

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

EDWARD HYATT, State Engineer

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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

BURNBY CREEK WATERMASTER SERVICE AREA  
Shasta County, California

1945 SEASON

Sacramento, California

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EDWARD HYATT, STATE ENGINEER  
CHIEF OF DIVISION

EARL WARREN  
GOVERNOR OF CALIFORNIA

C. H. PURCELL  
DIRECTOR

STATE OF CALIFORNIA  
**Department of Public Works**  
SACRAMENTO

DIVISION OF WATER RESOURCES  
401 PUBLIC WORKS BUILDING

December 31, 1945

Mr. Gordon Zander  
Supervising Hydraulic Engineer  
Sacramento, California

Attention: Mr. Harrison Smitherum  
Senior Hydraulic Engineer

Dear Sir:

Submitted herewith is the annual report covering  
watermaster service in the Burney Creek Watermaster Service Area,  
Shasta County, California, for the 1945 Season.

The report presents a general description of the work  
and a discussion of the results obtained. Records of precipitation  
and other pertinent data are included.

Respectfully submitted,

G. M. VICKROY  
Watermaster

FOR VICTORY



BUY  
UNITED  
STATES  
SAVINGS  
BONDS  
AND STAMPS

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### INTRODUCTION

The Burney Creek Watermaster Service Area 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 Ednah M. Black vs. Martha B. Grinnell, et al., No. 5111, entered on January 30, 1926.

By order of the Division of Water Resources dated March 28, 1942, the boundaries of said area were changed by excluding therefrom the lands and water rights of Ella P. Braden and John Snooks as set forth in said decree and by excluding certain portions of the NW $\frac{1}{4}$  of Section 20, T. 35 N., R. 5 E., M.D.R. and M. now within the Town of Burney, Shasta County, California.

Watermaster service in the Burney Creek Watermaster Service Area was carried on throughout the 1945 season 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, 1945. G. M. Vickroy served as watermaster throughout the season. Harrison Smitherum was Supervising Watermaster.

## WATER SUPPLY

### Precipitation

Data on precipitation, as compiled from records kept at Hat Creek Power House #1, are presented in Table 1 of this report.

A comparison of the precipitation for the 1944-45 season with the mean for the 24 seasonal years of record is shown.

Based upon these data, the precipitation for the 1944-45 season was 18.57 inches, or about 107 per cent of the mean for the 24 year period 1921-1945. Of this total about 82 per cent fell during the period October 1 to April 1 as compared to the long time mean of about 75 per cent for the same period.

### Stream Flow

A record of daily discharge in cubic feet per second of Burney Creek for the period from June 1 to September 30, 1945, as determined by the summation of the diversions from the stream is given in Table 2.

Plate 1 shows 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 1945 season was in accordance with the provisions of the Black vs. Grinnell decree. All diversion facilities on the stream system were in operation throughout the period of watermaster service excepting the Cayton Ditch which has been abandoned. The water formerly carried in said ditch was delivered to the Elling Ranch through the Elling Lower ditches.

Up to June 25, the available water supply was sufficient to supply the demands of both the West and East Side Users without rotation. Subsequent to that date the various users expressed their preference for a continuous flow for the balance of the season, and distribution was made on that basis.

The net available flow decreased from June 1 until by August 8 the net available flow was about 12.0 cubic feet per second and remained nearly constant at this figure until September 30, when watermaster service was discontinued for the 1945 season.

## OWNERSHIP OF LANDS AND WATER RIGHTS

### BURNEY CREEK WATERMASTER SERVICE AREA

#### Changes in Ownership

No changes in ownership occurred in 1945.

TABLE 1

PRECIPITATION AT HAT CREEK, SHASTA COUNTY, CALIFORNIA

Elevation 3110 Feet 1940-1945

Monthly, Seasonal and Average Amounts in Inches

Season	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	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	0.32	0.43	0.27	25.95
1941-42	0.74	1.51	5.32	5.81	5.26	1.40	3.32	1.61	0.13	0.01	0.41	0.57	25.49
1942-43	0.67	11.34	2.55	6.74	3.89	3.04	2.22	0.56	2.56	0.14	0.10	0.00	34.51
1943-44	1.00	0.92	1.07	2.51	3.07	1.35	2.30	0.43	1.37	0.15	0.13	0.05	14.17
1944-45	0.69	4.22	1.66	2.95	3.79	1.90	0.23	1.90	0.93	0.00	0.07	0.03	18.57
Totals	28.22	52.43	61.39	62.41	75.85	44.19	38.21	29.44	13.93	3.33	3.08	9.95	427.42
1921-1945													
24 year Mean	1.19	2.18	2.56	2.60	3.16	1.42	1.59	1.23	0.79	0.13	0.13	0.41	17.39

TABLE 2  
Daily Discharge in Cubic Feet per Second  
HUNNEY CREEK ABOVE DIVERSIONS  
June 1 to September 30, 1945

Day	June	July	Aug.	Sept.	Remarks
1	35	19	13	12	
2	35	19	13	12	
3	35	19	13	12	
4	34	18	13	12	
5	34	18	13	12	
6	33	17	13	12	
7	33	17	13	12	
8	33	17	12	12	
9	32	17	12	12	
10	32	17	12	12	
11	32	16	12	12	
12	31	16	12	12	
13	31	16	12	12	
14	31	16	12	12	
15	30	15	12	12	
16	30	15	12	12	
17	29	15	12	12	
18	29	15	12	12	
19	28	15	12	12	
20	28	15	12	12	
21	28	14	12	12	
22	27	14	12	12	
23	27	14	12	12	
24	26	14	12	12	
25	26	14	12	12	
26	25	13	12	12	
27	24	13	12	12	
28	24	13	12	17	
29	23	13	12	12	
30	22	13	12	12	
31		13	12		
Tot. Sec.					
Pt. Days	687	481	379	360	
Mean Sec.					
Feet	29.6	15.5	12.2	12.0	
Total Acre					
Feet	1760	954	752	714	

