

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

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HARVEY O. BANKS, Director of Water Resources
M. J. SHELTON, Deputy Director of Water Resources

REPORT ON
WATERMASTER SERVICE
IN
COW CREEK AND NORTH FORK OF COTTONWOOD CREEK
WATERMASTER SERVICE AREAS
SHASTA COUNTY, CALIFORNIA
1957 SEASON

Sacramento, California
April, 1958

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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, 1957 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, 1957 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 30th day of April, 1958.

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

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INTRODUCTION

This report presents the results accomplished during the twenty-fifth and twenty-eighth 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 1957 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 Creek 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

<u>Stream</u>	<u>Case</u>	<u>Number</u>
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

<u>Stream</u>	<u>Case</u>	<u>Number</u>
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 Redding and a record of daily mean discharge of North Cow Creek.

WATER SUPPLY

Above normal spring rains were sufficient to produce a water supply of near normal. Before these storms all indications were that the runoff would be considerably below normal.

Precipitation

Data on precipitation at Redding, as published by the United States Weather Bureau, for the period October 1, 1956 to September 30, 1957, are shown on Table A-1. Precipitation for the period was 33.05 inches, which is equivalent to 88 per cent of the 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 its confluence with Cedar Creek by personnel of the Basic Data Section of the Department of Water Resources. Daily mean discharge at this station is presented in Table A-2.

Intermittent measurements and observations were made of the flow of Clover Creek at Millville Ditch.

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 five 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 1957 season water was distributed on a continuous flow basis. Available water supply was sufficient to supply 100 per cent allotments throughout the irrigation season except during the period from September 3 to September 15 when only 80 per cent of allotments was available. Sufficient water was available to allow Ira J. Thorne to divert water under Application 11581, Permit 7066, during most of 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 July 10 and decreased gradually until about August 10, when water was available for 40 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 six second-feet were available.

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 1957 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 occurred subsequent to filing "Statement for Cow Creek Watermaster Service Area,

County of Shasta, State of California, for 1957", are shown in the following tabulation. These changes will be included in the 1958 statement for the service area. No statement will be prepared for North Fork Cottonwood Creek service area for 1958 since it is the custom to make statements for this area about once every four years.

Cow Creek Watermaster Service Area

Tract number	Name of water right owner appearing in 1957 statement	Name of water right owner to appear in 1958 statement	Amount of water, in second-feet
4-2	Ball, Fred B. and Ball, Henrietta R.	Percy K. McMillan Co.	1.00
4-15	Bibbens, George and Bibbens, Carol	Ralph Smith Lumber Company	0.13
4-1	Bishop, Estate of H. O.	Greer, John A; Greer, Alice E.; Miller, Robert J. and Miller, Lecta H.	0.25
4-33	Brewer, Claude R.	Talbott, Glenn C.	1.15
4-60, 4-62, 4-63, 4-66, 4-68	Byers, Roy W.	Fritsch, J. A.	1.92
4-8	Cline, West	Mazzini, J. A.	0.15
4-20	Dale, Edwin F. and Dale, Alice G.	Van Blair, C. W. and Van Blair, Ruth M.	1.00
4-10	Nozler, Fritz	Porter, Mark L. and Bolin, James D.	1.30
4-52	Webber, Carmen E.; Colby, Chester E.; Chase, Marjorie A. and Olinger, Clarissa M.	Pankonin, Floyd L.	0.65
4-12	Raine, Robert F.; Raine, Robert J. and Raine, Shirley E.	Coffman, James H. and Coffman, Eleanor M.	1.25

APPENDIX A

RECORDS OF WATER SUPPLY

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A-1	Precipitation at Redding, Shasta County, California.	A-1
A-2	Daily Mean Discharge of North Cow Creek Near Ingot	A-2

TABLE A-1

PRECIPITATION AT REDDING
SHASTA COUNTY, CALIFORNIA

1956-1957

In Inches

Month	Mean precipitation	1956-1957 precipitation
October	2.26	4.79
November	4.06	0.44
December	6.48	0.30
January	7.19	5.41
February	5.99	7.57
March	4.96	5.81
April	2.93	1.72
May	1.83	3.05
June	0.86	0.11
July	0.11	0.01
August	0.06	0
September	0.67	3.84
TOTALS	37.40	33.05

TABLE A-2

DAILY MEAN DISCHARGE OF NORTH COW CREEK NEAR INCOT

APRIL 1 to SEPTEMBER 30, 1957

In Cubic Feet per Second

Day	April	May	June	July	August	September
1	167	108	70	19	10	8.4
2	133	196	64	19	10	8.4
3	122	133	58	18	9.6	8.4
4	114	116	54	18	9.6	7.6
5	108	108	52	18	9.6	8.0
6	106	99	47	16	9.6	8.0
7	96	93	46	16	10	7.6
8	92	101	46	16	10	7.2
9	87	101	50	16	9.6	6.5
10	86	109	48	15	10	6.2
11	83	96	45	14	10	6.9
12	95	84	41	14	10	7.2
13	95	90	39	14	11	7.6
14	524	99	38	14	10	7.6
15	161	83	35	13	10	8.0
16	140	76	32	13	11	8.4
17	180	76	31	12	11	8.4
18	223	600	30	12	11	8.8
19	252	483	28	12	11	8.4
20	223	326	28	12	11	8.4
21	178	260	28	13	11	8.4
22	156	199	25	12	11	7.6
23	144	165	22	12	11	7.6
24	134	142	22	11	11	7.6
25	122	127	22	11	10	8.0
26	113	114	22	11	10	12
27	106	106	20	11	9.6	97
28	103	98	21	10	9.6	55
29	103	93	20	10	9.2	32
30	101	83	18	10	8.8	44
31	---	77	---	10	8.8	---
Mean	145	150	37	14	10	14
Runoff, in acre-feet	8,662	9,205	2,186	837	623	863

Total for period - 22,336 acre-feet.