

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

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EARL WARREN, Governor

C. H. PURCELL, Director of Public Works

A. D. EDMONSTON, State Engineer

R E P O R T O N
W A T E R M A S T E R S E R V I C E
I N
COW CREEK WATERMASTER SERVICE AREA
SHASTA COUNTY, CALIFORNIA
1948 SEASON

Sacramento, California

SUBMISSION TO, AND ADOPTION BY
DEPARTMENT OF PUBLIC WORKS

I, L. C. Jopson, Supervising Hydraulic Engineer, Division of Water Resources, Department of Public Works of the State of California, hereby submit the within contained report entitled "Report on Watermaster Service in Cow Creek Watermaster Service Area, Shasta County, California, 1948 Season".

/s/ L. C. JOYSON
Supervising Hydraulic Engineer

I, Gordon Zander, Principal Hydraulic Engineer, Division of Water Resources, Department of Public Works of the State of California, hereby approve the within contained report entitled "Report on Watermaster Service in Cow Creek Watermaster Service Area, Shasta County, California, 1948 Season".

/s/ GORDON ZANDER
Principal Hydraulic Engineer

I, A. D. Edmonston, State Engineer and Chief of the Division of Water Resources, Department of Public Works of the State of California, hereby approve and adopt the within contained report entitled "Report on Watermaster Service in Cow Creek Watermaster Service Area, Shasta County, California, 1948 Season", as a report of the Department of Public Works.

WITNESS my hand and the seal of the Department of Public Works of the State of California, this 24th day of March 1950.

DEPARTMENT OF PUBLIC WORKS

By /s/ A. D. EDMONSTON
A. D. EDMONSTON
State Engineer

SEAL

ORGANIZATION

C. H. Purcell Director of Public Works
A. D. Edmonston State Engineer
P. H. Van Etten Assistant State Engineer
Gordon Zander Principal Hydraulic Engineer

This report was prepared under the direction of

L. C. JOPSON
Supervising Hydraulic Engineer

By

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Assistant Hydraulic Engineer

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INTRODUCTION

The Cow Creek Watermaster Service Area, Shasta County, California, was created by order of the Division of Water Resources, entered October 17, 1932, to include the water rights on North Cow Creek and its tributaries and on Oak Run Creek and its tributaries, in Shasta County, California, which water rights were established by decree entered by the Superior Court, Shasta County, California, on April 29, 1932, in the case of Charles L. Lemm, et al., v. John Rutherford, et al., No. 5804, and on July 22, 1932, in the case of F. A. Colby, et al, v. L. O. Strayer, et al, respectively. On January 21, 1938, the area was enlarged by "Order Changing Cow Creek Watermaster Service Area, Shasta County, California, and containing a Description of all the Land Within said Area as so changed" to embrace the water rights on Clover Creek and its tributaries, in Shasta County, California, as established by decree entered by the Superior Court, Shasta County, California, on October 4, 1937, in the case of Millville Ditch Co., v. Jesse Hufford, et al, No. 6904. Watermaster service in Cow Creek Watermaster Service Area for 1948 covered the regulation of diversions from the streams within the scope of the area in accordance with the "Distribution of Water Procedure" contained in Sections 4150 to 4178, inclusive, of the Water Code.

Such service extended over the period from July 1 to September 30, with G. M. Vickroy, Assistant Hydraulic Engineer, administering the distribution of water during the entire period under the supervision of Leslie C. Jopson, Senior Hydraulic Engineer.

WATER SUPPLY

Precipitation

Data on precipitation as compiled from publications of the U. S. Weather Bureau at Shasta Dam are presented in Table 1 of this report.

Based on these data the total precipitation for the 1947-48 Season was 97 per cent of the normal.

Of this total 61 per cent fell during the period from October 1 to April 1.

Stream Flow

Records of daily discharge in cubic feet per second for the period from July 1 to September 30, 1948, of North Cow Creek, Cedar Creek, Oak Run Creek, and Clover Creek as determined for each stream by summation of the amounts of water diverted therefrom by the various ditches plus the flow in the stream below the lowermost ditch are shown in Tables 2, 3, 4, and 5 respectively.

Hydrographs, plotted from the data contained in the above tables, together with a graph indicating the decreed allotments on the respective streams, are presented in Plates 1, 2, 3, and 4.

DISTRIBUTION OF WATER

North Cow Creek

The regulation of diversions from North Cow Creek was made in accordance with the provisions of the decree in the case of Lemm vs. Rutherford, No. 5804, Superior Court, Shasta County, California, entered April 29, 1932. The amounts of water available for distribution are set forth in Table 2 submitted at the end of this report.

Distribution was made on a continuous flow basis throughout the entire season, the supply being sufficient to supply 100 per cent allotment up to September 30, when Watermaster Service was discontinued for the 1948 Season.

Cedar Creek

This stream is tributary to North Cow Creek and the water rights therefrom are defined in the Lemm vs. Rutherford decree. Distribution during the 1948 Season was made in accordance with the provisions of said decree. The amounts of water available for distribution were as shown in Table 3.

The available water supply was in excess of decreed allotments up to September 30, when watermaster service was discontinued for the 1948 Season.

Oak Run Creek

The regulation of Oak Run Creek was made in accordance with the provisions of the decree in the case of Colby vs. Strayer, No. 5701, Superior Court, Shasta County, California, entered on July 22, 1932. The amounts of water available for distribution during the 1948 Season are shown in Table 4.

The available water supply was in excess of decreed allotments up to September 30, when watermaster service was discontinued for the 1948 Season.

Clover Creek

The regulations of diversions from Clover Creek was made in accordance with the provisions of the decree in the case of Millville Ditch Company vs. Hufford, No. 6904, Superior Court, Shasta County, California, entered on October 4, 1937. The amounts of water available for distribution during the 1949 Season are shown in Table 5.

The available water supply was in excess of decreed allotments up to September 30, when watermaster service was discontinued for the 1948 Season.

OWNERSHIP OF LANDS AND WATER RIGHTS
COW CREEK WATERMASTER SERVICE AREA

Changes in Ownership

The changes in ownership of lands and water rights which have occurred subsequent to filing "Statement for Cow Creek Watermaster Service Area, County of Shasta, State of California for 1948" and which shall be included in Statement for said Watermaster Service area for 1949, are listed in the following tabulation.

Tract No.	Name of Water Right Owner Appearing in 1948 Statement	Name of Water Right Owner to Appear in 1949 Statement	Amount of Water: C.F.S.
4-51	The Chemical and Pigment Company	Coronado Copper and Zinc Company	0.59
4-52	C. E. Colby	Estate of C. E. Colby	0.65
4-37	Margaret Follett	E. J. Urquhart	0.30
4-7	John Fossett	Zamboni Lumber Company	0.63
4-67	Arnold Harper and Lucinda Harper	William W. Kessler	0.25
4-79	W. H. Heaton and Olive C. Heaton	Tom Corn and Ann Corn	0.75
4-71	Daniel G. Hunt, Jr.	Jesse Hufford	0.02
4-76	The Red River Lumber Company	Archie D. Walker, Jr., et al	1.87
4-12	J. L. Renfro and Roy Blatherwick	J. L. Renfro	1.25

TABLE 1

PRECIPITATION IN INCHES AT SHASTA DAM

MONTHLY AND SEASONAL 1947-48

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
11.78	1.13	2.43	10.24	2.66	8.14	14.22	3.19	2.55	0.37	0.34	1.86	58.91

The length of record at Shasta Dam being short, Monthly and Seasonal Means are not shown. The old Kennet records show approximately 60.50 inches seasonal in this vicinity.

17.38 4.98 9.57 0.13 9.48 2.47 2.36 3.68 0.00 0.00

TABLE 2
 Daily Discharge in Cubic Feet per Second
 NORTH COW CREEK
 July 1 to September 30, 1948

Day	July	August	September
1	40.0	29.0	24.0
2	40.0	28.0	24.0
3	40.0	27.0	24.0
4	39.0	27.0	24.0
5	39.0	27.0	24.0
6	39.0	27.0	24.0
7	38.0	27.0	24.0
8	38.0	27.0	24.0
9	38.0	27.0	24.0
10	37.0	27.0	24.0
11	37.0	27.0	24.0
12	37.0	27.0	24.0
13	36.0	27.0	24.0
14	36.0	27.0	23.0
15	35.0	27.0	23.0
16	35.0	27.0	23.0
17	35.0	27.0	23.0
18	34.0	26.0	23.0
19	34.0	26.0	23.0
20	34.0	26.0	23.0
21	33.0	26.0	23.0
22	33.0	26.0	23.0
23	32.0	26.0	23.0
24	32.0	25.0	23.0
25	31.0	25.0	23.0
26	31.0	25.0	23.0
27	30.0	25.0	23.0
28	30.0	25.0	23.0
29	30.0	25.0	23.0
30	29.0	25.0	23.0
31	27.0	25.0	
Total			
Sec.Ft.:	1081.	818.	703.
Days			
Mean			
Sec.Ft.:	34.8	26.	23.
Total			
Ac. Ft.:	2144	1622	1394
Total Acre-Feet for 92 day period -- 5160			

TABLE 3
 Daily Discharge in Cubic Feet per Second
 CEDAR CREEK
 July 1 to September 30, 1948

Day	July	August	September
1	10.0	8.0	6.0
2	10.0	8.0	6.0
3	10.0	8.0	6.0
4	10.0	8.0	6.0
5	10.0	8.0	6.0
6	10.0	8.0	6.0
7	10.0	8.0	6.0
8	10.0	8.0	6.0
9	10.0	8.0	6.0
10	10.0	8.0	6.0
11	10.0	8.0	6.0
12	10.0	8.0	6.0
13	10.0	8.0	6.0
14	10.0	8.0	6.0
15	9.0	8.0	6.0
16	9.0	8.0	6.0
17	9.0	8.0	6.0
18	9.0	8.0	6.0
19	9.0	8.0	6.0
20	9.0	7.0	6.0
21	9.0	7.0	6.0
22	9.0	7.0	6.0
23	9.0	7.0	6.0
24	9.0	7.0	6.0
25	9.0	7.0	6.0
26	9.0	7.0	6.0
27	9.0	7.0	6.0
28	9.0	7.0	6.0
29	9.0	7.0	6.0
30	9.0	7.0	6.0
31	9.0	7.0	
Total			
Sec.Ft.	293.	236.	180.
Days			
Mean			
Sec.Ft.	9.4	7.6	6.
Total			
Ac. Ft.	581	468	357
Total Acre-Feet 92 day period - 1406			

TABLE 3
 Daily Discharge in Cubic Feet per Second
 CEDAR CREEK
 July 1 to September 30, 1948

Day	July	August	September
1	10.0	8.0	6.0
2	10.0	8.0	6.0
3	10.0	8.0	6.0
4	10.0	8.0	6.0
5	10.0	8.0	6.0
6	10.0	8.0	6.0
7	10.0	8.0	6.0
8	10.0	8.0	6.0
9	10.0	8.0	6.0
10	10.0	8.0	6.0
11	10.0	8.0	6.0
12	10.0	8.0	6.0
13	10.0	8.0	6.0
14	10.0	8.0	6.0
15	9.0	8.0	6.0
16	9.0	8.0	6.0
17	9.0	8.0	6.0
18	9.0	8.0	6.0
19	9.0	8.0	6.0
20	9.0	7.0	6.0
21	9.0	7.0	6.0
22	9.0	7.0	6.0
23	9.0	7.0	6.0
24	9.0	7.0	6.0
25	9.0	7.0	6.0
26	9.0	7.0	6.0
27	9.0	7.0	6.0
28	9.0	7.0	6.0
29	9.0	7.0	6.0
30	9.0	7.0	6.0
31	9.0	7.0	
Total			
Sec.Ft.:	293.	236.	180.
Days			
Mean			
Sec.Ft.:	9.4	7.6	6.
Total			
Ac. Ft.:	581	468	357
Total Acre-Feet 92 day period - 1406			

TABLE 4
 Daily Discharge in Cubic Feet per Second
 OAK RUN CREEK
 July 1 to September 30, 1948

Day	July	August	September
1	12.0	9.0	6.0
2	12.0	9.0	6.0
3	12.0	9.0	6.0
4	12.0	9.0	6.0
5	12.0	9.0	6.0
6	12.0	9.0	6.0
7	12.0	9.0	6.0
8	12.0	9.0	6.0
9	12.0	9.0	6.0
10	12.0	9.0	6.0
11	12.0	9.0	6.0
12	12.0	9.0	6.0
13	12.0	9.0	6.0
14	12.0	9.0	6.0
15	12.0	8.0	6.0
16	12.0	8.0	6.0
17	12.0	8.0	6.0
18	11.0	8.0	6.0
19	11.0	8.0	6.0
20	11.0	8.0	6.0
21	11.0	8.0	6.0
22	11.0	8.0	6.0
23	11.0	8.0	6.0
24	11.0	8.0	6.0
25	10.0	8.0	6.0
26	10.0	8.0	6.0
27	10.0	8.0	6.0
28	10.0	7.0	6.0
29	10.0	7.0	6.0
30	10.0	7.0	6.0
31	10.0	7.0	
Total Sec.Ft.	351.	258.	180.
Total Ac. Ft.	696	565	357
Total Acre-Feet 92 day period - 1618			

TABLE 5
 Daily Discharge in Cubic Feet per Second
 CLOVER CREEK
 July 1 to September 30, 1948

Day	July	August	September
1	40.0	28.0	24.0
2	40.0	27.0	24.0
3	40.0	26.0	24.0
4	39.0	26.0	23.0
5	39.0	26.0	23.0
6	38.0	25.0	23.0
7	38.0	25.0	23.0
8	37.0	25.0	23.0
9	36.0	25.0	23.0
10	35.0	25.0	23.0
11	35.0	25.0	23.0
12	35.0	25.0	23.0
13	34.0	25.0	23.0
14	34.0	25.0	23.0
15	33.0	25.0	23.0
16	33.0	25.0	23.0
17	32.0	25.0	23.0
18	32.0	25.0	23.0
19	31.0	25.0	23.0
20	31.0	25.0	23.0
21	30.0	25.0	23.0
22	30.0	25.0	23.0
23	30.0	25.0	23.0
24	30.0	25.0	23.0
25	29.0	25.0	23.0
26	29.0	25.0	23.0
27	29.0	24.0	23.0
28	29.0	24.0	23.0
29	29.0	24.0	23.0
30	29.0	24.0	23.0
31	28.0	24.0	
Total			
Sec.Ft.	1034.	778.	693.
Days			
Total			
Ac. Ft.	2050	1543	1374
Total Acre-Feet 92 day period - 4967			

PLATE I

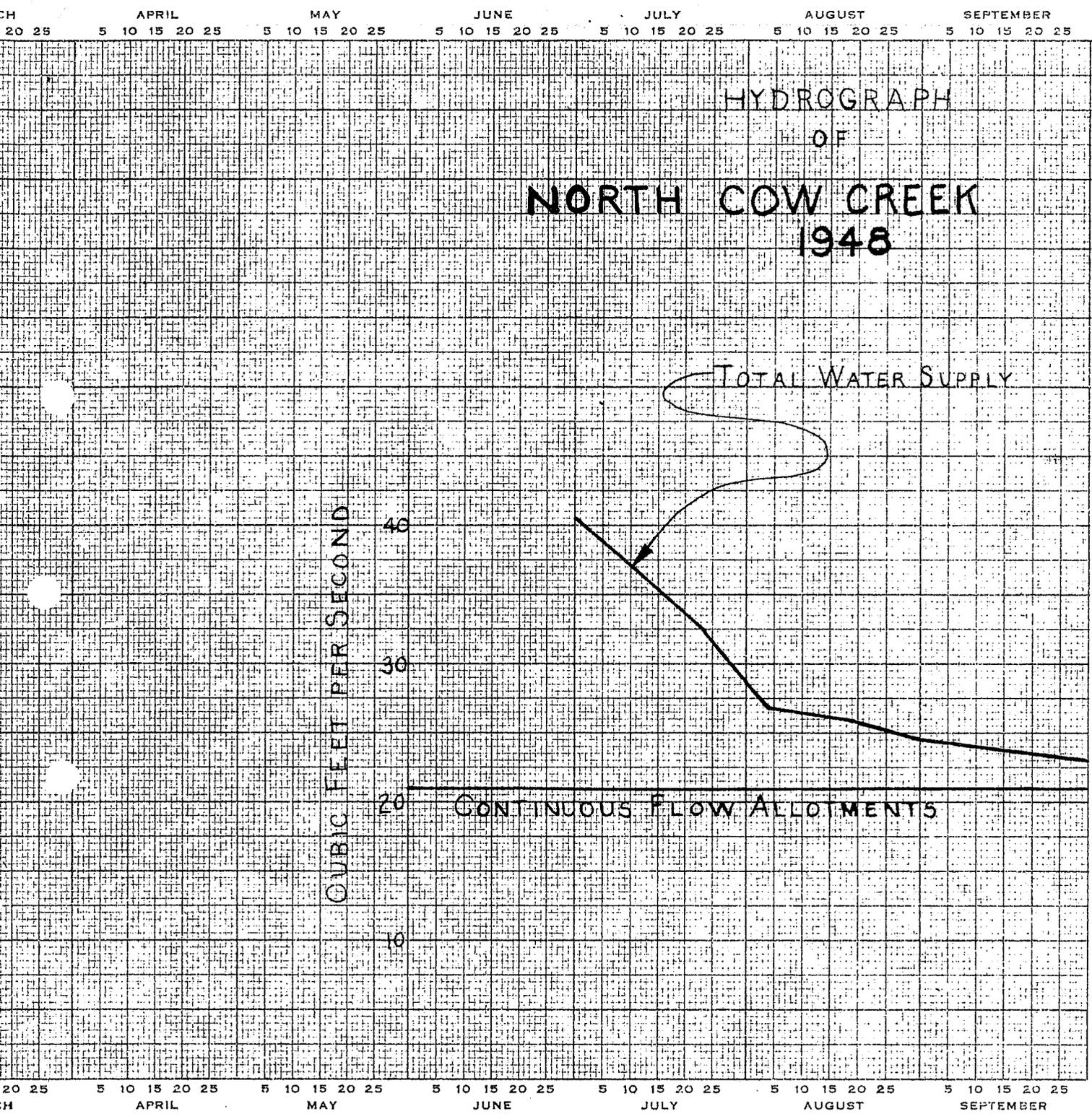


PLATE II

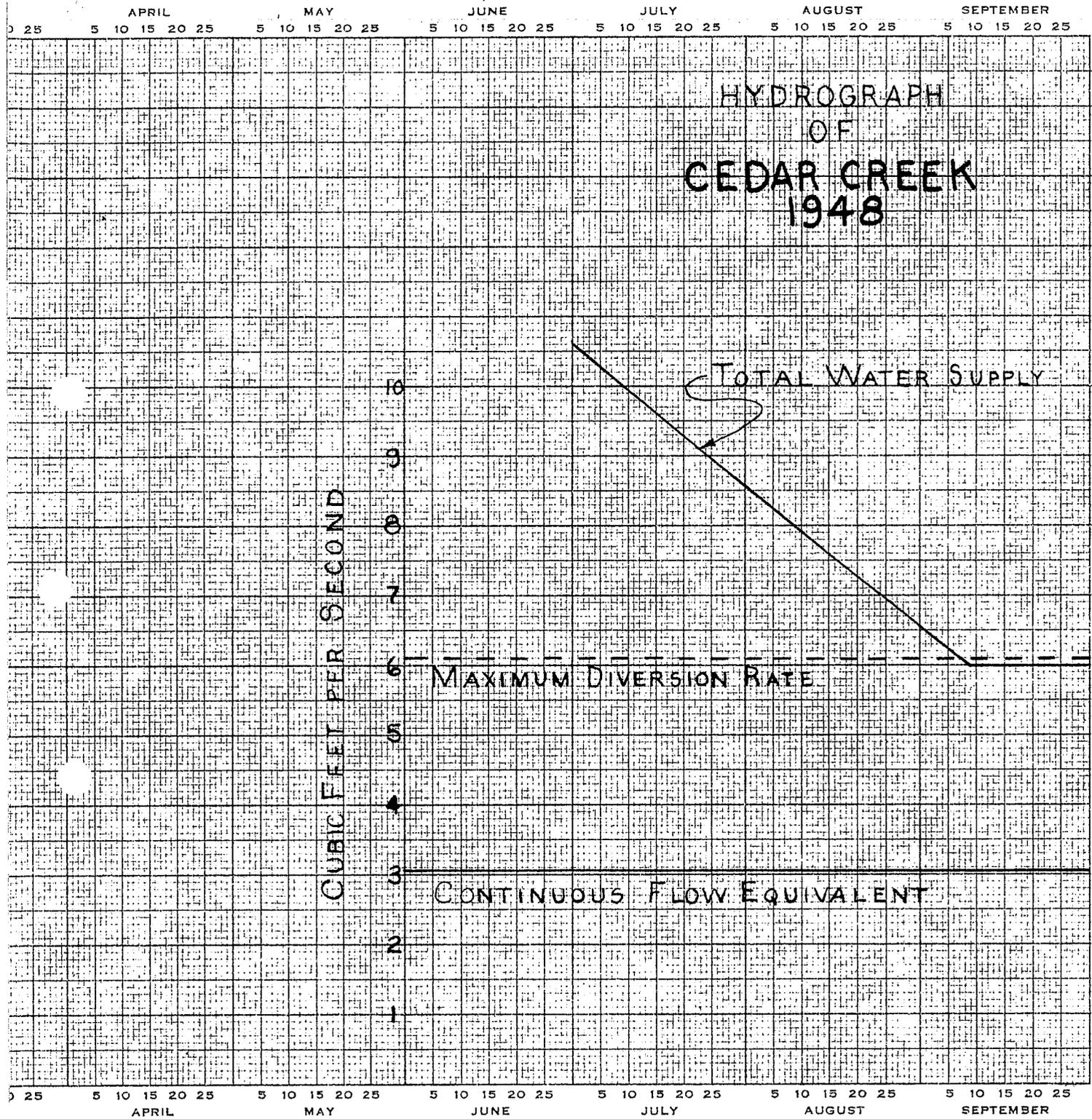


PLATE III

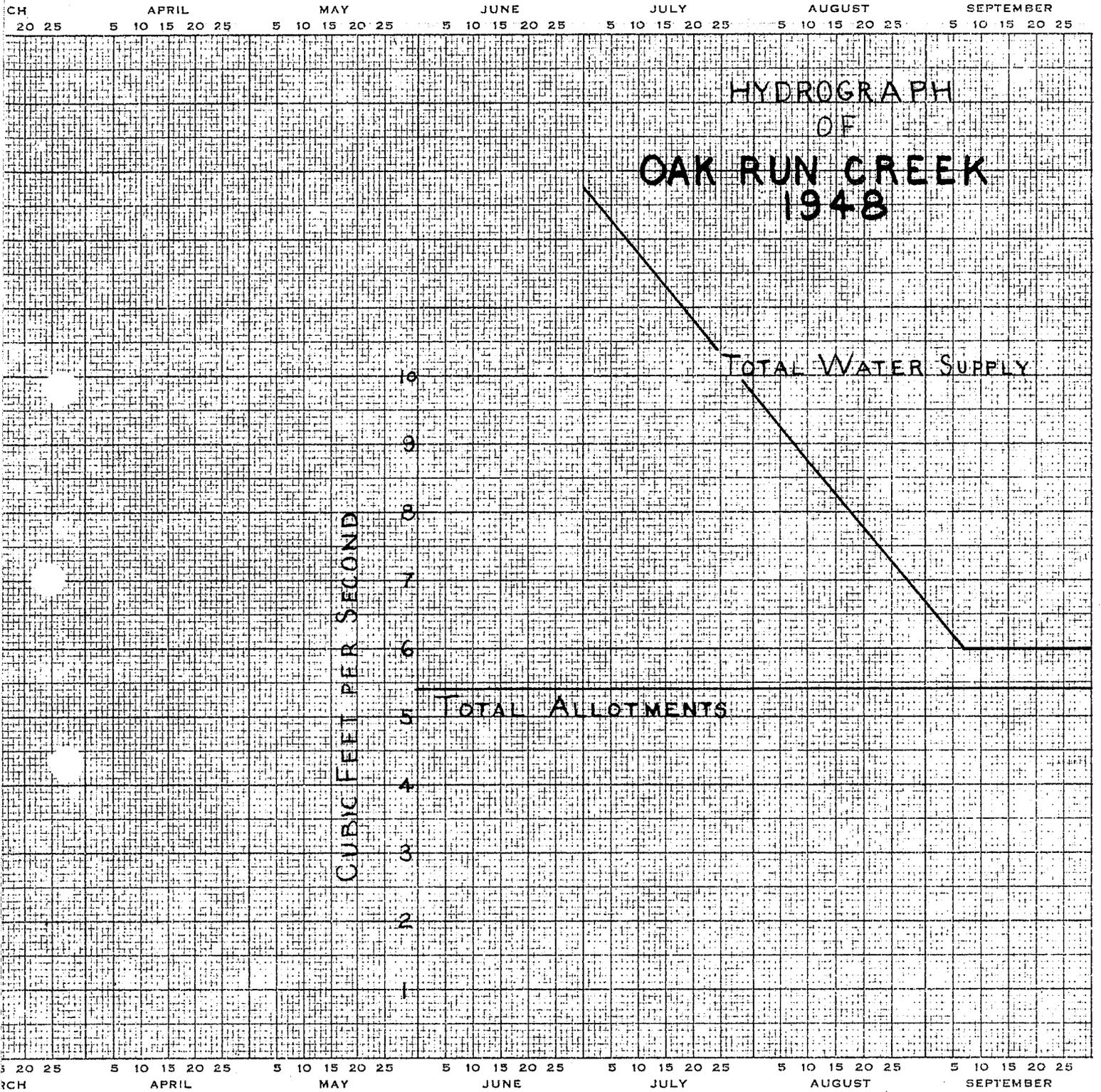
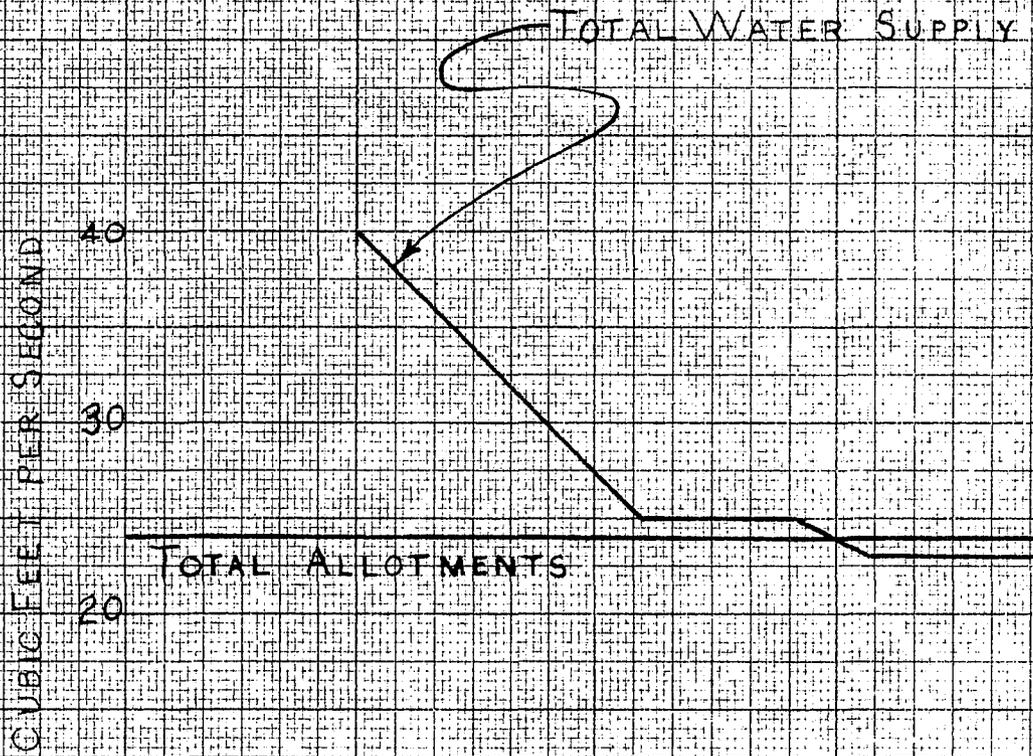


PLATE IV

RCH APRIL MAY JUNE JULY AUGUST SEPTEMBER
5 20 25 5 10 15 20 25 5 10 15 20 25 5 10 15 20 25 5 10 15 20 25 5 10 15 20 25 5 10 15 20 25

HYDROGRAPH OF CLOVER CREEK 1948



RCH APRIL MAY JUNE JULY AUGUST SEPTEMBER
5 20 25 5 10 15 20 25 5 10 15 20 25 5 10 15 20 25 5 10 15 20 25 5 10 15 20 25