STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS

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

REPORT ON WATER MASTER SERVICE ON BURNEY CREEK SHASTA COUNTY, CALIFORNIA FOR THE SEASON OF 1941

By
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SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

December 10, 1941

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

Attention: Mr. Gordon Zander, Supervising Hydraulic Engineer

Dear Sir:

Herewith is submitted the annual report covering water master service on Burney Creek, Shasta County, California, during the 1941 season.

This report considers the precipitation and hydrographic features of the 1941 season and gives a summary of water distribution.

W. A. Alexander prepared this report under the supervision of the undersigned.

Respectfully submitted,

HARRISON SMITHERUM
Senior Hydraulic Engineer

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Report On

Water Master Service

On

Burney Creek

Shasta County, California

1941 Season

INTRODUCTION

The Burney Creek Water Master District was created by order of the Division of Water Resources under date of September 11, 1929, to embrace the water rights on Burney Creek as established by decree of the Superior Court, Shasta County, California, in the case of Edna M. Black vs. Martha B. Grinnell, et al., entered on January 30, 1926.

Water master service in the Burney Creek Water Master District was carried on throughout the 1941 season in accordance with the "Distribution of Water" procedure contained in Sections 37 to 37f, inclusive, of the Water Commission Act. Such service extended over the period from May 5 to January 2. Harrison Smitherum administered the distribution of water from May 4 to June 10. Subsequent to that date W. A. Alexander, Deputy Water Master, administered the distribution of water along with similar duties in the Hat Creek and Big Valley Water Master Districts and on the Ash Creek stream system. Harrison Smitherum was Supervising Water Master.

WATER SUPPLY

Precipitation

The record of precipitation at Hat Creek Power House No. 1, compiled from publications of the U. S. Weather Bureau, is given in Table 1. A comparison of the precipitation for the 1940-41 season with the mean for the 20 seasonal years of record is shown.

Stream Flow

Floods on Burney Creek in 1937 and 1941 completely destroyed the weir and stream flow measuring station located on the R. W. Haynes Ranch. In the absence of a suitable measuring section, the flow of Burney Creek above diversions has been determined by the summation of the diversions from the stream. A tabulation of the daily discharge of Burney Creek above diversions obtained in the above manner for the period from July 1 to September 30, 1941, is shown in Table 2 of this report.

The hydrograph shown as Plate I gives a graphic comparison of the available water supply and the gross demand. The gross demand includes irrigation and minimum flow allotments.

DISTRIBUTION OF WATER

Distribution during the 1941 season was in accordance with the provisions of the Black vs. Grinnell decree. All diversion facilities on the stream were in operation throughout the period of water master service excepting the Cayton Ditch. This ditch has several large wash-outs near its head and no effort was made to repair the same during the season. The water ordinarily used through the Cayton Ditch was delivered to the Elling Ranch through the Elling Lower Ditches.

Prior to July 14, the available water supply was more than sufficient to meet all demands. It was not necessary to put the rotation schedules into operation until the East Side Users period beginning on that date.

The usual difficulty of getting the responsible parties to cooperate in cleaning the Greer-Cornaz Ditch was experienced. Otherwise there were no controversies relative to the distribution of water.

A summary of the distribution for the 1941 season is shown in Table 3.

TABLE #1

PRECIPITATION AT HAT CREEK, SHASTA COUNTY, CALIFORNIA, ELEVATION 3010 FEET - 1921-1941 (1)

MONTHLY, SEASONAL AND AVERAGE AMOUNTS IN INCHES

Season	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Seasonal
1940-41	3.20	2.57	3.63	3.53	5.92	1.13	2.15	2.27	0.47	0.38	0.43	0.27	25.95
Total To Date	25.12	34.44	49.28	46.60	59.24	36.50	29.64	25.12	13.84	3.03	2.37	9.50	334.68
20 year Mean	1.26	1.72	2.46	2.33	2.96	1.82	1.48	1.26	0.69	0.15	0.12	0.48	16.73

(1) See 1931 and 1940 Water Master Reports for previous records.

Table 2

DAILY DISCHARGE IN CUBIC FEET PER SECOND
BURNEY CREEK ABOVE DIVERSIONS
JUNE 19 TO SEPTEMBER 30, 1941

Day	July	August	September
1	26.0	15.5	14.5
2	26.0	15.0	29.0
3	27.0	14.1	20.0
4	27.0	14.1	16.5
5	27.0	14.3	15.5
6	27.0	14.3	15.5
7	27.0	14.3	15.5
8	27.5	14.3	15.5
9	26.0	14.3	15.5
10	26.0	14.3	15.5
11	26.0	14.3	15.5
12	26.0	14.3	16.0
13	26.0	14.5	20.0
14	26.0	14.5	19.7
15	24.0	14.7	19.7
16	22.0	14.7	19.7
17	20.0	14.7	19.7
18	20.0	14.7	19.7
19	19.0	14.7	19.7
20	19.0	14.7	19.7
21	18.5	14.5	19.5
22	18.5	14.5	18.0
23	18.5	14.5	16.0
24	18.5	14.5	16.0
25	18.5	14.5	15.5
26	17.0	14.5	15.5
27	17.0	14.5	15.5
28	16.5	14.5	15.5
29	16.5	14.5	15.5
30	16.4	14.5	15.5
31	16.4	14.5	
Total	688.8	449.8	524.9
Mean	22.2	14.5	17.5
Acre-Ft.	1360.	892.	1040.

Table 3

SUMMARY OF DISTRIBUTION ON BURNEY CREEK-1941

Irrigation Period	Dates	Average Flow Of Burney Creek Above All Diversions In c.f.s.	Summary of Distribution on Burney Creek-1941 — Average Irrigation Delivery — Cubic Feet Per Second: West Side Users	Cubic Feet Per Second: East Side Users	Per Cent Of Allotment: West Side Users	Per Cent Of Allotment: East Side Users
1	May 5 to May 15	Surplus				
2	May 15 to May 25	"				
3	May 25 to June 4	"				
4	June 4 to June 14	"				
5	June 14 to June 24	"				
6	June 24 to July 4					
7	July 4 to July 14					
8	July 14 to July 24	20.6		20.6		81
9	July 24 to Aug. 3	16.7	17.7		65	
10	Aug. 3 to Aug. 13	14.3		14.3		56
11	Aug. 13 to Aug. 23	14.6	14.6		56	
12	Aug. 23 to Sept. 2	14.5		14.5		57
13	Sept. 2 to Sept. 12	15.9	15.9		62	
14	Sept. 12 to Sept. 22	19.3		17.7		76
15	Sept. 22 to Oct. 2	15.9	15.5		62	

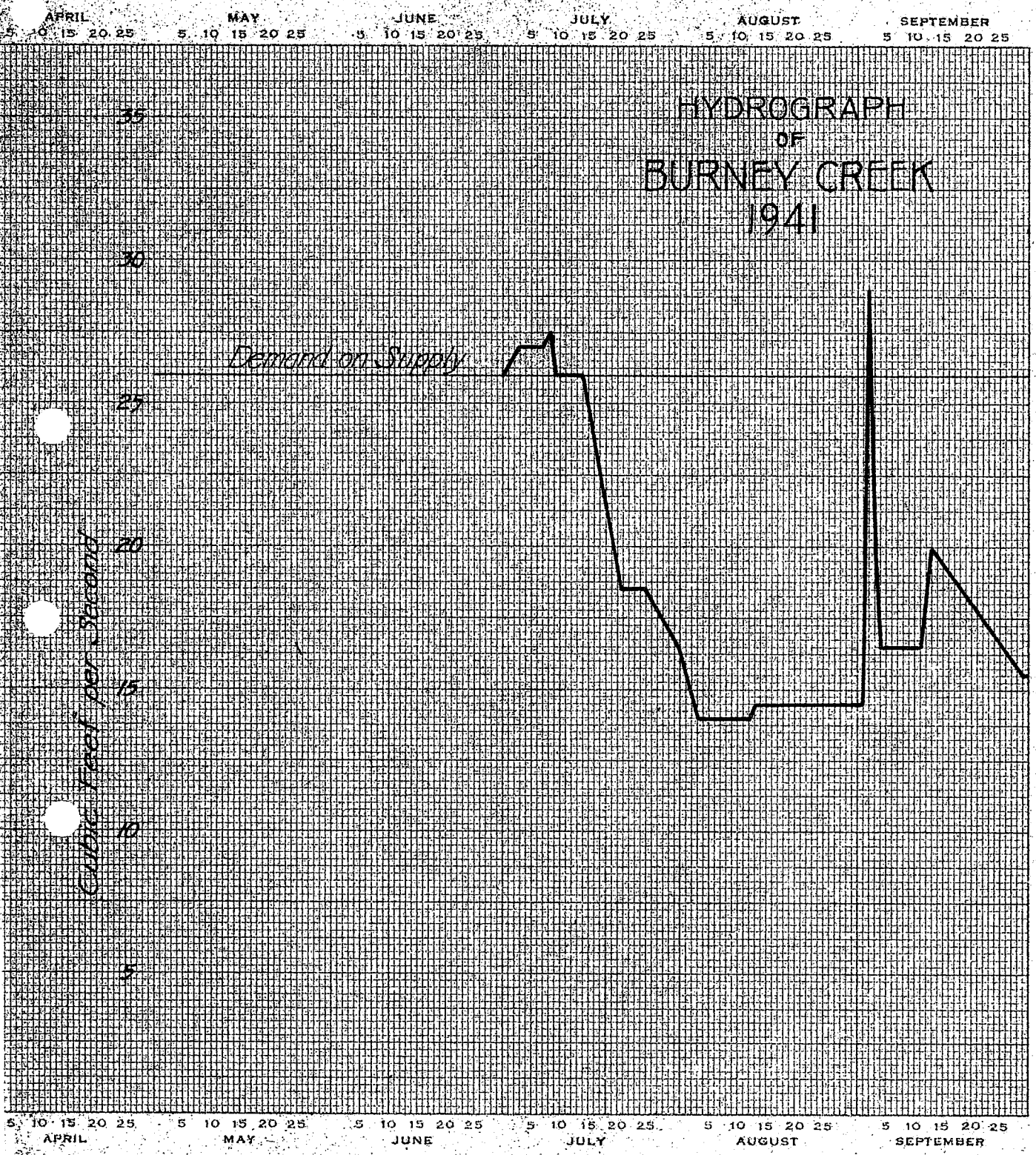
Table 4

NAMES OF CURRENT OWNERS
OF LANDS AND WATER RIGHTS

BURNEY CREEK WATER MASTER DISTRICT
No. 1

Tract Number	Plat Sheet Number	*Owner Named in Decree or Other Instrument Defining Water Rights Appurtenant to Property Tract	Name of Current Owner	Amount Of Water c.f.s.	Tract Number
1	3	Ednah M. Black	Ednah M. Black	6.35	1
2	2	The Red River Lumber Company	~~The Red River Lumber Co. & Carson Estes,~~ Howell H. Cook	4.32	2
3	2	Ray Vedder	Ray Vedder	1.73	3
4	2	Mary Ann Cornaz	Cornaz Estates; Gilbert Seggeling; and Harry A. Lonquist	3.98	4
5	2	Karl Elling	~~Karl Elling and Salvo Bue~~ Karl Elling	7.32	5
6	2	Timothy Desmond	~~D. M. Desmond Estate of D. M. Desmond~~ Johanna Desmond	1.04	6
7	2	Fred Greer	Howell H. Cook	1.37	7
8	1	A. R. Haynes	Scott Lumber Co.	0.05	8
9	1	A. R. Haynes	A. R. Haynes	0.57	9
10	1	Richard W. Haynes	Richard W. Haynes	5.93	10
11	1	J. C. Erickson	Richard W. Haynes	0.43	11

*Refer to decree in Black v. Grinnell, No. 5111, Superior Court, Shasta County, California


HYDROGRAPH
OF
BURNEY CREEK
1941
Demand on Supply
Cubic Feet per Second
35
30
25
20
15
10
5
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
5 10 15 20 25