STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES

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EARL WARREN, Governor

FRANK B. DURKEE, Director of Public Works

A. D. EDMONSTON, State Engineer

REPORT ON WATERMASTER SERVICE IN SHACKLEFORD CREEK WATERMASTER SERVICE AREA SISKIYOU COUNTY, CALIFORNIA

1951 SEASON

Sacramento, California
January, 1952

SUBMISSION TO, AND ADOPTION BY
DEPARTMENT OF PUBLIC WORKS

I, L. C. Jopson, Supervising Hydraulic Engineer, Division of Water Resources, Department of Public Works of the State of California, submit this "Report on Watermaster Service in Shackleford Creek Watermaster Service Area, Siskiyou County, California, 1951 Season".

/s/ L. C. JOPSON
Supervising Hydraulic Engineer

I, Gordon Zander, Assistant State Engineer, Division of Water Resources, Department of Public Works of the State of California, approve this "Report on Watermaster Service in Shackleford Creek Watermaster Service Area, Siskiyou County, California, 1951 Season".

/s/ GORDON ZANDER
Assistant State Engineer

I, A. D. Edmonston, State Engineer and Chief of the Division of Water Resources, Department of Public Works of the State of California, approve and adopt this "Report on Watermaster Service in Shackleford Creek Watermaster Service Area, Siskiyou County, California, 1951 Season", as a report of the Department of Public Works.

WITNESS my hand and the seal of the Department of Public Works of the State of California, this 25th day of April, 1952.

DEPARTMENT OF PUBLIC WORKS

By /s/ A. D. EDMONSTON
A. D. Edmonston
State Engineer

SEAL

ORGANIZATION

Frank B. Durkee . . . . . Director of Public Works

A. D. Edmonston . . . . . State Engineer

Gordon Zander . . . . Assistant State Engineer

This report was prepared under the direction of

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INTRODUCTION

The Shackleford Creek Watermaster Service Area was created by order of the Division of Water Resources under date of November 6, 1950 to include, excepting certain rights named in said order, all of the water rights on Shackleford Creek and its tributaries, as established by the decree entered in the Shackleford Creek adjudication proceeding on April 3, 1950, Superior Court, Siskiyou County, No. 13775.

Watermaster service, as provided in Part 4 of Division 2 of the Water Code, covered the regulation of diversions from July 1 through September 30 in 1951. John T. Blair, Deputy Watermaster, administered the distribution of water in the service area under the supervision of P. E. Stephenson, Senior Hydraulic Engineer.

WATER SUPPLY

Precipitation

Data on precipitation at Etna, as compiled from records of the United States Weather Bureau, are presented in Table 1.

Annual precipitation for the period from October 1, 1950 to September 30, 1951 was 126 per cent of the 10-year mean. About 89 per cent of the seasonal precipitation occurred during the period from October 1 to March 31, as comparied with a 10-year mean of 84 per cent.

Stream Flow

Automatic water stage recorders were operated on Shackleford Creek above diversions and at the measuring devices on the various ditches in the Upper Shackleford Creek area from the last week in June until September 30. As losses and accretions below the channel station varied from day to day the total water supply available for diversion in this area was taken as the sum of the readings on the various ditches.

Automatic water stage recorders were installed on July 17 at weirs on the Eastlick Mill Creek Ditch and on the Burton Meamber Ditch to provide a record of flow conditions on Upper Mill Creek and to measure the water diverted from Lower Shackleford Creek by the Lathrop and the two Burton ranches. The location of the recorder stations are as follows:

Shackleford Creek, above diversions
Ralph Eastlick Ditch
Shackleford Ditch
Howard-Jones Ditch
Camp Ditch
Burton Meamber Ditch
Eastlick Ditch (Mill Creek)

The daily discharges at these stations are set forth in Tables 3, 4, 5, 6, 7, 8 and 9 respectively.

Intermittent discharge observations were made on Shackleford Creek, below its confluence with Mill Creek. Weirs were maintained in the ditches as required for regulation. The inflow and outflow at Cliff and Campbell Lakes were measured on July 18, 1951. These measurements indicated the outflow to be about 1.5 cubic feet per second in excess of the inflow. Release of the stored water in Cliff and Campbell Lakes for re-diversion through the Shackleford Ditch was commenced on August 27.

DISTRIBUTION OF WATER

The water rights in the Shackleford Creek Watermaster Service Area are grouped in four divisions in the Shackleford Creek decree. The divisions and the schedules defining the water rights therein are as follows:

Upper Shackleford Creek Group	Schedule 3
Lower Shackleford Creek Group	Schedule 4
Upper Mill Creek Group	Schedule 5
Lower Mill Creek Group	Schedule 6

Distribution of the water supply and use of water in each of these divisions is described below:

Upper Shackleford Creek

Water was available to supply all priorities through the third week in June. After the first of July a close regulation of the various ditches

was necessary in order to distribute the available water supply in accordance with Schedule 3 of the Shackleford Creek Decree. The flow decreased gradually during July and on August 5 it was necessary to close the ditches in the fourth priority class for the remainder of the season. Water was released from Campbell Lake storage for re-diversion through the Shackleford Ditch during the period from August 27 to September 30. Distribution of water in per cent of priority allotments for the Upper Shackleford Creek Group is shown below:

Date	Release from Campbell Lake c.f.s.	Discharge Shackleford Creek at recording gage c.f.s.	Total supply available to Upper Shackleford Creek Group c.f.s.	Distribution of water in per cent of priority allotments: First Priority	Second Priority	Third Priority	Fourth Priority	Fifth Priority	Sixth Priority	Seventh Priority
Allotments - Schedule 3				2.03	7.00	3.00	8.70	4.00	1.20	3.00
July 1	0	33	33	100	100	100	100	100	100	100
5	0	33	33	100	100	100	100	100	100	100
10	0	31	31	100	100	100	100	100	100	100
15	0	25	25	100	100	100	100	100	22	100
20	0	17	17	100	100	100	57	0	0	0
25	0	15	15	100	100	100	34	0	0	0
31	0	13	13	100	100	100	11	0	0	0
Aug. 5	0	12	12	100	100	100	0	0	0	0
10	0	12	12	100	100	100	0	0	0	0
15	0	11	11	100	100	66	0	0	0	0
20	0	10	10	100	100	33	0	0	0	0
25	0	9	9	100	100	0	0	0	0	0
31	5	12	7	100	71	0	0	0	0	0
Sept. 5	5	12	7	100	71	0	0	0	0	0
10	5	12	7	100	71	0	0	0	0	0
15	5	11	6	100	57	0	0	0	0	0
20	4	11	7	100	71	0	0	0	0	0
25	3	10	7	100	71	0	0	0	0	0
30	2	8	6	100	57	0	0	0	0	0

Lower Shackleford Creek Group

The flow in Lower Shackleford Creek was sufficient to supply all demands throughout the season beeause of return flow from Mill Creek and Upper Shackleford Creek. The return flow from Mill Creek increased during September subsequent to the release of storage from Campbell Lake for irrigation purposes on the Blake ranch.

Upper Mill Creek Group

The water in Upper Mill Creek was distributed in accordance with Schedule 5 of the Shackleford Creek decree. There was sufficient water to supply all priorities through July 2, 1951.

Subsequent to the first week in July there was no water available for the third priority rights and regulation was necessary in order to distribute the second priority allotments. A summary of the distribution is set forth in the following tabulation:

Date	Available Water Supply c.f.s.	Distribution in Per cent of Priority Allotments		
		First Priority	Second Priority	Third Priority
Allotments		0.01	10.00	0.61
July 2	11	100	100	100
9	9	100	90	0
16	4	100	40	0
23	3	100	30	0
30	3	100	30	0
Aug. 6	2	100	20	0
11	2	100	20	0
13	2	100	20	0
20	2	100	20	0
27	2	100	20	0
Sept. 2	1.5	100	15	0
9	1.5	100	15	0
17	1.5	100	15	0
24	1.5	100	15	0

Lower Mill Creek Group

The available water supply in the Lower Mill Creek reach was sufficient to satisfy all priorities throughout the season.

CHANGE IN OWNERSHIP OF LANDS AND WATER RIGHTS

The change in ownership of lands and water rights which has occurred subsequent to filing "Statement for Shackleford Creek Watermaster Service Area, County of Siskiyou, State of California, for 1951" and which shall be included in the statement for said Watermaster Service Area for 1952, is listed in the following table:

Tract	Name of Water Right Owner Appearing in 1951 Statement	Name of Water Right Owner to Appear in 1952 Statement	Amount of Water c.f.s.
14-23	Turner I. Houston and Ella F. Houston	H. B. Tozier and Son	0.70

TABLE 1

PRECIPITATION AT ETNA, SISKIYOU COUNTY, CALIFORNIA

Elevation 2,945 Feet

Month	10-Year Mean Precipitation Inches	Precipitation 1950-1951 Inches
October	2.71	10.17
November	4.09	3.75
December	3.77	.34
January	4.68	7.03
February	2.94	5.03
March	1.89	.64
April	1.05	1.72
May	1.26	.88
June	.62	0
July	.30	.48
August	.17	* .10
September	.49	.05
Total Year	23.97	30.19

* Estimated

TABLE 2

Daily Discharge in Cubic Feet Per Second of
Release from Campbell Lake
August 27 to September 30, 1951

Day	March	April	May	June	July	August	September
1							4.9
2							4.9
3							4.9
4							4.8
5							4.8
6							4.8
7							4.8
8							4.8
9							4.8
10							4.8
11							4.7
12							4.7
13							4.7
14							4.7
15							4.7
16	No Record	No Record	No Record	No Record	No Record		4.6
17							4.4
18							4.3
19							4.0
20							* 3.8
21						No Record	3.6
22							3.6
23							3.3
24							3.2
25							3.0
26							2.9
27						* 5.0	2.8
28						5.0	2.5
29						5.0	2.4
30						5.0	1.8
31						5.0	
Total Sec. Ft. Days						** 25.0	122.0
Mean Sec. Ft.						** 5.0	4.1
Total Ac. Ft.						** 50	242

Total for 35-day period - 292 acre-feet.

* observed values, other values are estimated.
** 5-day period.

TABLE 3

Daily Discharge in Cubic Feet Per Second
Shackleford Creek above all diversions
July 1 to September 30, 1951

Day	March	April	May	June	July	August	September
1	No Record	No Record	No Record	No Record	33	13	12
2					33	13	12
3					33	13	12
4					33	12	12
5					33	12	12
6					32	12	12
7					32	12	12
8					32	12	12
9					31	12	12
10					31	12	12
11					26	12	12
12					26	12	12
13					25	12	12
14					25	12	12
15					25	11	11
16					22	11	11
17					21	11	11
18					19	11	11
19					18	10	11
20					17	10	11
21					17	10	11
22					16	10	11
23					16	9	11
24					16	9	10
25					15	9	10
26					15	9	9
27					14	9	9
28					14	9	9
29					14	*12	8
30					13	12	8
31					13	12	
Total Sec. Ft. Days					710	345	330
Mean Sec. Ft.					22.9	11.1	11.0
Total Ac. Ft.					1408	684	655

Total for 92-day period = 2747 acre-feet.

*Rise due to release from Campbell Lake.

TABLE 4

Daily Discharge in Cubic Feet Per Second
Ralph Eastlick Ditch
July 1, to September 30, 1951

Day	March	April	May	June	July	August	September
1	No Record	No Record	No Record	No Record	4.5	1.2	No Flow
2					4.5	1.2	
3					4.5	1.2	
4					4.5	1.0	
5					4.5	1.0	
6					4.5	1.0	
7					4.5	0.5	
8					4.5	0.5	
9					4.5	0.5	
10					4.5	0.5	
11					4.5	0.5	
12					4.5	0.5	
13					4.5	0.3	
14					4.5		
15					4.5		
16					4.5		
17					3.4		
18					3.3		
19					3.3		
20					3.2		
21					3.1		
22					3.1		
23					3.0		
24					1.8		
25					1.8		
26					1.6		
27					1.3		
28					1.3		
29					1.2		
30					1.2		
31					1.2		
Total Sec. Ft. Days					105.8	*9.9	0
Mean Sec. Ft.					3.4	*0.8	0
Total Ac. Ft.					210	*19.6	0

Total for 44-day period - 230 acre-feet.

* 13-day period.

TABLE 5

Daily Discharge in Cubic Feet Per Second
Shackleford Ditch
July 1 to September 30, 1951

Day	March	April	May	June	July	August	September
1					8.9	5.7	8.9
2					8.9	5.7	8.9
3					8.9	5.7	8.9
4					8.9	5.7	8.7
5					8.9	5.7	8.6
6					8.9	5.4	8.4
7					8.9	5.7	8.4
8					8.4	5.7	8.4
9					8.4	5.7	8.2
10	No Record	No Record	No Record	No Record	8.0	5.7	8.2
11					7.1	7.1	7.4
12					7.1	7.1	7.4
13					7.1	7.1	7.4
14					7.1	6.7	7.1
15					7.1	6.4	5.9
16					6.7	5.7	7.4
17					6.7	5.7	5.7
18					6.7	8.4	6.9
19					6.4	8.4	6.9
20					6.4	7.4	6.9
21					6.2	7.4	6.9
22					5.9	7.4	6.9
23					5.7	7.4	6.9
24					6.4	7.4	6.9
25					6.4	6.7	6.9
26					6.4	6.4	6.9
27					6.2	6.0	6.9
28					6.2	5.7	6.9
29					6.0	10.9	6.9
30					5.9	10.9	6.9
31					5.7	8.9	
Total Sec. Ft. Days					222.5	211.8	223.6
Mean Sec. Ft.					7.2	6.8	7.5
Total Ac. Ft.					441	420.	443

Total for 92-day period - 1304 acre-feet.

TABLE 6

Daily Discharge in Cubic Feet Per Second
Howard-Jones Ditch
July 1 to September 30, 1951

Day	March	April	May	June	July	August	September
1					4.6	1.6	
2					4.6	1.6	
3					4.5	1.6	
4					4.3	1.6	
5					4.0	1.6	
6					4.5	1.6	
7					5.4	0.8	
8					5.6	0.8	
9					5.6	0.8	
10					5.0	0.8	
11	No Record	No Record	No Record	No Record	4.9	0.6	
12					4.8		
13					4.7		
14					4.8		No Flow
15					4.9		
16					4.9		
17					4.7		
18					4.9		
19					4.9		
20					4.8		
21					4.8	No Flow	
22					4.6		
23					4.5		
24					3.0		
25					3.0		
26					2.7		
27					2.5		
28					2.1		
29					1.8		
30					1.6		
31					1.6		
Total Sec. Ft. Days					128.6	* 13.4	0
Mean Sec. Ft.					4.1	* 1.2	0
Total Ac. Ft.					255	* 27	0

Total for 42-day period - 282 acre-feet.

* 11-day period.

TABLE 7

Daily Discharge in Cubic Feet Per Second
Camp Ditch
July 1 to September 30, 1951

Day	March	April	May	June	July	August	September
1	No Record	No Record	No Record	No Record	6.3	4.2	3.4
2					6.3	2.7	3.4
3					5.6	3.4	3.4
4					4.9	3.4	3.4
5					4.5	3.4	3.4
6					5.6	3.4	3.4
7					5.2	5.2	3.4
8					4.9	5.2	3.4
9					4.8	5.2	3.4
10					5.3	5.2	3.4
11					5.0	5.0	3.4
12					4.3	5.0	3.2
13					3.9	4.9	3.2
14					3.8	4.8	3.2
15					3.7	4.8	3.9
16					3.7	4.8	5.3
17					3.8	4.8	3.4
18					2.9	4.8	3.0
19					2.8	3.4	3.0
20					2.9	3.2	3.0
21					3.0	3.2	3.0
22					2.7	3.1	3.0
23					4.5	2.9	3.0
24					4.5	2.9	3.0
25					4.5	2.9	3.0
26					4.8	2.9	3.0
27					4.5	2.9	3.0
28					4.5	2.9	3.0
29					4.5	8.4	3.0
30					4.5	5.7	3.0
31					4.5	3.4	
Total Sec. Ft. Days					136.7	128.0	98.6
Mean Sec. Ft.					4.4	4.1	3.3
Total Ac. Ft.					271	254	195

Total for 92-day period - 720 acre-feet.

TABLE 8

Daily Discharge in Cubic Feet Per Second
Burton Meamber Ditch
July 17 to September 30, 1951

Day	March	April	May	June	July	August	September
1						4.7	4.1
2						4.2	4.1
3					No Record	3.9	4.1
4						5.0	4.1
5						6.2	4.1
6						6.4	4.1
7						6.5	4.1
8						6.7	4.1
9						6.9	4.1
10						6.4	4.1
11						6.2	4.1
12						5.7	4.1
13						5.2	4.1
14						5.0	4.1
15						5.0	4.1
16						5.0	4.1
17					6.1	5.0	4.1
18					6.0	5.0	4.1
19					5.7	5.0	4.1
20					5.6	5.0	4.1
21					5.4	5.0	4.1
22					5.2	5.0	4.1
23					5.2	5.0	4.1
24					5.0	5.0	4.1
25					5.0	5.0	4.1
26					4.5	4.9	4.1
27					4.2	4.9	4.1
28					4.2	4.6	4.1
29					4.7	4.6	4.1
30					4.7	4.4	4.1
31					4.5	4.1	
Total Sec. Ft. Days					* 76.0	161.5	123.0
Mean Sec. Ft.					* 5.1	5.2	4.1
Total Ac. Ft.					* 151	320	244

No Record

Total for 76-day period - 715 acre-feet.
* 15-day period.

TABLE 9

Daily Discharge in Cubic Feet Per Second
Eastlick Upper Mill Creek Ditch
July 17 to September 30, 1951

Day	March	April	May	June	July	August	September
1						1.5	1.2
2						1.5	1.0
3						1.5	1.0
4						1.5	1.0
5					No Record	1.6	0.9
6						1.6	0.9
7						1.6	0.9
8						1.5	0.8
9						1.5	0.8
10						1.5	0.8
11						1.5	0.8
12						1.5	0.8
13						1.5	0.8
14						1.5	0.8
15		No Record	No Record	No Record		1.3	0.8
16	No Record					1.2	0.8
17					2.3	1.2	0.8
18					2.3	1.2	0.8
19					2.3	1.1	0.8
20					2.0	1.2	0.8
21					2.0	1.4	0.8
22					1.9	1.5	0.8
23					1.6	1.5	0.8
24					2.0	1.2	0.7
25					2.1	1.1	0.7
26					1.9	0.9	0.7
27					1.9	0.9	0.7
28					2.3	0.9	0.6
29					1.8	1.1	0.6
30					1.6	1.2	0.6
31					1.5	1.2	
Total Sec. Ft. Days					* 29.5	41.4	24.3
Mean Sec. Ft.					* 2.0	1.3	0.8
Total Ac. Ft.					* 59	82	48

Total for 76-day period - 189 acre-feet.
* 15-day period.