Emerson Creek Compared with Allotments - 1933.
4. Crop Yields on Typical Lands Irrigated from Emerson Creek - 1933.

PLATE:

1. Hydrograph of Flow of Emerson Creek in 1932 and 1933.

STATE OF CALIFORNIA

Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

March 1, 1934

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

Attention: Mr. Gordon Zander,
Supervising Hydraulic Engineer.

Dear Sir:

There is transmitted herewith a report covering the water distribution work of the water master in the Emerson Creek Water Master District, Modoc County, California, during the period from April 7 to September 24, 1933.

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. Murphy, et al., vs W. G. Warren, et al., and presents the results obtained under the distribution.

Respectfully submitted,

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
F. G. Montelegre	Deputy Water Master

GENERAL DESCRIPTION OF WORK

Water master service was continued in the Emerson Creek Water Master District in 1933 in accordance with the provisions of Section 37a of the Water Commission Act. The service was commenced for the season on April 7 and continued until September 24th, when water master service was terminated for the season in Surprise Valley.

Mr. Leslie C. Jopson, Modoc County Water Master handled the distribution of water on Emerson Creek with part time assistance from F. G. Montelegre, Deputy Water Master.

Three of the diversions customarily used on Emerson Creek were not opened in 1933. They were the Hill, Old Channel, and Lower Channel Ditches. There was no water available for the Hill Ranch through the Hill Ditch during the season while under the other two ditches part of the land was not irrigated, and part of it was served from other diversions. All other diversions diverted their full pro-rata of the available water.

Continuous flow allotments were diverted by the ditches entitled to water during the 1933 season. No attempt was made to inaugerate a rotation schedule except that a small portion of the water available for the domestic rights in the late summer was pooled and diverted by the parties subjected to the heaviest ditch losses. These parties were able to irrigate their gardens under this procedure whereas under their specific allotments they were unable to do so.

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 1932-33 seasonal precipitation with the 1894-1933 mean are shown in this table. The 1932-33 record shows the precipitation of that season as 64.2 per cent of the mean.

Table 2 is a tabulation of the water supply of Emerson Creek above all diversions for the 1933 season. The hydrograph at the end of the report shows graphically the water supply above all diversions, for the years 1932 and 1933, compared with the allotments to the various water rights on the creek. The water supply for 1932 has been included in the plate for comparative purpose, inas much as, the water supply during that season was nearly 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 47 per cent of the total.allotment and the minimum was 4 per cent of the total. The low flow dropped to 43 per cent of the first priority right.

Table 4 is a tabulation of crop yields on typical lands irrigated from Emerson Creek. The yields in 1933 were approximately sixty per cent of those received in 1932. The crop shortage was partly due to poor growing weather during April and May and partly due to a shortage of water throughout the season.

There were no new installations or changes made in 1933.

The Scott Ranch has during the past two years constructed new laterals from the Scott Ditch to serve most of the land under the Old Channel and Lower Channel Diversions. The land which cannot be served by the Scott ditch is now used primarily for pasturage. It is planned to return the land to production whenever there is sufficient irrigation water available.

In 1933 the third priority right of the Erramouspe and Parman Ranches was diverted through the Erramouspe ditch. The necessity of dividing the water in the company ditch three times was eliminated by this procedure.

CONTROVERSIES

There were no controversies in regard to the distribution of the water on Emerson Creek in 1933.

RECOMMENDATIONS

A headgate of some type should be installed at the head of the Warren ditch to regulate the diversion during flows of over fifteen cubic feet per second.

The Parshall Flume near the head of the Brown Ditch should be moved down the ditch a few feet and placed lower in the ditch to prevent back water on the headgate.

FINANCIAL STATEMENT

There was no assessment levied upon the water users in the Emerson Creek Water Master District in 1933 due to a sufficient surplus having been built up in preceding years to carry the cost of the service through the season without additional funds.

There is submitted on the following page a statement of the Emerson Creek Water Master District Fund showing the receipts and disbursements during the 1933 season.

FINANCIAL STATEMENT

EMERSON CREEK WATER DISTRICT FUND

January 1, 1934

RECEIPTS

Balance on March 1, 1933	$305.47	
Contributed by Taxpayers (Mar. 1/33 to Jan. 1/34). .	19.05	$ 324.52

DISBURSEMENTS
(Mar. 1/33 to Jan. 1/34)

Water Master Compensation	199.74	
Water Master Travel Expense.	70.93	270.67

BALANCE.	53.85

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
1932-33	T	.13	.78	1.20	1.31	.81	.63	.90	1.06	.26	.25	T	7.33
Mean 1894 to 1933	.56	.98	1.59	1.54	1.76	1.55	1.45	.90	1.03	.65	.24	.18	12.43
1931-32 in per cent of total mean	.0	1.1	6.8	10.5	11.5	7.1	5.5	7.9	9.3	2.3	2.2	0	64.2

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF EMERSON CREEK ABOVE ALL DIVERSIONS FOR THE PERIOD APRIL 7 TO SEPTEMBER 24, 1933.

Day	Apr.	May	June	July	Aug.	Sept.	
1	NO	8.40	13.6	4.90	2.00	1.60	
2		7.80	12.3	4.60	1.95	1.60	
3		7.50	12.0	4.05	1.85	1.60	
4	RECORD	8.50	11.6	3.80	1.85	1.60	
5		8.00	12.0	3.55	1.80	1.60	
6		7.40	11.6	3.50	1.75	1.65	
7	*5.45	6.90	11.6	3.55	1.70	1.70	
8	4.85	6.30	11.6	3.30	1.65	1.70	
9	5.15	6.00	12.6	3.10	1.65	1.70	
10	4.60	6.30	12.6	3.10	1.60	1.70	
11	4.35	6.30	13.0	2.70	1.60	1.65	
12	4.60	6.00	12.3	2.50	1.60	1.65	
13	4.60	6.60	12.0	2.40	1.55	1.65	
14	5.45	7.15	11.6	2.25	1.55	1.65	
15	6.30	7.80	11.0	2.15	1.55	1.70	
16	6.30	8.10	10.6	2.40	1.50	1.65	
17	5.15	7.80	10.0	2.40	1.60	1.60	
18	4.60	7.80	9.35	2.25	1.65	1.70	
19	4.35	7.80	8.40	2.25	1.60	1.65	
20	4.60	8.10	8.10	2.25	1.60	1.60	
21	5.15	8.10	7.45	2.25	1.60	1.65	
22	6.30	7.80	7.20	2.25	1.60	1.70	
23	7.80	8.10	6.60	2.15	1.60	1.70	
24	9.00	8.70	6.60	2.00	1.60	2.50	
25	8.40	10.2	6.60	1.95	1.65		
26	9.00	11.3	6.60	1.95	1.65		
27	9.35	11.3	7.20	1.95	1.65	NO	
28	9.85	12.6	6.60	1.85	1.60		
29	9.85	13.0	6.00	1.85	1.60	RECORD	
30	9.00	14.3	5.45	1.85	1.65		
31	--	14.7	--	1.85	1.65		
Total Sec. Feet Days	154.05	266.65	294.15	82.90	51.45	40.50	171 Day Period
Mean Sec.Feet	6.42	8.60	9.86	2.67	1.66	1.69	5.20
Maximum Sec. Feet	9.85	14.7	13.6	4.90	2.00	2.50	14.7
Minimum Sec. Feet	4.35	6.00	5.45	1.85	1.50	1.60	1.50
Total Acre Feet	305	529	583	164	102	80.3	1760

* 24 Day Period.

TABLE 3

WATER DELIVERIES ON EMERSON CREEK COMPARED WITH ALLOTMENTS
1933 SEASON

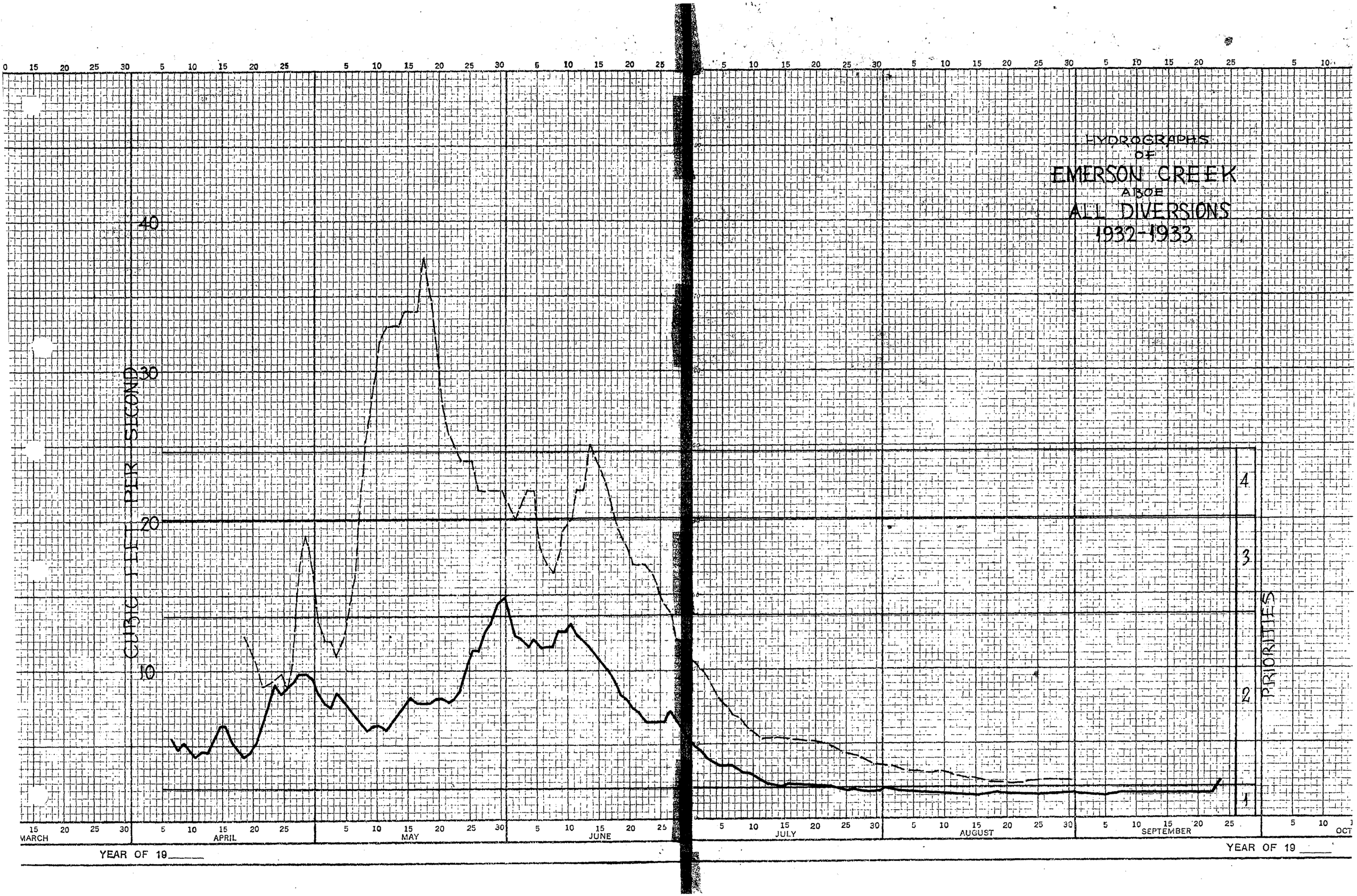
Period	Per Cent of Allotment Delivered: 1st Priority 2.05 c.f.s.	2nd Priority 11.55 c.f.s.	3rd Priority 6.50 c.f.s.	4th Priority 4.55 c.f.s.	Total Deliveries c.f.s.	Per cent of Total Allotments Delivered (24.65) (c.f.s)	Continuous Flow Above All Diversions c.f.s.	Per Cent Channel Loss
4/7 to 4/16	100	22	0	0	4.46	18	5.16	14
4/17 to 4/26	100	31	0	0	5.54	22	6.44	14
4/27 to 5/6	100	49	0	0	7.56	31	8.56	11
5/7 to 5/16	100	33	0	0	5.80	23	6.74	14
5/17 to 5/26	100	49	0	0	7.57	31	8.57	12
5/27 to 6/5	100	73	15	0	11.50	47	12.74	10
6/6 to 6/15	100	73	5	0	10.80	44	11.99	10
6/16 to 6/25	100	45	0	0	7.10	29	8.09	12
6/26 to 7/5	100	22	0	0	4.50	18	5.28	15
7/6 to 7/15	100	1	0	0	2.16	9	2.86	24
7/16 to 7/25	74	0	0	0	1.52	6	2.22	52
7/26 to 8/4	58	0	0	0	1.26	5	1.90	37
8/5 to 8/14	46	0	0	0	.94	4	1.64	43
8/15 to 8/24	43	0	0	0	.89	4	1.59	44
8/25 to 9/3	45	0	0	0	.92	4	1.62	43
9/4 to 9/13	47	0	0	0	.96	4	1.66	32
9/14 to 9/23	47	0	0	0	.96	4	1.66	32
Seasonal					4.37	18	5.22	16

TABLE 4

ESTIMATED CROP YIELDS ON TYPICAL LANDS
IRRIGATED FROM EMERSON CREEK - 1933

Owner	Crop	Acres	Total Yield Tons	Total Yield Sacks	Yield per Acre Tons	Yield per Acre Sacks
Niels Finmand	Alfalfa Hay	40.0	90		2.3	
	Meadow Hay	200.0	350		1.7	
	Barley	7.0		100		14.3
	Wheat	4.0		37		9.2
	Pasture	55.0		Fair		
	Garden	2.0		Good		
John Erramouspe	Alfalfa Hay	120.0	185		1.5	
	Meadow Hay	40.0	40		1.0	
	Alfalfa Seed	20.0		4000#		200#
	Garden	.8		Fair		
	Pasture	19.1		Fair		
John W. Taylor	Wheat	4.0		10		2.5
	Alfalfa Seed	30.0		2000#		67#
L. H. Scott	Alfalfa Hay	90.0	140		1.6	
	Meadow Hay	320.0	650		2.0	
	Alfalfa Seed	25.0		14400#		575#
	Garden			Fair		
	Pasture	120.0		Fair		

PLATES


HYDROGRAPHS
OF
EMERSON CREEK
ABOVE
ALL DIVERSIONS
1932-1933
CUBIC FEET PER SECOND
40
30
20
10
PRIORITIES
4
3
2
1
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCT
YEAR OF 19
YEAR OF 19