

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
CEDAR CREEK

MODOC COUNTY, CALIFORNIA
1933 SEASON

oOo

By Leslie C. Jopson, Modoc County Water Master

Sacramento, California

March, 1934

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March 1, 1934

Mr. Harold Conkling
Deputy State Engineer
Sacramento, California

Dear Sir: Attention: Mr. Gordon Zander Supervising Hydraulic Engineer.

There is transmitted herewith a report covering the water distribution work of the water master in the Cedar Creek Water Master District, Modoc County, California during the period from April 20 to June 27, 1933.

The report describes the methods and practices followed in the distribution of the waters of Cedar Creek in accordance with the provisions of the decrees in the cases of W. E. Hill, et al., vs. Herman Acty, et al., and D. H. Lighty vs. John R. Cook, et al., and presents the results obtained under the distribution.

Respectfully submitted,

Modoc County Water Master

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Modoc County Water Master

GENERAL DESCRIPTION OF WORK

Water Master service was continued in the Cedar Creek Water Master District in 1933 in accordance with the provisions of Section 37a of the Water Commission Act. The service was commenced for the season on March 20th and continued until June 27th when the first right began diverting all of the water. Mr. Leslie C. Jopson, Modoc County Water Master handled the distribution of the water on Cedar Creek in 1933.

All of the diversions except the McCulley Ditch on Cedar Creek were opened in 1933 and used their proportion of the water that was available for their respective priorities. The McCulley Ditch, diverted its full allotment for about two weeks the first part of May and diverted about 80 per cent allotment during the remainder of the period of adequate water for the first priority.

Rotation was practiced among the second priority users below the Wallace Ditch during the latter portion of the season. The rotation was commenced on May 21 when the users below the Street Ditch took all of the water available for these rights. On May 27th the Street and Toney Ditches were opened shutting off the users below the Beebe Ditch. The Beebe Ditch had not received its pro-rata of the water and was allowed to divert about 1.00 cubic foot per second until June 1st. The Street and Toney Ditches diverted continuously until June 15th when the creek dropped too low to permit a delivery to the Street Ditch. Thereafter the Wallace and Sizer Ditches diverted all the Cedar Creek water available for the second priority users.

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 and a comparison of the 1932-33 seasonal precipitation with the 1894-1933 mean are shown in this table. The 1932-33 record shows the precipitation of that season as 64.2 per cent of the mean.

Table 2 is a tabulation of the water supply of Cedar Creek above all diversions for the 1933 season. This table includes the foreign water from Thoms Creek which is conveyed to its place of use by Cedar Creek. The hydrograph at the end of the report shows graphically the water supply of Cedar Creek, including foreign water, for the years 1932 and 1933, compared with the allotments. The 1932 water supply has been included in the hydrograph as an indication of the runoff expected in years of normal water supply.

Table 3 is a tabulation of the estimated flow of the Thoms Creek Ditch at the summit of Cedar Pass.

Table 4 is a tabulation of the amounts of water delivered to each priority class during the periods shown. The table also shows the per cent of total allotments delivered during the indicated periods. The maximum amount delivered during the periods shown was 67 per cent of the total allotment and the minimum was 12 per cent of the total. Subsequent to the period covered in this report the creek dropped too low for any delivery.

Table 5 is a tabulation of crop yields on typical lands irrigated from Cedar Creek. The yields in 1933 were approximately sixty per cent of those received in 1932. The poorer yields were partly due to a shortage of irrigation water and partly due to the winter killing of alfalfa.

There was one new installation of importance made on Cedar Creek in 1933. A concrete diversion dam and headgate structure was built at the head of the Beebe Ditch. This structure was built with the openings into the Beebe Ditch and into the main creek approximately proportional to the amounts of water allotted to the ditch and to the users below the structure.

VIOLATIONS OF DECREE AND CONTROVERSIES

Several violations of the Cedar Creek decree occurred in 1933. The principal violation occurred on the Wallace Ditch where the owner refused to submit to regulation until a notice was posted and arrest threatened. The user did not wish to allow any water to pass the Wallace Ditch for the use of the lower users of equal right until there was more water than the ditch would carry. The water master regulated the ditch to the proper proportion of the flow when the flow in the creek became great enough to reach the lower users but continued interference prevented the water from reaching through until the notice was posted. With the cessation of interference no further difficulty was encountered in delivering the water to all parties entitled to its use.

Some difficulty occurred on the Sizer Ditch also, when the renter on the Hoopes Ranch opened the Sizer ditch without the consent of the owner, and began diverting water belonging to other users. Upon protesting to Mr. Sizer, it was found that the ditch was being used without his consent and the ditch was closed until water was available for diversion therein. Some interference also occurred from the same party on the Sizer Ditch at the end of the season after all of the water in the creek was turned into the Mc Culley Ditch. The McCulley Dam was breached several times but upon serving notice no further difficulty occurred.

A controversy occurred on the lower end of Cedar Creek between the owners of the Hill Ranches and the Smalls Ranch. The creek channel is completely filled up with sand on the Smalls Ranch and it has been customary during years of ample water supply not to open a channel

through to the Hills' Ranches but to let the water spread across the Small's Ranch onto the other properties. In 1933, the flow of the creek was too small to spread completely across the Small's field and the owners of the Hills' Ranches opened a small by-pass ditch around the sand-filled channel on the Small's Ranch in order to divert the water directly onto their lands. The owner of the Small's Ranch protested this procedure insisting that the lower users had no right to put the by-pass ditch in on his ranch. After some discussion it was agreed to allow a limited amount of the water to flow through the by-pass ditch without interference.

RECOMMENDATIONS

At the earliest possible date an almost complete set of headgates and measuring devices should be installed on Cedar Creek. The Beebe Ditch is the only ditch with a suitable headgate and all ditches are in need of suitable measuring devices.

FINANCIAL STATEMENT

There was no assessment levied upon the water users in the Cedar Creek water master district in 1933 due to a sufficient surplus having been built up in preceding years to carry the cost of the service through the season without additional funds.

There is submitted on the following page a statement of the Cedar Creek Water Master District Fund showing the receipts and disbursements during the 1933 season.

FINANCIAL STATEMENT
 CEDAR CREEK WATER DISTRICT FUND
 January 1, 1934

RECEIPTS

| | | |
|--|-------------|----------|
| Balance on March 1, 1933 | \$333.96 | |
| Contributed by Taxpayers (Mar. 1/33 to Jan. 1/34). | <u>3.67</u> | \$337.63 |

DISBURSEMENTS

(Mar. 1/33 to Jan. 1/34)

| | | |
|--------------------------------------|--------------|---------------|
| Water Master Compensation. | 113.62 | |
| Water Master Travel Expense. | <u>36.40</u> | <u>150.02</u> |
| <u>BALANCE</u> | | 187.61 |

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 |
| 1932-33 | T | .13 | .78 | 1.20 | 1.31 | .81 | .63 | .90 | 1.06 | .26 | .25 | T | 7.33 |
| Mean 1894 to 1933 | .56 | .98 | 1.59 | 1.54 | 1.76 | 1.55 | 1.45 | .90 | 1.03 | .65 | .24 | .18 | 12.43 |
| 1931-32 in per cent of total mean | .0 | 1.1 | 6.8 | 10.5 | 11.5 | 7.1 | 5.5 | 7.9 | 9.3 | 2.3 | 2.2 | 0 | 64.2 |

TABLE 2

CONTINUOUS RECORDS OF DAILY DISCHARGE IN CUBIC FEET PER
SECOND OF CEDAR CREEK INCLUDING DISCHARGE FROM THOMS
CREEK DITCH FOR THE PERIOD MARCH 20 TO JUNE 27, 1933.

| Day | March | April | May | June |
|------------|--------|--------|--------|-----------|
| 1 | | 4.50 | 20.0 | 12.2 |
| 2 | | 4.50 | 15.6 | 11.6 |
| 3 | | 6.00 | 20.0 | 11.0 |
| 4 | | 5.80 | 20.9 | 11.0 |
| 5 | | 6.40 | 19.0 | 11.0 |
| 6 | | 6.00 | 15.0 | 10.4 |
| 7 | | 5.30 | 13.6 | 10.0 |
| 8 | NO | 4.60 | 12.2 | 9.90 |
| 9 | | 3.80 | 12.9 | 9.40 |
| 10 | | 3.60 | 14.9 | 8.50 |
| 11 | | 4.00 | 14.9 | 8.10 |
| 12 | | 4.60 | 14.2 | 7.50 |
| 13 | RECORD | 5.30 | 14.2 | 6.90 |
| 14 | | 6.70 | 14.9 | 6.30 |
| 15 | | 8.00 | 14.9 | 5.60 |
| 16 | | 7.00 | 14.9 | 5.40 |
| 17 | | 5.80 | 15.6 | 5.10 |
| 18 | | 5.50 | 18.0 | 4.50 |
| 19 | | 5.30 | 17.3 | 4.30 |
| 20 | 3.30 | 5.50 | 17.3 | 4.10 |
| 21 | 3.40 | 6.70 | 16.4 | 3.80 |
| 22 | 3.30 | 8.40 | 14.9 | 3.60 |
| 23 | 5.00 | 11.3 | 14.9 | 3.40 |
| 24 | 2.80 | 13.7 | 14.9 | 3.40 |
| 25 | 2.70 | 9.30 | 15.7 | 3.30 |
| 26 | 2.70 | 10.7 | 17.2 | 3.10 |
| 27 | 2.70 | 11.8 | 16.4 | 2.90 |
| 28 | 3.00 | 13.7 | 16.4 | NO |
| 29 | 3.40 | 37.0 | 15.6 | |
| 30 | 4.50 | 24.0 | 13.5 | RECORD |
| 31 | 4.80 | -- | 12.9 | |
| Total Sec. | | | | 100 Day |
| Feet Days | *39.60 | 254.60 | 489.10 | ** 193.90 |
| Mean | | | | |
| Sec. Feet | 3.30 | 8.49 | 15.78 | 7.18 |
| Maximum | | | | |
| Sec. Feet | 4.80 | 37.0 | 20.9 | 12.2 |
| Minimum | | | | |
| Sec. Feet | 2.70 | 3.60 | 12.2 | 2.90 |
| Total | | | | |
| Ac. Ft. | 78.5 | 505. | 970. | 385. |

* 12 Day Period.

** 27 Day Period.

TABLE 3

ESTIMATED DAILY DISCHARGE IN CUBIC FEET PER
SECOND OF THOMS CREEK DITCH INTO CEDAR CREEK-
1933

| Day | March | April | May | June |
|------------|-----------|-----------|-------|--------|
| 1 | | | 1.80 | 2.40 |
| 2 | | | 1.60 | 2.20 |
| 3 | | | 1.50 | 2.20 |
| 4 | | | 1.40 | 2.20 |
| 5 | | | 1.20 | 2.20 |
| 6 | | | 1.20 | 2.20 |
| 7 | | | 2.00 | 2.20 |
| 8 | | NO | 2.00 | 2.20 |
| 9 | | | 2.00 | 2.00 |
| 10 | | | 1.80 | 1.80 |
| 11 | | DIVERSION | 1.80 | 1.80 |
| 12 | | | 1.80 | 1.70 |
| 13 | | | 2.40 | 1.60 |
| 14 | NO | 0.40 | 2.40 | 1.60 |
| 15 | | .70 | 2.40 | 1.50 |
| 16 | | .50 | 2.40 | 1.30 |
| 17 | | .60 | 2.30 | 1.00 |
| 18 | DIVERSION | 1.00 | 2.30 | .80 |
| 19 | | 1.00 | 2.80 | .60 |
| 20 | | 1.20 | 2.80 | .50 |
| 21 | | 1.50 | 3.00 | .50 |
| 22 | | 1.50 | 3.00 | .50 |
| 23 | | 1.40 | 3.00 | .40 |
| 24 | | 1.30 | 3.00 | .40 |
| 25 | | 1.20 | 3.00 | .40 |
| 26 | | 2.00 | 3.00 | .30 |
| 27 | | 2.00 | 3.20 | .20 |
| 28 | | 2.00 | 3.20 | |
| 29 | | 2.00 | 3.00 | NO |
| 30 | | 2.00 | 2.80 | |
| 31 | | -- | 2.60 | RECORD |
| Total Sec. | | | | 75 Day |
| Feet Days | | 22.30 | 72.70 | 36.70 |
| Mean | | | | Period |
| Sec. Feet | | 1.31 | 2.35 | 1.36 |
| Maximum | | | | 1.75 |
| Sec. Feet | | 2.00 | 3.20 | 2.40 |
| Minimum | | | | 3.20 |
| Sec. Feet | | .40 | 1.20 | .20 |
| Total | | | | |
| Ac. Ft. | | 44.2 | 144 | 72.8 |
| | | | | 261 |

TABLE 4

WATER DELIVERIES ON CEDAR CREEK COMPARED WITH ALLOTMENTS - 1933

| Period | Cedar Creek | | | | Thoms Creek | | | | |
|--------------|---|----------------------|-----------------------------|---------------------------------------|-----------------------------|---------------------------------|---|----------------------|-----------------------------|
| | Average Daily Discharge Including Thoms Creek Ditch | Average Channel Loss | Average Combined Diversions | Per Cent of full allotments delivered | Average Combined Diversions | Per Cent of Allotment Delivered | Average Daily Discharge Including Thoms Creek Ditch | Average Channel Loss | Average Combined Diversions |
| 1933 | c.f.s. | c.f.s. | c.f.s. | 5.00 c.f.s. | 15.00 c.f.s. | 3.90 c.f.s. | 23.90 c.f.s. | c.f.s. | 5.00 c.f.s. |
| 3/20 to 3/29 | 3.03 | 0.25 | 2.78 | 40 | 5 | 0 | 12 | 0 | 0 |
| 3/30 to 4/8 | 5.22 | 1.50 | 3.72 | 40 | 11 | 0 | 16 | 0 | 0 |
| 4/9 to 4/18 | 5.43 | 1.50 | 3.91 | 50 | 9 | 0 | 16 | .32 | 6 |
| 4/19 to 4/28 | 9.64 | 1.80 | 6.33 | 80 | 16 | 0 | 26 | 1.51 | 30 |
| 4/29 to 5/8 | 19.73 | 2.00 | 16.06 | 100 | 67 | 26 | 67 | 1.67 | 33 |
| 5/9 to 5/18 | 14.94 | 2.00 | 10.78 | 80 | 45 | 0 | 45 | 2.16 | 43 |
| 5/19 to 5/28 | 16.14 | 2.00 | 11.14 | 80 | 48 | 0 | 47 | 3.00 | 60 |
| 5/29 to 6/7 | 11.92 | 1.20 | 8.32 | 70 | 32 | 0 | 35 | 2.40 | 48 |
| 6/8 to 6/17 | 7.27 | 1.00 | 4.62 | 60 | 11 | 0 | 19 | 1.65 | 33 |
| 6/18 to 6/27 | 3.64 | 0.20 | 2.98 | 59 | 2 | 0 | 12 | .46 | 9 |
| Mean | 9.70 | 1.34 | 7.04 | 66 | 24 | 3 | 29 | 1.32 | 26 |

TABLE 5

CROP YIELDS FROM TYPICAL LANDS
IRRIGATED FROM CEDAR CREEK-1933

| Owner | Crop | Acres | Total Yield | | Yield per Acre | |
|----------------|-------------|-------|-------------|-------|----------------|-------|
| | | | Tons | Sacks | Tons | Sacks |
| G. L. Beebe | Alfalfa Hay | 40.0 | 80 | | 2.0 | |
| | Pasture | 30.0 | | Fair | | |
| | Grain Hay | 20.0 | 30 | | 1.5 | |
| L. E. McCulley | Alfalfa | 100.0 | 250 | | 2.5 | |
| | Meadow Hay | 150.0 | 450 | | 3.0 | |
| Norton & Marsh | Alfalfa Hay | 75.0 | 75 | | 1.0 | |
| | | | | | | |
| H. Rinehart | Alfalfa Hay | 30.0 | 30 | | 1.0 | |
| | | | | | | |

PLATES

0 25 5 10 15 20 25 30 5 10 15 20 25 5 10 15 20 25 30 5 10 15 20 25

HYDROGRAPHS
OF
CEDAR CREEK
SHOWING
TOTAL WATER SUPPLY
INCLUDING FOREIGN WATER
DURING SEASONS
1932 - 1933

CUBIC FEET PER SECOND

45
40
35
30
25
20
15
10
5

Thoms
CR.
DIVERSION

3

2

PRIORITIES

1

1932

1933

with
Flow of Thoms Creek Ditch
Natural flow Cedar Cr.

MARCH

APRIL

MAY

JUNE

YEAR OF 19