STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

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REPORT ON WATERMASTER SERVICE IN COW CREEK AND NORTH FORK OF COTTONWOOD CREEK WATERMASTER SERVICE AREAS SHASTA COUNTY, CALIFORNIA 1956 SEASON

Sacramento, California
March, 1957

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SUBMISSION TO, AND ADOPTION BY
DEPARTMENT OF WATER RESOURCES
STATE OF CALIFORNIA

I, William R. Gianelli, Chief, Water Rights Section, Department of Water Resources of the State of California, approve this " Report on Watermaster Service in Cow Creek and North Fork of Cottonwood Creek Watermaster Service Areas, Shasta County, California, 1956 Season".

/s/ W. R. Gianelli

Chief, Water Rights Section

I, Harvey O. Banks, Director of the Department of Water Resources of the State of California, approve and adopt this "Report on Watermaster Service in Cow Creek and North Fork Cottonwood Creek Watermaster Service Areas, Shasta County, California, 1956 Season", as a report of the Department of Water Resources.

Witness my hand and the seal of the Department of Water Resources of the State of California this ____ day of March, 1957.

State of California
Department of Water Resources

/s/ Harvey O. Banks

HARVEY O. BANKS
Director

(SEAL)

ORGANIZATION

STATE DEPARTMENT OF WATER RESOURCES

Harvey O. Banks . . . . . Director of Water Resources

M. J. Shelton . . . . . Deputy Director of Water Resources

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INTRODUCTION

This report presents the results accomplished during the twenty-fourth and twenty-seventh irrigation seasons during which watermaster service has been provided in Cow Creek Watermaster Service Area and North Fork Cottonwood Creek Watermaster Service Area, respectively. The report covers the period of water distribution during the 1956 season, beginning about July 1 and terminating October 15.

The Cow Creek Watermaster Service Area was created by order of the Department of Public Works on October 17, 1932, and was supplemented and revised by order of January 21, 1938. The North Fork Cottonwood Creek Watermaster Service Area was created by order of the Department of Public Works on September 11, 1929 and was supplemented and revised by orders of January 16, 1940, and February 7, 1949. The order of January 16, 1940, excluded from the North Fork Cottonwood Watermaster Service Area, lands and water rights on Hoover Creek described in Paragraphs VII and IX of the decree. The order of February 7, 1949, revised the description of lands within the service area with no change in water rights. The service areas include the water rights determined by decrees of the Superior Court, Shasta County, as follows:

Cow Creek Watermaster Service Area

Stream	Case	Number
North Cow Creek and tributaries	Lem, et al., v. Rutherford, et al.	5804
Oak Run Creek	Colby, et al., v. Strayer, et al.	5701
Clover Creek and tributaries	Millville Ditch Co. v. Hafford, et al.	6904

North Fork Cottonwood Creek Watermaster Service Area

Stream	Case	Number
North Fork Cottonwood Creek	Bee Creek Ditch and Water Company, et al., v. Happy Valley Land and Water Company	5479

Watermaster service has been provided during each irrigation season since the service areas were created, and reports have been prepared to show the work accomplished during each season.

This report, which includes both the Cow Creek and North Fork of Cottonwood Creek watermaster service areas, is presented under four headings as follows: Introduction, Water Supply, Distribution of Water, and Changes in Ownership of Lands and Water Rights. Appendix A contains data on precipitation at Shasta Dam and records of daily mean discharge of North Cow Creek and Clover Creek.

WATER SUPPLY

Above normal precipitation during the 1955-56 winter season produced a heavy snow pack. The large spring and summer runoff was sufficient to supply demands and no shortage of water developed during the irrigation season.

Precipitation

Data on precipitation at Redding, as published by the United States Weather Bureau, for the period October 1, 1955 to September 30, 1956, are shown on Table A-1. Precipitation for the period was 51.37 inches, which is equivalent to 137 per cent of the eight-year mean for this station. Elevation of this station is 1,078 feet.

Stream Flow

A stream gaging station, equipped with an automatic water level recorder was maintained on North Cow Creek near Ingot, below the confluence of Cedar Creek and North Cow Creek. Daily mean discharge of North Cow Creek near Ingot is presented in Table A-2.

Intermittent measurements and observations were made of the flow of Clover Creek at Millville Ditch. A record of the daily mean discharge of Clover Creek at the Millville Ditch, based on these measurements and observations is presented in Table A-3.

Intermittent observations were made of the flow in North Fork of Cottonwood Creek near Gas Point, which lies below all diversions. The low flow for the season occurred on August 30, when the flow was approximately six cubic feet per second.

DISTRIBUTION OF WATER

The water rights in the Cow Creek Watermaster Service Area are set forth in the before-mentioned decrees as follows:

Schedule II of the North Cow Creek decree which defines the rights to the use of water from Cedar Creek;

Schedules III and IV of the North Cow Creek Decree, which define the maximum irrigation allotments from North Cow Creek for Class A and Class B users, respectively;

Schedule V of the North Cow Creek decree which defines the irrigation periods of Class A and Class B users from North Cow Creek;

Schedule VI of the North Cow Creek decree which defines the minimum flow allotments from North Cow Creek for Class A and Class B users;

Schedule II of the Oak Run Creek decree which defines the rights to the use of water from Oak Run Creek;

Schedule II of the Clover Creek decree which sets forth the rights to the use of water from Clover Creek and tributaries.

North Cow Creek

During the 1956 season water was distributed on a continuous flow basis. Available water supply was sufficient to supply 100 per cent allotments throughout the irrigation season. Sufficient water was available to allow Ira J. Thorne

to divert water under Application 11581, Permit 7066 throughout the season. A record of the daily mean discharge of North Cow Creek near Ingot is presented in Table A-2.

Cedar Creek

The available water supply was in excess of the allotments until about August 1 and decreased gradually until about August 15, when water was available for 50 per cent of allotments. During the remainder of the season the flow remained nearly constant.

Clover Creek

Sufficient flow was available to satisfy 100 per cent of allotments throughout the season. The minimum flow of Clover Creek at Millville Ditch occurred about August 15 when seven second-feet were available.

A record of the daily mean discharge of Clover Creek at Millville Ditch is presented in Table A-3.

North Fork Cottonwood Creek

Distribution in this area is accomplished by regulation on Moon Creek, Jerusalem Creek, and on the main stream of North Fork of Cottonwood Creek.

In addition to regulating the available water supply on North Fork of Cottonwood Creek in accordance with the decree, it is customary for the watermaster to check at regular intervals the release of stored water from Misselbeck Reservoir

into North Fork of Cottonwood Creek for downstream rediversion. The right to store and release this water is not included in the decree, but the Happy Valley Water Company, owners of the reservoir, have established measuring flumes on North Fork of Cottonwood Creek above the reservoir, and on Moon Creek, which joins North Fork of Cottonwood Creek between Misselbeck Dam and the point of rediversion. The summation of the flow through these two measuring devices is considered as the natural flow available for distribution.

During the 1956 season the water supply was sufficient to supply all allotments throughout the period of watermaster service.

CHANGES IN OWNERSHIP OF LANDS AND WATER RIGHTS

Changes in ownership of lands and water rights which have occurred subsequent to filing "Statement for Cow Creek Watermaster Service Area, County of Shasta, State of California, for 1956" and "Statement for North Fork Cottonwood Creek Watermaster Service Area, County of Shasta, State of California, for 1954" are shown in the following tabulation. These changes of ownership will be included in the 1957 statements for the respective service areas.

Cow Creek Watermaster Service Area

Tract number	Name of water right owner appearing in 1956 statement	Name of water right owner to appear in 1957 statement	Amount of water, in second-feet
4-33	Talbott, Glenn C.	Brewer, Claude R.	1.15
4-73	Russell, Wayne S. & Russell, Esther E.	Endicott, Wesley J.	0.10
4-37	Urquhart, E. J.	Staheli, Arnold, & Staheli, Grace	0.30
4-85-1	Doelker, Minnie H.	Trafton, W. L. & Trafton, E. I.	0.115
4-39 4-40	Junge, Walter A. & Junge, Peggy M.	Walter A. Junge, Inc.	2.70
4-49 4-50	Byers, Ray W.	Walter A. Junge, Inc.	1.25

North Fork Cottonwood Creek Watermaster Service Area

Tract number	Name of water right owner appearing in 1954* statement	Name of water right owner to appear in 1957 statement	Amount of water, in second-feet
3-7	Whalen, Estate of Eva	Shoup, Clarence E. & Shoup, Leslie	0.25
3-8	Hamlin, B. R.	Taylor, J. W.	1.25

* No statements were prepared for this area in 1955 and 1956.

APPENDIX A

RECORDS OF WATER SUPPLY

Table No.		Page
A-1	Precipitation at Redding, Shasta County, California. . .	A-1
A-2	Daily Mean Discharge of North Cow Creek Near Ingot . . .	A-2
A-3	Daily Mean Discharge of Clover Creek at Millville Ditch.	A-3

TABLE A-1

PRECIPITATION AT REDDING
SHASTA COUNTY, CALIFORNIA

1955-1956

In Inches

Month	Mean Precipitation	1955-1956 Precipitation
October	2.26	0.40
November	4.06	9.17
December	6.48	14.96
January	7.19	14.00
February	5.99	8.05
March	4.96	0.05
April	2.93	1.82
May	1.83	1.66
June	0.86	1.09
July	0.11	0.04
August	0.06	0.00
September	0.67	0.13
Totals	37.40	51.37

TABLE A-2

DAILY MEAN DISCHARGE OF NORTH COW CREEK NEAR INGOT

July 26 to September 11, 1956

In Cubic Feet per Second

Day	July	August	September
1	N	10.5	14.0
2		10.0	13.0
3	O	9.5	12.0
4		9.0	11.0
5		9.0	10.0
	R		
6		9.5	10.0
7	E	9.5	10.0
8		10.0	10.0
9	C	10.0	10.0
10		10.5	10.0
	O		
11		10.5	10.0
12	R	11.0	N
13		11.0	
14	D	11.0	O
15		10.5	
16		10.0	R
17		10.0	
18		9.5	E
19		9.5	
20		9.0	C
21		9.0	O
22		8.5	
23		8.5	R
24		9.0	
25		9.5	D
26	13.5	10.0	
27	13.0	10.5	
28	12.5	12.0	
29	12.0	14.0	
30	11.5	16.0	
31	11.0	15.0	---
Mean	12.2[a]	10.3	10.9[b]
Runoff, in acre-feet	146[a]	637	238[b]

a 6-day period Total for period - 1021 acre-feet.

b 11-day period

TABLE A-3

DAILY MEAN DISCHARGE OF CLOVER CREEK AT MILLVILLE DITCH

July 18 to September 18, 1956

In Cubic Feet per Second

Day	July	August	September
1	N	8.5	8.5
2		9.0	8.5
3	O	9.0	8.5
4		9.5	8.5
5		9.5	8.5
6	R	9.5	8.5
7		9.0	8.0
8	E	9.0	8.0
9		9.0	7.5
10	C	8.5	7.5
11	O	8.0	7.5
12		7.5	7.5
13	R	7.0	8.0
14		6.8	8.0
15	D	7.0	8.0
16		7.2	8.5
17		7.4	8.5
18	7.0	7.6	8.5
19	7.0	7.8	N
20	7.0	8.0	O
21	6.5	8.2	
22	6.5	8.4	R
23	6.5	8.5	
24	6.0	8.5	E
25	6.0	8.2	C
26	6.0	8.0	
27	6.5	8.0	O
28	7.0	8.2	
29	7.5	8.2	R
30	8.0	8.4	
31	8.5	8.5	D
Mean	6.8[a]	8.3	8.1[b]
Runoff, in acre-feet	190[a]	507	290[b]

a 14-day period Total for period - 987 acre-feet.
b 18-day period