STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

REPORTS OF THE
DIVISION OF WATER RESOURCES
EDWARD HYATT, STATE ENGINEER

REPORT ON WATER MASTER SERVICE IN COW CREEK WATER MASTER SERVICE AREA 1943 SEASON

BY
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Water Master

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DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

December 12, 1946

Mr. Gordon Zander,
Principal Hydraulic Engineer,
Sacramento, California

Attention: Mr. Harrison Smitherum, Supervising Hydraulic Engineer

Dear Sir:

Herewith is submitted the annual report covering water master service in the Cow Creek Water Master Service Area, Shasta County, California, for the 1943 season.

The report covers the distribution of water on North Cow, Cedar, Oak Run, and Clover Creeks and presents a general description of the work. Records of precipitation, stream flow, and other pertinent data are included.

Respectfully submitted

G. M. VICKROY
Water Master

TABLE OF CONTENTS

	Page
INTRODUCTION	1
WATER SUPPLY	2
Precipitation	2
Stream Flow	2
DISTRIBUTION	
North Cow Creek	3
Cedar Creek	3
Oak Run Creek	4
Clover Creek	4
OWNERSHIP OF LANDS AND WATER RIGHTS	
Changes in Ownership	5

TABLES

1. Precipitation Shasta Dam - 1907-1943
2. Net Available Flow in cubic feet per second - North Cow Creek
3. Net Available Flow in cubic feet per second - Cedar Creek
4. Net Available Flow in cubic feet per second - Oak Run Creek
5. Net Available Flow in cubic feet per second - Clover Creek
6.

PLATES

1. Hydrograph of North Cow Creek - 1943
2. Hydrograph of Cedar Creek - 1943
3. Hydrograph of Oak Run Creek - 1943
4. Hydrograph of Clover Creek - 1943

INTRODUCTION

The Cow Creek Water Master 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, Shasta County, California, which water rights were established by decrees entered by the Superior Court, Shasta County, California, on April 29, 1932, in the case of Charles L. Lemm, et al., vs. John Rutherford, et al., No. 5804, and on July 22, 1932, in the case of F. A. Colby, et al., vs. L. O. Strayer, et al.,No. 5701, respectively. On January 21, 1938, the area was enlarged by "Order Changing Cow Creek Water Master District, Shasta County, California, and containing a Description of all the Lands Within the District 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 Company vs. Jesse Hufford, et al., No. 6904.

Watermaster service in the Cow Creek Water Master Service Area for the 1944 Season, 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 June 1 to September 30 with G. M. Vickroy, Water Master, administering the distribution of water during the entire period. Harrison Smitherum was Supervising Water Master.

WATER SUPPLY

Precipitation

Data on precipitation as compiled from publications of the U.S. Weather Bureau has been changed to show precipitation at Shasta Dam rather than the average precipitation at Redding and McCloud, as the Redding Station has been discontinued. This data is shown in Table 1 of this Report. Based on this data the total precipitation for the 1942-1943 season was 53.95 inches, or 82 per cent of the mean for the 38 seasonal years 1907-1936. Of this total, 86 per cent fell during the period from October 1 to April 1.

Stream Flow

Records of the net available flow of North Cow Creek, Cedar Creek, Oak Run Creek, and Clover Creek, as determined for each stream by the 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. The records cover the periods from July 1 to September 30, 1943, when regulation of diversions was necessary.

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 were as set forth in Table 2 submitted at the end of the report.

Distribution was made on a continuous flow basis throughout the entire season, the supply being sufficient to supply 100 per cent of continuous flow allotments. There was a small surplus at all times over and above the demand of both the "A" and "B" Classes. No controversies developed on North Cow Creek during the season.

The Fassett and Hobson upper ditches were not used in 1943.

Cedar Creek

This stream is tributary to North Cow Creek and the water rights thereon are defined in the Lemm vs. Rutherford decree. Distribution during the 1943 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 about July 20th but gradually decreased to approximately 50 per cent of full allotments by August 25, and remained nearly constant until September 30 when water master service was discontinued for the 1943 season.

Oak Run Creek

The regulation of diversions from 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 1943 season were as shown in Table 4.

Clover Creek

The regulation 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 available for distribution during the 1943 season were as shown in Table 5.

OWNERSHIP OF LANDS AND WATER RIGHTS

COW CREEK WATER MASTER DISTRICT

Changes in Ownership

The changes in ownership of lands and water rights which have occurred subsequent to filing "Statement for Cow Creek Water-Master Service Area, County of Shasta, State of California for 1943" and which shall be included in statement for said water master service area for 1944 are listed in the following tabulation;

Tract No.	Name of Water Right Owner appearing in 1943 Statemen+	Names of Water Right Owner to appear in 1944 Statement	Amount of Water c.f.s
4-17	Antha M. Sarmento	Ernest Tassen and Ora Tassen (a)	.25
4-13	Jesse Grant	John G. Turner and Luella M. Turner	0.65
4-42	D. W. Ide and Addielee Ide	Marjorie Colby Chase	0.74
4-50	Harvey Austing Klinger	Roy W. Byers	0.60
4-77	Luella Lofton	Estate of B. F. Keith	0.37
4-54	Linnie Mae Neal	Harry L. Perkins and Eliabeth V. Perkins	1.08
4-73	Robert S. Rutherford	T. J. Driver and Verdena Driver	0.10
4-26	Thomas Rutherford	Harry L. Rutherford	1.60
4-30	Emma Thomas	Ora Tassen and Ernest E. Tassen	.50
4-29	Antha M. Sarmento	W. E. Amidon and Johanna Amidon (b)	.75
4-62			
4-66	William Stacher	Roy W. Byers	1.00
4-63	William Stacher Jr.	Roy W. Byers	.27
4-20	E. F. Stow	W. H. Rice	1.00

(a) One half of water right of Tract 4-17 reserved by Sarmento.
(b) One half of water right of Tract 4-17 added to Tract 4-29

(Note) Tracts No. 4-29 and 4-17 remain unchanged but amounts of water are different.

TABLE 1

Precipitation at Shasta Dam - 1906-1943 *

Monthly, Seasonal and Annual

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total Seasonal
1943	1.60	10.66	10.48	10.46	3.04	5.81	5.33	2.65	3.60	.0	.0	.0	53.63
Departure from Normal	-1.51	+2.36	+1.28	-1.97	-8.21	-1.99	+1.11	-0.19	+2.42	-0.13	-0.13	-1.11	- 8.07
Normal	3.11	8.30	9.20	12.43	11.25	7.80	4.22	2.84	1.18	0.13	0.13	1.11	61.70

* Past Records from Kennet are now designated Shasta Dam.

TABLE 2

Net Available Flow in Cubic Feet Per Second of North Cow Creek for the Period July 1 to September, 1943

Day	July	August	September
1	42.00	37.00	34.00
2	41.50	37.00	34.00
3	41.00	37.00	34.00
4.	40.50	37.00	34.00
5	40.50	37.00	34.00
6.	40.00	36.00	34.00
7	40.00	36.00	34.00
8	40.00	36.00	34.00
9	40.00	36.00	34.00
10	40.00	36.00	34.00
11	40.00	35.00	34.00
12	40.00	35.00	34.00
13	40.00	35.00	34.00
14	40.00	35.00	34.00
15	40.00	35.00	34.00
16	39.00	35.00	34.00
17	39.00	34.00	34.00
18	39.00	34.00	34.00
19	39.00	34.00	34.00
20	39.00	34.00	34.00
21	39.00	34.00	34.00
22	39.00	34.00	34.00
23	39.00	34.00	34.00
24	39.00	34.00	34.00
25	39.00	34.00	34.00
26	39.00	34.00	34.00
27	39.00	34.00	34.00
28	38.00	34.00	34.00
29	38.00	34.00	34.00
30	38.00	34.00	34.00
31	38.00	34.00	
Total	1225.50	1086.00	1020.00
Mean Sec. Ft.	39.0	35.0	34.0
Max. Sec. Ft.	42.0	37.0	34.0
Min Sec. Ft.	38.0	34.00	34.0
Total Acre Ft.	2430	2150	2020

Total for 92 day period 6,600 acre-feet

TABLE 3

Net Available Flow in Cubic Feet Per Second of
CEDAR CREEK for the Period July 1 to September 30, 1943

Day	July	August	September
1	8.00	3.50	3.50
2	8.00	3.50	3.50
3.	8.00	3.50	3.50
4	8.00	3.50	3.50
5.	8.00	3.50	3.50
6	8.00	3.50	3.50
7.	8.00	3.50	3.50
8	7.00	3.50	3.50
9	7.00	3.50	3.50
10	7.00	3.50	3.50
11	7.00	3.50	3.50
12	7.00	3.50	3.50
13	7.00	3.50	3.50
14	6.50	3.50	3.50
15	6.50	3.50	3.50
16	6.00	3.50	3.50
17	6.00	3.50	3.50
18	6.00	3.50	3.50
19	5.50	3.50	3.50
20	5.50	3.50	3.50
21	5.50	3.50	3.50
22	5.50	3.50	3.50
23	5.00	3.50	3.50
24	4.50	3.50	3.50
25	4.50	3.50	3.50
26	4.00	3.50	3.50
27	4.00	3.50	3.50
28	4.00	3.50	3.50
29	3.50	3.50	3.50
30	3.50	3.50	3.50
31	3.50	3.50	
Total	187.0	108.0	105.0
Mean	6.0	3.5	3.5
Max. Sec. Ft.	8.0	3.5	3.5
Min. Sec. Ft.	3.5	3.5	3.5
Total Ac. Ft.	370	214	208

Total for 92 day period 790 acre-feet.

TABLE 4

Net Available Flow in Cubic Feet per Second of
OAK RUN CREEK for the Period July 1 to September 30, 1943

Day	July	August	Sept.
1	12.00	10.00	10.00
2	12.00	10.00	10.00
3	12.00	10.00	10.00
4.	12.00	10.00	10.00
5	12.00	10.00	10.00
6	12.00	10.00	10.00
7	12.00	10.00	10.00
8	12.00	10.00	10.00
9	12.00	10.00	10.00
10	12.00	10.00	10.00
11	12.00	10.00	10.00
12	12.00	10.00	10.00
13	12.00	10.00	10.00
14	11.00	10.00	10.00
15	11.00	10.00	10.00
16	11.00	10.00	10.00
17	11.00	10.00	10.00
18	11.00	10.00	10.00
19	11:00	10.00	10.00
20	11.00	10.00	10.00
21	11.00	10.00	10.00
22	11.00	10.00	10.00
23	11.00	10.00	10.00
24	11.00	10.00	10.00
25	11.00	10.00	10.00
26	11.00	10.00	10.00
27	10.00	10.00	10.00
28	10.00	10.00	10.00
29	10.00	10.00	10.00
30	10.00	10.00	10.00
31	10.00	10.00	
Total	338.0	300.0	300.0
Mean	10.9	10.0	10.0
Max. Sec. Ft.	12.0	10.0	10.0
Min Sec. Ft.	10.0	10.0	10.0
Total Ac. Ft.	670.0	604.0	594.

Total for 92 day period 1868 acre-feet

TABLE 5

Net Available Flow in Cubic Feet per Second of
CLOVER CREEK for the Period July 1 to September 30, 1943

Day	July	August	September
1	38.00	32.00	30.00
2	38.00	32.00	30.00
3	38.00	32.00	30.00
4	38.00	32.00	30.00
5	38.00	32.00	30.00
6	38.00	32.00	30.00
7	37.00	32.00	30.00
8	37.00	32.00	30.00
9	37.00	32.00	30.00
10	37.00	32.00	30.00
11	37.00	32.00	30.00
12	37.00	32.00	30.00
13	36.00	32.00	30.00
14	36.00	32.00	30.00
15	36.00	32.00	30.00
16	36.00	32.00	30.00
17	36.00	32.00	30.00
18	35.00	31.00	30.00
19	35.00	31.00	30.00
20	35.00	31.00	30.00
21	35.00	31.00	30.00
22	35.00	31.00	30.00
23	34.00	31.00	30.00
24	34.00	31.00	30.00
25	34.00	31.00	30.00
26	34.00	31.00	30.00
27	33.00	31.00	30.00
28	33.00	33.00	30.00
29	33.00	31.00	30.00
30	33.00	30.00	30.00
31	32.00	30.00	
Total	969	946.0	900.0
Mean	31	30.5	30.0
Max. Sec. Ft.8	38.0	32.0	30.0
Min. Sec. Ft.	32.0	30.0	30.0
Total Acre-Feet	1920	1820	1780

Total acre-feet for 92 day period 5520

PLATE 1

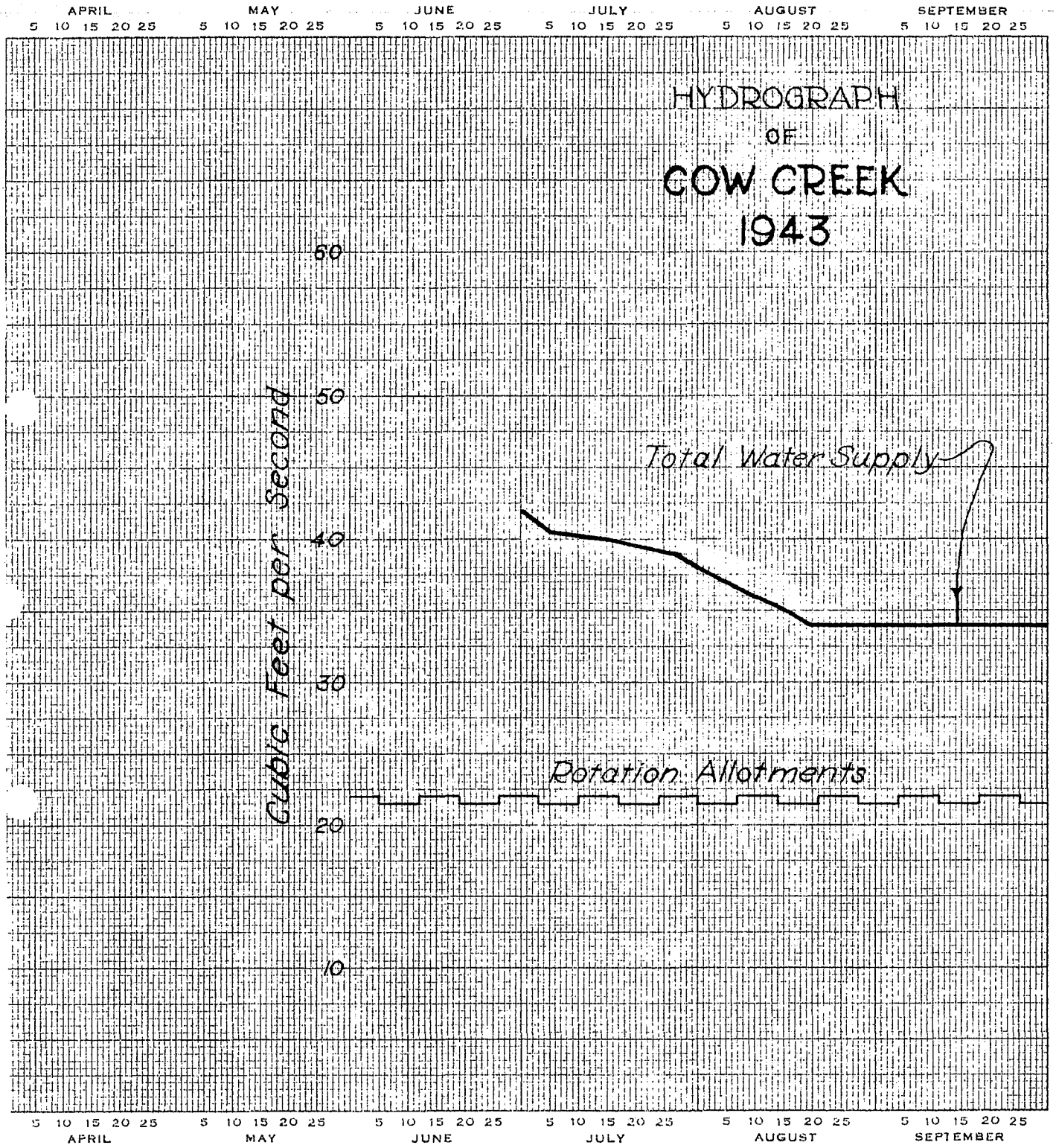

HYDROGRAPH
OF
COW CREEK
1943
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
5 10 15 20 25
Cubic Feet per Second
60
50
40
30
20
10
Total Water Supply
Rotation Allotments

PLATE 2

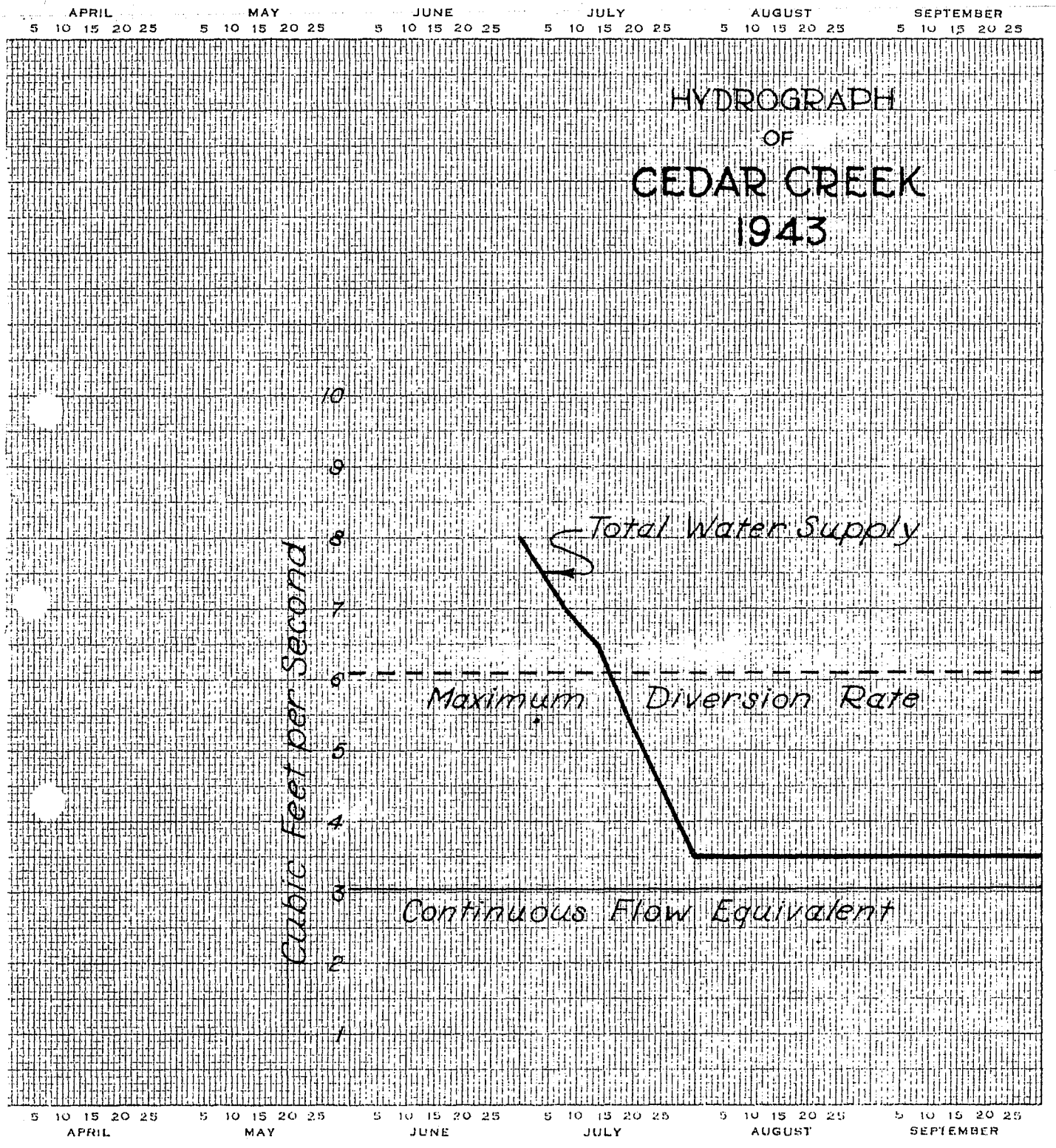

HYDROGRAPH
OF
CEDAR CREEK
1943
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
5 10 15 20 25
Cubic Feet per Second
10
9
8
7
6
5
4
3
2
1
Total Water Supply
Maximum Diversion Rate
Continuous Flow Equivalent

PLATE 3

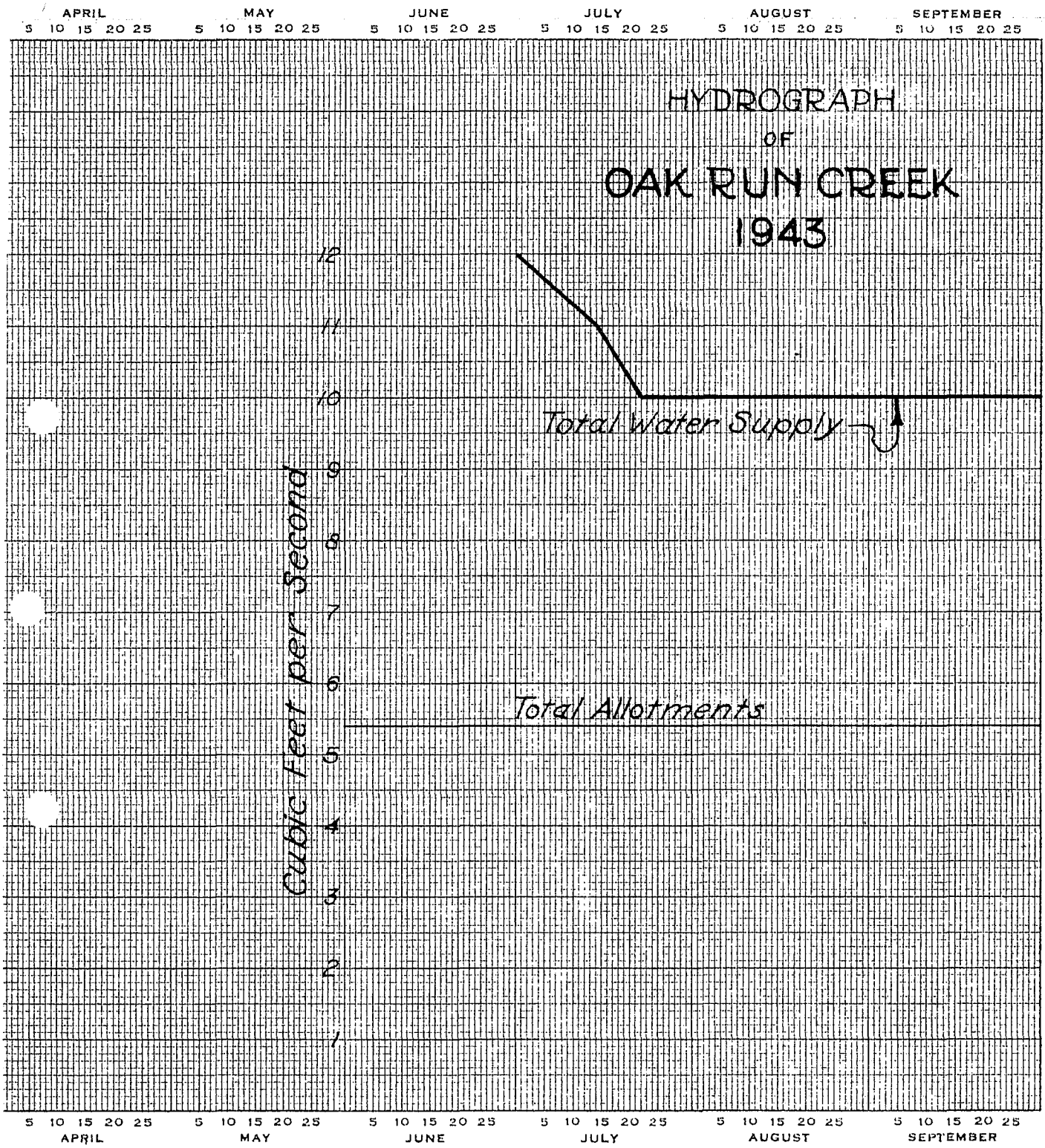
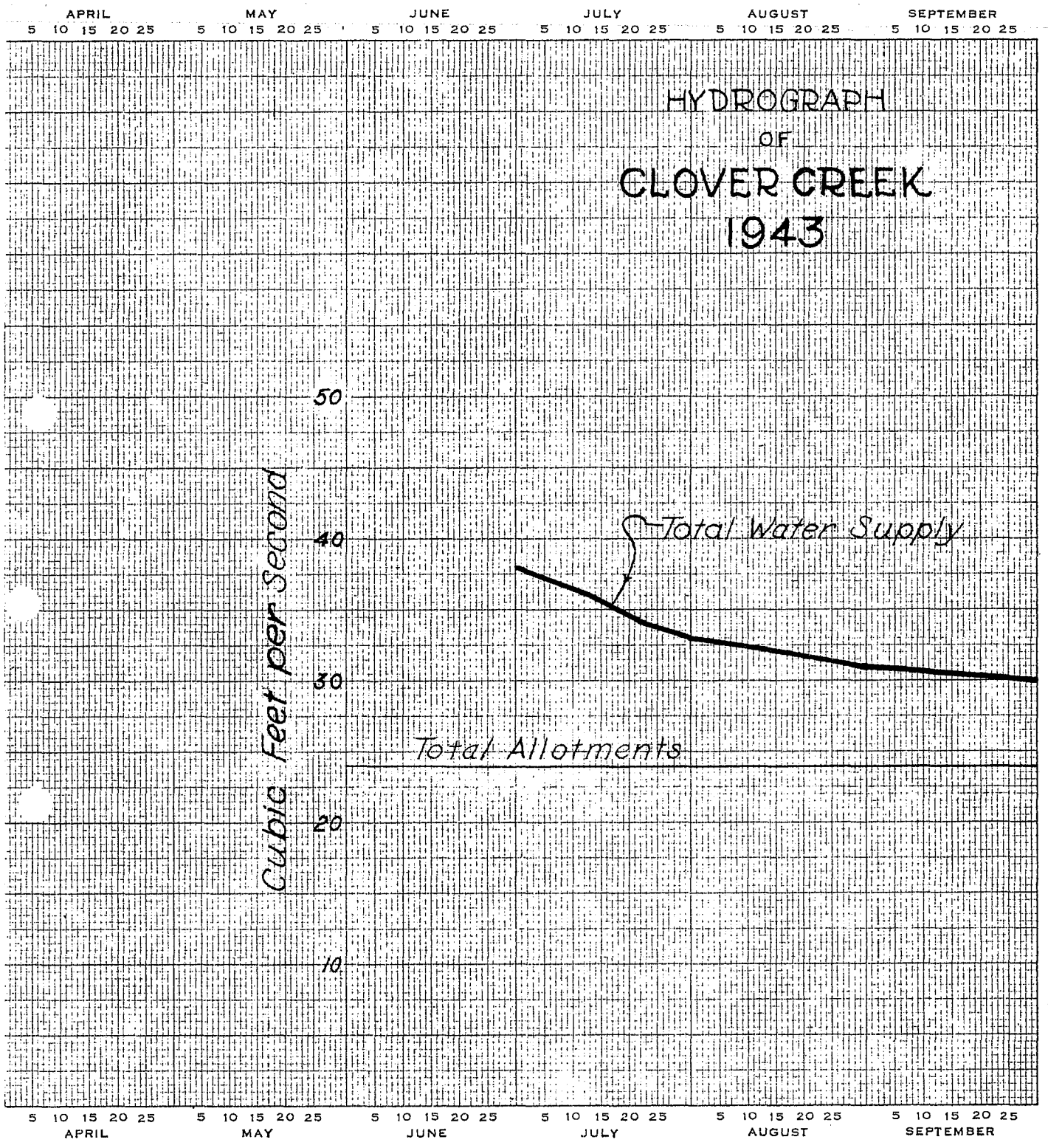

HYDROGRAPH
OF
OAK RUN CREEK
1943
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
5 10 15 20 25
Cubic Feet per Second
12
11
10
9
8
7
6
5
4
3
2
1
Total Water Supply
Total Allotments

PLATE 4


HYDROGRAPH
OF
CLOVER CREEK
1943
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
5 10 15 20 25
50
40
30
20
10
Cubic Feet per Second
Total Water Supply
Total Allotments