DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

REPORTS OF THE

DIVISION OF WATER RESOURCES

EDWARD HYATT, STATE ENGINEER

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REPORT ON WATER MASTER SERVICE ON SOLDIER CREEK

MODOC COUNTY, CALIFORNIA
1932 SEASON

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By

Leslie C. Jopson, Modoc County Water Master

Sacramento, California

March 1933

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1. Precipitation Data
2. Continuous Records of Daily Discharge in Cubic Feet per second of Soldier Creek above Diversions for the period March 19th to August 20th, 1932.
3. Average Water Deliveries on Soldier Creek compared with allotments - 1932.
4. Crop Yields on Typical Lands Irrigated from Soldier Creek - 1932.

PLATE:

Hydrograph of Flow of Soldier Creek in 1927 and 1932

STATE OF CALIFORNIA

Department of Public Works

SACRAMENTO

DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

EDWARD HYATT, STATE ENGINEER
CHIEF OF DIVISION

March 1933

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

Attention Mr. Gordon Zander
Supervising Hydraulic Engineer

Dear Sir:

Herewith is submitted a copy of the water master report for Soldier Creek Water Master District in Modoc County, California for the period from March 19th to August 20, 1932.

The report describes the methods and practices followed in the distribution of the waters of Soldier Creek under the provisions of the decree in the case of San Francisco Cattle Loan Company, et. al. vs. C. M. Crempton, et. al. and presents the results obtained under this distribution.

Respectfully submitted,

LESLIE C. JOPSON
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
Heath Stanley	Deputy Water Master

GENERAL DESCRIPTION OF WORK

Water master service was conducted in the Soldier Creek Water Master District in 1932 in accordance with the provisions of the San Francisco Cattle Loan Company et. al. vs. C. M. Crampton, et. al.

The field work was commenced by the writer on March 19th and was ended for the season on August 20th. Mr. Heath Stanley was employed as a deputy water master on Owl, Emerson, Cedar and Soldier Creeks during April and May.

The water supply of Soldier Creek during 1932 was quite satisfactory during the early part of the season. During the first three weeks of May there was a surplus of water. All the users were allowed to divert what water they required without regard to rotation or priority as long as there was no interference with the rotation class entitled to the water. The supply was good during the first half of June but it fell off very rapidly toward the end of that month until it was only slightly above the domestic requirements by June 30th.

The only difficulty of any consequence was experienced with G. McMullen taking more than his share of the water in the company ditch. As no results could be obtained by talking to him it became necessary to regulate his takeouts from the ditch.

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 as well as a comparison of the 1931-32 seasonal precipitation with the 1894-1931 mean is shown in this table. The 1931-32 record shows the precipitation as 110.7 percent of the mean. A very wet winter was followed by a dry spring and summer, otherwise the departure from the mean would have been even greater.

Table 2 is a tabulation of the water supply of Soldier Creek above all diversions for the 1932 season. The hydrograph at the end of this report is a graphical comparison of this flow and that of 1927 which is considered a normal year.

Table 3 is a comparison of water allotment and water supply during each rotation period and a part of the dry weather season.

Table 4 is a tabulation of crop yields on typical lands irrigated from Soldiers Creek. In 1932 the crop production was quite satisfactory. All the lands received an adequate irrigation which resulted in good stands of hay and grain.

RECOMMENDATIONS

There are several structures on Soldier Creek which are in need of replacement. A list is given below:

Ditch	Structure
Daniels	New headgate
Toney Strieff	New headgate

A measuring device of some nature should be installed in the West Branch of the Creek near the Toney Ditch.

FINANCIAL STATEMENT

The funds collected from the water users in the various Water Master Districts to defray the costs of water master service are placed to the credit of the various Water Master District Funds by the State Treasurer. The state contributes an amount to the funds equal to that contributed by the water users. They are then subject to draft by the Division of Water Resources to meet the costs of water master service in the district.

FINANCIAL STATEMENT

SOLDIER CREEK WATER DISTRICT FUND

March 1, 1933

RECEIPTS

Balance on March 1, 1932	$441.45	
Contributed by State in 1932	200.00	
Contributed by Taxpayers (Mar.1/32 to Mar.1/33)	192.11	$833.56

DISBURSEMENTS
(Mar. 1/32 to Jan.10/33)

Water Master Compensation	$149.40	
Water Master Travel Expense	93.54	
Cost of Publication of Financial Statement . .	22.50	
Contingencies	1.60	267.04
BALANCE		$566.52

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
Mean 1894 to 1932	0.55	1.01	1.59	1.61	1.76	1.55	1.45	.90	1.03	.65	.24	.18	12.52
1931-32 in per cent of total mean	2.6	25.6	7.8	14.8	17.8	5.6	15.7	14.9	4.2	1.8	.0	.0	110.7

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER SECOND OF SOLDIER CREEK ABOVE DIVERSIONS FOR THE PERIOD MARCH 19th TO AUGUST 20, 1932

Day	Mar.	Apr.	May	Jun.	Jul.	Aug.	
1		25.8	47.0	16.0	4.75	1.80	
2		24.8	40.0	16.7	4.55	1.80	
3		21.0	33.0	19.8	4.40	1.75	
4		17.5	33.0	18.4	4.25	1.75	
5		15.0	36.0	15.1	3.95	1.75	
6		13.8	51.0	13.2	3.75	1.70	
7		12.6	64.0	13.6	3.50	1.70	
8		12.2	73.0	14.0	3.35	1.70	
9		14.1	76.0	14.0	3.25	1.70	
10		22.5	80.0	14.7	3.15	1.70	
11		31.0	70.0	14.3	3.10	1.65	
12		40.0	70.0	14.0	3.05	1.65	
13	No	45.0	70.0	12.8	2.90	1.65	
14		37.0	64.0	11.8	2.80	1.60	
15	record	29.0	42.0	11.8	2.70	1.60	
16		23.8	38.0	10.5	2.70	1.60	
17		21.0	38.0	9.90	2.60	1.60	
18		23.0	36.0	9.30	2.50	1.60	
19	60.0	19.8	33.0	8.75	2.40	1.60	
20	38.0	15.9	27.8	8.25	2.35	1.60	
21	18.4	14.7	22.4	8.00	2.30		
22	15.1	15.5	19.8	7.50	2.25		
23	12.9	14.8	17.9	7.00	2.20		
24	18.4	15.9	17.9	6.80	2.15		
25	15.5	15.9	17.1	6.40	2.10	No	
26	12.5	14.7	17.1	6.20	2.05	record	
27	15.1	14.7	17.5	5.80	2.00		
28	16.3	20.3	16.7	5.45	1.90		
29	14.7	31.6	14.8	5.25	1.90		
30	15.9	33.0	16.7	4.90	1.85		
31	21.6	-	15.1	-	1.85		
Total Sec. Ft. Days	* 274.40	655.90	1214.80	330.20	88.55	** 33.50	155 Day Period
Mean Sec. Feet	21.11	21.86	39.19	11.07	2.86	1.68	16.8
Max Sec. Feet	60.0	45.0	80.0	19.8	4.75	1.80	80.0
Min. Sec. Feet	12.5	12.2	14.8	4.90	1.85	1.60	1.60
Total Sec. Feet	544.	1300	2410	655	176	66.4	5150

* 13 Day Period.

** 20 Day Period.

TABLE 3

AVERAGE WATER DELIVERIES ON SOLDIER CREEK COMPARED WITH ALLOTMENTS - 1952

Priority	Rotation Period								Dry-Weather Period Continuous Flow	
	Lower Users 3/19 3/31	Upper Users 4/1 4/10	Lower Users 4/11 4/23	Upper Users 4/24 5/3	Lower Users 5/4 5/16	Upper Users 5/13 5/26	Lower Users 6/27 6/8	Upper Users 6/9 6/18	6/19 7/18	7/18 8/20
	Percent									
1	100	100	100	100	100	100	100	100	100	79
2	100	100	100	100	100	100	100	100	67	0
3	100	100	100	100	100	100	100	100	0	0
4	100	100	100	100	100	100	100	65	0	0
5	93	100	100	100	100	100	22	0	0	0
6	0	100	100	100	100	100	0	0	0	0
7	0	59	100	100	100	100	0	0	0	0
8	0	0	100	100	100	100	0	0	0	0
9	0	0	100	100	100	100	-	-	-	-
10	0	0	100	100	100	100	-	-	-	-
11	0	0	0	100	0	100	-	-	-	-
12	0	0	58	0	100	0	-	-	-	-
13	-	0	-	100	-	-	-	-	-	-
Total Deliveries	19.1	19.9	23.4	28.1	53.0	25.7	14.0	13.6	4.33	1.74
Allotments	* 25.52	* 27.22	* 25.52	* 27.22	* 25.52	* 27.22	* 20.15	21.85	** 11.75	** 11.75
Percent of Allotments delivered	75	73	92	103	208	94	69	62	37	15
Combined flow above all Diversions	21.1	17.9	25.4	26.6	55.0	24.7	17.6	13.2	4.43	1.84
Channel Loss	− 2.0	+ 2.0	−2.0	+1.5	− 2.0	+ 1.0	−3.0	+0.4	−0.10	−0.10

* Includes 5.37 cubic feet per second from permits

** Upper Users only.

TABLE 4

CROP YIELDS ON TYPICAL LANDS IRRIGATED
FROM SOLDIER CREEK - 1932

OWNER	CROP	ACRES	Total Yield TONS	Total Yield SACKS	Yield per acre TONS	Yield per acre SACKS
Charlie Atkinson	Alfalfa &Grain	20.0	65		3.2	
	Barley	4.0		75 Bu		18.8 Bu
	Rye	8.5		150 Bu		17.6 Bu
	Alfalfa seed	105.0		30000#		285.7 #
	Orchard			Good		
	Garden			Good		
Simon Bennett(Brown)	Alfalfa	110.0	226		2.1	
	Meadow Hay	50.0	98		2.0	
C. Darst	Alfalfa	40.0	60		1.5	
	Wheat	6.0		36		6.0
G. Heard	Alfalfa	40.0	140		3.5	
	Barley, Oats Rye, Wheat	110.0		1600		14.5
G. R. McMullen	Grain Hay	35.0	40		1.1	
	Wheat	4.0	4		1.0	
	Alfalfa Seed	90.0		100		1.1
J. C. Sharp	Alfalfa	110.0	200		1.8	
	Rye	8,0		40		5.0
G. Stiner	Alfalfa	100.0	210		2.1	
Simon Bennet(Strief)	Alfalfa	15.0	50		3.3	
	Meadow Hay	100.0	200		2.0	
	Barley	8.0		150		18.8
	Wheat	5.0		45		9.0
	Garden			Good		
M. Toney	Alfalfa	125.0	250		2.0	
	Meadow Hay	35.0	50		1.4	
	Wheat	15.0		600 bu		40.0 Bu
Geo. M. Warrens	Alfalfa	4.0	6		1.5	
	Grain Hay	30.0	30		1.0	
	Alfalfa Seed	150.0	8		0.05	
	Orchard			Good		
	Garden			Good		

P L A T E