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DIRECTOR

STATE OF CALIFORNIA
Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

February 28, 1940

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

Attention: Mr. Gordon Zander,
Supervising Hydraulic Engineer

Dear Sir:

A report covering the water distribution work of the water master on Davis Creek, Modoc County, California, during the period May 1 to September 22, 1938, is transmitted herewith.

The methods and practices followed in the distribution of the waters of Davis Creek in accordance with the decree in the case of the Lake Shore Cattle Company, et al., vs. J. D. Mulkey, et al., dated June 30, 1932, are described. The results obtained under the distribution are also discussed.

Respectfully submitted,

Water Master Assistant

INTRODUCTION

Water master service was conducted in the Davis Creek Water Master District during the 1938 season under the authority of Sections 37 and 37a of the Water Commission Act. The provisions of the decree in the case of Lakeshore Cattle Company et al., vs. J. D. Mulkey, et al. were used as the basis of the water distribution.

The field work was commenced for the season on May 1st and terminated on September 22nd. The distribution was in charge of W. A. Alexander prior to June 19th, and in charge of J. Victor Scammon thereafter.

DISCUSSION OF RESULTS

The monthly and seasonal precipitation at Lakeview, Oregon is tabulated in Table 1. The mean precipitation for the station from 1884 to 1936 is also shown as well as a tabulation of the precipitation in 1937-1938, in per cent of total mean precipitation. The seasonal precipitation in 1937-1938 was 151.4 per cent of the total mean.

Table 2 is a tabulation in cubic feet per second of the daily discharge of Davis Creek at the register station below the Forks.

Table 3 is a tabulation in cubic feet per second of the daily discharge of Davis Creek above all diversions, and is a summation of the daily discharge given in Table 2 and of the estimated daily diversion of the Roberts and Mulkey-Heryford Ditches which divert water above the register station. Plate I graphically illustrates the water supply as given in Table 3. The water supply in 1938 is also included on the plate for a comparison of the water supply in the two years. Allotments of water for domestic and irrigation purposes are indicated by the horizontal lines.

The water supply was abundant for all priorities during the month of May and the first ten days of June, due to the saturation of the ground from the heavy precipitation during the winter months. From June 10th to the end of the month, the creek dropped so that only 30 per cent of second priority allotments was available. By August 15th, there was only sufficient water for first priority allotments and by September 15th, the water failed so that only 60

per cent of first priority allotments was available.

Table 4 is a tabulation of the per cent of allotments delivered in each of the priority classes during the periods indicated. Total deliveries, per cent of total allotments delivered, total water supply and per cent of total allotments delivered, total water supply and per cent of channel accretion or loss are also included in the table.

The crop yields on the lands irrigated from Davis Creek were normal for most crops and above normal for meadow hay due to the abundant water during the 1938 growing season.

Water flowed into Goose Lake from the Lakeshore Ranch and Renner Ranch until late in June of the 1938 season.

VIOLATIONS OF DECREE OR CONTROVERSIES

No violation of the decree or controversies over the distribution of the water of Davis Creek developed during the 1938 season.

RECOMMENDATIONS

All ditches diverting water from Davis Creek should be cleaned and many should have measuring devices and headgates repaired when time and material are available.

Table 4

Average Water Deliveries on Davis Creek
Compared With Allotments - 1938

Period	Per cent of Allotments Delivered				Total Deliveries c.f.s.	Average Flow Above Diversion in c.f.s.	Per Cent Channel Accretion or Loss
	1st Priority	2nd Priority	3rd Priority	Total			
5/1 thru 5/10	100	100	71	91	47.8	45.5	+ 5
5/11 " 5/20	100	100	100	105	55.2	52.6	+ 5
5/21 " 5/30	100	100	100	112	59.3	56.4	+ 5
5/31 " 6/9	100	100	71	92	43.3	45.9	+ 5
6/10 " 6/19	100	69	0	53	27.8	26.9	+ 5
6/20 " 6/29	100	40	0	35	18.6	18.1	+ 2
6/30 " 7/9	100	24	0	24	12.7	12.9	- 2
7/10 " 7/19	100	13	0	17	9.2	9.4	- 2
7/20 " 7/29	100	6	0	13	7.1	7.4	- 4
7/30 " 8/8	100	2	0	11	5.7	6.0	- 5
8/9 " 8/18	99	0	0	9	4.7	5.0	- 6
8/19 " 8/28	89	0	0	8	4.0	4.5	-10
8/29 " 9/7	78	0	0	8	4.0	4.5	-10
9/8 " 9/17	67	0	0	6	3.4	3.8	-10
9/18 " 9/22	63	0	0	6	3.2	3.5	-10

1st Allotment - 5.95 Cubic Feet per Second 4/1 to 6/15
 - 6.35 Cubic Feet per Second 6/16 to 6/30
 - 5.05 Cubic Feet per Second 7/1 to 9/30

2nd Priority Allotments - 31.00 Cubic Feet per Second 4/1 to 9/30

3rd Priority Allotments - 15.35 Cubic Feet per Second 4/1 to 9/30