

No Tables

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

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

REPORT ON
WATERMASTER SERVICE WITHIN
SURPRISE VALLEY WATERMASTER DISTRICT
MODOC COUNTY, CALIFORNIA
1946 SEASON

BY

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Sacramento, California

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DIVISION OF WATER RESOURCES
401 PUBLIC WORKS BUILDING

November 26, 1946

Mr. Gordon Zander
Principal Hydraulic Engineer
Sacramento, California

Attention: Mr. Harrison Smitherum
Supervising Hydraulic Engineer

Dear Sir:

Submitted herewith is the annual report covering watermaster service within the Surprise Valley Watermaster Service Area, Modoc County, California, during the 1946 season.

This report gives a general description of the work, and a summary of the distribution of water on each stream within the area. Records of precipitation, run-off, and other pertinent data are included.

Respectfully submitted,

J. J. R.

Assistant Watermaster

Report on
Watermaster Service Within
Surprise Valley Watermaster District
Modoc County, California
For the Season of 1946

INTRODUCTION

Watermaster service was continued in the Surprise Valley Watermaster Service Area during the 1946 season in accordance with sections 4000 to 4360, inclusive, of the Water Code. The service was commenced for the season on March 19, 1946, and was terminated on September 30, 1946.

T. I. Rausch administered the distribution of water from the streams within the service area during the 1946 season, except for the period from March 18 to June 9 when the distribution was administered by J. Victor Scammon. Harrison Smitherum, Supervising Watermaster, directed the work in the field.

WATER SUPPLY

Precipitation

Table 1 gives the monthly and seasonal precipitation at Cedarville for the 1940-41, 1941-42, 1942-43, 1943-44, 1944-45 and 1945-46 seasons, and the mean monthly and seasonal precipitation at that station for the period of record, 1894 to 1946, as compiled from records of the United States Weather Bureau. The table also shows a comparison between the 1945 - 1946 precipitation and the 1894 - 1944 mean. The seasonal precipitation for 1945-46 was 98 per cent of the mean.

Table 2 contains the results of snow surveys made annually at the four courses in the Upper Pit River watershed. Considering the two snow courses on the Warner Range, namely Eagle Peak and Cedar Pass, the water content of the snow on these two courses was 108 per cent and 106 per cent of their deduced normals. The mean of these two figures is 107 per cent. The deduced normal water content for the entire season (to April 1) on Eagle Peak and Cedar Pass for 56 year period was 19.6 inches and 21.8 inches respectively.

Stream Flow

Measuring stations, equipped with water-stage recorders, were maintained on the streams within the Surprise Valley Watermaster Service Area as listed below. The streams are listed geographically in order from north to south. As nearly as is practicable, each station is located above all diversions on the particular stream. On Pine Creek the measurements were made by means of two 4-foot Parshall Measuring Flumes installed at the point where the stream divides into the north and south channels. The other stations were rated by means of current meter measurements taken at various stages of the streams throughout the period of watermaster service. The records of discharge for the several streams within the area are presented in Tables 3 to 15, inclusive, at the end of this report. The adequacy of the water supply to fill the requirements on the various streams is discussed for each stream under the chapter heading "Distribution of Water".

Mill Creek above diversions

Soldier Creek above diversions

Pine Creek above North and South Channels

Cedar Creek above diversions

North Deep Creek above diversions

South Deep Creek below Espil Ditch

Owl Creek below Allen-Arreche Ditch

Rader Creek above Parshall Flume Diversion
Structure

Eagle Creek one-half mile below mouth of
canyon

Emerson Creek above diversions

DISTRIBUTION OF WATER

Distribution on the various streams within the service area was in accordance with the allotments and priorities set forth in the respective decrees. The flows available for distribution were determined from the measured discharge at the recording stations. A summary of the results accomplished and of any difficulties encountered on each separate stream is given below.

Mill Creek

The regulation of diversions from Mill Creek was made in accordance with the allotments and priorities set forth in the decree in the case of Warrens vs. Wimer, No. 3024, Superior Court, Modoc County, dated December 19, 1931. The amounts of water available for distribution were determined from the flow at the measuring station on Mill Creek above all diversions. The record of daily discharge at this station for the 1946 season is submitted in Table 3, at the end of this report.

Third priority water was exhausted the latter part of July, while second priority rights received allotments until the 10th of August. First priority water diminished to 14 per cent during the latter part of September.

Rutherford Creek had ample water to meet all requirements throughout the season, and first priority water was available during the entire period.

Soldier Creek

The diversions from Soldier Creek were regulated in accordance with

the provisions of the decree in the case of San Francisco Cattle Loan Co. vs. Crampton, No. 2405, Superior Court, Modoc County, dated November 28, 1926, and additional appropriative rights initiated subsequent to said decree. The amounts of water available for distribution were determined from the flow at the measuring station on Soldier Creek above all diversions. The record of daily discharge at this station for the 1944 season is submitted in Table 4 at the end of this report.

All ditches on Soldier Creek were opened in 1946, and all users exercised their full legal rights whenever water was available therefore, excepting the Jones Ditch, Diversion 10, which serves the E. K. Seufferlein property under an "additional appropriative right".

Rotation was practiced from March 19 until June 19, in accordance with the decree. The Daniels ranch at no time during the season diverted more than 1.00 c.f.s. from Soldier Creek, as the supply from Daniels Canyon and Simpson Canyon was ample to supply most of its needs.

At all times when flood water was available during the season, it was allowed to flow down the East Branch of Soldier Creek for use on the Patch Ranch. However, flood stages were usually of such short duration that, due to heavy channel losses, only a small percentage of this water actually reached the Patch ranch. No water was available for the "additional appropriative rights" during the 1946 season.

Full allotments were available only for short intervals during the rotation periods of both the Lower and the Upper users. Beginning the latter part of June the flow diminished steadily, so that full allotments in first priority water only were available throughout the season. Second priority rights were exhausted the latter part of August.

Pine Creek

The diversions from Pine Creek were regulated in accordance with the decree in the case of Gaustad vs. McCulley, No. 5391, Superior Court, Modoc County, dated December 7, 1936. The amount of water available for distribution was determined at the two Parshall Measuring Flumes on the North and South Channels of Pine Creek. The record of daily discharge above all diversions for the 1946 season is submitted in Table 5.

The water supply of Pine Creek was sufficient to complete the first rotation by April 26. The second rotation was then commenced, and continued until May 12 when the flow diminished to 4.0 c.f.s., and all the water was turned to Harris and McCulley for rotation. On May 18, the flow having diminished to 1.6 c.f.s., all water was turned into the Cressler Ditch for W. E. Hill until May 31. On that date the entire flow of the creek was turned to John Freeborn.

Approximately .04 c.f.s. was diverted from Pine Creek to make up the deficiency in the first priority allotment of .08 c.f.s. from the Royce spring.

Cedar Creek

Distribution on Cedar Creek was made in accordance with the water rights defined in the cases of Hill vs. Acty, No. 2343, and Lichty vs. Cook, No. 1206, Superior Court, Modoc County, and agreement re. right of Jake Rechsteiner to divert water from Cedar Creek. Water diverted from Thomas Creek into Cedar Creek through the Cedar Pass Ditch, the rights to which are set forth in the North Fork Pit River Decree, No. 4074, Superior Court, Modoc County, dated December 14, 1939, and in the said Lichty vs. Cook decree, was also distributed to the rightful owners. The amounts of water available for distribution were determined from measurements taken at a Parshall Measuring Flume on the Cedar Pass Ditch, and at the measuring station on Cedar Creek

above diversions. The record of daily discharge at the Cedar Creek station for 1946, which includes the water diverted from Thoms Creek, is submitted in Table 6.

Water was available for only the first and second priority rights on Cedar Creek in 1946. The Cedar Pass Ditch from Thoms Creek was opened on the 4th of May and ran intermittently until the middle of June. The Meyers (Acty) Ditch, Diversion 9 was used from April 12 to April 17. The Rechsteiner Ditch was not opened in 1946. Stock and garden water was available at the McCulley Ranch throughout the season.

Deep Creek

The diversions from Deep Creek were regulated in accordance with the water rights defined in the decree in the case of Tyeryar vs. Benner, No. 3101, Superior Court, Modoc County, dated January 25, 1934. The amounts of water available were determined from measurements taken at the measuring stations on North and South Deep Creeks. The records of daily discharge for 1946 for North and South Deep Creek are shown in Tables 7 and 8 respectively. A summation of the results for these two stations has been tabulated in Table 9. Garden Water was available for first priority users throughout the season, while second priority water was exhausted on the 20th of May.

Owl Creek

The regulation of diversions from Owl Creek were made in accordance with the allotments and priorities set forth in the decree in the case of Cummins vs. Allen, No. 2410, Superior Court, Modoc County, dated April 29, 1929. The amount of water available for distribution was determined from measurements of the flow of Owl Creek taken at the measuring station below the Allen-Arreche Ditch. The record of daily discharge at this station is shown in Table 10.

Until the latter part of June there was sufficient water to satisfy the first thirteen priorities. Through July, August and September, the water

supply steadily diminished. However, the supply was sufficient to furnish garden and stock water to the Daussat, Berryessa and Cummins ranches throughout the season.

Rader Creek

The waters of Rader Creek were distributed in accordance with the water rights defined in the decree in the case of Powers vs. Woodruff, No. 3626, Superior Court, Modoc County, dated June 4, 1937. The amounts of water available for distribution were determined from measurements taken at the measuring station on Rader Creek above the Parshall Flume diversion structure. The record of daily discharge at this station for 1946 is submitted in Table 11. The summation of the flow at this station and the amounts of water diverted above it is shown in Table 12.

Water was available in varying amounts for all rights on Rader Creek during 1946. On May 20, the McCulley - Hudspeth Ditch was opened and regulated to divert one-seventh of the flow of the creek at the point of diversion. The ditch was closed on July 16, when the water failed to reach the place of use.

Stock water was available throughout the season for the Nolan, Minto, Powers and Dollarhide ranches.

Eagle Creek

Regulation of the ditches diverting water from Eagle Creek was made in accordance with the allotments and priorities set forth in the decree in the case of Harris vs. Adams, No. 3284, Superior Court, Modoc County, dated November 5, 1937. The amount of water available for distribution was determined from measurements taken at the measuring station on Eagle Creek. The record of daily discharge at this station for the 1946 season is shown in Table 13. A record of daily discharge above all diversions has been compiled by adding the quantities diverted above the measuring station to the amounts shown in

Table 13. This compilation is submitted in Table 14.

Third priority users received water in varying amounts until the latter part of July. Second priority water diminished to sixteen per cent of the full allotment by the end of September, while first priority users received their allotments in full throughout the season.

Rotation was used on the Grider Ditch commencing August 24, and continued throughout the season.

Emerson Creek

The ditches diverting from Emerson Creek were regulated in accordance with the allotments and priorities set forth in the decree in the case of Murphey vs. Warren, No. 2840, Superior Court, Modoc County, dated March 25, 1930. The amount of water available for distribution was determined from measurements taken at the measuring station on Emerson Creek. The record of daily discharge at this station for 1946 is submitted in Table 15.

Third priority water was available in varying amounts until the middle of May, and second priority water was exhausted the latter part of July. Sufficient water was available at all times to satisfy garden and stock water demands.

Ownership of Lands and Water Rights Within Surprise Valley Watermaster Service Area

Changes in ownership

The changes in ownership of lands and water rights which have occurred subsequent to filing "Statement for Surprise Valley Watermaster Service Area, County of Modoc, State of California for 1946", and which shall be included in the statement for said watermaster service area for 1947, are listed in the following tabulation:

Tract	Name of Water Right Owner appearing in 1946 Statement	Name of Water Right Owner to appear in 1947 Statement	Amount of water c.f.s.
4	William Hays	John and Margarette Geaney	1.55
14	Minnie Heard and Estate of G. K. Heard	Minnie K. Heard	0.51
15	Minnie Heard and Estate of G. K. Heard	Minnie K. Heard	0.56
28 & 40	J. A. Largent	F. A. Shaffer	0.56
31 & 38	T. A. Read	Clyde and Belva C. Sevier	0.40
55 & 36	Nannie Daniels	Albert M. and Mary B. Hallmark	0.21
37	W. A. Jr., and W. R. Odbert, Lenore Parman and Mrs. Jimmie Hill	Clyde and Belva C. Sevier	0.16
46	Charles Carter	Charles Hill	0.50
59	J. W. and Maude Ledford	E. K. Seufferlein	0.50
72	The Federal Land Bank of Berkeley and Raymond E. Ledford	The Federal Land Bank of Berkeley and Gale A. Blevins	0.10
74	John Freeborn	W. D. and Virginia M. Ausman	0.12
81	W. H. Bonham	Alex C. and Dorothy H. Ash	1.50
95	B. H. and Barbara Simson	H. E. and Ruth A. Parke	0.80
101	Percy B. and Julia G. Harris	E. R. and Hattie E. Tyeryar	0.16
109	W. I. Allen	Four Star Cattle Company	2.47
111	H. K. Perry	Heath Stanley	0.99
118 & 123	David C. Wise and Ray H. Kistler	Four Star Cattle Co.	4.99
119	J. H. Stiner	Charles N. Snell	0.95
125	George M. and Mary P. Hudspeth	Lewis F. Cockerell	1.35
133	W. Cockerell	Mrs. W. Cockerell	0.08
134	Estate of E. B. Woodruff	Nolan Ranch and Cattle Co.	2.35

Tract No.	Name of Water Right Owner appearing in 1946 Statement	Name of Water Right Owner appearing in 1947 Statement	Amount of water c.f.s.
:135	:E. B. Woodruff	:Nolan Ranch and Cattle Co.	: 1.00
:140	:Bessie Ward	:Claude Coonse	: 0.06
:*	:	:	:
:147	:R. J. and Hazel Young	:Fred and Elizabeth Meyers	: 0.04
:155	:John W. and Cora Hanks	:Hazel Elliot	: 0.025
:159	:Margaret Connolly	:Eulalio and Elmore Miura	: 0.04
:165	:E. E. and Susan Murphey	:William G. Marman and Jesse W. Stevens	: 2.10
:174	:Lottie May Slinkard	:Ray Ward	: 0.31
:184	:Harold Finmand	:David L. Grove	: 3.90
:185	:K. E. and Nellie McDougal	:William Patterson	: 7.00
:	:Fred and Anna Lee Brandt	:	:
:	:Clyde C. and Josephine Price	:	:

* Tract 147 was divided equally between R. J. and Hazel Young and Floyd E. and Mary J. Cook

TABLE 1

PRECIPITATION AT CEDARVILLE, CALIFORNIA, 1894-1946, ELEVATION 4,675 FEET
MONTHLY, SEASONAL, AND AVERAGE AMOUNTS IN INCHES

Season	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Seasonal
1940-41	1.04	1.40	1.23	1.38	1.41	1.77	0.67	0.58	1.77	1.33	1.32	1.09	14.99
1941-42	0.34	1.38	1.50	2.79	0.58	1.29	0.43	1.35	1.40	0.73	0	0.16	11.95
1942-43	0.19	T	2.84	1.66	3.66	1.42	1.12	1.40	0.79	0.68	0.12	T	13.88
1943-44	T	1.70	0.09	0.40	0.93	1.52	0.77	1.30	0.25	2.56	0.56	T	10.08
1944-45	0.52	0.51	2.30	0.51	0.96	2.89	1.37	1.17	3.27	1.40	T	0.15	15.05
1945-46	0.25	1.82	2.42	1.93	1.10	0.44	1.92	0.34	0.46	0.26	0.93	0	11.87
Mean 1894-1946	0.53	1.04	1.47	1.46	1.72	1.51	1.45	0.92	0.91	0.71	0.22	0.16	12.10
1945-1946 in Per cent of Mean	47.1	175.0	164.6	132.1	63.9	29.1	132.4	36.9	50.5	36.6	422.7	0	98.0

Note: See Surprise Valley Watermaster District Report for 1940
and Soldier Creek reports prior to 1940 for previous records.

TABLE 12
SNOW SURVEY DATA—UPPER PIT RIVER

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
Eagle Peak Course:																	
Elev. 7500 Ft.																	
Date of Survey	4/3	4/1	3/30	3/30	4/2	4/10	4/9	3/29	3/31	3/30	4/4	3/26	3/29	3/24	3/27	3/30	4/5
Depth of Snow— Inches	24.3	13.3	43.8	38.1	9.9	66.1	50.5	47.3	71.3	27.2	38.4	35.1	38.6	56.7	35.5	63.5	53.3
Water Content— Inches	11.0	5.2	18.7	14.3	3.3	22.6	22.1	17.5	23.6	10.4	15.6	13.8	14.7	23.7	13.5	22.2	21.2
Density—Percent	45.3	39.1	42.6	37.5	33.3	34.2	43.7	37.1	33.1	38.2	40.6	39.3	38.1	41.8	38.0	35.0	39.8
Record Average— Inches								14.32	15.35	14.8	14.9	14.8	14.8	15.5	15.3	15.8	16.1
% of Record Aver.	78.0	36.3	131.0	100.0	23.0	158.0	154.0	122.0	153.7	70.5	104.7	93.3	99.3	152.9	88.2	140.5	131.7
Cedar Pass Course:																	
Elev. 7200 Ft.																	
Date of Survey	3/31	3/30	3/26	3/28	3/31	3/27	4/5	4/10	3/26	3/28	3/22	3/24	3/27	3/22	3/25	3/29	3/28
Depth of Snow Inches	29.3	22.1	49.2	43.9	2.2	56.4	68.2	54.4	79.1	28.2	35.9	40.8	47.4	62.3	33.4	67.5	55.4
Water Content Inches	13.0	8.3	19.8	16.3	0.9	21.1	26.2	21.6	25.2	10.5	14.6	17.9	19.3	25.8	12.3	22.4	22.9
Density—Percent	44.4	37.6	40.3	37.1	40.8	37.4	38.4	39.6	31.8	37.2	40.7	43.8	40.7	41.4	36.8	33.2	41.3
Record Average— Inches								15.9	16.9	16.3	16.1	16.3	16.0	17.2	16.9	17.2	17.5
% of Record Average	82.0	50.4	118.0	102.5	5.7	133.0	165.0	136.0	149.1	64.4	90.7	109.0	120.6	150.0	72.8	130.2	130.8

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TABLE I (Continued)

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
Blue Lake Ranch Course Elev. 7300 Ft.																	
			New Course 1940														
Date of Survey											4/11	3/28	3/31	3/26	3/31	4/3	4/3
Depth of Snow-- Inches											16.3	18.8	28.9	34.9	23.0	44.0	44.9
Water Content-- Inches											6.4	8.5	11.7	15.3	8.5	15.8	16.2
Density--Percent											39.2	45.2	40.5	43.8	37.0	35.9	36.1
Record Average-- Inches																	
% of Record Average																	
Adin Mountain Course-- Elev. 6500 Ft.																	
Date of Survey	3/27	3/27	3/24	3/27	4/1	4/17	3/26	4/7	4/8	3/31	4/7	3/31	4/2	3/31	3/30	4/3	3/26
Depth of Snow--In.	13.3	6.1	30.0	37.6	0	45.9	47.2	37.4	61.4	17.5	10.8	24.6	32.1	30.4	24.9	41.2	44.0
Water Content--In.	6.1	2.9	13.3	14.1	0	18.8	20.0	16.7	28.1	8.1	4.3	11.3	13.9	13.2	9.4	15.8	16.2
Density--Percent	45.6	47.3	44.3	37.5	0	40.9	42.4	44.8	45.8	46.2	39.8	45.9	43.3	43.4	37.8	38.4	37.0
Record Average--In.									11.5	13.3	12.8	12.0	12.0	12.1	12.2	12.0	12.2
% of Record Aver.	53.0	25.2	115.6	122.5	0	163.7	174.0	145.2	211.3	63.3	35.8	94.1	114.9	108.2	78.3	129.5	129.6