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 DEEP CREEK

MODOC COUNTY, CALIFORNIA

FOR SEASON OF 1933

oOo

By Leslie C. Jopson, Modoc County Water Master

Sacramento, California

March 1, 1934

TABLE OF CONTENTS

	PAGE
LETTER OF TRANSMITTAL	
ORGANIZATION	
GENERAL DESCRIPTION OF WORK	1
DISCUSSION OF RESULTS FOR SEASON	3
VIOLATIONS OF DECREE OR CONTROVERSIES	4
RECOMMENDATIONS	5
FINANCIAL STATEMENT	6

TABLES:

1. Precipitation
2. Continuous Records of Daily Discharge in Cubic Feet per Second of North Deep Creek above all diversions for the period April 1 to July 31, 1933.
3. Continuous Records of Daily Discharge in Cubic Feet per Second of South Deep Creek above all Diversions for the period April 1st to July 31, 1933.
4. Estimated Total Water Supply in Cubic Feet per Second of Deep Creek for the period April 1 to July 31, 1933.
5. Water Deliveries on Deep Creek Compared with allotments - 1933 Season.

PLATES:

1. Hydrographs of Deep Creek showing total Water Supply for 1932 and 1933 seasons compared with Allotments of Water.

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 on Deep Creek, Modoc County, California, during the period from April 1st to July 31, 1933.

The report describes the methods and practices followed in the distribution of the waters of Deep Creek in accordance with the provisions of the stipulation for judgement in the case of E. R. Tyeryar et al., vs Mrs. M. L. Benner, et al., and presents the results obtained under this 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

GENERAL DESCRIPTION OF WORK

Subsequent to the season of water master service on Deep Creek in 1932 the water users on the stream system entered into a stipulation for judgment, which was dated March 27, 1933. The stipulation provided the basis for a court decision in the case of E. R. Tyeryar, et al., vs Mrs. M. L. Benner, et al., and was later submitted to the Superior Court of Modoc County as part of the Report of Referee by the Division of Water Resources. A decision was later rendered by the court altering a few provisions of the original stipulation in regard to the division of the water in the company ditch.

The stipulation for judgment provided for the appointment of a water master to distribute the waters of Deep Creek in accordance with the provisions of the stipulation until such time as a decree was entered. The water master service was accordingly commenced on April 1 and terminated for the season on July 31, 1933.

Mr. Leslie C. Jopson, Modoc County Water Master handled the distribution of water on Deep Creek during the season.

The shortage of water in 1933 prevented the use of several ditches customarily used. They were the Espil, Dodson, Royce, Benner, and Buck Lower Ditches. All diversions for which water was available during the season diverted water whenever the flow of the creek allowed the use of water under their priorities. A variation was made in the places of use of the water alloted to the Sharp and Messier Ditch. The Street water was shut down to stock requirements during a portion of the season, and the remainder allowed to pass down the channel of the creek to the Street channel where it was diverted by the Street Ditch through the Street channel. The Hussa and Bush water in the ditch was also allowed to pass down the creek to be diverted by the House Ditch

and the Pfenninger Channel. A portion of the land ordinarily irrigated under the Sharp and Messier Ditches was not irrigated in 1933.

A rotation schedule was followed by Hussa and Bush in the irrigation of their lands on the basis of 3 parts to Hussa and 1 part to Bush. A slight variation was made in this schedule by always running the Hussa water belonging to his Pfenninger property onto that piece of land as a vehicle to transport the Tyeryar water across the Hussa land. The channel is entirely obliterated in this section and it is desirable that the portion of the water belonging to the Pfenninger property be held on this land.

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 also 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 North Deep Creek above all diversions for the 1933 season.

Table 3 is a tabulation of the water supply of South Deep Creek above all diversions for the 1933 season.

Table 4 is a tabulation of the total water supply of Deep Creek for the 1933 season. The hydrograph at the end of this report is a graphical comparison of the 1933 water supply with that of 1932. The allotments of water are also shown on the hydrograph.

Table 5 is a comparison of water allotments and water supply during the periods shown. It may be seen from this table that only the first two priorities received an appreciable amount of water.

No crop reports were submitted by the water users on Deep Creek in 1933. The water master observed however that the yields were in most cases less than 50 per cent of those received in 1932.

A new three-foot Parshall Flume was installed in the Sharp and Messier Ditch at the division between the Street and the Bush and Hussa laterals. A division tongue was fitted into the throat to divide the water into 1/3 and 2/3 portions.

A new headgate was installed in the head of the House Ditch.

VIOLATIONS OF DECREE OR CONTROVERSIES

The use of water among the lower users on Deep Creek was the cause of some controversy. The Tyeryar Ranch has no direct connection to the main channel of the creek except across about fifty acres of meadow belonging to the Hussa Ranch. The loss in spreading over this land in 1933 appeared to be about 1.50 cubic feet per second. The owner of the Tyeryar property did not believe that he was getting his proportion of the water under these conditions but when it is considered that there were only a few times that he was entitled to more than about 1.00 cubic foot per second, he, in fact, received all that he was entitled to. About 1.00 cubic foot per second of Hussa water was held with the Tyeryar water to take up the nominal loss on the Hussa property.

Mr. Tyeryar also objected to the delivering of the full amount of water released from the Sharp and Messier Ditch by Mrs. Street to the Street channel. It was decided that this water should bear a nominal portion of the channel loss between the Sharp and Messier Ditch and the Street channel.

The proposed low flow division of the Dodson water on the company ditch was attacked by the owners thereof and was subsequently stricken out of the agreement by the court.

RECOMMENDATIONS

It is recommended that measuring devices be installed in the Company, House, and Bush Ditches and in the Pfenninger and Street Channels.

FINANCIAL STATEMENT

The cost of water distribution on Deep Creek in 1933 was met partly by contribution by the water users and partly by contribution by the State.

The amount assessed against the water users for their share of the cost was $200.00.

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 NORTH DEEP CREEK ABOVE ALL DIVERSIONS FOR THE PERIOD APRIL 1 to JULY 31, 1933

Day	Apr.	May	June	July	
1	3.65	7.30	7.70	1.10	
2	4.05	6.90	5.90	1.10	
3	4.70	8.10	5.60	1.05	
4	3.65	8.50	4.95	1.05	
5	3.15	7.70	4.50	.95	
6	2.85	6.50	4.25	.90	
7	2.40	5.60	4.05	.85	
8	2.00	4.95	3.85	1.05	
9	1.75	5.25	3.50	.90	
10	1.65	6.25	3.15	.85	
11	1.65	6.95	3.00	.80	
12	1.90	5.90	2.85	.75	
13	2.30	5.25	2.70	.70	
14	2.70	5.25	2.40	.65	
15	3.30	5.60	2.30	.60	
16	3.00	5.25	2.00	.55	
17	2.50	5.25	1.90	.50	
18	1.90	5.90	1.75	.45	
19	1.90	5.60	1.65	.40	
20	1.90	5.25	1.55	.35	
21	2.30	4.95	1.45	.30	
22	2.70	4.70	1.35	.27	
23	3.15	4.95	1.25	.24	
24	3.65	5.60	1.20	.22	
25	3.50	7.30	1.10	.20	
26	4.30	7.70	1.10	.18	
27	4.95	7.70	1.30	.18	
28	4.95	9.80	1.35	.18	
29	8.50	10.3	1.10	.18	
30	7.70	11.2	1.20	.18	
31	--	9.80	--	.20	
Total Sec. Feet Days	98.60	207.25	81.95	17.88	122 Day Period
Mean Sec. Feet	3.29	6.69	2.73	.58	3.33
Maximum Sec. Feet	8.50	11.2	7.70	1.10	11.2
Minimum Sec. Feet	1.65	4.70	1.10	.18	.18
Total Acre Feet	196	411	162	35.5	805

TABLE 3

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF SOUTH DEEP CREEK ABOVE ALL DIVERSIONS FOR THE PERIOD APRIL 1 to JULY 31, 1933

Day	Apr.	May	June	July	
1	6.10	12.1	13.2	1.50	
2	6.50	12.1	11.2	1.40	
3	7.90	13.2	9.60	1.30	
4	7.30	14.3	8.40	1.20	
5	5.70	13.2	7.40	1.15	
6	5.30	10.4	6.90	1.10	
7	4.45	9.00	6.50	1.05	
8	3.70	8.40	6.10	1.10	
9	3.25	7.40	6.10	.95	
10	2.85	7.90	5.70	.90	
11	2.85	8.40	5.35	.85	
12	3.45	7.90	4.70	.80	
13	3.90	7.90	4.15	.80	
14	4.70	7.90	3.65	.75	
15	6.50	9.00	3.45	.70	
16	5.50	9.00	3.25	.65	
17	4.50	9.00	3.05	.60	
18	3.45	9.00	2.90	.55	
19	3.25	9.00	2.80	.50	
20	3.45	9.00	2.80	.45	
21	4.10	9.00	2.60	.40	
22	5.70	8.40	2.40	.37	
23	7.40	9.00	2.20	.34	
24	7.90	9.60	2.00	.32	
25	7.40	12.2	1.85	.30	
26	9.60	13.2	1.75	.28	
27	11.2	13.2	2.10	.28	
28	11.2	13.2	2.10	.28	
29	14.2	14.3	1.75	.28	
30	12.1	16.5	1.60	.25	
31	--	15.4	--	.25	
Total Sec. Feet Days	185.40	328.10	137.55	21.65	122 Day Period
Mean Sec. Feet	6.18	10.58	4.58	.70	5.51
Maximum Sec. Feet	14.2	16.5	13.2	1.50	16.5
Minimum Sec. Feet	2.85	7.40	1.60	.25	.25
Total Acre Feet	368	651	273	42.9	1330

TABLE 4

ESTIMATED TOTAL WATER SUPPLY IN CUBIC FEET PER SECOND OF DEEP CREEK FOR THE PERIOD APRIL 1 TO JULY 31, 1933

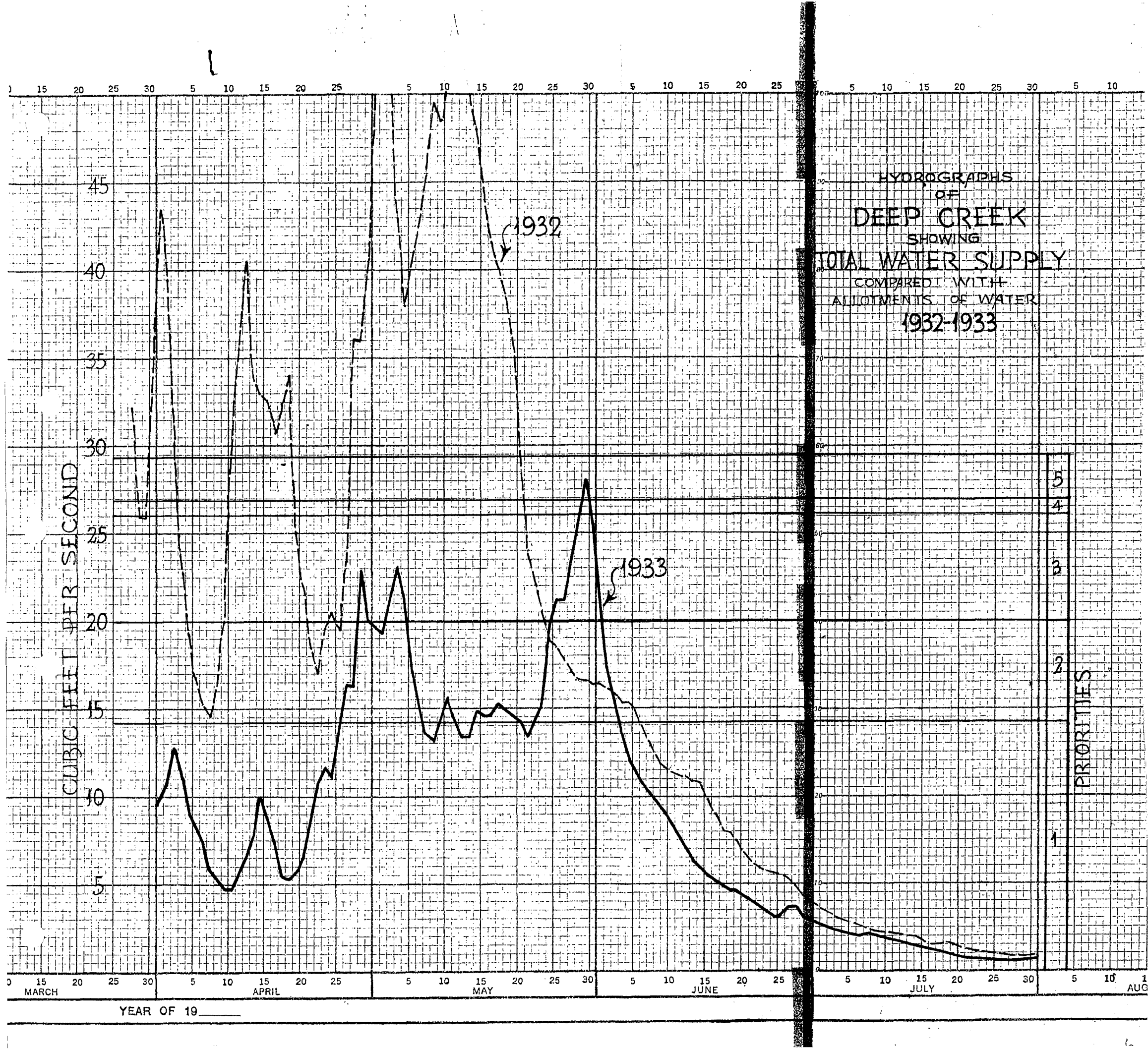
Day	Apr.	May	June	July	
1	9.95	19.7	21.1	2.70	
2	10.8	19.3	17.3	2.60	
3	12.8	21.6	15.4	2.45	
4	11.1	23.1	13.6	2.35	
5	9.05	21.2	12.1	2.20	
6	8.35	17.2	11.3	2.10	
7	7.05	14.9	10.8	2.00	
8	5.90	13.6	10.1	2.15	
9	5.20	13.0	9.80	1.95	
10	4.70	14.4	9.05	1.85	
11	4.70	15.6	8.55	1.75	
12	5.55	14.1	7.75	1.65	
13	6.40	13.4	7.05	1.60	
14	7.60	13.4	6.25	1.50	
15	10.0	14.9	5.95	1.40	
16	8.70	14.6	5.45	1.30	
17	7.20	14.6	5.15	1.20	
18	5.55	15.2	4.85	1.10	
19	5.35	14.9	4.65	1.00	
20	5.55	14.6	4.55	.90	
21	6.60	14.3	4.25	.80	
22	8.60	13.4	3.95	.74	
23	10.8	14.2	3.65	.68	
24	11.7	15.5	3.40	.64	
25	11.1	19.8	3.15	.60	
26	14.1	21.2	3.05	.56	
27	16.4	21.2	3.60	.56	
28	16.3	23.3	3.65	.56	
29	22.9	24.9	3.05	.56	
30	20.0	28.0	3.00	.53	
31	--	25.5	--	.55	
Total Sec. Feet Days	290.00	544.60	225.50	42.53	122 Day Period
Mean Sec. Feet	9.67	17.57	7.52	1.37	9.04
Maximum Sec. Feet	22.9	28.0	21.1	2.70	28.0
Minimum Sec. Feet	4.70	13.0	3.00	.53	.53
Total Acre Feet	575	1080	447	84.3	2190

TABLE 5

WATER DELIVERIES ON DEEP CREEK COMPARED TO ALLOTMENTS
1933 SEASON

Period	Per Cent of Allotment Delivered						Average Net Available Water Supply c.f.s.	Channel Loss c.f.s.	Average Total Water Supply c.f.s.
	1st prior-ity 14.20 c.f.s.	2nd Prior-ity 5.77 c.f.s.	3rd Prior-ity 6.10 c.f.s.	4th Prior-ity 0.85 c.f.s.	5th Prior-ity 2.45 c.f.s.	Total 29.37 c.f.s.			
4/1 to 4/10	53	14	0	0	0	28	8.29	0.20	8.49
4/11 to 4/20	44	3	0	0	0	22	6.46	0.20	6.66
4/21 to 4/30	74	48	0	0	0	45	13.25	0.60	13.85
5/1 to 5/10	83	44	0	0	0	49	14.30	3.50	17.80
5/11 to 5/20	76	21	0	0	0	41	12.03	2.50	14.53
5/21 to 5/30	88	71	7	0	0	58	17.08	2.50	19.58
5/31 to 6/9	76	50	6	0	0	48	14.10	.60	14.70
6/10 to 6/19	44	0	0	0	0	21	6.27	.20	6.47
6/20 to 6/29	24	0	0	0	0	12	3.43	.20	3.63
6/30 to 7/9	15	0	0	0	0	7	2.15	.20	2.35
7/10 to 7/19	9	0	0	0	0	4	1.24	.20	1.44
7/20 to 7/29	3	0	0	0	0	2	.46	.20	.66

PLATES


HYDROGRAPHS
OF
DEEP CREEK
SHOWING
TOTAL WATER SUPPLY
COMPARED WITH
ALLOTMENTS OF WATER
1932-1933
1932
1933
CUBIC FEET PER SECOND
45
40
35
30
25
20
15
10
5
PRIORITIES
5
4
3
2
1
MARCH
APRIL
MAY
JUNE
JULY
AUG
YEAR OF 19_____