DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

REPORTS OF THE

DIVISION OF WATER RESOURCES

EDWARD HYATT, State Engineer

REPORT ON WATER MASTER SERVICE ON OWL CREEK MODOC COUNTY, CALIFORNIA FOR SEASON OF 1930

By Leslie C. Jopson, Modoc County Water Master

Sacramento, California
February, 1931

TABLE OF CONTENTS

Page

LETTER OF TRANSMITTAL

ORGANIZATION

GENERAL DESCRIPTION OF WORK

DISCUSSION OF RESULTS FOR SEASON

CONTROVERSIES

RECOMMENDATIONS

FINANCIAL REPORT

TABLES:

1. Precipitation Data
2. Continuous Records of Daily Discharge in Cubic Feet per Second of Owl Creek at Register Station for the Period March 21 to August 21, 1930.
3. Estimated Daily Discharge in Cubic Feet per Second of Owl Creek above all Diversions for the Period March 21 to August 21, 1930.
4. Water Deliveries on Owl Creek Compared with Allotments - 1930 Season.
5. Crop Production on Typical Lands Irrigated from Owl Creek - 1930 Season.

PLATES:

1. Hydrographs of Owl Creek Showing Water Supply - 1927 and 1930.

STATE OF CALIFORNIA

Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

February 28, 1931

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

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

There is transmitted herewith a report covering water master service on Owl Creek, Modoc County, California, during the period from March 19 to August 21, 1930.

The report describes the methods and practices followed in the distribution of the waters of Owl Creek in accordance with the provisions of the decree in the case of C. E. Cummins, et al. vs. Wiley Allen, et al., and presents the results obtained under this distribution.

Respectfully submitted,

Leslie C. Jopson
Modoc County Water Master

ORGANIZATION

Walter E. Garrison	Director of Public Works
Edward Hyatt	State Engineer

Harold Conkling	Deputy State Engineer

GORDON ZANDER
In Supervising Charge

T. Russel Simpson	Supervising Water Master
Leslie C. Jopson	Modoc County Water Master

GENERAL DESCRIPTION OF WORK

Water master service was conducted on Owl Creek during the 1930 season in accordance with the provisions of the decree in the case of C. E. Cummins, et al., vs. Wiley Allen, et al.

The Water Commission Act provides that whenever the rights to water on a stream have been determined a water district may be created by the state to facilitate the handling of water master service on the stream. This procedure was followed on Owl Creek and an order was entered by the Department of Public Works on September 11, 1929 creating the Owl Creek Water District.

Shortly after the creation of the water district a petition signed by practically all of the water users on Owl Creek was received by the Division of Water Resources requesting them to appoint a water master to distribute the water in the district. Acting upon the above petition the Division of Water Resources on March 15, 1930, appointed Mr. Leslie O. Jopson to act as water master for the Owl Creek Water District. A supplementary appointment was made to Mr. T. R. Simpson, Supervising Water Master.

Water master service was commenced in the field on March 21, 1930 and was terminated for the season on August 21, 1930.

All except one diversion was opened on Owl Creek in 1930. The unopened diversion was that of J. M. Reeder who used no water in

1930, there being no one living on or renting the property.

The water supply during the general irrigation season in 1930, although below normal, was quite satisfactory as all the users received a fair amount of water. There were a few cases where more water could have been used to great advantage but generally speaking the poor crops were due as much to lack of attention as to water shortage.

The dry weather flow in 1930 was very deficient inasmuch as only three rights to domestic water out of the eight listed were receiving a continuous delivery of water by August 15th. By August 25th there was only enough water for two ditches out of the eight.

DISCUSSION OF RESULTS FOR THE SEASON

The precipitation at Cedarville for the seasonal year, commencing September 1, 1929, and terminating August 31, 1930, has been compared with the precipitation during preceding seasons of water master service in Surprise Valley in Table 1 of this report. The seasonal precipitation in 1929-30 was about 81.3 per cent of the mean precipitation at Cedarville for the period 1894 to 1930. It will be noted that there was a marked deficiency in precipitation during every month in the year except December, January and February. During the summer months from May 1st to August 31st the normal precipitation is 18.2 per cent of the total mean, whereas in 1930 it was only 5.5 per cent of the total mean.

Table 2 is a tabulation of the water supply of Owl Creek at the register station.

Table 3 is a tabulation of total available water supply of Owl Creek during the 1930 season. Plate 1 graphically shows the water supply as tabulated in Table 3. The water supply during the 1927 season is also shown on the plate along with allotment lines to indicate the demand for water. As the 1927 run-off was approximately normal it is shown to give an indication of the deficiency in 1930.

Table 4 is a tabulation of the per cent of allotments delivered to each priority class during each semi-monthly period shown. The table also gives the percent of total allotments delivered during each of the indicated periods.

Table 5 is a tabulation of crop yields from typical lands on Owl Creek in 1930. The crop returns were, for the most part, slightly subnormal. Cold weather during May and the deficient water supply throughout the season had an unfavorable effect on plant growth.

There were no structures installed on Owl Creek in 1930.

The Cummins Estate changed its point of diversion to the McClintock Ditch in 1930. The creek channel below the Cummins South Ditch is a rather wide and gravelly channel in which a channel loss of about ten cubic feet per second occurs. In years of subnormal run-off this loss of water is apt to cause a serious shortage of water for the later rights and also for the Cummins Estate right. The change in point of diversion allows the Cummins Estate to divert its water above the Heryford, Price and C. E. Cummins ditches. No objection to the change was made by any of these parties. In years of normal run-off the water would be diverted at the points of diversion designated on the Owl Creek Map.

CONTROVERSIES

There were no controversies worthy of mention on Owl Creek in 1930.

RECOMMENDATIONS

From the experience of the water master in 1930 it appears that it would be good practice to insist that the Cummins Estate water be diverted through the McClintock Ditch whenever the flow in the creek is less than about forty-five cubic feet per second. Above this amount the daily fluctuation would cause a considerable flow down the creek during the peak flow which could easily be made continuous if the water allotted to the lower diversions was turned down the channel.

FINANCIAL STATEMENT

Under the provisions of Section 37f of the Water Commission Act all funds collected in a water district must be kept separate from other funds and applied only to the cost of water master service in the district for which the fund was created. Accordingly there is submitted below a statement of the funds collected and expended during the Season of 1930 for the Owl Creek Water District.

As the purpose of this report is to provide a permanent record for this office of the data collected and of the results obtained in the distribution of the water on Owl Creek, the cost of preparing it has been defrayed from funds allotted to adjudication support.

FINANCIAL STATEMENT

OWL CREEK WATER DISTRICT FUND

CALENDAR YEAR 1930

RECEIPTS

Contributed by State	$300.00	
Contributed by Taxpayers	292.00	
		$592.00

DISBURSEMENTS

Water Master Compensation	$179.29	
Water Master Travel Expense	136.66	
Cost of Publication of Financial Statement	39.65	
Contingencies	7.05	
		362.65

BALANCE $229.35

TABLES

TABLE 1

PRECIPITATION DATA
Cedarville, California

Season	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	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	0.13	1.26	1.07	T	0.09	0.09	10.35
1926 - 27	0.15	0.53	2.73	1.16	1.82	2.02	1.73	0.81	0.95	0.35	T	T	12.25
1927 - 28	0.32	0.86	2.87	0.86	0.92	0.75	2.93	0.81	T	0.55	0.00	0.00	10.87
1928 - 29	0.40	0.15	1.43	0.42	2.08	0.59	1.20	1.85	0.29	1.98	0.00	T	10.39
1929 - 30	0.07	0.19	0.00	3.02	3.39	1.53	0.83	0.51	0.67	T	0.02	T	10.23
Mean 1894 - 1930	0.25	1.01	1.59	1.61	1.81	1.64	1.49	0.89	1.12	0.68	0.28	0.21	12.58
1929 - 30 in per cent of Total Mean	0.6	1.5	0.0	24.0	26.9	12.2	6.6	4.0	5.3	0.0	0.2	0.0	81.3

Note: Per cent of total mean from May 1st to August 31st of Average Year is 18.2 per cent, whereas in 1930 it was 5.5 per cent.

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF OWL CREEK AT REGISTER STATION FOR THE PERIOD MARCH 21st to AUGUST 21st, 1930

Day	March	April	May	June	July	Aug.	
1		11.0	* 20	30	13.7	3.3	
2		12.8	* 27	28	13.7	3.3	
3		13.2	* 36	28	13.2	3.1	
4		13.2	* 30	38	12.4	2.9	
5		15.5	25	* 44	11.9	2.7	
6		18.9	22	* 44	11.0	2.6	
7		22.	23	47	8.4	2.6	
8		25.	20	46	8.0	* 2.6	
9		22	18.9	46	8.0	2.6	
10		20	18.3	50	7.3	2.6	
11		18.3	18.9	58	7.0	2.9	
12		18.9	20	51	6.5	2.6	
13	NO	20	25	42	7.3	2.7	
14		17.2	25	36	7.7	2.6	
15		16.6	23	35	7.3	2.5	
16		16.1	24	36	6.8	2.3	
17	RECORD	14.6	27	36	6.5	2.3	
18		14.6	32	35	6.3	2.2	
19		15.5	33	30	6.0	2.2	
20		18.9	41	27	5.7	2.2	
21	7.7	22	41	25	5.2	2.1	
22	8.4	26	37	22	5.0		
23	9.5	29	36	20	4.7		
24	11.0	27	37	18.9	4.7	NO	
25	11.4	22	39	17.7	4.5		
26	12.4	19.4	43	17.2	4.3		
27	12.8	18.9	47	16.1	4.3	RECORD	
28	12.8	18.9	47	15.0	3.7		
29	14.6	17.7	44	14.6	3.5		
30	14.2	* 20.	35	13.7	3.3		
31	11.0		29		3.1		
Total Sec. Feet Days	**125.8	565.2	944.1	967.2	221.0	*** 54.9	154 Day Period
Mean Sec. Feet	** 11.4	18.8	30.5	32.2	7.13	*** 2.61	18.7
Maximum Sec. Feet	** 14.6	29	47	58	13.7	*** 3.3	58
Minimum Sec. Feet	** 7.7	11.0	18.3	13.7	3.1	*** 2.1	2.1
Total Acre Feet	**249	1120	1870	1920	438	***109	5710

* Estimated

** 11 Day Period

*** 21 Day Period

TABLE 3

ESTIMATED DAILY DISCHARGE IN CUBIC FEET PER SECOND
OF OWL CREEK ABOVE ALL DIVERSIONS FOR THE PERIOD
MARCH 21st TO AUGUST 21st, 1930

Day	March	April	May	June	July	Aug.	
1		11.0	20	30	13.7	3.3	
2		12.8	27	28	13.7	3.3	
3		13.2	36	28	13.2	3.1	
4		13.2	30	38	12.4	2.9	
5		15.5	25	47	11.9	2.7	
6		18.9	22	48	11.0	2.6	
7		22	23	51	10.8	2.6	
8		25	20	50	10.3	2.6	
9		22	18.9	50	10.2	2.6	
10		20	18.3	54	9.5	2.6	
11		18.3	18.9	63	9.1	2.9	
12	NO	18.9	20	56	8.5	2.6	
13		20	25	46	8.3	2.7	
14	RECORD	17.2	25	39	7.7	2.6	
15		16.6	23	37	7.3	2.5	
16		16.1	24	38	6.8	2.3	
17		14.6	30	38	6.5	2.3	
18		14.6	34	36	6.3	2.2	
19		15.5	36	30	6.0	2.2	
20		18.9	45	27	5.7	2.2	
21	7.7	22	45	25	5.2	2.1	
22	8.4	26	41	22	5.0		
23	9.5	29	40	20	4.7		
24	11.0	27	41	18.9	4.7	NO	
25	11.4	22	43	17.7	4.5		
26	12.4	19.4	47	17.2	4.3		
27	12.8	18.9	51	16.1	4.3	RECORD	
28	12.8	18.9	51	15.0	3.7		
29	14.6	17.7	48	14.6	3.5		
30	14.2	20	38	13.7	3.3		
31	11.0		29		3.1		
Total Sec. Feet Days	* 125.8	565.2	995.1	1014.2	235.2	** 54.9	154 Day Period
Mean Sec. Feet	* 11.4	18.8	32.1	33.8	7.59	** 2.61	19.4
Maximum Sec. Feet	* 14.6	29	51	63	13.7	** 3.3	63
Minimum Sec. Feet	* 7.7	11.0	18.3	13.7	3.1	** 2.1	2.1
Total Acre Feet	* 249	1120	1970	2010	466	** 109	5930

* 11 day period
** 21 day period

TABLE 4

WATER DELIVERIES ON OWL CREEK COMPARED
WITH ALLOTMENTS - 1930 SEASON

Priority	4/1 to 4/15	4/16 to 4/30	5/1 to 5/15	5/16 to 5/31	6/1 to 6/15	6/16 to 6/30	7/1 to 7/15	7/16 to 7/31	8/1 to 8/15
1	100	100	100	100	100	100	100	100	100
2	100	100	100	100	100	100	100	100	100
3	75	100	100	100	100	100	100	100	100
4	100	100	100	100	100	100	100	100	40
4-A	0	50	100	100	100	40	0	0	0
5	0	0	100	100	100	100	100	85	0
6	100	100	100	100	100	100	100	70	0
7	0	0	0	0	0	0	0	0	0
8	100	100	100	100	100	100	*100	**25	***0
9	30	100	100	100	100	100	85	0	0
10	100	100	100	100	100	95	65	0	0
11	75	100	100	100	100	80	10	0	0
12	15	12	80	100	100	60	0	0	0
13	100	95	95	100	100	60	0	0	0
14	0	50	60	100	100	34	0	0	0
15	15	10	5	95	100	53	0	0	0
16	40	5	0	100	80	20	0	0	0
17	70	0	0	100	80	20	0	0	0
18	90	0	0	100	80	20	0	0	0
19	0	0	0	85	70	8	0	0	0
20	0	0	0	0	0	0	0	0	0
21	90	90	5	60	60	0	0	0	0
22	-	-	-	-	-	-	0	0	0
****23	0	0	0	0	60	0	0	0	0
Total Deliveries c.f.s.	16.28	18.47	19.83	36.08	34.77	20.88	9.37	4.08	1.96
Per cent of Allotments Delivered	40	46	49	90	86	53	23	10	5
Combined Flow above all Diversions	17.64	20.04	23.47	40.19	44.33	23.28	10.51	4.85	2.77
Channel Loss in per cent of Total Flow	8	8	15	10	22	10	11	16	29

* 1.00 c.f.s. July 8 to 15, Inc.
** 0.51 c.f.s. July 24 to 31, Inc.
*** 0.44 c.f.s. August 1 to 8, Inc.
**** Permit right of 0.54 c.f.s.
to Walter Malitz
Right to continuous flow by decree and stipulation total 39.75 c.f.s.

TABLE 5

CROP PRODUCTION ON TYPICAL LANDS IRRIGATED
FROM OWL CREEK AND TRIBUTARIES - 1930 SEASON

Owner	Crop	Acres	Total Yield Sacks	Total Yield Tons	Yield per acre Sacks	Yield per acre Tons
Wiley Allen	Alfalfa Hay	90		154		1.7
	Meadow Hay	30		30		1.0
	Barley	2		2		1.0
	Wheat	10		1		0.1
Wiley Allen (O.A. Larimore)	Alfalfa Hay	12		25		2.1
	Grain Hay	25		25		1.0
	Meadow Hay	30		40		1.3
Walter Malitz	Alfalfa Hay	10		12		1.2
	Orchard	1	15		15	

PLATES

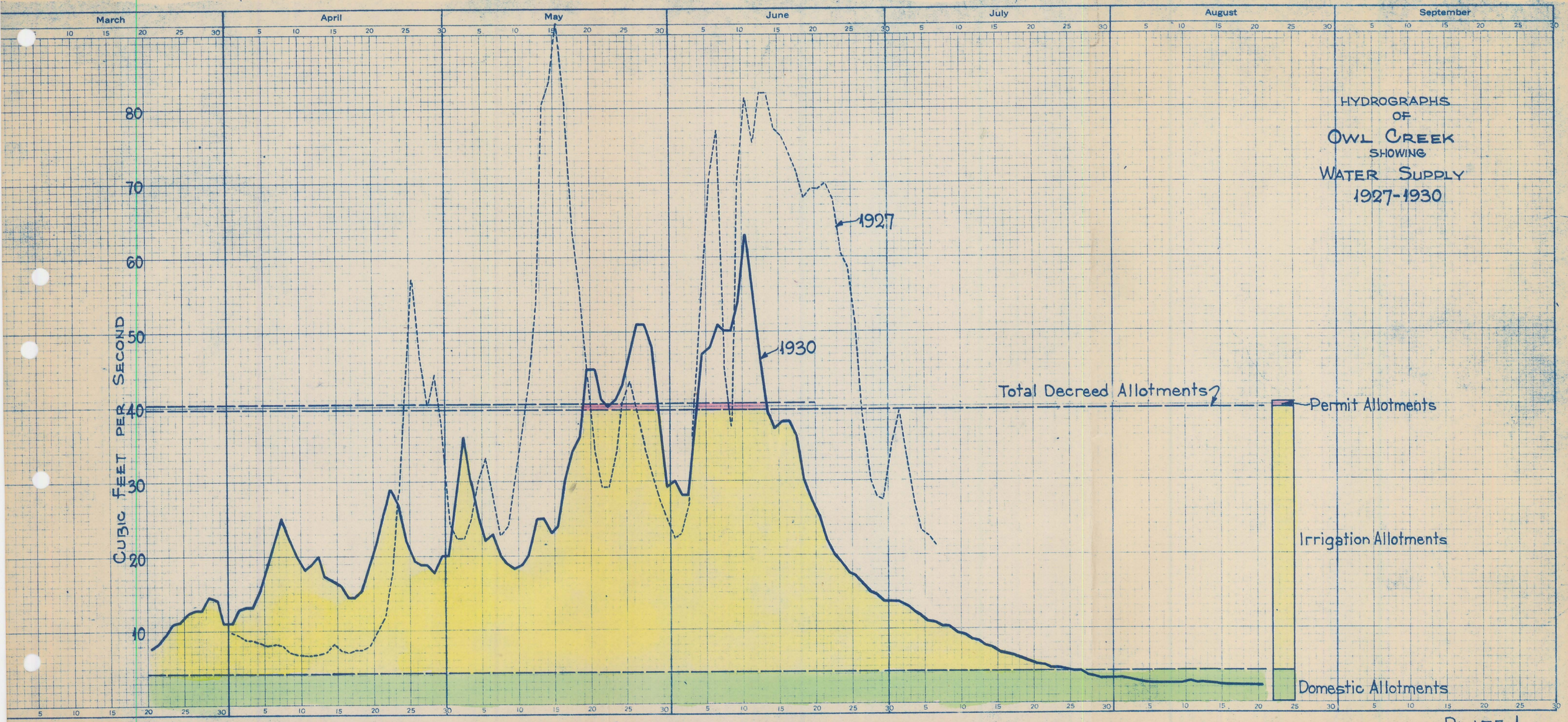
HYDROGRAPHS
OF
OWL CREEK
SHOWING
WATER SUPPLY
1927-1930
March
April
May
June
July
August
September
CUBIC FEET PER SECOND
80
70
60
50
40
30
20
10
1927
1930
Total Decreed Allotments
Permit Allotments
Irrigation Allotments
Domestic Allotments

PLATE 1