DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

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REPORTS OF THE

DIVISION OF WATER RESOURCES

Edward Hyatt, State Engineer

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REPORT ON WATER MASTER SERVICE ON LITTLE SHASTA RIVER SISKIYOU COUNTY, CALIFORNIA DURING THE SEASON OF 1930

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By

A. S. Wheeler, Water Master

oOo

Sacramento, California

March 1931

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STATE OF CALIFORNIA

Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

March 13, 1931

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

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

Herewith is submitted a report covering the water master service on Little Shasta River in Siskiyou County, California, during the season of 1930.

This report includes a description of the regulation and distribution of the waters of Little Shasta River and its tributaries in accordance with the Stipulation and Agreement entered into by the various water users on March 27, 1927 and a subsequent agreement for water master service entered into on June 15, 1928.

Run-off records and other pertinent data are included together with a discussion of the results that were obtained and a financial statement.

Respectfully submitted,

A S Walker
Water Master

ASW

ORGANIZATION

Colonel Walter E. Garrison	Director of Department of Public Works
Edward Hyatt	State Engineer
Harold Conkling	Deputy State Engineer

Gordon Zander, Hydraulic Engineer
In Supervising Charge

A. S. Wheeler	Water Master

REPORT ON

WATER MASTER SERVICE

ON

LITTLE SHASTA RIVER AND TRIBUTARIES

SISKIYOU COUNTY, CALIFORNIA

DURING SEASON OF 1930

GENERAL DESCRIPTION OF WORK

Water master service was continued on Little Shasta River and its tributaries during the 1930 season under the agreement for such service entered into on June 15, 1928 which agreement provides for such service until the decree in the matter of the Shasta River Adjudication Proceedings has been entered.

The water master service for the 1930 season commenced on April 1 and ceased on September 30 with the writer acting in the capacity of water master.

The shortage in the total water supply during the 1930 season eliminated entirely any consideration of the sixth and seventh priorities as set forth in the schedule of allotments and consideration of the second priorities was eliminated due to the fact that these covered diversions from springs not contributing to the flow in Little Shasta River and certain ditches near the head of the river which were not used or the regulation of which would have no appreciable effect on the supply available to the main irrigated area of the stream system. The foregoing also eliminated a portion of the first priorities.

This report accordingly deals only with the distribution of the

available supply from Cleland Springs, Dewey Gulch and Little Shasta River at a point just above the intake to the Harp Ditch.

The water users were represented in their dealings with the Division of Water Resources during 1930 by a committee composed of E. C. Hart, J. C. Martin and D. C. Earhart and their cooperation together with that of the water users themselves was of great assistance towards a fair distribution of the water.

The regrettable death of Mr. Earhart during the early part of the water master season reduced the committee to two for the balance of the season as no meeting of the water users was called to appoint a new member.

No attempt was made to exercise the right to divert water at Diversions 429, 430, 447, 448 and 450 as listed in the Shasta River Adjudication Proceedings and no ditches below the Hart, Haight and Prather Ditch with one exception were able to divert during the 1930 period of water master service as no water was available for the sixth and seventh priorities which covered these ditches.

The exception was the Jones Gregory Ditch which obtained some waste water from the irrigation operations of the Montague Water Conservation District.

DISCUSSION OF RESULTS FOR SEASON

The precipitation at Mt. Shasta City and Montague for the seasonal year, October 1, 1929 to September 30, 1930, is compared with the precipitation during the preceding forty seasonal years in Table 1 of this report which table also shows the average precipitation for the total period of record at these two stations.

It will be noted from Table 1 that the precipitation for the seasonal year 1929-30 was 93% of the average and that slightly over 50% of this occurred during December 1929 and January 1930.

Table 2 is a tabulation of the daily discharge of Little Shasta River at the stream flow measuring station established just above the intake to the Harp Ditch. Plate 2 is a rating curve for this station for the 1930 season.

Table 3 is a tabulation of the daily discharge of Cleland Springs and Table 4 is a like tabulation for Dewey Gulch.

Table 5 is a tabulation of the combined daily discharge of all sources considered during the 1930 season and this total water supply for 1930 is graphically shown and compared with the like supply during the 1922 season on Plate 1 of this report.

Tables 6 to 11 inclusive are tabulations of the daily total supply and distribution thereof by priorities for each month of the 1930 water master season. These tables show the percentage of distribution by priorities and the percent of the toatl allotments available for distribution.

Table 12 is a tabulation of the number of acres irrigated and the kind of crops thereon and the yield thereof.

To assist in an accurate distribution of the water supply temporary weirs were installed in all ditches receiving water, in Little Shasta River when the flow had receded to a point where current meter readings were undependable and in Dewey Gulch.

Temporary rectangular weirs were installed as follows:

Little Shasta River	48 inch
Harp Ditch	18 inch
Terwilliger Cleland Springs Ditch	36 inch
McMurren Ditch	18 inch
Soule and Terwilliger Ditch	18 inch
Hart and Haight Ditch	12 inch
Musgrave and Linton Ditch	36 inch
Babcock, Martin & Soule Ditch	18 inch
Hart, Haight & Prather Ditch	36 inch

Temporary triangular notch weirs were installed as follows:

Dewey Gulch

Dimmick Ditch

A 48 inch concrete rectangular weir had been previously installed in the Martin and Davis Ditch.

The fact that no permanent diversion works have been installed at the heads of the ditches, and that loose rocks are used to divert the water, operated to some extent against an accurate distribution of the water.

Towards the close of the water master season the matter of the installation of permanent diversion works and measuring devices in the ditches was taken up with the water users with the result that the

owners of ditches receiving water during the low flow period agreed to the immediate installation of Parshall Measuring Flumes but desired to postpone the installation of permanent diversion works.

In view of their decision bids for the construction and installation of flumes were obtained from local contractors and the Hardesty Manfacturing Company at Denver, Colorado with the following results.

Size of Throat	Material	Price
24 inch	Clear Cedar	$66.50
24 inch	Redwood	80.00
24 inch	Concrete	50.00
24 inch	18 Gage Metal	45.00
24 inch	12 Gage Metal	73.64
36 inch	Clear Cedar	76.50
36 inch	Redwood	90.00
36 inch	Concrete	60.00
36 inch	10 Gage Metal	100.12

In view of the foregoing prices the water users decided on the installation of reinforced concrete measuring flumes the specifications for which called for ½ inch reinforcing bars, standard concrete pipe mixture, 2 foot walls and 1 inch galvanized angle iron in the walls and crest of the throat.

The following installations were made.

Ditch	Flume Size	Cost
Terwilliger Cleland Spring	24 inch	$40.00 *
McMurren	24 inch	40.00 *
Soule and Terwilliger	24 inch	50.00
Musgrave and Linton	36 inch	60.00
Babcock, Martin and Soule	24 inch	50.00
Hart, Haight and Prather	36 inch	60.00

* Walls cut to 1.25 feet.

Permanent concrete head works were installed in the Hart, Haight and Prather Ditch at a cost of $100.00.

No other permanent head works were installed as it was proposed to clean and alter the channel of the portion of Little Shasta River where most of the diversions occur.

CONTROVERSIES

The only controversy which occurred during the 1930 season was between Mrs. A. C. Haight and Mr. E. C. Hart over water stored in the Hart Reservoir on Evens Spring Creek. Such stored waters were seepage from the Martin and Davis Ditch and a small flow from Evans Spring not diverted by Mr. Hart in his ditch therefrom.

Mrs. Haight claimed that prior to the construction of the reservoir this water flowed naturally into the Hart and Haight Ditch and that she was accordingly entitled to one half thereof.

Since the matter involved a claim of right which was not included in the Shasta River Adjudication Proceedings it appeared that the water master had no jurisdiction, however, an attempt was made to bring about a friendly settlement with the result that a portion of the stored waters were delivered to Mrs. Haight during the few days water was being released from the reservoir at that particular time.

The only other unfortunate incident which occurred during the 1930 season was on the evening of June 9, 1930 at which time the flow in the Musgrave and Linton Ditch was shut off by two small dams. This appeared to have been done by children who were present on a picnic that evening.

RECOMMENDATIONS

Continued attempts should be made to have permanent diversion works installed including headgates on all ditches.

Additional Parshall Measuring Flumes should be installed and particularly in the Harp Ditch, Hart and Haight Ditch and in two ditches on the Terwilliger Estate.

The above would call for the installation of two 24 inch flumes, one 12 inch flume and one 6 inch flume.

FINANCIAL STATEMENT

The finances for conducting investigations and water master service on all streams in Northern California, except in water districts operating under the procedure of Sections 37 to 37f of the Water Commission Act, during the 1930 season were combined into one fund. This was done because a portion of the work on the various streams was related and because of convenience in bookkeeping. The streams included under the fund were Emerson, Davis and Mill Creeks in Modoc County, Clover, North Cow, and Oak Run Creeks in Shasta County, Little Shasta and Lower Shasta Rivers in Siskiyou County, and Pit River in Big Valley.

The work was financed partly by subscription from the water users and partly by contribution by the Division of Water Resources. No segregation was made in the expense of conducting the work on the nine stream systems during the 1930 season. The total unit cost of the work was about twenty-four cents per acre of irrigated land, of which about half was borne by the state.

A financial statement in which receipts and disbursements are itemized follows.

FINANCIAL STATEMENT

NORTHERN CALIFORNIA WATER DISTRIBUTION

1930 SEASON

Receipts

Contributed by Emerson Creek Water Users - - - - -	$290.10
Contributed by Davis Creek Water Users - - - - - -	389.20
Contributed by Mill Creek Water Users - - - - - - -	500.00
Contributed by Clover Creek Water Users - - - - -	372.00
Contributed by North Cow Creek Water Users - - - -	442.87
Contributed by Oak Run Creek Water Users - - - - -	94.48
Contributed by Little Shasta River Water Users - -	926.02
Contributed by Lower Shasta River Water Users - - -	200.00
Contributed by Pit River - - - - - - - - - - - - - -	450.00
Contributed by Division of Water Resources - - - -	3950.00
	$ 7614.67

Disbursements

Salaries and Wages - - - - - - - - - - - - - - - - -	$4987.18
Travel and Field Expenses - - - - - - - - - - - -	2550.92
Printing and Blueprinting - - - - - - - - - - - -	43.42
Miscellaneous - - - - - - - - - - - - - - - - - - -	33.15
	$ 7614.67

SMART

TABLE 1

PRECIPITATION DATA

Average Mt. Shasta City and Montague -1889-1930

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Season Total
1889-90	8.30	3.39	8.21	6.74	4.68	3.54	1.77	2.22	1.17	0	0	0.60	40.67
1890-91	1.67	0.80	3.46	2.05	6.61	2.11	1.98	1.74	0.92	0.03	0.18	0.61	21.55
1891-92	0.15	0.18	6.30	1.52	2.00	2.47	2.92	2.74	0.82	0.23	0	0.93	20.26
1892-93	0.62	4.55	5.70	1.60	1.40	1.76	5.50	2.03	0.02	0.17	0	0.34	23.69
1893-94	0.30	2.75	2.54	5.62	2.24	2.16	1.23	1.64	1.12	0	0	0.84	20.44
1894-95	2.05	2.38	6.74	5.92	1.68	2.95	0.66	2.28	0.52	0.28	0	2.32	27.78
1895-96	0.50	0.62	3.03	10.59	1.17	1.33	1.77	1.91	0.07	0.01	0.15	0.22	21.37
1896-97	0.64	3.62	7.64	3.35	2.63	0.96	0.67	0.48	0.08	0	0.24	0	20.31
1897-98	2.28	2.93	2.57	0.61	6.56	0.89	0.58	3.07	1.07	0	0	0	20.56
1898-99	0.25	1.23	1.87	2.93	0.51	1.54	0.11	1.15	0.51	0	0.66	0	10.76
1899-00	2.08	6.51	2.93	4.68	0.63	5.71	1.85	1.32	0.88	0	0.36	0.34	27.29
1900-01	5.83	3.83	3.38	6.03	5.10	0.75	1.55	0.74	0.40	0.13	0.48	1.09	29.31
1901-02	2.04	4.73	1.83	1.11	14.20	2.83	3.14	1.97	0.02	0.28	2.58	0.06	34.79
1902-03	2.95	7.49	3.99	5.18	0.93	5.19	0.11	0.14	0.32	0.14	0.03	0.01	26.48
1903-04	1.22	8.12	1.63	2.20	8.02	10.17	3.94	0.42	0.05	0.23	0.01	3.15	39.16
1904-05	4.18	1.99	3.82	6.02	2.14	4.85	1.19	2.61	0.52	0.07	0	0.15	27.54
1905-06	0.17	1.28	2.21	8.04	2.97	6.84	0.98	1.76	1.50	0.23	0.16	0.41	26.55
1906-07	0.06	2.78	5.69	5.35	2.86	8.71	0.61	0.58	0.90	0.06	1.28	0.37	29.25
1907-08	0.54	0.15	7.82	4.52	6.43	0.50	0.86	1.92	0.21	0	0	0.15	23.10
1908-09	2.61	1.80	1.41	13.18	10.22	2.00	0.06	0.21	0.39	0.62	0.04	0.65	33.19
1909-10	2.00	3.69	3.70	4.14	1.40	1.80	1.25	0.80	0.03	0.20	0	0.62	19.63
1910-11	0.71	7.25	2.08	6.54	2.13	3.78	1.61	1.00	0.32	0.94	0	0.69	27.05
1911-12	0.89	1.23	2.00	3.99	1.21	4.12	2.79	2.32	1.29	0.28	0.45	2.71	23.28
1912-13	1.66	3.75	0.95	4.19	0.65	1.38	1.70	1.55	3.21	2.06	0.40	0.23	21.73
1913-14	0.31	4.72	6.26	10.16	4.02	1.90	1.37	1.23	1.13	0.63	0.03	0.57	32.33
1914-15	2.09	0.29	4.55	4.04	7.60	4.24	1.08	2.61	0.06	0.31	0.01	0.01	26.89
1915-16	0.17	1.84	4.22	9.23	2.73	2.45	0.29	0.53	0.65	0.64	0.51	0.19	23.45
1916-17	0.26	1.02	3.84	1.70	4.03	2.04	1.54	1.25	0.01	0.08	0.20	0.29	16.26
1917-18	0	2.91	2.07	1.54	1.55	3.61	0.76	0.20	0.01	0.10	0.49	2.77	16.01
1918-19	2.12	1.69	1.19	3.44	6.08	2.84	0.76	0.14	0.15	0.04	0.04	1.01	19.50
1919-20	0.13	0.43	2.54	0.40	0.49	2.44	2.61	0.64	0.63	0.71	0.42	0.30	11.74
1920-21	1.86	5.79	4.21	5.43	2.07	2.01	0.36	1.82	0.24	0	0	0.08	23.87
1921-22	1.02	2.57	4.71	0.90	4.92	3.12	0.36	1.26	0.81	0.02	0.35	0.12	20.16
1922-23	3.22	2.43	4.61	2.33	0.85	0.08	2.56	0.75	1.91	0.11	0.20	1.91	20.96
1923-24	1.53	0.41	1.66	1.37	1.44	1.07	0.32	0.12	0.27	0.08	0.21	0.50	8.98
1924-25	3.80	2.52	3.04	1.31	5.95	2.12	3.98	1.50	0.82	0.26	0.46	2.83	28.59
1925-26	0.66	1.99	1.71	1.39	3.61	0.13	3.30	0.78	0	0.23	0.38	0.05	14.23
1926-27	1.71	11.13	2.59	3.51	5.42	1.78	4.05	1.26	0.62	0.01	0.06	0.01	32.15
1927-28	1.88	4.31	1.91	2.01	2.75	4.75	2.17	0.74	0.40	0.24	0.10	0.37	21.63
1928-29	0.87	3.92	3.81	0.83	2.30	1.67	1.51	0.21	0.87	0	0	0	15.99
1929-30	1.10	0	7.33	3.75	2.73	1.93	2.62	0.75	0.49	0.03	0.09	1.17	21.99
Average	1.62	3.05	3.70	4.13	3.58	2.84	1.67	1.28	0.62	0.23	0.26	0.69	23.67

TABLE 2

Continuous Records of Discharge

LITTLE SHASTA RIVER

For the Period April 1 to September 30, 1938

Day	April	May	June	July	Aug.	Sept.	
1	18.	15.	6.	3.3	2.	1.8	
2	16.	12.3	5.7	3.3	2.	1.7	
3	14.1	27.5	5.6	3.2	1.9	1.4	
4	12.	21.	5.5	2.9	1.8	1.8	
5	13.	16.5	5.2	2.8	1.2	1.8	
6	14.	15.5	5.5	2.7	1.4	1.8	
7	14.7	15.	5.5	2.7	1.8	1.9	
8	13.5	14.	5.3	2.6	1.4	2.7	
9	12.2	13.7	5.	2.5	1.6	2.9	
10	12.2	12.1	4.7	2.2	1.7	2.4	
11	12.	11.5	4.4	2.5	1.5	3.1	
12	11.5	11.2	5.	2.4	2.1	2.6	
13	12.5	10.7	4.7	2.4	1.9	2.3	
14	17.9	10.1	4.3	2.4	2.2	2.2	
15	24.	10.8	4.	2.4	1.7	2.1	
16	20.9	9.8	4.1	2.2	1.9	2.	
17	19.	8.9	3.9	2.2	1.9	2.	
18	15.2	8.8	3.9	2.2	1.9	2.	
19	13.2	8.7	4.3	2.2	2.1	2.	
20	14.4	8.6	3.9	2.2	1.9	1.9	
21	15.6	12.5	3.9	2.3	1.9	1.5	
22	14.5	9.7	3.8	2.3	1.9	1.9	
23	13.2	9.	3.8	2.3	1.8	2.	
24	16.6	8.7	3.7	2.7	1.9	3.7	
25	15.	7.4	3.5	2.4	1.4	2.5	
26	15.	7.	3.5	2.2	1.6	2.2	
27	18.	6.8	3.3	3.1	1.7	2.2	
28	25.	7.3	3.4	2.3	1.6	2.7	
29	20.	8.	3.3	2.1	1.7	2.9	
30	17.	7.2	3.3	2.2	1.7	3.2	
31		6.5		2.1	1.8		
Total Sec. Ft. Days	470.2	351.8	132.	75.	54.9	67.2	6 Month Period
Mean Sec. Ft.	15.7	11.4	4.4	2.4	1.8	2.2	6.3
Maximum Sec. Ft.	25.	27.5	6.	3.3	2.1	3.7	27.5
Minimum Sec. Ft.	11.5	6.5	3.3	2.1	1.2	1.4	1.2
Total Ac. Ft.	922.	697.	261.	148.	109.	133.	2270.

TABLE 3

Continuous Records of Discharge

CLELAND SPRINGS

For the Period April 1 to September 30, 1930

Day	April	May	June	July	Aug.	Sept.	
1	7.5	7.6	7.9	7.7	7.9	7.7	
2	7.5	7.7	7.9	7.7	7.9	7.7	
3	7.5	7.7	8.	7.7	7.9	7.7	
4	7.5	7.7	8.	7.7	7.9	7.7	
5	7.5	7.7	7.9	7.7	7.9	7.7	
6	7.5	7.7	7.9	7.7	7.9	7.6	
7	7.5	7.7	7.8	7.7	7.9	7.6	
8	7.5	7.6	7.7	7.7	7.9	7.6	
9	7.5	7.6	7.5	7.7	7.9	7.8	
10	7.5	7.6	7.5	7.7	7.9	7.8	
11	7.5	7.7	7.5	7.7	7.9	7.8	
12	7.5	7.7	7.5	7.8	7.9	7.7	
13	7.5	7.7	7.5	7.8	8.	7.7	
14	7.5	7.7	7.5	7.8	8.	7.7	
15	7.5	7.7	7.5	7.8	8.	7.7	
16	7.4	7.7	7.5	7.8	8.	7.7	
17	7.4	7.7	7.5	7.8	8.	7.7	
18	7.4	7.7	7.6	7.8	8.	7.7	
19	7.4	7.7	7.6	7.8	7.9	7.8	
20	7.4	7.7	7.6	7.8	7.9	7.8	
21	7.4	7.7	7.6	7.8	7.9	7.8	
22	7.4	7.7	7;6	7.8	7.8	7.8	
23	7.4	7.7	7.6	7.8	7.8	7.8	
24	7.5	7.7	7.6	7.8	7.8	7.8	
25	7.5	7.8	7.6	7.9	7.8	7.8	
26	7.5	7.8	7.6	7.9	7.8	7.9	
27	7.5	7.9	7.6	7.9	7.7	7.9	
28	7.6	7.9	7.6	7.9	7.7	7.9	
29	7.6	7.9	7.7	7.9	7.7	8.	
30	7.6	7.9	7.7	7.9	7.7	8.	
31		7.9		7.9	7.7		
Total Sec. Ft. Days	224.5	239.5	229.6	241.4	244.	232.9	6 Month Period
Mean Sec. Ft.	7.5	7.7	7.7	7.8	7.9	7.8	7.7
Maximum Sec. Ft.	7.6	7.9	8.	7.9	8.	8.	8.
Minimum Sec. Ft.	7.4	7.6	7.5	7.7	7.7	7.6	7.4
Total Ac. Ft.	435.	474.	455.	478.	483.	461.	2786.

TABLE 4

Continuous Records of Discharge

DEWEY GULCH

For the Period April 1 to September 30, 1930

Day	April	May	June	July	Aug.	Sept.	
1	0.3	0.1					
2	0.2	0.1					
3	0.2	0.9					
4	0.2	0.3					
5	0.2	0.2					
6	0.1	0.2					
7	0.1	0.1					
8	0.1	0.1					
9	0.1	0.1					
10	0.1	0.1					
11	0.1	0.1					
12	0.1	0.1					
13	0.1	0.1					
14	0.2	0.1					
15	0.4	0.1					
16	0.1	0.1	NO FLOW	NO FLOW	NO FLOW	NO FLOW	
17	0.1	0.1					
18	0.1	0.0					
19	0.1	0.0					
20	0.1	0.0					
21	0.1	0.1					
22	0.1	0.1					
23	0.1	0.1					
24	0.1	0.0					
25	0.1	0.0					
26	0.1	0.0					
27	0.3	0.0					
28	0.1	0.0					
29	0.1	0.1					
30	0.1	0.1					
31		0.0					
Total Sec. Ft. Days	4.2	3.4	0	0	0	0	6 Month Period
Mean Sec. Ft.	0.1	0.1	0	0	0	0	0.1
Maximum Sec. Ft.	0.4	0.9	0	0	0	0	0.9
Minimum Sec. Ft.	0.1	0.0	0	0	0	0	0.0
Total Acre Feet	8.	7.	0	0	0	0	15.

TABLE 5

Combined Continuous Records of Discharge

LITTLE SHASTA RIVER, CLELAND SPRINGS AND DEWEY GULCH

For the Period April 1 to September 30, 1930

Day	April	May	June	July	Aug.	Sept.	
1	25.8	22.7	13.9	11.	9.9	9.5	
2	23.7	20.1	13.6	11.	9.9	9.4	
3	21.8	36.1	13.6	10.9	9.8	9.1	
4	19.7	29.	13.5	10.6	9.7	9.5	
5	20.7	24.4	13.1	10.5	9.1	9.5	
6	21.6	23.4	13.4	10.4	9.3	9.4	
7	22.3	22.8	13.3	10.4	9.7	9.5	
8	21.1	21.7	13.	10.3	9.3	10.3	
9	19.8	21.4	12.5	10.2	9.5	10.7	
10	19.8	19.8	12.2	9.9	9.6	10.2	
11	19.6	19.3	11.9	10.2	9.4	10.9	
12	19.1	19.	12.5	10.2	10.	10.3	
13	20.1	18.5	12.2	10.2	9.9	10.	
14	25.6	17.9	11.8	10.2	10.2	9.9	
15	31.9	18.6	11.5	10.2	9.7	9.8	
16	28.4	17.6	11.6	10.	9.9	9.7	
17	26.5	16.7	11.4	10.	9.9	9.7	
18	22.7	16.5	11.5	10.	9.9	9.7	
19	20.7	16.4	11.9	10.	10.	9.8	
20	21.9	16.3	11.5	10.	9.8	9.7	
21	23.1	20.3	11.5	10.1	9.8	9.3	
22	22.	17.5	11.4	10.1	9.7	9.7	
23	20.7	16.8	11.4	10.1	9.6	9.8	
24	24.2	16.4	11.3	10.5	9.7	11.5	
25	22.6	15.2	11.1	10.3	9.2	10.3	
26	22.6	14.8	11.1	10.1	9.4	10.1	
27	25.8	14.7	10.9	11.	9.4	10.1	
28	32.7	15.2	11.	10.2	9.3	10.6	
29	27.7	16.	11.	10.	9.4	10.9	
30	24.7	15.2	11.	10.1	9.4	11.2	
31		14.4		10.	9.5		
Total Sec. Ft. Days	698.9	594.7	361.6	316.4	298.9	300.1	6 Month Period
Mean Sec. Ft.	23.3	19.2	12.1	10.2	9.6	10.	14.6
Maximum Sec. Ft.	32.7	36.1	13.9	11.	10.2	11.5	36.1
Minimum Sec. Ft.	19.1	14.4	10.9	9.9	9.1	9.1	9.1
Total Acre Feet	1365.	1178.	716.	626.	592.	594.	5071.

TABLE 6

SUPPLY AND DISTRIBUTION

APRIL 1930

Day	Available Supply				% of Distribution by Priorities						% of Total Allotments
	Little Shasta	Cleland Springs	Dewey Gulch	Total	First	Third	Forth	Fifth	Sixth	Seventh	
1	18.	7.5	0.3	25.8	100	100	100	57			33
2	16.	7.5	0.2	23.7	100	100	100	47			30
3	14.1	7.5	0.2	21.8	100	100	100	39			28
4	12.	7.5	0.2	19.7	100	100	100	30			25
5	13.	7.5	0.2	20.7	100	100	100	34			27
6	14.	7.5	0.1	21.6	100	100	100	38			28
7	14.7	7.5	0.1	22.3	100	100	100	41			29
8	13.5	7.5	0.1	21.1	100	100	100	36			27
9	12.2	7.5	0.1	19.8	100	100	100	30			26
10	12.2	7.5	0.1	19.8	100	100	100	30			26
11	12.	7.5	0.1	19.6	100	100	100	29			25
12	11.5	7.5	0.1	19.1	100	100	100	27			25
13	12.5	7.5	0.1	20.1	100	100	100	31			26
14	17.9	7.5	0.2	25.6	100	100	100	56			33
15	24.	7.5	0.4	31.9	100	100	100	84			41
16	20.9	7.4	0.1	28.4	100	100	100	68			37
17	19.	7.4	0.1	26.5	100	100	100	60			34
18	15.2	7.4	0.1	22.7	100	100	100	43			29
19	13.2	7.4	0.1	20.7	100	100	100	34			27
20	14.4	7.4	0.1	21.9	100	100	100	39			28
21	15.6	7.4	0.1	23.1	100	100	100	45	No Water Available	No Water Available	30
22	14.5	7.4	0.1	22.	100	100	100	40			28
23	13.2	7.4	0.1	20.7	100	100	100	34			26
24	16.6	7.5	0.1	24.2	100	100	100	50			31
25	15.	7.5	0.1	22.6	100	100	100	47			30
26	15.	7.5	0.1	22.6	100	100	100	47			30
27	18.	7.5	0.3	25.8	100	100	100	57			29
28	25.	7.6	0.1	32.7	100	100	100	87			42
29	20.	7.6	0.1	27.7	100	100	100	65			36
30	17.	7.6	0.1	24.7	100	100	100	52			32
Total Sec. Ft. Days	470.2	224.5	4.2	698.9	100	100	100	47	0	0	30
Mean Sec. Ft.	15.7	7.5	0.1	23.3							
Maximum Sec. Ft.	25.	7.6	0.4	32.7							
Minimum Sec. Ft.	11.5	7.4	0.1	19.1							
Total Acre Feet	922.	435.	8.	1365.							

REMARKS: Second priority not included as it covers springs not contributing to total supply distributed.

TABLE 7

SUPPLY AND DISTRIBUTION

MAY 1930

Day	Available Supply: Little Shasta	Available Supply: Cleland Springs	Available Supply: Dewey Gulch	Available Supply: Total	% of Distribution by Priorities: First	Third	Fourth	Fifth	Sixth	Seventh	% of Total Allotments
1	15.	7.6	0.1	22.7	100	100	100	43			29
2	12.3	7.7	0.1	20.1	100	100	100	31			26
3	27.5	7.7	0.9	36.1	100	100	100	100	2		47
4	21.	7.7	0.3	29.	100	100	100	71			37
5	16.5	7.7	0.2	24.4	100	100	100	50			31
6	15.5	7.7	0.2	23.4	100	100	100	46			30
7	15.	7.7	0.1	22.8	100	100	100	43			29
8	14.	7.6	0.1	21.7	100	100	100	38			28
9	13.7	7.6	0.1	21.4	100	100	100	37			28
10	12.1	7.6	0.1	19.8	100	100	100	30			26
11	11.5	7.7	0.1	19.3	100	100	100	28			25
12	11.2	7.7	0.1	19.	100	100	100	27			25
13	10.7	7.7	0.1	18.5	100	100	100	24			24
14	10.1	7.7	0.1	17.9	100	100	100	22	NO WATER AVAILABLE	NO WATER AVAILABLE	23
15	10.8	7.7	0.1	18.6	100	100	100	25			24
16	9.8	7.7	0.1	17.6	100	100	100	20			23
17	8.9	7.7	0.1	16.7	100	100	100	16			22
18	8.8	7.7	0.0	16.5	100	100	100	15			21
19	8.7	7.7	0.0	16.4	100	100	100	15			21
20	8.6	7.7	0.0	16.3	100	100	100	15			21
21	12.5	7.7	0.1	20.3	100	100	100	32			26
22	9.7	7.7	0.1	17.5	100	100	100	20			23
23	9.	7.7	0.1	16.8	100	100	100	17			22
24	8.7	7.7	0.0	16.4	100	100	100	15			21
25	7.4	7.8	0.0	15.2	100	100	100	10			20
26	7.	7.8	0.0	14.8	100	100	100	8			19
27	6.8	7.9	0.0	14.7	100	100	100	8			19
28	7.3	7.9	0.0	15.2	100	100	100	10			20
29	8.	7.9	0.1	16.	100	100	100	13			21
30	7.2	7.9	0.1	15.2	100	100	100	10			20
31	6.5	7.9	0.0	14.4	100	100	100	6			19
Total Sec. Ft. Days	351.8	239.5	3.4	594.7	100	100	100	30	0	0	26
Mean Sec. Ft.	11.4	7.7	0.1	19.2							
Maximum Sec. Ft.	27.5	7.9	0.9	36.1							
Minimum Sec. Ft.	6.5	7.6	0	14.4							
Total Acre Feet	697.	474.	7.	1178.							

REMARKS: Second priority not included as it covers springs not contributing to the total supply distributed.

TABLE 8

SUPPLY AND DISTRIBUTION

JUNE 1930

Day	Available Supply: Little Shasta	Available Supply: Cleland Springs	Available Supply: Dewey Gulch	Available Supply: Total	% of Distribution by Priorities: First	Third	Fourth	Fifth	Sixth	Seventh	% of Total Allotments
1	6.	7.9	0	13.9	100	100	100	4			18
2	5.7	7.9	0	13.6	100	100	92	3			18
3	5.6	8.	0	13.6	100	100	88	3			18
4	5.5	8.	0	13.5	100	100	83	3			17
5	5.2	7.9	0	13.1	100	100	71	3			17
6	5.5	7.9	0	13.4	100	100	79	3			17
7	5.5	7.8	0	13.3	100	100	79	3			17
8	5.3	7.7	0	13.	100	100	75	2			17
9	5.	7.5	0	12.5	100	100	63	1			16
10	4.7	7.5	0	12.2	100	100	50	1			16
11	4.4	7.5	0	11.9	100	100	37	1			15
12	5.	7.5	0	12.5	100	100	63	1			16
13	4.7	7.5	0	12.2	100	100	50	1	NO WATER AVAILABLE	NO WATER AVAILABLE	16
14	4.3	7.5	0	11.8	100	100	33	1			15
15	4.	7.5	0	11.5	100	100	21	1			15
16	4.1	7.5	0	11.6	100	100	22	1			15
17	3.9	7.5	0	11.4	100	100	18	1			15
18	3.9	7.6	0	11.5	100	100	18	2			15
19	4.3	7.6	0	11.9	100	100	33	2			15
20	3.9	7.6	0	11.5	100	100	18	2			15
21	3.9	7.6	0	11.5	100	100	18	2			15
22	3.8	7.6	0	11.4	100	100	18	1			15
23	3.8	7.6	0	11.4	100	100	18	1			15
24	3.7	7.6	0	11.3	100	100	18	1			15
25	3.5	7.6	0	11.1	100	100	18	0			14
26	3.5	7.6	0	11.1	100	100	18	0			14
27	3.3	7.6	0	10.9	100	100	8	0			14
28	3.4	7.6	0	11.	100	100	12	0			14
29	3.3	7.7	0	11.	100	100	12	0			14
30	3.3	7.7	0	11.	100	100	12	0			14
Total Sec. Ft. Days	132.	229.6	0	361.6	100	100	42	1.5	0	0	15
Mean Sec. Ft.	4.4	7.7	0	12.1							
Maximum Sec. Ft.	6.	8.	0	13.9							
Minimum Sec. Ft.	3.3	7.5	0	10.9							
Total Acre Feet	261.	455.	0	716.							

REMARKS: Second priority not included as it covers springs not contributing to the total supply distributed.

The flow in Dewey Gulch ceased on May 30.

TABLE 9

SUPPLY AND DISTRIBUTION

JULY 1930

Day	Available Supply: Little Shasta	Available Supply: Cleland Springs	Available Supply: Dewey Gulch	Available Supply: Total	% of Distribution by Priorities: First	Third	Fourth	Fifth	Sixth	Seventh	% of Total Allotments
1	3.3	7.7	0	11.	100	100	12				14
2	3.3	7.7	0	11.	100	100	12				14
3	3.2	7.7	0	10.9	100	100	8				14
4	2.9	7.7	0	10.6	100	98	0				14
5	2.8	7.7	0	10.5	100	97	0				14
6	2.7	7.7	0	10.4	100	95	0				13
7	2.7	7.7	0	10.4	100	95	0				13
8	2.6	7.7	0	10.3	100	93	0				13
9	2.5	7.7	0	10.2	100	92	0				13
10	2.2	7.7	0	9.9	100	87	0				13
11	2.5	7.7	0	10.2	100	92	0				13
12	2.4	7.8	0	10.2	100	92	0				13
13	2.4	7.8	0	10.2	100	92	0				13
14	2.4	7.8	0	10.2	100	92	0				13
15	2.4	7.8	0	10.2	100	92	0				13
16	2.2	7.8	0	10.	100	88	0				13
17	2.2	7.8	0	10.	100	88	0				13
18	2.2	7.8	0	10.	100	88	0				13
19	2.2	7.8	0	10.	100	88	0				13
20	2.2	7.8	0	10.	100	88	0				13
21	2.3	7.8	0	10.1	100	90	0				13
22	2.3	7.8	0	10.1	100	90	0				13
23	2.3	7.8	0	10.1	100	90	0				13
24	2.7	7.8	0	10.5	100	97	0				14
25	2.4	7.9	0	10.3	100	93	0				13
26	2.2	7.9	0	10.1	100	90	0				13
27	3.1	7.9	0	11.	100	100	12				14
28	2.3	7.9	0	10.2	100	92	0				13
29	2.1	7.9	0	10.	100	88	0				13
30	2.2	7.9	0	10.1	100	90	0				13
31	2.1	7.9	0	10.	100	88	0				13
Total Sec. Ft. Days	75.	241.4	0	316.4	100	92	1	0	0	0	13
Mean Sec. Ft.	2.4	7.8	0	10.2							
Maximum Sec. Ft.	3.3	7.9	0	11.							
Minimum Sec. Ft.	2.1	7.7	0	9.9							
Total Acre Feet	148.	478.	0	626.							

NO WATER AVAILABLE

NO WATER AVAILABLE

NO WATER AVAILABLE

REMARKS: Second priority not included as it covers springs not contributing to the total supply distributed. The flow in Dewey Gulch ceased on May 30.

TABLE 10

SUPPLY AND DISTRIBUTION

AUGUST 1930

Day	Available Supply: Little Shasta	Available Supply: Cleland Springs	Available Supply: Dewey Gulch	Available Supply: Total	% of Distribution by Priorities: First	Third	Fourth	Fifth	Sixth	Seventh	% of Total Allotments
1	2.	7.9	0	9.9	100	87					13
2	2.	7.9	0	9.9	100	87					13
3	1.9	7.9	0	9.8	100	85					13
4	1.8	7.9	0	9.7	100	83					13
5	1.2	7.9	0	9.1	100	73					12
6	1.4	7.9	0	9.3	100	76					12
7	1.8	7.9	0	9.7	100	83					13
8	1.4	7.9	0	9.3	100	76					12
9	1.6	7.9	0	9.5	100	80					12
10	1.7	7.9	0	9.6	100	81					12
11	1.5	7.9	0	9.4	100	78					12
12	2.1	7.9	0	10.	100	88					13
13	1.9	8.	0	9.9	100	87					13
14	2.2	8.	0	10.2	100	92					13
15	1.7	8.	0	9.7	100	83					13
16	1.9	8.	0	9.9	100	87					13
17	1.9	8.	0	9.9	100	87					13
18	1.9	8.	0	9.9	100	87					13
19	2.1	7.9	0	10.	100	88					13
20	1.9	7.9	0	9.8	100	85					13
21	1.9	7.9	0	9.8	100	85					13
22	1.9	7.8	0	9.7	100	83					13
23	1.8	7.8	0	9.6	100	81					12
24	1.9	7.8	0	9.7	100	83					13
25	1.4	7.8	0	9.2	100	74					12
26	1.6	7.8	0	9.4	100	78					12
27	1.7	7.7	0	9.4	100	78					12
28	1.6	7.7	0	9.3	100	76					12
29	1.7	7.7	0	9.4	100	78					12
30	1.7	7.7	0	9.4	100	78					12
31	1.8	7.7	0	9.5	100	80					12
Total Sec. Ft. Days	54.9	244.	0	298.9	100	83	0	0	0	0	12
Mean Sec. Ft.	1.8	7.9	0	9.6							
Maximum Sec. Ft.	2.1	8.	0	10.2							
Minimum Sec. Ft.	1.2	7.7	0	9.1							
Total Acre Feet	109.	483.	0	592.							

NO WATER AVAILABLE

NO WATER AVAILABLE

NO WATER AVAILABLE

REMARKS: Second priority not included as it covers springs not contributing to the total supply distributed. Flow in Dewey Gulch ceased on May 30.

TABLE 11

SUPPLY AND DISTRIBUTION

SEPTEMBER 1930

Day	Available Supply: Little Shasta	Available Supply: Cleland Springs	Available Supply: Dewey Gulch	Available Supply: Total	% of Distribution by Priorities: First	Third	Fourth	Fifth	Sixth	Seventh	% of Total Allotments
1	1.8	7.7	0	9.5	100	80	0				12
2	1.7	7.7	0	9.4	100	78	0				12
3	1.4	7.7	0	9.1	100	73	0				12
4	1.8	7.7	0	9.5	100	80	0				12
5	1.8	7.7	0	9.5	100	80	0				12
6	1.8	7.6	0	9.4	100	78	0				12
7	1.9	7.6	0	9.5	100	80	0				12
8	2.7	7.6	0	10.3	100	93	0				13
9	2.9	7.8	0	10.7	100	100	0				14
10	2.4	7.8	0	10.2	100	91	0				13
11	3.1	7.8	0	10.9	100	100	8				14
12	2.6	7.7	0	10.3	100	93	0				13
13	2.3	7.7	0	10.	100	88	0				13
14	2.2	7.7	0	9.9	100	87	0				13
15	2.1	7.7	0	9.8	100	85	0				13
16	2.	7.7	0	9.7	100	83	0	NO WATER AVAILABLE	NO WATER AVAILABLE	NO WATER AVAILABLE	13
17	2.	7.7	0	9.7	100	83	0				13
18	2.	7.7	0	9.7	100	83	0				13
19	2.	7.8	0	9.8	100	85	0				13
20	1.9	7.8	0	9.7	100	83	0				13
21	1.5	7.8	0	9.3	100	76	0				12
22	1.9	7.8	0	9.7	100	83	0				13
23	2.	7.8	0	9.8	100	85	0				13
24	3.7	7.8	0	11.5	100	100	33				15
25	2.5	7.8	0	10.3	100	93	0				13
26	2.2	7.9	0	10.1	100	90	0				13
27	2.2	7.9	0	10.1	100	90	0				13
28	2.7	7.9	0	10.6	100	98	0				14
29	2.9	8.	0	10.9	100	100	8				14
30	3.2	8.	0	11.2	100	100	21				14
Total Sec. Ft. Days	67.2	232.9	0	300.1	100	83	2	0	0	0	13
Mean Sec. Ft.	2.2	7.8	0	10.							
Maximum Sec. Ft.	3.7	8.	0	11.5							
Minimum Sec. Ft.	1.4	7.6	0	9.1							
Total Acre Feet	133.	461.	0	594.							

REMARKS: Second priority not included as it covers springs not contributing to the total supply distributed. Flow in Dewey Gulch ceased on May 30.

TABLE 12

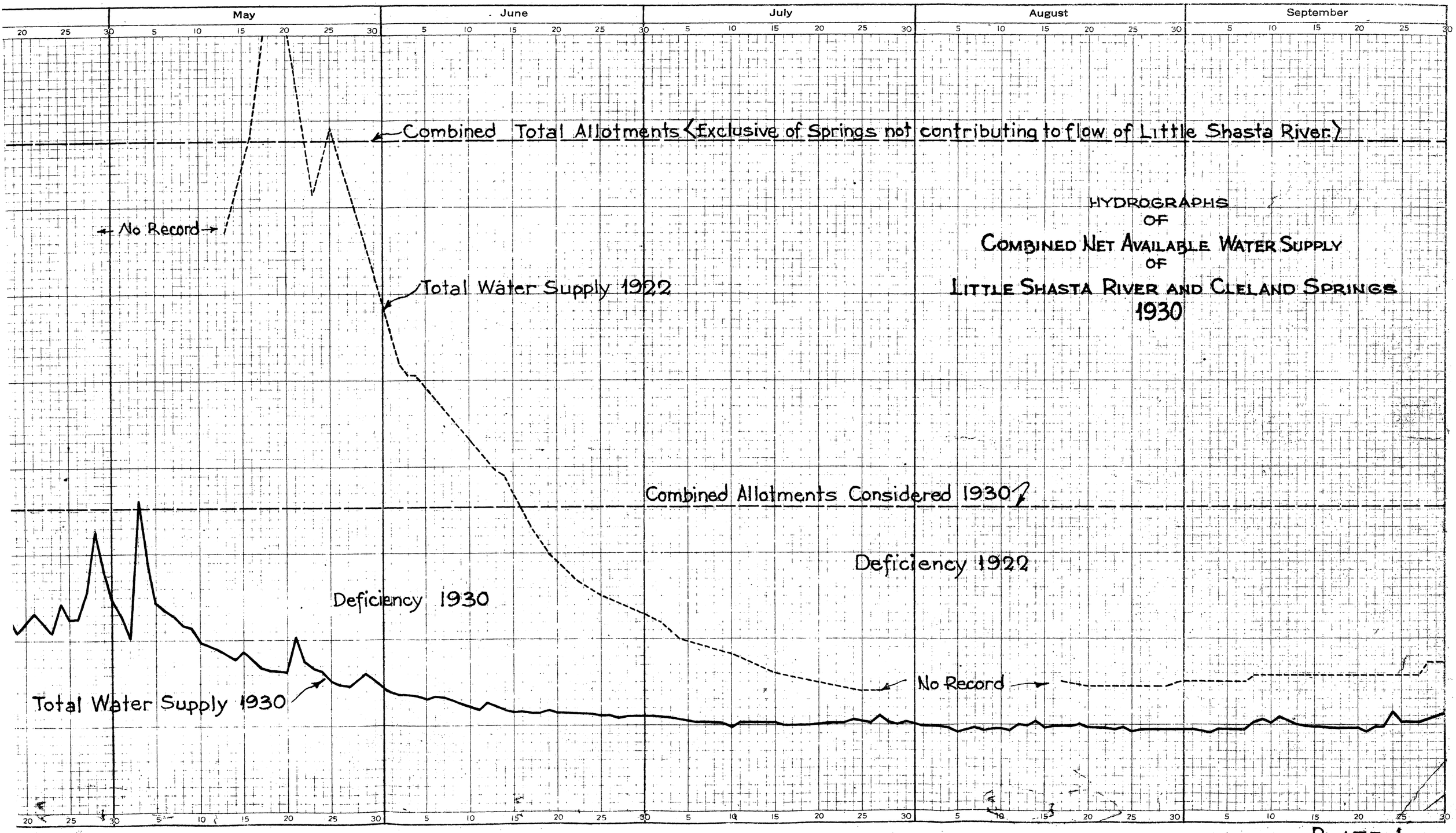
CROP PRODUCTION

1930 SEASON

Owner	Crop	Acres	Total Yield		Yield per Acre	
			Sacks	Tons	Sacks	Tons
Dreyer, E. F.	Alfalfa	20.		15		0.75
	Orchard	1.	Fair			
	Garden	0.50	Good			
	Pasture	5.	25 Cattle-2 Horses-3 Sheep-14 Hogs			
Gow, Stanley	Orchard	3.	Fair			
	Garden	0.50	Good			
	Pasture	30.	22 Cattle-2 Horses-6 Hogs			
Haight, Emma	Alfalfa	12.		36		3.
	Meadow Hay	10.		25		2.50
	Orchard	1.	Fair			
	Pasture	32.	18 Cattle-2 Horses-6 Sheep			
Haight, Ira	Meadow Hay	7.		4		0.57
	Orchard	0.50	Fair			
	Garden	0.50	Good			
	Pasture	20.	10 Cattle-2 Horses			
Hart, E. C. & Son	Alfalfa	150.		600		4.00
	Meadow Hay	300.		500		1.67
	Barley	300.	4000		13.33	
	Wheat	200.	2000		10.00	
	Orchard	10.	Fair			
	Garden	2.	Good			
	Pasture	1000.	1000 Cattle-60 Horses-50 Sheep-210 Hogs			
Long, J. F.	Alfalfa	70.		53		0.75
	Orchard	8.	Fair			
	Garden	0.50	Good			
	Pasture	130.	13 Cattle-9 Horses-300 Sheep-18 Hogs			
Martin, Ida	Alfalfa	70.		170		2.43
	Grain Hay	10.		35		3.50
	Meadow Hay	255.		575		2.26
	Wheat	20.	230		11.50	
	Orchard	6.	Fair			
	Garden	2.	Good			
	Pasture	580.	520 Cattle-20 Horses-40 Hogs			
Martin, W. T.	Alfalfa	25.		80		3.20
	Grain Hay	2.		4		2.00
	Meadow Hay	110.		220		2.20
	Barley	65.	1200		18.46	
	Wheat	20.	140		7.00	
	Orchard	0.50	Fair			
	Garden	0.25	Good			
	Pasture	100.	1 Cattle-7 Horses-100 Sheep-1 Hog			
O'Connor, Sidney	Alfalfa	10.		22.5		2.25
	Meadow Hay	80.		120.		1.50
	Barley	35.	630		18.00	

TABLE 12 (Continued)

Owner	Crop	Acres	Total Yield		Yield per Acre	
			Sacks	Tons	Sacks	Tons
O'Connor, Sidney	Orchard	1.25	Fair			
	Garden	0.25	Good			
	Pasture	30.	13 Cattle-10 Horses-42 Sheep			
Rose, Lester	Alfalfa	0.33		1.33		4.
	Grain Hay	3.		3.		1.
	Meadow Hay	4.		4.		1.
	Orchard	1.50	Fair			
	Garden	1.50	Good			
	Pasture	1.	2 Horses-3 Goats-450 Poultry			
Rohrer, J. B.	Pasture	60.	40 Cattle			
Soule, Ann, Estate	Alfalfa	18.		25		1.39
	Meadow Hay	65.		70		1.08
	Orchard	2.	Fair			
	Garden	1.	Fair			
	Pasture	58.	7 Horses-3 Hogs			
Soule, C. W.	Alfalfa	30.		90		3.
	Grain Hay	10.		25		2.50
	Wheat	100.	1300		13.	
	Orchard	0.25	Fair			
	Pasture	15.	5 Cattle-2 Horses-30 Sheep			
Soule, Ray	No Information Received.					
Sullivan, Harry	2 Cattle and 700 Poultry.					
Spencer, G. H.	Alfalfa	10.		10		1.
	Meadow Hay	20.		25		2.50
	Oats	6.	20		3.33	
	Wheat	20.	89		4.45	
	Garden	0.12	Fair			
	Pasture	20.	42 Cattle-6 Horses-7 Hogs			
Tamisea, Minnie A.	Alfalfa	5.		8		1.60
	Meadow Hay	60.		60		1.
	Pasture	20.	68 Cattle-7 Horses-200 Sheep-6 Hogs			
Terwilliger Estate	Alfalfa	60.		60		1.
	Grain Hay	10.		10		1.
	Meadow Hay	31.		85		2.75
	Wheat	7.	74		10.57	
	Orchard	4.	Fair			
	Garden	1.	Fair			
	Pasture	81.	40 Cattle-25 Horses-25 Hogs			



HYDROGRAPHS
OF
COMBINED NET AVAILABLE WATER SUPPLY
OF
LITTLE SHASTA RIVER AND CLELAND SPRINGS
1930

PLATE 1

Nº 340-20 EDCO Efficiency 20 X 20 EUGENE DIETZGEN CO. COPR Chicago and New York 1922

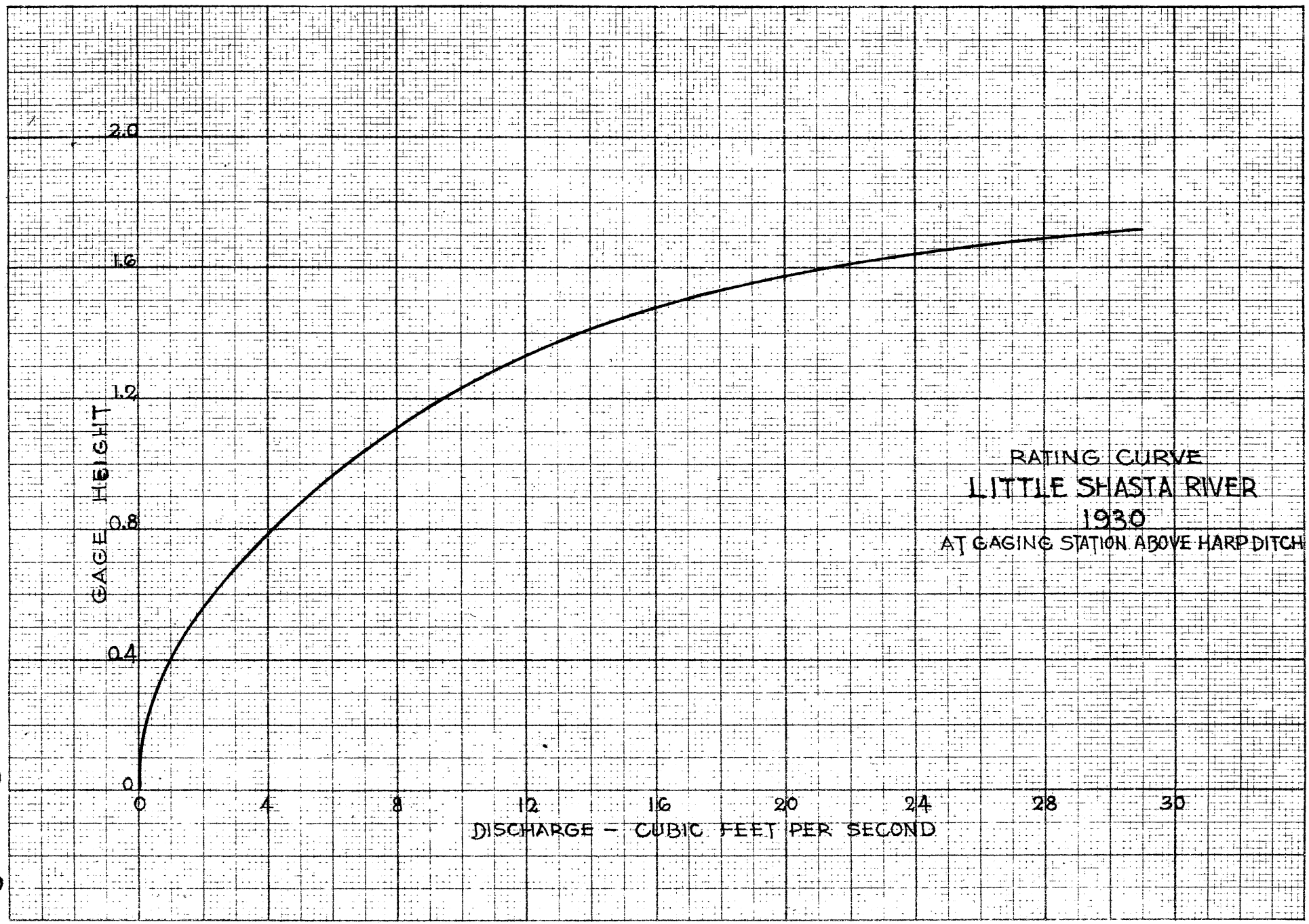


PLATE 2

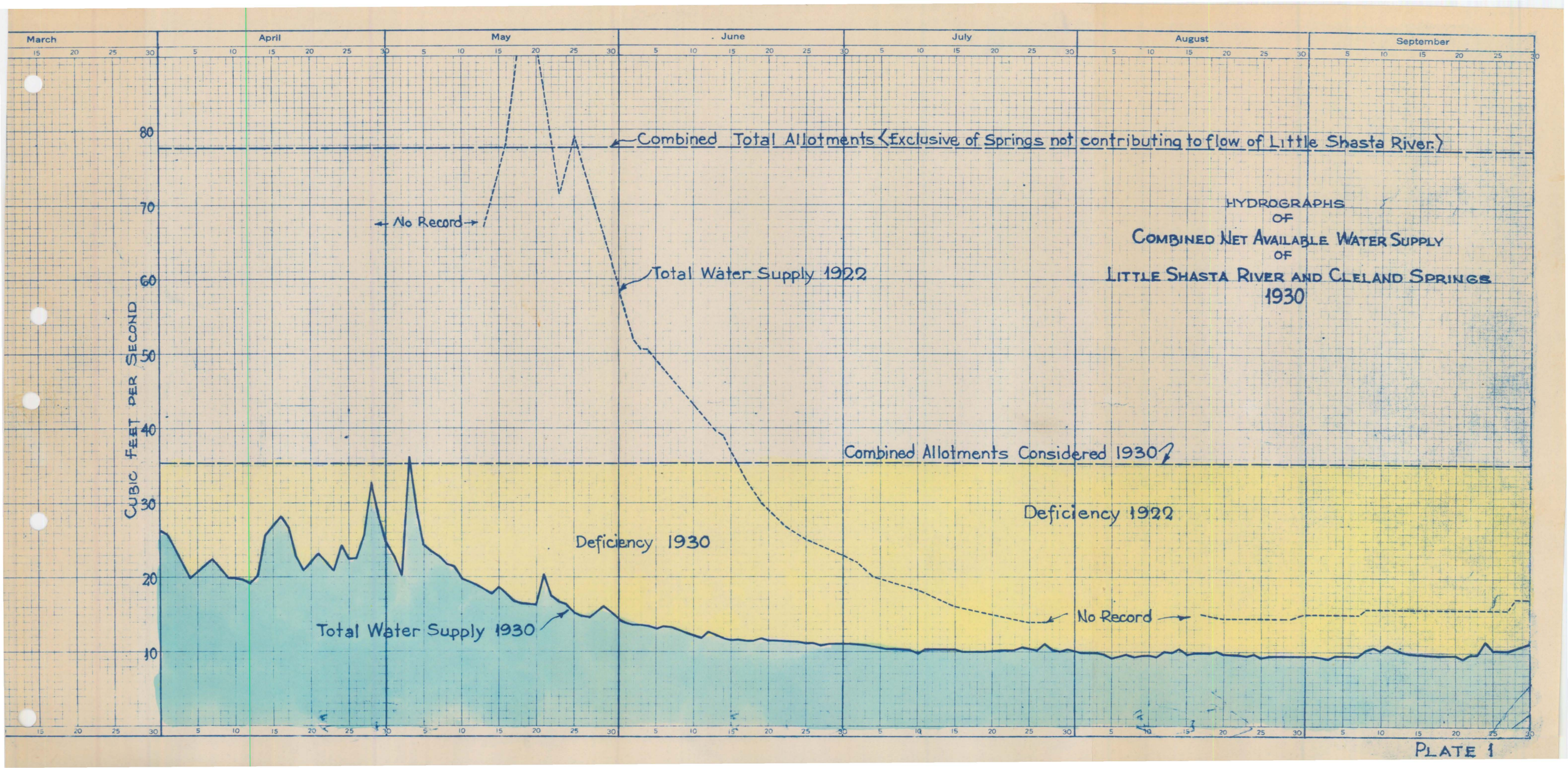

HYDROGRAPHS
OF
COMBINED NET AVAILABLE WATER SUPPLY
OF
LITTLE SHASTA RIVER AND CLELAND SPRINGS
1930
March
April
May
June
July
August
September
CUBIC FEET PER SECOND
80
70
60
50
40
30
20
10
Combined Total Allotments (Exclusive of Springs not contributing to flow of Little Shasta River.)
No Record
Total Water Supply 1922
Combined Allotments Considered 1930
Deficiency 1922
Deficiency 1930
Total Water Supply 1930
No Record

PLATE 1