DEPARTMENT OF THE INTERIOR

WATER-SUPPLY

AND

IRRIGATION PAPERS

OF THE

UNITED STATES GEOLOGICAL SURVEY

No. 66

OPERATIONS AT RIVER STATIONS, 1901, PART II
(WEST OF MISSISSIPPI RIVER)

WASHINGTON
GOVERNMENT PRINTING OFFICE
1902

IRRIGATION REPORTS.

The following list contains titles and brief descriptions of the principal reports relating to water supply and irrigation prepared by the United Stated Geological Survey since 1890:

1890.

First Annual Report of the United States Irrigation Survey, 1890; octavo, 123 pp.

Printed as Part II, Irrigation, of the Tenth Annual Report of the United States Geological Survey, 1888–89. Contains a statement of the origin of the Irrigation Survey, a preliminary report on the organization and prosecution of the survey of the arid lands for purposes of irrigation, and report of work done during 1890.

1891.

Second Annual Report of the United States Irrigation Survey, 1891; octavo, 395 pp.

Published as Part II Irrigation, of the Eleventh Annual Report of the United States Geological Survey, 1889–90. Contains a description of the hydrography of the arid region and of the engineering operations carried on by the Irrigation Survey during 1890; also the statement of the Director of the Survey to the House Committee on Irrigation, and other papers, including a bibliography of irrigation literature. Illustrated by 30 plates and 4 figures.

Third Annual Report of the United States Irrigation Survey, 1891; octavo, 576 pp.

Printed as Part II of the Twelfth Annual Report of the United States Geological Survey, 1890–91. Contains "Report upon the location and survey of reservoir sites during the fiscal year ended June 30, 1891," by A. H. Thompson; "Hydrography of the arid regions," by F. H. Newell; "Irrigation in India," by Herbert M. Wilson. Illustrated by 93 plates and 190 figures.

Bulletins of the Eleventh Census of the United States upon irrigation, prepared by F. H. Newell, quarto.

No. 35, Irrigation in Arizona; No. 60. Irrigation in New Mexico; No. 85, Irrigation in Utah; No. 107, Irrigation in Wyoming; No. 153, Irrigation in Montana; No. 157, Irrigation in Idaho; No. 163, Irrigation in Nevada; No. 178, Irrigation in Oregon; No. 193, Artesian wells for irrigation; No. 198, Irrigation in Washington.

1892.

Irrigation of western United States, by F. H. Newell; extra census bulletin No. 23, September 9, 1892; quarto, 22 pp.

Contains tabulations showing the total number, average size, etc., of irrigated holdings, the total area and average size of irrigated farms in the subhumid regions, the percentage of number of farms irrigated, character of crops, value of irrigated lands, the average cost of irrigation, the investment and profits, together with a résumé of the water supply and a description of irrigation by artesian wells. Illustrated by colored maps showing the location and relative extent of the irrigated areas.

1893.

Thirteenth Annual Report of the United States Geological Survey, 1891–92, Part III, Irrigation, 1893; octavo, 486 pp.

Consists of three papers: "Water supply for irrigation," by F. E. Newell; "American irrigation engineering" and "Engineering results of the Irrigation Survey," by Herbert M. Wilson; and "Construction of topographic maps and selection and survey of reservoir sites," by A. H. Thompson. Illustrated by 77 plates and 119 figures.

A geological reconnoissance in central Washington, by Israel Cook Russell, 1893; octavo, 108 pp., 12 plates. Bulletin No. 108 of the United States Geological Survey.

Contains a description of the geologic structure in and adjacent to the drainage basin of Yakima River and the great plains of the Columbia to the east of this area, with special reference to the occurrence of artesian waters.

1894.

Report on agriculture by irrigation in the western part of the United States at the Eleventh Census, 1890, F. H. Newell, 1894; quarto, 283 pp.

Consists of a general description of the condition of irrigation in the United States, the area irrigated, cost of works, their value and profits; also describes the water supply, the value of water, of artesian wells, reservoirs, and other details; then takes up each State and Territory in order, giving a general description of the condition of agriculture by irrigation, and discusses the physical conditions and local peculiarities in each county.

Fourteenth Annual Report of the United States Geological Survey, 1892–93; Part II, Accompanying papers, 1894; octavo, 597 pp.

Contains papers on "Potable waters of the eastern United States," by W. J. McGee; "Natural mineral waters of the United States," by A. C. Peale; and "Results of stream measurements," by F. H. Newell. Illustrated by maps and diagrams.

(Continued on third page of cover.)

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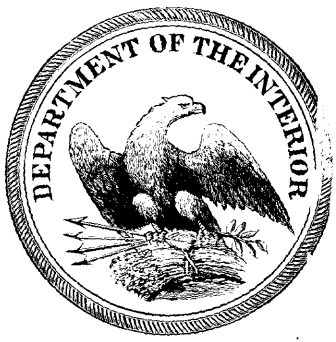

WASHINGTON
GOVERNMENT PRINTING OFFICE
1902

UNITED STATES GEOLOGICAL SURVEY

CHARLES D. WALCOTT, DIRECTOR

OPERATIONS AT RIVER STATIONS, 1901

A REPORT OF THE

DIVISION OF HYDROGRAPHY

OF THE

UNITED STATES GEOLOGICAL SURVEY

PART II—(WEST OF MISSISSIPPI RIVER)

WASHINGTON
GOVERNMENT PRINTING OFFICE
1902

CONTENTS.

OPERATIONS AT RIVER STATIONS, 1901.

PART II.—(WEST OF MISSISSIPPI RIVER).[a]

HUDSON BAY DRAINAGE.

RED RIVER OF THE NORTH.

This river drains a large watershed in the United States, covering portions of Minnesota and North and South Dakota, characterized by a level topography, broken up in places by moraines and other glacial deposits. The major part is prairie, and its eastern half has an abundance of lakes and some woods. The main river flows nearly due north, cutting a deep channel in its broad level valley, and is subject to sudden rises caused by heavy spring rains, entailing frequently considerable loss of life and property. Gaging stations were established during 1901 by Charles M. Hall, professor of geology at the North Dakota Agricultural College, at several points along the Red River of the North and on Red Lake River, its principal tributary, for the purpose of studying the flow of the river in connection with problems relating to storage of flood waters for use in furnishing power, water for irrigation and domestic supply. The valley of Red River comprises about 9,000,000 acres of excellent agricultural lands which to a large extent still await settlement. A number of water powers have been developed during recent years on the tributaries entering from both sides.

RED RIVER AT MOORHEAD, MINN.

This station was established by C. M. Hall May 27, 1901, and is located at the bridge connecting Front street, Fargo, N. Dak., and Main street, Moorhead, Minn. The gage consists of a board 1 by 8 inches, painted white, graduated to feet and tenths in black, and attached to the east side of the breakwater for the center pier of the bridge. The zero of the gage is 44.45 feet below the top of the plank walk of the bridge over the gage and is 860.9 feet above sea level, the elevation having been determined by leveling from top of rail of Northern Pacific station, Moorhead, Minn. The danger line is at 26.5 feet. Above the station the river curves to the west. The west bank is high and steep; the east bank low and subject to overflow at times

[a] Continued from Water-Supply Paper No. 65.

of high water. Measurements are made from the bridge. The riv bed consists of soft mud. The observer is H. W. Grasse, Unit States Weather Bureau, Moorhead, Minn.

The following measurements were made at this station by C. I Hall. The discharges are too large, the velocities having been dete mined at two-fifths depth.

July 23, 1900: Low water; discharge, 109 second-feet.
May 4, 1901: Gage height, 8.35 feet; discharge, 698 second-feet.
June 14, 1901: Gage height, 8.25 feet; discharge, 554 second-feet.
July 15, 1901: Gage height, 8.45 feet; discharge, 620 second-feet.

Daily gage height, in feet, of Red River at Moorhead, Minn., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
1	.....	7.80	8.00	8.30	7.70	7.60	7.70	7
2	.....	7.80	8.00	8.20	7.70	7.60	7.60	7
3	.....	7.80	8.10	8.20	7.70	7.60	7.50	(
4	.....	7.90	8.20	8.20	7.70	7.60	7.30	...
5	.....	7.90	9.00	8.20	7.70	7.60	7.00	...
6	.....	7.90	8.80	8.20	7.60	7.60	6.80	...
7	.....	7.90	8.60	8.20	7.60	7.60	7.00	...
8	.....	7.90	8.60	8.20	7.60	7.70	7.20	...
9	.....	8.00	9.10	8.20	7.60	7.80	7.40	...
10	.....	8.00	9.00	8.20	7.60	7.90	7.60	...
11	.....	8.10	8.80	8.20	7.60	8.00	7.60	...
12	.....	8.10	8.60	8.20	1.60	8.10	7.70	...
13	.....	8.10	8.60	8.20	7.60	8.10	7.70	...
14	.....	8.20	8.50	8.20	7.60	8.00	7.80	...
15	.....	8.20	8.40	8.20	7.60	8.00	8.00	...
16	.....	8.20	8.30	8.20	7.60	7.90	8.00	...
17	.....	8.30	8.30	8.20	7.60	7.90	7.80	...
18	.....	8.30	8.20	8.20	7.60	7.80	7.60	...
19	.....	8.40	8.20	8.10	7.60	7.80	7.60	...
20	.....	8.40	8.10	8.10	7.60	7.70	7.60	...
21	.....	8.50	8.00	8.10	7.60	7.70	7.60	...
22	.....	8.40	8.00	8.00	7.60	7.60	7.60	...
23	.....	8.30	7.90	8.00	7.60	7.60	7.60	...
24	.....	8.20	7.80	8.00	7.50	7.60	7.60	...
25	.....	8.10	7.80	8.00	7.50	7.60	7.60	...
26	.....	8.10	7.80	8.00	7.60	7.60	7.60	...
27	7.90	8.20	7.90	8.00	7.70	7.60	7.60	...
28	7.90	8.10	8.00	8.00	7.70	7.60	7.60	...
29	7.90	8.00	8.20	7.80	7.70	7.70	7.60	...
30	7.90	8.00	8.30	7.80	7.70	7.80	7.60	...
31	7.80	.....	8.40	7.80	.....	7.80	7.60	...

[a] River frozen.

RED LAKE RIVER AT CROOKSTON, MINN.

This station was established by C. M. Hall May 19, 1901. It located at the bridge connecting Robert street and St. Paul stree which is known as the Sampson addition bridge. The gage consists a weight attached to a woven steel-wire rope which plays over a pull attached to the center of the single-span bridge. Readings are mad on a board 1 by 6 inches, painted white, graduated to feet and tenth and attached to the east railing of the bridge. A similar gage boa nailed to one of the south piers of the bridge is used for reading hig water stages. The zero of the gage is 820.07 feet above sea level a 9.8 feet below the bench mark, which is marked by one 20-penny a three 8-penny nails driven into the east end of the breakwater und the north end of the bridge.

The observer is John F. Fournet, Crookston, Minn. During 1901 the following measurements were made by C. M. Hall. With the exception of the last measurement, the discharges are too high, velocities having been determined at two-fifths depths.

May 18: Gage height, 8.42 feet; discharge, 3,859 second-feet.
May 30: Gage height, 6.78 feet; discharge, 2,241 second-feet.
June 17: Gage height, 7.53 feet; discharge, 3,026 second-feet.
October 16: Gage height, 6.10 feet; discharge, 1,755 second-feet.

Daily gage height, in feet, of Red Lake River at Crookston, Minn., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1		6.40	8.25	6.80	4.95	5.45	5.95
2		6.32	8.42	6.80	4.95	5.45	5.90
3		6.40	8.47	6.25	4.90	5.30	6.08
4		7.05	8.50	6.40	4.95	5.50	6.03
5		6.92	9.30	6.55	5.01	5.45	6.00
6		7.15	10.39	6.45	4.98	5.48	5.59
7		7.12	11.60	6.45	4.95	5.50	5.42
8		6.95	11.60	5.65	4.95	5.45	5.30
9		6.84	11.10	6.15	5.05	5.45	5.15
10		6.85	10.55	6.10	5.15	5.40	5.15
11		7.00	10.30	6.05	5.05	5.25	5.12
12		6.92	9.70	6.50	5.25	5.15	5.08
13		6.55	9.20	5.50	5.30	5.00	5.00
14		7.40	8.80	5.50	5.50	4.98	4.95
15		7.00	8.65	5.55	5.45	5.00	4.98
16		7.01	8.60	5.85	5.40	6.01	4.96
17		7.45	8.43	6.00	5.39	6.05	4.95
18		7.90	8.50	5.40	5.45	6.05	4.90
19	8.13	7.80	8.20	5.55	5.50	6.10	4.93
20	8.25	7.75	7.95	6.40	5.52	6.12	4.90
21	7.85	7.83	8.05	5.90	5.49	6.15	4.88
22	7.95	7.88	7.85	7.80	5.50	6.20	4.85
23	7.75	7.85	7.80	6.10	5.40	6.18	4.85
24	7.25	7.55	7.65	6.05	5.55	6.12	4.90
25	(a)	7.49	7.40	6.05	6.80	6.10	4.90
26	(a)	10.20	6.95	6.45	6.85	6.05	4.85
27	(a)	9.30	6.85	5.95	5.65	6.02	4.88
28	(a)	9.40	6.90	5.95	5.63	6.00	4.90
29	(a)	8.80	6.90	5.90	5.55	5.95	4.92
30	6.78	8.60	6.87	5.80	5.50	5.90	4.96
31	6.65	.....	6.85	5.65	.....	6.00	.....

[a] River low—no water around gage.

RED RIVER AT GRAND FORKS, N. DAK.

This station was established by C. M. Hall May 26, 1901, and is located at the Northern Pacific Railway bridge crossing the river at Grand Forks, N. Dak. The gage consists of a board 1 by 8 inches, painted white, graduated to feet and tenths in black, and attached to the north end of the breakwater for the center pier of the bridge. The zero of the gage was placed 5 feet below the zero of the United States engineers' gage attached to the same breakwater, and is 779.9 feet above sea according to leveling done by the Corps of Engineers, United States Army. The danger line is at 40 feet. The channel is straight above the station. The bed of the river is composed of mud and fine sand and is changeable; the water is usually heavily laden with sediment from Red Lake River, which enters three-fourths of a mile above the station. Measurements are made from a rowboat about 150 yards below the gage. The observer is John F. Hayes,

watchman for the United States engineers' boats, Grand Fork N. Dak.

The following measurements were made by C. M. Hall in 190 The discharges are too large, the velocities having been determine at two-fifths depth.

May 24: Gage height, 10.2 feet; discharge, 3,360 second-feet.
May 31: Gage height, 9.5 feet; discharge, 3,058 second-feet.
June 17: Gage height, 9.7 feet; discharge, 3,354 second-feet.
July 13: Gage height, 19.3 feet; discharge, 10,074 second-feet.

Daily gage height, in feet, of Red River at Grand Forks, N. Dak., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	No
1		9.25	14.48	10.83	7.63	6.88	8.
2		9.00	14.25	10.48	7.48	6.95	8.
3		8.95	14.20	10.35	7.20	7.03	8.
4		9.03	14.20	10.15	7.15	7.05	8.
5		9.18	15.00	9.85	7.30	7.05	6.
6		9.50	16.88	9.75	7.20	7.05	7.
7		9.35	19.20	9.50	7.35	7.10	6.
8		9.40	20.80	9.28	7.18	7.05	6.
9		9.20	21.48	9.00	6.85	6.98	6.
10		9.25	21.25	8.85	7.05	7.08	7.
11		9.20	20.58	8.85	7.15	7.25	7.
12		7.30	20.05	8.90	6.90	7.45	7.
13		9.00	19.15	8.93	6.70	7.75	7.
14		9.05	18.45	9.00	6.93	7.90	7.
15		9.50	17.00	8.70	6.85	8.78	7.
16		9.60	16.90	8.45	6.70	8.65	7.
17		9.70	16.18	8.48	6.63	8.85	
18		10.00	15.40	8.63	6.65	8.85	
19		10.40	14.55	8.45	6.60	8.65	
20		10.43	13.78	8.20	6.80	8.65	
21		10.58	13.10	8.43	6.43	8.60	
22		10.65	12.63	8.45	6.43	8.68	
23		10.83	12.30	8.25	6.35	8.60	
24		10.90	11.95	8.33	6.25	8.55	
25		10.93	11.85	8.20	6.33	8.15	
26	9.60	11.18	11.73	8.15	6.53	8.88	
27	9.43	14.75	11.53	8.20	6.80	8.10	
28	8.40	15.55	11.08	8.15	6.75	8.10	
29	9.43	15.45	11.10	8.05	6.70	8.05	
30	9.60	14.90	11.10	7.90	6.87	8.00	
31	9.50		11.08	7.80		7.98	

RED RIVER AT PEMBINA, N. DAK.

This station was established by C. M. Hall June 18, 1901, and located at the ferry between Pembina, N. Dak., and St. Vincen Minn., one-half mile below the mouth of Pembina River. The gag consists of a board 1 by 6 inches, painted white, graduated to feet an tenths, and attached to a 4 by 4 inch pile driven into the bed of th river. The high-water gage consists of a similar pile and board place higher up on the west bank. The bed of the river consists of har clay, while the banks are of soft clay, the west bank being high an steep. Measurements are made from a rowboat along the line of th ferry cable. A United States Geological Survey bench mark place on the north side of the road leading to the ferry on the highest poir of the west bank of the river has an elevation of 795.73 feet above se level. The zero of the gage is 46.126 feet below the bench mark, c 649.604 feet above sea level. The observer is John Meldrum, keepe

of ferry, Pembina, N. Dak. The station was used during the open season of 1901, but on account of the difficulty in keeping the gage in place it has been removed to Emerson station, 2 miles north.

The following measurements were made in 1901 by C. M. Hall. These measurements give too high a discharge, the velocities having been determined at two-fifths depth.

June 19: Gage height, 10.95 feet; discharge, 3,930 second-feet.
July 12: Gage height, 21.92 feet; discharge, 14,134 second-feet.

Daily gage height, in feet, of Red River at Pembina, N. Dak., for 1901.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	.....	14.90	10.55	7.93	6.70	7.88
2	.....	15.00	10.93	7.83	6.75	7.78
3	.....	14.90	10.78	7.65	6.78	7.70
4	.....	14.75	10.58	7.58	6.80	7.85
5	.....	14.80	10.33	7.35	6.80	7.85
6	.....	15.00	10.05	7.18	6.88	8.15
7	.....	15.85	9.85	7.08	6.90	9.15
8	.....	17.60	9.65	7.05	6.90	7.83
9	.....	19.25	9.53	7.05	6.98	7.58
10	.....	20.50	9.38	7.05	6.93	7.28
11	.....	21.40	9.25	7.00	6.95	7.08
12	.....	21.92	9.05	6.93	7.03	7.00
13	.....	21.70	8.85	6.90	7.15	6.98
14	.....	22.62	8.68	6.90	7.33	7.05
15	.....	21.83	8.68	6.83	7.45	7.18
16	.....	21.10	8.73	6.78	7.70	7.25
17	.....	20.15	8.68	6.73	8.05	.....
18	10.60	19.10	8.58	6.78	8.35	.....
19	11.00	18.10	8.48	6.70	8.55	.....
20	11.45	17.05	8.38	6.68	8.60	.....
21	11.85	15.95	8.38	6.58	8.60	.....
22	12.35	15.05	8.38	6.58	8.55	.....
23	12.70	14.25	8.33	6.50	8.50	.....
24	12.85	13.55	8.30	6.50	8.43	.....
25	12.85	12.90	8.30	6.55	8.33	.....
26	12.85	12.38	8.28	6.50	8.30	.....
27	12.85	12.10	8.20	6.50	8.28	.....
28	13.50	11.83	8.20	6.50	8.08	.....
29	14.60	11.60	8.10	6.53	8.00	.....
30	14.90	11.40	8.08	6.65	7.95	.....
31	.....	11.18	8.05	.....	7.90	.....

RED RIVER AT EMERSON, MANITOBA.

This station was established by C. M. Hall, July 26, 1900, and is located at the Emerson railway and traffic bridge one-half mile north of the international boundary line at Emerson, Manitoba. It consists of a board 1 by 6 inches, painted white, grooved, graduated to feet and tenths, and attached to the east side of the breakwater for the center stone pier of the bridge. The zero of the gage is 46.5 feet below a steel beam of the bridge directly over the gage, and its elevation is 747.915 feet above sea level. The bed and the banks of the stream consist of clay. Measurements are usually made from a row-boat. The observer for 1902 is Robert Rossall, Emerson. The readings here were not kept up in 1901 while the gage was maintained at Pembina station, but were resumed when the ice broke up in 1902, the Pembina station having been discontinued.

The following measurements were made by C. M. Hall; the dis-

charges given are too high, the velocities having been determined two-fifths depth:

July 6, 1900: Gage height, 2.15 feet; discharge, 984 second-feet.
June 1, 1901: Gage height, 7 feet; discharge, 3,595 second-feet.

DEVILS LAKE AT DEVILS LAKE, N. DAK.

This station was established by C. M. Hall, June 8, 1901, and located at the boat landing at the Chautauqua grounds, 4 miles sout west of Devils Lake station, N. Dak. The object of maintaining gage record on Devils Lake is to ascertain the fluctuations in water level, which, during past years, has been steadily falling, t drop in the last nineteen years amounting to as much as 10 or feet. The lake has no regular outlets and its waters are salt. It hoped that a study of such records will lead to important conclusio relating to evaporation from the lake surface. The gage consists a 2 by 8 inch plank, painted white, grooved, and graduated to fe and tenths, and attached to the middle of the north row of piles the Chautauqua boat landing.

A United States Geological Survey bench mark is placed on t shore of the lake 3 rods west of the Chautauqua gate, which opens a boat landing. It corresponds to the height of the lake in June, 187 which was preserved by a hardwood post driven level with the wat by Capt. E. E. Heerman. The bench mark is 1,439.08 feet above s level. The zero of the gage is 22.464 feet below the bench mark. T observer is Capt. E. E. Heerman.

The following gage readings were taken during 1901:

Gage heights of Devils Lake in 1901.

	Feet.		Fe
June 7	12.15	September 14	11.
June 8	12.40	September 19	11.
June 23	12.35	September 26	12.
June 27	12.25	October 8	12.
August 17	12.05	October 21	12.

ST. MARY RIVER AT MAIN, MONT.

This station was established by C. C. Babb, July 14, 1901, and located at the highway bridge at Main, about 1 mile below the mou of Swiftcurrent Creek. During 1900 a number of measurements we made at this point, and a temporary bench mark was established, co sisting of a notch in the timber on the downstream side of the rig abutment. When the station was established the height of this not on the gage was found to be 1.60 feet. The rod is vertical and spiked to the timbers on the lower end of the left abutment. Ben mark No. 1 is a nail in the blaze of a cottonwood tree 15 feet nort west of the rod, and is at an elevation of 4,418.49 feet. Bench ma

No. 2 is a temporary bench mark of the topographic division, consisting of a stone in the road 400 feet northwest of the bridge, at an elevation of 4,419 feet. The elevation of the zero of the rod is 4,411.72. The channel above and below the station is straight, and the velocity of the water is swift. The right bank is high, and the left bank is low and liable to overflow. A short distance west of the bridge is a slough which carries a certain amount of water during flood stages, and, therefore, has to be gaged on such occasions. The bed of the stream consists of gravel and bowlders.

List of discharge measurements of St. Mary River at Main, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1900.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
June 16[a]		750	August 2	2.15	1,479
June 18	2.90	2,294	October 9	.80	424
August 6	1.60	750	October 30	.53	311
October 1	1.10	552	November 5	.42	285
1901.					
July 20	2.60	1,827			

[a] At outlet of lake.

Daily gage height, in feet, of St. Mary River at Main, Mont., for 1901.

Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1		2.30	1.35	0.90	0.55	0.40	17	2.70	1.60	1.20	0.75	0.40	0.20
2		2.25	1.35	.90	.55	.40	18	2.60	1.60	1.15	.75	.40	.15
3		2.10	1.30	.85	.50	.40	19	2.60	1.55	1.15	.75	.40	.15
4		2.05	1.30	.80	.50	.35	20	2.60	1.55	1.15	.75	.35	.15
5		2.00	1.30	.80	.40	.35	21	2.55	1.55	1.10	.70	.35	.15
6		1.95	1.35	.80	.40	.35	22	2.55	1.50	1.10	.70	.35	.10
7		1.95	1.40	.80	.40	.30	23	2.55	1.50	1.05	.70	.35	.10
8		1.90	1.40	.80	.35	.30	24	2.50	1.50	1.00	.70	.40	.10
9		1.90	1.35	.80	.40	.30	25	2.55	1.45	1.00	.65	.40	.10
10		1.85	1.25	.80	.50	.30	26	2.55	1.45	1.00	.65	.40	.05
11		1.85	1.20	.80	.55	.25	27	2.50	1.45	1.00	.60	.45	.05
12		1.80	1.15	.80	.60	.25	28	2.50	1.40	.95	.60	.45	.05
13		1.75	1.15	.80	.55	.25	29	2.45	1.40	.95	.60	.45	.05
14	2.93	1.75	1.15	.75	.55	.20	30	2.35	1.40	.95	.55	.45	.05
15	2.83	1.65	1.15	.75	.50	.20	31	2.30	1.35		.55		.05
16	2.80	1.65	1.20	.75	.40	.20							

List of miscellaneous discharge measurements of tributaries of St. Mary River, Montana, for 1901.

Date.	Stream.	Locality.	Hydrographer.	Discharge.
				Sec.-ft.
Oct. 9	Swiftcurrent Creek	Near Main	C. C. Babb	188
Oct. 30	do	do	L. V. Branch	123
Nov. 5	Kennedy Creek	1 mile above mouth	G. H. Matthes	55

UPPER MISSOURI DRAINAGE.

MILK RIVER AT HAVRE, MONT.

This station was established by C. C. Babb in May, 1898, and is described in Water-Supply Paper No. 49, page 267. Results of

measurements for 1900 will be found in the Twenty-second Annu Report, Part IV, page 288. During 1901 the following measuremen were made by L. H. Ling under the direction of Samuel Fortier:

List of discharge measurements of Milk River at Havre, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	Dis charg
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-*
March 9	5.00	1,016	June 14	5.20	1,
March 11	4.90	1,006	July 2	3.60	
March 14	4.35	664	July 8	3.10	
March 15	5.15	1,272	July 16	3.00	
March 18	4.70	818	July 27	2.40	
March 23	3.90	511	August 8	2.20	
March 28	3.80	458	August 19	2.00	
April 3	3.10	280	August 29	1.70	
April 5	3.05	300	September 7	1.90	
April 16	2.80	199	September 21	2.60	
April 24	2.70	198	September 27	2.60	
May 2	3.10	304	October 9	2.50	
May 4	6.20	2,577	October 16	2.50	
May 6	5.00	1,162	October 26	2.50	
May 23	4.30	836	November 5	2.35	
June 8	3.40	261	November 12	2.60	
June 12	4.50	893	November 20	2.50	

Daily gage height, in feet, of Milk River at Havre, Mont., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	(a)	(a)	5.45	3.10	3.10	4.30	3.60	2.40	1.60	2.50	2.50	
2	(a)	(a)	7.45	3.10	3.10	3.80	3.60	2.30	1.60	2.50	2.50	
3	(a)	(a)	6.55	3.10	3.10	3.40	3.40	2.20	1.50	2.50	2.40	
4	(a)	(a)	5.60	2.90	5.96	3.40	3.30	2.20	1.50	2.50	2.40	
5	(a)	(a)	5.20	3.00	5.50	3.40	3.30	2.20	1.50	2.40	2.40	
6	(a)	(a)	5.00	3.00	5.00	3.40	3.20	2.20	1.60	2.40	2.40	
7	(a)	(a)	6.20	2.90	5.30	3.40	3.10	2.20	1.90	2.50	(a)	
8	(a)	(a)	6.50	2.70	4.40	3.40	3.10	2.20	2.00	2.50	2.50	
9	(a)	(a)	5.20	2.70	4.40	3.30	3.40	2.20	2.00	2.50	2.50	
10	(a)	(a)	5.00	2.70	4.00	3.30	3.60	2.20	2.00	2.60	2.50	
11	(a)	(a)	4.90	2.60	3.70	3.40	3.90	2.20	2.10	2.60	2.50	
12	(a)	(a)	4.90	2.60	3.40	4.30	3.50	2.20	2.30	2.60	2.60	
13	(a)	(a)	5.00	2.60	3.40	5.00	3.20	2.10	2.30	2.60	2.50	
14	(a)	(a)	4.95	2.60	3.40	5.20	3.10	2.00	2.00	2.60	2.50	
15	(a)	(a)	5.15	2.40	3.20	4.50	3.10	2.00	2.50	2.60	2.50	
16	(a)	(a)	4.70	2.80	3.20	4.50	3.00	1.90	2.40	2.50	2.50	
17	(a)	(a)	5.00	2.40	3.10	4.60	3.00	1.90	2.40	2.50	2.50	
18	(a)	(a)	4.70	2.40	3.10	4.50	2.90	2.00	2.50	2.50	2.50	
19	(a)	(a)	4.50	2.50	2.90	4.50	2.70	2.00	2.60	2.50	2.50	
20	(a)	(a)	4.40	2.50	2.90	4.30	2.60	2.00	2.60	2.50	2.50	
21	(a)	(a)	4.30	2.60	3.00	4.20	2.50	1.90	2.60	2.50	2.50	
22	(a)	(a)	4.00	2.50	4.10	4.00	2.50	1.90	2.60	2.50	(a)	
23	(a)	(a)	3.90	2.50	4.30	4.00	2.40	1.90	2.60	2.50	(a)	
24	(a)	(a)	3.80	2.70	4.70	4.00	2.40	1.80	2.60	2.50	(a)	
25	(a)	(a)	4.30	3.00	4.60	4.00	2.40	1.80	2.60	2.50	(a)	
26	(a)	(a)	3.90	3.10	4.50	4.00	2.50	1.70	2.60	2.50	(a)	
27	(a)	(a)	3.90	3.30	4.40	3.80	2.40	1.70	2.60	2.50	2.50	
28	(a)	(a)	3.80	3.25	4.20	3.70	2.40	1.70	2.50	2.50	2.50	
29	(a)	.....	3.60	3.25	4.50	3.60	2.60	1.70	2.50	2.50	2.50	
30	(a)	.....	3.40	3.10	4.40	3.60	2.50	1.70	2.50	2.50	2.60	
31	(a)	.....	3.40	.....	4.30	.....	2.40	1.60	.....	2.50	.....	

[a] Frozen.

WEST GALLATIN RIVER NEAR SALESVILLE, MONT.

This station, which was established in July, 1895, is located at t highway bridge crossing the stream about 5 miles south of Salesvill It is described in Water-Supply Paper No. 49, page 260. Results measurements for 1900 will be found in the Twenty-second Annu

Report, Part IV, page 280. The gage was verified June 5, 1901, by J. S. Baker. During 1901 the following measurements were made under the direction of Samuel Fortier:

List of discharge measurements of West Gallatin River near Salesville, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 20	3.37	556	June 5	5.20	2,623
Do	3.68	687	Do	5.20	2,618
Do	3.71	707	September 5	3.08	513

Daily gage height, in feet, of West Gallatin River near Salesville, Mont., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.80	2.80	2.80	2.90	4.25	6.10	4.40	3.30	2.90	3.00	2.90	2.80
2	2.90	2.80	2.80	2.80	4.50	6.00	4.20	3.50	3.00	3.00	2.90	2.80
3	2.90	2.80	2.80	2.80	5.15	5.70	4.20	3.50	3.00	3.00	2.90	2.80
4	3.00	2.80	2.85	2.80	4.85	5.40	4.20	3.40	2.90	3.00	2.90	2.80
5	3.10	2.80	2.70	2.80	4.65	5.30	4.20	3.30	3.00	3.00	2.90	2.80
6	3.05	2.85	2.73	2.90	4.55	5.15	4.10	3.20	3.00	3.00	2.90	2.80
7	3.15	2.83	2.80	2.90	4.50	5.05	4.10	3.20	3.00	3.00	2.90	2.80
8	3.20	2.80	2.70	2.90	4.75	5.30	4.10	3.20	3.00	3.00	2.90	2.80
9	3.30	2.80	2.70	2.80	4.75	5.30	4.00	3.20	3.00	3.00	2.90	2.80
10	3.10	2.80	2.80	2.90	4.90	4.80	4.00	3.20	3.00	3.00	2.90	2.80
11	3.10	2.80	2.70	2.90	4.95	4.70	4.00	3.20	3.00	3.00	2.90	2.80
12	3.10	3.00	2.70	2.90	5.15	4.60	4.00	3.20	3.00	3.00	2.90	2.80
13	3.10	3.00	2.70	2.90	5.50	4.55	3.90	3.20	3.00	3.00	2.90	2.80
14	3.10	3.00	2.70	2.90	5.55	4.55	3.90	3.15	3.00	3.00	2.90	2.85
15	3.20	3.00	2.70	2.93	6.25	4.60	3.80	3.00	3.00	3.00	2.90	2.90
16	3.20	3.00	2.70	2.90	6.55	4.50	3.70	3.00	3.00	3.00	2.90	2.90
17	3.10	2.80	2.70	2.90	7.05	4.55	3.70	3.10	3.00	2.90	2.90	2.80
18	3.15	2.80	2.73	2.90	7.55	4.50	3.60	3.10	3.00	2.90	2.90	2.80
19	3.15	2.80	2.73	3.00	7.10	4.55	3.60	3.10	3.00	2.90	2.90	2.80
20	3.10	2.80	2.80	3.45	7.10	4.65	3.40	3.20	3.00	2.90	2.80	2.80
21	3.43	2.80	2.80	3.58	6.50	4.70	3.40	3.20	3.00	2.90	2.70	2.80
22	3.20	2.80	2.80	3.60	6.00	5.00	3.40	3.10	3.00	2.90	2.70	2.80
23	3.00	2.80	2.80	3.60	5.60	5.00	3.40	3.10	3.00	2.90	2.70	2.80
24	2.90	2.90	2.85	3.50	5.70	5.00	3.40	3.10	3.00	2.90	2.70	2.80
25	2.90	2.90	2.89	3.60	5.85	5.00	3.40	3.00	3.00	2.90	2.70	2.80
26	2.90	2.90	2.90	3.50	6.35	4.90	3.40	3.00	3.00	2.90	2.80	2.80
27	2.90	2.83	2.89	3.30	6.35	4.70	3.40	3.00	3.00	2.90	2.90	2.80
28	2.90	2.85	2.89	3.30	6.70	4.60	3.20	3.00	3.00	2.90	2.80	2.80
29	2.90	.....	2.89	3.45	6.25	4.50	3.20	3.00	3.00	2.90	2.80	2.80
30	2.80	.....	2.89	3.70	6.20	4.40	3.20	3.00	3.00	2.90	2.90	2.80
31	2.80	.....	2.80	.....	6.20	.....	3.10	3.00	.....	2.90	.....	2.80

GALLATIN RIVER AT LOGAN, MONT.

This station, which was established by F. H. Newell August 24, 1893, is located on the bridge of the Northern Pacific Railway at Logan. It is described in Water-Supply Paper No. 49, page 262. On account of the reconstruction of the Northern Pacific Railway bridge at which the station is located a temporary gage was established May 27, 1901, consisting of a 2 by 6 inch plank driven vertically into the bed of the river about 3 feet from the bank. The elevation was derived from soundings made in 1900. Bench marks were established on the upstream side of the east abutment as follows: The upper bench mark is halfway down on the beveled edge of the abutment, its elevation being 9.073 feet above datum. The lower bench mark

is a deep nail scratch in the concrete below the first and has an
vation of 8.343 feet above datum. On July 27 the datum of the g
was raised 1.23 feet. Results of measurements for 1900 will be fou
in the Twenty-second Annual Report, Part IV, page 282. During 1
the following measurements of discharge were made under the di
tion of Samuel Fortier:

List of discharge measurements of Gallatin River at Logan, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
April 15		733	June 26	—1.43	
Do		735	September 3	—1.09	
May 27	4.65	4,588	October 20	1.02	

Daily gage height, in feet, of Gallatin River at Logan, Mont., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	[a]				2.40	4.50	1.50	—1.43	—1.13	—0.53	1.00
2	[a]	1.00	1.70		2.40	4.30	1.30	—1.43	—1.13	— .53	1.00
3	[a]				2.40	4.20	1.30	—1.43	—1.03	— .53	1.00
4	[a]				2.40	4.20	1.20	—1.43	—1.03	— .53	1.00
5	[a]				2.70	3.80	1.20	—1.43	—1.03	— .53	1.00
6				1.00	2.70	3.75	1.10	—1.43	—1.03	— .53	1.00
7					2.75	3.40	1.25	—1.43	— .93	— .53	1.00
8					2.60	3.40	1.10	—1.43	— .93	— .53	1.00
9		[a]	1.00		2.55	3.30	.90	—1.43	— .93	— .53	1.00
10		[a]			2.40	3.20	.90	—1.43	— .83	— .53	1.00
11		[a]			2.40	3.20	.80	—1.43	— .83	— .53	1.00
12		[a]			2.60	3.20	.70	—1.43	— .83	— .53	1.00
13		[a]		1.00	2.75	3.10	.60	—1.43	— .83	— .53	1.00
14		[a]		1.10	2.90	2.90	.60	—1.43	— .83	— .53	1.00
15		[a]		1.10	3.15	2.90	.60	—1.43	— .73	— .53	1.00
16		[a]	1.00	1.10	3.20	2.80	.60	—1.43	— .73	— .53	1.00
17				1.10	3.20	2.70	.60	—1.43	— .73	— .53	1.10
18				1.10	3.20	2.60	.60	—1.33	— .73	— .53	1.10
19	[a]			1.10	3.10	2.60	.60	—1.33	— .73	— .53	1.10
20				1.10	3.25	2.50	.60	—1.33	— .73	1.00	1.10
21				1.10	3.45	2.30	.60	—1.33	— .73	1.00	1.10
22				1.10	3.20	2.10	.60	—1.33	— .63	1.00	1.10
23		1.00	1.00	1.10	3.10	2.10	.60	—1.33	— .63	1.00	1.10
24				1.20	2.85	2.10	.60	—1.33	— .53	1.00	1.10
25				1.20	2.60	2.00	.60	—1.33	— .53	1.00	1.10
26	[a]			1.20	4.55	2.00	—1.43	—1.33	— .53	1.00	1.10
27				1.20	4.60	1.90	—1.43	—1.23	— .53	1.00	1.10
28				1.20	4.90	1.90	—1.43	—1.23	— .53	1.00	1.10
29				2.05	5.00	1.80	—1.43	—1.23	— .53	1.00	1.10
30			1.00	2.30	5.15	1.50	—1.43	—1.23	— .53	1.00	1.10
31					4.95		—1.43	—1.23		1.00	

[a] Frozen.

MADISON RIVER NEAR REDBLUFF, MONT.

This station, which was established May 2, 1897, is located 4 m
below the Redbluff iron county bridge over the river and 1½ m
below the mouth of Cherry Creek. It is described in Water-Sup
Paper No. 49, page 263. Results of measurements for 1900 wil
found in the Twenty-second Annual Report, Part IV, page 284.
June 6, 1901, a bench mark was established by J. S. Baker on a la
bowlder 20 feet south of the gage rod and 8 feet east of the r

bank. It is marked with black paint, and has an elevation of 6.856 feet above the datum of the gage.

Cherry Creek flows into Madison River between the gage and the point where the river is measured, and its discharge should, therefore, be added to that of the river in order to obtain the total discharge at the gage. During 1901 the following measurements of discharge of Madison River and Cherry Creek were made under the direction of Samuel Fortier:

List of discharge measurements of Madison River and Cherry Creek near Redbluff, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 20	1.45	1,481	April 22	1.45	[a]83
April 21	1.45	1,490	June 6	2.20	3,595
Do	1.45	1,441	Do	2.20	[a]95
April 22	1.45	[a]92	September 6	1.31	1,341

[a] Cherry Creek.

Daily gage height, in feet, of Madison River near Redbluff, Mont., for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1		1.60	1.95	2.80	1.80	1.55	1.40	1.40	1.40	1.40
2		1.60	2.00	2.75	1.80	1.50	1.40	1.40	1.40	1.40
3		1.60	2.35	2.70	1.80	1.50	1.40	1.40	1.40	1.40
4		1.60	2.53	2.50	1.80	1.45	1.40	1.40	1.40	1.40
5		1.60	2.48	2.50	1.80	1.45	1.40	1.40	1.40	1.40
6		1.60	2.25	2.45	1.80	1.60	1.40	1.40	1.40	1.40
7		1.60	2.00	2.30	1.80	1.50	1.40	1.40	1.40	1.40
8		1.60	2.00	2.10	1.80	1.40	1.40	1.40	1.40	1.40
9		1.60	2.00	2.05	1.80	1.55	1.40	1.40	1.40	1.40
10		1.60	2.00	2.00	1.80	1.55	1.40	1.40	1.40	1.40
11		1.60	2.00	2.00	1.65	1.45	1.40	1.40	1.40	1.40
12		1.60	2.15	2.00	1.60	1.45	1.40	1.40	1.40	1.40
13		1.60	2.40	2.10	1.60	1.45	1.40	1.40	1.40	1.40
14		1.60	2.60	2.10	1.60	1.45	1.40	1.40	1.40	1.40
15		1.60	2.85	2.00	1.60	1.45	1.40	1.40	1.40	[a]
16		1.60	3.00	2.00	1.60	1.45	1.40	1.40	1.40	[a]
17		1.60	3.05	2.00	1.60	1.45	1.40	1.40	1.40	[a]
18		1.60	3.60	2.00	1.60	1.40	1.40	1.40	1.40	[a]
19		1.60	3.65	2.00	1.60	1.40	1.40	1.40	1.40	[a]
20		1.60	3.60	2.00	1.60	1.40	1.40	1.40	1.40	[a]
21		1.60	3.35	2.00	1.60	1.40	1.40	1.40	1.40	[a]
22		1.60	3.30	2.10	1.60	1.40	1.40	1.40	1.40	[a]
23		1.60	3.05	2.00	1.60	1.40	1.40	1.40	1.40	[a]
24		1.65	2.95	2.00	1.60	1.40	1.40	1.40	1.50	[a]
25		1.70	2.75	1.95	1.50	1.40	1.40	1.40	1.50	[a]
26		1.70	2.70	1.90	1.50	1.40	1.40	1.40	1.50	[a]
27		1.70	2.85	1.90	1.50	1.40	1.40	1.40	1.50	[a]
28		1.70	3.05	1.90	1.55	1.40	1.40	1.40	1.50	[a]
29		1.70	3.10	1.90	1.50	1.40	1.40	1.40	1.50	[a]
30		1.73	3.00	1.80	1.50	1.40	1.40	1.40	1.50	[a]
31	1.60	.....	2.80	.....	1.50	1.40	.....	1.40	.....	[a]

[a] Ice.

JEFFERSON RIVER AT SAPPINGTON, MONT.

This station, which was established by A. P. Davis in 1894, is located on the bridge of the Northern Pacific Railway crossing the river at Sappington. It is described in Water-Supply Paper No. 49, page 264. Results of measurements for 1899 and 1900 will be found in the Twenty-second Annual Report, Part IV, page 285. During

1901 the following measurements were made under the direction o
Samuel Fortier:

List of discharge measurements of Jefferson River at Sappington, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge
1901.	*Feet.*	*Sec. feet.*	1901.	*Feet.*	*Sec. fe*
April 10	2.29	1,092	May 23	5.61	7,6
Do	2.30	1,106	September 2	1.17	4
May 23	5.64	7,615	September 11	1.60	7

Daily gage height, in feet, of Jefferson River at Sappington, Mont., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec
1	(a)	(a)	(a)	2.30	4.85	5.60	3.05	1.50	1.30	1.80	2.00	2.
2	(a)	(a)	(a)	2.30	4.90	5.25	3.00	1.50	1.30	1.80	2.00	2.
3	(a)	(a)	(a)	2.30	5.00	4.95	2.90	1.50	1.20	1.80	2.00	2.
4	(a)	(a)	(a)	2.30	5.10	4.65	2.75	1.50	1.30	1.80	2.00	2.
5	(a)	(a)	(a)	2.30	5.10	4.50	2.70	1.50	1.40	1.80	2.05	2.
6	(a)	(a)	(a)	2.30	5.00	4.35	2.70	1.50	1.40	1.80	2.05	2.
7	(a)	(a)	(a)	2.30	5.00	4.10	2.60	1.50	1.40	1.80	2.05	2.
8	(a)	(a)	2.60	2.30	4.90	3.90	2.60	1.50	1.50	1.80	2.10	2.
9	(a)	(a)	2.60	2.40	4.80	3.75	2.50	1.50	1.55	1.80	2.10	2.
10	(a)	(a)	2.60	2.40	4.80	3.70	2.50	1.50	1.60	1.80	2.10	2.
11	(a)	(a)	2.60	2.40	4.80	3.55	2.40	1.50	1.60	1.80	2.10	2.
12	(a)	(a)	2.60	2.50	4.85	3.55	2.30	1.40	1.60	1.80	2.10	2.
13	(a)	(a)	2.60	2.50	4.90	3.70	2.20	1.40	1.60	1.80	2.10	2.
14	(a)	(a)	2.50	2.50	5.05	3.70	2.20	1.40	1.60	1.80	2.10	2.
15	(a)	(a)	2.50	2.50	5.20	3.70	2.10	1.40	1.58	1.80	2.10	2.
16	(a)	(a)	2.50	2.50	5.45	3.70	2.00	1.40	1.55	1.80	2.10	2.
17	(a)	(a)	2.50	2.60	5.65	3.60	2.00	1.40	1.55	1.80	2.10	2.
18	(a)	(a)	2.50	2.70	6.00	3.50	1.90	1.40	1.55	1.80	2.10	(a
19	(a)	(a)	2.40	2.80	6.25	3.50	1.90	1.40	1.60	1.80	2.10	(a
20	(a)	(a)	2.40	2.90	6.30	3.35	1.80	1.40	1.60	1.80	2.10	(a
21	(a)	(a)	2.40	3.10	6.10	3.20	1.80	1.40	1.60	1.85	2.10	3.
22	(a)	(a)	2.40	3.20	6.00	3.05	1.70	1.40	1.65	1.85	2.10	...
23	(a)	(a)	2.40	3.45	5.80	3.00	1.70	1.40	1.70	1.85	2.10	...
24	(a)	(a)	2.40	3.85	5.50	3.20	1.65	1.40	1.73	1.90	2.10	...
25	(a)	(a)	2.40	4.00	5.20	3.30	1.60	1.40	1.75	1.90	2.10	...
26	(a)	(a)	2.40	4.10	5.15	3.50	1.60	1.40	1.75	1.90	2.20	...
27	(a)	(a)	2.40	4.10	5.20	3.55	1.60	1.40	1.80	1.90	2.20	...
28	(a)	(a)	2.30	4.05	5.25	3.60	1.60	1.40	1.80	1.90	2.20	3.
29	(a)	.....	2.30	4.35	5.65	3.50	1.60	1.40	1.80	1.95	2.20	...
30	(a)	.....	2.30	4.70	5.70	3.35	1.60	1.40	1.80	1.95	2.10	...
31	(a)	.....	2.30	.....	5.65	.....	1.50	1.40	.....	1.95	.....	...

[a] Frozen.

MISSOURI RIVER NEAR TOWNSEND, MONT.

Observations of gage heights are maintained at this place by th
Missouri River Commission, and the results are furnished to the Geo
logical Survey by the Corps of Engineers, United States Army. Th
heights given are the means of two daily readings expressed in fee
above the St. Louis directrix, which is 412.73 feet above the mea
Gulf level. The figures 3,300 have been omitted from the record, s
that it is necessary to add that amount to the daily observations t
obtain the elevation of the water surface above the St. Louis datum
A description of this station will be found in Water-Supply Pape
No. 49, page 265. Results of measurements for 1900 will be found i
the Twenty-second Annual Report, Part IV, page 286. During 190

the following discharge measurements were made under the direction of Samuel Fortier:

April 11: Gage height, 88.75 feet; discharge, 2,880 second-feet.
April 23: Gage height, 89.90 feet; discharge, 6,631 second-feet.
April 23: Gage height, 89.90 feet; discharge, 6,638 second-feet.
May 29: Gage height, 92.28 feet; discharge, 17,445 second-feet.
September 2: Gage height, 88.20 feet; discharge, 1,383 second-feet.

Daily gage height, in feet, of Missouri River near Townsend, Mont., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	87.9	90.3	90.8	88.8	90.1	92.6	89.6	88.3	88 1	88.5	88.7	88.8
2	88.9	90.3	90.9	88.8	90.3	92.2	89.5	88.3	88 1	88.6	88.7	88.8
3	89.1	90.2	90.9	88.7	90.6	91.9	89.4	88.3	88 0	88.7	88.7	88.8
4	89.3	90.3	93.0	88.7	90.9	91.6	89.3	88.3	88 1	88.7	88.7	88.8
5	89.4	90.4	93.1	88.7	91.1	91.4	89.2	88.3	88 1	88.8	88.7	88.8
6	89.4	90.4	93.1	88.7	91.2	91.2	89.1	88.3	88 2	88.8	88.7	88.8
7	89.6	90.4	89.2	88.7	91.2	90.9	89.0	88.2	88.2	88.8	88.8	88.8
8	89.8	90.4	89.2	88.7	91.1	90.8	89.0	88.2	88 2	88.8	88.8	88.8
9	90.1	90.4	89.2	88.8	90.9	90.7	89.0	88.2	88 3	88.8	88.8	88.8
10	90.2	90.5	89.2	88.8	90.9	90.6	88.9	88.2	88 3	88.7	88.8	88.8
11	90.2	90.5	89.2	88.9	90.9	90.5	88.9	88.2	88 3	88.7	88.8	88.8
12	90.2	90.5	89.1	89.0	90.9	90.5	88.9	88.2	88 3	88.7	88.8	88.8
13	90.1	90.6	88.9	89.0	91.1	90.4	88.8	88.2	88 3	88.7	88.8	91.2
14	90.1	90.7	88.8	89.1	91.2	90.4	88.7	88.2	88 3	88.7	88.8	91.2
15	90.1	90.7	88.8	89.2	91.5	90.3	88.7	88.1	88 3	88.6	88.8	91.2
16	90.1	90.7	88.8	89.3	92.1	90.4	88.7	88.1	88 3	88.6	88.8	91.6
17	90.1	90.7	88.8	89.3	92.4	90.2	88.6	88.1	88 3	88.6	88.8	92.3
18	90.1	90.7	88.8	89.3	92.6	90.1	88.6	88.1	88 3	88.6	88.8	92.5
19	90.1	90.7	88.8	89.3	92.9	89.9	88.6	88.1	88 3	88.6	88.8	92.2
20	90.1	90.7	88.8	.....	93.0	89.9	88.6	88.1	88 3	88.6	88.8	91.7
21	90.1	90.7	88.8	89.5	93.0	89.9	88.6	88.1	88 4	88.6	88.8	91.5
22	90.1	90.7	88.8	89.6	92.6	89.9	88.5	88.1	88 4	88.6	88.8	91.4
23	90.0	90.7	88.8	89.9	92.4	90.0	88.4	88.1	88 4	88.6	88.8	91.4
24	90.0	90.7	88.8	89.8	92.3	89.9	88.4	88.1	88.4	88.6	88.8	91.4
25	90.0	90.7	88.8	89.7	92.2	89.8	88.4	88.1	88.4	88.6	88.8	91.4
26	90.0	90.8	88.8	89.7	92.1	89.7	88.3	88.1	88.4	88.6	88.8	91.4
27	90.0	90.8	88.8	89.7	92.2	89.6	88.3	88.1	88.4	88.6	88.8	91.4
28	90.0	90.8	88.8	89.7	92.5	89.6	88.2	88.1	88.4	88.6	88.8	91.4
29	90.0	.....	88.8	89.7	92.5	89.6	88.2	88.1	88.4	88.6	88.8	91.4
30	90.2	.....	88.8	89.9	92.7	89.6	88.2	88.1	88.4	88.6	88.8	91.4
31	90.3	.....	88.8	.....	92.7	.....	88.2	88.1	.....	88.7	.....	91.4

CROW CREEK NEAR RADERSBURG, MONT.

A gaging station was established April 13, 1901, by J. S. Baker, on Crow Creek, a tributary of Missouri River, at a point about 6 miles above Radersburg and about one-fourth of a mile above the head of the Placer mine ditch. The equipment consists of a $\frac{5}{8}$-inch cable with car, and a tag wire marked at 5-foot intervals. The gage is located about 50 feet above the cable, and consists of a sash weight attached to a $\frac{3}{32}$-inch wire cable passing over a pulley and along a graduated arm which carries graduations from 0 to 8 feet. The index is a knot in the cable; the channel is straight; the bottom is of coarse gravel and has considerable fall. On May 29, 1901, a bench mark was established on a bowlder 16 feet north of the rear post which supports the gage. The elevation of the highest point of the bowlder is 6.81 feet above the zero of the gage. The following measurements were made by J. S. Baker during 1901:

April 13: Gage height, 1.85 feet; discharge, 15 second-feet.
May 29: Gage height, 3.20 feet; discharge, 199 second-feet.
May 29: Gage height, 3.20 feet; discharge, 190 second-feet.

Daily gage height of Crow Creek near Radersburg, Mont., for 1901.

Day.	Apr.	May.	June.	Day.	Apr.	May.	June.	Day.	Apr.	May.	Jun
1		2.70	3.35	12		3.20	2.55	22	2.10	3.40	2.
2		4.50	3.10	13				23	2.20	3.30	2.
3		5.20	2.95	14	1.95	3.40	2.40	24	2.20	3.35	2.
4		4.25	2.85	15	1.90	3.50	2.40	25	2.25		2.
5		3.40	2.90	16	1.90	3.40	2.40	26	2.30	3.35	2.
6		3.30	2.90	17	1.85	3.55	2.35	27	2.25	3.30	2.
7		3.50		18	1.90	3.60	2.30	28	2.10	3.35	2.
8		3.40	2.90	19	1.90	3.60	2.25	29	2.20	3.30	2.
9		3.50	2.80	20	2.00	3.40	2.20	30	2.55	3.40	
10		3.30	2.65	21	2.10	3.50	2.30	31		3.30	
11		3.10	2.60								

YELLOWSTONE RIVER NEAR LIVINGSTON, MONT.

This station, which was established May 2, 1897, is located at th highway bridge over the Yellowstone, 5 miles south of Livingsto It is described in Water-Supply Paper No. 49, page 268. Results measurements for 1899 and 1900 will be found in the Twenty-secon Annual Report, Part IV, page 289. During 1901 the followir measurements of discharge were made under the direction of Samu Fortier:

List of discharge measurements of Yellowstone River near Livingston, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharg
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-*
April 18	—0.90	1,254	June 4	4.13	13,9
Do	—.90	1,225	September 10	—.01	2,7
Do	—.90	1,247	November 17	—.88	1,4
May 21	5.40	21,874	Do	—.88	1,4

Daily gage height, in feet, of Yellowstone River near Livingston, Mont., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
1	(a)		—1.00	—1.00	0.45	4.20	2.90	0.90	0.10	—0.25	—0.55	—0.
2			—.90	—1.00	1.45	4.20	2.80	1.10	.05	—.25	—.55	
3			—1.15	—1.00	1.90	4.10	2.95	1.45	.10	—.25	—.60	
4		—1.45	—1.40	—.95	2.25	4.00	2.80	1.10	.20	—.25	—.60	
5	(a)		—1.30	—.95	1.85	3.90	2.75	1.00	.20	—.25	—.60	
6			—1.10	—.95	1.75	3.70	2.70	.90	.15	—.25	—.60	—1.
7			—1.00	—.90	1.90	3.70	2.50	.80	.10	—.25	—.60	
8			—1.00	—.90	2.20	3.70	2.45	.80	.05	—.30	—.65	
9			—1.00	—.95	2.30	3.50	2.40	.80	.05	—.30	—.65	—1.
10	(a)	—1.45	—1.00	—.90	2.50	3.50	2.30	.80	.00	—.30	—.70	
11		—1.45	—1.05	—.90	2.80	3.40	2.30	.70	—.10	—.25	—.70	
12			—1.10	—.85	3.20	3.40	2.30	.60	—.10	—.25	—.70	
13	(a)		—1.00	—.75		3.30	2.20	.55	—.10	—.30	—.70	
14	—1.10		—1.00	—.75	3.50	3.20	2.10	.50	—.10	—.30	—.75	
15			—1.00	—.85	3.80	3.10	2.00	.50	—.10	—.30	—.75	
16			—1.00	—.80	3.90	3.10	1.95	.50	—.15	—.35	—.80	
17			—1.00	—.90	4.30	3.00	1.85	.40	—.20	—.35	—.80	
18		—1.45	—.95	—.85	5.00	3.30	1.70	.40	—.20	—.40	—.85	
19			—.95	—.85	6.00	3.80	1.65	.35	—.20	—.40	—.85	
20			—.95	—.80	6.10	3.60	1.55	.45	—.25	—.45	—.90	
21	1.35		—1.00	—.70	5.50	3.70	1.50	1.00	—.25	—.45	—.90	—1.
22			—.90	—.60	5.10	3.60	1.40	.70	—.25	—.45	—.90	—1.
23			—.90	—.50	4.10	3.60	1.35	.45	—.25	—.45	—.90	
24			—.90	—.35	4.00	3.80	1.35	.40	—.15	—.50		—1.
25		—1.30	—.90	—.25	4.00	3.50	1.35	.30	.00	—.50		—1.
26			—.85	—.25	4.30	3.60	1.30	.25	.00	—.50		—1.
27			—.90	—.30	4.80	3.20	1.25	.20	—.10	—.55		
28	—1.45		—.95	—.50	5.30	3.20	1.20	.20	—.15	—.55		—1.
29			—.95	—.40	5.20	3.15	1.10	.20	—.15	—.55		—1.
30			—1.00	—.10	5.10	3.10	1.05	.15	—.20	—.55		—1.
31			—1.00		4.60		.95	.10		—.55		

[a] Ice.

MISCELLANEOUS DISCHARGE MEASUREMENTS IN MISSOURI RIVER BASIN IN MONTANA.

Date.	Stream.	Locality.	Hydrographer.	Discharge.
1901.				*Sec.-ft.*
Aug. 7	South Fork of Milk River	Murphy's ranch	G. H. Matthes	35
Do.	North Fork of Milk River	McLeod trail ford	do	27
Oct. 24	Marias River	Near Shelby	C. C. Babl	296
Apr. 17	Bozeman Creek	Bozeman	J. S. Baker	21

BIGHORN RIVER NEAR THERMOPOLIS, WYO.

This station, which was established by A. J. Parshall on May 28, 1900, is located about a half mile west of Thermopolis at the ferry crossing the river. At the lowest water mark of 1901 the gage was changed; a gage was painted upon one of the lower piers of the new State bridge over the river, 400 or 500 feet upstream from the former station. The relative heights on rod remained as before, the same bench mark being used.

Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 291. The station is described in Water-Supply Paper No. 49, page 269. During 1901 one discharge measurement was made by A. J. Parshall, but was considered by him unsatisfactory.

Daily gage height, in feet, of Bighorn River near Thermopolis, Wyo., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Day.	May.	June.	July.	Aug.	Sept.
1	1.55	6.85	3.05	2.00	1.60	17	5.60	2.85	3.05	1.65	1.00
2	1.67	6.60	2.95	1.90	1.80	18	6.10	2.90	3.15	1.60	1.00
3	2.00	6.20	3.10	2.00	1.65	19	6.50	3.15	3.25	1.35	1.00
4	2.70	5.80	3.00	2.15	1.60	20	7.30	3.20	3.20	1.25	1.00
5	2.90	5.45	3.15	1.95	1.45	21	7.95	3.45	2.75	1.10	.90
6	3.10	5.25	3.20	1.75	1.30	22	7.85	3.70	2.65	1.35	.90
7	2.95	5.00	3.10	1.65	1.30	23	7.30	3.95	2.60	1.45	1.00
8	3.00	4.55	2.95	1.80	1.20	24	6.65	4.15	2.45	1.40	1.20
9	2.85	4.30	2.95	1.65	1.20	25	6.05	4.15	2.40	1.30	1.20
10	3.15	4.45	3.05	1.55	1.20	26	5.65	4.00	2.50	1.20	1.10
11	3.35	4.15	3.15	1.65	1.10	27	5.85	3.85	2.60	1.20	1.00
12	3.45	3.95	3.25	1.60	1.10	28	6.25	3.60	2.50	1.20	1.00
13	3.45	3.70	3.20	1.50	1.00	29	6.70	3.35	2.40	1.20	.90
14	3.70	3.40	3.10	1.45	1.00	30	7.30	3.20	2.25	1.20	.90
15	4.15	3.05	2.95	1.35	1.00	31	7.25	.....	2.15	1.20	.....
16	4.40	2.85	2.95	1.55	1.00						

Miscellaneous discharge measurements of Shell Creek and tributaries, Wyoming.

Date.	Stream.	Locality.	Discharge.
1901.			*Sec.-ft.*
July 3	Shell Creek	6 miles above Shell, Wyo	451
July 8	Horse Creek		3
July 16	Beaver Creek		4
July 21	Shell Creek	7 miles above Shell, Wyo	76
July —	Trapper Creek		40

BIG SIOUX RIVER NEAR WATERTOWN, S. DAK.

The gaging station was established by O. V. P. Stout September 15, 1900. It is described in Water-Supply Paper No. 49, page 270. One discharge measurement was made during 1901 by A. B. Crane, on October 19, when the gage read 1.12 feet, and the discharge was found to be 8 second-feet.

Daily gage height, in feet, of Big Sioux River near Watertown, S. Dak., for 1901

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.15	1.60	1.70		2.15				0.75	1.30	1.00	0.9
2				2.65		1.10	1.25	0.85				
3		1.60	1.70	4.70	2.10				.75		1.00	.8
4	1.15					1.05		.85		1.20		
5		1.60	2.30	3.70	1.90		1.20				.95	
6	1.15		3.85					.85	.75	1.20		.8
7				2.80	1.85	1.15	1.20					
8	1.15	1.65	3.00						.85	1.24	.95	
9				4.85		1.20	1.15	1.00				
10		1.65	2.45		1.90				.85		.93	
11	1.15					1.20		.95		1.20		
12		1.65	2.40	2.80	1.80		1.10				.93	
13	1.20							.90	1.35	1.20		
14				1.90	1.60	1.20	1.05					
15	1.50	1.65	2.40						1.35	1.18	.90	
16				1.65		1.25	1.02	.80				
17		1.65	2.40		1.40				1.30		.90	
18	1.50		2.80			1.35		.80		1.13		
19		1.65	4.40	1.40	1.40		.95				.90	
20	1.50		4.20					.75	1.25	1.10		
21				1.35	1.30	1.80	.95					
22	1.50	1.65	3.45						1.15	1.10	.90	
23				1.25		1.65	.90	.75				
24		1.65	2.40		1.25				1.05		.90	
25	1.55					1.50		.90		1.05		
26		1.65	2.40	1.20	1.25		.85				.90	
27	1.55							.90	1.04	1.05		
28				1.20	1.20	1.35	.85					
29	1.55		2.40						1.25	1.05	.90	
30				1.90		1.30	1.15	.80				
31			2.35		1.10							

BIG SIOUX RIVER NEAR SIOUX FALLS, S. DAK.

This gaging station, which was established by O. V. P. Stout, on July 21, 1900, is 2 miles west of Sioux Falls, and is described in Water-Supply Paper No. 49, page 271. During 1901 the following discharge measurements were made by O. V. P. Stout:

April 8: Gage height, 2.33 feet; discharge, 126 second-feet.
April 8: Gage height, 2.33 feet; discharge, 130 second-feet.
April 9: Gage height, 2.34 feet; discharge, 131 second-feet.
April 9: Gage height, 2.34 feet; discharge, 145 second-feet.
October 26: Gage height, 1.24 feet; discharge, 18 second-feet.

Daily gage height, in feet, of Big Sioux River near Sioux Falls, S. Dak., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	[a]	[a]	1.10	.....	2.10	2.40	1.10	.60	1.20	1.20	1.40
2	1.8	[a]	.....	1.11	.....	2.10	2.40	1.10	.60	1.20	1.30	1.50
3	[a]	.....	.....	1.11	.....	2.10	2.30	.....	.60	1.20	1.40	1.30
4	[a]	.....	.....	1.11	.....	2.20	2.30	.....	.70	1.20	1.40	1.20
5	[a]	.....	.....	1.11	2.30	2.20	2.40	.....	.80	1.20	1.40	1.20
6	.....	.....	.....	1.11	2.30	2.20	2.40	.....	.80	1.20	1.40	1.20
7	.....	.....	.....	1.10	2.30	2.20	1.80	.....	.90	1.30	1.40	1.20
8	.....	.....	.....	1.10	2.30	2.20	1.80	.....	1.10	1.30	1.50	.....
9	.....	.....	.....	1.10	2.20	2.30	1.70	.....	1.10	1.30	1.50	.....
10	.....	.....	.....	1.10	2.20	2.30	1.60	.....	1.20	1.30	1.50	.....
11	.....	.....	.....	1.11	2.20	2.30	1.60	1.00	1.20	1.30	1.50	.....
12	.....	.....	.....	1.12	2.20	2.30	1.50	1.00	1.20	1.30	1.50	.....
13	.....	.....	.....	1.12	2.20	2.50	1.40	1.00	1.20	1.30	1.50	.....
14	[a]	.....	.....	1.12	2.20	2.80	1.40	1.00	1.20	1.30	1.50	.....
15	[a]	.....	.....	1.12	2.20	2.80	1.30	.90	1.20	1.30	1.40	.....
16	[a]	.....	.....	1.12	2.30	2.80	1.20	.90	1.20	1.30	1.40	.....
17	[a]	.....	1.90	1.14	2.20	2.80	1.20	.90	1.10	1.30	1.40	.....
18	[a]	.....	.....	1.14	2.20	2.70	1.20	1.00	1.10	1.20	1.40	.....
19	[a]	.....	.....	1.13	2.20	2.70	1.10	1.00	1.20	1.20	1.40	.....
20	[a]	.....	.....	1.13	2.20	2.70	1.10	1.00	1.20	1.20	1.40	.....
21	.....	.....	.....	.....	2.10	2.70	1.10	.90	1.20	1.20	1.40	.....
22	.....	.....	.....	.....	2.10	2.70	1.00	.90	1.20	1.20	1.40	.....
23	.....	.....	.....	.....	2.00	2.60	1.00	.90	1.20	1.20	1.40	.....
24	.....	.....	.....	.....	2.00	2.60	1.00	.80	1.20	1.10	1.40	.....
25	.....	.....	.....	.....	2.10	2.60	.90	.80	1.30	1.10	1.50	.....
26	.....	.....	1.90	.....	2.10	2.50	.90	.70	1.20	1.20	1.50	.....
27	[a]	.....	.....	.....	2.00	2.50	.80	.70	1.20	1.20	1.50	.....
28	[a]	.....	.....	.....	2.20	2.50	.80	.60	1.20	1.20	1.30	.....
29	[a]	.....	1.80	.....	2.00	2.50	1.20	.60	1.20	1.20	1.50	.....
30	[a]	.....	1.11	.....	2.20	2.50	1.20	.70	1.20	1.20	1.40	.....
31	[a]	.....	.....	.....	2.10	.....	1.20	.60	.....	1.20	.....	.....

[a] Frozen.

NIOBRARA RIVER AT VALENTINE, NEBR.

This station was formerly located at the military bridge on the road between Valentine, Nebr., and Fort Niobrara. On June 26, 1901, it was reestablished at the Borman bridge, which is about 3 miles up stream from the military bridge. The gage is of the wire and weight type, gage heights being marked by staples on the bridge rail. The zero of the gage is 12 feet below the top of the bridge floor.

During 1901 the following discharge measurements were made by O. V. P. Stout and others:

May 12: Gage height, — feet; discharge, 628 second-feet.
June 26: Gage height, 1.46 feet; discharge, 724 second-feet.
August 1: Gage height, 1.45 feet; discharge, 951 second-feet.
November 14: Gage height, 1.54 feet; discharge, 818 second-feet.

Daily gage height, in feet, of Niobrara River at Valentine, Nebr., for 1901.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Day.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	.....	1.61	1.35	1.55	1.38	1.53	17	.....	1.22	1.32	1.45	1.45	1.67
2	.....	1.35	1.40	1.50	1.46	1.49	18	.....	1.20	1.30	1.36	1.49	1.63
3	.....	1.37	1.40	1.47	1.48	1.47	19	.....	1.40	1.27	1.42	1.55	1.65
4	.....	1.32	1.38	1.75	1.46	1.46	20	.....	1.35	1.25	1.38	1.54	1.70
5	.....	1.30	1.30	1.62	1.40	1.53	21	.....	1.25	1.40	1.33	1.49	1.63
6	.....	1.28	1.32	1.42	1.43	1.49	22	.....	1.22	1.35	1.45	1.48	1.68
7	.....	1.24	1.28	2.68	1.52	1.51	23	.....	1.18	1.29	1.36	1.46	1.65
8	.....	1.25	1.25	1.80	1.55	1.50	24	.....	1.15	1.40	1.45	1.52	1.66
9	.....	1.40	1.29	1.65	1.63	1.55	25	.....	1.25	1.35	1.43	1.45	1.65
10	.....	1.30	1.35	1.53	1.90	1.50	26	.....	1.30	1.45	1.35	1.50	1.66
11	.....	1.35	1.40	1.60	1.70	1.68	27	1.45	1.40	1.38	1.43	1.45	1.64
12	.....	1.30	1.25	1.58	1.68	1.70	28	1.38	1.35	1.39	1.48	1.45	1.65
13	.....	1.20	1.28	1.53	1.65	1.63	29	1.37	1.30	1.38	1.45	1.51	1.69
14	.....	1.21	1.40	1.58	1.55	1.54	30	1.36	1.33	1.40	1.40	1.52	1.70
15	.....	1.20	1.30	1.50	1.52	1.70	31	.....	1.30	1.55	.....	1.54	.....
16	.....	1.18	1.35	1.52	1.53	1.68							

PLATTE RIVER DRAINAGE.

MEDICINE BOW RIVER AT MEDICINE BOW, WYO.

This stream rises in the Laramie Mountains in Carbon and Alba counties, southwestern Wyoming, and flows first in a southerly a then in a westerly direction, discharging into the North Platte. T river is of interest, as along nearly its entire course its waters are us for irrigation purposes. The station was established May 7, 1901, A. J. Parshall, near Medicine Bow, Wyo., a station on the Uni Pacific Railroad, and was abandoned with the close of the season 1901, the purposes for which it had been established having be accomplished. Measurements were made from the county brid one-half mile north of Medicine Bow station, and the gage rod w at pump house, one-half mile east of railroad station. The ben mark was a nail driven in timber 5 feet south of rod on level, wi 4.25 foot-mark on rod.

The river at the point where the measurements were made is curve the right bank is high and not liable to overflow, while the left ba is low and subject to overflow.

The following discharge measurements were made during 1901 A. J. Parshall:

May 8: Gage height, 1.05 feet; discharge, 230.6 second-feet.
May 17: Gage height, 2 feet; discharge, 662.3 second-feet.
May 25: Gage height, 3 feet; discharge, 1,110 second-feet.
June 5: Gage height, 3.2 feet; discharge, 1,300 second-feet.
August 12: Gage height, —.5 feet; discharge, 6.5 second-feet.

Discharge measurements were made by him at Schulte ranch, follows:

May 7: Gage height, 1.05 feet; discharge, 166 second-feet.
May 17: Gage height, 2 feet; discharge, 529 second-feet.
May 25: Gage height, 3 feet; discharge, 521 second-feet.
June 5: Gage height, 3.20 feet; discharge, 532 second-feet.

Daily gage height, in feet, of Medicine Bow River at Medicine Bow, Wyo., for 19

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Day.	May.	June.	July.	Aug.	Sept.	O
1	.....	4.15	1.08	.00	—.30	—.40	17	2.15	3.80	.00	—.30	—.30	..
2	.....	3.95	1.03	.00	—.40	—.40	18	2.25	2.85	.00	—.30	—.30	..
3	.....	3.45	1.00	.00	—.40	—.40	19	2.87	2.65	.00	—.30	—.30	..
4	.....	3.45	.90	—.40	—.40	—.40	20	3.20	2.75	.00	—.30	—.30	..
5	.....	2.95	.80	—.40	—.30	—.40	21	3.87	2.30	.00	—.40	—.40	..
6	.....	3.00	.75	—.40	—.30	.....	22	4.35	2.30	.00	—.50	—.50	..
7	.....	2.35	.65	—.40	—.30	.....	23	4.80	2.30	.00	—.50	—.50	..
8	1.02	2.10	.55	—.40	—.30	.....	24	4.65	2.25	.00	—.50	—.50	..
9	.85	2.35	.45	—.40	—.30	.....	25	3.15	2.40	.00	—.30	—.30	..
10	.90	2.75	.35	—.40	—.30	.....	26	3.00	2.10	.70	—.30	—.30	..
11	1.00	3.05	.25	—.30	—.30	.....	27	3.00	1.95	.35	—.30	—.35	..
12	1.20	3.05	.00	—.30	—.45	.....	28	3.15	1.70	.20	—.30	—.35	..
13	1.50	2.90	.00	—.30	—.30	.....	29	3.15	1.45	.10	—.30	—.35	..
14	1.75	2.65	.10	—.30	—.30	.....	30	3.35	1.30	.05	—.30	—.35	..
15	1.95	3.05	.00	—.30	—.30	.....	31	3.55	.....	.00	—.30	.....	..
16	2.00	3.80	.00	—.30	—.30	.....							

NORTH PLATTE RIVER NEAR GUERNSEY, WYO.

This station was established by A. J. Parshall June 14, 1900, and is described in Water-Supply Paper No. 49, page 275. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 312.

During the years 1900 and 1901 the gage rod was located at the county bridge about one-half mile northwest of Guernsey. It was found that considerable inconvenience was caused by sand, which accumulated about the rod as the high water subsided and which settled to about the zero mark. With the opening of the season of 1902 a new rod was placed about 200 feet above the first location. It was fastened to one of the piers of the railroad bridge, and was placed 1 foot lower in the water.

Measurements are still made from the county bridge, which, while it does not furnish a perfect location for measurements, is the best yet found on the river in Wyoming.

The following discharge measurements were made by A. J. Parshall during 1901:

List of discharge measurements of North Platte River near Guernsey, Wyo.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
March 17	−0.30	736	May 1	2.50	6,384
April 3	− .35	702	May 15	2.80	7,204
April 25	.70	1,929	May 30	3.80	9,644
May 1	2.75	7,106	August 29	−.60	420

Daily gage height, in feet, of North Platte River near Guernsey, Wyo., for 1901

Day.	Apr.	May.	June.	July.	Aug.	Sept.
1	−0.30	2.75	4.30	2.25	0.00	−0.60
2	− .30	2.60	4.30	1.85	.00	− .60
3	− .35	2.70	4.80	1.55	.00	− .60
4	− .35	2.70	4.90	1.35	− .30	− .60
5	− .30	3.00	4.70	1.20	− .30	− .60
6	− .30	3.10	4.50	1.10	− .30	− .60
7	− .25	3.00	4.20	1.10	− .30	− .60
8	− .20	2.80	3.90	1.00	− .30	− .60
9	− .15	2.70	3.60	1.00	− .30	− .60
10	− .10	2.50	3.30	.80	− .30	− .60
11	.00	2.40	3.20	.80	− .30	− .60
12	.00	2.40	3.40	.60	− .30	− .60
13	.00	2.45	3.20	.50	− .30	− .60
14	.00	2.65	3.30	.45	− .30	− .60
15	.20	2.90	3.65	.40	− .30	− .70
16	.20	3.10	4.80	.30	− .30	− .70
17	.20	3.30	4.65	.30	− .30	− .70
18	.20	3.40	5.40	.20	− .30	− .70
19	.20	3.50	4.35	.10	− .30	− .80
20	.00	3.60	3.55	.00	− .30	− .80
21	.00	3.80	3.35	.00	− .30	− .80
22	.00	4.40	3.20	.00	− .30	− .70
23	.10	4.60	3.00	.00	− .30	− .70
24	.30	4.80	2.70	.00	− .30	− .80
25	.70	5.15	2.55	.00	− .40	− .80
26	1.85	4.80	2.45	.00	− .50	− .90
27	4.10	4.50	2.35	.00	− .60	− .90
28	2.90	4.10	2.25	.00	− .60	−1.00
29	2.70	3.90	2.20	.00	− .60	−1.00
30	2.70	3.80	2.45	.20	− .60	−1.00
31	.....	4.10	.....	.00	− .60	.....

NORTH PLATTE RIVER AT MITCHELL, NEBR.

This station was established by O. V. P. Stout on June 3, 1901. replaces the station at Gering, Nebr., which was discontinued, as th narrower channel at Mitchell seemed favorable to increased accurac of gagings, and, being nearer the Wyoming line, it serves better a State line gaging station.

The gage consists of a sash weight hung from a wire carrying an i dex reading on a horizontal rod nailed to the bridge rail. The ze of the gage is 8 feet below the bridge floor at the gage.

The observer is Earl Beers, clerk in a hardware store at Mitche about one-half mile from the bridge. The following discharge mea urements were made by R. H. Willis and others during 1901:

List of discharge measurements of North Platte River at Mitchell, Nebr.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharg
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-f*
June 21	2.32	8,478	August 24	—0.72	
June 3	2.67	10,521	September 3	— .77	
July 2	1.27	1,114	September 11	— .62	
July 11	.37	1,768	September 24	— .75	
July 19	— .24	1,048	October 11	— .71	
August 3	— .28	1,038	October 29	— .61	
August 12	— .55	566	November 26	— .55	

Daily gage height, in feet, of North Platte River at Mitchell, Nebr., for 1901.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Day.	June.	July.	Aug.	Sept.	Oct.	No
1	.....	1.40	.....	—0.82	—0.77	—0.60	17	2.40	0.06	—0.65	—0.73	—0.60	...
2	.....	1.27	.....	— .81	— .77	— .60	18	2.60	.05	— .66	— .75	— .60	...
3	.....	1.21	—0.28	— .77	— .77	.....	19	2.50	.03	— .65	— .75	— .60	...
4	.....	1.09	.....	— .80	— .76	.....	20	2.40	.01	— .66	— .72	— .57	...
5	.....	1.01	.....	— .60	— .76	.....	21	2.32	.....	.65	— .75	— .60	...
6	.....	1.00	.....	— .65	— .75	.....	22	2.22	.....	— .70	— .75	— .60	...
7	.....	.94	.....	— .63	— .75	.....	23	1.90	.....	— .70	— .76	— .60	...
8	.....	.82	.....	— .63	— .76	.....	24	1.75	.....	— .72	— .75	— .60	...
9	2.50	.65	.....	— .66	— .77	.....	25	1.60	.....	— .75	— .75	— .60	...
10	2.30	.57	.....	— .65	— .75	.....	26	1.55	.....	— .75	— .77	— .60	—0
11	2.15	.48	.....	— .62	— .71	.....	27	1.42	.....	— .77	— .75	— .60	...
12	2.15	.31	— .55	— .66	— .78	.....	28	1.41	.....	— .80	— .78	— .60	...
13	2.00	.22	— .60	— .70	— .67	.....	29	1.40	.....	— .80	— .78	— .60	...
14	2.00	.22	— .65	— .72	— .60	.....	30	1.40	.....	— .72	— .76	— .60	...
15	3.00	.11	— .65	— .72	— .55	.....	31	.....	.....	— .82	.....	— .62	...
16	2.30	.08	— .62	— .73	— .60	.....							

NORTH PLATTE RIVER AT NORTH PLATTE, NEBR.

This station, which was established in 1894, is on North Platte Rive 3.5 miles above its junction with South Platte River. It is describ in Water-Supply Paper No. 49, page 277. During 1901 the followi discharge measurements were made by O. V. P. Stout and Fra Dobson:

July 17: Gage height, 1.80 feet; discharge, 9 second-feet.
December 27: River frozen; discharge, 1,536 second-feet.

Daily gage height, in feet, of North Platte River at North Platte, Nebr., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	2.10	2.70	3.15	2.60	2.30	3.35	2.70	1.10	1.95	1.60	2.00
2	2.10	2.60	3.40	2.60	2.90	3.25	2.60	1.10	1.95	1.60	2.00
3	2.20	2.50	3.15	2.60	3.05	3.20	2.60	1.00	1.85	1.60	2.00
4	2.90	2.45	3.20	2.40	3.00	3.20	2.60	.90	1.95	1.65	2.00
5	2.50	2.40	3.20	2.25	3.10	3.40	2.50	.80	2.00	1.70	2.00
6	2.50	2.50	2.70	2.30	3.10	3.50	2.50	.80	2.00	1.75	2.00
7	2.50	2.55	2.30	2.25	3.05	3.50	2.45	.75	2.00	1.95	1.95
8	2.50	2.60	2.50	2.10	3.00	3.60	2.40	.80	2.05	1.85	2.00
9	2.50	2.60	2.50	2.10	3.00	3.60	2.35	.95	2.00	1.80	2.00
10	2.50	2.60	2.40	2.30	3.00	3.60	2.25	.85	1.95	2.00	2.00
11	2.50	2.60	2.50	2.65	3.10	3.60	2.20	1.10	2.10	2.05	2.00
12	2.50	2.50	2.30	2.80	3.00	3.90	2.20	1.40	2.15	2.00	2.10
13	2.50	2.50	2.20	2.65	3.00	3.40	2.15	1.40	2.15	1.85	2.10
14	2.50	2.45	2.15	2.50	3.00	3.45	2.00	1.25	2.00	1.90	2.10
15	2.55	2.55	2.30	2.50	3.00	3.50	1.95	1.20	1.85	1.85	2.15
16	2.60	2.80	2.20	2.40	3.00	3.50	1.80	1.30	1.75	1.90	2.20
17	2.60	2.90	2.20	2.40	2.90	3.45	1.80	1.30	1.70	1.90	2.20
18	2.60	2.90	2.20	2.35	2.90	3.35	1.80	1.30	1.75	1.90	2.20
19	2.70	2.90	2.50	2.30	2.90	3.30	1.80	1.25	1.90	1.90	2.20
20	2.70	2.85	2.15	2.30	2.95	3.60	1.80	1.20	1.90	1.90	2.20
21	2.70	2.80	2.20	2.30	3.00	3.35	1.60	1.65	1.85	2.00	2.20
22	2.85	2.90	2.20	2.20	3.05	3.20	1.35	1.70	1.70	2.00	2.20
23	2.90	3.00	2.20	2.20	3.40	3.45	1.20	1.45	1.60	2.00	2.20
24	3.00	3.00	2.20	2.15	3.45	3.25	1.10	1.40	1.60	2.00	2.20
25	3.00	3.00	2.10	2.10	3.50	3.20	1.00	1.30	1.60	2.00	2.20
26	3.00	2.90	2.10	2.10	3.60	3.05	1.50	1.25	1.60	2.00	2.20
27	3.00	2.95	2.20	2.10	3.60	3.00	1.40	1.30	1.50	2.00	2.20
28	2.95	3.00	2.00	2.15	3.70	2.90	1.25	1.35	1.50	2.00	2.20
29	2.90	.....	2.00	2.30	3.65	2.80	.90	1.40	1.50	2.00	2.10
30	2.80	.....	2.20	2.30	3.50	2.70	.80	1.40	1.35	2.00	2.10
31	2.75	.....	3.30	.....	3.40	.....	1.15	1.70	.....	2.00	.....

SOUTH FORK OF SOUTH PLATTE RIVER AT CHEESMAN, COLO.

The following statement of the flow of the South Fork of South Platte River at Lake Cheesman was furnished through the courtesy of C. L. Harrison, chief engineer of the Denver Union Water Company, who has daily measurements made at that point.

Observations were commenced on July 31, 1899, and the record for that year is published in Water-Supply Paper No. 37, page 223.

Discharge in second-feet of South Fork of South Platte River at Cheesman, Colo., for 1901.

Month.	Maximum.	Minimum.	Average.	Month.	Maximum.	Minimum.	Average.
January	16	13	14	July	195	30	92
February	19	12	15	August	753	172	342
March	95	17	67	September	295	120	166
April	346	67	198	October	134	65	99
May	557	105	341	November	134	85	104
June	600	70	260	December	325	35	88

SOUTH PLATTE RIVER AT DENVER, COLO.

This station is located at the Fifteenth street bridge in the city Denver, a short distance below the mouth of Cherry Creek, and described in Water-Supply Paper No. 49, page 281. It was established July 15, 1895, and has been maintained continuously. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 319. During 1901 the inclined gage on the right bank of the river, a short distance below the bridge, was used, observations having been made by S. M. Matlock and his successor, J. A. Banning, water commissioners of water district No. 2, in which Denver is located. During 1901 four gagings were made at this point as given below. The daily gage height, with corresponding discharge, was published in the Denver papers by the United States Weather Bureau.

April 30: Gage height, 6.70 feet; discharge, 830 second-feet.
May 11: Gage height, 5.67 feet; discharge, 270 second-feet.
June 28: Gage height, 5.50 feet; discharge, 192 second-feet.
August 7: Gage height, 6.30 feet; discharge, 676 second-feet.

Daily gage height, in feet, of South Platte River at Denver, Colo., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	5.50	5.30	5.40	5.50	6.60	6.85	5.70	5.60	5.85	5.25	4.20
2	5.50	5.30	5.40	5.50	6.50	6.80	5.70	5.60	6.00	5.40	4.80
3	5.50	5.30	5.40	5.50	6.55	7.00	5.95	5.60	5.80	5.20	4.80
4	5.50	5.40	5.40	5.50	6.50	6.90	6.25	5.65	6.00	5.20	4.80
5	5.40	5.40	5.40	5.50	6.40	6.80	6.20	5.60	5.65	5.00	4.50
6	5.40	5.40	5.50	5.50	6.40	6.60	6.10	5.60	5.60	4.80	4.50
7	5.50	5.40	5.50	5.50	6.40	6.00	5.90	6.32	5.75	4.60	4.70
8	5.40	5.40	5.50	5.50	6.10	5.50	5.75	6.20	5.70	4.50	4.70
9	5.40	5.40	5.50	5.80	5.50	5.80	5.70	6.20	5.60	4.90	4.80
10	5.40	5.40	5.50	5.80	5.60	6.20	5.65	6.20	5.60	4.85	4.85
11	5.40	5.40	5.50	5.90	5.60	6.10	5.65	6.15	5.60	5.00	5.00
12	5.40	5.50	5.50	5.90	5.60	6.00	5.55	5.85	5.60	5.00	5.00
13	5.40	5.50	5.50	5.60	5.00	6.20	5.50	5.90	5.50	4.80	5.00
14	5.40	5.50	5.50	5.90	5.00	6.30	5.60	5.85	5.30	4.70	4.80
15	5.40	5.50	5.50	5.90	5.20	7.15	5.60	5.75	5.30	5.00	4.50
16	5.40	5.50	5.50	5.90	5.55	7.00	5.60	5.70	5.20	5.00	4.60
17	5.40	5.50	5.40	5.80	5.60	7.10	5.55	5.60	5.20	5.00	4.80
18	5.40	5.50	5.40	5.70	5.85	6.80	5.45	5.80	5.00	5.00	4.80
19	5.40	5.40	5.40	5.70	5.80	6.55	5.35	5.90	5.10	5.00	5.00
20	5.40	5.40	5.40	5.70	6.00	6.70	5.25	5.90	5.80	5.00	5.00
21	5.40	5.40	5.40	6.40	6.00	6.60	5.30	5.85	5.15	5.00	5.00
22	5.40	5.40	5.40	6.70	6.50	6.65	4.80	5.90	5.00	5.00	4.50
23	5.40	5.40	5.40	6.80	6.50	6.40	4.50	6.00	5.00	5.00	4.75
24	5.40	5.40	5.70	6.80	6.80	6.50	4.50	5.95	4.70	4.90	4.80
25	5.30	5.40	5.70	6.80	6.60	6.20	4.60	5.85	4.70	4.90	4.90
26	5.30	5.40	5.70	6.90	6.40	5.55	4.70	5.75	4.80	4.80	5.00
27	5.30	5.40	5.70	6.80	6.40	5.00	4.90	5.50	5.00	4.50	4.70
28	5.30	5.40	5.60	6.75	6.30	5.30	5.30	5.50	5.20	4.00	4.80
29	5.30	.....	5.60	6.60	6.30	5.50	5.40	5.65	5.20	4.50	5.00
30	5.30	.....	5.50	6.50	6.80	5.70	5.50	5.95	5.20	4.80	5.10
31	5.30	.....	5.50	.....	6.65	.....	5.55	6.00	.....	4.50	.....

BEAR CREEK NEAR MORRISON, COLO.

The station was established April 16, 1899, and is located just above the little town of Morrison. It is described in Water-Supply Paper No. 49, page 284. As in previous years, the station is maintained through cooperation with the Denver Union Water Company, the observations being made by S. Hebrew, an employee of the company. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 321. A measurement was made by A. L. Fellows, on May 10, 1901, the discharge found being 88 second-feet for a gage height of 4.60 feet.

Daily gage height, in feet, of Bear Creek near Morrison, Colo., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.50	4.65	4.40	4.15	1.95	2.90	1.40	1.60	1.35
2	1.15	4.80	4.45	4.05	1.85	2.65	1.35	1.65	1.35
3	1.70	4.75	4.65	3.90	2.20	2.55	1.35	1.65	1.45
4	1.85	4.45	4.40	3.75	3.70	2.45	1.30	1.55	1.55
5	1.70	4.45	4.25	3.55	2.90	2.60	1.30	1.45	1.55
6	1.75	4.60	4.25	3.45	2.55	2.35	1.55	1.45	1.60
7	2.05	4.35	4.40	3.45	2.65	2.20	1.75	1.35	1.70
8	1.80	4.25	4.40	3.35	2.75	2.10	1.65	1.35	.....
9	1.90	4.15	4.35	3.25	2.55	2.00	1.55	1.55	.....
10	1.75	4.25	4.45	3.55	2.35	1.85	1.55	1.65	.....
11	1.50	4.35	4.35	3.45	2.15	1.75	1.65	1.55	.....
12	2.05	4.25	4.25	3.55	1.95	1.70	1.90	1.45	.....
13	1.95	4.15	4.20	3.35	1.80	1.60	2.05	1.45	.....
14	2.00	4.15	4.45	3.30	1.65	1.50	1.95	1.35	.....
15	2.65	4.25	4.95	3.25	1.55	1.45	1.85	1.25	.....
16	2.10	4.25	4.45	3.05	1.60	1.40	1.75	1.15	.....
17	1.80	4.50	4.45	2.95	1.70	1.35	1.65	1.15	.....
18	2.10	4.35	4.45	2.75	2.00	1.30	1.65	1.05	.....
19	2.30	4.55	4.45	2.55	3.25	1.60	1.60	1.15	.....
20	2.90	4.70	4.35	2.45	2.90	1.45	1.60	1.30	.....
21	4.10	4.85	4.35	2.35	2.80	1.40	1.70	1.35	.....
22	4.20	4.70	4.65	2.25	2.55	1.40	1.70	1.40	.....
23	4.40	4.30	4.65	2.05	2.40	1.30	1.60	1.40	.....
24	4.25	4.50	4.50	1.85	2.25	1.30	1.60	1.30	.....
25	4.20	4.50	4.45	2.30	2.15	1.30	1.50	1.15	.....
26	4.50	4.45	4.40	2.15	1.95	1.40	1.50	1.25	.....
27	4.40	4.45	4.35	2.90	1.80	1.45	1.60	1.15	.....
28	4.45	4.35	4.25	2.55	2.30	1.40	1.70	1.15	.....
29	4.60	4.35	4.25	2.35	3.65	1.35	1.70	1.25	.....
30	5.60	4.25	4.15	2.15	4.55	1.35	1.65	1.45	.....
31	.....	4.25	.....	2.05	3.75	.....	1.65	.....	.....

CLEAR CREEK AT FORKSCREEK, COLO.

The station was established May 29, 1899, and has been continued through the irrigation seasons of 1899, 1900, and 1901. It is described in Water-Supply Paper No. 49, page 285. During the last two years the observer has been E. A. Schrum, station agent at Forkscreek, who has voluntarily made the readings. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 322. During 1901 one measurement was made by A. L. Fellows on May 8, when the discharge was 231 second-feet and the gage height 2.25 feet.

Daily gage height, in feet, of Clear Creek at Forkscreek, Colo., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	.....	3.35	3.55	2.30	2.20	1.60	1.6
2	.....	3.45	3.50	2.25	2.20	1.60	1.6
3	.....	3.35	3.40	2.20	2.15	1.60	1.5
4	.....	3.30	3.40	2.70	2.10	1.60	1.5
5	.....	3.30	3.30	2.55	2.10	1.70	1.6
6	.....	3.25	3.30	2.60	2.00	1.70	1.6
7	.....	3.35	3.20	2.80	2.00	1.70	1.6
8	2.30	3.45	3.20	2.75	2.00	1.70	1.5
9	2.30	3.60	3.10	2.65	1.90	1.70	1.5
10	2.55	3.65	3.15	2.55	1.90	1.70	1.5
11	2.60	3.65	3.10	2.50	1.90	1.75	1.3
12	2.75	3.50	3.15	2.50	1.90	1.75	1.3
13	2.80	3.50	3.10	2.40	1.90	1.65	1.3
14	2.80	3.55	3.00	2.40	1.90	1.60	1.3
15	2.95	3.50	2.90	2.40	1.90	1.75	1.4
16	3.00	3.25	2.80	2.30	1.90	1.80	1.4
17	3.10	3.30	2.90	2.35	1.90	1.70	1.4
18	3.25	3.30	2.85	2.30	1.90	1.70	1.3
19	3.45	3.30	2.80	2.20	1.90	1.70	1.3
20	3.80	3.35	2.80	2.35	1.90	1.70	1.3
21	3.85	3.45	2.70	2.20	1.90	1.70	1.3
22	3.75	3.55	2.70	2.20	1.80	1.70	1.4
23	3.65	3.70	2.70	2.20	1.80	1.70	1.4
24	3.60	3.70	2.75	2.20	1.80	1.70	1.4
25	3.50	3.65	2.80	2.15	1.70	1.70	1.4
26	3.45	3.60	2.70	2.10	1.70	1.70	1.4
27	3.55	3.60	2.70	2.10	1.70	1.70	1.4
28	3.67	3.50	2.60	2.10	1.70	1.70	1.4
29	3.60	3.50	2.60	2.30	1.70	1.70	1.4
30	3.55	3.60	2.50	2.30	1.65	1.70	1.4
31	3.50	.....	2.40	2.25	.....	1.60	.....

SOUTH BOULDER CREEK NEAR MARSHALL, COLO.

This station, which was established in April, 1888, and which ha been maintained during a portion of each year since, except durin 1893 and 1894, is located at the mouth of the canyon from which th stream issues about 3 miles west of the Colorado and Southern Rail way station at Marshall. It is described in Water-Supply Paper No 49, page 286. The observer during 1901 was Miss Blanche Barber who lives near by. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 323. During 190 one measurement was made by John E. Field on May 3, when th discharge was 128 second-feet for a gage height of 2 feet.

Daily gage height, in feet, of South Boulder Creek near Marshall, Colo., for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.
1	.....	1.05	2.00	2.50	2.35	1.60	1.40
2	.....	1.15	2.10	2.45	2.35	1.55	1.40
3	.....	1.15	2.05	2.50	2.45	1.60	1.35
4	.....	1.05	1.85	2.35	2.35	1.75	1.30
5	.....	1.15	1.80	2.35	2.30	1.65	1.30
6	.....	1.10	1.80	2.35	2.25	1.60	1.30
7	.....	1.25	1.75	2.35	2.15	1.65	1.30
8	.....	1.20	1.65	2.45	2.15	1.75	1.30
9	.....	1.20	1.70	2.55	2.10	1.65	1.30
10	.....	1.10	1.75	2.55	2.10	1.60	1.30
11	.....	1.15	1.90	2.55	2.15	1.60	1.25
12	.....	1.20	1.85	2.45	2.15	1.55	1.25
13	.....	1.20	1.95	2.45	2.05	1.50	1.20
14	.....	1.35	1.85	2.60	1.95	1.50	1.20
15	.....	1.25	1.85	2.65	1.95	1.50	1.20
16	.....	1.30	1.95	2.45	1.90	1.50	1.20
17	.....	1.10	2.20	2.35	1.90	1.50	1.20
18	.....	1.35	1.70	2.35	1.80	1.50	1.20
19	.....	1.45	.....	2.35	1.80	1.50	1.20
20	.....	1.55	.....	2.45	1.80	1.50	1.20
21	.....	1.85	.....	2.50	1.80	1.50	1.20
22	.....	1.90	.....	2.60	1.80	1.45	1.20
23	.....	2.00	.....	2.60	1.80	1.45	1.20
24	.....	2.00	.....	2.65	1.80	1.45	1.15
25	.....	2.00	.....	2.60	1.75	1.40	1.15
26	.....	1.80	2.35	2.60	1.75	1.40	1.15
27	.....	1.75	2.30	2.55	1.75	1.40	1.15
28	.....	1.80	2.50	2.45	1.70	1.40	1.15
29	.....	1.95	2.45	2.40	1.65	1.45	.....
30	.....	2.00	2.50	2.40	1.65	1.45	.....
31	1.05	.....	2.60	.....	1.60	1.45	.....

BOULDER CREEK NEAR BOULDER, COLO

The gaging station is located 1½ miles above the town of Boulder, where the stream issues from the mountains, and is described in Water-Supply Paper No. 49, page 287. The observer for 1901 was Mrs. Carrie Osgood, who lives near by. The results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 324. During 1901 one measurement was made by John E. Field on May 2, when the discharge was 244 second-feet for a gage height of 1.65 feet.

Daily gage height, in feet, of Boulder Creek near Boulder, Colo., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
1	0.20	1.70	2.05	2.15	1.48	0.80	0.32	0.22	(
2	.20	1.72	2.00	2.18	1.42	.68	.35	.25	
3	.22	1.78	2.05	2.18	1.40	.68	.32	.25	
4	.30	1.67	2.05	2.05	1.70	.60	.30	.25	
5	.30	1.60	1.95	1.90	1.42	.65	.32	.25	
6	.20	1.65	1.90	1.85	1.35	.62	.35	.25	
7	.25	1.65	2.00	1.85	1.30	.60	.38	.28	
8	.38	1.40	2.05	1.75	1.32	.60	.45	.28	
9	.38	1.35	2.20	1.75	1.25	.60	.42	.28	
10	.35	1.30	2.20	1.78	1.18	.62	.32	.25	
11	.40	1.35	2.15	1.75	1.15	.60	.32	.28	
12	.45	1.50	2.20	1.72	1.12	.55	.48	.28	
13	.50	1.55	2.20	1.68	.98	.52	.48	.32	
14	.50	1.65	2.30	1.68	.90	.50	.45	.32	
15	.45	1.70	2.20	1.78	.90	.48	.40	.32	
16	.40	1.90	2.15	1.70	1.00	.48	.35	.30	
17	.42	1.90	1.95	1.68	1.08	.48	.30	.28	
18	.42	2.00	1.90	1.65	.98	.45	.32	.25	
19	.58	2.05	2.00	1.55	.90	.52	.35	.25	
20	.75	2.30	2.15	1.55	.75	.45	.32	.22	
21	1.10	2.45	2.40	1.58	.75	.45	.30	.22	
22	1.25	2.60	2.60	1.50	.70	.45	.32	.20	
23	1.25	2.65	2.85	1.52	.72	.45	.32	.22	
24	1.30	2.38	2.60	1.50	.68	.42	.32	.18	
25	1.38	2.20	2.45	1.80	.62	.40	.32	.18	
26	1.38	2.10	2.52	1.60	.62	.40	.30	.22	
27	1.38	2.10	2.28	1.75	.62	.42	.30	.20	
28	1.42	2.12	2.15	1.70	.62	.42	.32	.18	
29	1.48	2.10	2.12	1.48	.62	.35	.32	.18	
30	1.60	2.10	2.15	1.45	.95	.35	.30	.20	
31	-------	2.12	-------	1.42	1.00	-------	.40	-------	

ST. VRAIN CREEK NEAR LYONS, COLO.

The station at Lyons is about a half mile southeast of the town, a is below the junction of the north and south forks. It is described Water-Supply Paper No. 49, page 288. Records of the flow of the cre at or near Lyons have been kept since April, 1888, except during t years 1893 and 1894, but the station was not put in its present cor tion until May 5, 1899, since which date records have been ke throughout each irrigation season. Results of measurements for 19 are published in the Twenty-second Annual Report, Part IV, pa 325. Supply ditch diverts water above the station, and its dischar should be added to that of the creek in order to obtain the total ru off of the basin. The observer during the year 1901 was L. H. Dic son, commissioner of the St. Vrain water district, who kept up t readings during the irrigation season. Weekly records of the d charge at this point have been furnished to the Longmont pape One measurement was made during 1901 by J. E. Field, May 2, wh the discharge was 278 second-feet for a gage height of 3.20 feet.

Daily gage height, in feet, of St. Vrain Creek near Lyons, Colo., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	1.80	3.20	3.45	3.60	2.85	2.42	2.02	2.00
2	1.90	3.20	3.45	3.55	2.80	2.40	2.02	2.00
3	2.00	3.10	3.60	3.55	2.95	2.40	2.02	2.00
4	2.00	3.05	3.30	3.55	3.00	2.60	2.00	2.00
5	1.90	2.70	3.35	3.45	3.10	2.45	2.00	1.90
6	1.93	2.80	3.25	3.32	3.00	2.45	2.12	1.90
7	1.95	2.75	3.35	3.30	3.05	2.45	2.12	1.90
8	1.98	2.75	3.55	3.30	2.95	2.45	2.12	1.90
9	1.95	2.75	3.90	3.30	3.15	2.40	2.10	1.90
10	1.90	2.80	3.80	3.38	3.00	2.30	2.10	1.95
11	1.90	3.04	3.85	3.42	2.92	2.30	2.10	1.95
12	1.95	3.05	3.60	3.42	2.82	2.25	2.10	1.95
13	2.15	3.08	3.55	3.25	2.72	2.20	2.12	1.90
14	2.25	3.04	3.58	3.15	2.70	2.18	2.12	1.85
15	2.45	3.04	3.65	3.20	2.68	2.18	2.10	1.80
16	2.35	3.05	3.45	3.22	2.65	2.18	2.10	1.90
17	2.25	3.30	3.30	3.15	2.65	2.15	2.05	1.90
18	2.40	3.30	3.38	2.95	2.65	2.15	2.05	1.90
19	2.50	3.35	3.55	2.92	2.65	2.15	2.00	1.90
20	2.68	3.60	3.60	2.95	2.60	2.10	2.00	1.85
21	2.85	3.90	3.60	3.20	2.60	2.10	2.00	1.85
22	3.00	3.90	3.80	3.10	2.60	2.10	2.05	1.90
23	3.00	3.50	4.00	3.05	2.60	2.10	2.05	1.95
24	3.05	3.45	3.95	2.92	2.50	2.80	2.05	1.90
25	3.05	3.55	3.85	3.10	2.50	2.05	2.00	1.85
26	2.95	3.45	3.80	3.10	2.50	2.02	2.00	1.80
27	2.95	3.68	3.75	3.30	2.47	2.00	1.95	1.85
28	2.90	3.75	3.65	3.10	2.45	2.00	1.95	1.85
29	2.90	3.80	3.65	3.05	2.45	2.05	1.95	1.85
30	3.10	3.55	3.70	3.00	2.45	2.03	2.00	1.95
31	.....	3.60	.....	2.90	2.42	.....	2.00	.....

Daily gage height, in feet, of supply ditch near Lyons, Colo., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	0.10	0.80	1.20	1.22	0.40	0.40	0.30	0.30
2	.10	.80	.90	1.00	.40	.40	.30	.30
3	.10	.80	1.00	.75	.45	.40	.30	.30
4	.10	.80	.80	.70	.60	.40	.30	.30
5	.10	.80	.90	.50	.72	.40	.30	.30
6	.10	1.25	.90	.58	.55	.40	.30	.30
7	.10	1.25	.67	.52	.55	.40	.30	.30
8	.10	1.25	.75	.50	.62	.40	.30	.30
9	.10	1.25	1.30	.40	.70	.40	.30	.30
10	.10	1.25	1.35	.70	.55	.40	.30	.30
11	.10	.85	1.45	.65	.55	.40	.30	.30
12	.10	.85	1.15	.60	.40	.40	.30	.30
13	.10	.85	1.00	.45	.40	.40	.30	.30
14	.10	.60	1.00	.35	.35	.40	.30	.30
15	.10	.60	1.00	.40	.35	.40	.30	.30
16	.30	.60	.70	.60	.35	.40	.30	.30
17	.30	1.20	1.15	.65	.40	.35	.30	.30
18	.30	1.00	1.10	.88	.40	.30	.30	.30
19	.30	1.00	1.10	.80	.40	.30	.30	.30
20	.30	1.45	1.25	.85	.40	.30	.30	.30
21	.30	1.50	1.30	.85	.50	.30	.30	.30
22	.30	1.50	1.15	.40	.50	.30	.30	.30
23	.30	1.20	1.00	.20	.50	.30	.30	.30
24	.30	1.20	1.15	.30	.50	.30	.30	.30
25	.60	1.20	1.30	.40	.40	.30	.40	.45
26	.80	1.20	1.40	.40	.40	.30	.40	.45
27	.80	1.20	1.50	.80	.40	.30	.40	.45
28	.80	1.35	1.45	.75	.40	.30	.40	.45
29	.80	1.52	1.42	.43	.40	.30	.40	.55
30	.80	1.25	1.20	.43	.40	.30	.30	.30
31	.....	1.25	.....	.40	.40	.....	.30	.....

BIG THOMPSON CREEK NEAR ARKINS, COLO.

Records of the flow of this stream were begun in April, 1888, have been maintained for a portion of each year since, with the exc tion of the years 1893 and 1894. The station was established at present location on April 1, 1899. The only diversion above the g ing station is Handy ditch, a record of the gage heights of whic kept by the water commissioner of the district, J. M. Wolaver, has also kept the records of Big Thompson Creek at this point dur the first part of 1901. An estimate of the discharge for the en season was made by E. G. McKinney, who succeeded Mr. Wola The appended table of daily discharge includes the flow of Buckh Creek and of the Big Thompson and Handy ditches. A descrip of the station was published in Water-Supply Paper No. 49, page Results of measurements for 1900 will be found in the Twenty-sec Annual Report, Part IV, page 326. A measurement was made Ma by J. E. Field, when the discharge was found to be 226 second- for a gage height of 1.30 feet.

Daily discharge, in second-feet, of Big Thompson Creek near Arkins, Col for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Day.	Apr.	May.	June.	July.	Aug.
1	.....	283	898	975	255	110	17	.....	764	740	425	255
2	.....	283	876	975	255	110	18	.....	793	740	425	220
3	.....	283	919	851	255	95	19	.....	855	616	225	220
4	.....	305	919	811	355	110	20	.....	918	810	355	255
5	.....	310	643	741	355	95	21	.....	862	864	355	255
6	.....	252	620	625	355	95	22	40	866	990	355	220
7	.....	243	620	583	355	110	23	43	977	1,092	308	180
8	.....	208	626	557	506	110	24	55	972	1,143	308	180
9	.....	255	865	557	506	110	25	80	922	1,127	308	150
10	.....	255	944	761	404	80	26	105	899	882	355	180
11	.....	304	1,115	864	370	80	27	132	896	864	355	140
12	.....	312	980	761	355	80	28	160	884	810	308	140
13	.....	406	895	710	255	80	29	189	891	810	308	140
14	.....	355	870	608	255	70	30	283	925	790	308	140
15	.....	519	800	557	220	70	31	.....	925	.....	255	140
16	.....	671	910	557	220	60						

CACHE LA POUDRE RIVER NEAR FORT COLLINS, COLO.

This station, which was established in 1884, is about 15 miles ab Fort Collins. Since its establishment it has been maintained ur the direction of Prof. L. G. Carpenter, of the Colorado State Agri tural College. The records are from the figures published by Pro sor Carpenter in the daily papers. A description of the station figures of daily discharge for the year 1900 will be found in Wa Supply Paper No. 49, page 291. Results of measurements for 1 are published in the Twenty-second Annual Report, Part IV, page

Daily discharge, in second-feet, of Cache la Poudre River near Fort Collins, Colo., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1		619	2,449	[a]1,455	382	294	109
2		667	2,263	[a]1,362	369	273	103
3		765	2,199	1,289	371	[a]264	100
4		685	2,010	1,164	377	265	93
5		737	1,870	1,062	380	[a]242	110
6		737	1,695	1,028	[a]374	[a]219	116
7		744	1,738	997	368	[a]196	122
8		768	1,951	914	483	[a]173	126
9		825	2,240	800	510	[a]150	136
10		999	2,182	1,150	443	128	135
11		1,091	2,135	1,083	366	153	133
12		1,205	1,854	1,077	393	138	129
13		1,338	1,753	948	346	134	126
14		1,448	1,823	854	333	134	122
15		1,517	2,127	792	306	134	120
16		1,650	2,123	747	304	134	
17		1,813	2,049	621	304	131	
18		1,959	1,940	600	309	113	
19		2,185	1,970	595	373	111	
20		2,462	1,913	601	314	111	
21		3,850	1,997	578	353	111	
22		5,100	2,087	568	303	110	
23		2,462	2,144	558	274	106	
24	365	2,008	2,136		235	104	
25	434	2,236	2,065		259	102	
26	402	2,321	1,811		290	101	
27	425	2,422	1,675		234	98	
28	399	[a]2,496	1,575		272	100	
29	399	2,570	[a]1,497		269	110	
30	487	2,216	[a]1,425		236	113	
31		2,574		406	311		

[a] Approximated.

SOUTH PLATTE RIVER AT KERSEY, COLO.

This station was established April 27, 1901, at Kersey, a station on the Union Pacific Railroad, about 6 miles east of Greeley, at a bridge 1½ miles north of the railroad station itself. This station was intended to take the place of the one previously maintained at Orchard, Colo. This point was selected on account of the regularity of the channel and the fact that there was a wagon bridge crossing the river from which gagings could be made in high water. It is of particular value owing to the fact that the point is just below all the important tributaries of the South Platte, which derive their supply from the mountain region. It is also at about the point where water could be used to the best advantage for storage in reservoirs along South Platte River in northeastern Colorado. The observer is Edward K. Plumb, who lives near the bridge and visits the rod once each day. The gage rod consists of a vertical 2 by 6 inch timber, 8 feet long, marked in feet and tenths and spiked to the downstream side of the third pile of the bridge from its south end. The initial point for soundings is the right bank, downstream side, the bridge being marked every 10 feet. The right bank is high and not liable to overflow, but the left is low and water spreads over a considerable distance at high stages.

The following discharge measurements were made by John E. F and A. L. Fellows during 1901:

April 27: Gage height, 3.70 feet; discharge, 1,813 second-feet.
May 14: Gage height, 1.23 feet; discharge, 74 second-feet.
June 21: Gage height, 4.20 feet; discharge, 2,530 second-feet.

Daily gage height, in feet, of South Platte River at Kersey, Colo., for 190

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	3.50	3.70	2.20	1.80	1.80	2.00	2.20	
2	3.30	3.65	2.10	1.80	1.80	2.00	2.20	
3	3.30	3.50	2.10	1.80	1.80	2.00	2.20	
4	3.30	3.50	2.00	1.80	1.80	2.00	2.25	
5	3.20	3.35	1.95	1.80	1.80	2.00	2.30	
6	3.10	3.20	1.90	1.80	1.80	2.00	2.30	
7	2.80	2.50	1.90	1.80	2.50	2.00	2.30	
8	2.50	2.20	1.90	1.80	2.40	2.00	2.30	
9	2.10	2.80	1.90	1.80	2.55	2.10	2.30	
10	1.80	3.00	1.85	1.80	2.70	2.10	2.30	
11	1.60	3.80	1.85	1.80	2.30	2.20	2.30	
12	1.50	4.25	1.80	1.80	2.20	2.35	2.30	
13	1.40	4.00	1.80	1.80	2.15	2.35	2.40	
14	1.25	3.35	1.80	1.80	2.10	2.35	2.45	
15	1.20	3.50	1.80	1.80	2.00	2.35	2.50	
16	1.25	5.95	1.80	1.80	2.00	2.30	2.50	
17	1.25	5.80	1.80	1.80	2.00	2.30	2.50	
18	1.25	5.00	1.80	1.85	2.00	2.30	2.50	
19	2.25	4.50	1.80	1.85	2.00	2.30	2.50	
20	4.50	4.00	1.80	1.85	2.00	2.30	2.45	
21	5.25	4.00	1.80	1.85	2.00	2.30	2.40	
22	6.55	3.95	1.80	1.85	2.00	2.30	2.40	
23	5.20	3.90	1.80	1.90	2.00	2.30	2.40	
24	4.20	3.90	1.80	1.90	2.00	2.30	2.40	
25	4.20	3.90	1.80	1.80	2.00	2.30	2.40	
26	4.00	3.50	1.80	1.80	2.00	2.30	2.40	
27	3.80	2.70	1.80	1.80	1.95	2.30	2.40	
28	3.50	2.50	1.80	1.80	1.95	2.30	2.40	
29	3.50	2.30	1.80	1.80	1.95	2.30	2.40	
30	3.50	2.25	1.80	1.80	2.00	2.30	2.40	
31	3.60	.....	1.80	1.80	.....	2.30	.....	

LOUP RIVER NEAR COLUMBUS, NEBR.

This station is located near the steel bridge of the Union Pac Railroad just west of Columbus, Nebr., and only a few miles ab the mouth of the river. It is described in Water-Supply Paper 50, page 306. Results of measurements for 1900 will be found in Twenty-second Annual Report, Part IV, page 328. During 1901 following discharge measurements were made by O. V. P. Stout his assistants:

List of discharge measurements of Loup River near Columbus, Nebr.

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
March 31	4.65	3,134	July 14	3.97	
April 21	4.84	3,242	August 11	4.52	a
May 10	4.85	2,615	October 6	4.68	
June 1	4.70	2,023	November 2	5.30	
June 18	5.80	4,861	December 1	4.55	

a Approximate.

Daily gage height, in feet, of Loup River near Columbus, Nebr., for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1		4.50	4.70	4.60	5.05	4.15	4.50	4.60	4.90
2		4.48	4.70	4.60	5.00	4.10	4.50	4.65	5.10
3		4.50	4.70	4.60	4.90	4.10	4.50	4.65	5.30
4		4.60	4.70	4.70	4.90	4.10	4.57	4.65	5.20
5		4.70	4.70	4.80	4.90	4.10	4.70	4.65	5.10
6		4.80	4.80	4.70	4.70	4.13	4.80	4.65	5.00
7		4.55	4.80	4.70	4.45	4.12	4.90	4.65	4.90
8		4.50	4.85	4.70	4.38	4.12	4.95	4.65	4.80
9		4.50	4.90	4.70	4.30	4.10	4.95	4.70	4.60
10		4.60	4.90	4.70	4.20	4.10	5.10	4.80	4.55
11		4.70	4.80	4.60	4.10	4.52	5.10	4.80	4.55
12		4.80	4.80	4.60	4.10	4.40	5.45	4.80	4.55
13		5.00	4.80	4.60	4.10	4.30	5.55	4.80	4.55
14		5.10	4.70	4.60	3.97	4.45	5.60	4.80	4.60
15		5.20	4.70	4.60	3.95	4.40	5.60	4.80	4.60
16		5.30	4.70	6.45	4.00	4.40	5.60	4.75	4.55
17		5.20	4.60	6.45	4.00	4.40	5.40	4.70	4.55
18		5.00	4.60	5.80	4.00	4.35	5.30	4.70	4.55
19		5.00	4.60	5.90	4.00	4.30	5.10	4.65	4.55
20		5.00	4.65	6.00	4.05	4.27	4.70	4.65	4.55
21		4.85	4.70	6.10	4.40	4.27	4.70	4.65	4.55
22		4.85	4.80	6.05	4.30	4.27	4.70	4.65	4.55
23		4.80	4.75	6.00	4.20	4.30	4.70	4.65	4.55
24	4.60	4.80	4.80	5.90	4.10	4.40	4.70	4.65	4.55
25	4.60	4.70	4.85	5.70	4.00	4.70	4.60	4.70	4.55
26	4.60	4.90	4.90	5.60	3.90	4.55	4.50	4.70	4.55
27	4.50	4.70	4.90	5.45	3.85	4.50	4.50	4.70	4.55
28	4.50	4.90	4.80	5.34	4.00	4.45	4.50	4.70	4.60
29	4.50	4.90	4.80	5.15	3.95	4.45	4.50	4.70	4.60
30	4.45	4.80	4.70	5.10	4.10	4.45	4.55	4.75	4.65
31	4.50		4.60		4.20	4.45		4.90	

PLATTE RIVER NEAR COLUMBUS, NEBR.

This station, which was established in 1895, is located above Meridian bridge, south of Columbus. It is described in Water-Supply Paper No. 50, page 307. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 329. During 1901 the following discharge measurements were made by O. V. P. Stout and his assistants:

List of discharge measurements of Platte River near Columbus, Nebr.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft*	1901.	*Feet.*	*Sec.-ft.*
March 31	2.50	1,816	July 14		379
April 21	3.25	4,824	October 6		20
May 10	3.45	6,799	November 2	1.90	978
June 7	3.90	8,241	December 1	1.85	922
June 18	4.35	11,949			

Daily gage height, in feet, of Platte River near Columbus, Nebr., for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Nov.	Day.	Mar.	Apr.	May.	June.	July.	Nov.
1		2.40	2.60	3.90	3.40	1.20	17		5.00	3.30	4.30		1.40
2		2.35	2.60	3.90	3.22	1.90	18		4.90	3.40	4.31		1.40
3		2.35	2.55	3.90	3.06	1.90	19		4.70	3.45	4.35		1.40
4		2.40	2.50	3.85	2.90	1.90	20		4.40	3.45	4.40		1.40
5		3.50	2.50	3.80	2.85	1.80	21		3.25	3.50	4.45		1.40
6		3.40	2.60	3.80	2.80	1.75	22		3.25	3.50	4.45		1.40
7		3.40	2.70	3.85	2.79	1.70	23		3.20	3.60	4.45		1.40
8		3.40	2.80	3.85	2.50	1.60	24	2.60	3.20	3.50	4.30		1.50
9		3.45	2.90	3.85	2.40	1.60	25	2.60	3.10	3.50	4.10		1.60
10		3.50	3.10	3.85	2.22	1.60	26	2.70	3.00	3.50	4.00		1.65
11		3.60	3.20	3.90	2.00	1.60	27	2.70	2.80	3.50	3.95		1.70
12		3.80	3.20	3.95	(a)	1.55	28	2.60	2.75	3.60	3.90		1.75
13		4.60	3.20	4.00		1.50	29	2.50	2.75	3.70	3.80		1.80
14		4.80	3.25	4.10		1.50	30	2.50	2.60	3.80	3.60		1.85
15		4.80	3.30	4.20		1.45	31	2.50		3.90			
16		5.10	3.30	4.30		1.40							

[a] Sand around gage, water standing in pools, July 12–November 1.

ELKHORN RIVER NEAR NORFOLK, NEBR.

Two gaging stations are maintained on this river, one at Nor and the other at Arlington, Nebr. The station at the former pla near the Thirteenth street bridge, 2 miles south of the town and al the mouth of the North Fork of Elkhorn River. It is describe Water-Supply Paper No. 50, page 308. Results of measurements 1900 will be found in the Twenty-second Annual Report, Part page 329. During 1901 the following discharge measurements made by O. V. P. Stout and his assistants:

March 21: Gage height, 2.30 feet; discharge, 466 second-feet.
May 13: Gage height, 2.55 feet; discharge, 550 second-feet.
June 27: Gage height, 6.69 feet; discharge, 3,445 second-feet.
July 31: Gage height, 1.36 feet; discharge, 215 second-feet.
December 30: Gage height, — feet; discharge, 252 second-feet.

Daily gage height, in feet, of Elkhorn River near Norfolk, Nebr., for 190

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1	2.22	2.74	1.65	5.03	1.42	.90	1.81
2	2.25	2.72	1.60	4.82	1.31	.89	1.80
3	2.28	2.69	1.60	4.45	1.29	.89	1.77
4	2.34	2.46	1.75	4.00	1.24	.87	1.76
5	2.36	2.30	1.71	4.42	1.23	.87	1.75
6	2.34	2.44	1.60	4.32	1.20	.85	1.75
7	2.34	3.24	1.63	4.11	1.17	.85	1.75
8	2.34	3.03	1.67	3.95	1.15	.92	1.76
9	2.35	3.04	1.65	3.85	1.14	1.05	1.76
10	2.36	2.84	1.85	3.65	1.12	1.03	1.76
11	2.37	2.73	1.76	3.42	1.10	1.25	1.75
12	2.42	2.64	1.80	3.05	1.03	1.53	1.76
13	2.46	2.55	1.85	2.79	1.00	1.83	1.78
14	2.64	2.63	2.05	2.65	.99	1.92	1.81
15	2.62	2.29	2.18	2.53	.95	1.97	1.83
16	2.74	2.29	3.06	2.40	.94	1.96	1.85
17	2.94	2.25	3.24	2.33	.89	1.85	1.85
18	3.04	2.20	3.42	2.14	1.14	1.81	1.85
19	3.04	2.20	4.05	1.95	1.12	1.80	1.86
20	3.06	2.11	4.80	1.90	1.10	1.88	1.87
21	3.06	2.02	5.18	1.90	1.00	1.87	1.87
22	3.27	2.00	5.02	1.85	.96	1.86	1.87
23	3.33	1.95	5.40	1.83	.95	1.85	1.87
24	3.23	1.85	5.62	1.80	.93	1.83	1.89
25	2.22	1.90	6.17	1.73	.92	1.82	1.87
26	3.22	1.85	6.53	1.70	.95	1.81	1.8
27	3.16	1.85	6.67	1.65	.97	1.83	1.8
28	3.16	1.85	6.67	1.62	.99	1.84	1.8
29	2.99	1.85	6.00	1.60	.95	.....	1.8
30	2.84	1.80	5.70	1.54	.92	.....	1.81
31	.....	1.75	.....	1.52	.91	.....	.....

ELKHORN RIVER NEAR ARLINGTON, NEBR.

This station, which was established by Glenn E. Smith on Apri 1899, is located at the wagon bridge 1 mile west of the town of Arl ton. It is described in Water-Supply Paper No. 50, page 309. sults of measurements for 1900 will be found in the Twenty-se Annual Report, Part IV, page 330. During 1901 the following charge measurements were made by O. V. P. Stout:

June 17: Gage height, 2.37 feet; discharge, 905 second-feet.
June 24: Gage height, 6.76 feet; discharge, 3,989 second-feet.
July 12: Gage height, 2.99 feet; discharge, 1,320 second-feet.
July 30: Gage height, 1.15 feet; discharge, 564 second-feet.
November 9: Gage height, 1.90 feet; discharge, 706 second-feet.

Daily gage height, in feet, of Elkhorn River near Arlington, Nebr., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	2.20	2.66	1.66	6.01	1.07	0.39	1.50	1.51
2	2.22	2.63	1.64	5.74	1.03	.41	1.54	1.44
3	2.25	2.50	1.60	5.23	1.00	.44	1.53	1.58
4	2.30	2.46	1.62	4.98	.99	.45	1.62	1.68
5	2.40	2.57	1.88	4.76	.96	.38	1.63	1.72
6	2.45	2.82	1.60	4.23	.94	.48	1.53	1.78
7	2.46	3.85	1.51	4.03	.90	.40	1.41	1.86
8	2.49	3.95	1.60	3.78	.91	.65	1.39	1.82
9	2.45	4.07	1.66	3.57	.92	.76	1.37	1.90
10	2.44	3.81	2.10	3.37	.87	.91	1.39	1.92
11	2.42	3.88	2.28	3.16	.87	.92	1.48	1.94
12	2.38	4.00	2.22	3.02	.81	1.10	1.55	1.88
13	2.45	3.66	2.23	2.83	.74	1.36	1.58	1.87
14	2.45	3.22	2.15	2.67	.77	1.42	1.60	1.86
15	2.54	2.92	2.24	2.50	.74	1.49	1.61	1.79
16	2.68	2.75	2.37	2.35	.71	1.56	1.69	1.78
17	2.76	2.55	2.34	2.22	.68	1.64	1.74	1.74
18	2.78	2.45	3.26	2.10	.70	1.63	1.70	1.66
19	2.92	2.34	3.80	1.99	.68	1.75	1.63	1.64
20	3.01	2.25	5.28	1.78	.62	1.60	1.59	1.66
21	3.08	2.15	6.06	1.75	.64	1.50	1.56	1.65
22	3.07	2.08	6.67	1.70	.62	1.37	1.52	1.61
23	3.11	2.05	7.17	1.61	.78	1.31	1.53	1.64
24	3.06	1.98	6.74	1.55	.61	1.39	1.51	1.65
25	2.95	1.96	6.38	1.45	.58	1.40	1.45	1.62
26	2.87	1.92	6.05	1.40	.60	1.35	1.49	1.64
27	2.88	1.89	5.93	1.35	.54	1.34	1.51	1.60
28	2.77	1.85	5.98	1.38	.55	1.35	1.52	1.61
29	2.72	1.84	6.10	1.28	.51	1.40	1.45	1.58
30	2.68	1.75	6.09	1.15	.46	1.42	1.48	1.54
31	.....	1.70	.....	1.12	.42	.....	1.50	.....

KANSAS RIVER DRAINAGE.

REPUBLICAN RIVER NEAR SUPERIOR, NEBR.

This station, which was established June 20, 1896, is located about 1 mile west of Superior. Discharge measurements are made from the highway bridge, thus determining the total amount of water passing over the dam and through the mill race. The discharge of the mill race is measured also, and is deducted from the total discharge, in order to determine the amount passing over the dam. The station is described in Water-Supply Paper No. 50, page 312. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 332. During 1901 the following measurements were made by O. V. P. Stout and others:

List of discharge measurements of Republican River near Superior, Nebr.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 14	1.57	1,189	September 10	2.28	2,237
May 29	.41	250	November 15	.90	370
July 27	.....	4.5			

List of discharge measurements of mill race near Superior, Nebr.

Date.	Center depth.	Discharge.	Date.	Center depth.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 14	3.70	20.9	September 10	5.00	16.8
May 29	2.40	139	November 15	2.90	72

Daily gage height, in feet, of Republican River near Superior, Nebr., for 19

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	No
1	1.21	1.21	0.47	0.38	1.00	(a)	1.15	1
2	1.21	1.12	.53	.51	(a)	(a)	1.83	1
3	1.24	1.11	.52	.43	(a)	(a)	1.50	
4	1.32	1.12	.42	.45	(a)	(a)	1.00	
5	1.30	.98	.40	.32	(a)	(a)	1.13	1
6	1.47	1.12	.40	.32	(a)	2.12	1.00	
7	1.46	1.09	.42	.35	(a)	1.91	1.00	
8	1.43	1.05	.47	.31	(a)	2.02	1.08	1
9	1.47	.85	.50	— .17	(a)	2.41	1.10	
10	1.48	.81	.45	— .33	(a)	2.25	.93	
11	1.50	.91	.40	−1.00	1.42	3.10	.93	
12	1.52	.99	.39	−1.00	1.38	3.45	.93	
13	1.52	.85	.39	−1.50	.30	2.75	.95	
14	1.57	.90	.49	−1.50	1.30	2.10	.90	
15	1.73	.88	.82	−2.00	— .17	2.58	.92	
16	1.79	.90	.25	(a)	(a)	2.19	.90	
17	1.71	.72	.36	(a)	(a)	2.01	.93	
18	1.65	.75	.50	(a)	(a)	1.08	.90	
19	1.68	1.01	.69	(a)	(a)	1.07	.92	
20	1.69	.70	.75	(a)	(a)	1.07	.80	
21	1.61	.82	1.09	(a)	(a)	1.05	.88	1
22	1.51	.61	1.00	(a)	(a)	1.05	.90	
23	1.42	.80	1.05	(a)	(a)	1.04	.78	1
24	1.35	.65	1.12	(a)	(a)	1.03	.88	
25	1.31	.65	.97	(a)	(a)	1.02	.90	1
26	1.28	.69	.88	(a)	(a)	1.02	.78	1
27	1.31	.62	.78	(a)	(a)	1.02	.76	
28	1.30	.45	.73	(a)	(a)	1.01	.80	1
29	1.27	.41	.69	(a)	(a)	1.40	.90	
30	1.25	.59	.65	(a)	(a)	1.20	1.10	
31	.....	.59	.....	.37	(a)	.....	.98	.....

[a] River too low to read gage.

Daily center depth, in feet, of mill race near Superior, Nebr., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	No
1	3.42	.....	2.82	1.82	1.40	.95	1.10	1
2	3.57	.....	2.90	2.22	.61	.90	1.04	1
3	3.52	.....	2.92	2.32	.60	1.30	1.02	
4	3.57	.....	2.73	2.22	.60	.90	1.00	
5	3.58	2.52	2.70	2.12	.61	.90	1.10	
6	3.75	3.12	2.82	2.13	.52	4.82	1.00	
7	3.75	3.09	2.73	2.20	.50	4.19	1.10	
8	3.62	3.11	2.80	2.12	.68	4.40	1.08	
9	3.73	2.58	2.72	1.65	.60	4.95	.95	
10	3.74	2.42	2.69	1.50	.69	5.00	.95	
11	3.80	3.17	2.62	1.18	3.82	6.00	.90	
12	3.82	3.29	2.60	.93	3.78	5.65	.96	
13	3.67	3.29	2.62	.86	3.70	5.12	.93	
14	3.80	3.30	2.71	1.20	3.71	4.80	.90	
15	3.99	3.45	3.11	.92	2.13	5.00	.80	
16	3.98	2.82	2.40	.58	1.30	4.50	.86	
17	3.98	2.90	2.70	.50	1.40	2.19	.88	
18	4.02	2.82	3.01	.45	.75	1.90	.86	
19	3.76	3.51	2.98	.57	.68	1.85	.82	
20	3.91	2.50	3.01	.55	.72	1.80	.60	
21	3.78	3.20	3.56	.40	1.11	1.60	.86	
22	3.71	2.72	1.00	.33	1.21	1.55	.98	
23	3.51	2.50	3.25	.30	1.00	1.45	.75	
24	3.40	3.00	3.35	.40	1.72	1.40	.83	
25	3.40	2.98	3.17	.30	.80	1.25	.90	1
26	3.32	3.02	3.01	.45	.60	1.28	.76	
27	3.40	3.00	2.80	.50	.59	1.23	.48	
28	.....	2.58	2.63	.55	.55	1.12	.73	1
29	.....	2.47	2.35	.40	.48	1.40	.84	
30	.....	3.10	2.41	.52	.61	1.25	1.10	
31	.....	2.32	.....	2.45	1.11	.....	.92	.....

MISCELLANEOUS DISCHARGE MEASUREMENTS IN NEBRASKA.

Date.	Stream.	Locality.	Hydrographer.	Discharge.
1901.				*Sec. feet.*
Apr. 6	Niobrara	Niobrara City	O. V. P. Stout	1,591
Apr. 7	Verdigris Creek	Above Niobrara City	do	105
Do	Niobrara	Niobrara City	do	2,115
May 13	North Fork Elkhorn	Norfolk	C. B. Channel	550
May 20	Salt Creek	Lincoln	O. V. P. Stout	44
July 12	Big Blue	Wymore	do	235
July 17	South Platte	North Platte	do	Dry.
July 20	Republican	McCook	do	Dry.
Do	do	Culbertson	do	Dry.
July 23	Beaver	Geneva	do	75
July 31	North Fork Elkhorn	Norfolk	C. B. Channel	149
Aug. 1	Minichaduza	Valentine	O. V. P. Stout	27
Aug. 11	Platte	Fremont	do	1,152
Aug. 27	Niobrara	Niobrara City	do	990
Aug. 30	Beaver	Geneva	do	86
Oct. 3	Birdwood Creek	Sec. 15, T. 15, R. 33	B. E. Forbes	170
Nov. 14	Minichaduza	Valentine	do	25
Nov. 21	Cedar	Fullerton	do	309
Do	Prairie Creek	Sec. 20, T. 16, R. 5	do	7
Dec. 3	Beaver	Albion	do	91

REPUBLICAN RIVER AT JUNCTION, KANS.

This station is described in Water-Supply Paper No. 50, page 313. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 333. During 1901 the following measurements were made by W. G. Russell:

May 17: Gage height, 3.80 feet; discharge, 761 second-feet.
September 19: Gage height, 5.40 feet; discharge, 2,082 second-feet.
October 15: Gage height, 3.75 feet; discharge, 544 second-feet.
December 3: Gage height, 3.60 feet; discharge, 491 second-feet.

Daily gage height, in feet, of Republican River at Junction, Kans., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.70	3.50	4.30	4.20	4.30	3.40	3.50	2.60	2.40	4.00	3.50	3.60
2	3.70	3.60	4.40	4.30	4.30	3.40	3.40	2.60	2.40	4.00	3.50	3.60
3	3.70	3.80	4.60	4.30	4.20	3.30	3.40	2.60	2.40	3.90	3.55	3.60
4	3.70	3.80	4.60	4.30	4.20	3.30	3.30	2.70	2.40	3.90	3.50	3.60
5	3.70	3.80	4.50	4.30	4.20	3.30	3.30	2.70	2.40	4.00	3.40	3.60
6	3.70	3.80	4.50	4.40	4.10	3.20	3.30	2.60	2.40	4.00	3.40	3.60
7	3.70	3.80	4.20	4.30	4.10	3.40	3.20	2.60	2.40	4.00	3.50	3.60
8	3.70	3.80	5.00	4.30	4.10	3.40	3.20	2.60	2.50	3.90	3.55	3.60
9	3.70	3.80	4.60	4.30	4.10	3.50	3.10	2.60	2.70	3.80	3.60	3.60
10	3.70	3.80	4.50	4.40	4.10	3.50	3.00	2.60	2.80	3.70	3.50	3.50
11	3.70	3.80	4.40	4.60	4.10	3.50	3.00	2.60	2.80	3.80	3.50	3.60
12	3.70	3.80	4.30	5.70	4.10	3.40	2.80	2.60	2.60	3.70	3.60	3.70
13	3.70	3.80	4.20	6.80	4.10	3.40	2.80	2.60	4.60	3.70	3.60	3.70
14	3.70	3.80	4.10	5.80	3.80	3.30	2.70	2.60	5.00	3.75	3.60	3.70
15	3.70	3.80	4.10	5.10	3.80	3.30	2.70	2.60	6.00	3.70	3.50	3.80
16	3.70	3.80	4.10	5.00	3.80	3.30	2.70	2.50	5.70	3.65	3.60	3.80
17	3.60	3.80	4.10	5.00	3.80	3.30	2.70	2.50	5.60	3.60	3.60	3.85
18	3.60	3.80	4.20	5.00	3.80	3.20	2.60	2.50	5.40	3.60	3.55	3.85
19	3.60	3.80	4.20	4.90	3.80	3.20	2.60	2.50	5.20	3.60	3.60	3.85
20	3.50	3.80	4.10	4.90	3.80	3.30	2.60	2.50	5.00	3.60	3.60	3.85
21	3.50	3.80	4.10	4.90	3.70	3.30	2.60	2.50	4.80	3.50	3.50	3.85
22	3.50	3.80	4.10	4.90	3.80	3.40	2.60	2.50	4.40	3.50	3.50	3.85
23	3.40	3.90	4.10	4.80	4.00	3.40	2.60	2.40	4.30	3.45	3.60	3.85
24	3.50	4.00	4.20	4.70	4.20	3.50	2.60	2.40	4.20	3.40	3.60	3.85
25	3.40	4.30	4.40	4.70	4.20	3.60	2.60	2.40	4.00	3.40	3.60	3.85
26	3.40	4.30	4.30	4.60	4.00	3.60	2.60	2.40	4.00	3.50	3.55	3.85
27	3.40	4.20	4.20	4.50	3.80	3.60	2.60	2.40	4.00	3.50	3.50	3.85
28	3.50	4.10	4.20	4.50	3.70	3.60	2.60	2.40	4.00	3.55	3.55	3.80
29	3.50	.....	4.20	4.40	3.60	3.50	2.60	2.40	3.90	3.50	3.60	3.80
30	3.50	.....	4.30	4.30	3.50	3.50	2.60	2.40	3.90	3.50	3.60	3.80
31	3.40	.....	4.20	.....	3.40	.....	2.60	2.40	.....	3.45	.....	3.80

SOLOMON RIVER NEAR NILES, KANS.

This station is described in Water-Supply Paper No. 50, page 3 Records of discharge measurements for 1900 will be found in t Twenty-second Annual Report, Part IV, page 334. During 1901 t following discharge measurements were made by W. G. Russell:

May 17: Gage height, 5.40 feet; discharge, 165 second-feet.
September 20: Gage height, 5.70 feet; discharge, 194 second-feet.
October 17: Gage height, 4.70 feet; discharge, 59 second-feet.

Daily gage height, in feet, of Solomon River near Niles, Kans., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	I
1	4.90	4.50	5.20	5.10	5.60	5.00	4.40	3.80	4.90	4.70	4.80	
2	4.80	4.60	5.10	5.30	5.40	4.90	4.30	3.80	5.50	4.60	4.80	
3	4.90	4.50	5.40	5.40	5.30	4.90	4.30	3.80	5.30	4.90	4.60	
4	4.90	4.90	5.30	5.40	5.30	5.00	4.30	3.80	5.00	4.90	4.60	
5	4.90	4.40	5.70	5.70	5.20	4.70	4.30	3.80	5.00	4.70	4.20	
6	4.90	4.50	6.00	6.00	5.50	4.80	4.30	3.80	4.70	4.60	5.50	
7	5.00	4.60	5.90	5.70	5.50	4.80	4.30	3.70	4.60	4.70	5.50	
8	5.00	4.70	5.60	5.70	5.30	5.20	4.20	3.90	4.70	4.60	5.50	
9	5.00	4.50	5.20	5.50	5.30	7.60	4.30	3.80	4.70	4.60	5.40	
10	5.00	4.40	5.30	5.40	5.10	9.60	4.20	3.80	4.60	4.90	5.10	
11	5.00	4.60	5.30	8.00	5.00	6.60	4.20	4.10	4.80	4.80	5.10	
12	5.10	4.90	5.10	11.60	5.00	5.40	4.00	4.00	4.70	4.80	5.00	
13	5.10	4.80	5.20	13.40	5.00	5.50	4.00	4.40	7.50	4.60	5.00	
14	5.10	5.00	5.30	11.40	4.90	5.40	4.00	4.40	12.00	4.20	5.20	
15	5.00	5.00	5.20	9.90	5.00	5.20	3.90	3.90	8.50	4.70	5.00	
16	5.00	4.90	5.20	9.50	5.10	5.10	3.90	3.90	8.60	4.50	5.00	
17	5.00	5.00	5.10	7.90	5.50	4.90	4.00	3.80	6.60	4.70	5.10	
18	5.00	4.90	5.20	7.00	5.40	4.70	4.20	3.90	6.20	4.50	5.00	
19	5.00	5.10	5.00	6.70	5.50	5.40	3.80	3.80	6.00	4.40	4.80	
20	5.00	5.00	5.00	6.60	5.80	5.40	3.80	3.90	5.70	4.30	4.90	
21	4.90	4.90	5.00	6.40	5.20	5.20	3.80	3.80	5.70	4.30	4.90	
22	4.80	5.10	5.10	6.00	5.00	5.00	3.80	3.90	5.60	4.40	4.90	
23	4.70	4.90	6.10	5.90	5.30	4.90	3.80	3.80	5.50	4.70	4.70	
24	4.90	4.90	6.40	6.00	5.50	4.80	3.80	3.70	5.30	4.30	4.80	
25	4.80	5.10	5.50	5.90	6.20	4.60	3.80	3.80	5.20	4.60	4.90	
26	4.90	5.30	5.30	5.70	5.40	4.70	3.70	3.80	5.00	4.70	4.70	
27	4.80	5.60	5.20	5.70	5.20	4.30	4.30	3.90	4.90	4.60	4.90	
28	4.60	5.00	5.10	5.50	5.10	4.30	3.90	3.80	4.80	4.20	4.80	
29	4.30	------	5.00	5.40	5.00	4.60	3.80	4.50	5.00	4.20	4.70	
30	4.70	------	5.20	5.40	5.00	4.50	3.80	3.80	4.90	4.80	4.60	
31	4.70	------	5.10	------	4.90	------	3.80	3.70	------	4.80	------	

SALINE RIVER NEAR SALINA, KANS.

This station is described in Water-Supply Paper No. 50, page 3 Results of measurements for 1900 will be found in the Twenty-secc Annual Report, Part IV, page 335. During 1901 the following d charge measurements were made by W. G. Russell:

March 31: Gage height, 4.10 feet; discharge, 55 second-feet.
August 30: Gage height, 4.90 feet; discharge, 110 second-feet.
October 17: Gage height, 3.70 feet; discharge, 23 second-feet.

Daily gage height, in feet, of Saline River near Salina, Kans., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.00	4.30	4.60	4.40	4.40	4.10	3.70	3.00	4.40	3.60	3.50	3.90
2	3.90	4.20	4.90	4.50	4.40	4.00	3.80	3.00	3.90	3.60	3.90	3.80
3	(a)	4.10	4.80	4.70	4.00	4.00	3.60	3.00	3.70	3.80	3.80	3.90
4	3.90	4.20	4.60	5.00	4.40	16.80	3.50	3.20	3.90	3.80	3.90	3.90
5	(a)	(a)	4.30	5.20	4.50	10.40	3.20	3.30	3.70	3.90	3.70	3.80
6	(a)	4.00	4.50	7.20	4.30	7.80	3.30	3.30	3.70	3.90	3.70	3.90
7	3.70	(a)	4.10	6.10	4.20	6.10	3.30	3.00	3.50	3.80	4.10	4.00
8	3.80	4.00	4.30	5.00	4.30	18.50	3.20	3.30	4.00	3.70	4.00	4.10
9	(a)	(a)	4.30	4.80	4.30	15.90	3.10	3.30	3.80	3.60	3.90	4.00
10	(a)	4.10	4.20	4.70	4.20	8.90	3.30	3.20	3.70	3.70	3.70	3.90
11	3.90	(a)	4.20	8.70	4.20	6.50	3.00	3.50	3.50	3.50	3.80	3.80
12	3.90	4.00	4.00	21.50	4.10	5.50	3.20	3.50	3.70	3.70	4.00	4.10
13	3.90	(a)	3.80	19.80	4.10	5.80	3.20	3.50	4.00	3.80	3.80	4.00
14	3.90	4.20	4.00	13.60	4.00	5.40	3.20	3.30	4.00	3.70	3.50	a 4.10
15	3.90	4.10	4.30	11.00	4.10	4.90	3.30	3.40	3.90	3.70	3.80	a 4.00
16	3.70	4.10	4.20	9.80	5.80	4.60	3.00	3.30	3.70	3.40	3.80	(a)
17	3.90	4.20	4.20	8.40	6.60	4.30	3.20	3.40	3.50	3.70	4.00	a 4.10
18	3.70	4.20	4.10	7.00	4.70	4.40	3.30	3.30	3.50	3.70	3.90	(a)
19	3.80	4.50	4.10	6.40	5.30	7.20	3.20	3.10	4.10	3.70	3.90	a 4.00
20	4.00	4.50	4.10	6.00	5.50	6.00	3.10	3.30	4.40	3.70	3.90	(a)
21	4.00	3.90	4.10	5.60	5.00	4.70	3.00	3.30	4.00	3.70	3.60	a 4.00
22	4.00	4.10	4.20	5.40	4.70	4.50	3.00	3.70	4.00	3.70	3.80	a 4.00
23	3.80	4.20	4.60	5.20	7.00	4.10	3.00	3.60	4.00	3.60	3.80	a 3.90
24	3.70	4.50	4.50	5.00	5.60	4.00	3.20	3.40	3.90	3.60	4.00	a 4.00
25	3.80	4.60	4.20	4.80	4.90	3 90	3.00	3.50	3.70	3.80	3.90	3.80
26	4.10	4.70	4.10	4.90	5.40	3.90	3.10	3.60	3.70	3.70	4.10	3.80
27	4.10	4.80	4.20	4.80	4.70	3.90	3.10	3.50	3.80	3.80	3.90	3.80
28	4.20	4.70	4.20	4.70	4.80	3.90	3.10	5.30	3.90	3.80	4.00	3.80
29	4.20	.....	4.00	4.60	4.50	3.80	3.10	5.30	3.80	4.00	3.80	3.70
30	4.10	.....	4.10	4.50	4.10	3.40	2.90	4.70	3.60	3.60	3.80	3.80
31	4.20	.....	4.20	.....	4.20	.....	3.10	4.50	.....	3.60	.....	3.80

[a] Frozen.

SMOKY HILL RIVER AT ELLSWORTH, KANS.

This station is described in Water-Supply Paper No. 50, page 316. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 336. During 1901 the following measurements were made by W. G. Russell:

March 29: Gage height, 1.00 foot; discharge, 25 second-feet.

August 23: Gage height, 1.00 foot; discharge, 19 second-feet.

Daily gage height, in feet, of Smoky Hill River at Ellsworth, Kans., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	0.90	(a)	1.20	1.00	1.40	1.05	0.90	0.60	0.90	1.00	0.80	0.75
2	.90	0.95	1.20	1.05	1.35	1.00	.90	.55	.85	1.00	.80	.75
3	.90	(a)	1.10	1.05	1.35	1.00	.80	.55	.80	1.00	.80	.75
4	.90	(a)	1.10	1.15	1.30	1.70	.80	.50	.80	1.00	.80	.75
5	.90	(a)	1.10	1.10	1.25	1.20	.80	.50	.80	1.20	.75	.80
6	(a)	(a)	1.20	1.10	1.20	1.15	.80	.50	.80	1.20	.75	.80
7	1.00	(a)	1.20	1.10	1.20	1.10	.75	.50	.75	1.30	.75	.80
8	(a)	(a)	1.15	1.15	1.20	1.25	.75	.60	1.00	1.20	.70	.80
9	(a)	(a)	1.10	1.10	1.15	1.20	.70	.60	1.00	1.30	.70	.80
10	(a)	1.00	1.10	1.20	1.15	1.15	.70	.60	1.00	1.30	.70	.80
11	(a)	(a)	1.10	1.90	1.15	1.10	.65	1.60	1.20	1.35	.70	.80
12	1.60	(a)	1.15	3.00	1.10	1.15	.65	1.60	1.60	1.30	.70	.80
13	1.50	1.30	1.20	2.25	1.10	1.15	.60	1.55	1.60	1.25	.70	.75
14	(a)	(a)	1.20	2.05	1.05	1.10	.60	1.60	1.70	1.20	.65	(a)
15	(a)	(a)	1.10	2.05	1.00	1.10	.60	1.70	1.60	1.20	.65	(a)
16	1.60	1.60	1.05	2.00	1.05	1.10	.60	1.60	1.60	1.20	.65	(a)
17	(a)	1.50	1.05	1.95	1.10	1.05	.60	1.40	1.55	1.15	.65	(a)
18	1.60	1.40	1.05	1.90	1.20	1.40	.60	1.30	1.55	1.15	.65	(a)
19	(a)	1.50	1.00	1.75	1.10	1.30	.65	1.20	1.55	1.10	.65	(a)
20	(a)	1.70	1.00	1.70	1.10	1.30	.65	1.15	1.50	1.05	.70	(a)
21	1.20	1.70	.95	1.70	1.10	1.25	.60	1.30	1.50	1.00	.70	(a)
22	1.15	1.70	.95	1.60	1.25	1.25	.60	1.20	1.40	.95	.70	(a)
23	1.10	1.70	.95	1.50	1.25	1.25	.60	1.20	1.35	.95	.70	a 1.00
24	1.10	1.80	.95	1.40	1.20	1.20	.55	1.15	1.30	.90	.75	a 1.00
25	1.10	1.80	1.00	1.30	1.20	1.20	.55	1.15	1.25	.90	.75	b 1.20
26	1.05	1.60	1.00	1.25	1.20	1.20	.55	1.10	1.20	.85	.75	(a)
27	1.05	1.40	1.00	1.25	1.20	1.15	.55	1.10	1.20	.85	.75	(a)
28	1.00	1.30	.95	1.20	1.15	1.15	.50	1.00	1.20	.80	.70	(a)
29	1.00	.....	1.00	1.50	1.15	1.10	.50	1.00	1.10	.80	.70	1.20
30	1.00	.....	1.00	1.45	1.10	1.00	.65	.95	1.10	.80	.70	1.20
31	1.00	.....	1.00	.....	1.10	.....	.60	.95	.....	.85	.....	1.20

[a] Frozen. [b] Running on top of ice.

BLUE RIVER NEAR MANHATTAN, KANS.

This station is described in Water-Supply Paper No. 50, page 3 The results of measurements for 1900 will be found in the Twe second Annual Report, Part IV, page 337. During 1901 the foll ing discharge measurements were made by W. G. Russell:

April 1: Gage height, 5.00 feet; discharge, 917 second-feet.
May 20: Gage height, 5.20 feet; discharge, 1,072 second-feet.
September 20: Gage height, 4.90 feet; discharge, 804 second-feet.
October 14: Gage height, 4.20 feet; discharge, 56? second-feet.
December 2: Gage height, 3.70 feet; discharge, 312 second-feet.

Daily gage height, in feet, of Blue River near Manhattan, Kans., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	4.05	4.30	5.35	5.10	5.00	4.50	3.90	4.60	3.70	3.80	4.10
2	4.25	4.40	5.35	5.20	5.00	4.40	4.00	4.30	3.70	3.80	4.20
3	4.30	4.50	5.30	5.30	4.90	4.30	4.00	4.00	3.60	3.80	4.50
4	4.40	4.70	5.10	5.80	4.90	4.40	4.10	4.30	3.60	3.80	5.10
5	4.40	4.40	5.00	6.10	5.20	5.70	4.10	4.20	3.60	3.70	5.70
6	4.55	4.60	4.90	6.60	5.40	5.40	3.90	4.00	3.50	3.70	5.10
7	4.55	4.55	4.90	8.50	7.20	5.60	3.90	3.90	3.50	3.80	4.50
8	4.50	4.50	4.70	6.40	6.70	5.40	4.30	3.80	3.60	3.80	4.50
9	4.30	4.60	4.90	5.70	5.90	4.90	4.60	3.70	3.70	3.80	4.40
10	4.35	4.60	4.90	5.40	5.60	4.60	4.50	3.70	3.90	3.80	4.20
11	4.50	4.65	4.80	5.30	5.30	4.50	4.30	3.90	3.70	3.90	4.20
12	4.50	4.60	4.80	7.40	5.20	4.50	4.20	4.10	3.50	3.90	4.10
13	4.50	4.60	4.80	15.50	5.10	6.00	4.10	6.50	3.60	4.00	4.00
14	4.55	4.65	4.85	12.50	5.00	5.50	4.10	6.60	4.20	4.00	4.00
15	4.55	4.60	5.15	8.20	5.00	4.80	3.90	7.80	4.30	4.00	4.00
16	4.60	4.65	5.00	7.30	5.00	4.50	3.90	6.30	4.50	4.10	3.90
17	4.50	4.75	4.75	6.80	4.90	4.40	4.00	5.40	4.30	4.20	3.90
18	4.65	5.45	4.60	6.40	6.80	4.50	3.80	5.40	4.60	4.00	4.00
19	4.70	7.10	4.80	6.20	5.80	4.40	3.70	5.00	5.10	4.00	4.00
20	4.70	9.05	4.70	6.00	5.70	4.30	3.70	4.50	4.90	3.90	4.00
21	4.55	7.75	4.70	5.80	5.60	4.30	3.70	4.30	4.40	3.90	4.00
22	4.55	7.90	4.75	5.70	5.10	4.20	3.60	4.20	4.30	3.80	4.00
23	4.40	7.85	5.00	5.60	4.90	4.30	3.60	4.20	4.20	3.80	3.90
24	4.15	8.85	7.50	5.60	6.00	4.90	3.60	4.20	4.20	3.70	4.00
25	4.10	9.25	8.05	5.50	5.50	4.60	3.60	4.10	4.10	3.70	3.90
26	4.10	7.20	7.15	5.40	5.30	4.80	3.50	4.00	4.10	3.80	3.90
27	4.20	5.30	6.15	5.30	4.90	4.90	3.60	3.90	4.00	4.20	3.90
28	4.20	5.60	5.60	5.30	4.70	4.60	3.70	3.90	3.90	4.20	3.90
29	4.30	.....	5.20	5.20	4.70	4.00	3.70	3.80	3.90	4.20	3.90
30	4.30	.....	5.20	5.10	4.60	3.90	3.80	3.70	3.90	4.20	3.90
31	4.30	.....	5.10	.....	4.50	.....	4.20	3.70	.....	4.10	.....

KANSAS RIVER AT LECOMPTON, KANS.

This station is described in Water-Supply Paper No. 50, page 3 Records of discharge during 1900 will be found in the Twenty-sec Annual Report, Part IV, page 338. During 1901 the following charge measurements were made by W. G. Russell:

May 24: Gage height, 3.20 feet; discharge, 3,234 second-feet.
August 15: Gage height, 2.30 feet; discharge, 749 second-feet.
October 13: Gage height, 2.70 feet; discharge 1,43? second-feet.

Daily gage height, in feet, of Kansas River at Lecompton, Kans., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.60	2.60	4.90	3.75	4.65	3.10	3.10	2.20	3.40	4.00	2.10	2.40
2	2.50	2.60	4.75	3.75	4.45	3.10	3.00	2.20	3.40	3.90	2.15	2.40
3	2.50	2.60	4.70	4.05	4.30	3.10	3.00	2.20	3.30	3.90	2.00	2.40
4	2.50	2.60	4.65	4.40	4.20	3.10	3.00	2.20	3.30	3.80	2.00	2.40
5	2.50	2.60	4.60	6.30	4.05	3.05	2.90	2.20	3.20	3.80	2.20	2.40
6	2.50	2.60	4.50	9.70	4.00	3.00	2.90	2.20	3.20	3.70	2.35	2.30
7	2.60	2.60	4.45	8.50	4.00	3.05	2.75	2.20	3.20	3.60	2.55	2.30
8	2.65	2.60	4.40	7.25	4.15	3.20	2.65	2.10	3.20	3.60	2.65	2.30
9	2.80	2.60	4.30	6.75	4.40	3.20	2.60	2.10	3.10	3.50	2.80	2.30
10	2.80	2.60	4.25	5.75	4.35	3.25	2.50	2.10	3.05	3.50	2.80	2.30
11	2.90	2.60	4.20	5.30	4.25	3.30	2.45	2.10	3.00	3.40	2.80	2.30
12	3.00	2.50	4.15	5.90	4.30	3.45	2.30	2.10	3.00	3.40	2.75	2.30
13	3.00	2.50	4.10	9.00	4.30	3.60	2.20	2.00	3.45	2.70	2.70	2.30
14	3.00	2.50	4.00	10.00	4.20	3.75	2.20	2.00	3.70	2.70	2.70	2.30
15	2.95	2.50	3.95	10.00	4.20	3.80	2.20	2.00	3.80	2.70	2.60	5.20
16	2.90	2.50	3.90	8.85	4.15	3.80	2.10	2.70	4.00	2.65	2.60	5.30
17	2.90	2.50	3.90	7.80	4.10	3.70	2.10	3.25	4.40	2.60	2.60	4.50
18	2.90	2.50	3.80	7.40	4.00	3.65	2.05	3.70	4.60	2.65	2.60	4.20
19	2.90	2.50	3.80	7.30	4.00	3.60	2.00	3.80	4.60	2.50	2.60	3.00
20	2.80	2.70	4.00	6.80	4.00	3.50	2.00	3.80	4.40	2.50	2.60	2.80
21	2.80	3.20	4.15	6.20	3.80	3.45	2.40	3.70	4.30	2.50	2.50	2.40
22	2.80	4.60	4.25	6.15	3.65	3.40	2.40	3.70	4.30	2.45	2.50	2.30
23	2.80	5.30	4.50	6.00	3.50	3.40	2.30	3.70	4.20	2.40	2.50	2.30
24	2.70	5.30	4.55	5.90	3.40	3.35	2.30	3.60	4.20	2.40	2.50	2.30
25	2.70	5.30	4.65	5.60	3.30	3.25	2.30	3.60	4.20	2.30	2.50	2.30
26	2.70	5.30	4.85	5.30	3.30	3.25	2.30	3.60	4.10	2.30	2.50	2.20
27	2.70	5.10	5.30	5.10	3.30	3.20	2.30	3.50	4.00	2.30	2.50	2.20
28	2.70	5.00	5.80	5.10	3.25	3.10	2.30	3.50	4.00	2.20	2.40	2.20
29	2.70	.....	5.90	5.00	3.20	3.10	2.30	3.45	4.00	2.20	2.40	2.20
30	2.70	.....	5.25	4.85	3.20	3.10	2.30	3.40	4.00	2.20	2.40	2.20
31	2.70	.....	3.90	.....	3.15	.....	2.30	3.40	.....	2.10	.....	2.20

ARKANSAS RIVER DRAINAGE.

ARKANSAS RIVER AT GRANITE, COLO.

This station is located at the wagon bridge 250 feet from the railroad station at Granite, Colo., and is described in Water-Supply Paper No. 37, page 257. Previous records of gage height were kept at this station during 1897, 1898, and 1899. A measurement was made April 18, 1901, by A. L. Fellows, when the discharge was 124 second-feet for a gage height of 2.60 feet.

Daily gage height, in feet, of Arkansas River at Granite, Colo., for 1901.

Day.	April.	May.	Day.	April.	May.	Day.	April.	May.
1	[a]	3.20	11	3.40	1.40	21	3.15	.....
2	[a]	2.90	12	3.45	1.90	22	3.35	.....
3	5.10	2.70	13	3.60	2.00	23	3.10	.....
4	4.60	2.70	14	3.45	1.90	24	3.60	.....
5	4.30	2.10	15	3.35	2.80	25	3.40	.....
6	4.45	1.00	16	4.10	.....	26	2.95	.....
7	4.50	1.00	17	4.60	.....	27	3.20	.....
8	4.15	1.00	18	2.60	.....	28	3.10	.....
9	3.80	1.00	19	2.75	.....	29	3.30	.....
10	3.10	1.25	20	3.05	.....	30	3.20	.....

[a] Frozen.

ARKANSAS RIVER AT SALIDA, COLO.

This station is located at the footbridge near the railroad shops at Salida, Colo., and is described in Water Supply-Paper No. 50, page 322. It was established April 15, 1895, and has been maintained

during a portion of each year since. A new inclined gage rod w put in place during the spring of 1901 by J. E. Field, consisting o 6 by 6 inch oak timber fastened to the north trestle of the bridge, t graduations being extended by marks on the trestle above the timb On July 31 the gage was lowered and set farther out into the strea The gage heights are published by the Weather Bureau official in t Denver morning papers. Results of measurements for 1900 we published in the Twenty-Second Annual Report, Part IV, page 3 During 1901 the following measurements were made by J. E. Fie and A. L. Fellows:

April 17: Gage height, 0.40 feet; discharge, 221 second-feet.
May 7: Gage height, 1.20 feet; discharge, 566 second-feet.
May 10: Gage height, 1.23 feet; discharge, 134 second-feet.
September 11: Gage height, 0.55 feet; discharge, 422 second-feet.

Daily gage height, in feet, of Arkansas River at Salida, Colo., for 1901.

Day.	April.	May.	June.	July.	Aug.	Sept.	Oct.	No
1	0.40	1.75	2.20	2.10	1.45	0.80	0.25	
2	.45	1.90	1.75	2.00	1.50	.90	.20	
3	.60	1.70	1.70	1.90	1.15	.90	.30	
4	.70	1.55	1.70	1.75	1.10	.95	.30	
5	.60	1.50	1.80	1.55	1.10	.90	.30	
6	.70	1.45	1.65	1.45	1.10	.85	.40	
7	.75	1.25	1.60	1.40	1.20	.70	.40	
8	.80	1.20	1.85	1.25	1.25	.60	.40	
9	.70	1.20	2.55	1.20	1.30	.60	.50	
10	.45	1.20	2.30	1.20	1.30	.60	.40	
11	.40	1.20	2.30	1.20	1.20	.60	.50	
12	.40	1.35	2.05	1.10	1.15	.50	.50	
13	.40	1.60	2.10	1.05	1.05	.50	.50	
14	.45	1.75	2.15	.85	.90	.50	.40	
15	.50	1.95	2.20	.80	.85	.50	.30	
16	.50	2.00	2.05	.70	.80	.40	.30	
17	.50	2.05	1.75	.65	.80	.40	.30	
18	.40	2.40	1.80	.55	.80	.40	.30	
19	.40	2.80	1.75	.50	.80	.40	.30	
20	.55	3.65	1.90	.50	.70	.40	.30	
21	.75	3.75	2.00	.45	.75	.30	.30	
22	.65	3.55	2.00	.40	.70	.30	.30	
23	.85	2.60	2.35	.30	.70	.30	.40	
24	.95	2.20	2.45	.30	.80	.30	.40	
25	1.30	2.20	2.60	.40	.80	.30	.45	
26	1.50	2.25	2.60	.50	.80	.30	.50	
27	1.55	2.55	2.50	.65	.80	.30	.50	
28	1.60	2.60	2.30	.75	.70	.30	.50	
29	1.60	2.65	2.20	.70	.80	.30	.40	
30	1.70	2.50	2.20	.65	.90	.30	.40	
31	.....	2.50	.....	1.40	.80	.....	.40	

ARKANSAS RIVER NEAR CANYON, COLO.

This station is located at the Hot Springs Hotel, 1½ miles west Canyon and a short distance below the mouth of Grape Creek. It described in Water-Supply Paper No. 50, page 323. It was esta lished in 1889, and records have been kept since that time, thus fu nishing most valuable data of the discharge of the river. The stati is of special importance, being located at the mouth of the cany and at a point practically above all of the irrigation ditches exce the Canyon City ditch (sometimes called the North Side ditch) a the South Canyon ditch (sometimes called the South Side ditch), bo

of which head above the station. Gagings made on April 17 showed that the discharges of the North and South Side ditches were 31 and 32 second-feet, respectively. Similarly, on May 7 they were found to carry 35 second-feet each, and on September 12, 44 and 31 second-feet, respectively. Results of measurements for 1900 will be found in the Twenty-Second Annual Report, Part IV, page 341. During 1901 the following measurements of discharge were made by A. L. Fellows and J. E. Field:

April 17: Gage height, 2.50 feet; discharge, 335 second-feet.
May 7: Gage-height, 2.85 feet; discharge, 552 second-feet.
September 12: Gage-height, 2.30 feet; discharge, 350 second-feet.

The total flow of the river on these dates, including that of the ditches, amounted to 398, 622, and 425 second-feet, respectively.

Daily gage height, in feet, of Arkansas River near Canyon, Colo., for 1901.

Day	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	.....	.....	2.10	3.30	4.95	4.30	2.60	3.10	2.00	2.00	.....
2	.....	2.30	2.30	2.10	3.35	4.80	4.20	2.60	2.75	2.10	2.00	.....
3	.....	.....	.....	2.35	3.55	4.80	4.00	2.60	2.65	2.10	2.00	.....
4	.....	.....	.....	2.45	2.75	4.70	3.80	3.50	2.70	2.20	.....	.....
5	2.40	.....	.....	2.40	3.00	4.55	3.60	3.00	2.70	2.20	.....	.....
6	.....	.....	.....	2.40	3.00	4.50	3.55	3.00	2.40	2.20	.....	.....
7	.....	.....	.....	2.70	3.00	4.45	3.30	3.25	2.40	2.30	.....	2.10
8	.....	.....	.....	2.75	2.95	4.55	3.25	3.60	2.40	2.30	.....	.....
9	.....	2.30	2.10	2.80	2.60	4.75	3.30	3.60	2.40	2.30	.....	.....
10	.....	.....	.....	2.65	2.70	4.80	3.25	3.35	2.40	2.30	2.00	.....
11	.....	.....	.....	2.60	2.80	4.75	3.20	3.20	2.30	2.30	.....	.....
12	2.40	.....	.....	2.55	2.90	4.55	3.20	3.05	2.20	2.40	.....	.....
13	.....	.....	.....	2.25	3.10	4.45	3.05	2.90	2.20	2.30	.....	.....
14	.....	.....	.....	2.40	3.20	4.55	3.00	2.75	2.20	2.30	.....	2.10
15	.....	.....	.....	2.80	3.70	4.70	3.00	2.70	2.20	2.30	.....	.....
16	.....	2.30	2.10	2.70	3.95	4.40	2.95	2.60	2.10	2.20	.....	.....
17	.....	.....	.....	2.50	3.85	4.25	2.90	2.70	2.10	2.20	2.00	.....
18	.....	.....	.....	2.50	4.30	4.10	2.80	2.70	2.10	2.20	.....	.....
19	2.40	.....	.....	2.50	5.00	4.25	2.80	2.70	2.10	2.20	.....	.....
20	.....	.....	.....	2.90	5.75	4.20	2.70	2.75	2.10	2.20	.....	.....
21	.....	.....	.....	2.95	6.00	4.35	2.55	2.70	2.20	2.10	.....	2.20
22	.....	.....	.....	2.90	5.50	4.25	2.55	2.70	2.20	2.10	.....	.....
23	.....	2.40	2.00	3.05	5.05	4.55	2.50	2.50	2.10	2.10	2.20	.....
24	.....	.....	.....	2.75	4.55	4.65	2.65	2.50	2.10	2.10	.....	.....
25	.....	.....	.....	2.60	4.85	4.70	2.65	2.60	2.00	2.00	.....	.....
26	2.50	.....	.....	2.50	4.80	4.85	2.85	2.60	2.10	2.00	.....	.....
27	.....	.....	.....	2.50	4.80	4.65	3.30	2.65	2.00	2.00	.....	.....
28	.....	.....	.....	2.50	5.00	4.45	3.00	2.55	2.00	2.00	.....	2.20
29	.....	.....	.....	2.65	5.10	4.40	3.00	2.60	2.00	2.00	.....	.....
30	.....	.....	2.00	3.15	5.05	4.40	3.10	4.35	2.00	2.00	2.10	.....
31	.....	.....	2.00	.....	5.00	.....	2.75	2.70	.....	2.00	.....	2.30

ARKANSAS RIVER AT PUEBLO, COLO.

This station, which was established September, 1894, is located at the Union avenue bridge in the city of Pueblo, and is described in Water-Supply Paper No. 50, page 325. This station is an important one, being located near the head of the principal irrigation portion of the valley, only one ditch of importance being taken out above it in the Pueblo district, while considerable water is used in the ditches in the neighborhood of Canyon, which is in another water district. It is upon the gagings made at this point that the water superintendents and commissioners depend for distribution of water to ditches below. The

gage readings during 1901 have been made by T. J. Burrows, wa commissioner of the Pueblo water district. Results of measureme for 1900 were published in the Twenty-second Annual Report, P IV. page 342. During 1901 the following measurements were m by A. L. Fellows, J. E. Field, and C. W. Beach:

List of discharge measurements of Arkansas River at Pueblo, Colo.

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
April 14	2.00	335	May 24	4.00	
May 9	2.30	595	June 11	4.10	
May 4	2.97	1,161	August 26	2.25	
July 5	3.02	1,206	November 1	1.70	
May 24	3.90	2,204			

Daily gage height, in feet, of Arkansas River at Pueblo, Colo., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct..	Nov.
1	2.00	2.00	1.60	1.55	2.70	5.30	3.55	2.35	3.20	1.60	1.70
2	2.00	2.00	1.90	1.70	2.90	4.95	4.35	2.20	2.35	1.60	1.70
3	2.00	2.00	1.90	2.00	3.00	4.75	3.50	2.10	2.30	1.60	1.70
4	2.00	2.00	1.90	2.00	3.00	4.65	3.30	2.00	2.45	1.60	1.70
5	2.00	2.00	1.80	2.10	2.70	4.35	3.10	3.40	2.20	1.70	1.65
6	2.00	2.00	1.80	2.00	2.65	4.25	2.95	2.45	2.10	1.70	1.65
7	2.00	2.00	1.80	2.00	2.60	4.00	2.80	2.68	2.00	1.70	1.65
8	2.00	2.00	1.80	2.20	2.45	4.05	2.85	2.68	2.00	1.90	1.65
9	2.00	2.00	1.80	2.70	2.30	4.15	3.00	3.05	2.20	1.90	1.65
10	2.00	2.00	1.80	1.85	2.35	4.10	2.95	2.65	2.10	1.90	1.60
11	2.00	2.00	1.80	2.30	2.40	4.10	2.90	2.70	2.10	1.90	1.70
12	2.30	2.00	1.80	1.90	2.40	4.10	2.85	2.60	2.10	2.00	1.70
13	2.30	2.00	1.80	1.65	2.52	3.85	2.75	2.40	2.00	2.00	1.70
14	2.30	2.00	1.80	1.90	2.68	3.80	2.75	2.20	2.00	2.00	1.70
15	2.30	2.00	1.80	2.00	3.05	4.30	2.70	2.20	2.00	1.80	1.70
16	2.30	2.00	1.80	2.20	3.55	4.40	2.60	2.28	2.00	1.80	1.70
17	2.30	2.00	1.80	2.10	3.42	4.00	2.50	2.60	1.90	1.75	1.70
18	2.30	2.00	1.80	1.70	3.40	3.70	2.40	2.50	1.80	1.70	2.00
19	2.00	2.00	1.80	1.90	3.90	3.70	2.35	3.10	1.70	1.70	2.00
20	2.00	2.00	1.80	2.10	4.80	3.65	1.80	2.62	1.70	1.70	2.00
21	2.00	2.00	1.70	2.45	7.30	3.80	1.80	2.42	1.70	1.70	2.00
22	2.00	2.00	1.70	2.30	5.25	3.75	2.20	2.30	1.65	1.70	2.00
23	2.00	2.00	1.60	2.38	4.80	3.85	2.20	2.25	1.60	1.80	2.00
24	2.00	2.00	1.60	2.40	4.05	3.82	2.45	2.20	1.60	1.80	1.95
25	2.00	2.00	1.70	2.30	4.75	4.00	2.45	2.20	1.60	1.70	1.90
26	2.00	1.70	1.70	2.30	4.50	4.00	2.45	2.30	1.60	1.70	1.90
27	2.00	1.70	1.70	2.70	4.15	3.95	3.10	2.38	1.60	1.70	1.75
28	2.00	1.60	1.70	2.70	4.42	3.82	2.80	2.20	1.55	1.70	1.80
29	2.00	.....	1.70	2.60	4.50	3.49	2.60	2.20	1.50	1.70	1.60
30	2.00	.....	1.70	2.70	5.00	3.60	2.55	2.60	1.50	1.70	1.70
31	2.00	.....	1.70	.....	6.90	.....	2.65	3.00	.....	1.70	.....

[a] River gorged above. About 0.75 second-feet passing Pueblo.

ARKANSAS RIVER NEAR NEPESTA, COLO.

The old station at the wagon bridge near Nepesta, described previous Water-Supply Papers, was not maintained during the y 1901. Upon May 1, however, another station was established A. L. Fellows, assisted by C. W. Beach, at the dam and head gat the Oxford farmers' canal, 1½ miles west of Nepesta. The sta consists of the dam crossing the river at the headgate forming a w and a gage rod, consisting of a 2 by 6 inch timber, 8 feet long, faste to an oak pile at the south end of the dam; the location being mar by spikes driven into the pile at each foot mark. The rod is mar in feet and tenths vertically. At low stages the stream may

measured by wading, but at high stages it is necessary to use the wagon bridge at Nepesta, making the necessary allowances for inflow between the two points; this can readily be done, as the distance is only about a mile. The observer is Mr. Z. Swallow, head-gate keeper of the Oxford farmers' canal. The station will prove of particular value, as it is near the head of irrigation district No. 17, one of the most important on the Arkansas River. Results of measurements for 1900 for the old station will be found in the Twenty-second Annual Report, Part IV, page 343.

During 1901 measurements were made by A. L. Fellows, J. E. Field, and C. W. Beach, as follows:

May 1: Gage height, 0.97 foot; discharge, 672 second-feet.
May 17: Gage height, 1.24 feet; discharge, 1,719 second-feet.
June 7: Gage height, 2.25 feet; discharge, 3,537 second-feet.
August 20: Gage height, 0.88 foot; discharge, 438 second-feet.

Daily gage height, in feet, of Arkansas River near Nepesta, Colo., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Day.	May.	June.	July.	Aug.	Sept.	Oct.
1	0.96	4.75	1.48	0.88	2.12	0.47	17	1.35	2.05	0.88	0.91	0.49	.....
2	.98	2.80	1.60	.82	1.12	.42	18	1.10	1.80	.78	.98	.50	.....
3	1.02	2.50	1.25	.78	.61	.40	19	1.15	1.62	.80	1.20	.48	.....
4	1.02	2.55	.98	.78	.75	.40	20	1.35	1.62	.72	.93	.48	.....
5	.98	2.38	.95	1.48	.73	.48	21	2.30	1.65	.72	.91	.47	.....
6	.93	2.29	1.15	1.39	.71	.50	22	2.10	1.62	.62	.91	.43	.....
7	.92	2.23	1.05	.74	.57	.40	23	1.88	1.52	.59	.91	.42	.....
8	.88	2.15	.85	1.02	.61	.52	24	1.77	1.52	.56	.82	.41	.....
9	.70	2.02	.95	1.27	.83	.68	25	2.22	1.52	.59	.83	.46	.....
10	.85	2.05	.92	1.12	.64	.69	26	1.98	1.50	1.21	.85	.48	.....
11	.85	1.98	.90	1.20	.59	.71	27	1.85	1.54	1.30	.56	.46	.....
12	.85	1.88	.84	1.21	.58	.71	28	1.82	1.52	1.09	.65	.47	.....
13	.95	1.73	.81	1.19	.61	.....	29	1.90	1.50	.72	.65	.51	.....
14	.90	1.74	.90	.81	.59	.....	30	2.45	1.52	.80	.59	.50	.....
15	.96	2.75	.95	.79	.59	.....	31	2.45	.....	.88	2.12	.....	.....
16	1.15	2.35	.93	.75	.59	.....							

ARKANSAS RIVER NEAR ROCKYFORD, COLO.

A new station was established by R. W. Hawley on April 19, 1901, at a point 3½ miles northwest from Rockyford station on the Atchison, Topeka and Santa Fe Railway. A steel cable was stretched across the river and supplied with a car, and an inclined timber gage rod was bolted into the shale on the north side of the river and marked. The bench mark consists of a cut in a tree at the initial point level with a 10-foot mark on the rod. The records were kept up throughout the remainder of the year 1901 through the courtesy of the American Beet Sugar Company, Fred Chappell, agriculturist, taking the reading. The channel is fairly favorable for good results, being at what is known as the old ford. The bottom is of shale and usually free from sand, although filled in to a certain extent at most stages. Gagings may be made either by means of the cable and car or by wading. The point is of especial importance, owing to the fact that it is one of the few places on the Arkansas River where the channel is at all permanent.

During 1901 the following measurements were made by R. W
ley and J. E. Field:

April 22: Gage height, 1.60 feet; discharge, 327 second-feet.
May 13: Gage height, 1.75 feet; discharge, 463 second-feet.
June 8: Gage height, 3 feet; discharge, 2,424 second feet.

Daily gage height, in feet, of Arkansas River near Rockyford, Colo., for

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1		1.95	4.90	2.20	1.40	3.00	1.30	1.8
2		2.00	4.90	2.40	1.40	1.90	1.30	1.8
3		2.00	4.00	2.30	1.20	1.70	1.30	1.7
4		2.05	3.90	2.20	1.20	1.50	1.30	1.7
5		2.10	3.70	2.00	1.20	1.60	1.30	1.7
6		2.00	3.40	1.90	2.20	2.00	1.50	1.7
7		1.95	3.20	2.00	1.70	2.00	1.50	1.6
8		1.90	2.80	1.70	1.60	1.50	1.40	1.6
9		1.80	2.80	1.40	2.20	1.30	1.40	1.6
10		1.55	2.90	1.30	2.00	1.40	1.40	1.6
11		1.45	2.90	1.30	1.90	1.30	1.40	1.6
12		1.55	2.70	1.30	2.20	1.20	1.40	1.6
13		1.70	2.50	1.30	2.10	1.20	2.00	1.6
14	2.70	1.90	2.30	1.30	2.50	1.20	2.00	1.6
15	2.60	1.80	2.50	1.60	2.50	1.30	1.70	1.6
16	2.50	2.00	3.30	1.50	2.50	1.20	1.60	1.6
17	2.50	2.20	3.00	1.40	2.60	1.20	1.60	1.6
18	2.50	2.10	2.50	1.30	2.60	1.30	1.50	1.7
19	2.47	2.00	2.40	1.10	2.40	1.40	1.50	1.8
20		2.20	2.30	1.00	2.80	1.50	1.60	1.8
21		3.00	2.20	1.00	2.40	1.40	1.60	1.9
22		3.50	2.10	1.10	2.20	1.30	1.60	1.8
23	1.70	3.10	2.00	1.30	2.00	1.20	1.60	1.6
24	1.75	3.00	2.10	1.10	2.00	1.20	1.70	1.8
25	1.85	2.50	2.20	1.40	2.00	1.30	1.80	1.8
26	1.85	3.50	2.00	1.60	1.60	1.20	1.80	1.9
27	1.70	3.00	2.00	2.40	1.60	1.20	1.70	1.8
28	1.70	3.00	1.90	2.00	1.40	1.30	1.70	1.8
29	2.00	3.00	2.00	1.60	2.00	1.40	1.60	1.8
30	2.00	3.20	2.10	1.50	1.60	1.30	1.60	1.7
31		4.10		1.60	1.60		1.70	

ARKANSAS RIVER NEAR LA JUNTA, COLO.

This station, which is situated at the head of the Fort Lyons
is described in Water-Supply Paper No. 37, page 262. The fol
figures of monthly flow were furnished through the courtesy of
Beach, hydrographer of the Great Plains Water Company, and
sent the discharge of the river at this point, inclusive of the a
taken out by the canals. A measurement was made May 3, 1
A. L. Fellows, giving a discharge of 361 second-feet at a gage
of 0.80 foot.

Monthly discharge, in second-feet, of Arkansas River near La Junta, Co
1901.

Month.	Discharge.	Month.	Discharge.	Month.	
	Sec.-ft.		*Sec.-ft.*		
January	286	June	2,740	November	
February	159	July	380	December	
March	145	August	375		
April	384	September	385	Average	
May	1,798	October	225		

ARKANSAS RIVER AT PROWERS, COLO.

Records of gage heights were commenced at this station in the spring of 1900. A description of the station is given in Water-Supply Paper No. 50, page 328. The station is of special importance, as it is practically at the head of irrigation district No. 67, only the Colorado and Kansas canal and the Peterson ditch being taken out above in that district. During the greater part of the year little water passes this point, and during low stages water is so valuable that the greatest care should be exercised in its distribution. The observer is D. L. Birge, head-gate keeper of the Colorado and Kansas canal. During 1901 the following measurements were made by A. L. Fellows and J. E. Field:

May 3: Gage height, 0.59 foot; discharge, 204 second-feet.
June 9: Gage height, 1.35 feet; discharge, 1,953 second-feet.

Daily gage height, in feet, of Arkansas River at Prowers, Colo., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	0.20	0.22	0.05	.....	0.15	1.40	0.70	0.20	0.80	0.20	0.20	0.20
2	.20	.22	.05	.....	.15	3.10	.70	.15	.50	.05	.20	.20
3	.20	.25	.05	.....	.20	2.70	.60	.15	.30	.20	.20	.15
4	.20	.22	.....	.....	.25	2.20	.60	.20	.30	.20	.20	.10
5	.25	.22	.....	.....	.20	1.80	.40	.60	.20	.20	.20	.10
6	.20	.22	.....	.....	.15	1.50	.40	.60	.20	.30	.15	.10
7	.40	.28	.....	.....	.20	1.40	.30	.40	.80	.20	.15	.10
8	.25	.30	.....	.....	.20	1.40	.30	.50	.80	.20	.15	.10
9	.20	.32	.....	.....	.20	1.30	.30	.90	.40	.20	.15	.10
10	.20	.32	.....	0.20	.20	.80	.40	1.20	.40	.20	.15	.10
11	.15	.25	.....	.20	.25	.80	.40	1.60	.30	.20	.20	.10
12	.10	.25	.....	.20	.30	1.00	.40	1.00	.20	.05	.20	.10
13	.10	.25	.....	.20	.60	1.50	.40	1.70	.20	.10	.20	.10
14	.10	.30	.....	.15	.50	1.60	.40	1.40	.05	.10	.20	.10
15	.20	.28	.....	.15	.60	1.70	.30	1.00	.20	.10	.20	.10
16	.20	.28	.....	.15	.30	2.10	.30	.80	.20	.10	.30	.10
17	.20	.20	.....	.15	.30	2.20	.30	.80	.20	.05	.30	.15
18	.20	.20	.....	.15	.30	2.00	.30	.70	.20	.05	.30	.10
19	.15	.20	.....	.15	.30	1.50	.20	.60	.30	.....	.30	.10
20	.15	.15	.....	.15	.20	1.50	.20	.40	.20	.....	.20	.05
21	.20	.15	.....	.15	.40	1.40	.20	.30	.05	.....	.20	.05
22	.25	.15	.....	.15	.50	1.20	.15	.30	.05	.10	.20	.20
23	.20	.15	.....	.20	1.40	.80	.15	.30	.10	.10	.20	.30
24	.20	.20	.....	.20	1.00	1.00	.10	.20	.10	.10	.20	.30
25	.15	.15	.....	.20	.70	1.10	.10	.40	.20	.20	.15	.40
26	.20	.10	.....	.20	1.25	1.00	.70	.20	.20	.15	.15	.40
27	.20	.05	.....	.20	1.60	.80	.60	.20	.....	.15	.10	.20
28	.20	.05	.....	.20	1.00	.60	.80	.20	.....	.15	.10	.20
29	.20	.....	.....	.20	.90	.70	.60	.15	.....	.20	.10	.20
30	.20	.....	.....	.20	1.50	.40	.80	.15	.....	.30	.15	.40
31	.20	.....	.....	.....	1.60	.....	.20	.20	.....	.20	.....	.40

ARKANSAS RIVER AT AMITY CANAL HEAD GATES, COLORADO.

This station is located at the head of Amity Canal, 7 miles west of Lamar, and is maintained by the Amity Canal Company, which keeps the records of the amount of water flowing into the ditch, over the dam, and out of the wasteway of the canal. The following figures of monthly flow were furnished through the courtesy of C. W. Beach, hydrographer for the company, and represent the total flow at this point. A measurement was made by J. E. Field at Lamar, June 9, 1901, giving a discharge of 997 second-feet.

Monthly discharge, in second-feet, of Arkansas River at Amity Canal head g Colorado, for 1901.

Month.	Discharge.	Month.	Discharge.	Month.	D cha
	Sec.-ft.		*Sec.-ft.*		*Sec*
January	224	June	1,944	November	
February	401	July	197	December	
March	51	August	485		
April	145	September	282	Mean	
May	1,270	October	64		

ARKANSAS RIVER NEAR GRANADA, COLO.

This station, established July 24, 1898, is located at the h gates of the Buffalo Creek Canal, 2 miles northeast of Gran Since the establishment of the station readings have been m throughout the irrigation seasons (1898, 1899, 1900, and 1901) by Riley, head-gate keeper of the Buffalo Canal. No measureme have been made at this point, and no rating table has been compu A brief description of the station, with gage heights for 1900, published in Water-Supply Paper No. 50, page 329.

Daily gage height, in feet, of Arkansas River near Granada, Colo., for 19

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	2.50	3.50	2.00	1.20	1.80	4.80	2.00	1.80	2.00	1.00	1.00
2	2.60	3.50	1.80	1.20	1.70	5.00	2.00	1.60	2.00	1.00	1.00
3	2.60	3.50	3.00	1.20	1.70	4.00	1.80	1.60	1.80	1.00	1.00
4	2.60	3.50	3.00	1.20	1.80	4.00	1.80	1.60	1.60	1.00	1.00
5	2.60	3.60	3.00	1.00	1.70	3.80	1.60	1.60	1.50	1.00	1.00
6	2.60	3.60	2.40	1.00	1.70	3.60	1.60	1.40	1.20	1.00	1.00
7	2.60	3.80	2.00	1.20	1.70	3.40	1.60	1.40	1.20	1.00	1.00
8	2.80	3.60	2.00	1.20	1.70	3.00	1.40	1.20	1.00	1.00	1.00
9	2.80	3.60	1.80	1.40	1.50	3.00	1.40	1.80	1.00	1.00	1.00
10	2.80	3.60	1.60	1.40	1.70	3.00	1.20	3.80	1.00	1.00	1.00
11	3.00	3.60	1.00	1.60	1.70	2.80	1.20	3.40	1.00	1.00	1.00
12	3.00	3.50	1.00	1.50	1.70	2.80	1.20	3.60	1.00	1.00	1.00
13	3.50	3.50	1.00	1.20	1.70	2.60	1.20	3.20	1.00	1.00	1.00
14	3.50	3.60	1.00	1.20	1.70	2.40	1.20	3.00	1.00	1.00	1.00
15	3.50	3.80	1.00	1.40	1.80	2.00	1.20	2.00	1.20	1.00	1.00
16	3.50	3.80	1.00	1.40	2.80	3.00	1.20	2.00	1.20	1.00	1.00
17	3.50	3.80	1.40	1.40	2.80	3.60	1.40	2.40	1.00	1.00	1.00
18	3.50	3.60	1.00	1.20	2.40	3.60	1.40	1.80	1.00	1.00	1.00
19	3.50	3.60	1.00	1.20	2.00	3.40	1.40	1.80	.90	1.00	1.00
20	3.50	3.40	1.00	1.20	1.80	3.20	1.40	2.40	.90	1.00	1.00
21	3.50	3.40	1.00	1.20	1.80	3.00	1.50	2.00	.90	1.00	1.00
22	3.50	3.40	1.00	1.60	1.80	3.00	1.50	1.80	.90	1.00	1.00
23	3.50	3.20	1.00	1.40	3.20	2.80	1.50	1.60	.90	1.00	1.00
24	3.50	3.00	1.00	1.40	3.00	2.50	1.60	2.00	.90	1.00	1.00
25	3.50	3.00	1.00	1.40	2.60	2.40	1.60	1.80	.90	1.00	1.00
26	3.50	3.00	1.00	1.60	2.70	2.00	1.70	1.60	1.00	1.00	1.00
27	3.40	2.40	1.00	1.60	3.70	1.60	1.60	1.40	1.00	1.00	1.00
28	3.40	2.00	1.00	1.60	3.40	1.80	2.80	1.40	1.00	1.00	1.00
29	3.40	------	1.00	1.60	3.40	2.00	2.60	1.20	1.00	1.00	1.00
30	3.40	------	1.00	1.80	3.40	2.00	2.80	1.00	1.00	1.00	1.00
31	3.40	------	1.00	------	5.00	------	2.40	1.00	------	1.00	------

ARKANSAS RIVER NEAR BARTON, COLO.

This station was established May 2, 1901, at the railroad bridge c half mile east of Barton or Byron, which is the name of the railr station on the Atchison, Topeka and Santa Fe Railway. Throu out this region the bed of the stream is broad and sandy, the char

being shifting. This point was selected as the most available place for determining approximately the discharge of the Arkansas at a point near the Colorado-Kansas line. The rod consists of a vertical 2 by 4 inch piece of timber 7 feet long, nailed to a pile on the downstream side of the railroad bridge at the last point in the channel. No bench mark was established, but the rod was spiked at the foot marks to the pile. The channel is extremely shifting, and there may be at times many different channels. The initial point for soundings is the right bank. The observer is Harry Hunt, postmaster at Barton. Only two gagings were made in 1901, and at the first of these, when the station was established, no water was passing. The second measurement, made June 10 by J. E. Field, yielded a discharge of 1,911 second-feet at a gage height of 1.60 feet.

Daily gage height, in feet, of Arkansas River near Barton, Colo., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	2.35	0.40	1.00	0.50	0.20	0.15	0.50
2	.....	3.00	.30	.80	1.80	.20	.15	.55
3	.....	3.80	.20	.40	1.90	.20	.15	.60
4	.....	3.20	1.40	.30	2.00	.10	.15	.60
5	.....	2.90	1.50	.10	2.00	.10	.15	.60
6	.....	2.10	1.10	.10	1.80	.20	.15	.65
7	.....	1.80	.80	.10	1.80	.20	.15	.65
8	.....	1.75	.70	.00	1.70	.20	.20	.70
9	.....	1.60	.50	1.80	1.70	.25	.20	.70
10	.....	1.60	.40	1.60	1.60	.25	.20	.65
11	.....	1.50	.30	1.20	1.50	.30	.20	.65
12	0.00	1.40	.10	1.00	1.20	.20	.15	.70
13	.00	1.50	.00	.90	.90	.20	.10	.80
14	.00	1.60	.00	.50	.70	.20	.10	.80
15	.00	1.60	.00	.30	.50	.20	.10	.85
16	1.30	1.60	.00	.20	.50	.20	.10	.85
17	.95	1.60	.00	.10	.40	.30	.10	.85
18	.70	1.55	.00	.30	.40	.30	.10	.85
19	.30	1.50	.00	.30	.40	.30	.10	.90
20	.20	1.50	.00	.40	.30	.35	.15	.90
21	.10	1.40	.00	.40	.30	.20	.20	.90
22	.10	1.20	.00	.40	.30	.20	.30	1.00
23	.60	1.00	.00	.30	.30	.20	.35	1.00
24	1.50	.90	.00	.30	.30	.20	.35	1.00
25	1.80	.90	.00	.30	.20	.20	.40	1.00
26	1.90	.90	1.60	.20	.20	.20	.40	1.00
27	1.70	.80	1.80	.30	.20	.20	.60	1.05
28	1.80	.80	1.60	.30	.30	.20	.50	1.05
29	1.50	.60	1.50	.40	.40	.10	.50	1.05
30	3.00	.60	1.40	.40	.20	.10	.50	1.10
31	2.65	.....	1.30	.40	.....	.15	.....	1.10

MISCELLANEOUS DISCHARGE MEASUREMENTS IN MISSISSIPPI RIVER BASIN IN COLORADO.

Date.	Stream.	Locality.	Hydrographer.	Gage height.	Discharge.
				Feet.	*Sec.-ft.*
May 14	Cache la Poudre River.	Greeley	J. E. Field	.....	50
May 6	Lake Creek	Interlaken	do	0.50	113
May 11	do	do	C. W. Beach	.67	99
May 6	do	Lower Twin Lakes	J. E. Field	2.00	120
May 7	do	do	do	1.10	42
Do	do	do	do	1.70	87
Apr. 12	Cimarron River	Cimarron	A. L. Fellows	.....	38
May 18	do	do	do	.....	814

ARKANSAS RIVER AT HUTCHINSON, KANS.

This station was established May 13, 1895. It is described in Wat Supply Paper No. 50, page 330. Results of measurements for 1 will be found in the Twenty-second Annual Report, Part IV, page 3

The following discharge measurements were made during 1901 W. G. Russell:

May 23: Gage height, 1.50 feet; discharge, 134 second-feet.
August 14: Gage height, 0.95 foot; discharge, 33 second-feet.
October 16: Gage height, 1.25 feet; discharge, 72 second-feet.

Daily gage height, in feet, of Arkansas River at Hutchinson, Kans., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	1.20	1.25	2.00	1.50	1.70	1.30	1.75	0.95	0.75	1.10	1.05
2	(a)	1.25	2.00	1.60	1.70	1.30	1.65	.90	.75	1.10	1.00
3	1.20	1.25	2.00	1.70	1.70	1.30	1.55	.90	.75	1.10	1.00
4	(a)	1.25	1.90	1.70	1.65	1.30	1.50	.90	.75	1.10	1.00
5	1.20	1.25	1.85	1.85	1.65	1.60	1.45	.90	.75	1.10	1.00
6	(a)	1.25	1.80	1.85	1.60	1.40	1.45	.90	.75	1.00	1.00
7	1.20	1.25	1.75	2.00	1.60	3.80	1.40	.85	.75	1.00	1.00
8	1.20	1.25	1.70	2.20	1.55	3.50	1.35	.85	1.00	1.00	.95
9	1.20	1.25	1.65	2.20	1.55	3.50	1.30	.80	.95	1.00	.95
10	.....	1.25	1.65	2.80	1.55	3.40	1.25	.80	.95	1.50	.95
11	1.20	1.25	1.60	2.70	1.50	3.30	1.20	1.10	.90	1.50	.95
12	1.20	1.20	1.50	2.70	1.50	3.10	1.15	.90	.85	1.50	.95
13	1.30	1.25	1.50	2.60	1.50	3.00	1.10	.85	.85	1.50	.95
14	1.30	1.30	1.50	2.50	1.50	2.80	1.05	.95	1.75	1.50	.95
15	1.40	1.35	1.50	2.40	1.50	2.60	1.05	.90	1.70	1.40	.95
16	1.50	1.45	1.50	2.40	1.50	2.60	1.05	.90	1.60	1.30	.95
17	1.50	1.50	1.50	2.30	1.50	2.50	1.05	.90	1.45	1.25	.95
18	1.45	1.70	1.50	2.20	1.50	2.45	1.20	.85	1.30	1.20	.95
19	1.40	1.90	1.50	2.00	1.50	2.55	1.15	.85	1.30	1.15	.95
20	1.30	1.90	1.50	2.00	1.50	2.30	1.10	.85	1.30	1.10	.95
21	1.30	1.90	1.50	2.00	1.50	2.25	1.10	.85	1.20	1.10	.95
22	1.25	2.40	1.50	2.00	1.50	2.15	1.10	.80	1.10	1.10	.95
23	1.25	2.10	1.50	2.00	1.50	2.50	1.15	.80	1.10	1.05	.95
24	1.25	1.85	1.50	2.00	1.45	2.45	1.15	.80	1.10	1.05	.95
25	1.25	1.85	1.50	1.90	1.45	2.25	1.10	.75	1.10	1.05	.95
26	1.25	1.90	1.50	1.90	1.40	2.15	1.10	.75	1.10	1.10	.95
27	1.25	1.90	1.50	1.85	1.35	2.00	1.10	.75	1.05	1.00	.95
28	1.25	1.95	1.50	1.80	1.35	1.95	.95	.75	1.05	1.20	.95
29	1.25	.....	1.50	1.75	1.35	1.85	.90	.75	1.00	1.20	.95
30	1.25	.....	1.50	1.70	1.30	1.80	1.05	.75	1.10	1.10	.95
31	1.25	.....	1.50	.....	1.30	.....	1.00	.75	.....	1.05	.....

[a] Ice.

VERDIGRIS RIVER NEAR LIBERTY, KANS.

This station, which was originally established in August, 1895 described in Water-Supply Paper No. 50, page 330. Results measurements for 1900 will be found in the Twenty-second Ann Report, Part IV, page 345. During 1901 the following discha measurements were made by W. G. Russell:

May 22: Gage height, 3.30 feet; discharge, 573 second-feet.
August 13: Gage height, 1.90 feet; discharge, 78 second-feet.
October 12: Gage height, 1.80 feet; discharge, 53 second-feet.

Daily gage height, in feet, of Verdigris River near Liberty, Kans., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.90	3.00	3.20	3.80	4.20	2.20	2.15	2.50	1.20	2.10	1.90	1.90
2	2.90	3.00	3.20	6.75	3.80	2.10	1.95	2.25	1.20	2.00	1.90	1.90
3	2.90	3.20	3.20	5.75	3.65	2.10	1.90	2.10	1.20	1.90	1.90	1.90
4	2.90	6.20	3.20	5.65	3.65	2.10	1.80	2.25	1.20	1.90	1.90	1.90
5	2.90	5.10	3.10	5.55	6.45	2.10	1.75	2.15	1.30	2.05	1.90	1.90
6	2.90	4.20	3.10	5.80	4.35	2.10	1.70	2.00	1.30	2.00	1.90	1.90
7	2.80	3.90	3.10	7.90	3.65	2.10	1.70	1.90	1.30	2.00	1.90	1.90
8	2.80	3.80	3.00	8.30	3.45	2.10	1.70	1.75	1.30	2.00	1.90	1.90
9	2.80	3.80	3.00	5.25	3.30	2.00	1.60	1.70	1.30	1.90	1.90	2.00
10	2.80	3.90	8.70	5.45	3.20	2.00	1.60	1.60	1.30	1.90	1.90	2.00
11	3.40	3.80	13.00	14.60	3.05	1.90	1.60	1.70	1.30	2.00	1.90	2.00
12	3.40	3.80	5.70	16.25	2.90	1.90	1.60	1.80	1.30	2.20	1.90	2.00
13	3.30	3.50	4.80	20.40	2.90	1.90	1.60	1.90	1.20	2.20	1.90	2.00
14	3.30	3.40	4.00	18.30	2.90	1.90	1.50	1.80	2.90	2.20	1.80	2.00
15	3.40	3.20	3.70	14.35	2.90	1.90	1.50	1.80	5.40	2.10	1.80	2.00
16	4.00	4.00	3.60	7.95	2.80	1.90	1.40	1.80	4.15	2.10	1.80	2.00
17	4.00	5.00	3.50	6.40	3.85	1.90	1.40	1.80	3.10	2.00	1.80	2.00
18	3.80	6.10	3.50	5.85	4.65	1.90	1.40	1.70	2.75	2.00	1.80	2.00
19	3.60	5.40	3.60	5.50	3.85	1.90	1.40	1.70	2.45	2.00	1.80	2.00
20	3.40	5.00	3.80	5.25	3.70	2.00	1.40	1.60	2.30	2.00	1.80	2.00
21	3.30	4.70	4.00	4.95	3.60	1.90	1.40	1.50	2.30	2.00	1.80	2.00
22	3.30	4.40	4.40	4.80	3.30	3.90	1.30	1.50	2.20	2.00	1.90	2.00
23	3.30	4.10	3.90	4.65	3.15	2.95	1.30	1.40	2.10	2.00	1.90	2.00
24	3.20	3.80	3.60	4.45	3.05	2.85	1.30	1.40	2.05	2.00	1.90	2.00
25	3.20	3.60	3.50	4.40	3.00	2.80	1.30	1.30	1.90	1.90	1.90	2.00
26	3.20	3.40	3.40	4.30	2.90	2.70	1.30	1.30	2.00	1.90	1.90	2.00
27	3.10	3.30	3.35	4.00	2.80	2.55	1.30	1.30	2.00	1.90	1.90	2.00
28	3.10	3.30	3.20	3.95	2.65	2.40	1.30	1.30	2.00	1.90	1.90	2.00
29	3.10	.....	3.50	3.85	2.30	2.30	1.40	1.30	2.00	1.90	1.90	2.00
30	3.10	.....	4.20	4.30	2.20	2.30	1.55	1.30	2.30	1.90	1.90	2.00
31	3.00	.....	3.80	.....	2.20	.....	1.60	1.20	.....	1.90	.....	2.00

NEOSHO RIVER NEAR IOLA, KANS.

This station, which was established in July, 1895, is described in Water-Supply Paper No. 50, page 331. Records of discharge measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, pages 346. During 1901 the following discharge measurements were made by W. G. Russell:

April 4: Gage height, 5.20 feet; discharge, 3,206 second-feet.
May 22: Gage height, 3.60 feet; discharge, 917 second-feet.
August 13: Gage height, 2 feet; discharge, 190 second-feet.
October 11: Gage height, 2 feet; discharge, 190 second-feet.

Daily gage height, in feet, of Neosho River near Iola, Kans., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	I
1	2.50	2.70	3.60	3.90	4.00	3.10	2.50	2.00	1.60	0.90	0.50	
2	2.50	2.70	3.55	4.60	4.00	3.00	2.50	2.00	1.60	.90	.50	
3	2.60	2.60	3.50	5.05	3.80	3.00	2.40	2.00	1.50	.90	.50	
4	2.60	2.60	3.40	5.40	3.80	3.00	2.40	2.00	1.50	.90	.50	
5	2.60	2.60	3.30	5.80	3.70	3.00	2.40	1.90	1.50	.90	.50	
6	2.60	2.50	3.25	8.75	3.70	3.00	2.35	1.90	1.50	.90	.60	
7	2.50	2.50	3.20	11.00	3.70	3.00	2.30	1.90	1.50	.90	.70	
8	2.50	2.55	3.25	12.00	3.70	3.00	2.30	2.00	1.40	.90	.70	
9	2.50	2.60	3.35	9.50	3.70	3.00	2.30	2.00	1.40	.90	.70	
10	2.80	2.60	3.80	5.35	3.70	3.25	2.30	2.00	1.40	.90	.70	
11	2.80	2.60	4.15	4.90	3.70	5.65	2.30	2.00	1.30	.90	.70	
12	2.80	2.70	3.75	7.15	3.60	4.90	2.20	2.00	1.30	.90	.70	
13	2.80	2.90	3.55	10.90	3.60	3.90	2.35	2.00	1.30	.90	.70	
14	2.80	3.50	3.35	12.10	3.60	3.60	2.30	2.00	1.40	.90	1.00	
15	3.50	3.80	3.05	12.60	3.60	3.40	2.30	2.00	1.30	.90	1.00	
16	3.30	4.25	3.00	12.90	3.60	3.00	2.30	2.00	1.30	.50	.90	
17	3.00	4.55	3.00	13.30	3.50	3.00	2.30	2.00	1.30	.50	.90	
18	2.85	4.60	2.90	11.80	3.50	2.95	2.20	2.00	1.30	.50	.80	
19	2.80	4.95	3.30	6.25	3.50	3.00	2.20	1.90	1.30	.50	.80	
20	2.70	5.25	3.65	5.20	3.50	3.10	2.20	1.90	1.20	.50	.80	
21	2.70	4.80	3.90	5.20	3.60	3.30	2.20	1.90	1.20	.50	.80	
22	2.70	4.60	3.60	4.70	3.60	4.00	2.20	1.90	1.00	.50	.60	
23	2.60	4.00	3.30	4.60	3.60	3.50	2.10	1.80	1.00	.50	.60	
24	2.60	4.00	3.30	4.50	3.50	3.40	2.15	1.80	1.00	.50	.60	
25	2.70	4.00	3.30	4.25	3.50	3.10	2.00	1.80	1.00	.50	.60	
26	2.70	4.00	3.65	4.20	3.50	3.00	2.00	1.70	1.00	.50	.60	
27	2.60	3.80	3.95	4.20	3.40	2.95	2.00	1.70	1.00	.50	.60	
28	2.60	3.80	3.80	4.20	3.35	2.85	2.00	1.70	1.00	.50	.60	
29	2.60	.....	3.80	4.20	3.20	2.70	2.00	1.70	.90	.50	.60	
30	2.60	.....	3.90	4.10	3.10	2.70	2.00	1.70	.90	.50	.60	
31	2.70	.....	3.70	.....	3.10	.....	2.00	1.70	.....	.50	.....	

WESTERN GULF DRAINAGE.

While the year 1900 was an exeedingly wet one throughout Texas, year 1901 was as dry as usually falls to the lot of that State. Dur the early part of 1901 the rivers showed in their flow a relatively la run-off derived from the high precipitation of the preceding ye but before the summer had waned evaporation and lack of rain l reduced the flow of all the streams of the State considerably and in fall some reached the lowest known stages on record. Following i description of a number of rivers in Texas visited during Dec ber, 1901, by Prof. T. U. Taylor, of the University of Texas at Aust Tex. Measurements were made by him also of San Felipe Sprin near the town of Del Rio, the flow on December 16 being 150 seco feet; of Barton Springs, at Austin, the flow December 23 being second-feet; and of the Hot Wells at San Antonio, the flow on Dec ber 31 being 41 second-feet. A description of these springs will found in Water-Supply Paper No. 50.

BRAZOS RIVER AT WACO, TEX.

This station, which was established September, 1898 by T. U. T lor, is described in Water-Supply Paper No. 50, page 333.

In the latter part of December, 1901, the river reached the low flow of its recorded history, a measurement made December 28 giv a discharge of 69 second-feet. The bed of the river has been modif

materially during the past year, the deepest part of the channel being no longer adjacent to the southwest bank, but at present about 50 feet from the gage. The following measurements of discharge were made by T. U. Taylor and C. N. Campbell during 1901:

List of discharge measurements of Brazos River at Waco, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 1	3.15	3.85	November 12	2.30	0.76
March 9	2.85	2.68	November 28	3.00	2.42
May 11	2.40	1.30	December 21	2.50	.98
October 15	3.48	5.83	December 26	2.38	.73
November 2	2.40	.87	December 27	2.35	.70
November 12	2.30	.77	December 28	2.32	.69

Daily gage height, in feet, of Brazos River at Waco, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.20	2.80	3.00	2.90	2.80	6.60	2.75	2.35	3.30	2.90	2.40	2.90
2	3.20	2.80	3.00	2.80	2.80	6.95	2.70	2.25	2.95	2.85	2.40	2.80
3	3.20	2.80	2.90	2.70	2.80	11.40	2.65	4.30	2.80	2.75	3.45	2.75
4	3.20	2.80	2.90	4.30	2.80	8.90	2.60	4.40	2.60	2.70	2.85	2.70
5	3.15	2.90	2.90	4.35	2.70	8.65	2.50	4.10	2.20	2.60	2.80	2.70
6	3.10	2.90	2.85	4.45	2.70	9.05	2.50	4.10	2.40	2.60	2.60	2.70
7	3.10	3.00	2.75	4.20	2.60	7.95	2.40	3.95	2.70	2.60	2.55	2.70
8	3.10	3.10	2.70	4.00	2.60	6.95	2.40	3.70	2.60	2.45	2.50	2.80
9	3.10	3.10	2.80	3.80	2.60	6.45	2.40	3.50	2.50	2.40	2.45	2.70
10	3.10	3.10	2.80	3.60	2.50	5.80	2.30	3.40	2.40	2.40	2.30	2.55
11	3.10	3.20	2.80	3.55	2.40	5.40	2.30	3.25	2.30	3.15	2.30	2.50
12	3.10	3.40	2.80	3.50	2.40	5.10	2.30	3.15	2.25	3.50	2.30	2.50
13	3.10	3.60	2.75	3.80	2.40	5.10	2.30	3.10	3.10	3.25	2.30	2.50
14	3.10	3.55	2.70	3.50	2.40	4.75	2.30	3.75	5.20	3.05	2.30	2.50
15	3.10	3.45	2.70	3.30	2.30	4.45	2.25	3.80	6.00	2.90	3.00	2.50
16	3.10	3.30	2.70	3.20	2.30	4.30	2.20	3.15	4.70	3.40	3.85	2.50
17	3.10	3.25	2.60	3.45	7.25	4.05	2.20	3.10	4.55	3.30	3.75	2.50
18	3.10	3.20	2.70	3.30	10.00	3.90	2.20	3.05	4.50	3.35	3.70	2.50
19	3.00	3.20	2.80	3.25	14.75	3.75	2.20	2.90	4.40	3.20	3.55	2.60
20	3.00	3.25	2.70	3.20	10.50	3.65	2.10	2.80	4.30	3.00	3.40	2.60
21	3.00	3.30	2.70	3.10	8.15	3.50	2.20	2.70	4.60	3.05	3.30	2.50
22	3.00	3.30	2.70	3.10	7.70	3.45	2.55	2.65	4.20	2.80	3.30	2.50
23	3.00	3.30	2.80	3.70	7.30	3.40	2.25	2.60	3.85	2.70	3.20	2.50
24	3.00	3.20	2.70	3.85	6.90	3.20	2.20	2.60	3.65	2.70	3.10	2.50
25	3.00	3.20	2.70	3.65	6.25	3.15	2.20	2.55	3.50	2.60	3.00	2.45
26	3.00	3.10	2.70	3.30	6.00	3.00	2.75	2.40	3.35	2.60	3.00	2.40
27	2.95	3.10	2.70	3.10	5.60	3.05	2.90	2.65	3.20	2.60	2.90	2.35
28	2.90	3.10	2.70	3.10	5.45	3.05	2.85	3.50	3.20	2.50	3.00	2.30
29	2.90	.....	2.70	2.95	5.30	2.90	2.55	3.15	3.10	2.50	2.95	2.30
30	2.90	.....	3.80	2.90	5.25	2.80	2.35	3.00	3.10	2.50	2.90	2.30
31	2.90	.....	3.20	.....	5.85	.....	2.20	2.80	.....	2.40	.....	2.30

BOSQUE RIVER, TEXAS.

Bosque River rises in Erath County and after traversing Bosque County flows into Brazos River 4 miles west of Waco. It is a stream of high banks, and has a perennial flow, which, however, at low stages is not sufficient for irrigation or for continuous power purposes. The water is clear and the bed rocky and gravelly at the section used for measurement. The flow was measured on December 26, 1901, at the iron bridge 5 miles west of Waco and gave a discharge of 3 second-feet. There is a power plant on this river at Clifton, Bosque County.

SULPHUR FORK OF LAMPASAS RIVER, TEXAS.

This fork rises in the town of Lampasas, in the Hancock ar Hanna springs, fully described in Water-Supply Paper No. 50, pag 335. The flow was measured in December, 1900, and gave a dischar of 10 second-feet. The flow was again measured on December 19, 190 by Thomas U. Taylor, and gave a discharge of 11 second-feet. Th Sulphur Fork flows into the main Lampasas near the town of Kem ner, and at low stages carries more water than the main branch. Th Lampasas, the Solado, and the Leon unite southeast of Belton at point known as Three Rivers, to form Little River.

SOLADO RIVER, TEXAS.

The Solado River has its source in the famous Solado Springs, the town of Solado, 9 miles south of Belton. These are similar source, behavior, and character of water to those of San Marcos, Sa Antonio, Del Rio, etc. Formerly two dams existed across the Solad one in the town and the other some distance below. The flow w measured on December 19, 1901, by Thomas U. Taylor, and a di charge of 13 second-feet was found. The stream below the town often rather deep, and resembles in all its characteristics the Sa Marcos. The bed is rocky, and the reliable flow would make th stream available for power purposes.

Two flour mills and 2 cotton gins are at present in active operatio on the Solado. Summer's mill, 2 miles above the mouth, derives i power by means of a 10-foot stone dam. Six miles above this mill located Stinnett's flour mill, where a head of 18 feet is obtained wi a race 1 mile long and a dam 3 feet high. Between these two plan are located the cotton gins referred to.

LEON RIVER, TEXAS.

The Leon was described fully in Water-Supply Paper No. 50, pa 334. It unites with the Nolan in the suburbs of Belton. The ye 1901 was conspicuous for low water in the Leon, the flow being suf cient to run the power plant 1 mile east of Belton only. On Decer ber 20, 1901, the water in the lake above the dam was about 1 fo below the crest, but water was leaking through the dam and mill rac The flow was found to be only 6 second-feet. The Nolan River w measured just west of town and a discharge of only 1 second-fo was found.

LITTLE RIVER, TEXAS.

The Little River is formed by the Leon, Lampasas, and Solado. has high banks, and for most of its course is deep and clear and flo slowly. The valleys on each side are among the richest in Texa The land rises very gradually from the banks, and the floods to whi this stream is subject spread out over the bottom lands and at ma places cover a width of 2 miles. The liability of the river to overflo

the bottom lands on each side has rendered its use for power purposes rather discouraging, as damage suits would inevitably follow an overflow. The flow was measured by Thomas U. Taylor, at McCowan's ford, 2 miles south of Cameron, on December 20, 1901, and gave a discharge of 59 second-feet. The stream at this place was 29 feet wide, with an average depth of 14 inches and a mean velocity of 1.72 feet per second. This measurement can be regarded as the lowest minimum at this section, as no rains had fallen on its watershed for several months, the season of 1901 having been an especially dry one in Texas.

CONCHO RIVER, TEXAS.

Concho River discharges into the Colorado in the southwest corner of Coleman County. The main Concho, from its junction with the Colorado to the point where it is formed by the North and Middle Conchos, 1½ miles east of San Angelo, is about 45 miles long in an air line. Above San Angelo the waters of the Conchos are utilized for irrigation in Sterling, Irion, and Tom Green counties. The North Concho traverses the counties of Andrews, Martin, Glasscock, Sterling, and Tom Green, and is subject to great freshets, that have flooded the streets of San Angelo. It has a reliable low-water flow, and at present furnishes water for three irrigation systems, two in Sterling County and one in Tom Green County. Another irrigation plant a few miles above San Angelo derived its water from the North Concho, but a flood swept away the dam, and it has never been rebuilt. The flow of the North Concho was measured by Thomas U. Taylor, December 17, 1901, at a point halfway between the highway bridge at San Angelo and the ford above. At this point the river has a very rough, irregular bottom, composed of a conglomerate rock. At low stage the stream is divided into many irregular channels. At the point of measurement the water was passing through a small and smooth pass only 7 feet wide and 9½ inches deep. The average velocity was found to be 1⅔ feet per second, giving a flow of 9⅓ second-feet. This was the lowest stage of the river, as there had been no effective rain for several months. The Middle Concho flows through west Tom Green, Irion, and east Tom Green counties. Its length is about half that of the north fork, but its low flow near San Angelo is about seven times greater. Affluent streams of importance are Spring Creek and the South Concho. These together supply water for ten irrigation systems. Three of these are at Sherwood, on Spring Creek; three near Knickerbocker, on Dove Creek, a tributary of Spring Creek; three near Christoval, on the South Concho, and one 4 miles south of San Angelo, below the junction of the South and Middle forks. The south branches are unfailing in their water supply, and there is sufficient water to double the area under irrigation. The stream is a succession of beautiful lakes or pools, connected by shoals, where the water flows over the rough segregated stone bottom. The river was measured by Mr. Taylor on December 17, 1901, just below the ford, 4 miles south of

San Angelo, and gave a discharge of 69 second-feet. This section was near the Cunningham dam, which supplies the irrigation system of that name.

MILL CREEK, TEXAS.

This small stream has its source in large springs in the suburbs of the town of San Saba. A stone dam has been constructed across the stream near its head and the backwater spreads over the supplying springs. The dam is a substantial stone structure repaired late in 1901. It supplies power to operate a mill, and pressure for the town water supply, and serves to raise the water into the irrigation ditch that leads to the land of Mr. Kirkpatrick. The flow was measured by Thomas U. Taylor on December 18, 1901, a short distance below the dam while water was flowing freely over the waste weir. The discharge was found to be 10 second-feet.

LLANO RIVER, TEXAS.

The Llano River rises in Sutton County, within a few miles of the headwaters of Devils River. It traverses Sutton, Kimble, and Mason counties and enters Colorado River at Kingsland, in the eastern part of Llano County. In its upper part, notably in Kimble County, it is a very effective irrigation stream as there are no less than 30 independent systems that draw their waters from it and its tributaries. Below Kimble County no attempt has been made to utilize the water for irrigation purposes, but three power plants are located upon it, near the town of Llano. J. K. Finlay owns two plants 2 and 8 miles above Llano, while at the town there is a small but very effective plant that operates the pumps of the city waterworks and the electric-light plant. The Llano was measured by Thomas U. Taylor in March, 1899, and gave a discharge of 76 second-feet. It was again measured on November 9, 1901, and gave a discharge of 105 second-feet. The river was said to be at its lowest stages during both measurements. Assuming the lowest measurement (76 second-feet), the present dam with its fall of 9 feet can develop 57 horsepower continuously, or 160 horsepower if used only sixty hours during the week and its flow conserved the rest of the time.

GUADALUPE RIVER, TEXAS.

The Guadalupe with its tributaries furnishes power for no less than 17 plants. Two of these are above New Braunfels, in Kerr County, two on the Comal River, three at Luling, eight on San Marcos River, and two below the mouth of the San Marcos. The flow of the Comal was fully treated in Water-Supply Paper No. 50. The Guadalupe was measured in March, 1901, on the crest of the dam of the Berchel Power Company, 3 miles north of Cuero, and the discharge was found to be 551 second-feet. The crest of the dam is flat, 6 feet broad and 140 feet long between bulkheads. The water was 1.15 feet deep on the

crest and had an average velocity of 3.42 feet per second. The measurement was made by wading on the crest. There had been no rain on the watershed of the river for months and it was down to a low stage, as reported by the engineer of the power plant.

CARRIZO SPRINGS, TEXAS.

Carrizo Springs Creek flows through the village of Carrizo Springs one-fourth mile east of the court-house. It rises 5 miles southwest of the court-house, flows eastwardly, and empties into Nueces River at a point about 1 mile above the Carrizo Springs and Cotulla road crossing, or about 3 miles above Taylor's dam. The creek does not flow from one large spring, but is the accumulated flow of a number of small springs scattered along its length. A measurement made by E. C. H. Bantel, on December 30, 1901, at low water, showed the flow to be 1.32 second-feet.

An abundant supply of water may be obtained anywhere in this section by digging or drilling wells. In the former the water is found at from 10 to 15 feet below the surface. Drilled wells 90 feet deep give a small but steady flow, and as the depth increases the flow becomes greater. There are seven or eight artesian wells scattered in the section north of the town. One of these, known as Campbell's well, has a 5-inch pipe sunk 350 feet, and flows about 50 gallons per minute. The water is used to irrigate several acres of land on which garden truck is raised. The owner of the well has installed a 15-horsepower gasoline engine and a 5-inch centrifugal pump to augment his supply of water and has constructed two earthen tanks or reservoirs having a total area of about 2 acres and a depth of 8 feet.

Another artesian well, known as the Paterson well, has recently been completed at a point about 5 miles southeast of the court-house. This well has a 5⅝-inch pipe, is 590 feet deep, and flows about 200 gallons per minute. Its flow for the three months October, November, and December, 1901, was constant.

About one-half mile south of the court-house is the dug well from which the Carrizo mineral water is obtained. The well is said to be 60 feet deep; the water rises to a point 25 feet from the surface, and is pumped out by an ordinary hand pump. The analysis of this mineral water is as follows:

Analysis of Carrizo Springs mineral water.

	Gr. U. S. G.
Total mineral matter	1,306.18
Magnesium sulphate	231.00
Sodium sulphate	390.00
Sodium chloride	467.00
Sodium bicarbonate	80.30
Calcium	130.40
Potassium chloride	5.50
Soluble silica	.71

COLORADO RIVER AT AUSTIN, TEX.

Since the destruction of the dam, measurements have been r at the station about a fourth of a mile above the highway brid Congress avenue. The station is described in Water-Supply P No. 50, page 336. A full discussion of the flow of the river and failure of the masonry dam on April 7, 1900, will be found in W Supply Paper No. 40. During the year 1901 the Colorado River low, though the record does not exhibit the extreme low stage rea by the other Texas streams during the fall of 1901. It reache lowest stage in July. The section between the bridge and the I national and Great Northern Railroad bridge below was mater changed during the fall by the scouring out of its central portion the formation of a gravel bar on the north side.

The following measurements were made by T. U. Taylor and C Campbell during 1901:

List of discharge measurements of Colorado River at Austin, Tex.

Date.	Gage height.	Dis-charge.	Date	Gage height.	ch
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Se*
June 24	1.80	2.99	November 13	2.55	
July 6	1.60	2.18	November 18	2.25	
October 23	1.85	4.24	November 23	2.10	
October 28	1.80	4.17	December 6	1.90	
October 31	1.80	4.25			

Daily gage height, in feet, of Colorado River at Austin, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	2.80	2.70	2.60	2.55	2.40	3.00	1.70	2.30	2.00	2.20	1.80
2	2.80	2.70	2.60	2.60	2.40	3.05	1.60	2.30	1.95	2.10	1.80
3	2.80	2.70	2.60	2.50	2.30	3.90	1.60	2.20	1.85	2.00	1.80
4	2.80	2.70	2.60	2.40	2.30	3.50	1.60	2.20	1.60	1.90	1.80
5	2.80	2.70	2.60	2.35	2.30	3.20	1.60	2.25	1.60	1.85	1.70
6	2.80	2.70	2.60	2.30	2.30	2.95	1.50	2.60	1.80	1.85	2.75
7	2.80	2.70	2.60	2.30	2.30	2.75	1.50	2.40	1.90	1.80	4.45
8	2.80	2.70	2.50	2.30	2.30	2.95	1.50	2.30	1.80	1.75	4.20
9	2.80	2.70	2.50	2.30	2.30	2.95	1.50	2.25	1.70	1.70	3.50
10	2.80	2.70	2.50	2.30	2.30	2.75	1.55	2.15	1.75	1.70	3.20
11	2.80	2.70	2.50	2.40	2.65	3.10	1.65	2.10	1.90	1.85	2.85
12	2.80	2.70	2.50	2.40	2.85	2.90	2.55	2.10	1.85	2.00	2.65
13	2.80	2.70	2.50	2.40	2.70	2.70	10.20	1.95	1.80	1.95	2.45
14	2.80	2.70	2.50	2.40	2.60	2.55	5.95	1.90	6.85	1.90	2.40
15	2.80	2.70	2.45	2.40	2.55	2.45	4.20	1.85	5.75	1.80	2.35
16	2.80	2.70	2.40	2.30	2.55	2.35	3.95	1.80	5.90	1.80	2.30
17	2.80	2.70	2.40	2.30	2.50	2.30	3.50	1.80	6.15	1.70	2.30
18	2.80	2.70	2.40	2.40	3.15	2.20	4.80	1.80	6.65	1.70	2.25
19	2.80	2.70	2.40	2.45	3.00	2.15	4.10	1.70	4.05	1.70	2.20
20	2.80	2.70	2.40	2.60	2.65	2.10	3.60	1.70	3.40	1.70	2.20
21	2.75	2.70	2.40	2.80	3.45	2.05	3.35	1.85	3.05	1.70	2.15
22	2.70	2.70	2.40	2.80	3.35	1.95	3.10	1.90	2.95	1.80	2.10
23	2.70	2.70	2.50	2.70	3.60	1.95	3.30	1.80	2.75	1.85	2.10
24	2.70	2.70	2.40	2.70	3.75	1.85	2.85	1.55	2.70	1.90	2.05
25	2.70	2.70	2.40	2.60	3.60	1.80	2.95	1.50	2.95	1.80	2.00
26	2.70	2.70	2.40	2.60	3.40	1.80	2.65	1.40	3.10	1.80	2.00
27	2.70	2.60	2.40	2.55	3.35	1.80	2.55	1.40	2.60	1.80	2.00
28	2.70	2.60	2.40	2.50	3.85	1.80	2.45	1.30	2.50	1.80	1.90
29	2.70	.....	2.40	2.50	4.15	1.70	2.40	1.30	2.40	1.80	1.90
30	2.70	.....	2.45	2.50	3.50	1.70	2.40	1.40	2.30	1.80	1.90
31	2.70	.....	2.50	.....	3.30	.....	2.40	1.90	.....	1.80	.....

RIO GRANDE NEAR DEL NORTE, COLO.

This station is about 2 miles west of the town of Del Norte, above the main canal taking water from the Rio Grande. Continuous records have been kept here by J. S. Regan since the fall of 1889. A description of this station is given in Water-Supply Paper No. 50, page 347. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV., page 347. A measurement was made by A. L. Fellows September 10, 1901, when the discharge was 470 second-feet, the gage height being 1.75 feet.

Daily gage height, in feet, of Rio Grande near Del Norte, Colo., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1				1.56	3.84	3.62	2.50	1.64	1.94	1.40		
2		[a]2.24	[b]2.28								1.44	
3	[a]			1.48	3.46	3.42	2.42	1.52	1.76	1.40		
4												
5	2.32			1.46	3.02	3.34	2.24	1.66	2.30	1.38		
6												
7				1.54	2.96	3.52	2.10	1.80	1.94	1.44		1.40
8												
9		[a]2.30	2.10	1.62	3.00	4.00	2.00	1.80	1.80	1.46	1.44	
10												
11				1.56	3.62	3.60	1.96	1.64	1.78	1.48		
12	[a]2.24											
13				1.66	3.58	3.38	1.82	1.62	1.72	1.42		
14												1.48
15				1.90	3.84	3.10	1.76	1.54	1.64	1.42		
16		[a]2.42	1.94								1.48	
17				1.76	3.64	2.78	1.68	1.60	1.56	1.40		
18												
19	[a]2.18			2.08	4.58	3.02	1.64	1.76	1.52	1.38		
20												
21				2.20	5.16	3.00	1.60	2.00	1.52	1.36		1.62
22												
23		[a]2.36	1.42	2.16	3.64	3.06	1.62	1.76	1.48	[illegible].6	1.40	
24												
25				2.86	4.24	3.00	1.70	1.80	1.46	1.38		
26	[a]2.34											
27				3.18	4.42	2.84	1.86	1.78	1.44	1.42		1.66
28												
29				3.14	4.28	2.62	1.74	1.72	1.46	1.42		
30			1.54								1.38	
31					3.94		1.68	1.90		1.44		1.70

[a] Ice. [b] River open in center; ice on both sides.

RIO GRANDE AT CENICERO, COLO.

This station is a short distance above the Colorado State line, at a point where the river is crossed by a wagon bridge. Gagings were begun July 28, 1899, since which time continuous records have been kept. The station is an extremely important one, giving, as it does, the discharge of the river at the Colorado State line, including practically all of the Colorado drainage. A description of this station was published in Water-Supply Paper No. 50, page 348. The results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 349. During 1901 a measurement was made by A. L. Fellows on September 9, when the discharge was found to be 87 second-feet for a gage height of 1.20 feet.

Daily gage height, in feet, of Rio Grande at Cenicero, Colo., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec
1	2.00	2.00	1.90	1.30	2.70	3.40	1.60	1.40	1.10	1.10	1.10	1.
2	2.00	2.00	2.10	1.30	3.40	3.00	1.60	1.00	1.10	1.10	1.00	1.
3	2.00	2.00	2.10	1.40	3.60	3.00	1.50	.90	1.10	1.10	1.00	1.
4	2.00	2.00	2.20	1.40	3.30	2.90	1.50	.90	1.00	1.10	1.00	1.
5	2.00	2.00	2.20	1.50	2.80	2.90	1.40	.90	1.00	1.10	1.00	1.
6	2.00	2.00	2.10	1.50	2.70	2.90	1.40	1.10	1.00	1.10	1.00	1.
7	2.00	2.00	2.10	1.50	2.70	2.80	1.30	1.10	1.00	1.10	1.00	1.
8	2.00	2.00	2.00	1.50	2.70	3.00	1.30	1.20	1.00	1.10	1.00	1.
9	2.00	2.00	1.90	1.40	2.70	3.20	1.30	1.20	1.00	1.10	1.00	1.
10	2.00	2.00	1.90	1.40	2.70	3.20	1.20	1.20	1.10	1.10	1.00	1.
11	2.00	2.00	1.80	1.30	2.70	3.00	1.20	1.20	1.10	1.10	1.00	1.
12	2.00	2.00	1.70	1.30	2.80	3.00	1.20	1.20	1.10	1.10	1.00	1.
13	2.00	2.00	1.70	1.30	2.90	2.70	1.20	1.10	1.10	1.10	1.00	1.
14	2.00	2.00	1.70	1.30	3.10	2.60	1.20	1.10	1.10	1.00	1.00	1.
15	2.00	2.00	1.60	1.30	3.10	2.60	1.20	1.10	1.10	1.00	1.00	1.
16	2.00	2.00	1.60	1.30	3.10	2.50	1.20	1.10	1.10	1.00	1.00	1.
17	2.00	2.00	1.60	1.30	3.10	2.50	1.20	1.10	1.00	1.00	1.00	1.
18	2.00	2.00	1.60	1.30	2.90	2.30	.90	1.10	1.00	1.00	1.10	1.
19	2.00	2.00	1.60	1.30	2.90	2.00	.90	1.10	1.00	1.00	1.10	1.
20	2.00	2.00	1.60	1.30	3.00	2.00	.80	1.10	1.00	1.00	1.10	1.
21	2.00	2.00	1.70	1.30	3.60	2.00	.80	1.10	1.00	1.00	1.20	1.
22	2.00	2.00	1.70	1.40	4.00	2.00	.80	1.00	1.00	1.00	1.20	1.
23	2.00	2.00	1.70	1.50	4.30	2.00	.80	1.00	1.10	1.00	1.30	1.
24	2.00	2.00	1.60	1.60	3.90	2.00	.80	1.00	1.10	1.00	1.40	1.
25	2.00	2.00	1.60	1.80	3.90	2.00	.80	1.10	1.00	1.00	1.40	1.
26	2.00	1.90	1.50	2.00	3.50	1.90	.90	1.10	1.00	1.20	1.40	1.
27	2.00	1.80	1.40	2.40	3.40	1.90	.90	1.10	1.00	1.20	1.40	1.
28	2.00	1.90	1.30	2.50	3.50	1.80	.90	1.10	1.00	1.10	1.40	1.
29	2.00	.....	1.30	2.50	3.50	1.70	1.00	1.10	1.10	1.10	1.40	1.
30	2.00	.....	1.30	2.50	3.50	1.60	1.10	1.10	1.10	1.10	1.40	1.
31	2.00	.....	1.30	.....	3.40	.....	1.20	1.10	.....	1.10	.....	1.

RIO GRANDE AT EMBUDO, N. MEX.

This station, established in 1889, is about 300 feet east of the rai road station at Embudo. It is described in Water-Supply Paper No 50, page 350. The results of measurements for 1900 will be found i the Twenty-second Annual Report, Part IV, page 350. During 190 the following discharge measurements were made by P. E. Harrour

List of discharge measurements of Rio Grande at Embudo, N. Mex.

Date.	Gage height.	Dis-charge.	Date.	Gage height.	Dis-charge
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
February 21	7.95	543	September 24	7.25	2
March 27	7.70	399	October 9	7.40	3
April 8	7.80	477	October 24	7.40	3
April 24	8.20	679	November 6	7.40	3
July 11[a]	7.30	267	November 19	7.40	3
July 25	7.50	338	December 5	7.65	4
August 23	7.40	339	December 19	7.60	4
September 6	7.50	381			

[a] Approximate.

Daily gage height, in feet, of Rio Grande at Embudo, N. Mex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	7.50	7.70	8.10	7.60	10.10	10.95	7.95	7.70	7.55	7.30	7.40	7.70
2	7.50	7.70	8.10	7.65	10.55	10.70	7.80	7.65	7.50	7.30	7.40	7.70
3	7.50	7.70	8.10	7.70	10.75	10.55	7.80	7.50	7.55	7.30	7.40	7.65
4	7.50	7.70	8.10	7.70	10.90	10.35	7.60	7.50	7.60	7.30	7.40	7.65
5	7.45	7.70	8.10	7.70	10.40	10.15	7.70	7.65	7.55	7.30	7.40	7.80
6	7.40	7.70	8.15	7.70	9.95	10.05	7.55	7.60	7.50	7.75	7.40	7.80
7	7.45	7.70	8.20	7.70	9.85	10.05	7.50	7.70	7.50	7.55	7.40	7.80
8	7.50	7.70	8.20	7.75	9.75	10.05	7.50	8.80	7.50	7.50	7.40	7.65
9	7.50	7.70	8.20	7.80	9.75	10.25	7.40	8.30	7.80	7.45	7.40	7.65
10	7.50	7.70	8.10	7.70	9.80	10.35	7.35	8.00	7.75	7.40	7.40	7.45
11	7.50	7.70	8.10	7.70	10.00	10.30	7.30	7.95	7.65	7.40	7.50	7.50
12	7.55	7.60	8.05	7.70	10.15	10.15	7.30	7.65	7.60	7.40	7.45	7.55
13	7.60	7.60	8.00	7.70	10.25	10.00	7.20	7.60	7.55	7.40	7.40	7.55
14	7.60	7.60	8.00	7.70	10.40	9.75	7.20	7.50	7.50	7.35	7.40	7.50
15	7.60	7.60	8.00	7.70	10.50	9.60	7.25	7.65	7.50	7.30	7.40	7.50
16	7.60	7.60	8.00	7.70	10.55	9.45	7.25	7.90	7.40	7.30	7.40	7.45
17	7.60	7.60	8.00	7.75	10.45	9.30	7.20	7.60	7.40	7.30	7.40	7.55
18	7.50	7.70	8.00	7.75	10.40	9.05	7.20	7.60	7.40	7.30	7.40	7.60
19	7.50	7.85	8.00	7.75	10.55	8.85	7.10	7.50	7.35	7.30	7.40	7.60
20	7.50	8.05	7.80	7.85	10.75	8.75	7.15	7.50	7.30	7.30	7.40	7.60
21	7.55	8.10	7.70	7.90	11.20	8.70	7.15	7.50	7.30	7.30	7.40	7.60
22	7.60	8.15	7.70	7.90	11.75	8.70	7.10	7.45	7.30	7.30	7.40	7.60
23	7.60	8.15	7.70	7.90	12.00	8.70	7.55	7.40	7.30	7.30	7.40	7.65
24	7.65	8.15	7.70	8.00	11.80	8.65	8.30	7.45	7.30	7.35	7.40	7.65
25	7.70	8.15	7.60	8.40	11.45	8.50	7.85	7.50	7.30	7.40	7.40	7.60
26	7.70	8.10	7.60	8.75	11.20	8.60	7.70	8.10	7.30	7.40	7.50	7.55
27	7.70	8.10	7.60	9.45	10.95	8.45	9.95	7.45	7.30	7.55	7.65	7.60
28	7.70	8.10	7.60	9.75	10.95	8.25	7.85	7.40	7.30	7.40	7.70	7.55
29	7.70	.....	7.60	9.80	11.00	8.15	7.70	7.30	7.30	7.40	7.70	7.60
30	7.70	.....	7.65	9.95	11.00	7.95	7.70	7.35	7.30	7.40	7.70	7.65
31	7.70	.....	7.60	.....	11.00	.....	7.70	7.70	.....	7.40	.....	7.65

RIO GRANDE AT RIO GRANDE, N. MEX.

This station, established February 3, 1895, is about one-fourth of a mile above the railroad station at Rio Grande and at the head of White Rock Canyon. It is described in Water-Supply Paper No. 50, page 350. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 351. During 1901 the following measurements were made by P. E. Harroun:

List of discharge measurements of Rio Grande at Rio Grande, N. Mex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
March 8	5.70	934	September 5	5.30	647
April 10	5.40	670	September 26	4.60	299
April 26	7.40	2,383	October 11	5.05	447
July 10[a]	4.70	233	October 26	4.90	358
July 27	6.00	1,248	November 8	4.90	385
August 7	6.10	1,251	November 21	4.90	431
August 22	5.25	624	December 7	5.30	575

[a] Meter gave out; results approximate.

Daily gage height, in feet, of Rio Grande at Rio Grande, N. Mex., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	4.90	5.05	5.60	5.05	9.75	9.15	5.35	5.90	5.45	4.65	5.05
2	4.75	5.15	5.65	5.10	10.15	8.85	5.30	5.05	5.00	4.65	5.05
3	4.75	5.15	5.75	5.10	9.90	8.45	5.40	5.00	4.80	4.75	5.00
4	4.85	5.05	5.95	5.20	9.40	8.30	5.20	4.30	6.25	4.80	5.00
5	4.90	5.10	5.80	5.20	9.05	8.15	5.20	6.40	5.45	4.75	4.95
6	4.90	5.15	5.80	5.20	8.80	7.95	5.10	6.15	5.20	6.60	5.00
7	5.05	5.15	5.75	5.20	8.85	7.85	5.10	6.00	5.25	5.55	4.90
8	5.15	5.25	5.65	5.15	8.85	7.65	5.05	6.85	4.95	5.60	4.90
9	5.15	5.25	5.80	5.30	8.80	7.65	4.90	5.65	6.95	5.30	4.95
10	4.90	5.15	5.60	5.25	8.80	7.75	4.90	5.40	7.10	5.00	5.00
11	4.95	5.15	5.65	5.40	8.75	7.70	4.85	5.40	5.65	4.95	5.00
12	4.95	5.15	5.45	5.25	8.80	7.65	4.70	5.30	5.25	4.95	5.10
13	4.85	5.15	5.40	5.25	8.70	7.45	4.70	5.20	5.15	4.90	5.15
14	5.05	5.15	5.30	5.45	9.35	7.15	5.55	5.20	5.05	4.85	5.05
15	4.95	5.20	5.30	5.70	9.45	7.05	4.70	5.25	4.95	4.75	5.00
16	5.05	5.20	5.20	5.80	9.50	7.00	5.25	5.40	4.85	4.80	4.90
17	4.95	5.15	5.60	5.90	9.25	6.85	4.70	5.45	4.80	4.80	4.85
18	5.05	5.15	5.55	5.70	9.25	6.70	4.65	5.25	4.75	4.85	4.90
19	4.95	5.25	5.60	5.70	9.35	6.45	4.55	6.80	4.80	4.85	4.90
20	4.90	5.85	5.40	5.65	9.40	6.30	4.55	6.95	4.75	4.90	4.90
21	4.90	5.95	5.40	5.90	9.95	6.30	4.60	5.40	4.75	4.85	4.90
22	4.90	5.95	5.40	6.20	60.40	6.30	5.15	4.95	4.60	4.95	4.85
23	5.05	5.95	5.45	6.75	10.35	6.25	4.90	4.75	4.55	4.90	4.85
24	5.15	5.70	5.30	6.85	10.25	6.15	4.95	4.75	4.60	4.90	4.80
25	5.15	5.65	5.30	7.35	9.40	6.15	6.15	5.20	4.65	4.95	4.90
26	5.15	5.65	5.20	8.10	9.40	6.00	6.15	4.95	4.55	4.90	4.90
27	5.25	5.55	5.15	8.65	9.20	5.95	6.95	5.20	4.60	4.80	4.90
28	5.20	5.70	5.15	8.70	9.20	5.90	5.80	5.05	4.55	4.95	5.05
29	5.25	.....	5.10	8.75	9.10	5.70	7.10	4.95	4.55	4.95	5.10
30	5.15	.....	5.05	9.25	9.10	5.55	6.60	4.90	4.55	5.00	5.10
31	4.95	.....	5.00	.....	9.15	.....	6.60	6.05	.....	5.05	.....

RIO GRANDE NEAR SAN MARCIAL, N. MEX.

This station, established January 29, 1895, is at the railroad bri
a half mile south of the town. It is described in Water-Supply Pa
No. 50, page 351. During the high water of September, 1900,
gage was swept away, since which time a graduated rod has b
used, measuring down from the bridge for each reading.

Results of measurements for 1900 will be found in the Twe
second Annual Report, Part IV, page 352. During 1901 the follo
measurements of discharge were made by P. E. Harroun and
hydrographers for the International (Water) Boundary Commiss

List of discharge measurements of Rio Grande near San Marcial, N. Mea

| Date. | Gage height. | Discharge. | Date. | Gage height. | Di
cha |
|---|---|---|---|---|---|
| 1901. | *Feet.* | *Sec.-ft.* | 1901. | *Feet.* | *Se* |
| February 5 | 7.12 | 421 | March 12 | 7.40 | |
| February 6 | 7.25 | 368 | March 14 | 7.40 | |
| February 8 | 7.30 | 368 | March 15 | 7.32 | |
| February 9 | 7.25 | 353 | March 18 | 7.08 | |
| February 11 | 7.47 | 563 | March 19 | 6.99 | |
| February 12 | 7.50 | 541 | March 20 | 6.87 | |
| February 14 | 7.42 | 463 | March 22 | 6.75 | |
| February 15 | 7.47 | 480 | March 25 | 6.73 | |
| February 18 | 7.30 | 344 | March 26 | 6.63 | |
| February 19 | 7.30 | 329 | March 27 | 6.52 | |
| February 21 | 7.27 | 284 | March 29 | 6.39 | |
| February 22 | 7.30 | 290 | March 30 | 6.33 | |
| February 24 | 7.80 | 701 | April 1 | 6.30 | |
| February 25 | 7.85 | 921 | April 2 | 6.30 | |
| February 26 | 8.02 | 1,115 | Do | 6.30 | |
| Do | 8.00 | 1,269 | April 4 | 6.10 | |
| February 27 | 7.65 | 701 | April 5 | 6.40 | |
| March 1 | 7.45 | 532 | April 8 | 6.30 | |
| March 4 | 7.35 | 329 | April 9 | 6.20 | |
| March 5 | 7.16 | 321 | April 11 | 6.00 | |
| March 7 | 7.30 | 370 | April 12 | 6.05 | |
| March 10 | 7.55 | 469 | April 13 | 5.90 | |
| March 11 | 7.41 | 425 | April 15 | 6.00 | |
| March 12 | 7.46 | 488 | April 16 | 5.90 | |

List of discharge measurements of Rio Grande, etc.—Continued.

Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*
April 18	5.90	6
April 19	5.90	5
April 21	6.90	146
April 22	7.10	209
April 23	7.10	185
April 24	7.00	145
April 26	6.80	85
Do	8.00	1,009
April 27	8.00	998
April 28	8.90	2,403
April 29	9.10	2,946
April 30	9.10	3,419
May 1	9.10	3,526
May 2	9.10	3,622
May 3	9.70	4,696
May 4	9.90	5,847
May 5	9.70	5,531
May 7	8.90	3,398
May 8	8.90	3,421
May 9	8.90	3,647
May 10	8.90	2,877
May 11	8.60	3,074
May 12	8.80	3,252
May 13	9.00	3,428
May 14	9.10	3,516
May 15	9.20	4,238
May 16	9.40	4,547
May 18	9.20	4,370
May 20	9.20	4,241
May 22	9.10	4,397
May 23	9.30	4,873
May 24	9.80	5,583
May 26	9.70	5,600
May 28	9.30	4,469
May 30	9.10	3,597
June 1	9.40	4,326
June 2	9.80	4,884
June 4	8.90	3,795
June 6	8.50	3,145
June 8	8.20	1,920
June 10	8.10	1,804
June 12	8.20	1,688
June 14	8.10	1,601
June 16	8.20	1,796
June 18	7.80	1,136
June 20	7.70	783
June 22	7.60	498
June 24	7.30	356
June 26	7.20	210
June 28	7.20	178
June 30	6.90	80
July 2	6.70	42
July 3	7.00	150
July 5	6.60	29
August 20	10.85	9,112
August 23	7.00	809
August 24	6.20	290
August 26	6.10	219
August 28	6.40	284
August 29	6.00	126
August 30	6.10	120
September 1	5.90	90
September 2	6.30	186
September 3	6.20	157
Do	6.00	94
September 4	6.20	159
September 5	7.70	1,463
September 6	6.65	388
September 22	5.70	51
October 7	6.80	517
October 28	6.30	101
November 10	6.55	150
November 20	6.70	297
November 22	6.80	267
November 23	6.70	239
November 25	6.90	233
November 27	6.80	244
November 29	6.80	247
December 2	6.80	273
December 4	6.90	310
December 6	7.00	366
December 9	7.00	282
December 11	7.25	398
December 17	6.90	260
December 19	6.80	181
December 23	7.20	392
December 26	7.10	309

Daily gage height, in feet, of Rio Grande near San Marcial, N. Mex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.35	7.10	7.40	6.30	9.10	9.35	6.80	7.95	5.85	4.90	6.60	6.80
2	6.20	7.10	7.30	6.30	9.10	9.70	6.65	7.15	6.05	5.35	6.55	6.80
3	6.65	7.10	7.30	6.20	9.65	9.25	6.75	6.80	5.85	5.10	6.70	6.90
4	6.90	7.15	7.35	6.20	9.80	9.00	6.80	6.35	6.15	5.00	6.70	6.90
5	6.95	7.15	7.20	6.30	9.70	8.60	6.55	6.25	7.00	4.90	6.70	7.00
6	6.70	7.15	7.25	6.20	9.20	8.45	6.25	6.15	7.00	5.35	6.70	6.95
7	6.60	7.25	7.30	6.40	8.85	8.40	5.90	8.50	6.55	7.10	6.70	7.00
8	6.30	7.35	7.40	6.30	8.85	8.15	5.95	7.75	6.35	8.10	6.70	7.10
9	6.80	7.35	7.45	6.25	8.85	8.10	5.70	7.85	7.27	7.15	6.70	6.90
10	6.90	7.20	7.50	6.15	8.90	8.15	5.55	8.10	9.17	6.75	6.60	7.00
11	7.25	7.40	7.45	5.95	8.65	8.05	5.40	7.30	9.65	6.65	6.60	7.20
12	7.10	7.50	7.40	6.00	8.60	8.20	5.30	7.00	8.40	6.60	6.60	7.00
13	7.30	7.45	7.45	5.95	8.95	8.15	5.20	6.80	7.60	6.50	6.75	7.05
14	7.15	7.45	7.40	6.05	9.10	8.10	5.10	6.60	6.95	6.40	6.90	7.05
15	7.15	7.40	7.30	5.90	9.20	8.10	7.50	6.65	6.55	6.40	8.07	6.95
16	7.15	7.30	7.30	5.85	9.40	8.20	6.60	6.55	6.40	6.40	7.65	6.95
17	7.20	7.35	7.20	5.95	9.25	7.90	5.80	6.35	6.30	6.40	7.25	6.95
18	7.20	7.30	7.10	5.90	9.20	7.75	5.35	6.50	6.15	6.30	6.90	6.90
19	7.30	7.25	7.00	5.90	9.30	7.75	5.30	6.95	6.00	6.30	6.80	6.90
20	7.25	7.30	7.90	5.85	9.20	7.70	5.20	9.96	5.90	6.30	6.70	6.90
21	7.15	7.35	6.80	6.80	9.20	7.65	5.10	8.55	5.75	6.30	6.80	6.95
22	7.20	7.30	6.80	7.15	9.10	7.50	5.00	7.35	5.70	6.30	6.80	7.20
23	7.20	7.25	6.80	7.10	9.30	7.35	5.75	6.90	5.60	6.30	6.75	7.25
24	7.20	7.55	6.80	7.00	9.65	7.20	7.10	6.35	5.50	6.30	6.75	7.30
25	7.10	7.85	6.75	6.90	9.70	7.20	9.80	6.25	5.40	6.30	6.75	7.25
26	7.15	7.95	6.65	7.40	9.60	7.15	8.10	6.15	5.30	6.30	6.80	7.15
27	7.15	7.65	6.50	7.95	9.45	7.10	7.90	6.35	5.15	6.30	9.80	7.05
28	7.10	7.50	6.50	8.75	9.15	7.10	8.50	6.25	5.00	6.30	6.75	7.10
29	7.20	.....	6.40	9.00	8.95	7.00	8.90	6.00	4.90	6.30	6.80	7.10
30	7.30	.....	6.40	9.15	9.05	6.85	8.70	6.05	4.90	6.30	6.90	7.15
31	7.25	.....	6.40	.....	9.25	.....	9.10	5.95	.....	6.30	.....	7.20

RIO GRANDE NEAR EL PASO, TEX.

Measurements of the Rio Grande have been made at this place a long time, during the last three years under the direction of W. Follett and P. D. Cunningham, consulting engineers of the Inte tional (Water) Boundary Commission. The present station is Courchesne's limekiln, 4 miles north of El Paso. It is described Water-Supply Paper No. 50, page 352. Results of measurements 1900 will be found in the Twenty-second Annual Report, Part page 353. During 1901 the following discharge measurements w made by T. N. Courchesne:

List of discharge measurements of Rio Grande near El Paso, Tex.

Date.	Gage height.	Dis-charge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
February 5	5.70	96	May 29	11.00	
February 9	5.60	71	June 5	10.60	
February 12	5.50	55	June 7	10.20	
February 14	5.70	87	June 10	9.10	
February 16	6.20	175	June 15	8.30	
February 18	6.00	115	June 18	8.20	
February 21	5.60	68	July 29	8.20	
February 23	5.50	57	August 1	10.20	
February 28	6.80	288	August 3	9.90	
March 1	7.10	412	August 5	8.20	
March 4	6.10	138	August 10	9.20	
March 16	5.50	58	August 12	9.00	
May 2	8.20	938	August 23	10.10	
May 4	9.10	1,526	September 13	10.10	
May 6	10.10	2,386	September 15	9.10	
May 8	10.40	3,185	September 17	7.70	
May 11	9.90	2,166	September 19	7.00	
May 14	9.70	1,983	October 26	7.10	
May 16	9.90	2,274	November 4	7.10	
May 18	10.20	2,680	November 6	6.00	
May 20	10.55	3,065	November 9	6.00	
May 21	10.60	3,209	November 18	7.70	
May 23	10.50	3,076	December 4	6.30	

Daily gage height, in feet, of Rio Grande near El Paso, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	5.00	4.70	7.10	4.70	5.95	10.50	4.90	10.20	5.60	4.80	5.75
2	5.00	4.70	6.70	4.70	8.35	10.50	4.90	10.05	5.25	4.80	6.50
3	5.00	5.25	6.35	4.70	8.95	10.50	4.90	9.85	5.05	4.80	7.85
4	5.05	5.70	6.15	4.70	9.10	10.50	4.90	8.85	5.00	4.80	7.05
5	5.15	5.70	5.85	4.70	9.60	10.65	4.90	8.35	5.00	4.80	6.65
6	5.10	5.70	5.70	4.70	10.10	10.80	4.90	7.90	5.00	4.80	6.10
7	4.90	5.70	5.50	4.70	10.35	10.30	4.90	7.50	4.90	4.80	5.85
8	4.90	5.60	5.40	4.70	10.35	9.90	4.90	6.90	4.90	4.80	5.85
9	4.90	5.60	5.30	4.70	10.05	9.35	4.90	6.60	4.90	4.80	6.00
10	4.90	5.60	5.20	4.70	9.95	9.10	4.90	9.05	4.95	4.80	6.00
11	4.90	5.60	5.05	4.70	9.90	8.95	4.90	9.15	5.60	6.15	5.90
12	4.90	5.50	4.90	4.70	9.75	8.85	4.90	9.00	7.65	7.35	5.90
13	4.90	5.50	4.80	4.70	9.60	8.65	4.90	8.70	10.10	6.90	5.70
14	4.90	5.70	4.70	4.70	9.70	8.35	4.90	8.25	9.40	6.50	5.90
15	4.90	5.90	4.95	4.70	9.80	8.25	4.90	7.90	0.05	6.10	7.00
16	4.90	6.25	5.35	4.70	9.90	8.20	4.90	7.45	8.50	5.70	6.45
17	4.90	6.15	5.50	4.70	10.10	8.40	4.90	7.20	7.60	5.40	6.30
18	4.90	5.95	5.65	4.70	10.20	8.10	4.90	6.90	7.25	5.20	7.70
19	4.90	5.80	5.55	4.70	10.25	8.00	4.90	6.50	6.95	5.20	7.70
20	4.90	5.65	5.40	4.70	10.45	7.50	4.90	6.40	6.60	5.20	7.40
21	4.90	5.60	5.25	4.70	10.55	7.10	4.90	6.35	6.20	5.20	7.35
22	4.90	5.50	4.95	4.70	10.55	6.70	4.90	7.90	5.85	5.20	6.95
23	4.90	5.50	4.90	4.70	10.50	6.40	4.90	10.05	5.45	5.20	6.80
24	4.90	5.50	4.70	4.70	10.50	6.10	4.90	9.25	5.10	5.30	6.70
25	4.90	5.40	4.70	4.70	10.50	5.90	4.90	8.40	5.00	7.05	6.45
26	4.90	5.30	4.70	4.70	10.60	5.65	4.90	8.00	4.90	6.80	6.40
27	4.70	5.20	4.70	4.70	10.60	5.60	4.90	7.40	4.90	6.25	6.40
28	4.70	6.70	4.70	4.70	10.85	5.45	8.70	7.10	4.90	5.90	6.30
29	4.70	.....	4.70	4.70	11.00	5.25	8.15	6.70	4.90	5.65	6.30
30	4.70	.....	4.70	4.70	11.00	5.05	9.40	6.40	4.90	5.60	6.30
31	4.70	.....	4.70	.....	10.65	.....	10.00	6.00	.....	5.50	.....

LOWER RIO GRANDE.

During 1900 the International (Water) Boundary Commission established a number of gaging stations on the Rio Grande below El Paso, Tex., and on some of its tributary streams, as noted below. This Commission has had charge of the investigation looking toward the building of an international dam at El Paso, and the stations were established in order to obtain data regarding the fluctuations of the lower river to determine questions which had arisen in connection with hydrographic problems. Information regarding the river at the several localities where stations have been established has been furnished through the courtesy of Gen. Anson Mills, chairman of the International (Water) Boundary Commission. The stations are as follows in order downstream: Rio Grande near Fort Hancock, Tex.; Rio Grande 7 miles above Presidio, Tex.; Rio Grande 6 miles below Presidio, Tex.; Rio Grande near Langtry, Tex.; Pecos River near Moorhead, Tex.; Devils River at Devilsriver, Tex.; Rio Grande near Devilsriver, Tex.; and Rio Grande near Eagle Pass, Tex.

RIO GRANDE NEAR FORT HANCOCK, TEX.

This station was established by the International (Water) Boundary Commission March 27, 1900. It is 1½ miles southeast of Fort Hancock, on the Southern Pacific Railroad, in the El Paso Valley, and is about 55 miles below El Paso. The gage record for 1900 is published in Water-Supply Paper No. 50, page 354. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 354. During 1901 the following measurements of discharge were made by James Hague and C. W. Healy:

List of discharge measurements of Rio Grande near Fort Hancock, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.[a]	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
May 8	5.65	1,877	June 17	3.80	469
May 10	6.20	2,151	June 19	3.70	401
May 13	4.60	1,616	June 21	3.00	159
May 15	4.40	1,456	June 24	1.20	43
May 17	5.40	1,706	June 26	.50	13
May 20	5.70	2,005	August 11	5.35	1,295
May 22	5.80	2,064	August 12	5.02	1,170
May 24	6.00	2,233	August 13	5.60	1,469
May 27	6.10	2,287	August 16	3.20	419
May 29	6.20	2,397	August 17	2.80	284
May 31	6.60	2,663	August 24	6.05	1,701
June 3	6.40	2,669	August 25	5.55	1,344
June 5	6.40	2,496	August 30	2.20	100
June 7	6.30	2,281	September 13	2.30	159
June 10	5.40	1,531	September 14	6.33	1,783
June 12	4.70	1,184	September 15	5.70	1,535
June 14	4.00	542			

[a] No measurements were made from Jan. 1 to May 8; June 28 to July 30; Sept. 15 to Dec. 31, 1901.

Daily gage height, in feet, of Rio Grande near Fort Hancock, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
1	(a)	(a)	(a)	(a)	(a)	6.70	(a)	6.20	1.30	(a)	1.50	1
2	(a)	(a)	(a)	(a)	(a)	6.55	(a)	5.90	.90	(a)	1.75	1
3	(a)	(a)	(a)	(a)	(a)	6.35	(a)	6.30	1.10	(a)	2.20	1
4	(a)	(a)	(a)	(a)	(a)	6.30	(a)	6.10	.90	(a)	4.80	1
5	(a)	(a)	(a)	(a)	4.50	6.40	(a)	4.35	.50	(a)	3.90	1
6	(a)	(a)	(a)	(a)	5.30	6.50	(a)	2.00	.25	(a)	3.50	1
7	(a)	(a)	(a)	(a)	5.60	6.35	(a)	1.15	.25	(a)	3.10	1
8	(a)	(a)	(a)	(a)	5.70	6.75	(a)	.65	(a)	(a)	2.70	1
9	(a)	(a)	(a)	(a)	6.35	5.70	(a)	.50	(a)	(a)	2.30	1
10	(a)	(a)	(a)	(a)	6.20	5.40	(a)	.20	1.80	(a)	1.90	1
11	(a)	(a)	(a)	(a)	5.65	5.00	(a)	5.25	1.20	(a)	1.50	1
12	(a)	(a)	(a)	(a)	4.50	4.60	(a)	4.80	.55	(a)	1.20	2
13	(a)	(a)	(a)	(a)	4.55	4.20	(a)	5.50	2.30	(a)	1.20	2
14	(a)	(a)	(a)	(a)	4.30	3.90	(a)	4.50	6.40	1.55	1.10	2
15	(a)	(a)	(a)	(a)	4.45	3.70	(a)	3.80	5.70	1.35	1.70	1
16	(a)	(a)	(a)	(a)	4.70	3.60	(a)	3.10	5.35	1.15	1.65	1
17	(a)	(a)	(a)	(a)	5.40	3.80	(a)	2.70	4.50	.95	1.55	1
18	(a)	(a)	(a)	(a)	5.60	3.70	(a)	2.20	3.30	.75	1.70	1
19	(a)	(a)	(a)	(a)	5.65	3.70	(a)	1.70	2.50	.55	1.75	2
20	(a)	(a)	(a)	(a)	5.70	3.55	(a)	1.30	2.10	.35	3.80	2
21	(a)	(a)	(a)	(a)	5.80	2.90	(a)	1.05	1.70	1.25	3.45	3
22	(a)	(a)	(a)	(a)	5.85	2.50	(a)	.85	1.55	1.75	2.95	3
23	(a)	(a)	(a)	(a)	5.80	1.90	(a)	.65	1.35	2.50	2.70	2
24	(a)	(a)	(a)	(a)	b6.00	1.10	(a)	6.15	1.15	3.35	2.15	2
25	(a)	(a)	(a)	(a)	5.90	1.00	(a)	5.50	.95	1.90	1.85	1
26	(a)	(a)	(a)	(a)	5.95	.50	(a)	4.30	.75	2.80	1.55	1
27	(a)	(a)	(a)	(a)	6.10	.50	(a)	3.30	.55	3.90	1.75	1
28	(a)	(a)	(a)	(a)	6.35	a.20	(a)	2.60	.35	3.20	1.90	1
29	(a)	(a)	(a)	(a)	6.25	.....	(a)	2.30	.15	2.40	1.80	1
30	(a)	(a)	(a)	(a)	6.65	.....	4.20	2.10	(a)	1.90	1.55	1
31	(a)	(a)	(a)	(a)	6.60	.....	5.20	1.70	.....	1.55	.....	1

[a] No flow. [b] Gage changed.

RIO GRANDE ABOVE PRESIDIO, TEX.

This station was established by the International (Water) Bounda Commission April 4, 1900. It is 7 miles above Presidio and abo the mouth of Concho River, one of the principal tributaries of t Rio Grande, and is about 200 miles below El Paso. Its location far enough above the mouth of Concho River to be free from t effects of backwater from that stream. The gage record for 1900 published in Water-Supply Paper No. 50 page 355. Results of mea urements for 1900 will be found in the Twenty-second Annual Repo Part IV, page 354. During 1901 the following measurements of d charge were made by S. D. Church:

List of discharge measurements of Rio Grande above Presidio, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Dis charg
1901.[a]	*Feet.*	*Sec.-ft.*	1901.[a]	*Feet.*	*Sec.-*
May 10	3.55	673	June 6	5.30	1,
May 11[b]	4.80	933	June 8	5.30	1,
May 14	4.10	936	June 11	5.05	1,
May 16	3.90	899	June 13	3.95	
May 18	3.80	818	June 15	3.15	
May 21	4.30	1,050	June 18	2.60	
May 23	4.50	1,112	June 20	2.50	
May 25	4.70	1,224	June 22	2.30	
May 27	4.80	1,287	June 25	2.10	
May 29	4.80	1,313	June 27	1.80	
May 30	4.95	1,364	June 29	1.40	
June 4	5.50	1,620	July 13	2.85	

[a] No measurements were made during January, February, March, and April.
[b] River rose 0.4 foot during measurement.

List of discharge measurements of Rio Grande above Presidio, Tex.—Continued.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
July 16		9	September 24	1.90	104
July 23	2.30	163	September 26	1.70	58
July 25	2.15	140	September 28	1.70	64
July 27	4.65	1,294	October 8	2.15	211
July 30	2.05	84	October 24	2.85	410
August 3	2.75	425	October 26	2.00	163
August 6	4.90	1,274	October 29	1.90	137
August 7	4.45	1,042	November 2	2.75	341
August 8	3.55	615	November 5	1.80	108
August 10	2.70	336	November 7	1.40	46
August 13	2.65	323	November 11	1.90	160
August 15	3.70	727	November 13	1.60	100
August 17	3.30	528	November 16	1.40	46
August 20	2.60	319	November 19	0.00	30
August 22	1.90	86	November 24	2.40	293
August 24	1.70	61	November 26	2.20	212
August 27	4.80	1,072	November 28	2.00	173
August 29	3.25	483	December 3	1.40	69
September 3	2.25	125	December 5	1.40	74
September 5	6.45	2,087	December 7	1.30	67
September 7	2.70	251	December 10	1.20	62
September 10	1.60	30	December 12	1.30	64
September 12	6.25	2,053	December 14	1.30	59
September 14	2.20	104	December 17	1.40	81
September 19	3.55	702	December 19	1.50	96
September 21	2.60	303	December 21	1.40	76

Daily gage height, in feet, of Rio Grande above Presidio, Tex., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1		5.05	[b]	0.55	1.85	3.25	4.35	1.60
2		5.35	[b]	2.50	2.00	1.55	2.90	1.50
3		5.40	[b]	2.85	2.85	[b]	1.80	1.40
4		5.45	[b]	4.55	4.80	[b]	2.05	1.35
5		5.35	[b]	4.85	5.80	[b]	1.70	1.40
6		5.30	[b]	4.90	4.50	[b]	1.55	1.40
7		5.20	[b]	4.40	3.90	3.30	1.30	1.35
8		5.35	[b]	2.95	1.85	2.25	1.75	1.20
9	[a]	5.40	[b]	2.75	1.45	[b]	2.15	1.20
10	3.50	5.50	[b]	2.70	1.55	[b]	2.00	1.20
11	4.55	5.00	[b]	2.45	3.25	.80	1.85	1.20
12	4.55	4.15	[b]	2.55	5.25	[b]	1.65	1.30
13	4.45	3.90	3.95	2.50	3.30	[b]	1.60	1.30
14	3.95	3.60	2.80	3.05	2.10	[b]	1.50	1.30
15	3.95	3.15	1.75	3.50	1.80	[b]	1.40	1.40
16	4.00	2.95	[b]	4.55	1.55	[b]	1.40	1.40
17	3.85	2.75	[b]	3.30	3.25	[b]	1.30	1.40
18	3.90	2.65	[b]	3.25	5.05	[b]	1.20	1.40
19	4.00	2.50	[b]	2.70	3.65	[b]	0.00	1.50
20	4.15	2.50	[b]	2.95	2.85	[b]	0.00	1.50
21	4.30	2.45	2.55	2.05	2.60	[b]	0.00	1.40
22	4.50	2.30	2.75	1.85	2.15	3.70	0.00	1.40
23	4.55	2.30	2.20	1.75	2.05	4.25	1.50	1.30
24	4.60	2.15	2.15	1.55	1.90	2.90	2.45	1.60
25	4.65	2.05	1.85	.50	1.80	2.00	2.20	1.60
26	4.80	1.95	2.80	.90	1.85	3.25	2.20	1.55
27	4.85	1.40	3.90	4.80	1.95	2.90	2.10	1.55
28	4.85	1.05	2.45	4.30	1.65	2.45	2.00	1.80
29	4.85	1.35	3.20	3.30	3.20	2.45	1.85	1.45
30	5.00	[b]	1.85	2.75	4.00	1.60	1.70	1.50
31	5.00		1.45	2.20		2.25		1.30

[a] River dry from January 1, to May 9, 1901.

[b] No flow.

RIO GRANDE BELOW PRESIDIO, TEX.

This station was established by the International (Water) Bour
Commission April 8, 1900. It is 6 miles below Presidio, also l
the mouth of Concho River, and about 215 miles below El Pasc
is at the western end of the canyon section of the Rio Grande.
gage record for 1900 is published in Water-Supply Paper No. 50,
355. Results of measurements for 1900 will be found in the Tw
second Annual Report, Part IV, page 355. The following disch
measurements were made by S. D. Church during 1901:

List of discharge measurements of Rio Grande below Presidio, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	cl
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	S
January 2	4.90	202	July 24	6.95	
January 4	4.90	195	July 26	6.85	
January 7	4.80	196	July 29	8.30	
January 10	4.80	190	August 2	8.35	
January 14	4.80	179	August 5	8.80	
January 16	4.80	178	August 9	7.30	
January 19	4.80	175	August 12	7.70	
January 23	4.70	172	August 14	7.20	
January 25	4.70	171	August 16	8.15	
January 28	4.70	162	August 21	7.15	
February 1	4.70	175	August 13	6.50	
March 15	4.70	157	August 26	6.20	
March 18	4.60	147	August 28	8.05	
March 20	4.60	135	September 2	6.40	
March 22	4.50	124	September 4	8.45	
March 25	4.40	109	September 6	6.50	
March 27	4.00	86	September 9	8.00	
April 1	4.20	75	September 11	9.05	
April 3	4.10	74	September 13	8.65	
April 5	4.10	57	September 16	9.70	
April 8	4.00	58	September 18	9.95	
April 10	4.00	57	September 20	8.65	
April 12	3.90	42	September 23	7.55	
April 15	3.80	33	September 25	7.00	
April 18	3.70	29	September 27	6.55	
April 22	3.70	27	October 2	6.50	
April 25	3.70	21	October 4	5.70	
May 1	3.60	22	October 7	7.90	
May 4	3.60	26	October 9	6.40	
May 7	3.60	24	October 11	5.80	
May 13	6.60	1,041	October 14	6.60	
May 15	6.50	837	October 16	6.20	
May 17	6.30	748	October 18	5.90	
May 20	6.50	938	October 21	5.80	
May 22	6.70	1,054	October 25	9.95	
May 24	6.80	1,119	October 28	8.35	
May 28	7.00	1,252	November 1	7.10	
June 3	7.40	1,530	November 4	6.50	
June 5	7.30	1,516	November 6	6.30	
June 7	7.30	1,444	November 9	6.50	
June 12	6.65	1,104	November 12	6.00	
June 14	6.05	[a]743	November 15	5.70	
June 17	6.95	545	November 18	5.50	
June 19	5.30	281	November 20	5.50	
June 21	5.20	255	November 22	5.50	
June 24	4.90	166	November 25	5.85	
June 26	4.80	139	November 27	5.70	
July 1	4.20	47	December 2	5.50	
July 5	3.90	24	December 4	5.40	
July 8	4.00	29	December 6	5.40	
July 10	5.25	261	December 9	5.30	
July 12	5.00	193	December 13	5.20	
July 15	5.80	458	December 16	5.10	
July 19	5.70	412	December 20	5.20	
July 22	7.25	908			

[a] Back water from Rio Alamo retarded flow.

Daily gage height, in feet, of Rio Grande below Presidio, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.90	4.70	5.50	4.20	3.60	7.10	4.10	9.00	6.70	6.70	7.55	5.60
2	4.90	4.70	5.40	4.10	3.60	7.30	4.10	8.70	6.50	6.55	7.35	5.50
3	4.90	4.70	5.40	4.10	3.60	7.40	4.15	8.95	6.15	6.00	6.75	5.40
4	4.90	4.70	5.30	4.20	3.60	7.40	3.95	8.85	8.15	5.75	6.60	5.40
5	4.80	4.70	5.20	4.10	3.60	7.30	3.95	8.70	8.20	5.60	6.40	5.40
6	4.80	4.70	5.20	4.10	3.60	7.30	4.35	8.65	6.90	7.30	6.30	5.40
7	4.80	4.70	5.10	4.10	3.60	7.30	4.15	8.35	8.00	7.50	6.15	5.35
8	4.80	4.70	5.10	4.10	4.45	7.30	4.00	7.65	8.40	7.20	6.10	5.30
9	4.80	4.70	5.00	4.10	4.35	7.30	3.95	7.25	7.90	6.35	6.50	5.30
10	4.80	4.70	4.90	4.00	4.35	7.40	5.25	7.65	7.75	6.05	6.30	5.30
11	4.80	4.70	4.90	3.90	6.25	6.90	5.15	7.70	9.25	5.80	6.15	5.20
12	4.80	4.70	4.80	3.90	6.55	6.60	5.10	7.50	9.90	6.10	6.00	5.20
13	4.80	4.70	4.85	3.80	6.45	6.20	6.95	7.45	8.55	6.45	5.90	5.20
14	4.80	4.70	4.70	3.70	6.50	6.00	7.40	7.10	7.90	6.50	5.80	5.20
15	4.80	4.70	4.70	3.70	6.40	5.70	5.70	7.70	7.65	6.40	5.70	5.15
16	4.80	4.70	4.60	3.70	6.35	5.45	5.50	7.85	9.65	6.20	5.70	5.10
17	4.80	4.70	4.60	3.70	6.20	6.15	5.50	8.45	9.75	6.15	5.70	5.10
18	4.80	5.20	4.60	3.70	6.25	5.70	5.65	7.70	10.00	5.95	5.60	5.15
19	4.80	5.45	4.60	3.70	6.40	5.25	5.65	7.80	9.40	5.90	5.60	5.20
20	4.80	6.10	4.60	3.70	6.50	5.20	5.90	7.65	8.75	5.80	5.50	5.20
21	4.70	6.05	4.50	3.70	6.60	5.20	9.05	7.10	8.35	5.90	5.50	5.15
22	4.70	5.90	4.50	3.70	6.70	5.05	7.05	6.70	8.00	8.35	5.50	5.10
23	4.70	5.80	4.45	3.70	6.80	4.90	7.50	6.55	7.60	10.30	5.40	5.05
24	4.70	5.80	4.40	3.70	6.85	4.90	7.35	6.30	7.25	10.30	6.10	5.25
25	4.70	5.80	4.40	3.70	6.90	4.80	8.60	6.40	6.95	9.40	5.90	5.30
26	4.70	5.70	4.30	3.70	7.00	4.70	8.15	6.50	6.75	8.70	5.80	5.25
27	4.70	5.60	4.00	3.70	7.10	4.65	9.10	7.75	6.55	8.30	5.80	5.30
28	4.70	5.50	4.00	3.70	7.10	4.45	8.60	8.05	6.35	7.85	5.75	5.50
29	4.70	.....	4.00	3.70	7.10	4.25	8.45	7.60	6.30	7.45	5.70	5.20
30	4.70	.....	4.15	3.70	7.10	4.20	9.00	7.25	8.10	7.45	5.60	5.20
31	4.70	.....	4.20	3.70	7.10	.....	9.35	6.80	.....	.....	.....	5.15

RIO GRANDE NEAR LANGTRY, TEX.

This station was established by the International (Water) Boundary Commission in April, 1900. It is located one-half mile south of Langtry station on the Southern Pacific Railroad, and is about 440 miles below El Paso, Tex., at the eastern end of the canyon section of the Rio Grande, and a short distance to the west of the mouth of Pecos River, one of the principal tributaries of the Rio Grande.

The gage record for 1900 is published in Water-Supply Paper No. 50, page 357. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 355. During 1901 the following measurements of discharge were made by J. D. Dillard and W. D. Greet:

List of discharge measurements of Rio Grande near Langtry, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 1	1.10	611	March 11	1.20	677
January 5	1.10	623	March 15	1.10	616
January 11	1.10	618	March 21	.95	528
January 18	1.05	593	March 26	.85	462
January 23	1.05	588	April 16	.70	380
January 28	1.05	583	April 22	.70	371
February 1	1.05	572	April 30	.80	461
February 6	1.00	543	May 6	.90	515
February 11	1.00	541	May 8	.80	448
February 15	1.00	537	May 13	.80	450
February 20	1.00	532	May 17	1.60	1,181
February 25	1.50	919	May 22	1.50	1,124
March 1	1.45	893	May 23	2.30	1,893
March 6	1.30	764	June 4	2.00	1,614

List of discharge measurements of Rio Grande near Langtry, Tex.—Continued.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
June 12	2.10	1,842	September 16	3.10	3,59
June 15	2.10	1,868	September 20	5.00	[a]6,37
June 17	1.90	1,603	September 24	2.80	3,17
June 23	1.30	954	September 29	2.00	1,79
July 1	.90	579	October 5	1.90	1,70
July 4	.85	533	October 7	1.65	1,28
July 10	.85	544	October 11	2.20	2,07
July 13	.75	499	October 19	1.40	1,15
July 17	1.60	1,290	October 22	1.40	1,15
July 19	1.55	1,246	October 25	2.40	2,51
July 23	1.80	1,589	October 28	4.95	8,11
July 24	2.50	2,448	November 4	2.05	1,98
July 26	2.90	3,508	November 7	1.90	1,70
July 27	2.80	3,336	November 10	1.60	1,35
August 5	2.80	3,404	November 15	1.55	1,29
August 12	2.40	2,684	November 18	1.45	1,19
August 15	2.30	1,862	November 24	1.30	95
August 21	2.70	2,468	November 27	1.30	92
August 27	1.90	1,360	December 7	1.25	89
September 2	2.20	1,834	December 10	1.20	89
September 7	2.70	2,594	December 15	1.15	82
September 11	2.50	2,617			

[a]Approximate.

Daily gage height, in feet, of Rio Grande near Langtry, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.10	1.00	1.50	0.80	0.90	2.00	0.90	3.00	2.40	1.95	2.50	1.4
2	1.10	1.00	1.50	.80	.90	2.00	.90	3.10	2.20	1.00	2.30	1.4
3	1.10	1.00	1.50	.80	.90	2.00	.90	3.30	1.95	1.70	2.05	1.3
4	1.10	1.00	1.50	.80	.90	2.15	.90	3.25	1.85	1.75	2.05	1.3
5	1.10	1.00	1.30	.80	.90	2.30	.90	2.90	1.80	1.85	2.00	1.3
6	1.10	1.00	1.30	.80	.85	2.35	.90	2.90	1.70	1.65	1.90	1.3
7	1.10	1.00	1.30	.80	1.00	2.40	.90	2.90	2.70	1.65	1.90	1.2
8	1.10	1.00	1.30	.70	1.00	2.45	.90	3.00	8.45	1.70	1.75	1.2
9	1.10	1.00	1.30	.70	.90	2.50	.90	3.00	4.75	3.85	1.70	1.2
10	1.10	1.00	1.30	.70	.80	2.30	.90	2.90	3.00	2.65	1.65	1.2
11	1.10	1.00	1.25	.70	.80	2.30	.90	2.80	2.35	2.35	1.55	1.2
12	1.10	1.00	1.20	.70	.80	2.10	.90	2.60	2.90	1.90	1.50	1.2
13	1.10	1.00	1.20	.70	.80	2.10	.90	2.35	3.85	1.70	1.55	1.2
14	1.10	1.00	1.15	.70	.80	2.00	1.20	2.30	3.75	1.70	1.60	1.2
15	1.10	1.00	1.10	.70	.80	2.10	1.70	2.30	3.50	1.35	1.55	1.1
16	1.10	1.00	1.10	.70	.80	2.05	2.20	2.00	3.10	1.30	1.50	1.1
17	1.05	1.00	1.10	.70	1.65	1.90	1.85	1.80	2.85	1.30	1.50	1.1
18	1.00	1.00	1.10	.70	1.70	1.90	1.60	1.60	2.70	1.30	1.45	1.1
19	1.00	1.00	1.05	.70	1.70	1.60	1.55	2.30	2.60	1.35	1.40	1.1
20	1.00	1.00	1.00	.70	1.70	1.50	1.50	2.85	4.25	1.50	1.40	1.1
21	1.00	1.00	1.00	.70	1.70	1.40	1.00	2.70	4.30	1.45	1.35	1.1
22	1.00	1.00	1.00	.70	1.55	1.40	1.70	2.45	3.80	1.35	1.30	1.1
23	1.10	1.00	.90	.70	1.70	1.30	1.80	2.25	3.10	1.30	1.30	1.1
24	1.10	1.25	.90	.70	1.80	1.20	1.95	2.35	3.10	1.75	1.30	1.1
25	1.10	1.50	.90	.70	2.65	1.00	2.45	2.25	2.95	2.50	1.30	1.1
26	1.10	1.50	.90	.70	2.90	1.00	2.45	1.90	2.50	1.70	1.30	1.1
27	1.00	1.50	.90	1.25	2.60	1.00	2.85	1.85	2.30	1.75	1.30	1.1
28	1.00	1.50	.90	.85	2.30	1.00	2.10	1.60	2.10	4.25	1.30	1.0
29	1.00	.....	.90	1.50	2.30	.90	2.90	1.50	2.00	3.45	1.35	1.0
30	1.00	.....	.90	.80	2.30	.90	2.10	1.15	2.00	3.05	1.45	.9
31	1.00	.....	.80	.....	2.15	.....	2.50	2.50	.....	2.75	.....	.9

PECOS RIVER NEAR PECOS, TEX.

The gaging station is at the Margueretta flume, about 6 miles above the city of Pecos, and is described in Water-Supply Paper No. 50, page 358. The observer is W. H. Denis, who also gages the river, the Margueretta flume, and the west valley ditch, the computations o

discharge being made by T. U. Taylor. The following measurements were made during 1901:

Discharge measurements of Pecos River, Margueretta flume, and west valley ditch, near Pecos, Tex., for 1901.

Date.	Gage height.	Pecos River discharge.	Margueretta flume discharge.	West valley ditch discharge.
1901.	*Feet.*	*Sec.-ft.*	*Sec.-ft.*	*Sec.-ft.*
July 5	1.2	39	155	19
July 10	.8	18	122	18
July 15	1.7	67	182	23
July 21	.7	16	127	18
August 6	5	831	143	18
August 11	2.1	95	216	19
August 16	6.6	1,350	216	19
August 23	2.9	181	155	24
September 1	2.2	108	106	17
September 16	7.9	1,940	120	11
September 24	3	184	108	9
October 3	2.25	109	107	8
October 10	2.4	128	108	7
October 16	2.4	118	106	5
October 24	3.2	273	105	8
November 4	10.3	3,120	97	9

Daily gage height, in feet, of Pecos River near Pecos, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.00	3.00	3.20	1.50	5.05	4.85	1.00	2.65	2.15	2.95	3.55	4.10
2	2.00	3.00	3.20	1.50	4.60	4.90	1.00	5.30	2.25	2.60	5.55	4.00
3	2.15	3.05	3.20	1.50	2.85	3.30	1.00	5.10	2.30	2.28	9.35	4.00
4	2.20	3.00	3.20	1.55	2.30	2.85	1.00	5.10	4.55	2.15	10.15	4.00
5	2.35	3.00	3.20	1.50	2.05	2.45	1.20	5.10	7.35	2.15	10.35	4.00
6	2.55	3.05	2.95	1.45	1.70	1.95	1.30	5.00	6 35	2.10	10.60	4.00
7	2.90	3.15	2.80	1.35	1.45	2.10	1.25	4.65	4.10	2.90	12.60	4.00
8	3.35	3.20	2.65	1.30	1.30	2.75	.95	4.20	3 10	2.85	11.75	4.00
9	3.30	3.20	2.60	1.25	1.50	2.75	.85	3.25	2.85	2.50	10.40	4.00
10	3.20	3.25	2.50	1.20	1.55	2.40	.80	2.55	2.75	2.40	9.20	3.60
11	3.15	3.40	2.50	1.20	1.30	2.30	.80	2.10	2.85	2.40	8.45	3.15
12	3.65	3.70	2.50	1.15	.95	2.30	.80	3.25	5 35	2.85	7.90	3.10
13	3.65	3.75	2.50	1.00	.85	2.25	.80	4.20	6 55	2.80	7.15	2.85
14	3.60	3.90	2.25	1.00	1.00	1.70	.80	5.95	7.80	3.05	6.50	2.70
15	3.30	3.80	2.15	.95	2.05	1.35	1.75	6.40	8.40	3.80	6.15	2.70
16	2.75	3.85	2.00	.75	1.75	1.15	1.15	6.55	7.90	3.50	5.35	2.70
17	2.95	3.90	1.95	.70	1.65	1.55	.95	6.70	7.15	3.20	5.30	2.70
18	2.70	3.90	1.95	.70	1.30	1.95	.95	6.75	6.25	2.95	4.90	2.70
19	2.60	3.95	1.95	.70	.95	1.70	.90	6.65	5 35	2.75	4.15	3.00
20	2.60	4.00	1.85	.70	.80	1.45	.90	7.95	4.35	2.80	4.15	2.85
21	3.15	4.00	1.80	.70	1.65	1.15	.90	5.35	4.05	2.95	4.95	2.70
22	3.20	3.10	1.75	.70	3.00	.85	.90	3.80	3 95	3.00	4.95	2.70
23	2.75	3.10	1.70	.70	2.30	.90	.85	3.05	3 70	3.25	4.90	2.55
24	2.70	2.90	1.70	.70	1.95	1.35	4.40	2.60	2.95	3.25	4.90	2.50
25	2.70	3.30	1.65	.70	1.95	1.40	6.10	2.15	2.75	3.35	4.80	2.50
26	2.85	3.50	1.60	.70	1.25	1.35	5.20	2.00	2.65	3.20	4.70	2.50
27	3.00	3.50	1.60	.70	1.05	1.10	4.45	2.00	2.55	4.05	4.65	2.50
28	3.00	3.50	1.70	.70	1.90	1.05	3.15	3.00	2.15	3.55	4.60	2.50
29	3.00	.....	1.75	.65	3.55	1.30	2.95	3.00	2.70	3.20	4.55	2.50
30	3.00	.....	1.70	4.00	3.10	1.10	3.05	2.75	2.00	3.15	4.30	2.50
31	3.00	.....	1.65	.....	4.50	.....	2.15	2.30	.....	3.35	.....	3.95

PECOS RIVER NEAR MOORHEAD, TEX.

This station was established by the International (Water) Boundary Commission in April, 1900. It is near Moorhead, immediately above the high bridge of the Southern Pacific Railway. The gage record for 1900 is published in Water-Supply Paper No. 50, page 362. Results of measurements for 1900 will be found in the Twenty-second Annual

Report, Part IV, page 356. The following discharge measurement were made by J. D. Dillard and W. D. Greet during 1901:

List of discharge measurements of Pecos River near Moorhead, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 4	1.50	438	July 25	1.30	2
January 12	1.55	454	July 28	1.20	2
January 19	1.70	572	August 2	1.90	7
January 24	1.55	536	August 10	1.85	6
January 29	1.55	530	August 17	1.25	3
February 2	1.50	499	August 23	2.50	1,1
February 7	1.55	541	August 29	1.50	5
February 12	1.60	570	September 4	1.20	3
February 16	1.60	563	September 14	----------	8
February 21	1.70	611	September 19	2.95	1,3
February 26	1.70	602	September 23	2.80	1,4
March 2	1.50	485	September 29	1.70	6
March 7	1.50	489	October 1	1.70	6
March 12	1.50	482	October 6	1.60	6
March 16	1.45	450	October 9	1.90	8
March 20	1.35	420	October 16	1.40	4
March 27	1.25	380	October 18	1.30	4
April 18	1.00	285	October 24	1.45	5
April 24	1.00	280	October 29	1.50	5
April 27	1.00	287	November 3	2.20	1,0
May 5	1.00	282	November 9	3.25	1,8
May 9	1.50	454	November 12	3.60	2,3
May 16	1.00	291	November 14	3.80	2,5
May 18	1.00	287	November 15	3.80	2,5
May 24	1.00	295	November 17	3.85	2,6
May 31	1.00	293	November 20	2.90	1,5
June 5	1.00	302	November 23	2.25	1,1
June 16	1.40	372	November 26	2.30	1,2
June 22	.90	222	November 29	2.30	1,2
June 29	.90	189	December 1	2.30	1,2
July 3	.90	183	December 4	2.20	1,0
July 9	.85	170	December 9	2.00	9
July 14	1.85	658	December 14	1.90	9
July 20	.80	162	December 19	1.70	6
July 22	.90	177			

Daily gage height, in feet, of Pecos River near Moorhead, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec
1	1.50	1.50	1.50	1.20	1.00	1.00	0.90	1.80	1.20	1.70	1.40	2.
2	1.50	1.50	1.50	1.20	1.00	1.00	.90	1.85	1.20	1.70	1.70	2.
3	1.50	1.50	1.50	1.20	1.00	1.00	.90	1.65	1.20	1.70	2.15	2.
4	1.50	1.50	1.50	1.20	1.00	1.00	.90	1.50	1.20	1.65	1.80	2.
5	1.50	1.50	1.50	1.10	1.00	1.00	.90	1.40	1.20	1.60	1.50	2.
6	1.50	1.50	1.50	1.10	1.90	1.00	.90	1.40	1.20	1.60	1.40	2.
7	1.50	1.50	1.50	1.10	1.90	1.00	1.20	1.30	1.20	1.60	1.40	2.
8	1.50	1.50	1.50	1.10	1.90	1.50	1.20	1.20	9.20	1.80	1.50	2.
9	1.50	1.50	1.50	1.10	1.50	1.50	.90	1.80	6.00	1.90	2.65	2.
10	1.50	1.60	1.50	1.00	1.40	1.50	.80	1.85	4.00	1.75	3.60	1.
11	1.50	1.60	1.50	1.00	1.40	1.50	.80	1.90	4.00	1.60	3.45	1.
12	1.50	1.60	1.50	1.00	1.40	1.50	.80	1.90	2.75	1.60	3.60	1.
13	1.50	1.60	1.50	1.00	1.30	1.50	1.80	1.90	1.90	1.60	3.75	1.
14	1.60	1.60	1.50	1.00	1.30	1.50	2.80	1.75	1.80	1.60	3.70	1.
15	1.60	1.60	1.50	1.00	1.20	1.50	1.80	1.60	1.80	1.60	3.90	1.
16	1.60	1.60	1.50	1.00	1.00	1.40	1.40	1.60	1.80	1.45	3.80	1.
17	1.60	1.60	1.40	1.00	1.00	1.40	1.40	1.30	1.80	1.50	3.85	1.
18	1.70	1.65	1.40	1.00	1.00	1.40	.90	1.50	1.80	1.30	3.10	1.
19	1.70	1.70	1.40	1.00	1.00	1.50	.90	1.80	2.40	1.30	2.90	1.
20	1.65	1.70	1.35	1.00	1.00	1.50	.85	2.20	2.80	1.30	2.85	1.
21	1.60	1.70	1.30	1.00	1.00	.95	.90	2.45	3.75	1.20	2.80	1.
22	1.60	1.70	1.30	1.00	1.00	.90	.90	2.60	3.00	1.20	2.65	1.
23	1.60	1.70	1.30	1.00	1.00	.90	1.70	2.45	2.80	1.20	2.25	1.
24	1.60	1.70	1.30	1.00	1.00	.90	1.75	2.30	2.60	1.30	2.30	1.
25	1.50	1.70	1.30	1.00	1.00	.90	1.20	2.50	2.00	1.40	2.30	1.
26	1.50	1.70	1.30	1.00	1.00	.90	.85	2.70	1.80	1.40	2.30	1.
27	1.50	1.65	1.25	1.00	1.00	.90	.80	2.15	1.60	1.40	2.30	1.
28	1.50	1.60	1.20	1.00	1.00	.90	1.05	1.85	1.60	1.40	2.25	1.
29	1.50	------	1.20	1.00	1.00	.90	1.20	1.45	1.70	1.35	2.25	1.
30	1.50	------	1.20	1.00	1.00	.90	1.70	1.30	1.70	1.30	2.30	1.
31	1.50	------	1.30	------	1.00	------	1.85	1.00	------	1.30	------	1.

DEVILS RIVER AT DEVILSRIVER, TEX.

This station was established by the International (Water) Boundary Commission in April, 1900. It is opposite the Southern Pacific Railroad station at Devilsriver. The river is about 50 miles in length, has a perennial flow, and during flood periods is subject to great fluctuations. The gage record for 1900 is published in Water-Supply Paper No. 50, page 363. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 356. During 1901 the following measurements of discharge were made by J. D. Dillard and W. D. Greet:

List of discharge measurements of Devils River at Devilsriver, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 4	2.50	847	June 14	2.20	591
January 10	2.50	835	June 21	2.20	592
January 21	2.50	834	June 28	2.20	585
January 30	2.45	808	July 2	2.20	583
February 4	2.45	804	July 8	2.20	579
February 14	2.40	747	July 15	2.20	577
February 18	2.50	832	July 31	2.20	573
February 22	2.50	842	August 8	2.20	596
March 4	2.45	769	August 17	2.10	515
March 13	2.40	724	August 29	2.05	509
March 27	2.40	752	September 30	2.10	517
April 18	2.30	668	October 3	2.10	516
May 3	2.30	656	October 26	2.10	517
May 10	2.30	656	November 5	2.10	522
May 15	2.30	670	November 21 [a]	2.10	512
June 2	2.30	666			

[a] No measurements were made during December.

Daily gage height, in feet, of Devils River at Devilsriver, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.50	2.40	2.50	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10
2	2.50	2.40	2.50	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10
3	2.50	2.40	2.50	2.40	2.30	2.30	2.20	2.20	2.15	2.10	2.10	2.10
4	2.50	2.40	2.50	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.00
5	2.50	2.40	2.40	2.40	2.30	2.30	2.20	2.20	2.05	2.10	2.10	2.00
6	2.50	2.40	2.40	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.00
7	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.20	2.10	2.10	2.10	2.00
8	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.20	2.10	2.10	2.10	2.00
9	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.30	2.35	2.10	2.10	2.00
10	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.20	2.20	2.10	2.10	2.00
11	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.30	2.10	2.10	2.10	2.00
12	2.50	2.40	2.40	2.30	2.30	2.20	2.40	2.25	2.10	2.10	2.10	2.00
13	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.25	2.10	2.10	2.10	2.05
14	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.25	2.10	2.10	2.10	2.10
15	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.20	2.10	2.10	2.10	2.10
16	2.50	2.40	2.40	2.30	2.30	2.20	2.20	2.20	2.10	2.10	2.10	2.10
17	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10	2.10
18	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10	2.10
19	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.05	2.10	2.10	2.10	2.10
20	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.00	2.10	2.10	2.10	2.00
21	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.00	2.10	2.10	2.10	2.00
22	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.00	2.10	2.10	2.10	2.00
23	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10	2.00
24	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.00	2.10	2.10	2.10	2.00
25	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.00	2.10	2.10	2.10	2.00
26	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.00	2.10	2.10	2.10	2.00
27	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.00	2.10	2.10	2.10	2.00
28	2.50	2.50	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10	2.00
29	2.50	.....	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10	2.00
30	2.40	.....	2.40	2.30	2.30	2.20	2.20	2.10	2.10	2.10	2.10	2.00
31	2.40	.....	2.40	.....	2.30	.....	2.20	2.10	.....	2.10	.....	2.00

RIO GRANDE NEAR DEVILSRIVER, TEX.

This station was established by the International (Water) Bounda Commission in April, 1900. It is alongside the Southern Pacific Ra road track, about a half mile below the mouth of Devilsriver a about 480 miles below El Paso. The gage record for 1900 is publish in Water-Supply Paper No. 50, page 364. Results of measureme for 1900 will be found in the Twenty-second Annual Report, Part I page 357. During 1901 the following measurements of discharge w made by J. D. Dillard and W. D. Greet:

List of discharge measurements of Rio Grande near Devilsriver, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Dis char
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-*
January 3	3.65	2,309	July 2	3.20	1
January 10	3.65	2,326	July 8	3.30	2
January 16	3.60	2,287	July 15	3.20	1
January 22	3.60	2,260	July 31	5.00	5
January 26	3.60	2,228	August 3	4.50	4
January 31	3.50	2,161	August 8	4.70	5
February 5	3.50	2,120	August 11	4.50	5
February 9	3.50	2,116	August 18	4.00	2
February 14	3.60	2,241	August 24	4.55	4
February 19	3.60	2,230	August 30	3.80	2
February 23	3.60	2,242	September 5	3.80	2
February 28	3.85	2,673	September 13	4.80	4
March 5	3.75	2,487	September 16	5.20	6
March 9	3.70	2,373	September 21	6.15	9
March 14	3.60	2,205	September 30	4.20	3
March 19	3.50	2,071	October 4	4.00	3
March 23	3.45	2,000	October 8	3.95	2
March 28	3.40	1,916	October 12	4.20	3
April 19	3.20	1,616	October 17	3.70	2
April 25	3.20	1,640	October 23	3.80	2
April 29	3.30	1,766	October 27	4.00	3
May 3	3.30	1,755	November 2	4.45	4
May 11	3.40	1,955	November 5	4.20	3
May 15	3.35	1,805	November 8	4.35	3
May 21	3.70	2,065	November 13	4.60	4
May 26	3.70	2,016	November 16	4.70	4
June 1	3.95	2,630	November 19	4.40	4
June 13	4.05	2,987	November 22	4.10	3
June 14	4.25	3,402	November 25	3.90	2
June 18	4.00	2,980	December 2	4.00	3
June 21	3.50	2,352	December 13	3.80	2
June 28	3.30	1,947	December 17	3.70	2

Daily gage height, in feet, of Rio Grande near Devilsriver, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.70	3.50	3.80	3.40	3.50	3.95	3.30	4.60	3.70	4.00	4.80	4.00
2	3.70	3.50	3.80	3.40	3.50	3.80	3.30	4.50	4.20	3.80	4.45	4.00
3	3.70	3.50	3.70	3.40	3.40	3.85	3.30	4.70	4.00	3.90	4.00	4.00
4	3.70	3.50	3.70	3.40	3.30	4.00	3.30	4.70	3.80	4.00	4.00	4.00
5	3.70	3.50	3.70	3.40	3.30	4.00	3.30	4.70	4.00	4.00	4.20	4.00
6	3.70	3.50	3.70	3.30	3.40	4.20	3.30	4.80	4.20	4.00	4.30	3.95
7	3.70	3.50	3.70	3.30	3.65	4.10	3.30	4.70	4.20	4.00	4.50	3.80
8	3.70	3.50	3.70	3.30	3.50	4.20	3.30	5.00	4.20	3.90	4.35	3.80
9	3.70	3.50	3.70	3.30	3.50	4.10	3.20	5.15	14.40	6.65	4.40	3.80
10	3.70	3.50	3.70	3.30	3.40	4.05	3.20	5.10	6.00	5.00	4.60	3.80
11	3.70	3.55	3.60	3.30	3.40	4.00	3.20	4.50	5.00	4.80	4.50	3.80
12	3.70	3.60	3.60	3.30	3.40	4.00	3.80	4.50	4.80	4.20	4.50	3.80
13	3.70	3.60	3.60	3.30	3.30	4.00	3.80	4.60	4.80	4.30	4.60	3.80
14	3.60	3.60	3.60	3.20	3.30	4.00	3.70	4.00	4.80	4.00	4.50	3.80
15	3.60	3.60	3.60	3.20	3.30	3.90	3.20	4.00	4.80	3.80	4.40	3.80
16	3.60	3.60	3.60	3.20	3.30	3.90	3.50	4.00	5.30	4.00	4.75	3.80
17	3.60	3.60	3.50	3.20	3.40	4.40	4.00	4.10	4.80	3.70	4.70	3.70
18	3.60	3.60	3.50	3.20	3.55	4.00	4.15	4.00	4.70	3.80	4.55	3.70
19	3.60	3.60	3.50	3.20	3.75	3.80	4.00	4.10	4.75	4.00	4.40	3.70
20	3.60	3.60	3.50	3.20	3.70	3.60	3.80	4.10	5.90	3.90	4.30	3.70
21	3.60	3.60	3.50	3.20	3.70	3.50	3.55	4.10	6.05	3.80	4.20	3.60
22	3.60	3.60	3.50	3.20	3.70	3.70	3.40	4.40	5.60	3.80	4.10	3.60
23	3.60	3.60	3.50	3.20	3.70	3.70	3.30	5.00	5.50	3.80	4.00	3.60
24	3.60	3.60	3.40	3.20	3.70	3.60	3.40	4.60	5.10	4.00	3.90	3.60
25	3.60	3.60	3.40	3.20	3.80	3.50	3.50	4.40	5.00	4.00	3.90	3.60
26	3.60	3.95	3.40	3.20	3.80	3.40	3.70	4.40	4.80	4.60	3.90	3.60
27	2.60	3.90	3.40	3.20	4.30	3.40	3.90	4.10	4.50	4.00	3.95	3.60
28	3.60	3.90	3.40	3.30	4.00	3.30	4.45	4.00	4.50	6.80	4.00	3.60
29	3.60	.....	3.40	3.30	4.10	3.30	4.20	3.80	4.30	5.40	4.00	3.60
30	3.50	.....	3.40	3.50	4.10	3.30	4.00	3.80	4.20	5.20	4.00	3.60
31	3.50	.....	3.40	.....	4.10	.....	4.90	8.80	.....	4.80	.....	3.60

RIO GRANDE NEAR EAGLE PASS, TEX.

This station was established by the International (Water) Boundary Commission, in April, 1900. It is a half mile above the railway bridge between Eagle Pass and Ciudad Porfirio Diaz, Mexico, and about 540 miles below El Paso, Tex. The gage record for 1900 is published in Water-Supply Paper No. 50, page 365. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 357. During 1901 the following measurements of discharge were made by O. B. Powell and others:

List of discharge measurements of Rio Grande near Eagle Pass, Tex.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 8	2.90	3,396	June 3	3.20	4,412
January 14	2.90	2,912	June 20	2.60	3,040
January 18	2.90	2,961	June 27	2.30	2,466
January 21	2.90	2,876	July 7	2.00	2,112
January 25	2.80	2,847	July 30	3.50	4,172
January 28	2.70	2,776	August 6	3.60	5,482
February 8	2.70	2,665	August 13	3.30	4,885
February 11	2.70	2,660	August 19	2.80	3,047
February 16	2.80	2,594	August 26	3.30	4,300
February 18	2.70	2,513	August 28	2.90	3,482
February 22	2.70	2,552	August 30	2.70	2,853
February 25	2.70	2,551	September 2	3.10	3,800
March 16	2.60	2,250	September 4	2.90	3,357
April 22	2.20	1,836	September 6	2.80	2,926
April 26	2.20	1,776	September 9	8.70	43,173
May 12	2.70	2,329	September 11	3.95	6,716
May 20	2.90	3,676	September 14	3.80	5,855
May 27	2.90	3,682	September 16	4.35	8,040

List of discharge measurements of Rio Grande near Eagle Pass, Tex.—Continu

Date.	Gage height.	Discharge.	Date.	Gage height.	Di cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.*
September 18	3.40	4,574	November 7	3.00	
September 21	4.40	7,901	November 9	3.00	
September 23	4.10	7,115	November 14	3.30	
September 25	3.57	5,547	November 18	3.40	
September 28	3.20	4,065	November 21	3.00	
October 2	2.90	3,407	November 23	2.80	
October 4	2.80	3,049	November 26	2.60	
October 7	2.70	3,019	November 29	2.80	
October 11	3.30	4,439	December 2	2.70	
October 14	2.60	2,777	December 5	2.70	
October 17	2.50	2,430	December 7	2.60	
October 20	2.40	2,388	December 10	2.60	
October 23	2.50	2,385	December 14	2.50	
October 26	3.10	3,700	December 17	2.50	
October 29	4.40	8,135	December 21	2.40	
October 31	3.50	4,762	December 24	2.40	
November 2	3.20	3,982	December 27	2.40	
November 5	3.00	3,594	December 31	2.30	

Daily gage height, in feet, of Rio Grande near Eagle Pass, Tex., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	2.90	2.80	2.70	2.40	2.90	3.00	2.20	3.20	2.75	2.90	3.35
2	2.90	2.80	2.80	2.40	2.80	3.65	2.20	3.55	3.15	2.90	3.20
3	2.90	2.80	2.70	2.40	2.80	3.15	2.20	3.40	3.10	2.80	3.15
4	2.90	2.80	2.70	2.40	2.80	3.25	2.15	3.40	2.90	2.80	3.00
5	2.90	2.80	2.70	2.40	2.75	3.35	2.10	3.65	2.80	2.80	3.00
6	2.90	2.80	2.70	2.40	2.70	3.20	2.00	3.55	2.75	2.85	2.90
7	2.90	2.80	2.70	2.30	2.70	3.20	2.00	3.50	2.70	2.70	2.95
8	2.90	2.80	2.70	2.30	2.70	3.20	2.20	3.60	2.75	2.60	2.90
9	2.90	2.80	2.70	2.30	3.00	3.25	2.20	3.60	7.15	2.65	3.05
10	2.90	2.80	2.70	2.40	2.85	3.30	2.20	3.60	4.30	4.25	3.30
11	2.90	2.80	2.70	2.45	2.75	3.20	2.10	3.50	3.90	3.35	3.30
12	2.90	2.80	2.70	2.40	2.70	3.15	2.20	3.40	3.45	3.05	3.30
13	2.90	2.80	2.70	2.40	2.70	3.00	2.15	3.30	3.45	2.85	3.30
14	2.90	2.80	2.70	2.30	2.60	3.00	2.00	3.30	4.45	2.65	3.30
15	2.90	2.80	2.60	2.30	2.60	3.05	2.40	3.20	3.80	2.60	3.40
16	2.90	2.80	2.60	2.30	2.60	3.10	2.30	3.10	4.25	2.50	3.40
17	2.90	2.70	2.60	2.25	2.60	3.05	2.20	3.00	3.65	2.50	3.40
18	2.90	2.70	2.60	2.20	2.55	3.00	2.65	2.90	3.35	2.40	3.40
19	2.90	2.70	2.60	2.20	2.70	2.85	2.90	2.80	3.30	2.40	3.25
20	2.90	2.70	2.50	2.20	2.90	2.65	2.65	2.80	3.65	2.40	3.10
21	2.90	2.70	2.50	2.20	2.90	2.50	2.45	3.25	4.30	2.50	3.00
22	2.90	2.70	2.50	2.20	2.80	2.50	2.40	3.50	4.35	2.50	2.90
23	2.90	2.70	2.50	2.20	2.90	2.50	2.55	3.50	4.05	2.50	2.80
24	2.85	2.70	2.50	2.20	2.85	2.50	2.35	3.50	3.85	2.50	2.70
25	2.80	2.70	2.50	2.20	3.10	2.45	2.60	3.50	3.55	2.50	2.70
26	2.80	2.70	2.50	2.20	2.90	2.30	2.95	3.40	3.40	2.95	2.60
27	2.80	2.70	2.50	2.20	2.90	2.30	2.95	3.15	3.30	2.85	2.60
28	2.80	2.70	2.50	2.20	3.15	2.20	2.90	2.95	3.15	3.75	2.70
29	2.80	.....	2.50	2.40	3.20	2.20	3.00	2.75	3.00	4.30	2.80
30	2.80	.....	2.50	2.55	3.20	2.20	3.10	2.70	2.95	3.85	2.75
31	2.80	.....	2.40	.....	3.10	.....	3.10	2.65	.....	3.55	.....

COLORADO RIVER DRAINAGE.

GREEN RIVER AT GREENRIVER, WYO.

This station was established May 2, 1895. It is at the pump ho of the Union Pacific Railway Company. A description of the stat was published in Water-Supply Paper No. 50, page 366. The lowing discharge measurements were made by A. J. Parshall dur 1901:

March 22: Gage height, 0.70 foot; discharge, 543 second-feet.
April 8: Gage height, 0.65 foot; discharge, 505 second-feet.
April 28: Gage height, 2.05 feet; discharge, 2,039 second-feet.
May 9: Gage height, 2.70 feet; discharge, 3,438 second-feet.
May 23: Gage height, 5.10 feet; discharge, 12,048 second-feet.

Daily gage height, in feet, of Green River at Greenriver, Wyo., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1	0.70	1.85	4.58	2.83	1.85	1.10	0.65
2	.80	2.07	4.38	2.88	1.85	1.10	.70
3	.80	2.35	4.25	2.90	1.95	1.05	.70
4	.70	2.85	4.18	2.83	2.20	1.03	.70
5	.70	3.05	3.98	2.73	1.95	1.00	.70
6	.70	2.85	3.75	2.80	1.90	.95	
7	.70	2.70	3.55	2.80	1.82	.95	
8	.70	2.70	3.33	2.70	2.15	.93	
9	.65	2.67	3.15	2.45	1.95	.90	
10	.65	2.73	3.05	2.33	1.75	.85	
11	.70	2.90	3.15	2.50	1.63	.80	
12	.75	3.05	3.10	2.50	1.58	.80	
13	.90	3.30	3.23	2.45	1.58	.80	
14	1.45	3.43	3.05	2.50	1.53	.75	
15	1.80	3.55	3.00	2.53	1.48	.70	
16	2.00	3.73	2.93	2.50	1.49	.70	
17	1.90	3.85	2.78	2.55	1.33	.70	
18	1.50	4.05	2.70	2.50	1.33	.70	
19	1.50	4.40	2.70	2.48	1.30	.70	
20	1.45	4.70	2.68	2.28	1.25	.70	
21	2.15	5.00	2.73	2.08	1.25	.70	
22	2.45	5.20	2.83	2.00	1.35	.70	
23	2.07	5.00	2.95	1.90	1.35	.70	
24	2.23	4.72	3.10	1.93	1.35	.68	
25	2.22	4.30	3.23	1.90	1.25	.65	
26	2.15	4.05	3.28	2.10	1.30	.65	
27	2.23	3.93	3.28	1.98	1.25	.70	
28	2.05	3.98	3.18	1.95	1.20	.70	
29	1.90	4.18	3.08	1.90	1.25	.68	
30	1.77	4.45	2.95	1.90	1.13	.65	
31		4.50		1.88	1.10		

ASHLEY CREEK NEAR VERNAL, UTAH.

This station, established by C. T. Prall, on March 15, 1900, is described in Water-Supply Paper No. 50, page 368. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 365. It is located at the mouth of the canyon of the creek, 7½ miles above the town of Vernal, at the wagon bridge, at the ranch of the observer, E. Marett.

Dry Fork enters Ashley Creek about 2 miles above the gaging station. August 21 two measurements of its discharge were made. The first, 10 miles northwest of Dryfork post-office, gave a discharge of 96 second-feet; the second, 3 miles northwest of the same point, showed a discharge of 33 second-feet. On the same day Ashley Creek, immediately above the mouth of Dry Fork, was carrying 132 second-feet, and a short distance below it was carrying 128 second-feet.

During 1901 the following measurements of discharge were made at the main station by C. T. Prall and others:

List of discharge measurements of Ashley Creek near Vernal, Utah.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
May 30	2.48	484	August 21	1.15	154
June 21	1.23	155	October 30	0.78	74

Daily gage height, in feet, of Ashley Creek near Vernal, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	0.50	0.50	0.55	0.45	3.15	2.25	1.15	0.80	1.10	0.80	0.75	
2	.50	.50	.55	.45	2.85	2.15	1.15	.80	1.10	.80	.75	
3	.50	.50	.55	.45	2.20	2.05	1.10	.90	1.10	.80	.75	
4	.50	.50	.55	.45	2.00	1.95	1.10	1.10	1.05	.80	.75	
5	.50	.50	.55	.45	1.95	1.85	1.10	.95	1.05	.80	.75	
6	.50	.50	.60	.45	2.10	1.75	1.00	2.35	1.05	.80	.75	
7	.50	.50	.60	.45	2.30	1.65	1.00	1.20	1.05	.80	.75	
8	.50	.50	.55	.45	2.40	1.65	1.00	1.40	1.00	.75	.75	
9	.50	.50	.55	.45	2.85	1.60	1.00	1.20	1.00	.75	.75	
10	.50	.50	.50	.45	3.10	1.58	1.05	1.15	1.00	.75	.75	
11	.50	.48	.50	.45	3.15	1.58	1.00	1.10	1.00	.75	.75	
12	.50	.48	.50	.47	3.05	1.58	1.00	1.10	1.00	.75	.75	
13	.50	.48	.50	.48	3.05	1.58	1.00	1.10	1.00	.75	.75	
14	.50	.48	.48	.50	3.05	1.55	1.00	1.10	1.00	.70	.75	
15	.50	.48	.48	.50	3.25	1.50	1.00	1.10	.90	.70	.75	
16	.50	.48	.48	.50	4.15	1.43	.95	1.08	.90	.70	.75	
17	.50	.48	.48	.50	4.25	1.40	.95	1.13	.85	.70	.75	
18	.50	.48	.48	.50	4.05	1.40	.80	1.05	.85	.70	.75	
19	.50	.48	.48	.50	4.15	1.35	.80	1.85	.85	.70	.75	
20	.50	.48	.48	.50	3.85	1.30	.80	1.35	.80	.70	.70	
21	.50	.48	.48	.55	3.40	1.25	.95	1.20	.80	.70	.70	
22	.50	.48	.48	.58	3.00	1.23	.80	1.15	.80	.70	.70	
23	.50	.48	.48	.80	2.70	1.20	.80	1.10	.80	.70	.70	
24	.50	.48	.48	1.30	2.55	1.20	.80	1.10	.80	.70	.65	
25	.50	.48	.48	1.80	2.65	1.20	1.05	1.10	.80	.70	.65	
26	.50	.53	.48	2.05	2.80	1.20	.85	1.05	.80	.70	.65	
27	.50	.53	.48	1.85	2.95	1.20	.80	1.10	.80	.80	.65	
28	.50	.53	.48	2.05	2.90	1.20	.80	1.10	.80	.75	.65	
29	.50	.....	.48	2.55	2.75	1.20	.80	1.10	.80	.75	.65	
30	.50	.....	.48	3.00	2.55	1.15	.80	1.10	.80	.75	.65	
31	.50	.....	.45	.....	2.40	.....	.80	1.10	.....	.75	.....	

UINTA RIVER NEAR WHITEROCKS, UTAH.

This station was established by C. C. Babb on September 16, 18 in connection with the investigation of the water supply of the Uin Indian Reservation. It is described in Water-Supply Paper No. page 369. Results of measurements for 1900 will be found in t Twenty-second Annual Report, Part IV, page 375.

Farm Creek is a small drainage entering this stream 5 miles nor west of Whiterocks. On May 14 it was gaged by L. V. Branch a gave a discharge of 34 second-feet.

During 1901 daily gage height records were not kept at the ma station on the Uinta River in the canyon, but frequent measureme of discharge were made by C. T. Prall and others, as follows:

List of discharge measurements of Uinta River near Whiterocks, Utah.

Date.	Gage height.	Dis-charge.	Date.	Gage height.	Dis char
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-*
April 8	0.88	110	August 26	1.20	
April 15	1.00	142	September 2	1.20	
April 22	1.03	153	September 9	1.08	
April 29	1.10	186	September 16	1.00	
May 7	1.28	254	September 23	.97	
May 14	2.06	634	September 30	.95	
May 31	1.72	496	October 7	.97	
June 6	1.50	308	October 14	.90	
June 15	1.40	278	October 21	.90	
June 26	1.35	250	October 28	.97	
July 1	1.40	255	November 4	.90	
July 8	1.30	275	November 18	.80	
July 15	1.18	242	November 25	.80	
July 22	1.12	222	December 2	.83	
July 29	1.19	253	December 9	[a] 1.30	
August 5	1.12	229	December 17	([a])	
August 12	1.12	226	December 23	[a] 1.10	
August 19	1.50	464	December 30	[a] .95	

[a] Ice.

WHITEROCKS RIVER NEAR WHITEROCKS, UTAH.

This station was established by C. C. Babb, September 15, 1899, in connection with the investigation of the water supply for the Uinta Indian Reservation. It is in the canyon of the river, about 10 miles above the Indian agency at Whiterocks, and is described in Water-Supply Paper No. 50, page 369. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 375. Daily gage readings were not maintained during 1901, but frequent measurements of discharge were made by C. T. Prall and others, as follows:

List of discharge measurements of Whiterocks River near Whiterocks, Utah.

Date	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 9	0.80	40	August 27	1.25	139
April 23	1.05	72	September 3	1.22	126
April 30	1.30	139	September 10	1.10	96
May 6	1.40	162	September 17	1.05	83
May 15	2.55	647	September 24	1.05	83
June 1 [a]	1.57	279	October 1	1.00	78
June 7	1.60	197	October 8	1.00	82
June 16	1.40	156	October 15	.95	72
June 27	1.25	121	October 22	.90	68
July 2	1.20	93	October 29	1.00	82
July 9	1.17	104	November 5	.90	67
July 16	1.10	85	November 12	.80	55
July 23	1.05	81	November 19	.92	66
July 30	1.18	112	November 26	.88	66
August 6	1.22	128	December 3	.85	62
August 13	1.15	108	December 10	1.60	59
August 20	1.55	204	December 31	1.10	54

[a] Gage broken; gage height estimated.

UINTA RIVER AT FORT DUCHESNE, UTAH.

This station, which was established by C. C. Babb on September 14, 1899, is located at the highway bridge at the military post. It is described in Water-Supply Paper No. 50, page 370.

Two principal canals diverting water from this river above the gaging station, Canal No. 1 and Bench ditch, were measured twice during the year. Canal No. 1, on April 16, with a gage height of 0.72 foot, was discharging 7 second-feet; on August 6 it was discharging 32 second-feet. Bench ditch, on April 16, with a gage height of 0.80 foot, was discharging 13 second-feet; on August 6 it was discharging 40 second-feet.

Deep Creek enters Uinta River 2 miles above the gaging station. August 22 it was measured at a point 25 miles northeast of Fort Duchesne and 20 feet below the source of the stream, and a discharge of 6 second-feet was found.

Results of measurements at the main station for 1900 will be found in the Twenty-second Annual Report, Part IV, page 376. During

1901 the following measurements of discharge were made by C. Prall and others:

List of discharge measurements of Uinta River at Fort Duchesne, Utah.

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
April 4	2.62	88	August 28	2.92	
April 13	2.65	105	September 4	2.79	
April 20	2.60	95	September 11	2.65	
April 28	2.80	166	September 18	2.63	
May 3	3.26	340	September 25	2.65	
May 15	4.04	1,089	October 2	2.63	
May 29	3.92	883	October 12	2.65	
June 5	3.30	330	October 16	2.65	
June 8	3.22	295	October 23	2.62	
June 14	3.13	266	October 31	2.75	
June 20	3.00	193	November 6	2.68	
July 3	2.90	140	November 13	2.63	
July 11	2.91	177	November 20	2.63	
July 17	2.68	91	November 27	2.65	
July 24	2.61	76	December 4	2.78	
July 31	2.58	76	December 11 [a]	2.87	
August 7	2.80	158	December 18 [a]	2.90	
August 14	2.60	91	December 27 [a]		
August 23	2.92	190			

[a] Ice; results approximate.

Daily gage height, in feet, of Uinta River at Fort Duchesne, Utah, for 190

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	3.20	2.53	3.32	3.53	2.95	2.55	2.89	2.65	2.75	
2	3.20	2.53	3.30	3.49	2.90	2.55	2.85	2.64	2.75	
3	2.98	2.55	3.28	3.46	2.88	2.57	2.81	2.62	2.73	
4	2.90	2.55	3.13	3.43	2.85	2.60	2.80	2.66	2.72	
5	2.85	2.58	3.07	3.31	2.85	2.60	2.79	2.66	2.70	
6	2.80	2.61	3.02	3.25	2.84	2.68	2.77	2.66	2.70	
7	2.78	2.61	3.04	3.20	2.80	2.84	2.74	2.67	2.70	
8	2.75	2.62	3.09	3.20	2.80	2.90	2.70	2.70	2.69	
9	2.70	2.65	3.23	3.19	2.85	2.85	2.70	2.70	2.67	
10	2.70	2.66	3.51	3.19	2.88	2.76	2.70	2.69	2.66	
11	2.70	2.68	3.83	3.16	2.90	2.73	2.68	2.68	2.65	
12	2.70	2.68	4.29	3.13	2.85	2.77	2.68	2.65	2.65	
13	2.70	2.68	4.45	3.11	2.80	2.74	2.68	2.65	2.65	
14	2.70	2.68	4.55	3.10	2.80	2.72	2.68	2.65	2.65	
15	2.68	2.68	4.35	3.09	2.80	2.71	2.65	2.65	2.65	
16	2.68	2.65	4.50	3.07	2.80	2.67	2.63	2.65	2.65	
17	2.68	2.60	4.63	3.04	2.77	2.64	2.63	2.65	2.65	
18	2.66	2.60	4.68	3.00	2.70	2.68	2.63	2.64	2.65	
19	2.65	2.63	2.85	3.03	2.70	3.53	2.63	2.63	2.64	
20	2.65	2.65	2.63	3.01	2.63	3.15	2.63	2.63	2.64	
21	2.63	2.69	4.28	3.00	2.60	3.05	2.62	2.63	2.64	
22	2.63	2.70	3.98	3.04	2.60	2.98	2.62	2.63	2.64	
23	2.65	2.70	3.79	3.01	2.60	2.93	2.60	2.63	2.64	
24	2.63	2.74	3.70	3.00	2.60	2.88	2.60	2.63	2.64	
25	2.60	2.75	3.83	2.97	2.65	2.84	2.65	2.63	2.68	
26	2.60	2.80	3.85	2.94	2.65	2.81	2.65	2.63	2.68	
27	2.58	2.81	3.90	2.92	2.65	2.80	2.65	2.85	2.68	
28	2.55	2.81	3.96	2.92	2.68	2.88	2.65	2.75	2.68	
29	2.55	2.78	3.89	2.92	2.68	2.94	2.65	2.75	2.68	
30	2.53	2.85	3.73	2.93	2.65	3.09	2.65	2.75	2.70	
31	2.52	.....	3.63	.....	2.60	3.11	.....	2.75	.....	

[a] Frozen.

UINTA RIVER AT OURAY SCHOOL, UTAH.

This station, established November 8, 1899, is at the highv bridge over the river near the Ouray School, on the Uinta Ind

Reservation. It is described in Water-Supply Paper No. 50, page 371. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 377. During 1901 the following measurements of discharge were made by C. T. Prall and others:

List of discharge measurements of Uinta River at Ouray School, Utah.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 5	0.35	86	August 15	0.27	82
April 11	.48	107	August 29	1.06	260
April 18	.37	87	September 5	.70	159
April 25	.55	118	September 12	.49	114
May 16	3.75	2,177	September 19	.42	102
May 28	2.80	1,219	September 26	.52	126
June 5	1.68	396	October 3	.42	106
June 8	1.53	347	October 12	.52	122
June 13	1.30	266	October 17	.48	118
June 20	1.12	237	October 24	.50	119
July 4	.78	146	November 7	.55	136
July 13	.58	130	November 14	.53	131
July 18	.29	81	November 21	.56	135
July 25	.09	56	November 30	.55	133
August 1	.15	67	December 5	.60	143
August 8	.78	188	December 14 [a]		

[a] Frozen.

Daily gage height, in feet, of Unita River at Ouray School, Utah, for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1		0.33	1.01	2.12	0.90	0.10	0.92	0.49	0.65	0.50
2		.46	1.12	1.95	.90	.06	.80	.47	.64	.40
3		.40	1.64	1.90	.90	.06	.73	.46	.64	.57
4		.43	1.48	1.78	.80	.20	.69	.45	.64	.59
5		.40	1.26	1.70	.70	.32	.68	.50	.61	.60
6		.35	1.14	1.52	.70	.28	.64	.52	.60	.54
7	0.79	.40	1.08	1.50	.66	.60	.58	.54	.58	.60
8	.63	.41	1.21	1.55	.60	.79	.55	.59	.58	.50
9	.50	.40	1.44	1.50	.52	.70	.52	.58	.58	.25
10	.50	.50	1.86	1.45	.67	.54	.50	.57	.58	.45
11	.55	.48	2.46	1.40	.85	.45	.48	.55	.58	.66
12	.58	.48	3.00	1.40	.68	.38	.49	.54	.57	(a)
13	.44	.47	3.25	1.31	.60	.32	.50	.50	.52	(a)
14	.49	.47	3.20	1.38	.52	.30	.47	.48	.54	(a)
15	.50	.48	2.95	1.37	.48	.29	.47	.49	.55	(a)
16	.52	.50	3.50	1.25	.43	.31	.43	.48	.53	(a)
17	.51	.41	4.40	1.20	.40	.43	.41	.49	.55	(a)
18	.56	.47	4.20	1.15	.36	.35	.42	.49	.53	(a)
19	.49	.40	4.55	1.18	.28	.37	.40	.49	.50	(a)
20	.45	.40	4.30	1.12	.24	2.60	.42	.49	.50	(a)
21	.50	.48	3.70	1.10	.20	1.35	.42	.49	.54	(a)
22	.50	.56	3.15	1.14	.15	1.06	.39	.49	.53	(a)
23	.50	.57	2.70	1.12	.10	.92	.39	.49	.50	(a)
24	.43	.57	2.45	1.10	.10	.81	.41	.49	.56	(a)
25	.36	.61	2.49	1.10	.08	.75	.43	.50	.57	(a)
26	.48	.68	2.53	1.00	.22	.69	.50	.50	.50	(a)
27	.48	.70	2.80	.95	.16	.68	.52	.54	.51	(a)
28	.45	.71	2.80	.87	.38	.82	.50	.85	.50	(a)
29	.39	.69	2.73	.85	.35	1.03	.50	.65	.49	(a)
30	.41	.64	2.45	.85	.31	1.24	.50	.70	.55	(a)
31	.38		2.22		.20	1.20		.70		(a)

[a] Frozen.

LAKE CREEK NEAR MOUTH, UTAH.

This station was established by C. T. Prall July 3, 1900, and is described in Water-Supply Paper, No. 50, page 372. Results of

measurements for 1900 will be found in the Twenty-second Annu Report, Part IV, page 380. It is located at the highway bridge ne its mouth. The gage rod is a vertical board nailed to the west abu ment on the lower side of the bridge. Bench mark No. 1 is a nail the abutment opposite the 4.50-foot mark on the rod. Bench ma No. 2 is directly over the gage rod, and is the head of a wire nail the southwest corner of the bridge upright. Its elevation is 5,066. feet. The elevation of the zero of the rod is 5,055.99 feet above s level, according to the hydrographic survey datum. The elevati of bench mark No. 2 is 5,129 feet, referred to the topographic surv datum. The elevation of a regulation iron bench-mark post, 150 fe east of the bridge, is 5,127.55 feet, referred to the latter datum. T bed of the stream is composed of medium-sized cobblestones and fon a fair section. During flood stages measurements are made from t bridge, but at other periods they are made by wading at a point abo 400 feet below. Daily gage heights were not taken, owing to the d tance of the location from a reliable observer, but frequent measu ments of discharge were made by C. T. Prall and others, as follows

List of discharge measurements of Lake Creek, Utah, near mouth, for 1901.

Date.	Hydrographer.	Gage height.	Discharge.	Date.	Hydrographer.	Gage height.	Dis charg
1901.		*Feet.*	*Sec.-ft.*	1901.		*Feet.*	*Sec.-*
Apr. 12	C. T. Prall	1.89	94	Aug. 24	C. T. Prall	2.35	
Apr. 19	do	1.91	96	Aug. 30	do	2.33	
Apr. 27	do	2.28	200	Sept. 6	do	2.15	
May 4	do	2.53	290	Sept. 13	do	2.00	
May 13	L. V. Branch	3.64	878	Sept. 20	do	2.00	
May 18	do	5.90	2,491	Sept. 27	do	2.02	
May 27	do	5.20	1,721	Oct. 4	do	1.98	
June 4	do	3.45	735	Oct. 11	do	2.02	
June 12	do	3.00	536	Oct. 18	do	1.96	
June 19	do	2.90	494	Oct. 25	do	1.98	
June 28	C. T. Prall	2.69	414	Nov. 1	do	2.05	
July 6	do	2.45	276	Nov. 8	do	1.95	
July 12	do	2.49	306	Nov. 15	do	1.95	
July 19	do	2.20	179	Nov. 22	do	1.90	
July 26	do	2.34	244	Nov. 29	do	1.95	
Aug. 2	do	2.15	178	Dec. 6	do	1.95	
Aug. 9	do	2.30	236	[a]Dec. 13	do		
Aug. 16	do	2.10	162				

[a] Frozen.

DUCHESNE RIVER AT PRICE ROAD BRIDGE, UTAH.

This station, established by C. C. Babb, on October 26, 1899, is miles below the mouth of Lake Creek, at the highway bridge on t stage road from Price to Fort Duchesne. It is described in Wate Supply Paper, No. 50, page 370. Results of measurements for 19 will be found in the Twenty-second Annual Report, Part IV, page 38

A new bench mark was placed in 1901, being a wire nail in t northwest corner of Clark's store, at an elevation of 5,011.81 fe The elevation of the zero of the rod is 4,996.09 feet.

The following measurements were made by C. T. Prall and others during 1901:

List of discharge measurements of Duchesne River at Price road bridge, Utah.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 6	5.18	264	August 16	5.37	354
April 12	5.23	296	August 24	5.55	443
April 19	5.39	335	August 30	5.53	422
April 27	6.52	1,110	September 6	5.38	361
May 4	6.70	1,267	September 13	5.25	301
May 10	7.20	1,746	September 20	5.20	272
May 18	8.75	5,167	September 27	5.27	310
May 27	8.52	4,160	October 4	5.23	294
June 4	7.35	2,099	October 11	5.32	326
June 12	6.83	1,499	October 18	5.28	309
June 19	6.57	1,298	October 25	5.29	295
June 24	6.48	1,178	November 1	5.42	362
June 29	6.15	913	November 8	5.32	306
July 6	5.88	673	November 15	5.30	299
July 12	5.96	756	November 22	5.33	318
July 19	5.57	456	November 29	5.28	304
July 26	5.77	575	December 6	5.33	332
August 2	5.41	411	December 13[a]	.....	.....
August 9	5.91	716			

[a] River frozen.

Daily gage height, in feet, of Duchesne River at Price road bridge, Utah, for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	5.20	6.60	7.79	6.12	5.41	5.50	5.24	5.39	5.24
2	.....	5.21	6.83	7.63	6.10	5.45	5.47	5.22	5.39	5.24
3	.....	5.20	6.94	7.50	6.03	5.43	5.40	5.22	5.38	5.24
4	.....	5.20	6.74	7.33	5.98	5.43	5.39	5.23	5.37	5.24
5	.....	5.14	6.58	7.25	5.90	5.33	5.39	5.23	5.33	5.25
6	5.30	5.12	6.48	7.03	5.84	5.38	5.38	5.25	5.33	5.24
7	5.29	5.19	6.48	6.98	5.83	5.55	5.37	5.25	5.31	5.27
8	5.31	5.19	6.50	7.18	5.81	5.88	5.37	5.28	5.30	5.27
9	5.30	5.18	6.55	7.15	5.80	5.75	5.34	5.28	5.29	5.27
10	5.27	5.28	6.79	7.00	5.88	5.53	5.32	5.28	5.30	5.29
11	5.20	5.25	7.16	6.93	5.94	5.50	5.28	5.29	5.35	5.31
12	5.29	5.24	7.45	6.79	5.99	5.41	5.27	5.30	5.32	[a]5.39
13	5.28	5.20	7.68	6.69	5.78	5.35	5.28	5.31	5.30	([a])
14	5.23	5.23	7.88	6.69	5.85	5.35	5.29	5.30	5.31	.....
15	5.21	5.38	7.95	6.64	5.81	5.30	5.20	5.31	5.30	.....
16	5.20	5.39	8.20	6.51	5.80	5.28	5.15	5.29	5.30	.....
17	5.23	5.39	8.63	6.50	5.65	5.45	5.17	5.28	5.30	.....
18	5.21	5.35	8.88	6.50	5.58	5.48	5.19	5.29	5.30	.....
19	5.24	5.35	9.28	6.53	5.53	5.55	5.18	5.28	5.30	.....
20	5.21	5.39	9.45	6.51	5.53	6.15	5.20	5.28	5.30	.....
21	5.21	5.53	9.20	6.47	5.53	5.95	5.19	5.28	5.29	.....
22	5.21	5.68	8.60	6.49	5.48	5.72	5.17	5.28	5.30	.....
23	5.21	5.95	8.03	6.53	5.48	5.62	5.15	5.29	5.27	.....
24	5.21	6.11	7.75	6.48	5.50	5.52	5.18	5.27	5.30	.....
25	5.21	6.12	7.88	6.44	5.50	5.50	5.19	5.27	5.29	.....
26	5.20	6.35	8.15	6.41	5.68	5.44	5.20	5.28	5.28	.....
27	5.20	6.49	8.65	6.27	5.77	5.49	5.24	5.34	5.27	.....
28	5.20	6.42	8.65	6.15	5.70	5.55	5.25	5.52	5.24	.....
29	5.20	6.26	8.55	6.14	5.63	5.53	5.25	5.56	5.24	.....
30	5.20	6.35	8.20	6.11	5.58	5.90	5.24	5.53	5.22	.....
31	5.20	.....	8.08	.....	5.50	5.64	.....	5.51	.....	.....

[a] Ice.

YAMPA RIVER, COLORADO.

Yampa River rises in the eastern part of Routt County, Colo., and flows in a general westerly direction through the entire county, and empties into Green River near the western boundary. The stream is

somewhat peculiar in its character, the upper branches having siderable fall and the water therefore flowing rapidly over shoal gravel and rock and being thus easily taken out for utilization. condition of affairs prevails as far down the stream as Hayden, whe broad and fertile valley is irrigated, the principal crops raised b hay for stock. From Hayden westerly the course of the str changes. It flows for long distances, sometimes 20 miles or more, but little fall, and then it breaks through some ridge of rock and fall is great for comparatively short distances. For this reason taking of water from the stream below Hayden is involved in gre difficulty than above and the ditches are therefore larger. Sev large canals are, however, being constructed, among which the n important are those of Craig, Maybelle, and Lily Park. Below Park the stream flows through a deep and rugged canyon, where irrigation can be practiced, but above that point the amount of l that can and will eventually be irrigated is limited only by the amo of water available. Up to the present time but little impression been made upon the early summer supply. The principal branc of the Yampa River are Elk River, heading in the vicinity of Ha Peak; Elk Head Creek, Williams River, and Little Snake Ri More or less irrigation is practiced upon all of these branches, practically all of the waters of Fortification Creek and Elk H Creek are used for irrigation. A large amount is, however, available in the other branches and the project of taking a large s ply of water from Elk River by means of a canal to the divide betw Little Snake River and Yampa River has been contemplated. A Basin contains a considerable quantity of fertile land, which i thought may perhaps be irrigated from the North Fork of W River. There are possibilities of developing power in the neigh' hood of Steamboat Springs, which are being considered at the pres time.

YAMPA RIVER AT CRAIG, COLO.

This station was established by A. L. Fellows May 25, 1901, at wagon bridge about 1 mile southwest from Craig, Colo., this p being selected as the most suitable station on Yampa River. gage consists of a vertical 2 by 4 inch timber fastened to the so abutment of the bridge on the downstream side, the rod being mar in feet and tenths vertically. The wagon bridge is marked ever feet. The channel is deep at this point and at low stages the rent is sluggish, but measurements give good results, as the char changes but little. The observer is Mr. H. Jones, of Craig, who vi the rod daily. Observations were kept up from May 25 to Novem 3, inclusive. The following measurements were made by A. L. lows during 1901:

May 25: Gage height, 7.10 feet; discharge, 6,890 second-feet.
November 3: Gage height, 2.20 feet; discharge, 180 second-feet.

Daily gage height, in feet, of Yampa River at Craig, Colo., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1		6.70	4.30	2.40	2.30	2.00	2.20
2		6.50	4.20	2.40	2.40	2.00	2.20
3		6.80	4.10	2.30	2.40	2.00	2.20
4		6.50	4.00	2.30	2.40	2.00	
5		6.30	3.80	2.30	2.30	2.00	
6		6.10	3.60	2.20	2.30	2.10	
7		6.00	3.50	2.30	2.40	2.10	
8		6.00	3.40	2.50	2.40	2.00	
9		6.20	3.40	2.60	2.30	2.10	
10		6.40	3.30	2.70	2.30	2.20	
11		6.30	3.40	2.60	2.30	2.20	
12		6.10	3.30	2.60	2.20	2.20	
13		5.90	3.30	3.50	2.20	2.30	
14		5.70	3.20	2.50	2.20	2.30	
15		5.90	3.10	2.40	2.20	2.30	
16		5.60	3.00	2.40	2.10	2.20	
17		5.50	2.90	2.30	2.10	2.20	
18		5.30	2.80	2.30	2.10	2.10	
19		5.40	2.70	2.40	2.00	2.20	
20		5.50	2.60	2.50	2.00	2.20	
21		5.50	2.60	2.60	2.00	2.10	
22		5.40	2.50	2.70	2.00	2.20	
23		5.40	2.50	2.70	2.00	2.20	
24		5.30	2.50	2.60	2.00	2.20	
25	7.10	5.30	2.50	2.60	2.00	2.20	
26	6.90	5.20	2.60	2.50	2.00	2.20	
27	7.20	5.00	2.60	2.40	2.00	2.10	
28	7.10	4.90	2.70	2.40	2.00	2.10	
29	7.00	4.70	2.60	2.30	2.00	2.10	
30	6.90	4.50	2.50	2.30	2.00	2.20	
31	6.80		2.50	2.30		2.20	

WHITE RIVER, COLORADO.

The principal branches of White River rise in the White River Plateau, a well-forested tract in the White River Forest Reserve. A number of lakes, among which are Oyster Lake, Marvine Lake, Trappers Lake, and Deep Lake furnish important reservoir sites, if such are ever needed. The need for these as yet, however, has not arisen. The stream flows in a generally westerly direction, particularly in Rio Blanco County, and discharges into Green River in Utah. Areas of considerable extent are irrigated, particularly in the vicinity of Meeker, and at points above Meeker. Other possibilities for extended irrigation exist both in the vicinity of Meeker and upon the mesas adjoining the stream; particularly along its lower courses. It is also thought possible that a considerable amount of water may be taken from the North Fork of White River for the irrigation of Axial Basin in Routt County. If the demand should arise, power may be developed probably to any extent desired upon the upper branches of the stream. The principal town of the White River Valley is Meeker. The crops raised are principally grain and hay, as the principal industry is stock raising.

WHITE RIVER AT MEEKER, COLO.

This station was established by A. L. Fellows, May 24, 1901, at a point about one-fourth of a mile above the town of Meeker, there

being at this point a wagon bridge crossing the stream upon the ra of L. F. Van Cleave, favorably situated for the purpose. The g rod consists of a vertical 2 by 4 inch timber nailed to the left abutm of the bridge on the downstream side. The bridge is marked e 5 feet. The initial point for soundings is at the rod, at the le south end of the bridge. The banks are sufficiently high so as nc be liable to overflow; the channel is of rock and gravel, and se permanent in its nature. Measurements are made from the lower of the wagon bridge. The observer is L. F. Van Cleave, who v the rod twice each day. Only two gagings were made in 1901, b by A. L. Fellows, as follows:

May 24: Gage height, 5.60 feet; discharge, 2,605 second-feet.
October 28: Gage height, 3.60 feet; discharge, 397 second-feet.

Daily gage height, in feet, of White River at Meeker, Colo., for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	
1	.....	5.35	4.45	3.50	3.80	3.50	..
2	.....	5.35	4.45	3.50	3.70	3.50	..
3	.....	5.45	4.35	3.50	3.65	3.50	..
4	.....	5.20	4.30	3.50	3.75	3.50	..
5	.....	5.20	4.25	3.50	3.60	3.50	..
6	.....	5.05	4.25	3.60	3.60	3.50	..
7	.....	5.10	4.05	3.80	3.60	3.65	..
8	.....	5.15	4.05	3.75	3.60	3.70	..
9	.....	5.50	4.05	3.85	3.60	3.60	..
10	.....	5.50	4.05	3.70	3.60	3.60	..
11	.....	5.55	4.00	3.70	3.60	3.60	..
12	.....	5.30	4.00	3.70	3.60	3.60	..
13	.....	5.15	3.95	3.65	3.50	3.60	..
14	.....	5.15	3.95	3.60	3.50	3.60	..
15	.....	5.10	3.90	3.60	3.50	3.60	..
16	.....	4.95	3.90	3.60	3.50	3.60	..
17	.....	4.90	3.85	3.65	3.50	3.60	..
18	.....	4.95	3.80	3.60	3.50	3.60	..
19	.....	4.95	3.80	3.60	3.50	3.60	..
20	.....	5.05	3.80	3.75	3.50	3.60	..
21	.....	5.05	3.70	3.75	3.50	3.55	..
22	6.50	5.15	3.70	3.70	3.50	3.55	..
23	5.80	5.10	3.70	3.70	3.50	3.55	..
24	5.70	5.10	3.85	3.70	3.50	3.55	..
25	5.70	5.05	3.80	3.70	3.50	3.55	..
26	5.65	4.95	3.85	3.70	3.50	3.55	..
27	5.75	4.85	3.85	3.70	3.50	3.55	..
28	5.65	4.75	3.80	3.60	3.50	3.60	..
29	5.65	4.65	3.70	3.70	3.50	3.60	..
30	5.45	4.55	3.70	3.85	3.50	3.60	..
31	5.50	.....	3.60	3.80	.....	3.60	..

GRAND RIVER AT GLENWOOD SPRINGS, COLO.

This station was established May 12, 1899, at the request of Denver and Rio Grande Railroad Company. It is situated at the road bridge one-fourth of a mile west of the station and just above mouth of Roaring Fork. A description of the station was publis in Water-Supply Paper No. 50, page 375. Results of measurem for 1899 and 1900 will be found in the Twenty-second Annual Rep Part IV, page 389.

Daily gage height, in feet, of Grand River at Glenwood Springs, Colo., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.80	3.15	3.30	3.15	6.85	8.60	7.40	4.50	4.10	3.40	3.50	3.40
2	2.75	3.10	3.35	3.25	7.30	8.25	7.20	4.35	4.10	3.40	3.50	3.40
3	2.75	3.10	3.45	3.20	7.40	8.15	7.05	4.30	4.00	3.40	3.50	3.50
4	2.95	3.20	3.45	3.30	7.00	8.10	6.90	4.20	3.90	3.40	3.50	3.50
5	3.05	3.20	3.45	3.45	6.55	7.80	6.65	4.45	3.90	3.40	3.40	3.50
6	2.95	3.10	3.45	3.50	6.40	7.50	6.40	4.60	3.90	3.40	3.40	3.50
7	3.05	3.20	3.45	3.45	6.25	7.35	6.30	5.20	3.90	3.40	3.40	3.50
8	3.20	3.15	3.55	3.40	6.20	7.55	6.25	4.95	3.80	3.40	3.40	3.45
9	3.30	3.10	3.45	3.50	6.30	7.90	6.00	5.35	3.75	3.55	3.40	3.20
10	3.15	3.10	3.45	3.65	6.55	8.20	6.05	5.30	3.70	3.55	3.40	3.20
11	3.15	3.10	3.45	3.60	6.90	8.20	6.10	4.95	3.70	3.50	3.40	3.20
12	3.10	3.05	3.35	3.60	7.30	8.05	6.10	4.80	3.65	3.50	3.40	3.35
13	3.25	2.95	3.35	3.50	7.70	7.70	6.00	4.55	3.60	3.50	3.40	3.15
14	3.20	2.95	3.35	3.60	7.95	7.60	5.80	4.35	3.60	3.50	3.35	2.95
15	3.10	3.10	3.35	3.65	8.05	7.50	6.65	4.30	3.60	3.50	3.30	3.00
16	3.05	3.10	3.35	3.70	8.20	7.40	5.45	4.25	3.55	3.50	3.35	3.00
17	3.05	3.20	3.40	3.60	8.40	7.15	5.30	4.20	3.60	3.50	3.35	3.15
18	3.05	3.25	3.35	3.75	8.85	7.10	5.15	4.20	3.50	3.50	3.45	3.35
19	3.00	3.25	3.35	3.65	9.35	7.10	5.10	4.30	3.50	3.50	3.40	3.30
20	3.00	3.30	3.25	3.75	9.85	7.20	5.00	4.20	3.50	3.50	3.40	3.20
21	3.15	3.55	3.40	4.00	10.10	7.60	5.00	4.30	3.50	3.50	3.40	3.05
22	3.20	3.30	3.30	4.30	10.15	7.90	4.85	4.30	3.50	3.50	3.40	3.20
23	3.20	3.30	3.25	4.60	9.75	8.00	4.80	4.20	3.40	3.50	3.40	3.25
24	3.10	3.25	3.25	4.80	8.95	8.20	4.80	4.20	3.40	3.45	3.40	3.35
25	3.10	3.30	3.20	5.00	8.60	8.20	4.80	4.20	3.40	3.45	3.50	3.35
26	3.20	3.15	3.30	5.45	8.70	8.00	4.85	4.10	3.40	3.50	3.50	3.20
27	2.95	3.25	3.25	5.80	8.95	7.80	4.90	4.00	3.35	3.50	3.50	3.25
28	3.00	3.30	3.20	5.90	9.35	7.55	4.80	4.00	3.40	3.50	3.40	3.15
29	3.20	.....	3.20	6.00	9.35	7.50	4.70	4.00	3.40	3.50	3.35	3.00
30	3.10	.....	3.20	6.40	8.90	7.40	4.65	4.00	3.40	3.50	3.40	3.05
31	2.95	.....	3.15	.....	8.60	.....	4.60	4.10	.....	3.50	.....	3.15

GUNNISON RIVER AT IOLA, COLO.

The Iola station was established in March, 1900, for the purpose of determining the amount of water available for the irrigation project of Uncompahgre Valley. It is described in Water-Supply Paper No. 50, page 378. The observer is A. Pomel, postmaster at Iola, who telegraphs the gage height daily to the local forecast official of the United States Weather Bureau at Denver, who has it printed in the morning papers. The position of the gage was verified April 11. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 390. During 1901 the following measurements were made by A. L. Fellows at the Iola station:

April 11: Gage height, 2.16 feet; discharge, 388 second-feet.
May 7: Gage height, 4.80 feet; discharge, 4,005 second-feet.
July 29: Gage height, 2.70 feet; discharge, 836 second feet.

Daily gage height, in feet, of Gunnison River at Iola, Colo., for 1901.

Day.	April.	May.	June.	July.	Aug.	Sept.	Oct.	No
1	2.20	4.00	4.60	3.70	2.60	2.50	2.00	2
2	2.20	4.20	4.30	3.60	2.60	2.40	2.00	2
3	2.20	3.90	4.30	3.60	2.50	2.40	2.00	2
4	2.20	3.70	4.20	3.60	2.50	2.40	2.00	2
5	2.20	3.60	4.20	3.40	2.50	2.40	2.00	2
6	2.20	3.70	4.10	3.20	2.60	2.30	2.00	2
7	2.20	3.60	4.10	3.10	2.70	2.30	2.00	2
8	2.20	3.70	4.30	3.00	2.80	2.30	2.00	2
9	2.20	3.70	4.60	3.00	2.90	2.20	2.00	2
10	2.20	3.80	4.60	2.90	2.70	2.20	2.10	2
11	2.20	4.00	4.50	2.90	2.60	2.20	2.20	2
12	2.20	4.20	4.30	2.90	2.60	2.20	2.10	2
13	2.20	4.40	4.10	2.80	2.50	2.10	2.10	2
14	2.30	4.60	3.90	2.80	2.40	2.10	2.10	2
15	2.40	4.50	3.90	2.80	2.40	2.10	2.10	2
16	2.50	4.60	3.80	2.80	2.40	2.10	2.10	2
17	2.50	4.80	3.80	2.70	2.40	2.10	2.00	2
18	2.40	5.00	3.80	2.70	2.50	2.10	2.00	2
19	2.50	5.30	3.90	2.60	2.50	2.10	2.00	2
20	2.60	5.70	4.00	2.60	2.60	2.00	2.00	2
21	2.70	5.60	4.00	2.60	2.50	2.00	2.00	2
22	2.80	5.60	4.10	2.60	2.50	2.00	2.00	2
23	2.90	4.80	4.10	2.50	2.40	2.00	2.00	2
24	3.00	4.80	4.20	2.50	2.40	2.00	2.00	2
25	3.30	4.80	4.10	2.60	2.40	2.00	2.00	2
26	3.70	4.90	3.90	2.80	2.40	2.00	2.00	2
27	3.70	5.00	3.80	2.80	2.30	2.00	2.00	2
28	3.60	5.00	3.80	2.70	2.30	2.00	2.00	2
29	3.70	5.00	3.70	2.70	2.30	2.00	2.10	2
30	3.80	4.80	3.70	2.70	2.40	2.00	2.10	2
31	.....	4.80	.....	2.70	2.50	.....	2.10	.....

NOTE.—River gorged with ice April 2 to April 7, inclusive.

GUNNISON RIVER AT WHITEWATER, COLO.

This station was established by A. L. Fellows May 21, 1901, at new wagon bridge constructed by the State of Colorado at a poi about half a mile above the railroad station at Whitewater, on th Denver and Rio Grande Railroad. It is intended that this statio should take the place of the one formerly maintained on the Gunnis at Grand Junction. The latter station was abandoned on account inaccuracies that could not be overcome. The latter were mainly du to the fact that high stages of water in the Grand River affected th gage rod in the Gunnison, and that the stream bed was partially fille with great bowlders, making accurate gagings impossible. Record were kept for the period from May 19 to July 6, inclusive, by Mr. Jam Page, station agent of the Denver and Rio Grande Railroad at Whit water. Only one gaging was made, however, that of May 21, by A. L Fellows. The record book was destroyed by fire, which burned th station house July 10, and the maintenance of the station was no resumed. During the period covered the gage rod used was one s up near the railroad station by the railroad company, no gage bein placed at the bridge. The records, therefore, simply show relativ heights of the river, without furnishing information concerning th actual discharge except at the unusually high stage measured on Ma 21, when the flow was 20,176 second-feet for a gage heigh of 7.20 fee

Daily gage height, in feet, of Gunnison River at Whitewater, Colo., for 1901.

Day.	May.	June.	July.	Day.	May.	June.	July.	Day.	May.	June.	July.
1		4.65	2.70	12		3.30		23	5.90	2.90	
2		4.45	2.60	13		3.05		24	5.30	2.75	
3		4.20	2.45	14		3.30		25	4.80	2.75	
4		3.80	2.55	15		3.10		26	5.05	2.85	
5		3.65	2.60	16		3.00		27	5.20	3.00	
6		3.55	2.60	17		2.90		28	5.25	3.00	
7		3.50		18		2.75		29	5.25	2.85	
8		3.65		19	6.70	2.65		30	5.05	2.75	
9		3.80		20	7.00	2.75		31	4.75		
10		3.65		21	7.20	2.90					
11		3.55		22	6.70	3.00					

DOLORES RIVER AT DOLORES, COLO.

The gaging station is about a half mile above the Rio Grande Southern Railroad station at Dolores. It is described in Water-Supply Paper No. 50, page 380. The results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 391. During 1901 one measurement was made by A. L. Fellows, on April 15, the discharge being 558 second-feet for a gage height of 3.60 feet. The gage was verified by him on that date.

Daily gage height, in feet, of Dolores River at Dolores, Colo., for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1	3.20	2.80	5.65	4.85	3.70	3.05	3.05	2.40
2	3.20	2.80	5.65	4.80	3.70	3.05	2.95	2.40
3	3.40	3.05	4.85	4.75	3.70	3.15	2.90	2.40
4	3.35	2.95	4.75	4.60	3.55	3.15	2.80	2.40
5	3.30	2.95	4.65	4.60	3.45	3.25	2.75	2.40
6	3.30	3.00	5.15	4.55	3.35	3.15	2.75	2.50
7	3.05	3.10	5.55	4.75	3.15	3.10	2.65	2.50
8	3.10	3.00	5.35	4.95	3.15	3.15	2.70	2.50
9	3.20	3.10	5.20	4.85	3.15	3.05	2.65	2.50
10	2.90	3.10	5.25	4.80	3.10	3.05	2.60	2.60
11	2.90	3.10	5.45	4.75	3.05	2.95	2.55	2.60
12	2.90	3.15	5.25	4.70	3.15	2.90	2.50	2.60
13	2.90	3.30	5.00	4.60	3.05	2.85	2.45	2.60
14	2.80	3.60	4.95	4.50	3.05	2.85	2.40	2.60
15	2.80	3.60	5.20	4.40	3.05	2.85	2.40	2.60
16	2.80	3.60	5.65	4.30	3.05	2.85	2.40	2.60
17	2.85	3.60	5.75	4.20	3.05	2.85	2.35	2.60
18	2.85	3.80	5.85	4.20	3.05	2.85	2.35	2.55
19	3.00	4.20	5.75	4.20	3.00	2.95	2.35	2.55
20	2.95	4.50	6.10	4.10	2.95	2.90	2.35	2.50
21	2.95	4.50	5.95	4.15	2.95	3.00	2.35	2.50
22	3.00	4.75	6.10	4.20	3.00	2.90	2.35	2.50
23	3.10	4.95	5.95	4.25	3.05	2.95	2.35	2.50
24	2.95	5.15	5.80	4.35	3.20	3.10	2.35	2.50
25	3.00	5.35	5.35	4.30	3.05	3.00	2.35	2.50
26	3.00	5.60	5.25	4.25	3.00	2.95	2.40	2.40
27	2.95	5.60	5.20	4.20	3.00	2.95	2.40	2.40
28	2.95	5.10	5.20	4.15	3.00	3.05	2.40	2.40
29	2.90	5.30	5.20	4.05	3.05	3.10	2.40	2.40
30	2.80	5.50	5.20	3.95	3.15	3.10	2.40	2.40
31	2.80		5.10		3.15	3.15		2.35

LOS PINOS RIVER AT IGNACIO, COLO.

The station was established April 22, 1899, at the request of the Commissioner of Indian Affairs, for the purpose of ascertaining the quantity of water available for irrigation along the stream. The

station is an important one, as all of the waters of the stream w undoubtedly be used for irrigation before many years. On April an iron bench-mark post was set 30 feet northwest from the nort west corner of the bridge, its top being 7.64 feet above the zero of t gage. The observer is Mr. John Wesch, the clerk at the agency. description of the station was published in Water-Supply Paper N 50, page 382. The results of measurements for 1900 will be found the Twenty-second Annual Report, Part IV, page 393. During 19 the following measurements were made by A. L. Fellows:

April 17: Gage height, 3.00 feet; discharge, 264 second-feet.
August 5: Gage height, 2.55 feet; discharge, 110 second-feet.

Daily gage height, in feet, of Los Pinos River at Ignacio, Colo., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Day.	Apr.	May.	June.	July.	Aug.	Se
1	2.55	4.30	3.95	3.40	2.60	3.00	17	3.05	3.85	3.75	2.65	2.50	
2	2.60	4.50	3.90	3.35	2.60	2.85	18	3.00	4.65	3.85	2.65	2.50	
3	2.68	4.05	3.85	3.35	2.55	2.80	19	3.05	5.05	3.70	2.55	3.85	
4	2.80	3.90	3.90	3.20	2.50	3.45	20	3.35	4.95	3.70	2.50	3.60	
5	2.70	3.85	3.80	3.20	2.65	3.15	21	3.65	4.85	3.65	2.50	3.25	
6	2.75	3.90	3.80	3.10	2.75	3.05	22	3.75	4.80	3.60	2.50	3.05	
7	2.75	3.85	3.65	2.95	2.70	2.90	23	3.75	4.55	3.60	2.50	2.85	
8	2.75	3.80	3.75	2.95	2.70	2.85	24	3.80	4.45	3.55	2.45	2.80	
9	2.75	3.75	3.80	2.85	2.70	2.80	25	3.90	4.25	3.65	2.45	2.80	
10	2.65	3.70	3.75	2.95	2.60	2.80	26	4.40	4.30	3.75	2.45	2.75	
11	2.65	3.85	3.80	2.85	2.60	2.75	27	4.15	4.20	3.70	2.65	2.75	
12	2.75	3.90	3.90	2.80	2.60	2.70	28	3.95	4.15	3.65	2.75	2.75	
13	2.78	3.85	3.85	2.85	2.55	2.70	29	3.90	4.15	3.60	2.70	2.70	
14	2.95	4.05	3.80	2.75	2.50	2.65	30	4.25	4.10	3.55	2.70	2.75	
15	3.00	3.90	3.80	2.75	2.50	2.60	31	.....	4.05	.....	2.65	2.70	
16	3.10	3.90	3.80	2.75	2.50	2.60							

FLORIDA RIVER NEAR DURANGO, COLO.

This station, as described in Water-Supply Paper No. 38, page 3 was maintained from April 1 to June 30, 1901. The observer is M Annie Stewart, who lives near by. The Stewart ranch is located abo 6½ miles east of Durango and is reached by driving. The gage r consists of a vertical 4-inch strip 7½ feet long, marked vertically feet and tenths and spiked to the east abutment of the bridge. T bench mark was established April 15, 1901, and consists of a spi in an 8-inch cottonwood stump, 50 feet south from and 5.86 feet abo the zero of the rod. Gagings are made at the wagon bridge, exce ing at low water, when they may be made by wading. Informati derived at this point is of importance, as it is desired that the exc water of this stream shall be made available by means of storage r ervoirs in the upper part of this drainage basin. Much valuable la can be irrigated if this water is properly conserved.

During 1901 one measurement was made by A. L. Fellows, on Ap 16, when the flow was found to be 53 second-feet, the gage heig being 1.48 feet.

Daily gage height, in feet, of Florida River near Durango, Colo., for 1901.

Day.	Apr.	May.	June.	Day.	Apr.	May.	June.	Day.	Apr.	May.	June.
1	1.05	2.80	2.40	12	1.20	2.65	2.15	23	2.05	3.05	1.75
2	1.05	2.80	2.30	13	1.30	2.55	2.15	24	2.20	3.15	1.80
3	1.10	2.55	2.20	14	1.40	2.75	1.85	25	2.30	3.05	1.65
4	1.20	2.25	2.20	15	1.40	2.55	1.90	26	2.65	2.95	1.75
5	1.05	2.35	2.20	16	1.45	2.50	1.95	27	2.65	3.15	1.50
6	1.15	2.30	2.20	17	1.40	2.85	1.85	28	2.60	2.85	1.40
7	1.20	2.40	2.45	18	1.40	3.10	1.90	29	2.35	2.75	1.35
8	1.20	2.40	2.45	19	1.50	3.50	1.90	30	2.65	2.75	1.35
9	1.20	2.45	2.60	20	1.65	3.75	1.90	31	.....	2.65	.....
10	1.20	2.50	2.45	21	1.90	3.45	1.85				
11	1.20	2.55	2.45	22	2.00	3.35	1.70				

ANIMAS RIVER AT DURANGO, COLO.

The station was established June 20, 1895, and has been maintained during the greater part of each year since. No records were kept after May 4, 1901. The position of the gage was verified April 17. A description of the station was published in Water-Supply Paper No. 50, page 383. The results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 394. During 1901 the following measurements were made by A. L. Fellows:

April 17: Gage height, 7.00 feet; discharge, 404 second-feet.
August 5: Gage height, 6.80 feet; discharge, 381 second-feet.

Daily gage height, in feet, of Animas River at Durango, Colo., for 1901.

Day.	Mar.	Apr.	May.	Day.	Mar.	Apr.	May.	Day.	Mar.	Apr.	May.
1	.....	6.50	9.90	11	.....	6.60	.....	21	.....	8.35	.....
2	.....	6.50	9.85	12	.....	6.60	.....	22	.....	8.65	.....
3	.....	6.50	9.10	13	.....	6.60	.....	23	.....	8.45	.....
4	.....	6.50	8.70	14	.....	6.70	.....	24	.....	8.35	.....
5	.....	6.50	.....	15	.....	7.20	.....	25	.....	8.65	.....
6	.....	6.60	.....	16	.....	7.00	.....	26	.....	9.35	.....
7	.....	6.60	.....	17	.....	6.90	.....	27	.....	9.30	.....
8	.....	6.60	.....	18	.....	6.80	.....	28	.....	9.05	.....
9	.....	6.60	.....	19	.....	6.80	.....	29	.....	9.00	.....
10	.....	6.60	.....	20	.....	7.40	.....	30	6.50	9.50	.....

MANCOS RIVER AT MANCOS, COLO.

The station at Mancos was established April 9, 1898, for the purpose of determining the amount of water going to waste during high-water periods. During 1901 the bed of the stream shifted to such an extent that a rating table for that year is impossible. The position of the gage was verified April 13, 1901. A description of the station was published in Water-Supply Paper No. 50, page 384. During 1901 the following measurements were made by A. L. Fellows:

April 13: Gage height, 2 feet; discharge, 49 second-feet.
August 8: Gage height, 2.28 feet; discharge, 17 second-feet.

Daily gage height, in feet, of Mancos River at Mancos, Colo., for 1901.

Day.	Apr.	May.	June.	Day.	Apr.	May.	June.	Day.	Apr.	May.	Ju
1		4.10	3.70	12		4.00	2.70	23	3.45	4.00	
2		4.10	3.60	13		4.10	2.60	24	3.60	4.00	
3		4.10	3.50	14		4.10	2.40	25	3.60	3.90	
4		4.20	3.50	15	2.30	4.10	2.20	26	3.95	3.90	
5		4.20	3.50	16	2.35	4.05	2.00	27	4.10	3.80	
6		4.20	3.40	17	2.30	3.90	2.00	28	4.10	3.80	
7		4.20	3.00	18	2.40	3.90	2.00	29	4.10	3.70	
8		4.10	2.90	19	2.60	3.90	2.20	30	4.10	3.70	
9		4.10	2.90	20	3.25	3.90	2.25	31		3.70	
10		4.10	2.80	21	3.35	4.00					
11		4.00	2.70	22	3.40	4.00					

MISCELLANEOUS DISCHARGE MEASUREMENTS IN COLORADO RIV BASIN IN COLORADO.

Date.	Stream.	Locality.	Hydrographer.	Dis char
1901.				*Sec.-*
Nov. 12	North Fork of Yampa River.	Yampa	A. L. Fellows	
Nov. 12	South Fork of Yampa River.	do	do	
Nov. 12	Yampa River	do	do	
Nov. 11	Hunt Creek	do	do	
Nov. 11	Oak Creek	Pinnacle	do	
Nov. 10	Trout Creek	do	do	
Nov. 10	Fish Creek	Dunkley	do	
Nov. 10	Sage Creek	Hayden	do	
Nov. 9	Elk Head Creek	Craig	do	
Nov. 9	Fortification Creek	do	do	
May 25	Williams Fork	Hamilton	do	1
Nov. 3	do	do	do	
May 25	Morapes Creek	do	do	
Nov. 3	do	do	do	
May 26	Milk Creek	Axial	do	
Oct. 28	do	do	do	
Nov. 13	Troublesome Creek	Troublesome Creek	do	
Nov. 13	Muddy Creek	Kremmling	do	
Nov. 13	Pass Creek	do	do	
Nov. 13	Blue River	do	do	
Nov. 12	Rock Creek	Toponas	do	
Nov. 12	Little Rock Creek	do	do	
Oct. 24	Plateau Creek	Colbran	do	
May 22	Grand River	Grand Junction	do	31
Oct. 23	Surface Creek	Cedaredge	do	
Oct. 22	Gunnison River	Near Delta	do	
May 20	Uncompahgre River	Montrose	do	1
Oct. 21	do	Delta	do	
Apr. 15	Lost Canyon Creek	Dolores	do	
Aug. 9	Dolores River	Rico	do	

GILA RIVER AT SAN CARLOS, ARIZ.

This station was established by C. C. Babb on July 11, 1899, in co nection with an investigation of Gila River with reference to a supp of water for the Gila River Indian Reservation and arid lands vicinity. Results of this investigation were published in Water-Su ply Paper No. 33, entitled Storage of Water on Gila River, Arizo by J. B. Lippincott. The station is a half mile south of the Indi agency at San Carlos, below the mouth of San Carlos Creek. It described in Water-Supply Paper No. 50, page 385. Results of me urements for 1900 will be found in the Twenty-second Annual Repo

Part IV, page 397. During 1901 the following measurements were made by Stephen Janus and A. P. Davis:

List of discharge measurements of Gila River at San Carlos, Ariz.

Date.	Hydrographer.	Gage height.	Discharge.	Date.	Hydrographer.	Gage height.	Discharge.
1901.		*Feet.*	*Sec.-ft.*	1901.		*Feet.*	*Sec.-ft.*
Jan. 27	Stephen Janus	2.35	2.20	July 27	Stephen Janus	3.01	1,223.00
Jan. 29	do	3.00	9.57	July 29	do	3.70	2,087.80
Mar. 28	do	2.20	1.57	Aug. 11	do	2.90	836.40
May 16	A. P. Davis	1.59	7.60	Aug. 17	do	2.20	403.50
May 25	Stephen Janus	1.50	4.89	Aug. 28	do	1.50	87.50
June 1	do	1.50	7.08	Sept. 10	do	6.20	8,180.85
June 8	do	1.45	4.12	Sept. 11	do	3.00	1,260.00
June 15	do	1.30	4.45	Sept. 14	do	2.00	251.72
June 22	do	1.00	2.14	Sept. 17	do	1.80	95.70
June 29	do	1.00	.52	Oct. 9	do	1.60	50.47

Daily gage height, in feet, of Gila River at San Carlos, Ariz., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.75	2.60	2.90	2.20	1.50	1.50	[a]	2.80	1.30	1.40	2.20	2.20
2	1.75	3.00	2.80	2.15	1.50	1.50	[a]	2.80	1.30	1.40	2.20	2.20
3	1.75	3.00	2.70	2.15	1.50	1.50	[a]	2.60	1.30	1.40	2.20	2.20
4	1.75	3.00	2.60	2.15	1.50	1.50	[a]	2.65	1.30	1.30	2.20	2.20
5	1.80	2.80	2.60	2.10	1.50	1.50	[a]	2.40	1.30	1.30	2.20	2.15
6	1.80	2.80	2.60	2.10	1.50	1.50	[a]	2.40	1.30	1.30	2.20	2.15
7	1.80	2.80	2.60	2.10	1.50	1.50	[a]	2.30	1.30	1.45	2.20	2.10
8	1.80	3.20	2.80	2.00	1.50	1.48	[a]	2.25	1.30	1.55	2.20	2.10
9	1.70	3.20	3.10	2.00	1.50	1.45	[a]	2.65	1.30	1.45	2.20	2.10
10	1.80	3.20	3.10	2.00	1.50	1.40	[a]	2.85	4.43	1.40	2.20	2.10
11	1.70	3.70	3.00	2.00	1.50	1.40	[a]	2.95	3.00	1.35	2.20	2.10
12	1.70	3.50	2.80	2.00	1.50	1.40	[a]	3.55	3.20	1.30	2.20	2.10
13	1.70	3.20	2.70	1.90	1.50	1.40	[a]	3.15	2.35	1.30	2.20	2.10
14	1.80	3.20	2.60	1.90	1.50	1.30	[b]	3.15	1.98	1.30	2.20	2.05
15	1.80	3.10	2.60	1.80	1.50	1.30	[b]	2.50	1.85	1.30	2.20	2.05
16	1.80	3.00	2.60	1.80	1.59	1.30	[b]	2.35	1.75	1.30	2.20	2.05
17	1.80	3.00	2.60	1.80	1.59	1.25	[b]	2.20	1.73	1.30	2.75	2.05
18	1.80	2.90	2.50	1.80	1.58	1.20	[b]	2.20	1.70	1.30	2.55	2.05
19	1.80	3.00	2.50	1.80	1.55	1.20	[b]	2.20	1.70	1.30	2.40	2.05
20	1.80	3.00	2.50	1.80	1.55	1.15	[b]	2.05	1.70	1.30	2.40	2.05
21	1.80	3.20	2.40	1.80	1.50	1.00	[b]	2.00	1.68	1.30	2.40	2.05
22	1.80	3.20	2.40	1.80	1.50	1.00	[b]	1.95	1.55	1.30	2.35	2.05
23	1.80	3.30	2.30	1.80	1.50	1.00	[b]	1.85	1.45	1.30	2.30	2.05
24	1.80	3.30	2.30	1.70	1.50	1.00	2.50	1.65	1.40	1.30	2.30	2.05
25	1.90	3.50	2.30	1.70	1.50	1.00	2.00	1.60	1.40	2.40	2.30	2.05
26	2.00	3.30	2.30	1.60	1.55	1.00	2.20	1.60	1.40	2.45	2.20	2.05
27	2.35	3.00	2.20	1.50	1.50	1.00	3.10	1.55	1.40	2.25	2.20	2.05
28	2.50	2.90	2.20	1.50	1.50	1.00	3.75	1.50	1.40	2.00	2.20	2.05
29	3.15	.....	2.20	1.50	1.50	1.00	3.70	1.50	1.40	2.00	2.20	2.00
30	2.90	.....	2.20	1.50	1.50	.....	4.43	1.45	1.40	1.90	2.20	2.00
31	2.70	.....	2.20	.....	1.50	.....	3.00	1.40	.....	2.10	.....	2.00

[a] No current, water standing in pools. Runs a little at night.
[b] No current, water standing in pools.

SALT RIVER AT THE RESERVOIR SITE, ARIZONA.

The station, established February 7, 1901, by H. G. Heisler, is 15 miles west of Livingston, Ariz. The rod is on the left bank of the river at the upper end of the gorge. Gagings are made from a trav-

eling car suspended from a cable. The following measurements we made by W. Richins during 1901:

List of discharge measurements of Salt River at the reservoir site, Arizona.

Date	Gage height.	Discharge.	Date.	Gage height.	Dis charg
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-*
July 8	6.76	119.72	September 14	7.10	21
July 10	6.70	99.71	September 16	7.10	20
July 11	6.60	80.16	September 27	6.82	12
July 13	6.64	83.00	October 1	6.82	13
July 20	6.59	74.33	October 5	6.80	12
July 23	7.02	201.28	October 8	6.91	16
July 25	7.40	331.55	October 12	6.90	15
July 27	8.02	885.65	October 15	6.89	15
July 30	10.15	4,402.28	October 18	6.89	15
Do	10.35	4,433.83	October 23	6.91	16
August 3	8.00	850.70	October 26	6.95	17
August 5	7.80	604.85	October 29	6.97	17
August 10	7.50	389.46	November 1	7.07	21
August 15	7.70	557.50	November 4	7.01	18
August 17	7.45	362.90	November 8	7.01	17
August 20	7.27	285.57	November 23	7.05	18
August 24	7.25	284.60	December 2	7.03	18
August 28	7.10	209.36	December 6	7.05	18
August 31	7.21	250.64	December 9	7.05	18
September 3	7.16	252.78	December 13	7.03	17
September 7	6.93	169.59	December 16	7.04	18
September 10	7.16	195.36	December 20	7.02	17
September 12	7.16	224.51			

Daily gage height, in feet, of Salt River at the reservoir site, Arizona, for 19

Day.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	.....	8.50	7.95	8.30	7.69	6.88	7.85	7.14	6.82	7.06	
2	.....	8.50	7.95	8.27	7.68	6.86	7.80	7.16	6.81	7.04	
3	.....	8.50	7.93	8.35	7.64	6.83	7.90	7.17	6.80	7.03	
4	.....	8.70	7.87	8.28	7.61	6.86	7.75	7.10	6.79	7.01	
5	.....	8.75	7.90	8.25	7.57	6.79	8.04	7.02	6.80	7.02	
6	.....	8.60	7.95	8.18	7.50	6.78	7.79	6.97	6.82	7.02	
7	2.85	8.60	7.95	8.05	7.49	6.74	7.78	6.92	6.88	7.01	
8	2.55	8.60	7.95	8.00	7.45	6.78	7.64	6.90	6.91	7.01	
9	2.40	9.30	8.02	8.01	7.42	6.70	7.73	6.89	6.90	7.01	
10	2.35	9.80	8.07	8.00	7.38	6.68	7.53	6.92	6.90	7.01	
11	3.40	9.40	8.08	7.96	7.36	6.67	8.20	7.38	6.90	7.02	
12	3.10	8.75	8.07	7.95	7.34	6.67	9.05	7.25	6.90	7.02	
13	2.82	8.70	8.03	7.96	7.28	6.64	8.10	7.08	6.90	7.07	
14	2.68	8.60	8.00	7.94	7.27	6.62	8.10	7.10	6.89	7.06	
15	2.05	8.40	8.02	7.92	7.25	6.61	7.75	7.12	6.89	7.10	
16	1.85	8.40	8.15	7.90	7.21	6.59	7.55	7.09	6.89	7.10	
17	1.82	8.30	8.35	7.85	7.20	6.58	7.47	7.03	6.89	7.10	
18	1.70	8.25	8.37	7.80	7.16	6.59	7.37	7.88	6.89	7.08	
19	3.15	8.20	8.30	7.78	7.14	6.58	7.30	7.83	6.89	7.08	
20	3.45	8.20	8.27	7.78	7.12	6.65	7.28	7.82	6.88	7.08	
21	3.00	8.25	8.28	7.80	7.09	6.61	7.33	7.79	6.88	7.07	
22	2.85	8.20	8.35	7.80	7.07	6.67	7.37	7.77	6.91	7.05	
23	3.10	8.20	8.45	7.80	7.05	6.92	7.66	7.75	6.91	7.05	
24	3.10	8.15	8.45	7.73	7.03	7.11	7.25	7.73	6.92	7.05	
25	2.70	8.15	8.50	7.69	7.01	7.43	7.18	7.72	6.94	7.06	
26	2.50	8.15	8.57	7.65	7.00	7.33	7.13	7.33	6.95	7.05	
27	2.10	8.05	8.55	7.67	6.97	7.75	7.08	6.81	6.95	7.05	
28	1.75	8.00	8.48	7.62	6.95	8.28	7.10	6.81	6.97	7.04	
29	.....	8.00	8.42	7.67	6.90	8.13	7.20	6.81	6.98	7.05	
30	.....	7.95	8.33	7.69	6.89	9.85	7.23	6.81	7.03	7.04	
31	.....	7.95	.....	7.68	.....	8.40	7.20	.....	7.10	.....	

TONTO CREEK NEAR LIVINGSTON, ARIZ.

The station, established April 1, 1901, by H. G. Heisler, is 15 mi west of Livingston, Ariz. It is about half a mile above the mou

The gage is a vertical rod nailed to a cliff of cemented gravel on the left bank. The following measurements were made by W. Richins during 1901:

List of discharge measurements of Tonto Creek near Livingston, Ariz.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
July 10	2.57	2.34	August 28	2.90	3.31
July 13	2.56	2.02	August 31	2.85	2.79
July 20	2.55	1.92	September 2	2.85	2.80
July 24	2.85	18.50	September 7	2.85	2.60
July 25	3.20	54.00	September 10	3.00	7.52
July 27	3.50	99.17	September 14	2.85	2.30
August 3	3.82	108.02	September 27	2.65	1.85
August 5	2.90	37.50	October 5	2.70	2.05
August 10	2.60	5.90	October 12	2.70	1.78
August 11	4.60	279.00	October 23	2.75	2.08
August 15	2.90	34.61	November 6	2.85	1.86
August 17	2.75	16.33	December 2	2.85	1.80
August 20	2.63	11.24	December 13	2.85	2.54
August 24	3.10	4.98	December 20	2.85	2.34

Daily gage height, in feet, of Tonto Creek near Livingston, Ariz., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.05	2.75	2.66	2.58	3.00	2.85	2.70	2.80	2.85
2	3.05	2.75	2.65	2.58	2.75	2.85	2.70	2.80	2.85
3	3.05	2.75	2.65	2.57	3.55	2.85	2.70	2.80	2.85
4	3.02	2.75	2.65	2.57	3.05	2.85	2.70	2.80	2.85
5	3.00	2.75	2.65	2.57	2.85	2.85	2.70	2.85	2.85
6	2.95	2.70	2.65	2.57	2.83	2.85	2.70	2.85	2.85
7	2.95	2.70	2.65	2.57	2.78	2.85	2.70	2.85	2.85
8	2.90	2.65	2.65	2.57	2.69	2.84	2.70	2.85	2.85
9	2.90	2.65	2.65	2.57	2.68	2.83	2.70	2.85	2.85
10	2.90	2.68	2.65	2.57	2.60	2.91	2.70	2.85	2.85
11	2.90	2.70	2.60	2.57	4.10	2.84	2.70	2.85	2.85
12	2.90	2.67	2.58	2.57	3.45	2.88	2.70	2.90	2.85
13	2.90	2.75	2.58	2.56	3.45	2.85	2.70	2.85	2.85
14	2.90	2.70	2.58	2.59	3.13	2.85	2.70	2.85	2.85
15	2.85	2.69	2.65	2.55	2.90	2.85	2.70	2.85	2.85
16	2.85	2.69	2.65	2.55	2.77	2.85	2.70	2.85	2.85
17	2.85	2.68	2.65	2.55	2.75	2.85	2.70	2.85	2.85
18	2.90	2.68	2.58	2.57	2.65	2.82	2.70	2.85	2.85
19	2.85	2.65	2.58	2.56	2.65	2.85	2.70	2.85	2.85
20	2.85	2.65	2.58	2.57	2.63	2.80	2.70	2.85	2.85
21	2.85	2.65	2.58	2.56	2.50	2.79	2.70	2.85	2.85
22	2.85	2.65	2.57	2.58	2.50	2.77	2.70	2.85	2.85
23	2.85	2.64	2.57	2.57	3.35	2.75	2.75	2.85	2.85
24	2.85	2.63	2.56	3.25	3.05	2.73	2.75	2.85	2.85
25	2.85	3.08	2.55	3.48	3.00	2.72	2.75	2.85	2.85
26	2.85	2.81	2.55	2.92	2.96	2.70	2.75	2.85	2.85
27	2.80	2.78	2.53	3.28	2.94	2.70	2.75	2.85	2.85
28	2.80	2.81	2.50	4.30	2.90	2.70	2.75	2.85	2.85
29	2.75	2.78	2.50	3.55	2.90	2.70	2.75	2.85	2.85
30	2.75	2.83	2.50	5.50	2.88	2.70	2.78	2.85	2.85
31	.....	2.90	.....	3.30	2.85	.....	2.80	.....	2.85

SALT RIVER AT McDOWELL, ARIZ.

The station, established April 20, 1897, is a half mile above the mouth of Verde River. It is described in Water-Supply Paper No. 50, page 386. The station was temporarily discontinued during 1900, but measurements were resumed in 1901. During 1901 the following measurements of discharge were made by F. P. Trott, J. F. Appleby, and J. C. Myrick.

List of discharge measurements of Salt River at McDowell, Ariz.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharg
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-f*
January 10	10.69	251	April 10	12.55	
January 25	10.99	302	April 12	12.60	1,(
January 26	12.80	1,392	April 13	12.60	
January 29	13.90	3,172	April 15	12 50	
February 7	14.47	4,535	April 17	12.90	1,5
February 11	14.45	4,628	June 2	1.97	
February 15	13.30	2,088	June 8	1.68	
February 23	15.58	3,290	June 15	1.42	
February 25	15.60	3,335	June 17	1.34	
February 26	15.20	2,791	June 22	1.20	
February 27	14.70	2,459	June 30	1.00	
February 28	14.20	1,888	July 6	.88	
March 1	14.10	1,664	July 13	.67	
March 2	14.00	1,597	July 20	.60	
March 4	14.20	1,711	July 27	1.60	
March 5	4.20	1,687	August 10	2.28	
March 8	13.90	1,817	August 17	2.30	
March 9	14.30	2,502	August 31	1.84	
March 11	14.90	3,157	September 7	1.53	
March 12	14.40	2,634	September 14	1.69	
March 13	14.15	2,045	September 21	1.55	
March 14	13.80	1,942	September 28	1.36	
March 16	13.35	1,541	October 5	1.30	
March 18	13.10	1,427	October 12	1.40	
March 19	13.00	1,351	October 19	1.42	
Do	13.00	1,350	October 26	1.47	
March 20	12.85	1,161	November 2	.88	
Do	13.00	1,332	November 9	.83	
March 21	12.90	1,198	November 16	.93	
March 22	12.90	1,112	November 23	.90	
March 25	12.85	1,210	November 30	.87	
March 27	12.00	1,029	December 7	.85	
March 29	12.60	893	December 14	.85	
April 2	12.50	887	December 21	.79	
April 8	12.50	1,016	December 28	.85	
April 10	12.55	994	December 31	.83	

Daily gage height, in feet, of Salt River at McDowell, Ariz., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
1	10.70	13.48	14.10	12.50	(a)	(a)	1.00	(a)	1.80	1.36	0.91	0.
2	10.70	14.10	14.05	12.50	(a)	1.97	.96	(a)	1.74	1.36	.86	
3	10.70	13.50	14.10	12.50	(a)	1.93	.93	(a)	1.84	1.34	.83	
4	10.70	13.25	14.15	12.40	(a)	1.89	.89	(a)	1.77	1.33	.84	
5	10.69	13.23	14.13	12.35	(a)	1.85	.88	(a)	1.66	1.31	.82	
6	10.70	13.60	14.10	12.37	(a)	1.78	.88	(a)	1.61	1.41	.82	
7	10.70	14.40	13.98	12.40	(a)	1.70	.83	(a)	1.56	1.37	.84	
8	10.70	14.10	14.00	12.45	(a)	1.68	.81	(a)	1.51	1.39	.84	
9	10.70	13.90	14.30	12.50	(a)	1.64	.80	(a)	1.49	1.45	.83	
10	10.70	13.75	14.80	12.55	(a)	1.62	.80	2.28	1.46	1.46	.83	
11	10.78	14.75	14.90	12.60	(a)	1.58	.75	2.17	3.55	1.45	.82	
12	10.78	14.10	14.32	12.60	(a)	1.53	.70	4.80	2.05	1.40	.83	
13	10.78	14.18	14.05	12.60	(a)	1.52	.69	4.30	1.85	1.44	.86	
14	10.78	13.68	13.85	12.53	(a)	1.48	.69	3.80	1.69	1.45	.90	
15	10.68	13.40	13.65	12.50	(a)	1.42	.69	3.30	1.69	1.43	.86	
16	10.65	13.20	13.35	12.63	(a)	1.39	.68	2.80	1.71	1.42	.93	
17	10.70	13.25	13.23	12.98	(a)	1.36	.65	2.30	1.63	1.41	.92	
18	10.70	13.33	13.13	13.15	(a)	1.32	.63	(a)	1.61	1.42	.91	
19	10.70	13.83	13.00	13.13	(a)	1.30	.61	(a)	1.59	1.42	.92	
20	10.70	14.88	13.00	(a)	(a)	1.28	.60	(a)	1.52	1.43	.91	
21	10.65	14.80	12.90	(a)	(a)	1.25	.61	2.08	1.55	1.43	.92	
22	10.65	15.00	12.90	(a)	(a)	1.20	.70	2.10	1.52	1.43	.90	
23	10.70	15.48	12.85	(a)	(a)	1.18	.83	2.10	1.49	1.46	.89	
24	10.70	15.88	12.80	(a)	(a)	1.15	.90	2.42	1.43	1.46	.89	
25	10.95	15.43	12.85	(a)	(a)	1.13	1.05	1.95	1.45	1.47	.89	
26	12.70	15.10	12.85	(a)	(a)	1.10	1.65	1.86	1.45	1.47	.88	
27	13.23	14.68	12.78	(a)	(a)	1.07	1.60	1.79	1.44	1.48	.88	
28	13.35	14.18	12.70	(a)	(a)	1.05	2.00	1.78	1.37	1.49	.88	
29	13.90	------	12.68	(a)	(a)	1.02	(a)	1.74	1.36	1.53	.87	
30	14.22	------	12.58	(a)	(a)	1.01	(a)	1.75	1.36	1.59	.87	
31	14.00	------	12.50	------	(a)	------	------	1.84	------	1.77	------	

[a] No observations.

VERDE RIVER NEAR McDOWELL, ARIZ.

This station, established April 20, 1897, is three-fourths of a mi
above the mouth of the river, and is described in Water-Supply Pap

No. 50, page 387. Records were not kept during 1900, but they were resumed in 1901. During 1901 the following measurements were made by F. P. Trott, J. F. Appleby, and J. C. Myrick:

List of discharge measurements of Verde River near McDowell, Ariz.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 10	4.05	268	April 12	4.65	216
January 26	4.40	301	April 13	4.60	194
January 27	6.00	1,557	April 15	4.50	189
February 8	5.75	1,331	May 25	4.38	125
February 11	6.38	2,489	June 1	4.48	156
February 15	5.35	793	June 8	4.38	129
February 21	7.60	3,308	June 15	4.25	194
February 23	9.30	6,613	June 22	4.20	76
February 24	9.48	6,022	June 30	4.13	51
February 25	7.83	3,819	July 6	4.04	37
February 27	6.85	2,499	July 13	4.03	33
February 28	6.70	2,393	July 20	4.11	47
March 2	6.80	2,863	July 27	4.88	278
March 4	6.17	1,628	August 3	7.85	1,746
March 7	5.60	1,099	August 10	5.70	438
March 9	5.40	966	August 17	5.75	513
March 11	6.40	1,695	August 31	4.95	164
March 12	5.80	1,199	September 7	4.80	106
March 13	5.75	989	September 14	4.62	104
March 14	5.55	914	September 21	4.70	104
March 15	5.45	823	September 30	4.65	82
March 16	5.30	705	October 5	4.76	101
March 18	5.10	576	October 12	4.70	140
March 19	5.00	469	October 19	4.74	105
March 20	5.00	436	October 26	4.91	160
March 21	4.90	395	October 31	5.79	495
March 22	4.90	368	November 2	5.27	282
March 23	4.80	350	November 9	5.12	250
March 26	4.70	274	November 16	5.24	265
March 27	4.65	225	November 23	5.22	239
March 28	4.65	224	November 30	5.23	219
March 29	4.65	215	December 7	5.25	257
April 1	4.60	211	December 14	5.25	291
April 2	4.65	221	December 21	5.25	213
April 3	4.65	188	December 28	5.31	235
April 8	4.60	188	December 31	5.30	231
April 10	4.55	192			

Daily gage height, in feet, of Verde River near McDowell, Ariz., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.05	5.15	6.30	4.60	4.45	4.48	4.10	6.30	4.98	4.66	5.44	5.22
2	4.05	5.42	6.60	4.65	4.42	4.48	4.08	6.55	4.95	4.73	5.26	5.25
3	4.05	5.15	6.50	4.63	4.44	4.48	4.10	7.85	4.87	4.76	5.17	5.25
4	4.05	4.92	6.28	4.55	4.42	4.44	4.07	6.30	4.85	4.76	5.05	5.26
5	4.05	4.90	6.48	4.55	4.42	4.42	4.07	7.40	4.85	4.76	5.03	5.25
6	4.05	5.25	5.80	4.55	4.42	4.39	4.04	6.30	4.83	4.76	5.04	5.25
7	4.05	5.90	5.65	4.55	4.42	4.42	4.05	6.40	4.80	4.75	5.10	5.25
8	4.05	5.75	5.50	4.55	4.41	4.38	4.06	6.17	4.78	4.77	5.10	5.27
9	4.05	5.45	5.40	4.55	4.41	4.33	4.06	5.90	4.74	4.80	5.12	5.29
10	4.05	5.25	6.25	4.55	4.40	4.31	4.04	5.70	4.70	4.75	5.12	5.24
11	4.05	6.35	6.20	4.60	4.37	4.30	4.03	5.85	4.68	4.72	5.09	5.24
12	4.00	5.90	5.95	4.63	4.35	4.29	4.04	5.70	4.66	4.71	5.12	5.23
13	4.05	5.65	5.75	4.60	4.35	4.28	4.03	5.50	4.65	4.72	5.31	5.20
14	4.00	5.57	5.50	4.55	4.37	4.28	4.04	6.00	4.62	4.75	5.29	5.25
15	4.00	5.30	5.45	4.53	4.37	4.25	4.04	7.50	4.62	4.76	5.24	5.26
16	4.00	5.22	5.25	4.50	4.37	4.28	4.04	6.10	4.62	4.76	5.24	5.29
17	4.05	5.32	5.15	4.50	4.37	4.25	4.06	5.75	4.62	4.75	5.24	5.31
18	4.03	5.33	5.00	4.55	4.37	4.22	4.08	6.30	4.59	4.79	5.25	5.25
19	4.00	5.80	5.00	4.55	4.37	4.25	4.09	6.40	4.52	4.75	5.23	5.24
20	4.00	6.56	5.00	4.50	4.37	4.23	4.11	5.85	4.61	4.76	5.22	5.25
21	4.02	7.50	4.70	4.50	4.40	4.23	4.11	5.70	4.70	4.77	5.22	5.25
22	4.00	8.00	4.90	4.50	4.35	4.20	4.06	5.70	4.65	4.75	5.22	5.25
23	4.02	9.45	4.80	4.50	4.38	4.21	4.95	5.60	4.60	4.82	5.22	5.26
24	4.00	9.20	4.80	4.50	4.38	4.20	4.84	5.40	4.63	4.88	5.22	5.28
25	4.13	8.05	4.75	4.47	4.38	4.18	4.75	5.20	4.60	4.88	5.23	5.29
26	4.27	7.57	4.70	4.47	4.37	4.16	4.90	5.10	4.60	4.91	5.24	5.30
27	5.88	7.05	4.65	4.45	4.37	4.13	4.88	5.05	4.65	4.91	5.24	5.32
28	5.13	6.48	4.65	4.48	4.38	4.13	5.85	5.05	4.66	4.92	5.24	5.32
29	4.50	.....	4.65	4.50	4.45	4.13	6.00	5.00	4.66	4.93	5.23	5.30
30	5.60	.....	4.60	4.47	4.55	4.13	6.70	5.00	4.65	5.26	5.23	5.28
31	5.28	.....	4.60	.....	4.52	.....	7.20	4.95	.....	5.50	.....	5.30

COLORADO RIVER AT YUMA, ARIZ.

This station was established in April, 1878, by the Southern Paci Company, which has maintained daily readings since that time. is through the courtesy of that company that the records are fu nished to the Geological Survey. The station is described in Wate Supply Paper No. 50, page 387. One measurement of discharge w made during 1901 by H. G. Heisler, on August 18, the discharge bei 18,683 second-feet for a gage height of 20.71 feet.

Daily gage height, in feet, of Colorado River at Yuma, Ariz., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
1	17.1	17.2	19.8	18.5	20.5	27.0	23.9	19.6	19.2	17.2	17.2	1
2	17.0	17.2	20.2	18.4	21.0	27.0	24.1	19.8	19.1	17.1	17.3	1
3	16.9	17.2	20.0	18.3	21.2	26.7	23.9	19.8	19.2	17.0	17.3	1
4	16.9	17.3	20.0	18.4	21.8	26.4	23.8	19.8	19.1	16.9	17.3	1
5	17.0	17.4	19.7	18.3	22.3	26.2	23.6	19.9	19.0	16.8	17.4	1
6	17.0	17.7	19.6	18.3	22.6	26.2	23.2	20.0	19.1	16.8	17.5	1
7	17.0	18.0	19.5	18.3	22.7	25.9	23.0	20.4	19.3	16.8	17.5	1
8	17.0	18.3	19.3	18.3	23.2	25.6	23.1	20.1	19.3	16.7	17.5	1
9	16.9	18.5	19.2	18.3	23.7	25.3	23.0	20.0	19.0	16.8	17.5	1
10	16.8	20.7	19.0	18.2	24.1	24.9	22.7	20.2	19.3	16.8	17.5	1
11	16.6	19.2	19.0	18.2	23.9	24.7	22.7	19.7	19.1	16.8	17.5	1
12	16.4	18.7	19.2	18.2	23.6	24.5	22.6	19.4	18.7	16.8	17.5	1
13	16.3	18.7	19.2	18.2	23.7	24.2	22.4	19.3	18.7	16.8	17.5	1
14	16.2	18.7	19.3	18.0	23.7	24.2	22.1	20.0	18.7	16.8	17.7	1
15	16.2	18.6	19.3	17.9	23.5	24.0	21.9	19.5	19.0	16.8	17.6	1
16	16.4	18.5	19.3	17.9	23.4	24.2	21.7	19.3	18.8	16.8	17.7	1
17	16.5	18.7	19.5	17.9	23.4	24.3	21.4	19.3	18.7	16.8	17.7	1
18	16.5	18.7	19.6	17.9	23.7	24.4	21.2	20.7	18.5	16.9	17.7	1
19	16.7	18.6	20.0	18.0	24.0	24.5	21.1	20.0	18.3	16.9	17.7	1
20	17.0	18.3	19.7	18.1	24.2	24.2	21.0	19.6	18.2	16.9	17.6	1
21	17.0	18.2	19.6	18.1	24.5	24.0	20.9	19.6	17.9	16.9	17.5	1
22	16.8	18.1	19.3	18.2	24.8	23.8	20.9	19.3	17.8	17.0	17.5	1
23	16.8	18.0	19.2	18.2	25.2	23.7	20.7	19.2	17.7	17.1	17.5	1
24	16.8	18.0	19.1	18.3	25.5	23.5	20.6	19.0	17.6	17.2	17.5	1
25	17.0	18.2	19.0	18.6	25.6	23.3	20.4	19.1	17.6	17.2	17.5	1
26	17.1	18.4	18.8	18.7	25.9	23.2	20.2	19.1	17.6	17.2	17.5	1
27	17.1	18.7	18.7	18.8	26.3	23.3	20.1	18.7	17.5	17.2	17.5	1
28	17.1	18.8	18.7	19.2	26.7	23.7	19.9	19.2	17.5	17.2	17.5	1
29	17.0	.....	18.5	19.7	26.8	23.7	19.7	20.4	17.4	17.2	17.6	1
30	17.0	.....	18.5	19.4	26.9	23.7	19.5	20.1	17.3	17.2	17.7	1
31	17.0	.....	18.6	.....	27.0	.....	19.3	19.7	.....	17.2	.....	1

INTERIOR BASIN DRAINAGE.

HUMBOLDT RIVER NEAR ELKO, NEV.

This station was established by L. H. Taylor on June 17, 1895, the highway bridge 1 mile southwest of the town of Elko. It described in Water-Supply Paper No. 51, page 395. Results of mea urements for 1900 will be found in the Twenty-second Annual Repo Part IV, page 399. During 1901 measurements of discharge we made by L. H. Taylor, as follows:

April 12: Gage height, 3.25 feet; discharge, 249 second-feet.
April 25: Gage height, 3.65 feet; discharge, 358 second-feet.

Daily gage height, in feet, of Humboldt River near Elko, Nev., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.35	2.35	5.50	3.35	3.65	4.30	2.10	1.90	1.60	1.85	1.80	1.85
2	2.35	2.35	5.40	3.35	3.70	4.30	2.20	2.10	1.60	1.90	1.79	1.85
3	2.34	2.35	5.50	3.32	3.80	4.40	2.30	2.10	1.60	1.95	1.80	1.85
4	2.34	2.35	5.50	3.30	3.90	4.40	2.50	2.10	1.60	2.00	1.80	1.85
5	2.34	2.35	5.00	3.30	4.00	4.40	2.70	2.10	1.65	1.95	1.80	1.85
6	2.35	2.35	4.80	3.30	4.00	4.40	2.60	2.20	1.65	1.80	1.80	1.85
7	2.35	2.35	4.50	3.33	4.00	4.30	2.60	2.10	1.70	1.75	1.80	1.85
8	2.35	2.35	4.30	3.32	3.90	4.30	2.50	2.00	1.70	1.75	1.80	1.85
9	2.35	2.35	4.10	3.30	3.80	4.20	2.50	1.90	1.70	1.75	1.80	1.85
10	2.40	2.35	4.00	3.30	3.70	4.10	2.40	1.90	1.75	1.80	1.85	1.85
11	2.40	2.30	3.90	3.28	3.60	4.00	2.30	1.90	1.75	1.80	1.85	1.85
12	2.40	2.29	3.90	3.25	3.50	3.90	2.30	1.90	1.75	1.80	1.80	1.85
13	2.35	2.28	3.80	3.23	3.50	3.80	2.30	1.85	1.80	1.80	1.80	1.85
14	2.35	2.26	3.80	3.30	3.50	3.70	2.30	1.85	1.80	1.75	1.85	1.85
15	2.35	2.25	3.70	3.30	3.60	3.60	2.25	1.80	1.80	1.75	1.85	1.85
16	2.35	2.25	3.65	3.35	3.80	3.50	2.20	1.80	1.80	1.75	1.85	1.85
17	2.35	3.75	3.55	3.35	4.10	3.40	2.20	1.80	1.85	1.76	1.85	1.85
18	2.40	4.30	3.55	3.40	4.30	3.30	2.15	1.80	1.85	1.78	1.85	1.85
19	2.40	5.55	3.50	3.40	4.50	3.20	2.10	1.80	1.90	1.80	1.85	1.85
20	2.40	6.60	3.50	3.40	4.70	3.20	2.10	1.70	1.90	1.80	1.85	1.85
21	2.38	7.40	3.50	3.45	4.90	3.10	2.10	1.70	1.95	1.79	1.85	1.85
22	2.38	6.70	3.50	3.45	5.00	3.00	2.10	1.65	1.90	1.78	1.85	1.85
23	2.38	7.10	3.45	3.50	5.00	3.00	2.10	1.60	1.90	1.77	1.85	1.85
24	2.35	7.95	3.40	3.60	5.00	3.00	2.05	1.60	1.85	1.76	1.85	1.85
25	2.38	7.65	3.45	3.63	4.80	2.90	2.05	1.60	1.85	1.77	1.85	1.85
26	2.38	7.20	3.45	3.68	4.60	2.80	2.25	1.60	1.80	1.77	1.85	1.85
27	2.35	6.50	3.45	3.70	4.40	2.80	2.00	1.60	1.80	1.80	1.85	1.85
28	2.35	5.60	3.50	3.65	4.20	2.90	1.98	1.65	1.80	1.79	1.85	1.85
29	2.35	.....	3.50	3.60	4.20	2.90	1.98	1.70	1.80	1.78	1.85	1.85
30	2.35	.....	3.50	3.60	4.00	2.10	1.90	1.65	1.80	1.79	1.85	1.85
31	2.35	.....	3.38	.....	4.10	.....	1.90	1.60	.....	1.80	.....	1.85

SOUTH FORK OF HUMBOLDT RIVER AT MASON'S RANCH, NEVADA.

The station, established August 29, 1896, is 10 miles southwest of the town of Elko. It is described in Water-Supply Paper No. 51, page 396. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 400. During 1901 measurements were made by L. H. Taylor, as follows:

April 25: Gage height, 1.80 feet; discharge, 231 second-feet.
October 13: Gage height, 0.70 foot; discharge, 36 second-feet.

The latter measurement was made at a point 3 miles above the gage, where the discharge is practically the same as at the station.

Daily gage height, in feet, of South Fork of Humboldt River at Mason's ra Nevada, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	0.60	0.70	2.40	1.30	2.00	2.90	1.60	0.75	0.35	0.55	0.80
2	.60	.70	2.10	1.30	2.00	2.90	1.50	.75	.35	.60	.80
3	.60	.70	2.00	1.30	2.00	3.00	1.50	.75	.35	.65	.80
4	.60	.70	1.80	1.30	2.00	3.00	1.50	.70	.35	.65	.80
5	.60	.70	1.80	1.30	2.00	3.10	1.50	.70	.35	.70	.80
6	.70	.70	1.50	1.30	2.10	3.10	1.50	.70	.35	.75	.80
7	.70	.70	1.50	1.40	2.10	3.10	1.10	.70	.35	.75	.80
8	.70	.70	1.50	1.40	2.10	3.10	1.10	.70	.40	.75	.80
9	.70	.70	1.50	1.45	2.20	2.50	1.10	.70	.40	.75	.80
10	.70	.80	1.50	1.45	2.20	2.50	1.10	.70	.40	.75	.85
11	.70	.80	1.50	1.50	2.20	2.40	1.10	.60	.40	.75	.85
12	.70	.80	1.50	1.50	2.90	2.40	1.10	.60	.40	.75	.85
13	.70	.85	1.50	1.50	3.00	2.40	1.10	.60	.40	.70	.85
14	.70	.85	1.50	1.50	3.00	2.25	1.00	.60	.40	.70	.85
15	.70	.90	1.50	1.50	3.10	2.35	1.00	.60	.40	.70	.85
16	.70	.90	1.50	1.50	3.20	2.00	1.00	.60	.40	.70	.85
17	.70	[a]5.00	1.45	1.55	3.20	2.00	1.00	.60	.40	.70	.85
18	.70	6.00	1.45	1.55	3.20	2.00	.90	.50	.40	.70	.85
19	.70	6.00	1.45	1.55	3.00	2.00	.90	.45	.40	.70	.85
20	.70	6.00	1.45	1.55	3.00	2.10	.80	.45	.40	.70	.85
21	.70	5.00	1.40	1.80	2.80	2.15	.75	.40	.40	.70	.90
22	.70	4.00	1.40	1.80	2.50	2.15	.75	.40	.45	.70	.90
23	.70	3.10	1.40	1.80	2.50	2.20	.75	.40	.45	.70	.90
24	.70	3.00	1.35	1.85	2.40	2.10	.75	.40	.45	.70	.95
25	.70	3.00	1.35	1.90	2.40	2.10	.75	.40	.50	.70	.95
26	.70	2.80	1.30	1.90	2.85	2.00	.75	.40	.50	.70	.95
27	.70	2.80	1.30	1.95	2.85	2.00	.75	.40	.50	.75	.95
28	.70	2.50	1.30	1.90	2.90	1.80	.75	.35	.50	.75	.95
29	.70	.....	1.30	1.90	2.90	1.80	.75	.35	.50	.75	.95
30	.70	.....	1.30	1.90	2.90	1.60	.75	.35	.55	.80	.95
31	.70	.....	1.30	.....	2.90	.....	.75	.35	.....	.80	.....

[a] Ice gorge below gage gave way during night of 17th.

HUMBOLDT RIVER NEAR GOLCONDA, NEV.

This station is near the great northern bend of Humboldt River below the central valley. It is about 12 miles above the mouth Little Humboldt River. It was established October 24, 1894, and described in Water-Supply Paper No. 51, page 397. Results measurements for 1900 will be found in the Twenty-second Ann Report, Part IV, page 401. During 1901 the following measureme were made by L. H. Taylor:

List of discharge measurements of Humboldt River near Golconda, Nev.

Date.	Hydrographer.	Gage height.	Discharge.	Date.	Hydrographer.	Gage height.	I ch
1901.		*Feet.*	*Sec.-ft.*			*Feet.*	*Se*
January 7	C. V. Taylor	1.05	43	April 10	C. V. Taylor	4.07	
February 18	L. H. Taylor	2.20	141	April 18	do	3.75	
March 2	do	7.50	1,661	May 5	do	4.25	
March 24	C. V. Taylor	5.10	714	October 24	L. H. Taylor	.10	
April 1	do	4.55	571				

Daily gage height, in feet, of Humboldt River near Golconda, Nev., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.00	1.70	7.25	4.50	4.15	3.90	2.20	0.05	0.10	+0.15	1.10	0.20
2	1.00	1.60	7.50	4.50	4.35	3.70	2.10	.05	.05	+ .15	.15	.30
3	1.00	1.60	7.85	4.45	4.35	3.80	2.05	.05	.05	+ .15	.15	.40
4	1.00	1.70	8.20	4.40	4.30	3.75	2.05	.05	.00	+ .20	.10	.50
5	1.00	1.70	8.70	3.95	4.20	3.70	2.00	.20	.00	+ .20	.15	.60
6	1.05	1.60	8.90	3.50	4.05	3.65	2.00	.30	.00	+ .15	.15	.65
7	1.05	1.60	9.00	3.55	4.00	3.60	1.90	.40	— .05	.15	.10	.65
8	1.05	1.50	9.10	3.60	4.00	3.60	1.80	.40	— .05	.10	.10	.55
9	1.10	1.70	8.90	3.80	3.80	3.60	1.70	.45	— .10	.05	.15	.60
10	1.10	1.70	8.50	4.05	3.65	3.55	1.50	.45	— .10	— .05	.15	.60
11	1.10	1.70	8.20	4.00	3.60	3.50	1.35	.50	— .05	— .10	.15	.60
12	1.15	1.70	8.30	4.00	3.60	3.45	1.20	.55	— .05	— .10	.10	.60
13	1.15	1.70	8.40	4.00	3.55	3.25	1.05	.55	— .10	+ .10	.10	.65
14	1.30	1.60	8.00	3.95	3.50	3.05	.95	.60	— .10	.10	.15	.70
15	1.50	1.30	7.70	3.85	3.45	3.05	.80	.65	— .05	.15	.15	.75
16	1.70	1.50	6.90	3.90	3.40	3.05	.60	.50	— .10	.15	.10	.75
17	1.80	1.80	6.20	3.80	3.40	3.05	.50	.40	— .05	.15	.15	.80
18	1.90	2.20	6.00	3.70	3.40	3.05	.45	.25	— .10	.15	.15	.80
19	1.70	2.80	5.80	3.70	3.10	3.10	.35	.30	— .15	.05	.10	.85
20	1.30	3.40	5.60	3.75	3.10	3.00	.25	.30	— .15	.15	.10	.85
21	1.35	4.20	5.50	3.85	3.20	2.95	.20	.35	— .05	.10	.15	.90
22	1.40	4.90	5.35	3.90	3.20	2.90	.20	.30	— .10	.15	.15	.95
23	1.45	5.10	5.20	3.85	3.30	2.80	.20	.25	— .10	.10	.10	.95
24	1.50	5.30	5.10	3.75	3.50	2.60	.15	.25	— .10	.15	.10	.95
25	1.60	5.60	4.95	3.75	3.60	2.40	.15	.20	— .10	.15	.10	1.00
26	1.80	6.00	4.90	3.75	3.70	2.40	.10	.25	— .05	.15	.15	1.10
27	1.75	6.40	4.90	3.75	3.80	2.45	.10	.25	— .10	.15	.15	1.10
28	1.60	6.70	4.80	3.75	3.95	2.40	.05	.20	— .10	.15	.10	1.20
29	1.40	.....	4.75	3.80	4.00	2.40	.05	.10	— .05	.10	.10	1.20
30	1.60	.....	4.65	3.90	4.10	2.35	.05	.15	— .10	.15	.15	1.20
31	1.80	.....	4.50	.....	4.00	.....	.05	.10	.....	.10	.....	1.20

HUMBOLDT RIVER NEAR OREANA, NEV.

This station, established January 27, 1896, is 1½ miles above the old Oreana highway bridge. It is 12 miles northeast of Lovelocks and above all of the canals diverting water in the vicinity of that town. It is described in Water-Supply Paper No. 51, page 398. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 402. During 1901 the following measurements of discharge were made by C. V. and L. H. Taylor:

List of discharge measurements of Humboldt River near Oreana, Nev.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
March 15	4.80	2,180	April 23	2.35	341
March 22	4.20	1,467	April 26	2.60	423
April 5	3.50	958	July 2	1.40	131
April 13	3.10	634	August 10	.50	45

Daily gage height, in feet, of Humboldt River near Oreana, Nev., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	1.30	1.10	2.80	2.30	2.60	1.50	1.20	0.70	0.10	0.10	0.40
2	1.00	1.10	3.10	2.60	2.60	1.50	1.40	.60	.00	2.10	.40
3	1.00	1.10	3.30	2.90	2.70	1.50	1.50	.60	.00	1.00	.30
4	.90	1.10	3.30	3.30	2.80	1.50	1.50	.50	.00	.60	.30
5	.90	1.20	3.40	3.50	2.80	1.40	1.50	.40	— .10	.30	.30
6	.90	1.40	3.80	3.50	2.80	1.40	1.50	.70	— .10	.30	.30
7	.90	1.40	3.80	3.60	2.60	1.30	1.50	1.00	— .10	.30	.20
8	1.00	1.60	4.00	3.50	2.50	1.30	1.50	.70	— .10	.30	.20
9	1.20	1.60	4.20	3.40	2.50	1.30	1.50	.50	— .10	.30	.20
10	1.20	1.60	4.20	3.40	2.40	1.30	1.30	.50	— .15	.20	.20
11	1.40	1.60	4.20	3.80	2.40	1.40	1.30	.50	— .10	.20	.20
12	1.40	1.60	4.40	3.10	2.40	1.40	1.20	.50	— .10	.20	.20
13	1.40	2.00	4.50	3.00	2.40	1.50	1.20	.50	— .10	.20	.20
14	1.40	2.60	4.60	2.90	2.50	1.60	1.30	.40	— .20	.20	.20
15	1.40	3.00	4.80	2.90	2.30	1.60	1.30	.40	— .20	.20	.20
16	1.60	2.60	5.00	2.80	2.20	1.60	1.20	.40	— .10	.20	.20
17	1.70	2.40	5.10	2.80	2.20	1.50	1.20	.30	.00	.20	.20
18	1.80	1.90	4.90	2.80	2.10	1.50	1.10	.30	.00	.10	.20
19	1.80	1.90	4.60	2.70	2.10	1.40	1.10	.30	.00	.10	.20
20	1.80	1.80	4.60	2.70	2.00	1.40	1.10	.30	.10	.10	.30
21	1.80	1.70	4.40	2.80	2.00	1.40	1.10	.30	.10	.10	.40
22	1.40	1.70	4.20	2.70	1.90	1.30	1.10	.20	.10	.10	.30
23	1.00	1.60	4.20	2.70	1.90	1.30	1.00	.20	.10	.10	.30
24	1.00	1.60	4.00	2.70	1.90	1.30	1.00	.20	.10	.10	.30
25	.80	1.80	3.70	2.60	1.80	1.20	.90	.20	.10	.10	.30
26	.70	2.00	3.40	2.60	1.80	1.20	.90	.20	.10	.10	.30
27	.70	2.10	3.20	2.60	1.80	1.20	.80	.20	.10	1.90	.30
28	.70	2.60	2.80	2.60	1.70	1.20	.80	.10	.10	1.20	.30
29	.80	.....	2.50	2.60	1.70	1.10	.80	.10	.10	.90	.30
30	1.00	.....	2.20	2.60	1.60	1.10	.70	.10	.10	.50	.30
31	1.00	.....	2.30	.....	1.60	.....	.70	.10	.....	.50	.....

EAST FORK OF CARSON RIVER NEAR GARDNERVILLE, NEV.

This station was established by L. H. Taylor on October 17, 1 at the place where measurements were made in the years 1890, 1 and 1892, the results of which are given in the Thirteenth An Report, Part III, page 95. It is described in Water-Supply P No. 51, page 399. On August 2 a loose rock dam was raised a s distance below the gaging station, which affected the velocity a latter point. The dam was partly washed out by a freshet on De ber 4, 1901. A new gage was established on March 10, 1901, a s distance downstream from the original one, which had been destro It consists of a vertical timber driven into the stream bed at the bank and spiked to a cottonwood tree. A bench mark was also es lished on a large granite bowlder 20 feet south of the gage unde cable from which the measurements are made. Its elevation is feet above the datum of the gage. During 1901 the following m urements were made by F. H. Newell, L. H. Taylor, and others:

List of discharge measurements of East Fork Carson River near Gardner Nev.

Date.	Gage height.	Discharge.	Date.	Gage height.	ch
1901.	*Feet.*	*Sec-ft.*	1901.	*Feet.*	S.
March 10	4.00	459	September 29	3.70	
April 30	4.55	[a] 864	November 7	3.70	
June 4	5.85	1,868	December 19	3.40	
June 9	5.40	1,356			

[a] Approximate.

Daily gage height, in feet, of East Fork Carson River near Gardnerville, Nev., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.40	2.00	4.70	3.80	4.60	5.70	5.50	3.70	3.40	3.90	4.00	3.80
2	2.40	2.10	4.70	3.70	4.60	5.80	5.40	3.70	3.50	3.90	4.00	3.80
3	2.40	2.10	4.70	3.70	4.70	6.10	5.30	4.10	3.50	3.80	4.00	3.80
4	2.50	2.10	4.60	3.70	4.70	5.90	5.30	4.10	3.50	3.70	4.10	5.10
5	2.80	2.10	4.60	3.60	4.70	5.80	5.10	4.20	3.50	3.70	4.10	4.70
6	3.00	2.00	4.50	3.60	4.90	5.80	5.00	4.30	3.60	3.70	4.10	4.30
7	2.90	2.00	4.40	3.70	5.10	5.70	4.90	4.40	3.85	3.60	3.90	4.10
8	2.80	2.00	4.40	3.80	5.40	5.60	4.80	4.30	3.80	3.60	3.70	3.80
9	2.60	1.90	4.20	3.80	5.70	5.60	4.70	4.20	3.80	3.50	3.70	3.80
10	2.50	1.90	4.00	3.80	5.90	5.50	4.60	4.10	3.90	3.50	4.00	3.80
11	2.50	1.90	4.00	3.90	6.70	5.40	4.50	3.90	3.90	3.50	3.90	3.70
12	2.50	2.00	3.90	4.10	7.00	5.20	4.40	3.90	3.80	3.50	3.90	3.70
13	2.50	2.00	3.70	4.20	7.10	5.00	4.30	3.80	3.80	3.50	3.80	3.70
14	2.40	2.00	3.60	4.30	7.20	5.00	4.20	3.70	3.70	3.50	3.70	3.70
15	2.40	2.60	3.60	4.40	7.30	5.10	4.10	3.50	3.70	3.50	3.70	3.70
16	2.30	5.50	3.80	4.40	7.30	5.10	4.10	3.50	3.70	3.50	3.70	3.70
17	2.30	6.40	4.00	4.40	7.40	5.30	4.00	3.60	3.70	3.50	3.60	3.60
18	2.30	6.00	4.00	4.40	7.20	5.30	4.10	4.50	3.60	3.50	3.60	3.40
19	2.40	6.00	3.90	4.60	7.10	5.40	4.10	4.30	3.50	3.50	3.70	3.40
20	1.90	5.70	3.90	4.70	5.90	5.50	4.20	4.30	3.50	3.50	3.70	3.40
21	2.00	5.50	3.80	4.60	5.80	5.50	4.20	4.10	3.40	3.50	3.70	3.40
22	2.00	5.00	3.90	4.60	5.70	5.40	4.20	3.90	3.40	3.50	3.70	3.40
23	2.00	5.00	3.80	4.50	5.60	5.30	4.60	3.80	3.40	3.50	3.70	3.30
24	2.00	5.00	3.80	4.50	5.50	5.30	4.30	3.70	3.40	3.50	3.70	3.40
25	2.00	4.90	3.80	4.50	5.30	5.20	4.10	3.50	3.80	3.60	3.60	3.40
26	2.10	4.90	3.80	4.50	5.30	5.30	4.00	3.50	3.80	3.60	3.60	3.30
27	2.10	4.80	3.70	4.50	5.30	5.40	4.00	3.40	3.70	3.70	3.70	3.40
28	2.10	4.70	3.60	4.50	5.40	5.50	3.90	3.40	3.70	3.70	3.70	3.40
29	2.10	.....	3.60	4.50	5.40	5.60	3.90	3.40	3.70	3.90	4.10	3.30
30	2.00	.....	3.70	4.50	5.50	5.70	3.80	3.40	3.70	4.00	3.90	3.40
31	1.90	.....	3.80	.....	5.60	.....	3.70	3.60	.....	4.00	.....	3.30

WEST FORK OF CARSON RIVER AT WOODFORDS, CAL.

The station, established by L. H. Taylor on October 18, 1900, is about three-fourths of a mile above Woodfords, near the point where measurements were made in 1890, 1891, and 1892, the results of which are given in the Thirteenth Annual Report, Part III, page 96. It is described in Water-Supply Paper No. 51, page 400. During 1901 the following discharge measurements were made by F. H. Newell, L. H. Taylor, and others:

List of discharge measurements of West Fork Carson River at Woodfords, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
March 8	3.30	1.58	June 13	3.75	2.74
April 28	3.95	[a]3.21	September 21	2.35	.31
May 26	3.80	2.85	November 6	2.60	.68
May 31	4.05	[a]3.50			

[a] Approximate.

Daily gage height, in feet, of West Fork Carson River at Woodfords, Cal., for 1

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	2.65	2.45	3.70	3.05	3.90	4.10	3.40	3.00	2.50	2.50	2.60	
2	2.65	2.50	3.70	3.10	3.90	4.20	3.30	2.90	2.50	2.50	2.60	
3	2.50	2.45	3.65	3.10	3.90	4.10	3.20	2.90	2.50	2.50	2.50	
4	2.55	2.45	3.60	3.10	3.90	4.10	3.00	2.90	2.50	2.50	2.50	
5	2.50	2.40	3.60	3.05	3.90	4.20	3.10	3.00	2.40	2.50	2.50	
6	2.50	2.40	3.50	3.05	4.05	4.10	3.10	3.30	2.40	2.50	2.50	
7	2.55	2.40	3.50	3.05	4.45	4.10	3.20	2.90	2.40	2.50	2.50	
8	2.60	2.40	3.40	3.05	4.60	4.10	3.20	2.90	2.40	2.50	2.50	
9	2.60	2.40	3.40	3.05	4.75	3.80	3.10	2.90	2.40	2.50	2.50	
10	2.55	2.40	3.35	3.15	5.05	3.80	3.20	2.80	2.40	2.50	2.60	
11	2.50	2.45	3.30	3.15	5.30	3.80	3.20	2.80	2.40	2.40	2.50	
12	2.50	2.40	3.30	3.20	5.40	3.80	3.20	2.70	2.40	2.50	2.50	
13	2.55	2.45	3.30	3.30	5.35	3.70	3.20	2.70	2.40	2.50	2.60	
14	2.55	2.55	3.25	3.40	5.15	3.70	3.10	2.60	2.40	2.50	2.60	
15	2.60	2.60	3.25	3.45	4.85	3.70	3.20	2.70	2.40	2.50	2.60	
16	2.60	2.70	3.30	3.50	4.70	3.70	3.20	2.70	2.40	2.50	2.50	
17	2.55	3.10	3.25	3.65	4.60	3.70	3.30	2.70	2.40	2.50	2.50	
18	2.50	3.20	3.20	3.70	4.45	3.70	3.20	2.90	2.40	2.40	2.50	
19	2.50	3.30	3.20	3.70	4.70	3.80	3.20	2.80	2.40	2.40	2.60	
20	2.45	3.30	3.20	3.75	4.55	3.90	3.00	2.70	2.40	2.40	2.60	
21	2.40	3.40	3.20	3.80	4.35	3.80	3.00	2.60	2.40	2.40	2.60	
22	2.40	3.40	3.20	4.05	4.10	3.80	3.10	2.50	2.40	2.40	2.60	
23	2.40	3.40	3.15	4.05	4.10	3.80	3.30	2.50	2.40	2.50	2.60	
24	2.45	3.60	3.15	4.05	4.00	3.90	3.20	2.50	2.40	2.50	2.60	
25	2.45	3.60	3.15	4.25	4.00	3.60	3.10	2.50	2.40	2.50	2.60	
26	2.40	3.60	3.15	4.25	3.95	3.50	3.00	2.50	2.40	2.50	2.60	
27	2.40	3.65	3.15	4.25	3.90	3.40	3.00	2.50	2.40	2.50	2.60	
28	2.45	3.70	3.15	4.25	3.90	3.40	3.00	2.50	2.40	2.60	2.60	
29	2.45	.....	3.10	4.10	3.85	3.70	3.00	2.80	2.50	2.60	2.60	
30	2.40	.....	3.10	4.05	3.95	3.50	2.90	2.50	2.50	2.60	2.60	
31	2.45	.....	3.05	.....	4.05	.....	2.90	2.50	.....	2.60	.....	

CARSON RIVER NEAR EMPIRE, NEV.

The station, established October 21, 1900, by L. H. Taylor, is abo
2 miles below the town of Empire and about three-fourths of a m
below the point where measurements were made by Mr. Taylor in 18
the results of which are published in Bulletin No. 140 of the Unit
States Geological Survey. The station is described in Water-Sup
Paper No. 51, page 401. On February 18, 1901, erosion of a bar in t
channel above the gage caused a division of the stream bed into t
channels. On March 13, 1901, a permanent gage was placed fartl
downstream where the banks are more stable. The gage consists o
wooden rod driven vertically into the stream bed and spiked to a c
tonwood tree on the left bank. The bench mark is on the top c
large bowlder 10 feet north of the gage, its elevation being 8.38 f
above the datum of gage. During 1901 the following measureme
of discharge were made by C. V. and L. H. Taylor and A. H. Schadl

List of discharge measurements of Carson River near Empire, Nev.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1900.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
October 21	2.60	106	June 25	3.50	1,144
1901.			July 10	2.80	677
February 20	4.00	1,689	July 24	2.00	384
March 13	2.75	608	August 12	1.20	130
May 21	4.40	2,351	November 8	1.55	190
June 3	4.00	1,709	December 16	1.70	242

Daily gage height, in feet, of Carson River near Empire, Nev., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.50	2.50	3.25	2.30	3.85	3.85	3.40	1.40	0.30	0.80	1.50	2.00
2	2.40	2.45	3.30	2.30	3.60	4.00	3.20	1.40	.40	.90	1.50	1.80
3	2.40	2.40	3.15	2.30	3.25	4.15	3.10	1.30	.50	.90	1.50	1.80
4	2.35	2.50	3.10	2.20	3.20	4.20	3.60	1.30	.50	.90	1.50	2.10
5	2.50	2.40	2.95	2.20	3.30	4.30	2.90	1.40	.40	1.00	1.50	2.95
6	2.75	2.45	2.95	2.20	3.30	4.40	2.90	1.90	.40	1.00	1.50	2.00
7	3.15	2.40	3.00	2.20	3.45	4.25	2.90	1.90	.30	1.00	1.60	2.60
8	3.10	2.45	2.95	2.10	3.70	4.10	2.80	1.80	.30	1.00	1.60	2.20
9	2.60	2.40	2.90	2.10	3.70	4.00	2.70	1.70	.30	1.00	1.60	2.00
10	2.50	2.40	2.80	2.10	3.65	3.85	2.60	1.50	.40	1.00	1.50	2.00
11	2.50	2.45	2.80	2.00	4.00	3.70	2.60	1.40	.40	1.00	1.50	1.90
12	2.55	2.40	2.80	2.05	4.75	3.55	2.50	1.30	.40	1.00	1.50	1.70
13	2.50	2.35	2.80	2.20	5.05	3.45	2.40	1.10	.40	1.00	1.50	1.60
14	2.50	2.45	2.60	2.35	5.15	3.30	2.30	1.00	.40	1.00	1.50	1.80
15	2.50	2.60	2.60	2.55	5.20	3.35	2.20	.90	.40	1.00	1.50	2.00
16	2.50	2.60	2.60	2.80	5.10	3.40	2.20	.80	.40	1.00	1.50	1.90
17	2.50	3.85	2.60	2.75	5.10	3.55	2.10	.80	.40	1.00	1.50	1.80
18	2.50	4.50	2.60	2.70	5.25	3.60	2.00	.80	.50	1.00	1.50	1.75
19	2.50	3.85	2.50	2.85	5.15	3.60	1.90	1.00	.50	1.00	1.50	1.80
20	2.50	3.80	2.50	3.00	4.80	3.75	1.80	1.10	.40	1.00	1.50	1.80
21	2.50	4.00	2.50	3.15	4.35	3.75	1.70	1.20	.40	1.10	1.50	1.80
22	2.50	3.85	2.50	3.35	4.20	3.85	1.60	1.10	.40	1.10	1.50	1.80
23	2.50	3.50	2.50	3.30	3.95	3.80	1.50	1.10	.40	1.20	1.50	1.80
24	2.50	3.60	2.50	3.35	3.90	3.70	2.10	1.00	.50	1.20	1.50	1.80
25	2.50	3.45	2.50	3.50	3.90	3.50	2.00	.80	.60	1.20	1.50	1.60
26	2.50	3.15	2.50	3.55	3.80	3.30	1.90	.70	.70	1.20	1.50	1.80
27	2.50	3.05	2.50	3.60	3.70	3.20	1.80	.60	.80	1.30	1.50	1.60
28	2.50	3.15	2.40	3.50	3.65	3.10	1.70	.60	.80	1.40	1.60	1.80
29	2.50	.....	2.40	3.60	3.65	3.30	1.60	.60	.80	1.50	1.70	1.60
30	2.50	.....	2.40	3.75	3.60	3.50	1.50	.60	.80	1.60	1.90	1.60
31	2.50	.....	2.40	.....	3.75	.....	1.40	.50	.....	1.60	.....	1.60

TRUCKEE RIVER AT TAHOE, CAL.

This station, established by L. H. Taylor June 17, 1900, is located one-half mile below the town of Tahoe. It is described in Water-Supply Paper No. 51, page 402. The purpose of maintaining a station at this point is to determine the value of Lake Tahoe as a storage reservoir. Results of measurements for 1900 are published in the Twenty-second Annual Report, Part IV, page 403. The following measurements of discharge were made by C. V. Taylor during 1901:

List of discharge measurements of Truckee River at Tahoe, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
September 5	1.94	386	November 11	1.57	296
September 12	1.85	356	Do	1.23	187
			Do	1.00	141

Daily gage height, in feet, of Truckee River at Tahoe, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	June.	July.	Aug.	Sept.	Oct.	Nov.	De
1	0.70	0.80	0.10	0.10	.....	1.20	1.65	1.95	1.65	1.65	1
2	.70	.80	.10	.10	.....	1.20	1.65	1.95	1.65	1.60	
3	.70	.80	.10	.10	.....	1.20	1.65	1.95	1.65	1.60	
4	.80	.80	.10	.10	.....	1.20	1.65	1.95	1.65	1.60	
5	.80	.80	.10	.10	.....	1.20	1.80	1.95	1.65	1.60	
6	.80	.80	.10	.10	.....	1.20	1.80	1.95	1.65	1.60	
7	.80	.90	.10	—.20	.....	1.20	2.00	1.90	1.60	1.60	
8	.80	.90	.10	—.20	.....	1.10	2.00	1.90	1.50	1.60	
9	.80	.90	.10	—.20	.....	1.10	2.00	1.90	1.70	1.60	
10	.90	.80	.10	—.20	.....	1.20	2.30	1.90	1.70	1.60	
11	.90	.80	.10	—.20	.....	1.20	2.35	1.90	1.65	1.60	
12	.90	.90	.10	—.20	.....	1.25	2.35	1.75	0.00	1.60	
13	.90	.90	.10	—.20	.....	1.25	2.35	1.75	1.65	1.60	
14	.90	.90	.10	(a)	.....	1.25	2.35	.90	1.65	1.60	
15	.90	.90	.10	.....	.....	1.25	2.35	1.40	1.65	1.60	
16	.80	.90	.10	.....	.....	1.25	2.35	1.70	1.60	1.60	
17	.80	.90	.10	.....	.....	1.25	2.35	1.70	1.60	1.60	
18	.80	.90	.10	.....	.....	1.25	2.35	1.70	1.60	1.60	
19	.80	.10	.10	.....	.....	1.60	1.95	1.70	1.60	1.60	
20	.80	.10	.10	.....	.....	1.60	1.95	1.70	1.60	1.25	
21	.80	.10	.10	.....	.....	1.60	1.95	1.70	1.60	1.25	
22	.80	.10	.10	.....	.....	1.60	1.55	1.70	1.60	1.25	
23	.80	.10	.10	.....	.....	1.60	1.95	1.70	1.70	1.25	
24	.80	.10	.10	.....	.....	1.60	1.95	1.70	1.70	1.25	
25	.80	.10	.10	.....	.....	1.65	1.95	1.70	1.70	1.25	
26	.80	.10	.10	.....	1.20	1.65	1.95	1.70	1.70	1.25	
27	.80	.10	.10	.....	1.20	1.65	1.95	1.70	1.65	1.25	
28	.80	.10	.10	.....	1.20	1.65	1.95	1.70	1.65	1.25	
29	.80	.....	.10	.....	1.20	1.65	1.95	1.65	1.65	1.25	
30	.80	.....	.10	.....	1.20	1.65	1.95	1.65	1.65	1.25	
31	.80	.....	.10	.....	.....	1.65	1.95	.....	1.65	.....	

[a] No flow from April 13 to June 26.

TRUCKEE RIVER AT NEVADA-CALIFORNIA STATE LINE.

The station was established by L. H. Taylor September 7, 1899, the State line near Mystic, Cal., 17 miles west of Reno, Nev. description of the station is given in Water-Supply Papers No. page 331, and No. 51, page 403. Results of measurements for 18 and 1900 will be found in the Twenty-second Annual Report, Pa IV, page 404. During 1901 the following measurements of dischar were made by C. V. Taylor and A. H. Schadler:

List of discharge measurements of Truckee River at Nevada-California State li

Date.	Gage height.	Discharge.	Date.	Gage height.	Gag heigh
1901.	*Feet.*	*Sec. feet.*	1901.	*Feet.*	*Sec. fe*
February 13	1.50	298	August 16	2.10	
February 27	4.50	2,474	September 3	2.20	
March 11	3.40	1,262	September 14	2.00	
June 9	3.90	1,741	November 9	1.95	
July 13	2.60	811	December 14	1.75	

Daily gage height, in feet, of Truckee River at Nevada-California State line, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.50	1.30	4.20	2.70	4.00	4.30	3.20	2.00	2.00	2.00	2.20	2.30
2	1.50	1.30	4.40	3.10	3.70	4.50	3.20	2.10	2.10	2.00	2.10	2.30
3	1.50	1.40	3.90	2.80	3.60	4.60	3.10	1.90	2.10	2.10	1.80	3.00
4	1.80	1.40	3.90	2.50	3.70	4.50	2.80	1.80	2.10	2.10	1.90	5.20
5	1.90	1.30	3.90	2.90	3.90	4.30	2.50	1.70	2.20	2.10	2.00	2.60
6	2.20	1.40	3.90	2.50	4.30	4.20	2.50	2.00	2.10	2.00	2.10	2.70
7	1.30	1.50	4.00	2.50	4.70	4.30	2.50	2.10	2.10	2.00	2.00	2.30
8	1.70	1.50	3.70	2.50	4.70	4.30	2.40	2.10	1.80	2.00	2.00	2.10
9	1.60	1.40	3.80	2.50	4.80	4.00	2.40	1.90	1.80	2.10	2.00	2.10
10	1.60	1.30	3.50	2.30	4.50	3.70	2.50	2.00	2.10	2.20	1.90	2.00
11	1.60	1.40	3.40	2.50	4.70	3.50	2.40	1.90	2.10	2.20	2.00	1.70
12	1.80	1.30	3.20	3.10	5.80	3.40	2.40	1.90	2.10	2.00	2.00	1.50
13	1.50	1.50	3.00	2.30	5.70	3.30	2.50	1.90	2.20	1.30	2.10	1.40
14	1.40	1.50	2.70	3.50	5.70	3.10	2.40	1.90	1.90	2.00	2.00	1.80
15	1.50	1.60	2.90	3.80	5.50	3.30	2.40	1.90	1.30	2.00	2.00	1.60
16	1.50	1.60	2.90	3.80	5.50	3.40	2.30	1.80	1.70	2.00	2.00	1.50
17	1.40	2.90	2.90	3.70	5.60	3.30	2.40	2.50	2.00	1.90	1.90	1.50
18	1.40	3.20	2.50	4.00	5.70	3.50	2.30	2.60	2.00	1.90	2.00	1.50
19	1.50	3.20	2.80	4.10	5.00	3.60	2.20	2.60	2.00	2.00	2.00	1.60
20	1.40	5.00	2.90	4.30	4.60	3.60	2.30	2.10	2.10	1.50	2.00	1.50
21	1.60	5.30	2.90	4.30	4.20	3.60	2.10	2.10	2.00	1.90	2.00	1.40
22	1.60	4.10	3.30	4.30	3.90	3.60	2.30	1.80	2.00	1.90	1.90	1.70
23	1.50	4.70	3.20	4.10	3.80	3.60	2.30	1.90	2.00	1.90	1.90	1.80
24	1.50	4.50	3.10	4.10	3.80	3.40	2.30	2.00	2.10	1.90	1.90	1.80
25	1.60	4.30	3.10	4.60	3.80	3.10	2.30	2.10	2.20	2.00	2.00	1.60
26	1.50	4.40	3.20	4.40	3.80	3.00	2.30	2.00	2.00	2.00	2.10	1.30
27	1.50	4.50	3.10	4.10	3.70	2.90	2.20	2.10	2.00	2.20	2.00	1.50
28	1.60	4.40	3.00	4.20	3.90	3.20	2.00	2.20	2.00	2.20	2.00	1.50
29	1.70	.....	2.70	4.30	3.80	3.30	2.30	2.00	2.00	2.20	2.20	1.50
30	1.40	.....	2.60	4.10	4.00	3.40	2.10	2.00	2.10	2.20	2.30	1.70
31	1.20	.....	2.70	.....	4.10	.....	1.90	2.10	.....	2.20	.....	1.50

TRUCKEE RIVER AT VISTA, NEV.

This station, established by L. H. Taylor August 18, 1899, is located 7 miles east of Reno, near the point where measurements were made in 1890, 1891, and 1892, the results of which are published in the Thirteenth Annual Report, Part III, page 95. It is described in Water-Supply Papers No. 38, page 331, and No. 51, page 404. A new bench mark was established March 14, 1901, on the top of a 2 by 2 inch plug driven 2 feet into the ground at the upper end of the inclined gage on the left bank. Its elevation is 9.60 feet above the datum of the gage. Results of measurements for 1899 and 1900 will be found in the Twenty-second Annual Report, Part IV, page 405. During 1901 the following measurements were made by C. V. and L. H. Taylor:

List of discharge measurements of Truckee River at Vista, Nev.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec. feet.*	1901.	*Feet.*	*Sec. feet.*
February 22	6.35	3,077	August 15	2.20	198
March 14	3.85	[a]899	September 2	2.50	325
March 20	3.88	[a]911	September 14	2.40	276
June 21	4.10	1,165	November 13	3.05	584
July 12	2.70	417	December 15	2.78	448

[a] Results too small.

Daily gage height, in feet, of Truckee River at Vista, Nev., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	I
1	3.55	2.75	5.65	3.70	4.90	5.20	3.65	2.25	2.40	2.70	3.00	
2	3.55	2.80	5.40	4.00	4.80	5.30	3.80	2.20	2.50	2.70	3.00	
3	4.65	2.80	5.45	3.80	4.60	5.30	3.80	2.35	2.50	2.70	3.00	
4	4.40	2.80	5.15	3.95	4.60	5.20	3.30	2.40	2.50	2.80	3.00	
5	4.25	2.70	5.20	3.70	4.60	5.00	3.35	2.85	2.50	2.75	3.00	
6	4.20	2.85	5.00	3.65	4.80	4.70	3.25	2.70	2.50	2.80	3.00	
7	3.90	2.75	4.90	3.60	5.30	5.00	2.90	2.55	2.50	2.75	3.00	
8	3.25	2.80	5.10	3.60	5.30	5.00	2.85	2.60	2.45	2.80	2.90	
9	3.10	2.70	4.70	3.35	6.00	4.90	2.85	2.40	2.50	2.80	2.90	
10	3.10	2.80	4.60	3.35	6.00	4.00	2.95	2.30	2.45	2.75	2.95	
11	3.10	2.75	4.10	3.55	6.95	4.10	2.85	2.10	2.45	3.00	2.90	
12	3.20	2.80	4.15	3.70	6.70	4.10	3.15	2.20	2.40	2.90	2.90	
13	2.95	2.80	4.60	4.00	6.50	4.10	3.00	2.35	2.40	2.80	2.90	
14	2.95	2.80	3.90	4.40	6.65	4.00	2.80	2.55	2.40	2.75	2.90	
15	2.95	2.80	3.90	4.70	6.35	3.90	2.60	2.05	2.35	2.70	2.95	
16	2.80	4.70	3.95	4.85	6.45	3.75	2.60	2.85	2.40	2.80	2.90	
17	2.75	5.85	3.75	4.85	6.00	3.75	2.55	2.85	2.55	2.75	2.95	
18	2.70	5.20	3.75	4.90	5.60	3.75	2.65	2.85	2.40	2.80	2.90	
19	2.70	5.20	3.80	5.00	5.60	4.15	2.55	2.85	2.40	2.75	2.90	
20	2.80	5.25	3.70	5.30	5.10	4.00	2.55	2.85	2.40	2.80	2.95	
21	2.95	6.75	3.90	5.00	5.05	3.85	2.10	2.55	2.40	2.80	2.95	
22	2.95	6.95	3.95	5.20	4.90	4.00	2.15	2.55	2.40	2.60	2.95	
23	2.75	6.20	4.30	5.00	4.70	4.00	2.15	2.55	2.40	2.60	2.95	
24	2.75	6.10	4.00	5.00	4.50	3.85	2.20	2.50	2.80	2.70	2.80	
25	2.90	6.20	4.10	5.00	4.50	3.55	2.20	2.30	2.80	2.80	2.95	
26	2.85	6.40	4.20	5.30	4.50	3.55	2.20	2.30	2.80	2.80	3.10	
27	2.70	6.30	4.00	5.20	4.55	3.85	2.30	2.35	2.80	2.85	2.95	
28	2.80	6.40	3.95	5.00	5.20	3.75	2.20	3.45	2.70	3.30	3.00	
29	2.95	.....	3.80	5.10	5.25	3.65	2.30	2.35	2.70	3.20	3.60	
30	2.90	.....	3.75	4.85	5.25	3.80	2.25	2.30	2.70	3.15	3.30	
31	2.75	.....	3.80	.....	5.00	.....	2.20	2.40	.....	3.10	.....	

STEAMBOAT CREEK AT STEAMBOAT SPRINGS, NEVADA.

The station was established May 31, 1900, for the purpose of asc taining the volume of water entering Reno Valley. It is described Water-Supply Paper No. 51, page 406. On January 4, 1901, the ga was changed and its datum lowered 0.3 feet. The station was disc tinued on June 30, 1901. Results of measurements for 1900 will found in the Twenty-second Annual Report, Part IV, page 406. D ing the year the following measurements were made by C. V. a L. H. Taylor:

List of discharge measurements of Steamboat Creek at Steamboat Spri Nevada.

Date.	Gage height.	Dis-charge.	Date.	Gage height.	Di char
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.*
February 14[a]	0.80	8	May 15	1.50	
February 18	1.00	12	June 6	1.20	
March 19	.80	7			

[a] Approximate.

Daily gage height in feet of Steamboat Creek at Steamboat Springs, Nevada, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May	June.	Day.	Jan.	Feb.	Mar.	Apr.	May	June.
1	0.60	0.80	1.20	0.80	1.20	1.30	17	0.70	2.00	0.90	0.90	1.50	1.50
2	.60	.80	1.20	.80	1.00	1.30	18	.65	1.00	.90	.90	1.50	1.60
3	.60	.80	1.20	.80	1.00	1.30	19	.60	1.00	.80	.90	1.50	1.70
4	1.00	.80	1.10	.80	1.00	1.30	20	.80	1.30	.80	.80	1.50	1.70
5	1.00	.75	1.10	.70	1.00	1.30	21	.80	1.40	.80	.90	1.50	1.70
6	2.00	.75	1.10	.70	1.00	1.20	22	.70	1.30	.80	.90	1.50	1.60
7	.85	.75	1.10	.70	1.00	1.20	23	.70	1.30	.70	.90	1.50	1.60
8	.75	.75	1.10	.70	1.00	1.20	24	.70	1.60	.70	.90	1.40	1.60
9	.75	.75	1.00	.70	1.00	1.30	25	.75	1.50	.70	.90	1.40	1.70
10	.70	.70	1.10	.60	1.20	1.30	26	.80	1.30	.70	.90	1.40	1.70
11	.70	.60	1.30	.60	1.20	1.50	27	.85	1.20	.70	.90	1.40	1.70
12	.70	.60	1.20	.60	1.20	1.50	28	.85	1.20	.80	.90	1.40	1.70
13	.70	.60	1.10	.90	1.20	1.50	29	.85	.....	.80	.90	1.40	1.70
14	.70	.65	1.10	1.00	1.40	1.50	30	.80	.....	.80	1.00	1.40	1.70
15	.70	.75	1.00	1.00	1.50	1.50	31	.80	.....	.80	.....	1.30	.....
16	.75	2.25	1.00	.90	1.50	1.50							

WILLOW CREEK NEAR STANDISH, CAL.

This station, established by L. H. Taylor on June 4, 1900, is at the highway bridge about 4 miles west of north from the post-office at Standish, and about 1½ miles north of Susan River. It is described in Water-Supply Paper No. 51, page 407. No measurements were made of the discharge of this stream during the year 1901, and the station was discontinued on December 31.

Daily gage height, in feet, of Willow Creek near Standish, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.30	4.40	7.50	4.50	4.00	3.70	3.90	3.55	3.50	4.30	4.35	5.60
2	4.00	4.40	7.40	4.55	4.00	3.70	3.90	3.55	4.20	4.30	4.35	5.60
3	3.90	4.00	7.40	4.55	4.10	3.70	3.60	3.55	4.00	4.30	4.35	5.60
4	3.90	4.00	7.20	4.50	4.10	3.70	3.60	3.55	3.90	4.20	4.35	5.70
5	3.90	3.90	7.00	4.50	4.10	3.60	3.60	3.55	3.90	4.20	4.35	5.80
6	3.90	3.90	7.00	4.50	4.10	3.60	3.60	3.55	3.90	4.20	4.35	6.00
7	3.90	3.90	6.90	4.50	4.00	3.60	3.60	3.55	4.00	4.30	4.35	6.00
8	3.90	3.90	6.80	4.20	4.00	3.60	3.60	3.55	4.30	4.30	4.35	6.00
9	3.90	3.90	6.80	4.20	4.00	3.60	3.60	3.55	4.30	4.30	4.35	6.00
10	3.90	3.90	6.80	4.20	4.00	3.60	3.70	3.55	4.00	4.30	4.35	5.70
11	3.90	3.80	6.80	4.00	3.90	3.60	3.70	3.55	3.80	4.30	4.35	5.70
12	3.90	3.80	6.60	4.00	3.90	3.60	3.70	3.55	3.80	4.30	4.35	5.60
13	4.20	3.80	6.60	4.00	3.90	3.60	3.70	3.55	3.80	4.30	4.35	5.60
14	4.40	3.90	6.60	4.00	3.90	3.60	3.70	3.55	3.80	4.30	4.35	5.60
15	4.60	3.90	6.60	4.00	3.80	3.60	3.70	3.55	3.80	4.30	4.35	5.60
16	4.90	3.90	6.60	4.00	3.80	3.60	3.70	3.55	3.80	4.35	4.35	5.60
17	4.60	5.80	5.40	4.00	3.80	3.60	3.70	3.55	3.80	4.35	4.70	5.60
18	4.60	5.80	5.40	4.00	3.80	3.60	3.70	3.55	3.80	4.35	4.70	5.60
19	4.60	8.00	5.20	4.00	3.80	3.65	3.70	3.55	3.80	4.35	4.70	5.00
20	4.60	8.00	5.20	4.00	3.70	3.65	3.70	3.55	3.80	4.35	4.70	5.00
21	4.60	8.40	4.80	4.00	3.70	3.65	3.70	3.55	3.80	4.35	4.70	5.00
22	4.90	8.40	4.80	4.00	3.60	3.65	3.70	3.55	3.80	4.35	4.70	5.00
23	5.00	8.20	4.80	4.00	3.60	3.65	3.70	3.55	3.80	4.70	4.75	5.00
24	5.20	8.20	4.80	3.90	3.85	3.65	3.70	3.55	3.80	4.70	4.75	5.00
25	4.90	8.00	4.60	3.40	3.85	3.65	3.70	3.55	3.80	5.00	4.75	4.00
26	4.65	7.90	4.60	3.60	3.70	3.65	3.80	3.55	3.80	5.00	4.75	4.00
27	4.60	7.80	4.60	3.90	3.70	3.65	3.80	3.50	3.80	5.00	5.00	4.00
28	4.60	7.60	4.50	4.25	3.70	4.60	3.80	3.50	4.00	4.90	5.60	4.00
29	4.50	.....	4.50	4.25	3.70	3.90	3.80	3.50	4.00	4.90	5.60	4.00
30	4.40	.....	4.50	4.00	3.70	3.90	3.00	3.50	4.00	4.70	5.60	4.00
31	4.40	.....	4.50	.....	3.70	.....	3.40	3.50	.....	4.35	.....	4.00

SUSAN RIVER NEAR SUSANVILLE, CAL.

This station is about three-fourths of a mile southwest of the town, at the electric-light plant. It was established by L. H. Taylor, June

3, 1900, and is described in Water-Supply Paper No. 51, page 408. short distance above the station a small irrigating ditch, known the "Masten ditch," is taken out on the right bank of the stream. Ne its head is a flume in which a gage has been placed from which t gage record here given has been obtained. During 1901 measu ments were made of the discharge of the river at Susanville, und the direction of L. H. Taylor, as follows:

List of discharge measurements of Susan River near Susanville, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Dis char
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-*
March 16	4.30	274	May 20	4.50	
April 5	4.00	178	June 7	3.60	

Daily gage height, in feet, of Susan River near Susanville, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	3.20	3.10	5.55	4.10	4.90	3.92	2.65	2.25	2.25	2.20	2.40	
2	3.20	3.10	5.45	4.15	4.88	3.90	2.75	2.35	2.25	2.45	2.35	
3	3.20	3.10	5.05	4.07	4.87	3.85	2.80	2.20	2.20	2.40	2.35	
4	3.20	3.10	4.95	4.00	4.85	3.80	2.75	2.20	2.20	2.30	2.35	
5	3.20	3.10	4.90	4.00	4.85	3.72	2.70	2.20	2.20	2.30	2.35	
6	3.30	3.10	4.90	4.00	4.93	3.65	2.70	2.15	2.15	2.30	2.35	
7	3.30	3.10	5.00	3.90	4.95	3.63	2.60	2.15	2.15	2.30	2.35	
8	3.30	3.10	4.75	3.85	5.00	3.55	2.50	2.15	2.15	2.30	2.35	
9	3.25	3.10	4.75	3.80	5.00	3.50	2.55	2.15	2.15	2.30	2.35	
10	3.25	3.10	4.55	3.80	5.05	3.40	2.83	2.10	2.15	2.30	2.35	
11	3.25	3.10	4.50	3.90	5.08	3.30	2.85	2.30	2.10	2.30	2.35	
12	3.25	3.10	4.45	4.13	5.07	3.25	2.85	2.50	2.10	2.30	2.40	
13	3.20	3.10	4.20	4.35	5.10	3.20	2.83	2.50	2.10	2.30	2.40	
14	3.20	3.20	4.25	4.60	5.10	3.15	2.80	2.50	2.10	2.30	2.40	
15	3.20	3.30	4.30	4.75	5.00	3.15	2.80	2.50	2.10	2.30	2.40	
16	3.20	3.70	4.20	4.70	4.95	3.10	2.80	2.45	2.15	2.30	2.40	
17	3.20	4.85	4.20	4.75	4.90	3.10	2.80	2.50	2.05	2.30	2.40	
18	3.20	4.15	4.15	4.80	4.83	3.10	2.80	2.45	2.05	2.30	2.40	
19	3.20	4.05	4.15	4.97	4.72	3.05	2.78	2.45	2.05	2.30	2.40	
20	3.20	5.95	4.15	5.05	4.58	3.00	2.75	2.40	2.05	2.30	2.40	
21	3.20	5.10	4.22	5.05	4.45	2.95	2.70	2.40	2.05	2.30	2.45	
22	3.15	4.80	4.30	5.05	4.20	2.90	2.70	2.40	2.15	2.30	2.45	
23	3.15	6.30	4.23	4.95	4.25	2.85	2.70	2.40	2.25	2.30	2.50	
24	3.10	5.85	4.25	4.90	4.20	2.80	2.70	2.40	2.30	2.35	2.55	
25	3.10	5.65	4.55	5.00	4.25	2.80	2.68	2.35	2.25	2.35	2.60	
26	3.10	5.20	4.50	4.95	4.13	2.75	2.63	2.40	2.20	2.40	2.80	
27	3.10	5.60	4.45	4.87	4.10	2.70	2.53	2.35	2.20	2.40	2.70	
28	3.10	5.70	4.40	4.78	4.05	2.70	2.43	2.30	2.20	2.65	3.60	
29	3.10	.....	4.25	5.45	4.05	2.65	2.40	2.30	2.20	2.50	3.65	
30	3.10	.....	4.18	4.97	4.00	2.60	2.35	2.30	2.20	2.50	3.25	
31	3.10	.....	4.05	.....	3.95	.....	2.30	2.30	.....	2.50	.....	

Daily gage height, in feet, of Masten ditch near Susanville, Cal., for 1901.

Day.	July.	Aug.	Sept.	Oct.	Nov.	Day.	July.	Aug.	Sept.	Oct.	N
1		0.80	0.80	0.90	0.80	17		1.10	0.90	0.80	
2		.80	.75	1.05	.80	18		1.10	.90	.80	
3		.80	.85	1.00	.80	19		1.10	.90	.80	
4		.80	.85	.80	.70	20		1.10	.90	.80	
5		.80	.80	.80	.70	21		1.10	.90	.80	
6		.90	.80	.80	.70	22		.80	1.00	.80	
7		.90	.80	.80	.70	23		.80	.95	.80	
8		.90	.80	.80	.70	24		.80	.95	.80	
9		.80	.85	.80	.70	25		.80	.95	.80	
10		.70	.85	.80	.70	26	1.10	.80	.90	.80	
11		1.10	.90	.80	.80	27	.80	.80	.90	.80	
12		1.10	.90	.80	.80	28	.60	.80	.90	.90	
13		1.10	.90	.80	.80	29	.40	.80	.90	.90	
14		1.10	.90	.80	.80	30	.40	.80	.90	.80	
15		1.10	.85	.80	.80	31	.40	.80	.....	.80	
16		1.10	.90	.80	.80						

BEAR RIVER AT BATTLECREEK, IDAHO.

This station, established October 11, 1889, is about 10 miles north of the Utah-Idaho boundary line, and is described in Water-Supply Paper No. 51, page 409. The station is of considerable importance from the fact that its location is near the Utah-Idaho line, and the measurements there will indicate the volume of water that passes from Idaho into Utah. During 1901 a large canal was completed, appropriating the waters of the Bear about 8 miles below Soda Springs in sufficient quantity to irrigate about 35,000 acres of very fine land in that locality. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 407. During 1901 the following measurements were made by G. L. Swendsen:

List of discharge measurements of Bear River at Battlecreek, Idaho.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 30	1.66	594	June 25	1.90	721
February 23	2.50	853	July 27	1.40	419
March 25	2.35	842	August 22	1.50	490
April 22	3.30	2,128	September 16	1.40	435
Do	3.30	2,001	November 18	1.65	611
May 13	3.97	2,350	December 16	1.75	526

Daily gage height, in feet, of Bear River at Battlecreek, Idaho, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.55	1.55	2.43	2.40	3.80	3.70	1.85	1.30	1.35	1.50	1.70	1.70
2	1.55	1.55	2.55	2.40	3.88	3.72	1.77	1.30	1.35	1.50	1.70	1.70
3	1.55	1.55	2.55	2.40	3.93	3.65	1.75	1.30	1.30	1.50	1.70	1.80
4	1.55	1.55	2.55	2.40	4.13	3.58	1.70	1.30	1.30	1.50	1.70	1.90
5	1.55	1.55	2.55	2.40	4.25	3.53	1.68	1.30	1.30	1.50	1.70	1.90
6	1.55	1.55	2.55	2.40	4.15	3.45	1.65	1.30	1.30	1.50	1.70	1.90
7	1.55	1.55	2.60	2.40	4.20	3.40	1.65	1.30	1.30	1.50	1.70	1.90
8	1.55	1.55	2.60	2.40	4.20	3.35	1.63	1.35	1.30	1.50	1.70	1.90
9	1.55	1.55	2.65	2.40	4.20	3.28	1.60	1.35	1.35	1.50	1.70	1.90
10	1.55	1.55	2.75	2.40	4.15	3.13	1.60	1.35	1.35	1.50	1.70	1.90
11	1.55	1.55	2.77	2.40	4.22	3.00	1.57	1.35	1.35	1.50	1.70	1.90
12	1.55	1.55	2.87	2.43	4.25	2.90	1.55	1.35	1.40	1.50	1.70	1.90
13	1.55	1.55	2.98	2.50	4.20	2.75	1.55	1.35	1.40	1.50	1.70	1.90
14	1.55	1.55	2.95	2.77	4.12	2.60	1.55	1.35	1.40	1.50	1.70	1.90
15	1.55	1.55	2.82	2.90	4.00	2.55	1.53	1.35	1.40	1.50	1.55	1.90
16	1.55	1.55	2.73	3.00	4.05	2.48	1.50	1.35	1.40	1.55	1.60	1.90
17	1.55	1.55	2.63	3.10	4.10	2.42	1.47	1.38	1.40	1.55	1.60	1.83
18	1.55	1.55	2.50	3.15	4.10	2.40	1.45	1.40	1.40	1.55	1.60	1.73
19	1.55	1.55	2.43	3.20	4.10	2.37	1.45	1.40	1.40	1.58	1.60	1.63
20	1.55	1.55	2.40	3.28	4.10	2.35	1.43	1.40	1.40	1.60	1.60	1.60
21	1.55	2.93	2.40	3.30	4.10	2.35	1.40	1.40	1.40	1.60	1.65	1.60
22	1.55	2.66	2.40	3.35	4.05	2.25	1.40	1.40	1.50	1.60	1.65	1.60
23	1.60	2.40	2.40	3.37	4.05	2.30	1.38	1.40	1.50	1.60	1.70	1.60
24	1.60	2.03	2.40	3.43	3.98	2.28	1.35	1.40	1.50	1.60	1.70	1.60
25	1.60	2.08	2.40	3.47	3.92	2.18	1.35	1.35	1.50	1.60	1.70	1.60
26	1.60	2.22	2.40	3.65	3.90	2.15	1.35	1.35	1.50	1.60	1.70	1.60
27	1.60	2.33	2.40	3.82	3.93	2.08	1.35	1.35	1.50	1.70	1.70	1.60
28	1.60	2.40	2.40	3.85	3.95	2.00	1.35	1.35	1.50	1.70	1.70	1.60
29	1.60	.....	2.40	3.90	3.93	2.00	1.33	1.35	1.50	1.70	1.70	1.60
30	1.58	.....	2.40	3.85	3.90	1.95	1.30	1.35	1.50	1.70	1.70	1.60
31	1.55	.....	2.40	.....	3.80	.....	1.30	1.35	.....	1.70	.....	1.60

CUB RIVER AT FRANKLIN, IDAHO.

This gaging station, established July 23, 1900, is a short distan above the head gates of the Lewiston canal, and is described in Wat Supply Paper No. 51, page 410. Results of measurements for 19 are published in the Twenty-second Annual Report, Part IV, page 4(The station was discontinued during the early part of 1901. A mea urement was made by G. L. Swendsen January 21, 1901, when t discharge was 47 second-feet and the gage height 1.50 feet.

LOGAN RIVER NEAR LOGAN, UTAH.

This station, established June 1, 1896, is in the river canyon abo 2 miles east of Logan and is described in Water-Supply Paper No. page 411. During the low-water season the entire supply of the riv is used for irrigation. Within the last two years it has become ve prominent as a source of water power, and a large electric plant util ing the entire low-water supply under a head of 220 feet furnish power to Salt Lake City and a number of the large mining cam of the State. It is operated on the same circuit and in conjuncti with a similar plant on the Provo River.

A study of the results on the Logan River for a period of four five years shows a remarkable decrease in the low-water dischar and a change in the occurrence of maximum flow from late in June the middle of May. The entire watershed is a public range, and the unrestricted grazing of thousands of sheep has been stripped nearly all its vegetation, destroying many of nature's provisio for water preservation. With present conditions continued gre injury to irrigation interests is sure to result.

Results of measurements for 1900 will be found in the Twent second Annual Report, Part IV, page 408.

During 1901 the following measurements of discharge were ma by G. L. Swendsen:

List of discharge measurements of Logan River near Logan, Utah.

Date.	Gage height.	Discharge.	Date.	Gage height.	Dis charg
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-*
January 23	2.55	161	July 30	2.80	
February 20	2.60	166	August 21	2.82	
March 19	2.42	140	September 7	2.81	
April 29	3.30	400	October 25	2.70	
May 25	4.03	861	November 25	2.65	
June 23	3.50	332	December 22 [a]	2.60	

[a] Exclusive of water used by Hercules Power Company. Total discharge, 155.

Daily gage height, in feet, of Logan River near Logan, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	2.60	2.50	2.60	2.50	3.40	4.00	.....	2.95	2.85	2.80	2.70
2	2.60	2.50	2.60	2.55	3.40	4.00	.....	2.95	2.80	2.75	2.70
3	2.60	2.50	2.60	2.55	3.35	4.00	.....	2.95	2.80	2.75	2.70
4	2.60	2.50	2.60	2.55	3.35	3.90	.....	2.95	2.80	2.75	2.70
5	2.60	2.50	2.60	2.55	3.40	3.90	.....	2.95	2.80	2.75	2.70
6	2.60	2.50	2.60	2.55	3.40	3.90	.....	2.95	2.80	2.75	2.70
7	2.60	2.50	2.60	2.55	3.40	3.85	.....	2.95	2.80	2.75	2.70
8	2.50	2.50	2.60	2.55	3.45	3.85	.....	2.90	2.80	2.75	2.70
9	2.70	2.50	2.60	2.55	3.60	3.85	3.15	2.90	2.80	2.75	2.70
10	2.55	2.50	2.60	2.60	3.85	3.80	3.15	2.90	2.80	2.75	.....
11	2.60	2.50	2.55	2.60	3.90	3.80	3.10	2.90	2.80	2.75	.....
12	2.60	2.50	2.55	2.60	4.00	3.75	3.10	2.90	2.80	2.75	.....
13	2.55	2.50	2.55	2.70	4.10	3.75	3.10	2.90	2.80	2.75	.....
14	2.55	2.50	2.50	2.70	4.30	3.75	3.05	2.90	2.80	2.75	.....
15	2.55	2.50	2.50	2.70	4.40	3.70	3.05	2.90	2.80	2.75	.....
16	2.50	2.55	2.50	2.80	4.45	3.70	3.05	2.90	2.80	2.75	.....
17	2.50	2.55	2.50	2.80	4.50	3.70	3.05	2.90	2.80	2.75	.....
18	2.50	2.55	2.50	2.85	4.60	3.65	3.05	2.90	2.80	2.75	.....
19	2.50	2.55	2.50	2.85	4.70	3.65	3.00	2.90	2.80	2.75	.....
20	2.55	2.55	2.50	2.90	4.70	3.60	3.00	2.85	2.80	2.75	.....
21	2.55	2.55	2.50	3.00	4.60	3.60	3.00	2.85	2.80	2.75	.....
22	2.55	2.55	2.50	3.05	4.40	3.60	3.00	2.85	2.80	2.70	.....
23	2.55	2.55	2.50	3.10	4.20	3.55	3.00	2.85	2.80	2.70	.....
24	2.55	2.55	2.50	3.20	4.05	3.55	3.00	2.85	2.80	2.70	.....
25	2.55	2.55	2.50	3.30	4.10	3.55	3.00	2.85	2.80	2.70	.....
26	2.55	2.60	2.50	3.20	4.20	3.50	2.95	2.85	2.80	2.70	.....
27	2.55	2.60	2.50	3.30	4.30	3.50	2.95	2.85	2.80	2.70	.....
28	2.50	2.60	2.50	3.10	4.20	(*a*)	2.95	2.85	2.80	2.70	.....
29	2.50	.....	2.50	3.20	4.20	.....	2.95	2.85	2.80	2.70	.....
30	2.40	.....	2.50	3.40	4.20	.....	2.95	2.85	2.80	2.70	.....
31	2.45	.....	2.50	.....	4.10	.....	2.95	2.85	.....	2.70	.....

a Gage washed out.

BLACKSMITH FORK AT HYRUM, UTAH.

This station was established by George L. Swendsen July 19, 1900. It is near the tollgate at the mouth of the canyon and is described in Water-Supply Paper No. 51, page 412. Six irrigation canals and one large power plant are supplied by this river, and during the irrigation season the entire flow is utilized. Within the last year another canal has been built from this stream, and a great interest has been taken in relation to investigations for reservoirs to supply the shortage of water in August and September. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 409. During 1901 the following measurements were made by G. L. Swendsen and W. D. Beers:

List of discharge measurements of Blacksmith Fork at Hyrum, Utah.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 26	2.88	106	August 26	3.10	111
February 27	3.00	118	September 28	3.00	132
March 22	2.90	117	October 26	3.00	121
April 27	3.60	347	November 25	2.95	107
June 24	3.30	192	December 23	2.95	126
July 19	3.10	133			

Daily gage height, in feet, of Blacksmith Fork at Hyrum, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	I
1	2.80	2.80	3.20	2.90	3.40	3.60	3.20	3.20	3.10	3.00	3.00	
2	2.90	2.90	3.20	2.90	3.50	3.50	3.20	3.20	3.10	3.00	3.00	
3	3.05	2.90	3.20	2.90	3.40	3.50	3.20	3.20	3.10	3.00	3.00	
4	3.00	2.90	3.10	2.90	3.50	3.30	3.20	3.20	3.10	3.00	3.00	
5	3.00	2.90	3.10	2.90	3.50	3.20	3.20	3.20	3.10	3.00	3.00	
6	3.00	2.90	3.10	2.90	3.50	3.30	3.20	3.20	3.10	3.00	3.00	
7	3.00	2.80	3.20	2.90	3.50	3.40	3.20	3.20	3.10	3.00	3.00	
8	3.05	2.80	3.10	2.90	3.40	3.50	3.20	3.10	3.10	3.00	3.00	
9	2.90	2.90	3.10	2.90	3.30	3.40	3.10	3.10	3.00	3.00	3.00	
10	2.90	2.90	3.00	3.00	3.20	3.40	3.10	3.10	3.00	3.00	3.00	
11	3.00	2.80	2.90	3.00	3.20	3.30	3.10	3.10	3.00	3.00	3.00	
12	3.00	2.80	2.90	3.10	3.20	3.30	3.10	3.10	3.00	3.00	3.00	
13	3.00	2.90	2.90	3.20	3.10	3.40	3.10	3.10	3.00	3.00	3.00	
14	3.00	2.90	2.90	3.20	3.00	3.20	3.10	3.10	3.00	3.00	3.00	
15	3.00	2.90	2.90	3.20	3.00	3.20	3.10	3.10	3.00	3.00	3.00	
16	3.00	2.90	2.90	3.20	3.10	3.20	3.10	3.10	3.00	3.00	3.00	
17	2.90	2.80	2.90	3.20	3.00	3.20	3.10	3.10	3.00	3.00	3.00	
18	2.90	2.80	2.90	3.30	3.00	3.20	3.10	3.10	3.00	3.00	3.00	
19	2.90	2.90	2.90	3.30	3.10	3.20	3.10	3.10	3.00	3.00	3.00	
20	2.90	2.90	2.90	3.30	3.00	3.20	3.10	3.20	3.00	3.00	3.00	
21	2.90	3.00	2.90	3.10	2.90	3.20	3.10	3.20	3.00	3.00	3.00	
22	2.90	2.90	2.90	3.10	2.90	3.20	3.10	3.10	3.00	3.00	3.00	
23	2.90	2.90	2.90	3.20	2.90	3.20	3.10	3.10	3.00	3.00	3.00	
24	2.90	3.00	2.90	3.20	3.00	3.20	3.10	3.10	3.00	3.00	3.00	
25	2.90	2.90	2.90	3.10	2.90	3.20	3.10	3.10	3.00	3.00	3.00	
26	2.90	3.00	2.90	3.20	2.90	3.20	3.10	3.10	3.00	3.00	3.00	
27	2.90	3.10	2.90	2.90	2.80	3.20	3.10	3.10	3.00	3.00	3.00	
28	2.90	3.10	2.90	2.90	2.90	3.20	3.10	3.10	3.00	3.50	3.00	
29	2.90	.....	2.90	3.00	3.40	3.20	3.10	3.10	3.00	3.50	3.00	
30	2.80	.....	2.90	2.90	3.50	3.20	3.10	3.10	3.00	3.00	3.00	
31	2.90	.....	2.90	.....	3.90	.....	3.10	3.10	.....	3.00	.....	

BEAR RIVER NEAR COLLINSTON, UTAH.

This station, established July 1, 1889, is about 4 miles above railroad station at Collinston, 2 miles east of the town of Fieldi Utah, and below the headworks of the Bear River canal. It described in Water-Supply Paper No. 51, page 413. A canal, n nearly completed, will divert water a considerable distance above Battlecreek station to irrigate a large tract of land on the west s of Cache Valley. Its operations will greatly modify the discharge the Collinston station during the next season. During the last y the discharge at this station reached the lowest stage on record, l than one-half the minimum for the preceding year. Work is p gressing very rapidly on the east branch of the Bear River canal, a its appropriation will entirely exhaust the low-water supply of Bear at this point. Results of measurements for 1900 will be fou in the Twenty-second Annual Report, Part IV, page 410. Dur 1901 the following discharge measurements were made by G. Swendsen:

List of discharge measurements of Bear River near Collinston, Utah.

Date.	Gage height.	Dis-charge.	Date.	Gage height.	Di char
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.*
February 18	1.80	1,415	August 30	0.95	
May 27	4.22	4,274	September 14	.90	
July 31	.52	264	October 21	1.50	

Daily gage height, in feet, of Bear River near Collinston, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.35	1.70	3.30	2.25	3.85	3.90	1.45	0.50	0.95	1.30	1.60	1.75
2	1.35	1.60	3.30	2.25	3.90	3.75	1.40	.50	.95	1.30	1.55	1.75
3	1.50	1.60	2.90	2.25	4.10	3.70	1.40	.50	.90	1.35	1.55	1.85
4	1.60	1.75	2.70	2.30	4.20	3.60	1.30	.50	.90	1.40	1.55	1.85
5	1.75	1.80	2.50	2.30	4.50	3.50	1.20	.55	.95	1.40	1.55	1.95
6	1.85	1.80	2.50	2.25	4.80	3.40	1.20	.60	.95	1.45	1.50	1.90
7	2.10	1.80	2.50	2.30	4.70	3.30	1.15	.65	.95	1.50	1.50	1.90
8	2.00	1.75	2.50	2.30	4.70	3.25	1.15	.70	.95	1.50	1.55	1.80
9	1.95	1.70	2.50	2.30	4.70	3.10	1.15	.70	.90	1.50	1.55	1.80
10	1.85	1.60	2.60	2.30	4.70	2.90	1.10	.70	.90	1.45	1.60	1.70
11	1.70	1.60	2.80	2.30	4.70	2.75	1.10	.70	.90	1.45	1.65	1.65
12	1.70	1.60	2.90	2.30	4.75	2.65	1.05	.70	.90	1.45	1.65	1.60
13	1.80	1.60	3.00	2.40	4.75	2.50	1.05	.70	.90	1.45	1.70	1.55
14	1.90	1.60	2.90	2.60	4.75	2.40	1.00	.70	.90	1.45	1.70	1.50
15	1.90	1.65	2.80	2.80	4.75	2.30	1.00	.75	.95	1.50	1.65	1.50
16	1.80	1.80	2.70	3.00	4.75	2.20	1.00	.80	.95	1.50	1.65	1.55
17	1.80	1.80	2.60	3.00	4.75	2.10	1.00	.80	1.15	1.50	1.65	1.65
18	1.75	1.80	2.50	3.00	4.75	2.50	.95	.85	1.15	1.50	1.70	1.70
19	1.65	1.80	2.40	3.00	4.80	2.00	.95	.90	1.05	1.50	1.70	1.70
20	1.65	1.80	2.30	3.00	4.75	2.00	.90	.95	1.05	1.50	1.70	1.90
21	1.70	2.10	2.30	3.20	4.80	2.00	.90	1.05	1.05	1.50	1.70	1.60
22	1.70	3.10	2.30	3.30	4.75	1.95	.85	1.01	1.05	1.50	1.70	1.60
23	1.75	3.30	2.30	3.40	4.60	1.90	.85	1.01	1.10	1.50	1.70	1.75
24	1.75	3.00	2.30	3.40	4.50	1.90	.80	1.01	1.20	1.50	1.70	1.80
25	1.80	2.90	2.30	3.60	4.40	1.80	.75	.95	1.25	1.50	1.70	1.80
26	1.80	2.90	2.30	3.70	3.90	1.70	.75	.95	1.30	1.50	1.70	1.75
27	1.80	2.95	2.30	3.85	4.00	1.60	.65	.95	1.30	1.50	1.70	1.70
28	1.80	3.20	2.30	3.80	4.00	1.60	.65	.95	1.35	1.55	1.70	1.60
29	1.80	.....	2.30	3.80	4.10	1.55	.60	.95	1.35	1.55	1.75	1.60
30	1.75	.....	2.30	3.80	4.10	1.50	.60	.95	1.35	1.55	1.75	1.60
31	1.80	.....	2.25	.....	3.95	.....	.50	.95	.....	1.60	.....	1.60

OGDEN RIVER AT OGDEN, UTAH.

The following record of daily discharge of Ogden River was furnished through the courtesy of the Utah Light and Power Company, which maintains a dam on the river for power purposes, and measures the flow by means of a venturi meter. Gage readings are taken also at the dam.

Daily discharge in second-feet of Ogden River at Ogden, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	53	.....	413	180	1,139	237	75	66	44	46	64	62
2	67	64	334	167	1,228	225	68	60	51	45	67	74
3	60	58	270	181	1,139	222	67	60	50	44	56	68
4	58	59	270	183	1,253	175	57	45	.....	43	65	68
5	54	61	259	168	1,160	185	66	56	40	58	66	69
6	77	67	276	169	1,062	184	69	59	47	43	66	77
7	80	66	238	172	1,098	177	64	56	45	48	63	77
8	54	67	267	197	1,139	164	69	69	42	47	55	71
9	77	67	204	160	1,226	164	71	59	44	45	61	80
10	74	56	218	169	1,327	145	78	61	50	47	51	77
11	74	68	193	191	1,372	144	68	53	46	45	60	64
12	67	62	187	186	1,302	135	65	62	46	49	62	43
13	50	57	188	194	1,301	127	69	62	47	42	63	.....
14	87	66	173	289	1,170	124	68	65	46	49	63	44
15	68	63	171	326	1,079	126	69	57	41	49	66	43
16	.....	63	.....	295	985	115	68	63	49	45	67	.....
17	62	55	.....	302	804	111	68	.....	52	46	49	.....
18	58	77	185	304	799	104	66	54	50	.....	66	35
19	58	67	167	384	726	107	60	69	35	45	67	44
20	68	83	176	421	660	105	61	69	46	40	63	57
21	71	205	179	584	596	104	60	69	48	52	55	49
22	72	216	187	650	519	80	60	67	37	48	60	34
23	98	188	206	.....	442	57	63	63	45	46	58	41
24	76	140	207	890	380	69	52	62	46	43	55	51
25	77	213	200	980	323	52	53	51	52	49	64	62
26	77	275	204	1,003	303	52	61	60	53	52	68	47
27	.....	536	191	848	287	82	68	53	50	38	70	46
28	.....	425	198	755	.....	91	57	54	91	68	55	52
29	77	.....	186	839	.....	99	75	61	47	84	66	39
30	65	.....	184	1,076	.....	96	69	57	49	65	64	52
31	69	.....	165	.....	.....	.....	62	60	.....	54	.....	47
Mean	69	127	217	423	919	129	65	60	48	49	62	56

WEBER RIVER NEAR UINTA, UTAH.

This station, established in October, 1899, is in the canyon, 5 m east of Uinta, on the Union Pacific Railroad, immediately above narrows known as Devils Gate. It is described in Water-Sup Paper No. 51, page 414. Measurements on this stream have b brought into considerable prominence during the past year on acco of the effort to settle the complicated question of water rights am the fifty or sixty canals diverting its waters. Results of measureme for 1900 will be found in the Twenty-second Annual Report, Part page 411. The following measurements were made by G. L. Swend during 1901:

List of discharge measurements of Weber River near Uinta, Utah.

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
January 28	1.55	322	July 25	1.20	
February 22	2.80	1,082	September 13	1.41	
March 18	2.20	668	November 18	1.35	
June 28	1.70	350			

Daily gage height, in feet, of Weber River near Uinta, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.
1	1.50	1.50	3.90	1.90	4.25	3.00	1.70	1.20	1.40
2	1.50	1.50	3.90	1.90	4.40	3.00	1.60	1.20	1.40
3	1.50	1.50	3.35	1.90	4.65	2.95	1.60	1.20	1.40
4	1.50	1.50	2.90	2.05	4.70	2.75	1.60	1.20	1.40
5	1.50	1.50	2.35	1.95	4.70	2.60	1.50	1.20	1.40
6	1.50	1.50	2.35	1.90	4.50	2.55	1.50	1.20	1.40
7	1.50	1.50	2.40	1.90	4.10	2.50	1.50	1.20	1.40
8	1.50	1.50	2.35	1.90	3.90	2.50	1.50	1.60	1.40
9	1.50	1.50	2.05	2.00	3.95	2.45	1.50	1.60	1.40
10	1.50	1.50	2.00	2.10	4.20	2.40	1.50	1.50	1.40
11	1.50	1.50	2.05	2.10	4.25	2.40	1.40	1.50	1.40
12	1.50	1.50	2.05	2.20	4.35	2.40	1.40	1.50	1.40
13	1.50	1.50	1.95	2.20	4.50	2.30	1.40	1.40	1.40
14	1.50	1.50	1.90	2.20	4.50	2.10	1.40	1.40	1.40
15	1.50	1.50	1.90	2.30	4.50	2.05	1.40	1.40	1.40
16	1.50	1.85	1.90	2.40	4.50	2.00	1.40	1.40	1.40
17	1.50	2.15	2.05	2.45	4.50	2.00	1.40	1.40	1.40
18	1.50	2.30	2.10	2.50	4.50	2.00	1.40	1.40	1.40
19	1.50	2.80	2.10	2.60	4.50	2.00	1.40	1.40	1.40
20	1.50	2.85	2.00	2.60	4.35	2.00	1.30	1.40	1.40
21	1.50	3.50	2.00	2.65	4.10	2.00	1.30	1.40	1.40
22	1.50	2.80	1.90	2.90	4.00	2.00	1.30	1.40	1.40
23	1.50	2.60	2.00	3.20	3.85	1.90	1.30	1.40	1.40
24	1.50	2.80	1.90	3.35	3.65	1.90	1.30	1.10	1.40
25	1.50	3.35	1.90	3.40	3.60	1.90	1.30	1.60	1.40
26	1.50	3.50	1.90	3.40	3.45	1.90	1.20	1.60	1.40
27	1.50	3.50	1.90	3.60	3.35	1.90	1.20	1.60	1.40
28	1.50	3.60	1.90	3.75	3.20	1.80	1.20	1.60	1.40
29	1.50	.....	1.90	3.85	3.05	1.80	1.20	1.60	1.40
30	1.50	.....	1.90	4.05	3.00	1.80	1.20	1.50	1.40
31	1.50	.....	1.90	.....	3.00	.....	1.20	1.50	.....

SPANISH FORK NEAR MAPLETON, UTAH.

This station, established by C. C. Babb on May 23, 1900, is in canyon of the river 3 miles above the Rio Grande Western Rai station at Mapleton, and a short distance above the head of the u

canal diverting water from the river. It is described in Water-Supply Paper No. 51, page 415. The station was discontinued November 1, 1901. The stream furnishes water for the irrigation of some of the best lands of Utah County, and during the past season of general low water has proved an exception to the general rule, maintaining a fairly uniform discharge during the entire summer. This condition is probably due to the fact that the drainage area is not a public range. A measurement was made by G. L. Swendsen August 12, 1901, the discharge of that date being 95 second-feet and the gage height 2.09 feet.

Daily gage height, in feet, of Spanish Fork near Mapleton, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	[a]2.25	1.80	2.20	2.10	2.60	2.50	2.05	2.00	2.00	2.00	2.05
2	[a]2.55	1.75	2.25	2.10	2.65	2.45	2.05	2.00	2.00	2.00	2.05
3	1.70	1.80	2.30	2.10	2.65	2.40	2.05	2.10	2.00	2.00	2.05
4	1.70	1.80	2.20	2.10	2.65	2.45	2.05	2.05	2.00	2.00	2.05
5	1.70	1.85	2.20	2.05	2.55	2.40	2.05	2.00	2.00	2.00	2.05
6	1.75	1.80	2.10	2.10	2.55	2.40	2.05	2.00	2.00	2.10	2.05
7	1.85	1.85	2.10	2.10	2.60	2.40	2.00	2.40	2.00	2.05	2.05
8	1.80	1.80	2.20	2.10	2.60	2.30	2.00	2.00	2.00	2.05	2.05
9	1.70	1.70	2.10	2.10	2.65	2.30	2.00	2.00	2.00	2.10	2.05
10	1.65	1.75	1.95	2.10	2.85	2.30	2.00	2.00	2.00	2.05	2.05
11	[a]1.90	1.65	2.10	2.10	2.95	2.30	2.05	2.10	2.00	2.05	2.10
12	1.80	1.75	2.10	2.15	3.00	2.30	2.05	2.05	2.00	2.05	2.05
13	1.75	1.85	2.00	2.18	3.15	2.30	2.00	2.05	2.00	2.05	2.05
14	1.75	1.80	2.05	2.20	3.20	2.30	2.00	2.00	2.00	2.00	2.05
15	1.80	1.80	2.10	2.20	3.15	2.30	2.00	1.95	2.00	2.00	2.00
16	1.80	1.85	2.10	2.15	3.30	2.30	2.00	2.15	2.00	2.00	2.00
17	1.85	2.01	2.15	2.10	3.30	2.25	2.00	2.00	2.00	2.00	2.00
18	1.75	2.45	2.10	2.15	3.25	2.25	1.95	2.00	2.00	2.00	2.00
19	1.80	2.35	2.15	2.20	3.20	2.25	1.95	2.20	2.00	2.00	2.00
20	1.70	3.23	2.00	2.25	3.20	2.20	1.95	2.20	2.00	2.00	2.00
21	1.80	2.80	2.10	2.40	3.15	2.20	1.95	2.15	2.00	2.00	2.00
22	1.80	2.75	2.10	2.40	3.05	2.20	1.95	2.00	2.00	2.00	2.00
23	1.85	2.23	2.10	2.35	2.90	2.10	2.00	2.10	2.00	2.00	2.00
24	1.80	2.25	2.10	2.43	2.85	2.05	2.00	2.10	2.05	2.00	2.05
25	1.80	2.15	2.00	2.55	2.70	2.05	2.00	2.10	2.00	2.00	2.05
26	1.85	2.25	2.10	2.60	2.65	2.10	2.05	2.05	2.00	2.00	2.05
27	1.70	2.15	2.00	2.50	2.65	2.10	2.05	2.05	2.00	2.10	2.00
28	1.80	2.30	2.10	2.65	2.60	2.10	2.00	2.05	2.00	2.20	2.00
29	1.80	.....	2.10	2.45	2.50	2.10	2.00	2.25	2.00	2.10	2.00
30	1.80	.....	2.00	2.55	2.45	2.05	2.00	2.05	2.00	2.05	2.10
31	1.80	.....	2.00	.....	2.50	.....	2.05	2.00	.....	2.05	.....

[a] Ice at gage.

PROVO RIVER NEAR PROVO, UTAH.

This station, established July 27, 1889, is in the canyon about 6 miles from Provo, and above the head of most of the irrigation canals of Utah Valley. The station is described in Water-Supply Paper No. 51, page 416. The results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 416. During 1901 the following measurements were made by G. L. Swendsen:

April 6: Gage height, 4.70 feet; discharge, 353 second-feet.
June 29: Gage height, 4.10 feet; discharge, 285 second-feet.
August 13: Gage height, 4.10 feet; discharge, 211 second-feet.
July 22: Gage height, 4.20 feet; discharge, 223 second-feet.
November 11: Gage height, 4.10 feet; discharge, 224 second-feet.

Daily gage height, in feet, of Provo River at Provo, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1	4.50	4.50	4.90	4.50	5.40	5.70	4.20	4.10	4.20	4.20
2	4.50	4.50	4.90	4.50	5.30	5.50	4.20	4.10	4.20	4.20
3	4.50	4.50	4.80	4.50	5.30	5.40	4.20	4.10	4.20	4.20
4	4.50	4.50	4.80	4.50	5.30	5.30	4.20	4.20	4.20	4.20
5	4.50	4.50	4.80	4.50	5.30	5.20	4.20	4.20	4.20	4.20
6	4.50	4.50	4.80	4.50	5.40	5.10	4.20	4.20	4.20	4.20
7	4.50	4.50	4.70	4.50	5.40	5.10	4.20	4.20	4.20	4.20
8	4.50	4.50	4.70	4.50	5.30	5.10	4.20	4.20	4.20	4.20
9	4.50	4.50	4.60	4.50	5.30	5.10	4.20	4.20	4.20	4.20
10	4.50	4.50	4.60	4.50	5.30	5.10	4.20	4.20	4.20	4.20
11	4.60	4.40	4.60	4.50	5.60	5.00	4.20	4.20	4.20	4.20
12	4.60	4.30	4.50	4.50	5.90	4.90	4.20	4.20	4.20	4.20
13	4.60	4.30	4.50	4.50	6.20	4.80	4.20	4.20	4.20	4.30
14	4.60	4.30	4.50	4.60	6.40	4.70	4.20	4.20	4.20	4.30
15	4.50	4.50	4.60	4.70	6.40	4.70	4.20	4.20	4.20	4.30
16	4.50	4.80	4.60	4.70	6.50	4.60	4.20	4.20	4.20	4.30
17	4.40	5.00	4.60	4.60	6.60	4.60	4.20	4.20	4.20	4.30
18	4.40	6.00	4.60	4.60	6.60	4.50	4.20	4.20	4.20	4.30
19	4.40	6.60	4.60	4.70	7.10	4.50	4.20	4.20	4.20	4.30
20	4.50	6.60	4.60	4.70	7.00	4.50	4.20	4.20	4.20	4.30
21	4.50	5.50	4.60	4.90	6.80	4.50	4.20	4.20	4.20	4.30
22	4.60	4.90	4.60	5.00	6.50	4.50	4.20	4.20	4.20	4.30
23	4.60	4.90	4.60	5.00	6.00	4.50	4.20	4.20	4.20	4.30
24	4.70	4.90	4.60	5.10	6.00	4.40	4.20	4.20	4.20	4.30
25	4.70	4.90	4.50	5.10	6.10	4.40	4.20	4.20	4.20	4.30
26	4.70	4.90	4.50	5.10	6.30	4.50	4.20	4.20	4.20	4.30
27	4.70	4.80	4.50	5.20	6.50	4.20	4.20	4.20	4.20	4.50
28	4.70	4.80	4.50	5.60	6.50	4.20	4.20	4.20	4.20	4.50
29	4.60	.....	4.50	5.50	6.40	4.10	4.20	4.20	4.20	4.50
30	4.60	.....	4.50	5.40	6.30	4.20	4.10	4.20	4.20	4.40
31	4.50	.....	4.50	.....	6.00	4.20	4.10	4.20	.....	4.40

AMERICAN FORK NEAR AMERICAN FORK, UTAH.

This station, established by C. C. Babb on May 21, 1900, is 6 m northeast of the town of American Fork. It is described in Wa Supply Paper No. 51, page 417. The station was abandoned June 1901, when the observer left the place. A measurement was mad G. L. Swendsen on April 7, 1901, when the discharge was 31 sec feet and the gage height 0.35 foot.

Daily gage height, in feet, of American Fork near American Fork, Utah, for

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.
1	0.34	0.33	0.37	.....	1.16	.....	17	0.33	0.36	0.35	0.42	1.74
2	.34	.33	.37	.....	1.10	.....	18	.33	.34	.37	.45	1.77
3	.34	.32	.36	.....	1.00	.....	19	.33	.43	.37	.49	.....
4	.34	.32	.36	.....	.95	.....	20	.33	.39	.38	.61	.....
5	.34	.32	.36	.....	.99	.....	21	.33	.39	.39	.68	.....
6	.34	.32	.36	.....	1.07	.....	22	.33	.38	.39	.70	.....
7	.34	.32	.36	.....	1.23	.....	23	.33	.38	.39	.72	.....
8	.33	.32	.36	.....	1.37	.....	24	.33	.37	.37	.82	.....
9	.33	.32	.36	.....	1.48	1.10	25	.33	.36	.34	.95	.....
10	.33	.32	.36	0.35	1.63	1.05	26	.33	.36	.36	.91	.....
11	.33	.32	.36	.36	1.65	1.00	27	.33	.36	.37	.82	.....
12	.33	.32	.36	.38	1.65	.96	28	.33	.36	.37	.83	.....
13	.34	.32	.36	.42	1.47	.92	29	.32	.....	.39	.87	.....
14	.34	.32	.36	.48	1.59	.88	30	.32	.....	.....	1.00	.....
15	.33	.32	.35	.47	1.67	.87	31	.32	.....	.....	.....	.....
16	.33	.32	.35	.44	1.69	.....						

NOTE.—No record from March 30 to April 10.

SALINA CREEK NEAR SALINA, UTAH.

This station, established by Caleb Tanner on July 2, 1900, is in canyon of the creek, about 5 miles southeast of Salina. It is descr

in Water-Supply Paper No. 51, page 423. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 417. The gage was washed out on May 4, 1901, and has not been reestablished.

Daily gage height, in feet, of Salina Creek near Salina, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	Day.	Jan.	Feb.	Mar.	Apr.	May.
1	1.20	1.15	1.20	1.12	1.40	17	1.12	1.25	1.10	1.25	.....
2	1.20	1.15	1.20	1.12	1.42	18	1.12	1.25	1.10	1.25	.....
3	1.20	1.18	1.18	1.15	1.45	19	1.12	1.25	1.10	1.27	.....
4	1.20	1.18	1.18	1.15	1.30	20	1.15	1.25	1.10	1.27	.....
5	1.20	1.18	1.15	1.15	.....	21	1.15	1.22	1.10	1.30	.....
6	1.28	1.18	1.15	1.18	.....	22	1.15	1.20	1.10	1.30	.....
7	1.28	1.18	1.10	1.15	.....	23	1.15	1.20	1.10	1.30	.....
8	1.28	1.18	1.10	1.15	.....	24	1.15	1.20	1.10	1.32	.....
9	1.28	1.18	1.10	1.15	.....	25	1.15	1.20	1.10	1.32	.....
10	1.28	1.12	1.10	1.15	.....	26	1.15	1.20	1.10	1.32	.....
11	1.28	1.12	1.10	1.15	.....	27	1.15	1.20	1.10	1.35	.....
12	1.28	1.12	1.10	1.15	.....	28	1.15	1.20	1.10	1.35	.....
13	1.12	1.12	1.10	1.20	.....	29	1.15	.....	1.10	1.37	.....
14	1.12	1.12	1.10	1.22	.....	30	1.15	.....	1.10	1.37	.....
15	1.12	1.12	1.10	1.22	.....	31	1.15	.....	1.10	.....	.....
16	1.12	1.12	1.10	1.25	.....						

SAN PITCH RIVER NEAR GUNNISON, UTAH.

This station, established by Caleb Tanner on June 30, 1900, is 4 miles northeast of the town of Gunnison, at the ranch of the observer, J. P. Jensen. It is described in Water-Supply Paper No. 51, page 425. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 419. A measurement was made by C. Tanner July 19, 1901, which gave a discharge of 18 second-feet for a gage height of 1.82 feet.

Daily gage height, in feet, of San Pitch River near Gunnison, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.70	1.70	1.86	(a)	2.50	2.40	2.20	1.82	1.80	1.78	1.78	1.74
2	1.70	1.70	1.80	(a)	2.36	2.40	2.24	1.90	1.80	1.78	1.78	1.74
3	1.70	1.74	1.76	(a)	2.30	2.40	2.20	1.82	1.80	1.78	1.78	1.74
4	1.78	1.74	1.76	(a)	2.20	2.40	2.18	1.84	1.76	1.78	1.78	1.74
5	1.78	1.70	1.78	(a)	2.20	2.30	2.20	1.82	1.76	1.78	1.78	1.74
6	1.80	1.76	1.74	(a)	2.10	2.30	2.20	1.80	1.70	1.78	1.78	1.74
7	1.82	1.70	1.76	1.70	2.10	2.30	2.20	1.82	1.70	1.78	1.78	1.74
8	1.78	1.80	1.74	1.70	2.30	2.30	2.22	1.90	1.70	1.78	1.78	1.74
9	1.76	1.80	1.80	1.70	2.30	2.30	2.20	1.84	1.70	1.78	1.78	1.74
10	1.70	1.70	1.76	1.68	2.40	2.30	2.18	1.82	1.70	1.78	1.78	1.74
11	1.74	1.70	1.84	1.70	2.40	2.26	2.20	1.80	1.78	1.78	1.78	1.74
12	1.76	1.68	1.80	1.76	2.50	2.26	2.18	1.80	1.78	1.78	1.78	1.74
13	1.74	1.70	1.82	1.80	2.50	2.30	2.20	1.80	1.80	1.78	1.78	1.74
14	1.70	1.70	1.82	1.76	2.30	2.30	2.20	1.80	1.80	1.78	1.78	1.74
15	1.70	1.78	1.80	1.80	2.30	2.30	2.20	1.80	1.80	1.78	1.78	1.74
16	1.70	1.80	1.80	1.78	2.40	2.30	2.18	1.82	1.80	1.78	1.78	1.74
17	1.68	1.80	1.78	1.80	2.50	2.30	2.18	1.82	1.78	1.78	1.70	1.74
18	1.70	1.78	1.70	1.80	2.40	2.26	2.12	1.90	1.78	1.78	1.70	1.74
19	1.70	1.84	1.70	1.76	2.50	2.26	2.00	1.86	1.78	1.78	1.70	1.74
20	1.70	1.84	1.74	1.76	2.60	2.20	1.90	1.80	1.80	1.80	1.70	1.74
21	1.76	1.86	1.74	1.90	2.40	2.30	1.82	1.80	1.80	1.78	1.70	1.74
22	1.80	1.80	1.70	1.90	2.40	2.30	1.82	1.80	1.80	1.78	1.70	1.74
23	1.80	1.80	1.70	2.20	2.30	2.30	1.80	1.80	1.78	1.78	1.70	1.74
24	1.76	1.98	1.74	2.30	2.30	2.20	1.80	1.80	1.78	1.78	1.70	1.76
25	1.76	2.00	1.70	2.36	2.20	2.20	1.82	1.80	1.80	1.78	1.74	1.76
26	1.70	1.90	1.70	2.30	2.40	2.20	1.80	1.80	1.80	1.78	1.74	1.76
27	1.74	1.90	1.68	2.28	2.40	2.20	1.82	1.80	1.80	1.84	1.74	1.76
28	1.74	1.88	1.70	2.24	2.60	2.20	1.82	1.80	1.80	1.80	1.74	1.76
29	1.70	.....	1.80	2.30	2.60	2.20	1.80	1.80	1.80	1.80	1.74	1.74
30	1.74	.....	1.80	2.30	2.50	2.20	1.80	2.10	1.80	1.78	1.74	1.74
31	1.70	.....	(a)	.....	2.50	.....	1.80	1.90	.....	1.78	.....	1.74

a No record.

SEVIER RIVER NEAR GUNNISON, UTAH.

This station, established by Caleb Tanner on June 29, 1900, is the bridge which crosses the stream 4 miles west of the town of Gu nison. It is described in Water-Supply Paper No. 51, page 4 During the last two years this stream has been the source of a gre amount of litigation in relation to water rights, and there has be great need of information relative to the volume of water at differe points. Results of measurements for 1900 will be found in t Twenty-second Annual Report, Part IV, page 420. A measureme was made by C. Tanner on July 20, when the discharge was 10 secon feet and the gage height 0.45 foot.

Daily gage height, in feet, of Sevier River near Gunnison, Utah, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1	(a)	1.65	1.32	1.25	1.15	1.80	0.40	0.67	0.60	0.45	0.60	
2	(a)	1.67	1.30	1.15	1.15	1.65	.37	.80	.60	.45	.60	
3	(a)	1.65	1.28	1.12	1.22	1.60	.37	.80	.55	.42	.62	
4	(a)	1.67	1.22	1.12	1.02	1.55	.35	.82	.60	.42	.62	
5	(a)	1.77	1.18	1.10	1.10	1.40	.37	.80	.60	.42	.65	
6	1.30	1.67	1.18	1.00	1.07	1.00	.37	.82	.55	.42	.70	
7	1.40	1.77	1.15	.92	1.10	1.00	.37	.62	.50	.42	.72	
8	1.35	1.67	1.10	.92	1.05	1.00	.37	.60	.60	.42	.85	
9	1.35	1.67	1.10	1.00	1.15	.90	.37	.60	.60	.42	.85	
10	1.30	1.63	1.10	1.00	1.15	.60	.37	.57	.57	.42	.85	
11	1.45	1.70	1.10	.62	1.25	.60	.37	.57	.57	.42	.85	
12	1.55	1.67	1.10	1.00	1.40	.55	.37	.55	.55	.42	.85	
13	1.75	1.65	1.02	.92	1.25	.50	.37	.55	.55	.42	.82	
14	1.73	1.55	1.02	.92	1.40	.50	.37	.55	.55	.42	.82	
15	1.73	1.78	1.02	1.00	1.60	.95	.47	.55	.55	.42	.82	
16	1.80	1.78	1.02	.82	1.65	.95	.47	.60	.52	.42	.85	
17	1.58	1.95	1.02	.87	1.90	.95	.47	.95	.50	.42	.85	
18	1.67	1.95	1.02	.87	2.00	.90	.47	.87	.50	.42	.85	
19	1.80	2.05	1.02	.87	2.30	.90	.47	.80	.50	.42	.90	
20	1.70	2.15	1.00	.90	2.60	.92	.47	1.10	.50	.42	.95	
21	1.87	2.15	.90	.87	2.80	.90	.45	.97	.45	.42	.90	
22	1.95	2.00	.90	.87	2.90	.90	.45	.72	.45	.42	.90	
23	1.75	1.93	.75	.90	2.50	.60	.45	.60	.45	.42	.90	
24	1.92	1.93	.75	.87	2.50	.50	.47	.60	.45	.42	.90	
25	1.87	1.70	.75	.90	2.20	.50	.57	.60	.45	.42	.90	
26	1.93	1.62	1.02	.95	2.10	.50	.57	.55	.45	.42	.90	
27	1.90	1.50	1.12	.95	2.10	.47	.60	.55	.45	.42	.90	
28	1.87	1.45	1.22	.92	2.05	.45	.60	.60	.45	.47	.90	
29	1.85	.....	1.12	.92	2.05	.47	.60	.60	.45	.50	.90	
30	1.80	.....	1.12	.95	2.00	.47	.65	.55	.45	.52	.90	
31	1.65	.....	1.15	.....	1.85	.....	.65	.60	.....	.52	.....	

(a) Ice.

COLUMBIA RIVER DRAINAGE.

SNAKE RIVER AT MONTGOMERY FERRY, IDAHO.

This station, established October 5, 1895, is on the stage road fr Minidoka to Albion. It is described in Water-Supply Paper No. page 426.

The station was reestablished May 1, 1901, and the gage read mo ing and evening for the remainder of the year. Part of the inclir gage rod which had been moved by quicksand was corrected August 1901, and all previous gage readings were carefully adjusted to c respond with the present position of the rod. The following measu ments were made by N. S. Dils during 1901:

July 6: Gage height, 2.90 feet; discharge, 6,753 second-feet.
August 11: Gage height, 0.90 foot; discharge, 2,090 second-feet.

Daily gage height, in feet, of Snake River at Montgomery Ferry, Idaho, for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.85	7.75	3.30	0.90	1.00	1.90	2.30	2.50
2	3.85	7.80	3.15	.90	1.00	1.90	2.40	2.50
3	4.28	7.60	3.20	.90	1.00	2.00	2.40	2.60
4	5.70	7.55	3.08	.90	1.10	2.00	2.40	2.70
5	5.70	7.10	2.98	.90	1.10	2.00	2.30	2.70
6	6.25	6.90	2.90	.90	1.10	2.00	2.40	2.70
7	6.53	6.68	2.65	.90	1.20	2.00	2.40	2.70
8	6.53	6.55	2.65	.90	1.20	2.00	2.40	2.70
9	6.48	6.45	2.60	.90	1.20	2.00	2.40	2.70
10	6.40	6.10	2.40	.90	1.20	2.10	2.40	2.70
11	6.50	5.85	2.45	.90	1.20	2.10	2.50	2.70
12	6.73	5.58	2.35	.90	1.30	2.10	2.50	2.70
13	6.75	5.35	2.25	.90	1.30	2.10	2.50	2.70
14	6.95	5.15	2.20	.90	1.30	2.10	2.50	2.70
15	7.10	4.63	2.08	.90	1.30	2.10	2.50	3.70
16	7.55	4.40	2.00	.90	1.35	2.10	2.50	4.40
17	7.20	4.23	2.00	.90	1.40	2.20	2.50	4.35
18	7.25	4.00	2.00	.90	1.40	2.20	2.50	4.15
19	7.10	3.85	1.90	.90	1.40	2.20	2.50	4.10
20	7.00	3.70	1.80	.90	1.50	2.20	2.50	3.85
21	7.80	3.65	1.70	.90	1.50	2.20	2.50	3.50
22	8.35	3.65	1.60	.90	1.60	2.20	2.50	3.70
23	8.15	3.60	1.55	.90	1.60	2.20	2.50	3.50
24	8.15	3.75	1.45	.90	1.60	2.20	2.50	2.60
25	7.85	3.85	1.35	1.00	1.70	2.20	2.50	2.60
26	8.00	3.85	1.15	1.00	1.70	2.20	2.50	2.50
27	7.50	3.75	1.03	1.00	1.75	2.20	2.50	2.70
28	7.10	3.60	.93	1.00	1.80	2.20	2.50	3.80
29	7.25	3.50	.90	1.00	1.80	2.20	2.50	3.80
30	7.45	3.40	.90	1.00	1.90	2.30	2.50	4.40
31	7.65	.....	.90	1.00	.....	2.30	.....	4.30

BRUNEAU RIVER NEAR GRANDVIEW, IDAHO.

This station, established by Mr. A. J. Wiley for the Owyhee Land and Irrigation Company, is immediately below the headworks of the canal system of that company, 10 miles east of Grandview. Records have been maintained ever since 1896. It is described in Water-Supply Paper No. 51, page 426. No measurements were made at this station during 1901.

Daily gage height, in feet, of Bruneau River near Grandview, Idaho, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.45	.....	2.80	1.80	2.75	2.95	1.85	1.20	1.00	1.35	1.60	1.60
2	1.45	.....	3.00	1.80	2.90	2.90	1.85	1.20	1.00	1.35	1.60	1.65
3	1.45	1.50	3.10	1.80	3.00	2.85	1.80	1.20	1.00	1.35	1.60	1.70
4	1.50	1.50	2.80	1.90	2.95	2.70	1.75	1.20	1.00	1.60	1.60	1.80
5	1.55	1.50	2.50	1.90	2.85	2.70	1.70	1.20	1.00	1.50	1.60	1.70
6	1.60	1.60	2.35	1.83	2.80	2.65	1.65	1.20	1.00	1.50	1.60	1.70
7	1.65	1.60	2.25	1.85	2.80	2.55	1.60	1.15	1.00	1.50	1.60	1.70
8	1.60	1.60	2.25	1.85	2.85	2.50	1.58	1.15	1.00	1.50	1.60	1.70
9	1.55	1.60	2.25	1.80	3.00	2.50	1.50	1.15	1.05	1.50	1.60	1.70
10	1.55	1.55	2.20	1.80	3.00	2.45	1.50	1.10	1.10	1.50	1.60	1.70
11	1.55	1.50	2.10	1.80	3.20	2.40	1.45	1.10	1.15	1.55	1.60	1.70
12	1.55	1.50	2.00	1.80	3.30	2.30	1.45	1.10	1.15	1.55	1.55	1.65
13	1.65	1.55	2.00	1.80	3.45	2.25	1.40	1.10	1.15	1.50	1.55	1.60
14	1.65	1.55	1.90	2.30	3.70	2.20	1.40	1.10	1.15	1.55	1.55	1.55
15	1.60	1.60	1.90	2.75	3.70	2.15	1.40	1.10	1.15	1.55	1.55	1.55
16	1.55	1.60	1.90	2.80	3.65	2.10	1.40	1.10	1.20	1.55	1.55	1.55
17	1.55	3.10	1.90	2.70	3.65	2.05	1.35	1.10	1.20	1.50	1.55	1.55
18	1.55	3.85	1.95	2.60	3.75	2.00	1.35	1.10	1.20	1.50	1.55	1.55
19	1.50	3.00	2.00	2.55	3.75	2.00	1.30	1.10	1.20	1.50	1.55	1.60
20	1.50	2.35	2.00	2.50	3.70	2.00	1.30	1.05	1.20	1.50	1.55	1.60
21	1.55	4.90	1.90	2.70	3.40	2.10	1.25	1.00	1.20	1.50	1.55	1.60
22	1.60	4.65	1.90	2.75	3.23	2.05	1.25	1.00	1.25	1.50	1.55	1.60
23	1.65	3.60	1.95	2.80	3.10	2.00	1.25	1.00	1.25	1.55	1.60	1.60
24	1.60	2.70	2.00	2.88	3.00	2.00	1.25	1.00	1.30	1.50	1.60	1.60
25	1.55	2.65	2.00	2.90	2.85	2.00	1.20	1.00	1.30	1.50	1.60	1.65
26	1.60	2.60	1.95	2.90	2.80	1.95	1.20	1.00	1.35	1.50	1.60	1.65
27	1.55	2.40	1.95	2.90	3.20	1.95	1.20	1.00	1.35	1.55	1.60	1.65
28	1.55	2.30	1.90	2.80	3.30	1.90	1.20	1.00	1.35	1.55	1.60	1.65
29	1.55	.....	1.85	2.80	3.10	1.90	1.20	1.00	1.35	1.55	1.60	1.65
30	1.55	.....	1.85	2.75	3.00	1.88	1.20	1.00	1.35	1.55	1.60	1.65
31	1.60	.....	1.80	.....	3.00	.....	1.20	1.00	.....	1.55	.....	1.65

BOISE RIVER NEAR BOISE, IDAHO.

This station is described in Water-Supply Paper No. 51, page
Results of measurements for 1900 will be found in the Twenty-sec
Annual Report, Part IV, page 431.

During the fall of 1901 the deadmen used in anchoring the ca
were renewed and the following discharge measurements were m
by N. S. Dils, who also made a number of measurements of B
River and other streams of Boise Valley for the purpose of ascert
ing the seepage into Boise River, the results of which are here giv

List of discharge measurements of Boise River near Boise, Idaho.

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
March 27	2.65	2,463	August 15	0.63	
April 26	5.15	8,527	August 24	.60	
June 4	4.70	7,053	Do[a]		
June 24	3.70	5,117	September 27	.90	
July 11	2.20	2,141	August 3	1.00	
July 22	1.55	1,468			

[a] Four miles above Boise station.

Daly gage height, in feet, of Boise River near Boise, Idaho, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	1.20	1.25	3.30	2.20	5.50	5.00	2.80	1.00	0.55	0.70	0.80
2	1.20	1.10	3.60	2.35	6.10	5.00	2.80	1.00	.55	.70	.80
3	1.40	1.20	3.45	2.50	5.85	5.00	2.80	1.00	.55	.83	.80
4	1.35	1.25	3.30	2.45	6.10	4.70	2.75	.98	.65	.90	.75
5	1.42	1.10	2.90	2.40	6.50	4.40	2.50	.93	.65	.95	.80
6	1.60	1.25	2.80	2.40	6.20	4.10	2.40	.85	.60	1.03	.80
7	1.45	1.15	3.00	2.40	6.10	4.00	2.40	.70	.60	.90	.75
8	1.40	1.15	3.00	2.40	6.00	3.80	2.40	.53	.60	.95	.75
9	1.40	1.05	2.80	2.45	6.15	3.70	2.30	.53	.60	.80	.75
10	1.40	1.20	2.70	2.70	6.30	3.60	2.30	.53	.55	.75	.75
11	1.30	1.20	2.65	3.10	6.55	3.50	2.20	.60	.55	.75	.75
12	1.30	1.30	2.50	3.50	6.60	3.45	2.10	.65	.50	.75	.68
13	1.30	1.30	2.30	3.80	6.90	3.30	2.10	.63	.55	.75	.75
14	1.40	1.25	2.30	4.10	7.00	3.20	2.00	.65	.55	.75	.68
15	1.50	1.40	2.30	4.00	7.00	3.20	1.90	.60	.55	.75	.75
16	1.30	2.50	2.30	3.80	7.20	3.30	1.90	.65	.60	.73	.75
17	1.30	2.25	2.60	3.90	7.20	3.50	1.80	.63	.55	.70	.70
18	1.20	2.00	2.60	4.00	7.10	3.60	1.75	.60	.60	.70	.70
19	1.20	2.30	2.60	4.30	6.70	3.70	1.70	.60	.55	.70	.70
20	1.30	2.30	2.70	4.60	6.00	3.90	1.70	.63	.55	.70	.70
21	1.35	2.15	2.80	4.60	5.80	4.00	1.63	.65	.65	.70	.70
22	1.40	1.95	3.30	4.75	5.40	3.90	1.60	.65	.70	.73	.80
23	1.35	2.10	3.10	5.00	5.10	3.70	1.65	.60	.80	.70	.90
24	1.30	2.00	2.90	5.40	4.90	3.50	1.70	.60	.90	.70	1.20
25	1.25	2.20	2.90	5.05	5.00	3.20	1.65	.50	.90	.70	.98
26	1.20	2.10	2.65	5.15	5.30	2.90	1.60	.55	.88	.70	.90
27	1.20	3.40	2.60	4.80	5.40	2.80	1.40	.50	.88	70	1.00
28	1.20	3.50	2.50	4.70	5.60	2.70	1.20	.58	.75	.85	.90
29	1.10	.....	2.35	4.90	5.60	2.80	1.10	.55	.75	.90	.95
30	1.10	.....	2.30	5.30	5.40	2.90	1.03	60	.70	.80	1.08
31	1.20	.....	2.30	.....	5.20	.....	1.00	55	.....	80	.....

Miscellaneous discharge measurements of Boise River and other streams in Boise Valley, Idaho, for the purpose of ascertaining the seepage into Boise River.

Date.	Stream.	Locality.	Discharge.
1901.			*Sec.-ft.*
Aug. 13	Sebree canal	Near head	11.7
Do.	Seitenberg slough	do	2.5
Do.	Boise River	At Caldwell road bridge	14.2
Do.	Riverside canal	do	50.4
Do.	2 wastes east of Caldwell	Near river	1.4
Do.	Waste from Tenmile Creek	Lower road	1.3
Do.	Strahorn canal	Below waste gate	16.2
Do.	Waste near Star	Near river	1.0
Do.	Boise River	At Star bridge	62.5
Aug. 14	2 wastes near Star	Near river	2.6
Do.	Phyllis canal	Near head	14.1
Do.	Eureka canal	do	2.1
Do.	Settlers canal	¼ mile below head	95.4
Do.	Davis canal	Near head	20.0
Do.	McCarty canal	do	96.4
Do.	Rossi waste	Near river	43.0
Do.	Rossi canal	Below waste gate	61.6
Do.	Paynne canal	Flume on Bound's ranch	9.5
Aug. 15	Ellis canal	Near head	34.6
Do.	Perrault canal	Below waste gate	76.4
Do.	Boise River	At gaging station	778.8
Do.	New York canal	do	42.2
Do.	Castin canal	Near head	6.9
Do.	Lamberger & Ryan ditch	In flume (lift by wheel)	.7
Do.	Ridenbaugh canal	Below scour gate	440.4
Do.	Waste at Broadway bridge	Near river	2.0
Do.	Jacobs canal	Below waste gate	51.1
Aug. 16	Waste from car line power house	Road bridge	36.2
Do.	Waste from electric-light works		25.0
Do.	Farmers' Union canal	Below waste gate	83.0
Do.	Waste ½ mile below Soldiers' Home	Near river	8.0
Do.	Waste from sand gulch	do	7.3
Do.	Union canal	Near head	15.0
Do.	Dry Creek canal	do	15.7
Do.	Ballentine's canal	do	Dry.
Do.	Conway & Akin, 2 ditches	Eagle Island	5.0
Do.	Catlin & Macey, 2 ditches	do	4.8
Do.	Davis & Hart ditch	do	8.5
Do.	Middleton Mill Slough canal	Near head	9.1
Do.	Middleton Canal Co. canal	do	2.0
Do.	Pionies canal	do	26.9
Aug. 17	Middleton Water Co. canal	do	2.5
Do.	Waste east of Middleton	Near river	3.6
Do.	Waste from Willow Creek	do	1.0
Do.	Sebree canal	Near head	17.9
Do.	Seitenberg slough	do	1.0
Do.	Boise River	At Caldwell bridge	1.2
Do.	Riverside canal	Road bridge	46.8

WEISER RIVER NEAR WEISER, IDAHO.

This station, established December 6, 1894, is described in Water-Supply Paper No. 51, page 430. The results of measurements for 1900 are given in the Twenty-second Annual Report, Part IV, page 432. In the fall of 1901 new deadmen were set and the cable secured to them. The following discharge measurements were made by N. S. Dils during 1901:

April 19: Gage height, 4 feet; discharge, 2,727 second-feet.
June 8: Gage height, 2.40 feet; discharge, 959 second-feet.
August 19: Gage height, 0.25 foot; discharge, 48 second-feet.
October 18: Gage height, 0.60 foot; discharge, 179 second-feet.

Daily gage height, in feet, of Weiser River near Weiser, Idaho, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	I
1	1.50	1.70	6.50	2.80	4.50	3.80	1.80	1.00	0.25	0.55	0.80	
2	1.40	1.70	6.50	2.70	4.80	3.70	1.80	.90	.25	.55	.85	
3	1.60	1.60	6.20	3.10	5.10	3.50	1.70	.80	.25	.55	.85	
4	2.20	1.60	5.60	3.00	5.20	3.30	1.70	.70	.30	.55	.85	
5	2.50	1.60	5.10	2.90	5.30	3.20	1.70	.60	.30	.55	.85	
6	2.40	1.60	4.70	3.50	5.50	3.20	1.60	.50	.30	.55	.85	
7	2.20	1.60	4.60	3.60	5.30	3.00	1.70	.50	.30	.60	.85	
8	2.00	1.60	4.50	3.30	5.10	2.90	1.60	.40	.30	.60	.85	
9	2.00	1.60	4.40	3.10	5.00	2.90	1.60	.40	.30	.60	.85	
10	1.90	1.60	4.30	3.20	5.00	2.90	1.50	.30	.40	.60	.85	
11	1.90	1.60	4.20	3.20	5.00	2.90	1.40	.30	.40	.60	.85	
12	1.90	1.60	4.10	3.50	5.10	2.80	1.40	.30	.40	.60	.85	
13	2.50	1.60	4.00	3.60	5.50	2.80	1.40	.25	.40	.60	.80	
14	4.70	1.70	3.90	3.70	5.60	2.80	1.30	.25	.40	.60	.80	
15	4.60	1.70	3.80	3.80	5.70	2.80	1.30	.25	.40	.65	.80	
16	3.10	2.50	3.70	3.90	5.60	2.60	1.30	.25	.40	.65	.80	
17	2.10	4.80	3.60	3.90	5.70	2.60	1.30	.25	.40	.65	.80	
18	2.40	3.60	3.50	4.00	5.50	2.40	1.20	.25	.40	.65	.80	
19	2.20	2.90	3.40	4.00	5.00	2.30	1.20	.25	.45	.70	.85	
20	2.10	2.80	3.30	4.10	4.70	2.30	1.20	.25	.45	.70	.85	
21	2.10	4.90	3.30	4.10	4.30	2.20	1.20	.25	.45	.70	.95	
22	2.00	4.10	3.40	4.20	4.10	2.10	1.20	.25	.45	.70	1.15	
23	2.00	3.80	3.60	4.30	3.90	2.10	1.10	.25	.50	.70	1.20	
24	1.90	5.00	3.50	4.50	3.80	2.10	1.10	.20	.50	.70	1.30	
25	1.90	4.80	3.40	4.50	4.00	2.10	1.10	.20	.50	.70	1.30	
26	1.80	5.40	3.50	4.50	4.10	2.00	1.10	.20	.50	.70	1.30	
27	1.80	7.25	3.40	4.40	4.20	2.00	1.10	.20	.50	.75	1.20	
28	1.80	6.90	3.20	4.20	4.20	1.90	1.10	.20	.50	.75	1.10	
29	1.70	.....	3.00	4.00	4.10	1.90	1.10	.20	.50	.80	1.15	
30	1.70	.....	2.90	4.20	4.00	1.80	1.10	.20	.50	.80	1.15	
31	1.70	.....	2.80	.....	3.90	.....	1.10	.20	.....	.80	.....	

BLACKFOOT RIVER NEAR BONNER, MONT.

The station, established July 7, 1898, is at the wagon bridge o half mile west of Bonner. It is described in Water-Supply Pa No. 51, page 430. Results of measurements for 1900 will be found the Twenty-second Annual Report, Part IV, page 433. The stat was discontinued June 30, 1901. The following measurements of charge were made during 1901 under the direction of Samuel Fort

March 23: Gage height, 1.18 feet; discharge, 1,058 second-feet.
April 25: Gage height, 2.08 feet; discharge, 1,833 second-feet.
April 25: Gage height, 2.10 feet; discharge, 1,875 second-feet.

Daily gage height, in feet, of Blackfoot River near Bonner, Mont., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.	J
1	0.50	0.60	2.65	0.70	3.45	4.90	17	.55	.40	.75	1.15	6.50	
2	.60	.65	3.35	.65	4.20	4.70	18	.55	.45	.90	1.15	6.45	
3	.70	.65	2.40	.55	5.10	4.50	19	.60	.45	.85	1.30	6.30	
4	.85	.65	1.55	.55	5.45	4.30	20	.50	.30	.85	1.35	6.10	
5	1.10	.55	1.05	.55	5.70	4.05	21	.50	.30	.95	1.50	5.70	
6	.90	.50	1.00	.65	5.50	3.85	22	.50	.55	1.35	1.60	5.50	
7	.90	.50	.85	.60	5.65	3.55	23	.60	.45	1.25	1.70	5.15	
8	.85	.45	.90	.60	5.50	3.55	24	.75	.30	1.00	1.90	5.05	
9	.70	.45	.90	.75	5.25	3.25	25	.65	.35	.90	2.10	4.95	
10	.65	.45	.85	.70	5.25	3.25	26	.60	.45	.80	2.25	5.00	
11	.70	.60	.85	.85	4.85	3.10	27	.55	.55	.80	2.35	5.15	
12	.60	.55	.90	1.15	4.80	3.10	28	.55	1.45	.75	2.20	5.50	
13	.65	.60	.75	1.45	5.10	3.10	29	.60	.....	.75	2.15	5.85	
14	.90	.55	.60	1.35	5.35	3.00	30	.70	.....	.75	2.75	5.75	
15	.85	.40	.55	1.05	5.35	2.90	31	.55	.....	.70	.....	5.30	
16	.75	.60	.65	1.20	5.75	2.90							

MISSOULA RIVER AT MISSOULA, MONT.

The station was originally established July 10, 1898, at the Higgins avenue bridge at Missoula, but owing to the unfavorable condition of the channel, was moved on May 27, 1899, to a point below the junction of the two branches and 150 yards east of the railroad bridge. It is described in Water-Supply Paper No. 51, page 432. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 435.

The gage wire was renewed April 10, 1901. The following measurements were made by G. C. Westby and J. S. Baker during 1901.

List of discharge measurements of Missoula River at Missoula, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
March 27	3.80	1,804	November 30	3.39	1,309
April 27	5.29	4,222	Do	3.45	1,383
Do	5.30	4,295			

Daily gage height, in feet, of Missoula River at Missoula, Mont., for 1901.

Day.	Jan.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	(a)	.....	3.62	6.20	7.85	5.30	3.65	3.10	3.55	3.55	3.45
2	(a)	.....	3.63	6.98	7.55	5.25	3.65	3.10	3.55	3.55	3.50
3	(a)	5.62	3.62	7.58	7.38	5.10	3.65	3.15	3.53	3.55	3.53
4	(a)	4.63	3.55	8.28	7.33	5.10	3.65	3.28	3.55	3.53	3.58
5	(a)	4.00	3.53	8.45	7.28	5.00	3.65	3.50	3.55	3.58	3.53
6	(a)	3.95	3.55	8.25	6.95	4.85	2.63	3.53	3.50	3.65	3.50
7	(a)	3.90	3.55	8.05	6.60	4.83	3.58	3.50	3.50	3.63	3.43
8	(a)	4.00	3.55	7.95	6.38	4.82	3.55	3.53	3.50	3.60	3.30
9	(a)	4.02	3.55	7.95	6.25	4.73	3.55	3.53	3.50	3.60	3.43
10	(a)	3.93	3.60	7.75	6.08	4.77	3.50	3.50	3.58	3.58	3.58
11	(a)	3.87	.....	7.68	6.10	4.68	3.50	3.53	3.53	3.58	(a)
12	(a)	3.80	.....	7.55	6.15	4.55	3.43	3.58	3.50	3.55	(a)
13	(a)	3.80	4.40	7.75	6.18	4.47	3.40	4.50	3.50	3.55	(a)
14	(a)	3.75	4.30	8.05	6.08	4.45	3.38	3.53	3.50	3.53	(a)
15	(a)	3.73	4.00	8.33	5.95	4.43	3.33	3.55	3.50	3.50	(a)
16	(a)	3.78	4.08	8.45	5.85	4.38	3.33	3.50	3.53	3.45	(a)
17	(a)	3.80	4.02	8.80	5.78	4.33	3.30	3.50	5.55	3.45	(a)
18	(a)	3.98	4.12	9.00	5.67	4.25	3.30	3.50	3.53	3.50	(a)
19	(a)	3.95	4.10	8.90	5.65	4.13	3.30	3.53	3.50	3.50	(a)
20	.....	3.85	4.18	8.70	5.80	4.05	3.28	3.50	3.50	3.48	(a)
21	.....	3.90	4.32	8.40	5.90	4.00	3.25	3.45	3.50	3.48	(a)
22	.....	4.23	4.48	8.15	5.80	4.00	3.25	3.48	3.50	3.48	(a)
23	.....	4.17	4.67	8.10	5.75	3.98	3.25	3.48	3.55	3.53	(a)
24	.....	3.95	4.80	7.88	5.73	3.93	3.23	3.48	3.50	3.55	(a)
25	.....	3.87	4.97	7.70	5.67	3.88	3.25	3.50	3.48	3.53	(a)
26	.....	3.83	5.13	7.75	5.68	3.85	2.23	3.50	3.50	3.53	(a)
27	.....	3.78	5.20	7.85	5.73	3.85	3.15	3.58	3.58	3.50	(a)
28	.....	3.70	5.20	8.20	5.72	3.78	3.15	3.60	3.48	3.48	(a)
29	.....	3.70	5.20	8.45	5.55	3.75	3.15	3.60	3.53	3.45	(a)
30	.....	3.68	5.55	8.63	5.48	3.75	3.13	3.60	3.58	3.45	(a)
31	.....	3.60	.....	8.28	.....	3.70	3.10	.....	3.63	.....	(a)

[a] Ice.

BITTERROOT RIVER AT MISSOULA, MONT.

The station, established July 6, 1898, is at the Buckhouse wagon bridge. It is described in Water-Supply Paper No. 51, page 433. On April 8, 1901, the bridge was washed out and no readings were taken from April 8 to 12. The station was discontinued November 30, 1901. Results of measurements for 1900 are published in the Twenty-second

Annual Report, Part IV, page 442. The following measurem were made by G. C. Westby and J. S. Baker during 1901:

List of discharge measurements of Bitterroot River at Missoula, Mont.

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
March 23	1.80	1,484	December 1	1.27	
April 25	2.85	2,660	Do	1.25	
Do	2.85	2,670			

Daily gage height, in feet, of Bitterroot River at Missoula, Mont., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1	(a)	1.10	3.00	1.65	5.30	6.80	3.60	1.30	0.50	1.15
2	(a)	1.05	2.70	1.65	5.50	6.00	3.55	1.30	.50	1.25
3	(a)	1.10	2.75	1.60	5.60	5.25	3.50	1.25	.55	1.30
4	(a)	1.10	2.60	1.60	5.70	5.70	3.45	1.15	.60	1.30
5	(a)	1.10	2.45	1.60	5.70	5.15	3.40	1.10	.70	1.30
6	(a)	(a)	2.25	1.60	5.65	5.00	3.30	1.00	.75	1.25
7	(a)	(a)	2.20	1.60	5.50	4.80	3.30	.95	.80	1.30
8	1.60	(a)	2.20	.....	5.70	4.40	3.50	.90	.85	1.35
9	1.60	(a)	2.10	.....	5.85	4.20	3.40	.85	.85	1.40
10	1.60	(a)	2.00	.....	5.90	4.20	3.30	.80	.90	1.35
11	1.70	(a)	1.90	.....	6.00	4.10	3.25	.70	1.05	1.35
12	1.70	(a)	1.90	.....	6.10	3.50	2.20	.70	1.10	1.35
13	1.70	(a)	1.75	1.70	6.20	3.60	3.10	.70	1.15	1.30
14	1.65	(a)	1.75	1.75	6.90	3.70	3.00	.60	1.20	1.30
15	1.65	(a)	1.80	1.80	7.20	3.80	2.80	.55	1.50	1.30
16	1.90	1.60	1.80	1.80	7.40	3.80	2.70	.50	1.50	1.30
17	1.70	1.60	1.80	1.85	7.60	3.85	2.60	.50	1.50	1.25
18	1.60	1.70	1.85	.....	7.85	3.90	2.40	.50	1.45	1.25
19	1.45	1.70	1.85	.....	7.80	4.00	2.40	.50	1.40	1.25
20	1.50	1.70	1.80	.....	7.50	4.10	2.30	.50	1.35	1.15
21	1.50	1.60	1.85	2.10	7.40	4.20	2.30	.50	1.30	1.15
22	1.60	1.50	1.80	2.25	7.00	4.45	3.20	.50	1.30	1.10
23	1.60	1.40	1.80	2.40	6.65	4.35	3.10	.50	1.30	1.10
24	1.50	1.40	.....	2.60	6.20	4.10	3.00	.55	1.30	1.10
25	1.50	1.40	1.70	2.85	6.00	3.95	3.00	.50	1.30	1.05
26	1.60	2.30	1.65	2.90	5.55	3.70	2.90	.50	1.30	1.05
27	1.50	2.40	1.65	.....	6.20	3.45	2.80	.50	1.30	1.05
28	1.45	2.50	1.60	2.80	7.00	3.20	1.65	.50	1.30	1.10
29	1.30	.....	1.60	2.95	7.50	3.50	1.50	.50	1.25	1.05
30	1.20	.....	1.65	3.50	8.55	3.70	1.40	.50	1.20	1.05
31	1.10	.....	1.65	.....	7.45	.....	1.35	.50	.....	1.05

[a] Ice.

FLATHEAD LAKE AT POLSON, MONT.

This station, which is at the lower end of the lake, at the Pol post-office, was established by Prof. F. D. Smith on April 20, 1 It is described in Water-Supply Paper No. 51, page 438. Readi were discontinued on June 30, 1901.

Daily gage height, in feet, of Flathead Lake at Polson, Mont., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June	Day.	Jan.	Feb.	Mar.	Apr.	May.
1	3.90	.....	3.30	4.00	5.40	13.40	17	3.60	3.20	3.70	4.10	9.80
2	3.80	3.50	3.30	3.90	5.60	13.30	18	3.6	3.20	3.70	4.10	10.00
3	3.80	3.40	3.30	3.90	5.80	13.25	19	3.60	3.20	3.80	4.20	10.40
4	3.70	3.40	3.30	3.90	6.10	13.10	20	3.60	3.20	3.80	4.30	10.80
5	3.70	3.40	3.30	3.90	6.30	13.20	21	3.60	3.20	3.90	4.40	11.55
6	3.70	3.40	3.30	3.80	6.50	13.10	22	3.60	3.20	3.90	4.50	12.30
7	3.70	3.30	3.30	3.80	6.90	12.90	23	3.60	3.30	4.00	4.50	12.35
8	3.60	3.30	3.30	3.80	7.40	12.65	24	3.60	3.30	4.00	4.60	12.30
9	3.60	3.30	3.30	3.90	8.00	12.35	25	3.60	3.30	4.00	4.70	12.20
10	3.60	3.30	3.40	3.90	8.40	12.00	26	3.60	3.30	4.00	4.80	12.10
11	3.60	3.30	3.40	3.90	8.80	11.85	27	3.60	3.30	4.00	4.90	12.25
12	3.60	3.30	3.50	3.90	9.30	11.50	28	3.50	3.30	4.00	5.00	12.45
13	3.60	3.30	3.50	4.00	9.40	11.25	29	3.50	.....	4.00	5.10	12.70
14	3.60	3.20	3.60	4.00	9.40	10.95	30	3.50	.....	4.00	5.30	12.95
15	3.60	3.20	3.60	4.00	9.50	10.80	31	3.50	.....	4.00	.....	13.25
16	3.60	3.20	3.60	4.00	9.60	10.55						

SPOKANE RIVER AT SPOKANE, WASH.

This station, established by C. C. Babb, October 17, 1896, is a short distance above Spokane Falls, at the bridge of the Oregon Railroad and Navigation Company. It is described in Water-Supply Paper No. 51, page 438. The results of measurements for 1890 will be found in the Twenty-second Annual Report, Part IV, page 443.

During 1901 new gages and bench marks were established at this point. The bench mark is a railroad spike driven into the electric-light pole close to and on the south side of the railroad track, at the west end of the bridge, at an elevation of 1,896.86 feet. The new wire gage on the north side of the west span of the bridge is the one used for recording the gage height. The zero of this gage is at an elevation of 1,879.35 feet, coinciding exactly with the position of the zero of old gage. As a safeguard, a new vertical gage rod has also been placed on the west face of the west pier of the bridge, the datum of which corresponds with that of the wire gage. No measurements of discharge were made at this station during 1901.

Daily gage height, in feet, of Spokane River at Spokane, Wash., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.80	4.45	5.45	5.60	6.30	8.35	4.90	2.70	1.90	[a]1.85	1.70	2.75
2	5.60	4.25	6.20	5.55	6.55	8.20	4.80	2.65	1.90	[a]1.85	1.70	2.75
3	5.40	4.15	7.00	5.50	6.85	8.05	4.75	2.60	1.90	[a]1.85	1.70	2.75
4	5.30	4.00	7.70	5.45	7.25	7.90	4.70	2.55	1.90	[a]1.85	1.75	2.85
5	5.15	3.90	8.10	5.40	7.50	7.70	4.55	2.50	1.90	[a]1.85	1.75	2.90
6	5.05	3.80	8.25	5.35	7.70	7.50	4.50	2.50	1.85	[a]1.85	1.75	2.95
7	4.90	3.70	8.20	5.30	7.85	7.30	4.40	2.50	1.85	[a]1.85	1.75	3.00
8	4.80	3.60	8.15	5.25	8.00	7.10	4.35	2.45	1.80	[a]1.85	1.75	3.00
9	4.65	3.55	8.05	5.20	8.10	6.90	4.30	2.45	1.80	[a]1.85	1.75	3.00
10	4.50	3.50	7.80	5.10	8.20	6.80	4.20	2.40	1.80	1.85	1.85	3.00
11	4.50	3.40	7.70	5.00	8.30	6.65	4.15	2.35	1.80	1.85	1.85	3.00
12	4.35	3.35	7.50	5.00	8.35	6.45	4.05	2.30	1.80	1.75	1.85	3.00
13	4.30	3.25	7.35	5.05	8.40	6.20	4.00	2.25	1.80	1.75	1.85	3.00
14	4.70	3.20	7.10	5.10	8.45	6.10	3.85	2.20	1.80	1.75	1.85	2.95
15	5.20	3.20	6.90	5.30	8.60	6.05	3.70	2.15	1.80	1.80	1.85	2.90
16	5.55	3.35	6.75	5.40	8.70	5.90	3.70	2.15	1.80	1.80	1.80	2.85
17	5.75	3.65	6.55	5.45	8.85	5.85	3.55	2.10	1.80	1.80	1.80	2.80
18	5.80	4.30	6.50	5.45	9.00	5.75	3.45	2.10	1.80	1.75	1.85	2.85
19	5.80	4.60	6.35	5.50	9.10	5.70	3.40	2.05	1.85	1.75	1.85	2.70
20	5.75	4.75	6.25	5.60	9.10	5.70	3.35	2.05	1.85	1.70	1.80	2.65
21	5.65	4.80	6.15	5.65	9.10	5.65	3.30	2.05	1.85	1.70	1.80	2.60
22	5.50	4.85	6.10	5.70	9.00	5.60	3.25	2.05	1.80	1.70	1.80	2.60
23	5.40	4.80	6.10	5.85	8.85	5.55	3.20	2.05	1.80	1.70	1.80	2.60
24	5.25	4.80	6.10	5.95	8.75	5.45	3.10	2.05	1.80	1.70	2.25	2.70
25	5.15	4.75	6.05	6.05	8.70	5.35	3.05	2.05	1.85	1.65	2.30	3.00
26	5.05	4.75	6.05	6.20	8.60	5.30	3.00	2.00	1.80	1.65	2.50	3.20
27	4.95	4.85	6.00	6.20	8.55	5.25	2.95	2.00	1.80	1.65	2.60	3.20
28	4.80	5.10	5.90	6.20	8.55	5.25	2.90	2.00	1.80	1.65	2.65	3.25
29	4.70	.....	5.85	6.20	8.60	5.15	2.80	1.95	1.80	1.70	2.65	3.30
30	4.55	.....	5.75	6.20	8.65	5.00	2.80	1.95	1.85	1.70	2.70	3.25
31	4.45	.....	5.70	.....	8.55	.....	2.75	1.95	.....	1.70	.....	3.20

[a] Estimated; gage destroyed.

NACHES RIVER NEAR NORTH YAKIMA, WASH.

The original station on this river was established August 14, 1893. It was abandoned in 1897, and another was established February 1, 1898. It is described in Water-Supply Paper No. 51, page 440. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 444. A measurement was made by

Sydney Arnold, on April 25, 1901, when the discharge was found to be 2,275 second-feet and the gage height 7 feet.

Daily gage height, in feet, of Naches River near North Yakima, Wash., for

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	6.40	6.10	9.40	6.70	7.50	8.60	7.20	6.20	5.40	5.30	5.30
2	6.40	6.10	9.50	6.70	7.70	8.60	7.20	6.10	5.30	5.30	5.30
3	6.40	6.10	9.20	6.70	7.80	8.70	7.20	6.10	5.30	5.30	5.30
4	6.40	6.10	8.80	6.70	7.90	8.50	7.10	6.10	5.30	5.20	5.30
5	6.40	6.00	8.40	6.70	7.90	8.30	7.10	6.10	5.20	5.20	5.50
6	6.30	6.00	8.20	6.60	7.90	7.80	7.10	6.10	5.20	5.20	5.70
7	6.30	5.50	8.00	6.60	8.00	7.70	7.20	6.00	5.20	5.20	5.70
8	6.20	5.90	7.90	6.60	8.00	7.60	7.30	6.00	5.20	5.20	5.70
9	6.10	5.90	7.70	6.60	7.90	7.40	7.30	5.90	5.20	5.10	5.60
10	6.00	5.90	7.50	6.60	7.90	7.30	7.20	5.80	5.20	5.10	5.60
11	6.00	5.90	7.40	6.60	7.90	7.30	7.10	5.80	5.20	5.10	5.50
12	6.20	5.90	7.30	7.00	8.30	7.30	7.10	5.70	5.20	5.10	5.50
13	7.00	5.90	7.20	7.10	8.60	7.30	7.00	5.70	5.20	5.10	5.50
14	7.80	5.90	7.10	7.10	8.80	7.20	6.90	5.70	5.20	5.10	5.50
15	7.60	6.50	7.00	7.10	8.80	7.40	6.80	5.70	5.20	5.10	5.50
16	7.40	7.40	6.90	7.10	8.90	7.50	6.80	5.70	5.20	5.10	5.50
17	7.10	7.30	6.90	7.20	9.20	7.60	6.80	5.70	5.20	5.10	5.40
18	6.90	7.10	7.00	7.20	9.00	7.80	6.80	5.60	5.20	5.10	5.40
19	6.80	6.90	7.00	7.30	8.70	8.10	6.70	5.40	5.20	5.10	5.40
20	6.70	6.80	7.00	7.30	8.30	8.60	6.70	5.40	5.20	5.10	5.40
21	6.60	6.70	7.10	7.30	8.10	8.40	6.70	5.30	5.20	5.10	5.60
22	6.60	6.70	7.10	7.30	8.00	8.30	6.60	5.30	5.20	5.10	6.40
23	6.50	6.80	7.10	7.30	7.90	8.00	6.60	5.30	5.20	5.10	8.60
24	6.40	6.80	7.00	7.20	7.80	7.70	6.60	5.30	5.20	5.10	8.80
25	6.40	6.80	7.00	7.20	7.80	7.50	6.50	5.40	5.30	5.10	7.00
26	6.30	6.90	7.00	7.10	8.40	7.30	6.50	5.60	5.30	5.10	6.70
27	6.30	7.80	6.90	7.10	9.00	7.30	6.40	5.60	5.30	5.10	6.70
28	6.20	8.00	6.90	7.10	9.40	7.30	6.30	5.50	5.30	5.10	6.60
29	6.20	------	6.80	7.20	9.30	7.30	6.20	5.50	5.30	5.10	6.60
30	6.20	------	6.70	7.30	9.00	7.20	6.20	5.40	5.30	5.10	6.60
31	6.20	------	6.70	------	8.80	------	6.20	5.40	------	5.20	------

NOTE.—Sunday readings estimated.

TIETON RIVER, WASHINGTON.

This stream is the principal tributary of the Naches River and charges into the latter about 17 miles above its junction with Yakima River, near North Yakima.

Its source is in the Cascade Mountains in the vicinity of Cowlitz Pa A peculiar feature of the stream is the turbid, milk-white appearan of the water, it being similar in this respect to White River, on western slope of the Cascade Range. The water of the South F of the Tieton, 25 miles above the mouth, is, however, perfectly cle The forks head in the glaciers of a peak of the Cascades known loca as Goat Rock.

The capacity of the Tieton is considerable, being probably equa about two-thirds that of the Upper Naches, averaging during the y 1,000 cubic feet per second. No measurements of the discharge h as yet been made, owing to the natural obstacles met with. The ab estimate shows the great value of the Tieton for irrigation purpos Its waters are, however, at present not used above where they min with those of the Naches River, since the great depth, narrowness, a rapid fall of the canyon through which the Tieton runs, together w the very limited area of its bottom land, render it a difficult probl to convey water to the uplands, except at great expense for flumi There is little doubt that at some future period some of the plans p

posed for conveying water from the Tieton River to valuable lands in the Upper Cowiche district will be carried out.

Settlements on the river are now very few, for the reasons above given. Very fine bottom lands of somewhat limited extent are to be found 24 miles above the river mouth, but owing to their inaccessibility, except by mountain trail, they are used almost solely for stock grazing. A remarkable soda spring is to be found 4 miles below the river forks, the water of which is very palatable. During a summer reconnaissance of the river from its mouth to the headwaters it was found that the country is used to some extent for stock grazing, but no sheep were seen. Although no rain had fallen during July, August, and September, the vegetation had suffered but very little.

No locations suitable for reservoir sites were found, and it is believed that none exist on Tieton River proper.

YAKIMA RIVER AT UNION GAP, WASH.

The gaging station at Union Gap was established August 14, 1893. It is 6 miles below North Yakima, about 1,000 feet below the highway bridge, and about 3 miles above the head gate of the Sunnyside Canal. It is described in Water-Supply Paper No. 51, page 441. The station is of value in determining the amount of water available for the extensive irrigable lands below. The results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 447. No measurements of discharge were made at this station during 1901.

Daily gage height, in feet, of Yakima River at Union Gap, Wash., for 1900.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	6.10	5.60	10.10	6.20	7.20	9.00	7.00	5.50	4.40	4.40	4.20	6.60
2	6.10	5.60	11.20	6.20	7.40	8.90	6.90	5.50	4.40	4.40	4.20	6.60
3	6.10	5.60	10.90	6.30	7.60	9.00	1.90	5.40	4.40	4.30	4.40	6.90
4	6.10	5.50	10.10	6.30	7.80	9.00	6.90	5.30	4.40	4.30	4.60	7.00
5	6.00	5.50	9.30	6.40	7.90	9.00	6.90	5.30	4.40	4.30	4.90	7.00
6	6.00	5.40	8.70	6.30	8.00	8.30	6.80	5.30	4.40	4.30	5.00	7.00
7	5.90	5.30	8.50	6.30	8.00	8.00	6.70	5.20	4.40	4.30	5.60	7.00
8	5.80	5.30	8.20	6.20	8.00	7.60	6.90	5.20	4.40	4.30	5.80	7.00
9	5.70	5.20	8.00	6.20	7.90	7.30	6.90	5.10	4.40	4.20	5.70	6.80
10	5.60	5.20	7.50	6.30	7.90	7.10	6.80	5.10	4.40	4.20	5.70	6.60
11	5.60	5.20	7.20	6.40	7.80	7.00	6.70	5.00	4.40	4.20	5.60	6.60
12	5.70	5.20	7.20	6.60	7.90	7.00	6.60	5.00	4.30	4.20	5.40	6.40
13	7.70	5.20	7.10	7.00	8.60	7.10	6.50	4.90	4.30	4.20	5.20	6.40
14	7.60	5.40	6.90	7.00	9.00	7.10	6.40	4.90	4.30	4.20	5.20	6.30
15	7.60	5.80	6.80	7.00	9.60	7.10	6.30	4.80	4.30	4.10	5.40	6.10
16	7.40	6.50	6.80	6.90	9.60	7.00	6.30	4.80	4.30	4.10	5.60	6.00
17	7.40	7.10	6.80	6.90	9.60	7.10	6.30	4.70	4.30	4.20	5.60	5.90
18	6.80	6.70	6.80	6.90	10.00	7.50	6.20	4.70	4.30	4.20	5.60	5.80
19	6.60	6.50	6.80	6.80	9.40	7.80	6.20	4.60	4.20	4.20	5.50	5.80
20	6.60	6.30	6.80	6.70	9.00	8.20	6.10	4.60	4.20	4.20	5.40	5.70
21	6.50	6.20	6.80	6.90	8.50	8.30	6.10	4.60	4.20	4.20	5.40	5.60
22	6.40	6.10	6.90	6.90	8.10	8.30	6.10	4.50	4.20	4.20	5.40	5.90
23	6.30	6.10	6.90	7.00	7.90	8.00	6.00	4.50	4.30	4.30	5.40	6.60
24	6.20	6.00	6.90	7.00	7.80	7.80	6.00	4.50	4.40	4.30	6.00	8.60
25	6.10	6.20	6.80	6.90	7.90	7.60	6.00	4.50	4.50	4.30	6.60	8.80
26	6.00	6.60	6.70	6.80	8.60	7.20	6.00	4.50	4.60	4.30	6.60	8.60
27	5.90	7.90	6.60	6.70	7.50	7.00	5.90	4.40	4.60	4.30	6.40	8.00
28	5.90	8.30	6.50	6.70	9.10	7.00	5.80	4.40	4.60	4.30	6.40	7.60
29	5.80	.....	6.40	6.80	10.10	7.00	5.80	4.40	4.50	4.20	6.60	7.00
30	5.80	.....	6.30	6.90	10.40	7.00	5.80	4.40	4.40	4.20	6.50	7.00
31	5.70	.....	6.30	.....	9.40	.....	5.60	4.40	.....	4.20	.....	6.90

YAKIMA RIVER AT KIONA, WASH.

This station, established August 20, 1895, is on the highway br at Kiona. It is described in Water-Supply Paper No. 51, page Results of measurements for 1900 will be found in the Twenty-sec Annual Report, Part IV, page 448. A new bench mark was es lished during 1901. It is the top of an iron spike in the east en the cap of the first trestle bent of the bridge approach on the s side of the river. The top of the 2-inch pulley wheel of the gage is 4.68 feet above this bench mark. The length of the gage is 27.21 feet and the pulley distance 2 feet.

A measurement was made by Sydney Arnold on May 16, when discharge was found to be 16,781 second-feet and the gage he 11.50 feet.

Daily gage height, in feet, of Yakima River at Kiona, Wash., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	7.70	6.96	11.33	7.95	8.65	11.10	7.11	4.93	3.45	3.55	4.23
2	7.35	6.90	12.75	7.90	9.23	10.93	7.00	4.75	3.45	3.57	4.30
3	7.28	6.86	13.43	7.90	9.45	10.63	6.80	4.85	3.35	3.60	4.30
4	7.25	6.75	14.00	7.82	9.75	10.45	6.75	5.01	3.30	3.60	4.35
5	7.25	6.64	13.33	7.75	9.80	10.25	6.70	5.05	3.25	3.60	4.47
6	7.20	6.58	12.48	7.65	9.90	9.85	6.65	5.00	3.25	3.58	4.55
7	7.18	6.55	11.50	7.50	10.10	9.75	6.59	4.97	3.20	3.55	4.63
8	7.15	6.50	11.13	7.50	10.20	9.60	6.59	4.90	[a]3.20	3.55	4.70
9	7.08	6.42	10.58	7.45	10.15	9.35	6.55	4.85	[a]3.20	3.55	4.80
10	7.05	6.36	10.18	7.60	10.00	9.05	6.55	4.77	[a]3.20	3.53	4.88
11	7.10	6.30	9.98	7.68	10.15	8.50	6.49	4.65	[a]3.20	3.52	4.95
12	7.12	6.26	9.70	7.75	10.20	8.05	6.45	4.56	[a]3.20	3.50	5.05
13	7.15	6.28	9.45	8.45	10.25	7.55	6.43	4.50	[a]3.25	3.50	4.95
14	8.75	6.30	9.18	8.52	10.40	7.35	6.40	4.40	[a]3.25	3.50	5.75
15	10.45	6.75	8.90	8.60	11.05	7.45	6.30	4.35	[a]3.25	3.55	5.87
16	10.25	7.00	8.75	8.65	11.50	7.60	6.17	4.20	[a]3.25	3.55	6.00
17	9.93	8.08	8.70	8.72	11.50	7.80	6.05	4.15	[a]3.25	3.60	6.15
18	9.50	8.90	8.70	8.78	11.60	8.05	5.97	4.13	[a]3.30	3.60	6.35
19	9.00	9.10	8.68	8.70	11.80	8.25	5.95	4.10	[a]3.30	3.65	6.75
20	8.75	8.90	8.68	8.65	11.80	8.50	5.93	4.01	[a]3.30	3.80	7.00
21	8.50	8.20	8.65	8.60	11.25	8.85	5.85	3.94	[a]3.30	3.85	7.25
22	8.28	8.30	8.65	8.50	10.95	9.10	5.80	3.85	3.30	3.85	7.40
23	7.89	8.42	8.63	8.42	10.35	8.55	5.85	3.75	3.35	3.95	7.60
24	7.80	8.45	8.60	8.36	9.90	8.50	5.90	3.75	3.35	3.97	7.65
25	7.70	8.50	8.60	8.28	10.20	8.15	5.85	3.65	3.40	3.97	7.55
26	7.59	8.55	8.38	8.20	10.60	7.85	5.70	3.63	3.40	4.00	7.40
27	7.42	10.23	8.30	8.26	11.30	7.51	5.60	3.60	3.41	4.05	7.11
28	7.30	10.83	8.25	8.33	11.85	7.35	5.45	3.55	3.45	4.15	6.90
29	7.20	.....	8.25	8.45	12.20	7.30	5.40	3.55	3.45	4.15	6.55
30	7.12	.....	8.20	8.52	12.90	7.15	5.25	3.53	3.48	4.15	6.65
31	7.00	.....	8.00	.....	11.35	.....	5.10	3.50	.....	4.20	.....

[a] Gage heights estimated.

PALOUSE RIVER NEAR HOOPER, WASH.

This station, established September 9, 1897, is opposite the v tank of the railroad company near Hooper. It is described in W Supply Paper No. 51, page 443. Results of measurements for will be found in the Twenty-second Annual Report, Part IV, page During 1901 no measurements were made at this station.

Daily gage height, in feet, of Palouse River near Hooper, Wash., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.45	3.70	9.40	4.40	3.50	2.75	2.50	1.20	0.50	0.90	0.90	1.65
2	3.55	3.50	9.40	4.30	3.50	2.60	2.50	1.20	.50	.90	.90	1.50
3	3.50	3.50	10.10	4.90	3.60	2.50	2.50	1.10	.50	.85	.90	1.50
4	3.60	3.20	10.65	4.90	3.70	2.40	2.45	1.10	.50	.80	.95	1.50
5	3.70	3.10	10.20	5.10	3.70	2.30	2.45	1.10	.55	.80	.95	1.85
6	3.60	3.00	8.10	5.10	3.65	2.30	2.40	1.10	.60	.80	1.10	1.90
7	3.50	3.10	7.20	5.00	3.50	2.30	2.40	1.05	.70	.80	1.15	1.90
8	3.45	3.00	7.20	5.30	3.30	2.30	2.40	1.05	.75	.85	1.20	1.90
9	3.50	2.90	7.20	5.30	3.30	2.30	2.40	1.05	.80	.85	1.20	1.90
10	3.40	2.80	7.30	5.20	3.20	2.30	2.35	1.05	.80	.90	1.30	2.00
11	3.40	2.80	7.20	5.00	3.10	2.40	2.30	1.00	.80	.85	1.40	2.00
12	3.90	2.70	6.60	4.70	3.10	2.55	2.20	.95	.80	.80	1.30	1.90
13	5.25	2.70	6.30	4.80	3.05	2.80	2.20	.90	.85	.80	1.25	1.80
14	7.60	2.70	6.10	4.80	3.00	2.90	2.10	.85	.85	.80	1.25	1.70
15	8.95	2.80	5.80	4.90	2.90	3.00	2.10	.85	.80	.80	1.20	1.60
16	8.65	4.80	5.50	4.80	2.90	3.10	2.10	.80	.80	.75	1.15	1.60
17	8.20	10.50	5.30	4.60	2.80	3.15	2.00	.80	.80	.75	1.10	1.55
18	7.25	9.80	5.30	4.20	2.80	3.20	2.00	.70	.75	.75	1.10	1.50
19	6.00	9.80	5.30	4.10	2.70	3.10	2.00	.70	.75	.75	1.10	1.40
20	5.50	7.75	5.30	4.10	2.80	3.10	1.90	.70	.75	.80	1.10	1.40
21	5.20	8.30	5.20	4.20	2.70	3.05	1.90	.70	.75	.80	1.10	1.35
22	4.80	7.30	4.90	4.30	2.70	3.90	1.90	.65	.75	.80	1.15	1.40
23	4.65	6.60	5.20	4.30	2.85	2.90	1.85	.65	.70	.80	1.25	1.45
24	4.70	6.40	5.30	4.50	2.90	2.80	1.80	.60	.70	.80	1.30	1.50
25	4.55	6.50	5.50	4.40	2.95	2.75	1.70	.60	.75	.80	1.45	2.50
26	4.50	7.00	5.30	4.20	3.00	2.60	1.55	.60	.75	.80	2.20	3.30
27	4.20	8.20	5.10	4.00	2.90	2.50	1.45	.55	.80	.80	2.10	3.50
28	4.20	9.10	4.90	4.00	2.80	2.50	1.40	.55	.80	.80	2.00	3.30
29	4.20	.....	4.70	3.90	2.80	2.50	1.35	.55	.85	.85	1.90	2.80
30	4.10	.....	4.60	3.80	2.70	2.50	1.30	.55	.90	.85	1.80	2.50
31	3.90	.....	4.40	.....	2.90	.....	1.20	.50	.....	.85	.....	2.40

UMATILLA RIVER AT GIBBON, OREG.

This station, established July 26, 1896, is a half mile west of the railroad station. It is described in Water-Supply Paper No. 51, page 444. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 453. No measurements of discharge were made at this point during 1901.

Daily gage height, in feet, of Umatilla River at Gibbon, Oreg., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	1.75	1.60	5.45	3.05	3.50	1.70	1.00	0.60	0.35	0.75	0.85	0.90
2	1.70	1.60	5.40	3.00	3.50	1.60	1.00	.55	.35	.75	.80	.90
3	1.70	1.55	4.90	3.00	3.50	1.50	1.00	.55	.35	.75	.80	.90
4	1.70	1.45	4.35	2.95	3.55	1.40	1.00	.55	.40	.75	.80	.95
5	1.65	1.40	3.90	2.95	3.55	1.40	1.00	.50	.40	.75	.80	1.00
6	1.60	1.35	3.70	2.90	3.55	1.35	.95	.50	.45	.75	.80	1.20
7	1.50	1.30	3.85	2.85	3.55	1.40	.95	.50	.45	.75	.80	1.30
8	1.45	1.25	3.85	2.80	3.60	1.40	.95	.50	.50	.75	.80	1.50
9	1.40	1.20	3.75	2.75	3.75	1.40	.95	.50	.50	.80	.85	1.60
10	1.35	1.15	3.65	2.80	3.75	1.40	.95	.45	.50	.80	.85	1.55
11	1.30	1.15	3.55	3.10	3.80	1.35	.90	.45	.55	.75	.85	1.55
12	1.95	1.10	3.40	3.60	3.70	1.30	.90	.45	.55	.75	.80	1.55
13	3.95	1.10	3.40	3.95	3.60	1.30	.90	.45	.55	.75	.80	1.50
14	4.70	1.10	3.35	3.85	3.45	1.25	.80	.45	.60	.75	.80	1.50
15	3.90	1.10	3.30	3.60	3.20	1.30	.80	.45	.60	.75	.80	1.50
16	3.30	5.75	3.30	3.35	3.05	1.35	.80	.40	.60	.75	.80	1.50
17	3.00	4.65	3.25	3.45	2.90	1.35	.80	.40	.60	.75	.80	1.45
18	2.85	3.85	3.15	3.35	2.85	1.45	.75	.40	.65	.75	.80	1.45
19	2.75	3.40	3.05	3.55	2.75	1.45	.75	.40	.65	.75	.80	1.50
20	2.60	3.15	3.00	3.55	2.70	1.40	.75	.40	.65	.75	.85	1.50
21	2.50	2.85	2.95	3.55	2.60	1.30	.75	.40	.65	.75	.85	1.95
22	2.35	2.75	3.15	3.65	2.50	1.30	.75	.40	.70	.80	.85	1.85
23	2.25	2.75	3.00	3.65	2.45	1.30	.75	.35	.70	.80	.85	1.70
24	2.10	3.30	2.90	3.65	2.35	1.25	.70	.35	.70	.80	.85	1.70
25	2.00	4.00	2.85	3.50	2.20	1.25	.70	.35	.75	.80	.85	1.65
26	1.90	4.20	2.80	3.35	2.10	1.20	.70	.35	.75	.80	.85	1.65
27	1.90	5.95	2.80	3.30	2.10	1.20	.70	.35	.75	.80	.85	1.65
28	1.80	5.75	2.85	3.10	2.00	1.10	.65	.35	.75	.80	.85	1.60
29	1.70	.....	2.85	3.10	1.90	1.10	.65	.35	.75	.85	.90	1.50
30	1.70	.....	2.95	3.25	1.90	1.05	.60	.35	.75	.85	.90	1.45
31	1.65	.....	2.95	.....	1.80	.....	.60	.35	.....	.85	.....	1.35

WHITE RIVER NEAR BUCKLEY, WASH.

This station, established April 22, 1899, is at the new hig bridge, 500 feet above the Northern Pacific Railway bridge a half mile north of the town of Buckley. It is described in W Supply Paper No. 51, page 445. During 1901 no measurements made at this station.

Daily gage height, in feet, of White River near Buckley, Wash., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov
1	1.25	0.95	4.25	1.45	1.35	2.30	1.70	1.25	0.70	0.20	0.90
2	1.20	.90	3.75	1.75	1.60	2.55	1.70	1.25	.65	.20	.65
3	1.15	.90	2.85	1.40	1.55	2.40	1.70	1.25	.65	.20	.80
4	1.10	.85	2.35	1.25	1.50	2.20	1.65	1.25	.65	.25	1.60
5	1.10	.80	2.10	1.20	1.50	1.90	1.65	1.25	.60	.25	1.45
6	1.00	.80	1.85	1.15	1.45	1.75	1.80	1.25	.50	.25	1.05
7	1.00	.80	1.75	1.10	1.45	1.70	1.90	1.20	.40	.25	1.25
8	.95	.75	1.65	1.00	1.60	1.60	1.90	1.15	.35	.30	1.00
9	.90	.75	1.60	.95	1.60	1.55	1.80	1.10	.35	.30	.90
10	.90	.70	1.45	.90	1.50	1.50	1.75	1.00	.30	.25	.85
11	1.05	.70	1.35	1.55	1.55	1.50	1.70	.95	.30	.35	.70
12	1.75	.70	1.30	1.70	1.95	1.45	1.55	.95	.40	.35	1.15
13	4.95	.80	1.20	1.55	2.20	1.60	1.50	1.00	.50	[a].30	1.05
14	3.40	1.15	1.15	1.45	2.20	1.60	1.45	1.15	.50	[a].30	.85
15	2.60	1.90	1.10	1.30	2.10	1.50	1.45	1.20	.45	.20	.80
16	2.10	4.80	1.10	1.20	2.60	1.60	1.60	1.30	.40	.20	.70
17	1.70	3.08	1.15	1.15	2.90	1.80	1.60	1.15	.40	.20	.70
18	1.60	2.15	1.15	1.15	2.50	2.10	1.50	1.05	.40	.25	.70
19	1.55	1.80	1.10	1.15	2.20	2.40	1.50	.95	.40	.25	.60
20	1.45	1.60	1.10	1.30	1.95	2.50	1.50	.85	.40	.40	.70
21	1.45	1.40	1.05	1.30	1.75	2.40	1.45	.80	.60	.50	.90
22	1.45	1.30	1.10	1.15	1.70	2.15	1.70	.80	.60	.45	5.90
23	1.40	1.30	1.10	1.15	1.60	2.00	1.70	.90	.50	.40	4.30
24	1.30	1.65	1.00	1.15	1.55	1.85	1.65	1.00	.40	.35	2.70
25	1.15	1.75	1.00	1.10	1.80	1.70	1.55	1.05	.35	.30	2.05
26	1.15	1.90	1.10	1.10	2.60	1.60	1.40	1.10	.40	.30	1.85
27	1.10	2.60	1.10	1.05	2.90	1.70	1.30	.85	.40	.55	1.70
28	1.10	3.35	1.05	1.00	2.90	1.80	1.30	.70	.30	.40	1.60
29	1.05	.....	1.05	1.10	2.80	1.80	1.25	.70	.25	.40	1.50
30	1.00	.....	1.05	1.25	2.40	1.80	1.30	.70	.20	.55	1.30
31	.95	.....	1.10	.....	2.25	.....	1.30	.70	.....	1.58	.....

[a] Estimated.

NORTHERN PACIFIC COAST DRAINAGE.

DUNGENESS RIVER AT DUNGENESS, WASH.

This station as originally established, July 5, 1897, was 9 above the mouth of the river. On July 29, 1898, it was moved t bridge 8½ miles down stream, or near the mouth. It is describ Water-Supply Paper No. 51, page 446. Results of measurement 1900 will be found in the Twenty-second Annual Report, Par page 458. The station was discontinued December 31, 1901. Du 1901 the following measurements were made by W. J. Ware:

List of discharge measurements of Dungeness River at Dungeness, Was

Date.	Gage height.	Discharge.	Date.	Gage height.	c
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	S
January 4	3.60	3.53	August 29	4.40	
February 26 [a]	4.10	471.4	September 28	4.05	
March 19 [a]	4.05	252	October 31	4.10	
April 30	4.00	289	November 29	6.05	
May 27	5.80	1,212	December 27	4.35	
July 31	5.80	658			

[a] Seeming discrepancies due to formation of sand bar.

Daily gage height, in feet, of Dungeness River at Dungeness, Wash., for 1901.

Day.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	3.90	4.15	5.70	4.90	4.80	4.45	4.05	4.05	6.00
2	.....	4.00	4.20	5.65	4.95	4.80	4.40	4.05	4.05	5.50
3	.....	4.05	4.30	5.60	5.00	4.80	4.40	4.05	4.10	5.40
4	.....	4.10	4.40	5.60	5.00	4.80	4.35	4.05	4.10	5.20
5	.....	4.15	4.50	5.55	5.15	4.80	4.35	4.05	4.10	5.00
6	.....	4.20	4.60	5.50	5.20	4.80	4.30	4.05	4.10	4.80
7	.....	4.30	4.90	5.45	5.20	4.75	4.30	4.05	4.05	4.70
8	.....	4.40	4.90	5.40	5.15	4.75	4.30	4.05	4.05	4.65
9	.....	4.50	5.00	5.30	5.10	4.70	4.30	4.05	4.05	4.60
10	.....	4.45	5.10	5.30	5.05	4.70	4.25	4.05	4.15	4.55
11	.....	4.40	5.20	5.25	5.00	4.80	4.25	4.05	4.25	4.50
12	.....	4.35	5.10	5.20	4.90	4.75	4.20	4.05	4.40	4.45
13	.....	4.30	5.10	5.20	4.80	4.75	4.20	4.05	4.55	4.40
14	.....	4.30	5.15	5.15	4.80	4.70	4.20	4.10	4.70	4.40
15	.....	4.25	5.10	5.10	4.75	4.70	4.20	4.15	4.65	4.35
16	.....	4.20	6.20	5.05	4.70	4.65	4.20	4.20	4.60	4.30
17	.....	4.20	5.90	5.00	4.75	4.60	4.20	4.25	4.55	4.30
18	4.05	4.15	5.80	5.05	4.80	4.60	4.25	4.30	4.50	4.25
19	4.05	4.15	5.70	5.05	4.80	4.55	4.25	4.30	4.60	4.25
20	4.00	4.10	5.60	5.05	4.85	4.55	4.30	4.20	4.65	4.20
21	3.95	4.10	5.55	5.10	4.85	4.60	4.30	4.15	4.70	4.20
22	3.90	4.05	5.50	5.00	4.80	4.65	4.30	4.10	4.75	4.25
23	3.90	4.05	5.40	4.90	4.75	4.65	4.30	4.10	4.70	4.25
24	3.90	4.00	5.30	4.85	4.75	4.70	4.25	4.05	4.60	4.25
25	3.85	4.00	5.25	4.90	4.75	4.65	4.25	4.05	4.60	4.30
26	3.80	4.05	5.20	4.90	4.80	4.65	4.20	4.10	4.70	4.30
27	3.85	4.05	5.80	4.85	4.80	4.60	4.20	4.10	9.50	4.35
28	3.90	4.10	5.90	4.85	4.80	4.60	4.15	4.10	8.50	4.35
29	3.90	4.10	5.80	4.80	4.80	4.60	4.15	4.15	8.00	4.40
30	3.85	4.10	5.75	4.85	4.80	4.55	4.10	4.15	6.50	4.35
31	3.85	.....	5.75	.....	4.80	4.50	.....	4.10	.....	4.30

ELWHA RIVER AT McDONALD, WASH.

This station, established October 8, 1897, is at the new county bridge, 9 miles southwest of Port Angeles. It is described in Water-Supply Paper No. 51, page 447. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 459. The station was discontinued December 31, 1901. During 1901 the following measurements were made by W. J. Ware:

List of discharge measurements of Elwha River at McDonald, Wash.

Date.	Gage height.	Discharge.	Day.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
March 30	2.25	890	August 23	2.70	984
April 29	2.65	1,148	September 26	2.06	643
May 30	4.00	2,333	October 29	2.45	893
June 25	3.65	1,604	November 25	3.80	1,881
July 30	3.45	1,458			

Daily gage height, in feet, of Elwha River at McDonald, Wash., for 19

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov
1	3.31	2.60	5.98	3.22	2.98	5.55	3.44	3.34	2.60	1.97	3.3
2	3.20	2.64	5.15	2.88	3.34	4.82	3.59	3.36	2.48	1.97	3.1
3	3.04	2.55	4.80	2.70	3.14	4.78	3.60	3.30	2.44	1.75	3.9
4	3.00	2.52	4.22	2.78	3.08	4.62	3.56	3.26	2.41	1.60	3.4
5	2.95	2.55	3.85	2.95	2.97	4.14	3.53	3.25	2.38	1.58	4.5
6	2.85	2.25	3.72	2.84	3.00	3.93	3.88	3.28	2.37	1.56	3.0
7	2.98	2.20	3.61	2.52	2.95	3.65	3.68	3.31	2.34	1.54	2.6
8	2.95	2.18	3.52	2.55	2.90	3.62	3.85	3.30	2.31	1.48	2.4
9	2.89	2.15	3.43	2.50	2.90	3.34	3.80	3.14	2.23	1.47	2.4
10	3.02	2.06	3.70	2.52	2.88	3.23	3.66	3.11	2.21	1.44	2.3
11	3.20	2.02	3.10	3.12	2.87	3.10	3.61	3.12	1.95	1.43	2.8
12	3.90	2.14	3.03	3.10	4.02	3.22	3.50	3.15	2.24	1.41	5.6
13	7.89	3.15	2.84	2.84	4.04	3.21	3.48	3.10	2.22	1.61	5.7
14	5.88	2.90	2.54	2.79	3.86	3.54	3.45	3.15	2.02	1.54	4.8
15	4.84	3.50	2.80	2.60	4.23	3.60	3.34	3.17	2.04	1.55	3.8
16	4.04	4.85	2.85	2.30	6.46	3.58	3.68	3.14	2.02	1.51	4.4
17	3.74	3.74	2.90	2.26	5.20	4.05	3.54	3.11	2.00	1.47	3.9
18	3.60	3.20	2.85	2.22	4.53	4.48	3.55	3.09	1.98	1.47	3.5
19	3.48	3.18	2.45	2.28	4.09	4.52	3.51	2.88	1.90	1.44	3.4
20	3.45	2.92	2.39	2.80	3.65	4.62	3.40	2.85	1.97	3.43	4.0
21	3.42	2.90	2.62	2.83	3.61	4.20	3.80	2.78	2.03	2.39	3.5
22	3.44	2.83	2.65	2.91	3.55	4.22	3.92	2.75	2.07	2.21	5.6
23	3.39	2.95	2.62	2.54	3.51	4.00	3.76	2.71	2.12	2.20	5.1
24	3.36	4.60	2.34	2.45	3.51	3.60	2.74	2.69	2.10	2.00	4.2
25	3.10	3.92	2.30	1.96	3.72	3.64	3.48	2.80	2.07	1.87	3.8
26	2.98	4.00	2.27	2.45	4.44	3.65	3.49	2.80	2.06	1.80	4.6
27	2.85	5.46	2.22	2.28	5.45	3.84	3.46	2.65	2.04	2.60	10.6
28	2.80	7.41	2.12	2.30	5.12	4.03	3.44	2.62	2.00	2.34	6.4
29	2.78	.....	2.50	2.65	4.56	3.71	3.25	2.61	2.04	2.44	6.1
30	2.72	.....	2.25	2.66	4.43	3.50	3.45	2.52	2.00	3.02	5.5
31	2.70	.....	2.31	.....	4.40	.....	3.41	2.54	.....	3.80	.....

KALAWA RIVER NEAR FORKS, WASH.

This station, established November 12, 1897, is at the county way bridge in the southwestern part of Clallam County, near F Wash. It is described in Water-Supply Paper No. 51, page Results of measurements for 1900 will be found in the Twenty-s Annual Report, Part IV, page 460. The station was discont December 31, 1901. During 1901 the following measurements made by W. J. Ware:

List of discharge measurements of Kalawa River near Forks, Wash.

Date.	Gage height.	Discharge.	Date.	Gage height.	c
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	
March 28	3.40	1,382	November 10	2.40	
June 20	1.00	300	November 12	8.05	
September 18	−.10	61	December 21	2.25	

Daily gage height, in feet, of Kalawa River near Forks, Wash., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.05	1.85	8.45	3.20	2.60	1.85	1.00	0.40	0.00	0.00	4.20	6.30
2	1.80	1.90	7.25	4.80	2.65	2.05	1.00	.45	.50	.00	3.30	4.80
3	1.40	1.90	4.85	4.40	2.80	2.45	.85	.25	.00	.00	4.30	4.20
4	1.20	1.70	4.60	4.00	2.60	2.40	.80	.25	.00	.00	4.35	10.20
5	1.05	1.40	4.25	3.85	2.60	2.60	.80	.25	.00	.00	5.55	6.20
6	1.40	1.30	3.80	3.80	2.45	2.65	.65	.20	.00	.00	4.35	4.55
7	1.60	1.20	3.20	3.40	2.40	2.60	.65	.20	.00	.00	3.35	4.80
8	1.85	1.20	3.05	3.00	1.40	2.40	.60	.20	.00	.05	3.00	5.80
9	1.65	1.05	3.00	3.00	1.25	1.40	.60	.20	.00	.05	2.35	6.00
10	1.85	1.00	3.20	2.85	1.20	1.45	.60	.05	.00	.05	2.40	3.60
11	5.90	1.00	3.25	2.80	2.00	1.65	.60	.05	.00	.00	3.68	3.20
12	15.00	1.40	3.20	2.60	1.85	1.60	.45	.05	.05	.00	7.23	2.65
13	16.00	1.45	3.00	2.40	1.80	1.45	.45	.05	.20	.00	6.30	2.60
14	8.00	1.40	2.80	2.45	1.85	1.40	.40	.05	.05	.00	5.10	2.40
15	6.80	2.00	2.60	2.40	2.00	1.40	.45	.05	.05	.00	4.00	2.30
16	5.40	5.45	2.45	2.25	8.20	1.20	.45	.00	.00	.00	4.60	2.25
17	4.60	2.20	2.40	2.20	4.20	1.05	.45	.00	.00	.05	5.00	2.00
18	4.10	2.00	2.25	2.00	3.60	1.05	.45	.00	.00	.05	4.00	2.00
19	3.20	1.85	2.25	1.85	.....	1.05	.40	.00	.00	.05	3.35	1.95
20	2.40	1.60	2.00	2.00	.....	1.05	.40	.00	.00	3.20	3.40	1.85
21	2.20	1.25	1.85	2.00	2.00	1.05	.40	.00	.30	1.00	3.85	2.25
22	2.05	2.00	2.00	2.20	2.20	1.05	.40	.00	.25	.30	7.05	6.05
23	2.00	4.85	2.20	2.25	2.25	1.05	.45	.00	.20	.25	4.80	5.20
24	1.85	4.00	2.45	2.20	2.20	1.20	.45	.00	.05	.20	4.80	5.60
25	1.90	4.45	3.00	2.40	2.40	1.25	.45	.05	.20	.05	4.60	5.45
26	1.80	6.05	3.40	2.65	2.65	1.25	.40	.00	.05	.05	4.80	7.60
27	1.80	7.25	3.25	2.80	2.80	1.20	.40	.00	.05	.20	13.05	5.00
28	1.80	8.45	3.20	2.65	1.20	1.20	.45	.00	.05	.20	7.00	4.60
29	1.60	.....	2.80	2.65	1.05	1.05	.40	.00	.05	.20	4.80	3.55
30	1.65	.....	2.60	2.60	1.20	1.05	.40	.00	.00	2.05	5.20	3.30
31	1.70	.....	2.80	.....	1.05	.....	.40	.00	.....	5.25	.....	2.95

SOLEDUCK RIVER NEAR QUILLAYUTE, WASH.

This station, established November 13, 1887, is at the county highway bridge, 9 miles northeast of Lapush, near Quillayute. The station is described in Water-Supply Paper No. 51, page 449. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 461. The station was discontinued December 31, 1901. During 1901 the following measurements of discharge were made by W. J. Ware:

March 28: Gage height, 5.50 feet; discharge, 1,649 second-feet.
June 19: Gage height, 5.20 feet; discharge, 1,295 second-feet.
September 18: Gage height, 3.00 feet; discharge, 199 second-feet.
December 21: Gage height, 5.20 feet; discharge, 1,397 second-feet.

Daily gage height, in feet, of Soleduck River near Quillayute, Wash., for

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	No
1	5.90	4.90	10.70	6.50	5.35	5.90	4.50	3.85	3.25	3.05	8.2
2	5.70	4.80	8.30	7.30	5.25	5.80	4.45	3.80	3.25	3.00	5.8
3	5.60	4.80	7.70	6.75	5.30	5.75	4.45	3.80	3.20	3.00	6.6
4	5.45	4.75	6.95	6.20	5.30	5.60	4.40	3.80	3.20	2.95	7.4
5	5.30	4.65	6.50	6.35	5.10	5.60	4.45	3.75	3.15	2.95	6.8
6	5.25	4.60	6.30	6.50	5.00	5.55	4.45	3.75	3.15	3.00	6.4
7	5.10	4.55	6.00	6.20	4.95	5.55	4.35	3.70	3.10	3.05	5.9
8	5.00	4.50	5.90	5.80	4.90	5.40	4.35	3.70	3.10	3.10	5.7
9	5.15	4.45	5.80	5.50	4.85	5.20	4.30	3.70	3.10	3.00	5.3
10	5.40	4.40	5.70	5.60	4.80	5.10	4.30	3.65	3.05	2.95	6.2
11	6.00	4.30	5.60	5.75	4.75	5.10	4.35	3.65	3.10	2.95	8.3
12	11.40	4.35	5.50	5.75	5.50	4.90	4.30	3.60	3.05	2.90	11.6
13	12.70	4.40	5.40	5.70	5.45	4.80	4.25	3.60	3.05	2.90	8.8
14	11.40	4.90	5.30	5.55	5.40	4.80	4.15	3.55	3.00	2.90	7.4
15	10.15	5.40	5.15	5.30	5.50	4.75	4.10	3.55	3.00	2.85	7.1
16	8.90	8.30	5.10	5.25	7.80	4.80	4.10	3.55	3.05	2.80	6.6
17	7.30	6.60	5.10	5.20	7.65	4.90	4.15	3.50	3.00	2.80	7.1
18	6.80	6.25	5.10	5.10	6.70	4.95	4.10	3.50	3.05	2.85	7.0
19	6.50	5.30	5.00	5.30	6.10	5.20	4.10	3.45	3.00	2.85	6.8
20	6.40	5.50	4.90	5.70	5.80	5.00	4.05	3.40	3.15	3.70	6.6
21	6.30	5.15	4.90	5.90	5.65	4.90	4.05	3.40	3.20	3.55	6.4
22	6.10	5.25	4.85	6.40	5.40	4.75	4.10	3.35	3.25	3.40	7.9
23	5.90	5.40	4.90	6.70	5.30	4.70	4.10	3.35	3.20	3.25	7.6
24	5.75	6.60	5.00	6.40	5.15	4.60	4.10	3.30	3.20	3.20	7.3
25	5.60	7.40	5.05	5.90	5.00	4.60	4.05	3.30	3.20	3.20	6.9
26	5.50	7.10	5.40	5.70	5.90	4.65	4.00	3.30	3.15	3.10	6.6
27	5.50	8.75	5.90	5.30	6.00	4.60	3.95	3.25	3.10	3.25	13.7
28	5.35	10.30	5.55	5.35	6.10	4.65	3.95	3.25	3.10	3.60	3.6
29	5.20	.....	5.35	5.30	5.70	4.65	3.90	3.25	3.10	4.10	8.1
30	5.10	.....	5.15	5.35	5.20	4.55	3.90	3.20	3.05	4.55	7.7
31	5.00	.....	5.20	.....	5.40	.....	3.90	3.20	.....	6.90	.....

MISCELLANEOUS DISCHARGE MEASUREMENTS IN NORTHWEST WASHINGTON.

Date.	Stream.	Locality.	Hydrographer.	C
1901.				
March 8	Morse River	Near Port Angeles	Wm. J. Ware	
May 1	do	do	do	
August 1	do	do	do	
August 29	do	do	do	
September 28	do	do	do	
February 28	Little River	Near McDonald	do	
April 29	do	do	do	
September 26	do	do	do	
October 29	do	do	do	
November 27	do	do	do	
March 29	West Fork of Pysht River	At the forks	do	
June 21	do	do	do	
September 20	do	do	do	
June 21	East Fork of Pysht River	do	do	
March 29	Clallam River	Near East Clallam	do	
June 21	do	do	do	
September 20	do	do	do	

SAN FRANCISCO BAY DRAINAGE.

SACRAMENTO RIVER AT JELLYS FERRY, CALIFORNIA.

This station, established April 30, 1895, is 12 miles above the of Red Bluff, at Jellys Ferry. It is described in Water-Supply No. 51, page 450. Results of measurements for 1900 will be fou the Twenty-second Annual Report, Part IV, page 462. Durin the following measurements of discharge were made under the tion of J. B. Lippincott:

List of discharge measurements of Sacramento River at Jellys Ferry, California.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 27	9.46	15,908	October 30	1.02	5,187
April 9	7.80	11,112	December 13	2.68	9,651
September 2	4.90	4,390			

Daily gage height, in feet, of Sacramento River at Jellys Ferry, California, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	7.10	8.50	16.90	7.80	8.70	6.50	5.40	5.00	4.90	5.20	5.20	8.80
2	7.10	8.30	15.70	7.70	8.40	6.40	5.40	5.00	4.90	5.10	5.20	10.30
3	15.90	8.10	15.30	8.60	8.20	6.30	5.40	5.00	4.90	5.10	5.20	11.30
4	21.60	8.40	14.10	8.00	8.20	6.20	5.40	5.00	4.90	5.10	5.20	19.60
5	12.80	12.10	13.20	7.90	8.00	6.20	5.40	5.00	4.90	5.10	5.20	13.10
6	11.30	9.40	12.80	8.30	7.90	6.20	5.30	5.00	4.80	5.10	5.20	14.20
7	10.60	8.60	12.30	8.10	7.90	6.10	5.30	5.00	4.80	5.10	5.20	10.30
8	9.30	8.90	11.90	7.80	7.80	6.00	5.30	5.00	4.80	5.10	5.20	9.20
9	8.90	8.30	11.40	7.70	7.70	6.00	5.30	4.90	4.80	5.10	5.20	8.20
10	8.30	7.80	11.30	7.50	7.60	5.90	5.30	4.90	4.80	5.10	5.20	8.10
11	8.30	7.40	11.80	7.50	7.70	5.80	5.30	4.90	4.80	5.00	5.20	7.60
12	8.70	7.40	11.20	7.50	7.70	5.70	5.20	4.90	4.80	5.00	5.20	7.20
13	9.70	7.40	10.90	7.40	7.60	5.70	5.20	4.90	4.80	5.00	5.20	7.00
14	9.50	8.80	10.30	7.70	7.60	5.70	5.20	4.90	4.80	5.00	5.20	6.70
15	10.70	8.70	10.10	7.60	7.50	5.60	5.20	4.90	4.80	5.00	5.20	6.60
16	9.80	10.80	9.80	7.50	7.50	5.60	5.20	4.90	4.80	5.00	5.80	6.20
17	9.70	14.50	9.70	7.40	7.50	5.60	5.20	4.90	4.80	5.00	5.70	6.20
18	9.70	12.60	9.50	7.40	7.30	5.60	5.20	4.90	4.80	5.00	5.50	6.20
19	9.40	18.30	9.30	7.50	7.20	5.60	5.20	4.90	4.80	5.00	5.40	6.20
20	9.00	25.80	9.10	7.40	7.00	5.60	5.10	4.90	4.80	5.00	6.40	6.10
21	12.00	22.90	9.10	7.50	6.90	5.60	5.10	4.90	4.80	5.00	6.40	6.10
22	17.50	19.30	9.00	7.50	6.80	5.60	5.10	4.90	4.80	5.00	6.50	6.10
23	14.20	22.70	8.90	7.50	6.70	5.60	5.10	4.90	5.20	5.00	6.40	6.00
24	12.10	21.80	8.80	7.40	6.60	5.60	5.10	4.90	5.70	5.00	7.80	6.00
25	11.00	19.80	8.70	7.30	6.70	5.50	5.10	4.90	5.60	5.00	6.60	6.00
26	10.00	18.70	8.80	7.30	6.80	5.50	5.10	4.90	5.30	5.00	8.10	6.00
27	9.50	17.80	8.60	7.20	6.70	5.50	5.10	4.90	5.20	5.40	8.40	5.90
28	9.40	17.40	8.50	7.30	6.80	5.50	5.00	4.90	5.20	5.70	7.30	5.80
29	9.30	.....	8.40	9.70	6.80	5.50	5.00	4.90	5.10	5.70	16.50	5.80
30	9.00	.....	8.20	9.70	6.70	5.50	5.00	4.90	5.30	5.30	11.10	5.80
31	8.80	.....	8.20	.....	6.60	.....	5.00	4.90	.....	5.20	.....	5.70

STONY CREEK NEAR FRUTO, CAL.

This stream drains 700 square miles of the eastern slopes of the Coast Range. After reaching the Sacramento Valley it flows north for a number of miles, contrary to the general drainage, and then turns east and enters the Sacramento River below Vina, Cal. A large portion of the basin near the heads of the stream is heavily covered with commercial timber. There are a number of good reservoir sites on this stream and its tributaries.

On January 30, 1901, a gaging station was established by Mr. Burt Cole, at Julian's ranch, 6 miles northwest of the town of Fruto, Cal., to determine the amount of water available for storage.

The following meter measurements were made under the direction of J. B. Lippincott:

List of discharge measurements of Stony Creek near Fruto, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1900.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
November 11	.....	62.0	March 9	5.6	933.3
1901.			April 10	4.9	382.0
February 27	6.9	2,583.0	September 3	3.17	3.4
February 19[a]	14.0	18,000.0	November 21	4.3	165.0

[a] Estimated from float measurements.

Daily gage height, in feet, of Stony Creek near Fruto, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov
1	.....	5.90	6.70	5.00	5.20	4.40	3.10	3.30	3.20	4.70	3.70
2	.....	5.80	6.40	5.00	5.20	4.40	3.10	3.30	3.20	4.60	3.60
3	.....	5.70	6.20	5.10	5.10	4.30	3.10	3.30	3.20	4.60	3.60
4	.....	5.70	6.00	5.10	5.10	4.30	3.10	3.30	3.20	4.50	3.60
5	.....	5.90	5.90	5.00	5.10	4.30	3.00	3.20	3.20	4.50	3.60
6	.....	5.70	5.80	5.10	5.00	4.20	3.00	3.20	3.20	4.50	3.60
7	.....	5.60	5.70	5.00	4.90	4.20	3.00	3.20	3.20	4.40	3.60
8	.....	5.60	5.60	5.00	4.90	4.10	3.00	3.20	3.20	4.30	3.60
9	.....	5.50	5.60	4.90	4.90	4.00	2.90	3.20	3.20	4.20	3.60
10	.....	5.50	5.70	4.80	4.80	4.00	2.90	3.20	3.20	4.20	3.70
11	.....	5.40	5.80	4.80	4.80	3.90	2.80	3.20	3.20	4.10	3.70
12	.....	5.40	5.70	4.70	4.80	3.80	2.80	3.20	3.20	4.00	3.70
13	.....	5.80	5.60	4.70	4.80	3.80	2.80	3.20	3.20	3.90	3.70
14	.....	6.50	5.50	4.80	4.80	3.70	3.40	3.20	3.20	3.90	3.70
15	.....	6.00	5.50	4.90	4.80	3.70	3.40	3.20	3.30	3.80	3.90
16	.....	7.50	5.50	4.90	4.70	3.60	3.40	3.20	3.30	3.70	4.00
17	.....	7.00	5.50	4.80	4.70	3.60	3.40	3.20	3.30	3.60	3.80
18	.....	6.70	5.50	4.80	4.70	3.50	3.40	3.10	3.30	3.50	3.90
19	.....	10.50	5.40	4.70	4.60	3.50	3.40	3.10	3.30	3.40	3.90
20	.....	9.50	5.30	4.70	4.60	3.40	3.40	3.10	3.30	3.40	4.30
21	.....	8.30	5.30	4.70	4.70	3.40	3.40	3.10	3.30	3.30	4.30
22	.....	7.50	5.30	4.60	4.70	3.40	3.30	3.10	3.40	3.20	4.80
23	.....	8.70	5.20	4.60	4.70	3.30	3.30	3.10	3.40	3.20	4.80
24	.....	7.80	5.20	4.50	4.70	3.30	3.30	3.10	3.40	3.10	4.70
25	.....	7.30	5.20	4.50	4.80	3.30	3.30	3.10	3.50	3.00	4.50
26	.....	7.20	5.20	4.50	4.70	3.20	3.30	3.10	3.50	3.00	4.40
27	.....	7.00	5.20	4.50	4.70	3.20	3.30	3.10	3.50	4.60	4.40
28	.....	6.80	5.20	4.50	4.70	3.20	3.30	3.10	3.50	4.70	4.40
29	.....	.....	5.10	5.30	4.60	3.20	3.30	3.10	4.50	4.80	5.80
30	.....	6.00	.....	5.10	5.20	4.60	3.20	3.30	3.10	5.40	4.80	5.30
31	.....	6.00	.....	5.00	.....	4.50	.....	3.30	3.10	.....	3.80	.....

CACHE CREEK NEAR LOWER LAKE, CAL.

This stream is the outlet of Clear Lake, in Lake County, Cal.. is described in Water-Supply Paper No. 51, page 453.

On account of the great importance of Clear Lake as a storage ervoir, a gaging station was established at the wagon bridge a Cache Creek, one-half mile north of the town of Lower Lake, Jan 1, 1901.

The following meter measurements were made under the dire of J. B. Lippincott during 1901:

List of discharge measurements of Cache Creek near Lower Lake, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	c'
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	S
January 25	3.60	675	September 4	1.72	
April 13	3.80	673	October 5	1.45	
June 17	2.85	333	November 9	1.20	
July 15	2.45	236	November 29	1.60	
August 13	2.05	144	December 30	1.60	

Daily gage height, in feet, of Cache Creek near Lower Lake, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.30	3.60	4.80	4.00	3.50	3.10	2.60	2.20	1.80	1.50	1.20	1.50
2	2.20	3.60	4.70	3.90	3.50	3.00	2.60	2.10	1.70	1.40	1.20	1.40
3	3.10	3.60	4.70	3.90	3.50	3.00	2.50	2.20	1.70	1.40	1.20	1.50
4	5.50	4.00	4.70	3.90	3.40	3.00	2.50	2.20	1.70	1.40	1.20	1.60
5	3.00	3.70	4.70	3.90	3.50	3.00	2.50	2.10	1.70	1.50	1.20	1.70
6	3.10	3.70	4.60	3.90	3.40	3.00	3.50	2.10	1.70	1.50	1.20	1.70
7	3.10	3.70	4.60	3.80	3.40	3.00	2.50	2.10	1.70	1.40	1.20	1.70
8	3.10	3.70	4.60	3.80	3.40	2.90	2.50	2.10	1.70	1.40	1.20	1.70
9	3.10	3.70	4.50	3.80	3.40	3.00	2.50	2.10	1.60	1.30	1.10	1.70
10	3.10	3.70	4.60	3.80	3.30	2.90	2.40	2.10	1.60	1.40	1.10	1.70
11	3.10	3.70	4.70	3.80	3.40	2.90	2.40	2.10	1.60	1.30	1.20	1.70
12	3.20	3.70	4.60	3.70	3.40	2.80	2.40	2.00	1.50	1.30	1.10	1.60
13	3.30	3.80	4.60	3.70	3.30	2.90	2.40	2.00	1.60	1.30	1.20	1.60
14	3.20	3.80	4.50	3.70	3.30	2.80	2.40	2.00	1.50	1.30	1.20	1.60
15	3.30	3.80	4.40	3.70	3.30	2.80	2.40	2.00	1.50	1.30	1.20	1.60
16	3.30	3.80	4.50	3.60	3.30	2.80	2.40	2.00	1.50	1.30	1.20	1.60
17	3.30	3.80	4.50	3.70	3.20	2.80	2.30	2.00	1.50	1.20	1.20	1.60
18	3.30	3.80	4.40	3.60	3.30	2.80	2.40	1.90	1.50	1.20	1.20	1.60
19	3.30	6.00	4.40	3.60	3.20	2.80	2.30	1.90	1.40	1.20	1.20	1.60
20	3.30	4.50	4.40	3.60	3.20	2.80	2.30	1.90	1.40	1.20	1.30	1.60
21	3.60	4.40	4.40	3.60	3.20	2.70	2.30	1.90	1.40	1.20	1.30	1.60
22	3.60	4.40	4.40	3.60	3.20	2.80	2.30	1.90	1.40	1.20	1.30	1.60
23	3.50	4.70	4.30	3.50	3.20	2.70	2.30	1.90	1.40	1.20	1.30	1.60
24	3.50	4.70	4.30	3.50	3.10	2.70	2.30	1.80	1.40	1.20	1.30	1.60
25	3.50	4.70	4.30	3.50	3.10	2.70	2.30	1.80	1.40	1.20	1.40	1.60
26	3.60	4.70	4.20	3.50	3.10	2.70	2.20	1.80	1.40	1.10	1.30	1.60
27	3.60	4.80	4.20	3.50	3.10	2.70	2.30	1.80	1.40	1.20	1.30	1.50
28	3.60	4.70	4.10	3.50	3.10	2.60	2.20	1.80	1.40	1.50	1.30	1.50
29	3.60	.....	4.10	3.40	3.10	2.70	2.20	1.80	1.50	1.30	1.60	1.50
30	3.60	.....	4.10	3.50	3.10	2.60	2.20	1.80	1.50	1.20	1.30	1.60
31	3.60	.....	4.00	.....	3.00	.....	2.20	1.80	.....	1.20	.....	1.60

MOKELUMNE RIVER AT ELECTRA, CAL.

The Mokelumne River drains 537 square miles of the western slopes of the Sierra Nevada, above Electra, Cal.

A gaging station was established at this point by Burr Bassell, while employed by the Standard Electric Company. Daily gage readings were taken from January 1 to June 30, 1901, and numerous meter measurements were made.

The following record is given by the courtesy of the Standard Electric Company. Measurements of discharge were made by B. Bassell as follows:

List of discharge measurements of Mokelumne River at Electra, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 8	6.00	1,717	February 26	7.40	3,846
February 4	4.20	608	March 4	6.60	2,723
February 15	4.80	966	May 3	6.20	2,232
February 19	11.00	13,213	May 24	6.70	3,016
February 22	8.60	6,330			

Daily gage height, in feet, of Mokelumne River at Electra, Cal., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May
1	3.80	4.40	7.50	4.90	6.30	8.40	17	4.40	8.40	5.80	5.90	10.00
2	3.70	4.30	7.40	5.10	6.00	8.60	18	4.80	7.90	5.70	6.30	9.30
3	3.60	4.30	7.50	5.50	6.20	8.50	19	4.70	11.00	5.80	6.70	7.90
4	3.70	4.20	6.60	5.30	6.50	8.70	20	4.70	10.00	5.70	6.80	7.50
5	4.80	6.00	6.70	5.10	6.80	8.80	21	4.80	9.10	5.60	6.90	6.70
6	5.00	5.00	6.70	5.20	6.90	8.50	22	4.80	8.60	5.80	6.90	6.80
7	7.80	4.80	6.60	5.00	7.10	8.40	23	4.80	9.00	5.70	6.70	7.50
8	6.00	4.50	6.30	5.00	7.00	8.30	24	4.50	8.90	5.50	6.80	7.00
9	5.80	4.20	6.10	4.90	7.20	7.60	25	4.80	8.30	5.40	6.70	6.60
10	4.80	4.60	6.00	4.80	7.60	7.00	26	4.50	7.40	5.40	6.80	6.50
11	4.70	4.20	6.00	4.90	9.50	6.70	27	4.40	7.40	5.30	6.80	6.10
12	5.30	4.40	6.30	5.20	9.60	6.60	28	4.60	7.30	5.40	6.80	6.20
13	4.80	4.30	5.80	5.50	9.60	6.40	29	4.40	.....	5.30	6.90	6.30
14	5.00	4.20	5.70	5.90	9.70	6.30	30	4.40	.....	5.20	6.60	8.20
15	4.60	4.80	5.60	6.10	9.20	6.80	31	4.30	.....	5.10	.....	8.00
16	4.70	4.90	5.60	6.20	9.30	7.60						

STANISLAUS RIVER NEAR OAKDALE, CAL.

This station was first established May 3, 1896, and was reloc on July 30, 1898. It is described in Water-Supply Paper No page 455. Results of measurements for 1900 will be found in Twenty-second Annual Report, Part IV, page 464.

The record at this station was discontinued February 16, 1901.

During the year the following meter measurements were made u the direction of J. B. Lippincott:

January 29: Gage height, 6.18 feet; discharge, 9.65 second-feet.
October 31: Gage height, 4.70 feet; discharge, 189 second-feet.

Daily gage height, in feet, of Stanislaus River near Oakdale, Cal., for 19

Day.	Jan.	Feb.	Day.	Jan.	Feb.	Day.	Jan.
1	5.40	6.10	12	7.00	6.70	23	6.60
2	5.30	6.00	13	7.40	6.70	24	6.40
3	5.40	6.00	14	7.10	6.60	25	6.30
4	5.50	6.10	15	6.90	6.50	26	6.40
5	6.50	6.30	16	6.80	6.70	27	6.40
6	10.50	9.10	17	6.90	.....	28	6.30
7	15.00	7.70	18	6.60	.....	29	6.20
8	10.00	7.60	19	6.50	.....	30	6.10
9	8.00	7.50	20	6.50	.....	31	6.10
10	7.50	6.90	21	6.40	.....		
11	7.10	6.70	22	6.80	.....		

TUOLUMNE RIVER AT HETCH HETCHY VALLEY DAM SITE, CALIFOR

The entire drainage area of the Tuolumne River above Lagran about 1,500 square miles, about 400 square miles of which lie a the Hetch Hetchy dam site, which has an elevation of 3,630 above sea level. This upper drainage area consists of high gr mountains culminating in Mount Dana, Mount Gibbs, and M Lyell.

A gaging station was established at this point May 30, 190 J. B. Lippincott for the city of San Francisco, and the follo

meter measurements and gage heights are given by the courtesy of Mr. C. E. Grunsky, city engineer of San Francisco, Cal.:

List of discharge measurements of Tuolumne River at Hetch Hetchy Valley dam site, California.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
June 29	36	7,621	August 29	12.93	190
July 4	30	3,296	September 5	12.65	156
July 12	26.1	2,720	September 14	12.42	78
July 21	24.17	1,886	September 20	12.32	66
July 29	21.5	1,160	September 28	13.11	145
August 2	20.35	1,137	October 5	12.92	116
August 13	15.70	472	October 11	12.60	88
August 25	13.28	231			

Daily gage height of Tuolumne River at Hetch Hetchy Valley dam site, for 1901.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Day.	May.	June.	July.	Aug.	Sept.	Oct.
1		22.50	30.00	20.62	12.81	13.04	17		30.00	24.50	14.92	12.39	
2		24.55	28.60	20.33	12.77	13.01	18		30.00	24.00	14.70	12.37	
3		24.00	25.80	19.87	12.73	12.92	19		32.00	24.00	14.45	12.35	
4		24.00	30.00	19.41	12.69	12.95	20		32.00	24.00	14.26	12.32	
5		24.00	30.00	18.94	12.65	12.92	21		32.00	24.20	14.04	12.41	
6		24.50	28.00	18.48	12.60	12.87	22		33.00	24.40	13.82	12.52	
7		24.50	28.00	18.02	12.56	12.81	23		30.00	24.00	13.60	12.64	
8		26.00	25.00	17.95	12.52	12.76	24		30.00	23.00	13.48	12.73	
9		26.00	25.00	17.49	12.48	12.70	25		30.00	23.00	13.28	12.82	
10		27.00	24.10	17.03	12.43	12.65	26		31.50	22.00	13.19	12.92	
11		28.00	26.00	16.57	12.43	12.60	27		30.40	22.00	13.10	13.01	
12		28.00	26.10	16.11	12.42	12.50	28		34.80	21.50	13.10	13.11	
13		29.00	26.60	15.70	12.42	12.56	29		36.00	21.50	12.93	13.08	
14		29.00	26.00	15.58	12.42	12.53	30	32.30	31.70	21.00	12.89	13.06	
15		30.00	24.50	15.36	12.41	12.50	31	32.00		21.00	12.85		
11		31.00	26.00	15.14	12.40								

ELEANOR CREEK AT ELEANOR TRAIL CROSSING, CAL.

Eleanor Creek is a tributary of Cherry River, and enters the stream 6 miles above its mouth. The elevation of the outlet of Lake Eleanor is 4,655 feet above sea level. The drainage area above the gaging station is 81 square miles, and consists of high granite mountains culminating in Richardson Peak, elevation 9,845 feet; Haystack Peak, elevation, 9,966 feet; and an unnamed peak, elevation, 10,510 feet. The average elevation of the drainage basin is probably 7,500 feet.

A gaging station was established by J. B. Lippincott, at the outlet of Lake Eleanor, June 1, 1901, for the city of San Francisco. The following meter measurements and gage heights are given by the courtesy of Mr. C. E. Grunsky, city engineer of San Francisco, Cal.:

List of discharge measurements of Eleanor Creek at Eleanor trail crossing, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-feet.*	1901.	*Feet.*	*Sec.-feet.*
June 10	8.67	411	August 23	6.47	32
June 22	9.77	793	August 27	6.26	18
July 8	8.57	310	August 30	6.05	14
July 16	7.92	263	September 6	5.90	6
July 18	7.8	225	September 14	5.70	4
July 27	7.45	145	September 21	5.72	5
August 3	7.1	84	September 26	5.85	6
August 10	6.92	75	October 3	6.40	34
August 17	6.48	30	October 10	6.21	21
August 19	6.68	42	October 14		15

Daily gage height, in feet, of Eleanor Creek at Eleanor trail crossing for

Day.	June.	July.	Aug.	Sept.	Oct.	Day.	June.	July.	Aug.	Sep
1	11.00	9.10	7.30	6.20	6.30	17	10.00	7.84	6.50	5.7
2	11.08	9.60	7.20	6.10	6.40	18	10.00	7.80	6.60	5.7
3	10.50	9.00	7.10	6.10	6.40	19	10.00	7.85	6.70	5.7
4	10.20	9.00	7.10	6.00	6.40	20	9.80	7.85	6.60	5.7
5	10.10	8.50	7.10	6.00	6.30	21	9.80	7.85	6.60	5.7
6	10.00	8.50	7.00	5.90	6.30	22	9.77	7.70	6.50	5.8
7	9.50	8.50	7.00	5.90	6.30	23	9.70	7.70	6.50	5.8
8	9.00	8.57	6.90	5.90	6.25	24	9.70	7.60	6.40	5.8
9	9.10	8.60	6.90	5.90	6.20	25	9.70	7.60	6.40	5.8
10	8.67	8.60	6.92	5.90	6.20	26	9.70	7.50	6.30	5.8
11	8.60	8.60	6.90	5.90	6.20	27	9.40	7.45	6.30	5.9
12	8.60	8.60	6.80	5.90	6.20	28	9.00	7.45	6.30	6.0
13	8.60	7.90	6.70	5.70	6.15	29	9.00	7.45	6.20	6.1
14	10.00	7.90	6.60	5.70	6.10	30	9.50	7.40	6.20	6.2
15	10.00	7.90	6.50	5.70	6.10	31	.....	7.40	6.20	.....
16	10.00	7.92	6.50	5.70	.....					

CHERRY RIVER AT ELEANOR TRAIL CROSSING, CAL.

Cherry River is a tributary of the Tuolumne and enters stream 12½ miles below Hetch Hetchy Valley. The area drain 130 square miles.

A gaging station was established by J. B. Lippincott for the of San Francisco at the point where Eleanor trail crosses the r May 26, 1901. The following meter measurements and gage he are given by the courtesy of Mr. C. E. Grunsky, city engineer o Francisco, Cal.:

List of discharge measurements of Cherry River at Eleanor trail crossing

Date.	Gage height.	Discharge.	Date.	Gage height.	c
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	S
July 8	11.4	915	September 7	7.7	
July 17	10.4	510	September 17	7.0	
August 9	8.75	112	September 22	7.06	
August 19	9.1	132	September 26	9.05	
August 20	8.4	107	October 3	8.96	
August 24	8.1	43	October 10	8.0	
September 1	7.8	17			

Daily gage height, in feet, of Cherry River at Eleanor trail crossing for

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Day.	May.	June.	July.	Aug.	Sept
1	.....	12.30	13.20	9.40	7.80	9.00	17	.....	11.50	10.40	9.00	7.00
2	.....	12.60	13.00	9.30	7.80	9.00	18	.....	11.00	10.40	9.00	7.00
3	.....	12.85	12.40	9.20	7.80	9.00	19	.....	12.00	10.35	9.10	7.00
4	.....	12.00	12.40	9.10	7.70	8.80	20	.....	12.00	10.28	8.40	7.00
5	.....	11.60	12.40	9.10	7.70	8.70	21	.....	12.40	10.20	8.40	7.10
6	.....	11.20	12.40	9.00	7.70	8.40	22	.....	12.40	10.13	8.30	7.10
7	.....	12.00	12.00	8.90	7.70	8.30	23	.....	12.30	10.05	8.20	7.50
8	.....	12.70	11.40	8.80	7.70	8.30	24	.....	12.25	9.98	8.10	8.00
9	.....	12.00	11.40	8.80	7.70	8.10	25	.....	12.50	9.90	8.10	8.50
10	.....	11.65	11.00	8.80	7.60	8.10	26	12.20	12.50	9.83	8.10	9.10
11	.....	11.50	11.00	8.80	7.50	8.10	27	12.20	12.50	9.75	8.00	9.00
12	.....	11.50	10.00	8.80	7.40	8.00	28	12.20	13.00	9.68	8.00	9.00
13	.....	11.25	10.00	8.90	7.30	8.00	29	12.10	13.50	9.60	7.90	9.00
14	.....	11.50	10.00	8.90	7.20	7.80	30	12.20	14.00	9.53	7.90	9.00
15	.....	11.70	10.00	8.90	7.10	7.90	31	12.30	.....	9.45	7.80	.....
16	.....	11.70	10.00	8.90	7.00	.....						

TUOLUMNE RIVER AT LAGRANGE, CAL.

This station, established August 29, 1895, is at the wagon bridge in Lagrange, and is below the high dam of the Turlock and Modesto irrigation districts, and also below the head of the canal of the Lagrange Hydraulic Mining Company. It is described in Water-Supply Paper No. 51, page 456. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 465. The flow of the Hydraulic Mining Company's canal was 10 second-feet from January 1 to March 31, 1901, and 7 second-feet from April 1 to July 28, 1901. During 1901 the following measurements of discharge were made under direction of J. B. Lippincott:

List of discharge measurements of Tuolumne River at Lagrange, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 29	5.75	1,419	August 2	5.45	1,354
April 7	6.10	2,382	August 31	4.30	248
June 12	7.63	6,470			

Daily gage height, in feet, of Tuolumne River at Lagrange, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.00	5.70	7.90	5.90	7.30	9.10	8.80	5.60	4.20	4.50	5.10	5.40
2	4.90	5.60	7.90	5.80	7.00	9.30	8.10	5.50	4.30	4.50	4.90	5.30
3	4.80	5.60	7.70	6.40	7.10	9.50	7.80	5.50	4.30	4.30	4.90	5.30
4	5.10	5.60	7.40	6.20	7.10	9.50	7.40	5.60	4.20	4.30	4.80	7.50
5	7.10	10.00	7.40	6.10	7.40	9.40	7.10	5.80	4.20	4.20	4.70	7.00
6	11.40	7.70	7.40	6.10	7.60	8.90	7.40	5.90	4.10	4.20	4.60	6.80
7	10.90	6.80	7.30	6.10	8.00	9.20	7.40	6.00	4.20	4.10	4.60	7.30
8	7.70	6.70	7.10	6.00	8.40	9.10	7.20	5.50	4.10	3.80	4.60	6.80
9	7.00	6.60	7.00	5.90	8.60	9.10	7.20	5.30	4.10	3.70	4.50	6.50
10	6.60	6.30	6.80	5.80	8.90	8.40	6.80	5.20	4.00	3.70	4.80	6.10
11	6.50	6.10	6.70	5.80	8.90	7.60	6.60	5.20	4.10	3.70	5.10	5.20
12	6.70	6.00	6.70	6.10	9.30	7.60	6.80	5.00	4.10	3.60	5.00	5.10
13	6.50	6.00	6.60	6.20	9.60	7.50	6.90	4.80	4.10	3.50	4.90	5.00
14	6.40	6.10	6.50	6.50	9.80	7.30	6.90	4.50	4.00	3.40	4.80	4.90
15	6.20	6.50	6.50	6.70	9.70	7.50	6.70	4.80	4.00	3.40	4.70	4.90
16	6.10	6.40	6.40	6.80	9.70	8.10	6.70	4.70	4.00	3.30	4.60	5.00
17	6.00	9.50	6.40	6.80	9.60	8.20	6.60	4.60	3.90	3.30	4.70	4.90
18	6.00	9.20	6.40	6.90	9.50	8.70	6.40	4.40	4.00	3.20	4.60	4.80
19	5.90	11.70	6.30	7.20	9.30	8.70	6.30	4.20	3.90	3.20	4.60	4.60
20	5.90	10.50	6.40	7.30	8.30	8.50	6.10	4.70	3.90	3.20	4.50	4.60
21	6.20	9.70	6.40	7.50	7.90	9.20	6.10	4.70	3.90	3.20	4.40	4.50
22	6.30	9.70	6.50	7.50	7.60	9.80	6.10	5.20	3.80	3.30	4.80	4.50
23	6.00	10.90	6.50	7.40	7.50	9.40	6.10	4.90	4.10	3.20	4.70	4.40
24	6.00	10.50	6.40	7.60	7.60	8.50	6.20	4.70	4.40	3.30	4.70	4.40
25	6.10	8.80	6.30	7.90	7.30	7.80	6.10	4.60	4.40	3.30	4.80	4.40
26	6.00	8.10	6.30	7.80	7.10	7.50	6.00	4.60	4.30	3.30	4.70	4.40
27	5.80	7.90	6.30	7.60	7.00	7.20	5.90	4.50	4.20	3.30	4.80	4.40
28	5.80	7.80	6.30	7.50	6.90	8.80	5.80	4.40	4.20	5.70	4.90	4.30
29	5.70	.....	6.10	7.60	7.30	9.30	5.70	4.30	4.30	5.40	5.40	4.40
30	5.70	.....	6.00	7.90	8.10	8.90	5.60	4.20	4.50	5.10	5.50	4.30
31	5.70	.....	6.00	.....	8.50	.....	5.60	4.20	.....	5.20	.....	4.20

LAGRANGE DITCH AND HYDRAULIC MINING COMPANY'S CANAL.

The flumes of this company are decaying and their carrying capacity is diminishing.

The flow in this canal from January 1 to March 31, 1901, averaged approximately 10 second-feet; from April 1 to July 28, approximately 7 second-feet, and from July 28 to the end of the year, approximately 5 second-feet.

TURLOCK CANAL.

The record on this canal is incomplete.

During the night of August 3, 1901, a break occurred in the flu one-half mile below the head gate. The water was out of the ca for one month while repairs were being made. No reliable rec was obtainable after August 3, 1901.

Daily gage height, in feet, of Turlock Canal at Lagrange, Cal., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Day.	Apr.	May.	June.	July.
1		2.30	2.30	2.90	3.00	17	2.25	2.30	2.90	
2		2.20	2.20	3.00	3.00	18	2.30	2.30	2.90	
3		2.30	2.00	3.00	3.00	19	2.30	2.30	2.90	
4		2.30	2.20	3.00		20	2.40	2.30	2.90	
5		2.20	2.20	3.00		21	2.45	2.30	2.90	3.00
6		2.20	2.25	3.00		22	2.50	2.30	2.90	3.00
7		2.20	2.25	3.00		23	2.40	2.30	2.90	3.00
8		2.20	2.25	3.00		24	2.65	2.30		3.00
9		2.20	2.80	3.00		25	2.65	2.30		3.00
10	2.50	2.20	2.80	3.00		26	1.60	2.30		3.00
11	2.30	2.20	2.80	3.00		27	2.10	2.25		3.00
12	2.30	1.00	1.40	3.00		28	2.60	2.25	2.20	3.00
13	2.10	2.20	2.60	3.00		29	2.70	2.25	2.90	3.00
14	2.50	2.20	2.80			30	2.70	2.30		3.00
15	2.50	2.30	2.80			31		2.30		3.00
16	2.30	2.30	2.80							

MERCED RIVER ABOVE MERCED FALLS, CAL.

Merced River above Merced Falls drains approximately 1,090 squ miles of the western slopes of the Sierra Nevada. There are inclu in the eastern portion of its drainage area a large number of h peaks, the highest, Mount Lyell, reaching an elevation of 13,042 f

The midsummer flow of this stream is much larger in proportio its drainage area than that of the Tuolumne River, which joins i the north.

The measurement of this stream was undertaken in respons numerous requests from mining and irrigation interests. The r summer flow of the stream is less than the combined capacity of irrigation and power canals taking water in the vicinity of Snell The owners of these canals offered to pay $100 toward the expe of equipping and maintaining the gaging station for the first y H. H. Henderson, county surveyor of Merced County, establishe gaging station at a point 1 mile above Merced Falls, April 6, 1 Meter measurements are made from a cable. The observer is Charles Siegfeldt.

The following meter measurements were made in 1901 under direction of J. B. Lippincott:

List of discharge measurements of Merced River above Merced Falls, Cal

Date.	Gage height.	Discharge.	Date.	Gage height.	D cha
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec*
April 6	10.30	1,379	August 2	10.05	
June 1	12.00	4,139	August 31	8.60	

Daily gage height, in feet, of Merced River above Merced Falls, Cal., for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	11.6	13.1	12.2	10.1	8.6	8.8	9.4	9.3
2	.....	11.4	13.4	12.0	10.0	8.6	8.9	9.3	9.2
3	.....	11.2	13.4	11.9	10.3	8.6	8.9	9.2	9.2
4	.....	11.3	13.6	11.4	10.4	8.5	8.8	9.1	10.5
5	.....	11.6	13.4	11.2	10.6	8.5	8.7	9.2	10.7
6	10.3	11.8	13.2	11.2	10.8	8.4	8.6	9.2	10.8
7	10.3	12.2	13.2	11.2	10.3	8.4	8.6	9.2	10.2
8	10.1	12.5	13.2	11.1	10.0	8.4	8.5	9.0	9.8
9	10.1	12.8	12.8	11.1	9.8	8.4	8.5	8.9	9.7
10	10.0	13.2	12.4	11.0	9.7	8.4	8.5	9.4	9.6
11	10.1	13.4	12.1	10.8	9.6	8.4	8.5	9.3	9.4
12	10.1	13.7	12.0	10.8	9.4	8.4	8.4	9.2	9.3
13	10.5	13.8	11.9	10.8	9.3	8.3	8.4	9.2	9.1
14	10.7	13.7	11.6	10.8	9.2	8.3	8.4	9.2	9.0
15	10.8	13.7	11.8	10.6	9.2	8.3	8.3	9.1	9.0
16	10.8	13.8	12.3	10.6	9.2	8.3	8.3	9.0	9.0
17	10.9	14.0	12.2	10.5	9.2	8.3	8.3	9.0	9.0
18	11.0	13.7	12.6	10.4	9.4	8.3	8.3	8.9	8.9
19	11.4	13.3	12.7	10.4	9.4	8.2	8.3	8.9	8.9
20	11.6	12.8	12.3	10.4	9.3	8.2	8.3	8.6	8.9
21	11.7	12.3	12.6	10.4	9.1	8.2	8.3	7.0	8.9
22	11.8	12.1	13.0	10.4	9.0	8.3	8.3	8.9	8.9
23	11.8	12.1	12.6	10.5	8.9	8.4	8.3	8.9	8.8
24	11.8	12.0	12.3	10.5	8.9	8.6	8.3	8.9	8.8
25	12.2	11.8	11.9	10.4	8.8	8.7	8.3	8.8	8.8
26	11.9	11.6	11.7	10.3	8.8	8.7	8.4	8.8	8.8
27	11.9	11.5	11.6	10.2	8.6	8.7	8.9	8.8	8.8
28	11.9	11.5	11.9	10.2	8.6	8.6	9.9	9.3	8.8
29	11.6	11.6	12.4	10.0	8.6	8.6	9.7	9.3	8.8
30	12.4	11.9	12.3	10.1	8.6	8.6	9.4	9.6	8.7
31	.....	12.6	.....	10.0	8.6	.....	9.3	.....	8.6

SAN JOAQUIN RIVER AT HERNDON, CAL.

This station, established by the Southern Pacific Company in 1879, is at the iron highway bridge crossing the river at Herndon. It is described in Water-Supply Paper No. 51, page 458.

A reconnaissance has been made of the river above Polasky, with the view of locating a new station where the section will be more permanent, but no place entirely satisfactory has been found.

Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 466.

During 1901 the following measurements of discharge were made under the direction of J. B. Lippincott:

List of discharge measurements of San Joaquin River at Herndon, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 30	4.00	1,357	July 31	5.67	3,909
March 2	6.80	6,179	October 16	2.25	352
April 3	5.00	3,357	October 16	.....	[a]315

[a] At Polasky Ford.

Daily gage height, in feet, of San Joaquin River at Herndon, Cal., for 19

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	3.30	4.00	6.70	4.70	7.60	7.70	9.60	5.50	2.80	2.30	3.10
2	3.30	4.00	6.90	4.50	7.30	9.30	9.70	5.90	2.80	2.60	3.10
3	3.20	4.00	6.80	4.80	6.90	10.10	8.60	6.10	2.70	2.50	3.00
4	3.20	4.00	6.80	5.10	7.10	10.10	7.89	5.70	2.70	2.50	3.00
5	5.50	4.00	6.60	4.80	6.80	10.10	7.60	6.50	2.70	2.50	3.00
6	11.00	6.60	6.30	4.70	7.10	10.10	7.39	6.00	2.60	2.50	2.80
7	12.30	5.20	6.40	4.70	7.10	10.20	7.40	5.90	2.60	2.40	2.80
8	7.70	5.10	6.40	4.50	8.10	9.80	7.19	5.60	2.50	2.30	2.80
9	6.40	5.30	6.50	4.40	8.40	9.70	7.20	5.30	2.50	2.30	2.80
10	5.70	4.90	5.60	4.30	8.90	8.80	7.19	5.30	2.50	2.30	2.90
11	5.30	4.60	5.50	4.30	9.70	8.30	7.19	4.80	2.50	2.30	3.00
12	5.00	4.30	5.50	4.30	10.00	8.10	7.00	4.50	2.50	2.30	3.20
13	4.90	4.20	5.50	4.30	10.30	7.80	6.99	4.30	2.50	2.30	3.20
14	4.80	4.30	5.30	4.30	10.20	7.40	6.79	4.30	2.50	2.30	3.30
15	4.60	4.30	5.30	5.60	10.10	7.30	6.60	4.20	2.40	2.30	3.40
16	4.40	4.30	5.30	5.50	10.40	7.80	6.69	4.20	2.40	2.30	3.40
17	4.30	4.50	5.30	5.70	10.70	8.30	6.49	4.00	2.40	2.30	3.30
18	4.30	8.10	5.30	5.70	11.00	8.80	6.39	4.20	2.40	2.20	3.30
19	4.30	7.40	5.20	6.20	10.40	9.20	6.49	4.50	2.40	2.20	3.30
20	4.30	9.20	5.20	6.70	9.40	9.00	6.19	4.30	2.40	2.20	3.20
21	4.10	7.80	5.30	6.90	8.70	9.30	6.19	4.20	2.40	2.20	3.20
22	5.00	8.50	5.30	6.80	8.60	9.80	6.19	3.80	2.30	2.20	3.00
23	4.50	7.60	5.40	7.10	8.10	9.70	6.49	3.70	2.30	2.30	3.00
24	4.20	8.60	5.30	7.30	8.00	8.90	6.60	3.70	2.30	2.30	3.00
25	4.00	7.50	5.30	7.40	7.90	8.30	6.20	3.50	2.30	2.30	3.00
26	4.20	7.00	5.40	7.50	7.80	7.60	6.00	3.30	2.30	2.30	3.00
27	4.00	6.70	5.40	7.50	7.50	7.40	5.50	3.10	2.30	2.30	3.20
28	4.00	6.50	5.20	7.40	7.20	8.10	5.19	3.00	2.30	4.70	3.20
29	4.00	.....	5.00	6.90	6.90	8.60	5.19	3.00	2.30	3.70	3.30
30	4.00	.....	4.70	9.00	6.00	9.70	5.70	2.80	2.30	3.30	4.00
31	4.00	.....	4.70	.....	7.30	.....	5.89	2.80	.....	3.30	.....

KING RIVER NEAR RED MOUNTAIN, CALIFORNIA.

The gaging station, established September 3, 1895, is southwe Red Mountain, and is 15 miles east of Sanger, at the mouth o canyon of the river and above all diversions. It is described in W Supply Paper No. 51, page 459. Results of measurements for will be found in the Twenty-second Annual Report, Part IV, page During 1901 the following measurements of discharge were made u the direction of J. B. Lippincott:

List of discharge measurements of King River near Red Mountain, Califo

Date.	Gage height.	Discharge.	Date.	Gage height.	ch
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	S
January 31	5.40	991	May 21	10.50	
February 28	7.90	3,593	July 30	7.54	
April 14	6.48	1,915	October 17	4.10	

Daily gage height, in feet, of King River near Red Mountain, California, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.60	5.70	8.20	6.50	9.00	11.40	11.00	7.70	5.00	4.40	4.90	5.30
2	4.50	5.40	8.30	6.60	8.80	11.80	10.70	7.90	4.90	4.40	4.80	4.90
3	4.60	5.40	8.20	6.80	8.80	12.00	10.30	7.70	4.80	4.30	4.80	4.90
4	4.60	7.80	8.10	6.50	8.90	12.30	9.60	9.00	4.70	4.40	4.90	4.90
5	11.00	8.40	8.00	6.45	9.20	12.20	9.80	9.00	4.70	4.30	4.90	5.60
6	12.00	7.80	8.10	6.45	9.50	12.30	10.30	9.10	4.70	4.30	5.00	5.60
7	15.80	7.00	8.10	6.40	10.00	12.20	10.20	8.00	4.70	4.30	4.90	5.60
8	11.10	6.80	7.90	6.30	10.30	12.10	10.00	7.60	4.60	4.20	4.80	5.30
9	9.40	6.50	7.70	6.20	10.80	11.50	9.70	7.30	4.60	4.20	4.70	5.20
10	[a]7.10	6.30	7.45	6.20	11.20	11.00	9.50	7.20	4.50	4.20	5.00	5.10
11	7.00	6.20	7.30	6.30	11.70	10.40	9.40	6.80	4.50	4.20	4.80	5.00
12	6.90	6.10	7.25	6.60	11.80	10.10	9.30	6.60	4.45	4.20	5.00	4.90
13	6.70	6.00	7.10	7.00	11.50	9.80	9.40	6.40	4.40	4.20	5.05	4.60
14	6.60	6.10	7.00	7.50	11.40	9.50	8.90	6.20	4.30	4.10	5.00	4.70
15	6.50	6.20	6.85	7.60	11.60	9.40	8.70	6.10	4.40	4.10	4.40	4.70
16	6.00	6.20	6.90	7.80	11.80	10.30	8.50	6.70	4.30	4.10	4.80	4.60
17	5.70	6.30	7.00	8.00	12.30	11.00	8.70	6.40	4.30	4.10	4.70	4.70
18	5.70	9.20	7.00	8.40	12.40	11.10	8.70	6.80	4.30	4.10	4.60	4.60
19	5.70	9.10	7.20	8.80	11.50	10.90	8.50	6.60	4.30	4.10	4.60	4.50
20	5.70	9.00	7.20	9.10	11.20	11.10	8.40	6.10	4.30	4.10	4.50	4.50
21	5.50	8.50	7.30	9.30	10.50	11.40	8.50	5.90	4.30	4.10	4.50	4.50
22	6.00	9.40	7.30	9.40	10.10	11.80	8.20	5.70	4.30	4.10	4.70	4.40
23	6.20	8.50	7.20	9.50	10.00	11.70	8.50	5.50	4.30	4.10	4.70	4.45
24	6.20	9.20	7.10	9.80	9.90	10.80	8.30	5.30	4.60	4.10	4.60	4.45
25	6.20	8.40	7.00	10.00	9.60	10.60	8.00	5.20	4.60	4.20	4.50	4.35
26	6.20	8.20	7.10	9.70	9.20	9.90	8.00	5.10	4.60	4.20	4.50	4.35
27	6.00	8.00	6.90	9.80	9.10	10.40	7.80	5.00	4.50	6.60	4.40	4.30
28	5.80	8.00	6.70	9.70	9.00	10.80	8.00	5.00	4.50	6.00	4.40	4.30
29	5.60	.....	6.60	9.10	9.10	11.60	7.70	5.00	4.40	5.40	5.60	4.30
30	5.40	.....	6.60	10.50	9.40	11.80	7.60	5.00	4.40	5.30	6.00	4.30
31	5.40	.....	6.60	.....	10.30	.....	7.80	4.90	.....	5.00	.....	4.30

[a] Gage heights from January 10 to 30, inclusive, and February 2 and 3 are estimated from rainfall and comparison with San Joaquin River.

KING RIVER NEAR KINGSBURG, CAL.

The Southern Pacific Company has maintained gage readings at the railroad bridge 1 mile south of Kingsburg since 1879, and it is through its courtesy that the following record of gage heights for 1900 has been furnished to the Survey. Gage heights for 1900 will be found in Water-Supply Paper No. 51, page 461. No measurements of discharge were made here during 1901.

Daily gage height, in feet, of King River near Kingsburg, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4.2	6.3	8.0	5.3	8.9	10.3	10.5	4.2	2.9	3.3	4.5	5.3
2	4.1	6.2	8.1	5.0	8.4	11.1	10.3	4.4	2.8	3.3	4.5	5.3
3	4.0	6.1	8.3	5.2	7.9	11.5	9.0	4.3	2.7	3.3	4.4	5.2
4	4.4	6.2	8.1	5.3	7.8	11.8	8.3	4.8	2.7	3.3	4.3	5.2
5	9.0	6.3	7.9	4.7	8.1	11.7	8.0	7.0	2.7	3.2	4.3	5.5
6	10.3	8.0	7.9	4.7	8.3	11.7	8.0	7.0	2.7	3.0	4.4	5.6
7	14.7	7.7	7.9	5.4	8.7	11.6	7.9	5.5	2.7	2.7	4.4	6.0
8	9.5	7.3	7.8	5.5	9.2	11.4	7.8	4.7	2.9	2.7	4.3	5.4
9	8.3	7.6	7.7	5.4	10.0	10.9	7.5	4.3	3.0	2.7	4.3	5.3
10	7.8	7.3	7.5	5.4	10.5	10.0	6.7	3.8	2.9	2.7	4.3	5.3
11	7.5	7.2	7.3	5.3	11.2	9.2	6.3	3.7	2.9	2.8	4.6	5.3
12	7.3	7.0	7.3	5.3	11.5	8.8	6.2	3.3	2.9	2.8	4.6	4.8
13	7.1	6.9	7.2	5.2	11.4	8.4	6.1	3.0	2.9	2.8	4.6	4.6
14	6.8	6.8	7.0	5.3	11.0	7.7	5.7	2.7	2.9	2.7	4.6	4.3
15	6.7	6.7	6.8	6.1	11.0	7.5	5.5	2.6	2.9	2.7	4.5	4.3
16	6.7	6.9	6.8	5.9	11.5	8.7	5.3	3.1	2.9	2.7	4.5	4.4
17	6.5	7.0	6.7	6.2	12.0	9.5	5.2	3.1	2.9	2.8	4.4	4.3
18	6.3	8.7	6.7	6.3	12.1	9.9	5.2	3.4	2.9	2.7	4.3	4.3
19	6.3	8.7	6.7	7.0	11.5	9.8	5.1	3.7	2.8	2.7	4.3	4.3
20	6.3	8.7	6.7	7.4	10.7	9.7	4.8	3.7	2.8	2.8	4.3	4.3
21	6.3	8.6	6.7	8.2	9.7	10.2	4.8	3.3	3.1	2.8	4.3	4.3
22	6.7	9.7	6.7	8.3	9.0	10.8	4.8	3.1	3.2	2.8	4.3	4.2
23	6.3	8.6	6.6	8.5	9.0	10.7	5.1	3.0	3.2	2.8	4.3	4.1
24	6.3	9.3	6.6	8.7	8.5	9.8	5.0	2.9	3.3	2.8	4.2	4.1
25	6.2	8.6	6.2	9.0	8.0	9.3	4.7	3.0	3.4	2.8	4.1	4.1
26	6.2	8.2	6.3	8.6	8.0	8.5	4.5	3.0	3.4	3.0	4.0	4.1
27	6.0	8.0	6.3	8.3	7.7	8.3	4.3	2.9	3.4	3.1	4.1	3.8
28	5.9	7.9	5.8	8.4	7.5	9.3	4.3	2.9	3.4	6.1	4.1	3.7
29	6.1	.....	5.5	7.9	7.4	10.2	4.3	2.9	3.3	5.0	4.3	3.7
30	6.0	.....	5.5	10.3	7.7	10.8	4.1	3.0	3.3	4.7	6.3	3.7
31	6.0	.....	5.5	.....	9.0	.....	4.0	2.9	.....	4.6	.....	3.7

SOUTHERN CALIFORNIA DRAINAGE.

NACIMIENTO CREEK NEAR BRYSON, CAL.

This stream drains the eastern slopes of the Santa Lucia M tains and enters Salinas River above Bradley, Cal.

A gaging station was established by S. G. Bennett on this stre Harris ranch, near Bryson post-office, Cal., February 17, 1901. station was discontinued April 30, 1901, as no satisfactory rese sites had been found on this stream and the records ceased to value.

The total area drained above the gaging station is 171 square

List of discharge measurements of Nacimiento Creek near Bryson, Ca

Date.	Gage height.	Discharge.	Date.	Gage height.	c
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	
February 17	6.15	284	April 3	5.30	
March 18	5.50	144	June 3	4.82	
March 25	5.30	105			

Daily gage height, in feet, of Nacimiento Creek near Bryson, Cal., for 1

Day.	Feb.	Mar.	Apr.	May.	Day.	Feb.	Mar.	Apr.
1		6.30	5.20	7.60	17	6.10	5.50	5.00
2		6.20	5.20		18	6.10	5.50	5.00
3		6.10	5.20		19	6.20	5.50	5.00
4		6.00	5.10		20	11.00	5.40	4.90
5		5.90	5.10		21	8.70	5.40	4.90
6		5.90	5.10		22	7.80	5.40	4.90
7		5.80	5.10		23	7.50	5.30	4.90
8		5.70	5.10		24	7.10	5.30	4.90
9		5.70	5.10		25	6.90	5.30	4.90
10		6.00	5.00		26	6.70	5.30	4.90
11		6.30	5.00		27	6.60	5.20	4.90
12		5.90	5.00		28	6.40	5.20	4.90
13		5.80	5.00		29		5.20	7.00
14		5.70	5.00		30		5.20	7.10
15		5.60	5.00		31		5.20	
16		5.60	5.00					

SAN ANTONIO CREEK NEAR JOLON, CAL.

This stream drains the eastern slopes of the Santa Lucia Moun and enters the Salinas River at Bradley, Cal.

A gaging station was established by W. W. Cockins, jr., Jolon, Cal., December 15, 1900. The total area drained is 161 s miles.

The station was discontinued April 30, 1901, as no satisfa reservoir sites had been found on this stream.

List of discharge measurements of San Antonio Creek near Jolon, Ca

Date.	Gage height.	Discharge.	Date.	Gage height.	c
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	
January 19	4.45	185	March 26	4.30	
February 12	4.80	242	April 5	4.30	
March 18	4.50	148	April 18	4.10	

Daily gage height, in feet, of San Antonio Creek near Jolon, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	Day.	Jan.	Feb.	Mar.	Apr.
1	3.40	4.40	5.00	4.20	17	4.30	4.70	4.50	4.10
2	3.40	4.40	5.00	4.20	18	4.30	4.70	4.50	4.10
3	3.30	4.40	4.90	4.20	19	4.30	4.90	4.50	4.10
4	7.20	4.60	4.90	4.20	20	4.50	5.60	4.40	4.00
5	2.40	5.80	4.80	4.20	21	4.90	5.80	4.40	4.00
6	7.60	6.40	4.80	4.20	22	5.40	5.50	4.40	4.00
7	6.60	5.80	4.70	4.20	23	5.00	5.40	4.30	4.00
8	4.40	5.40	4.60	4.20	24	4.80	5.20	4.30	4.00
9	4.30	5.30	4.60	4.20	25	4.60	5.00	4.30	4.00
10	4.20	5.20	4.60	4.20	26	4.60	5.10	4.30	4.00
11	4.20	5.00	4.60	4.20	27	4.50	5.10	4.30	4.00
12	4.30	4.90	4.60	4.20	28	4.50	5.10	4.30	4.30
13	4.30	4.90	4.60	4.10	29	4.50	.....	4.30	4.70
14	4.30	4.80	4.50	4.10	30	4.50	.....	4.30	5.50
15	4.30	4.80	4.50	4.10	31	4.40	.....	4.30	.....
16	4.30	4.70	4.50	4.10					

SAN LORENZO CREEK NEAR KING CITY, CAL.

This stream drains the western slopes of the Gavilan Mountains and enters the Salinas River near King City, Cal. There is a reservoir and dam site on the stream 5 miles above its mouth. This stream is entirely dry during the summer months. The flood waters are used for winter irrigation. A gaging station was established by W. W. Cockins, jr., December 16, 1900, at Hollenbeck's ranch, a quarter of a mile below the dam site. The area of the watershed drained is 235 square miles.

List of discharge measurements of San Lorenzo Creek near King City, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
January 22 [a]	4.98	29	March 27 [b]	4.30	13
February 14	5.30	71	April 1 [b]	4.20	5
March 20	4.10	21			

[a] 5 miles above King City. [b] Hollenbeck station.

Daily gage height, in feet, of San Lorenzo Creek near King City, Cal., for 1900 and 1901.

Day.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Nov.	Dec.
1	.....	4.25	4.25	4.70	4.20	5.15	.....	1.20
2	.....	4.25	4.25	4.60	4.20	.....	.....	1.00
3	.....	4.25	4.25	4.60	4.35	.....	.....	1.00
4	.....	4.30	4.25	4.60	4.35	.....	.....	1.00
5	.....	7.80	12.00	4.60	4.40	.....	.....	1.00
6	.....	9.40	9.50	4.60	4.35	.....	.....	1.20
7	.....	7.05	8.50	4.60	4.20	.....	.....	1.10
8	.....	5.35	5.50	4.55	4.20	.....	.....	1.00
9	.....	4.85	5.50	4.50	4.20	.....	.....	1.00
10	.....	4.40	4.90	4.60	4.20	.....	1.30	1.05
11	.....	4.40	4.70	4.60	4.20	.....	1.30	1.05
12	.....	4.40	4.60	4.60	4.20	.....	1.30	1.05
13	.....	4.40	5.00	4.60	4.20	.....	1.30	1.05
14	.....	4.40	5.40	4.60	4.20	.....	1.00	1.05
15	.....	4.45	5.50	4.55	4.20	.....	1.00	1.05
16	4.30	4.45	5.40	4.45	4.20	.....	1.00	1.05
17	4.25	4.45	5.30	4.50	4.20	.....	1.00	1.05
18	4.35	4.45	5.60	4.45	4.20	.....	1.00	.95
19	4.35	4.50	5.70	4.45	4.20	.....	1.00	.95
20	4.25	4.50	5.90	4.45	4.20	.....	1.00	.95
21	4.25	4.70	6.05	4.45	4.20	.....	1.00	.95
22	4.25	4.80	5.25	4.45	4.20	.....	1.00	.90
23	4.25	4.60	5.15	4.45	4.20	.....	1.00	.90
24	4.25	4.40	5.15	4.45	4.20	.....	1.00	.90
25	4.25	4.30	5.10	4.45	4.20	.....	1.00	.90
26	4.25	4.30	5.00	4.30	4.25	.....	1.00	.90
27	4.25	4.35	5.00	4.25	4.30	.....	1.00	.90
28	4.25	4.40	4.90	4.25	4.30	.....	1.20	.90
29	4.25	4.25	.....	4.25	4.30	.....	2.75	.....
30	4.25	4.25	.....	4.25	4.65	.....	1.55	.....
31	4.25	4.25	.....	4.30	.....	.....	.....	.....

ARROYO SECO NEAR PINEY, CAL.

This stream rises on the eastern slope of the Santa Lucia Mount and flows east and empties into Salinas River at Soledad, Cal gaging station was established by W. W. Cockins, jr., Decem 1900, at Foster's ranch, near Piney post-office, Cal. The high wat January, 1901, enlarged an old channel, and the gaging station removed to Pettitt's ranch, 4 miles below. The purpose of estal ing these gaging stations was to get the maximum flood discharge the amount of water available for storage. The total area of w shed drained above Pettitt's ranch is 215 square miles.

List of discharge measurements of Arroyo Seco near Piney, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	ch
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	S
February 11	3.70	505	November 6[a]	5.20	
July 10[a]	5.30	23			

[a] At Pettitt's ranch.

Daily gage height, in feet, of Arroyo Seco near Piney, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	Day.	Jan.	Feb.	Mar.
1	3.00	3.20	3.80	3.00	17	3.50	3.60	3.30
2	3.00	3.20	3.80	3.00	18	3.40	3.60	3.30
3	3.00	3.20	3.70	3.00	19	3.30	4.50	3.20
4	6.30	3.30	3.70	3.00	20	3.40	5.50	3.10
5	6.10	5.80	3.60	3.00	21	4.20	5.00	3.10
6	7.00	5.40	3.60	3.00	22	3.80	4.70	3.10
7	6.00	3.80	3.50	3.00	23	3.70	4.70	3.10
8	5.00	3.50	3.60	2.90	24	3.60	4.50	3.10
9	4.50	4.00	3.50	2.90	25	3.50	4.30	3.10
10	4.20	4.00	3.40	2.90	26	3.50	4.10	3.10
11	4.00	3.60	3.40	2.80	27	3.50	4.00	3.00
12	3.90	3.70	3.40	2.90	28	3.40	4.00	3.00
13	3.80	3.70	3.40	2.80	29	3.30	.....	3.00
14	3.60	3.60	3.40	2.80	30	3.20	.....	3.00
15	3.60	3.60	3.30	2.80	31	3.20	.....	3.00
16	3.50	3.60	3.30	2.80				

SALINAS RIVER NEAR SALINAS, CAL.

Salinas River is described in Water-Supply Paper No. 51, page On account of the continual shifting of the stream bed, and improbability of its water being used for either power or irrig purposes, the record on this stream was discontinued on Augu 1901.

List of discharge measurements of Salinas River near Salinas, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	ch
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	S
January 15	6.80	2,142	March 24	5.20	
January 22	5.80	1,338	March 30	4.90	
January 24	5.90	1,598	April 6	4.75	
February 9	7.90	4,982	April 12	4.70	
February 19	6.05	1,560	July 9	3.60	
March 17	5.60	1,194	October 1[a]	.....	

[a] Bed of stream has shifted and left gage rod to north.

Daily gage height, in feet, of Salinas River near Salinas, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.
1	4.65	4.95	6.25	4.65	4.95	4.15	3.50	3.45
2	4.60	4.90	6.05	4.65	5.70	4.15	3.50	3.45
3	4.60	4.90	6.05	4.65	6.35	4.10	3.50	3.45
4	4.60	4.90	6.00	4.65	6.45	3.95	3.50	.....
5	7.55	5.05	6.00	4.60	6.00	3.95	3.50	.....
6	16.15	12.25	5.95	4.55	5.65	3.80	3.50	.....
7	14.15	9.25	5.95	4.50	5.35	3.75	3.50	.....
8	11.25	8.45	5.95	4.50	5.15	3.75	3.50	.....
9	10.50	7.80	5.90	4.50	4.95	3.70	3.50	.....
10	9.75	7.65	5.90	4.45	4.90	3.70	3.50	.....
11	8.95	7.40	5.90	4.40	4.75	3.65	3.50	.....
12	8.55	7.10	5.85	4.40	4.70	3.60	3.50	.....
13	7.80	6.90	5.85	4.40	4.60	3.60	3.50	.....
14	7.30	6.65	5.80	4.40	4.50	3.60	3.50	.....
15	6.95	6.45	5.80	4.40	4.55	3.60	3.45	.....
16	6.50	6.25	5.70	4.40	4.55	3.60	3.45	.....
17	6.20	6.15	5.60	4.35	4.45	3.60	3.45	.....
18	6.00	6.05	5.45	4.35	4.45	3.60	3.45	.....
19	5.90	6.05	5.40	4.30	4.40	3.60	3.45	.....
20	5.80	6.90	5.35	4.30	4.30	3.60	3.45	.....
21	5.65	11.60	5.30	4.30	4.30	3.55	3.45	.....
22	5.80	9.15	5.20	4.30	4.30	3.55	3.45	.....
23	6.20	7.85	5.10	4.25	4.25	3.55	3.45	.....
24	6.25	7.55	5.00	4.20	4.25	3.55	3.45	.....
25	6.05	7.25	5.00	4.20	4.20	3.55	3.45	.....
26	5.85	7.00	4.95	4.20	4.20	3.55	3.45	.....
27	5.70	6.75	4.90	4.15	4.20	3.50	3.45	.....
28	5.55	6.50	4.85	4.15	4.20	3.50	3.45	.....
29	5.40	.....	4.80	4.15	4.20	3.50	3.45	.....
30	5.25	.....	4.75	4.15	4.20	3.50	3.45	.....
31	5.25	.....	4.70	.....	4.15	.....	3.45	.....

TULE RIVER NEAR PORTERSVILLE, CAL.

The Tule River drains a portion of the western slope of the Sierra Nevada. Its watershed has somewhat less run-off than that of the Kaweah River, which joins it on the north, and is much less elevated and snow covered than the King River Basin. The water of this stream is all appropriated during the irrigation season, and a portion is used in irrigating valuable orange lands in the vicinity of Portersville, Cal.

The gaging station is located about 8 miles east of Portersville at a point just below the wagon bridge near the McFarland ranch, and about 1 mile above the mouth of the South Fork of Tule River. The station was established April 18, 1901. The gage rod is situated on the right bank of the river, 100 feet below the bridge. The 0 of the gage is 8 feet below a spike driven into a large cottonwood tree. The area of the watershed above the gaging station is approximately 300 square miles. Measurements of discharge were made by J. B. Lippincott and S. G. Bennett during 1901, as follows:

List of discharge measurements of Tule River near Portersville, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
April 18	2.50	233	July 29	1.23	30
May 22	2.85	338	October 18	1.00	18
June 10	2.65	311	December 5	1.44	58

Daily gage height, in feet, of Tule River near Porterville, Cal., for 190

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	3.10	3.10	1.90	1.20	1.00	1.05	1.35
2	3.10	3.10	1.85	1.00	1.00	1.05	1.35
3	3.00	2.95	1.80	1.00	1.00	1.05	1.30
4	2.90	2.85	1.80	1.10	1.00	1.10	1.30
5	2.90	2.90	1.70	1.10	1.00	1.10	1.30
6	3.00	2.80	1.60	1.05	1.00	1.10	1.30
7	3.10	2.70	1.55	1.05	1.00	1.05	1.30
8	3.10	2.90	1.55	1.05	1.00	1.05	1.25
9	3.10	2.80	1.55	1.00	.95	1.00	1.25
10	3.40	2.60	1.50	1.00	.95	1.00	1.30
11	3.20	2.45	1.50	1.00	.90	1.00	1.40
12	3.30	2.50	1.50	1.00	.90	1.05	1.40
13	3.30	2.50	1.45	1.00	.80	1.05	1.35
14	3.20	2.40	1.45	1.00	.75	1.05	1.35
15	3.20	2.30	1.40	1.00	.75	1.05	1.35
16	3.20	2.20	1.40	1.00	.75	1.00	1.35
17	3.25	2.25	1.40	1.00	.80	1.00	1.30
18	3.20	2.35	1.40	1.00	.85	1.00	1.30
19	3.15	2.30	1.40	1.00	.95	1.00	1.30
20	3.10	2.25	1.40	1.00	.95	1.05	1.30
21	3.00	2.20	1.35	1.00	.95	1.05	1.30
22	2.85	2.20	1.35	1.00	.95	1.05	1.30
23	2.80	2.20	1.35	1.00	.95	1.00	1.30
24	2.70	2.15	1.35	1.00	1.00	1.00	1.30
25	3.90	2.10	1.35	1.00	1.10	1.00	1.30
26	3.00	2.10	1.30	1.00	1.10	1.00	1.30
27	3.10	2.10	1.25	1.00	1.05	1.60	1.30
28	3.10	1.90	1.20	1.00	1.05	1.80	1.35
29	3.00	1.95	1.20	1.00	1.05	1.65	1.45
30	3.00	1.95	1.20	1.00	1.05	1.45	1.55
31	2.90	.....	1.20	1.00	.....	1.35	.....

KERN RIVER NEAR BAKERSFIELD, CAL.

This station, established in 1893 by Mr. Walter Jones, chief neer of the Kern County Land Company, is located at what is k as First Point of Measurement, 5 miles above Bakersfield, and a mouth of the canyon of the river. Meter measurements are t once a week, and an automatic gage records daily fluctuations c river heights. Mr. A. K. Warren, the engineer in charge of this for the Kern County Land Company, attends to the discharge r urements with much accuracy and precision, and furnishes the vey with the final results. The results of measurements for 190 be found in the Twenty-second Annual Report, Part IV, page 46 table is also given here furnishing a comparison of the mean mo flow of the river from 1894 to 1901.

Daily discharge, in second-feet, of Kern River near Bakersfield, Cal., for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	283	388	1,416	877	2,522	2,617	3,611	1,145	512	317	409	438
2	270	370	1,496	844	2,284	3,194	3,338	1,201	503	319	401	395
3	242	358	1,585	856	2,125	3,646	2,950	1,308	492	300	390	397
4	239	371	1,598	902	2,118	3,940	2,637	1,436	480	316	378	384
5	317	378	1,543	855	2,182	4,170	2,474	1,602	461	330	384	374
6	389	457	1,549	831	2,334	4,141	2,445	1,605	433	346	394	398
7	862	472	1,578	808	2,498	4,179	2,488	1,503	404	330	397	395
8	1,531	431	1,596	774	2,699	4,212	2,461	1,260	377	317	394	385
9	871	435	1,554	726	2,962	4,145	2,301	1,136	362	318	383	357
10	644	433	1,441	686	3,231	3,857	2,108	1,062	363	297	382	358
11	557	440	1,381	660	3,502	3,502	1,884	1,040	345	291	383	352
12	559	448	1,368	684	3,791	3,220	1,780	948	330	287	406	339
13	567	434	1,224	770	3,809	3,030	1,771	882	315	280	379	315
14	542	412	1,186	910	3,662	2,820	1,734	831	308	286	381	283
15	512	494	1,142	1,061	3,541	2,632	1,562	803	293	278	373	274
16	494	570	1,099	1,148	3,578	2,616	1,541	960	283	276	374	296
17	476	658	1,076	1,190	3,799	2,812	1,537	1,093	291	278	366	291
18	467	1,077	1,070	1,257	4,163	3,115	1,535	1,145	283	268	358	288
19	459	1,400	1,076	1,407	4,295	3,239	1,526	1,100	271	274	372	286
20	415	1,346	1,093	1,606	4,004	3,199	1,493	1,013	267	270	375	285
21	421	1,366	1,163	1,844	3,646	3,141	1,471	896	260	271	377	285
22	461	1,672	1,144	2,033	3,390	3,326	1,439	808	278	275	364	278
23	474	1,734	1,183	2,150	3,190	3,608	1,350	744	273	265	374	272
24	443	1,759	1,212	2,238	2,910	3,554	1,502	653	284	266	373	297
25	422	1,776	1,221	2,385	2,870	3,185	1,375	566	307	270	354	298
26	420	1,551	1,195	2,479	2,823	2,890	1,380	566	351	293	357	289
27	404	1,433	1,172	2,466	2,661	2,608	1,298	559	342	306	353	285
28	390	1,421	1,100	2,514	2,511	2,698	1,260	584	318	525	347	283
29	381	.....	1,055	2,509	2,365	3,002	1,244	526	307	500	364	281
30	389	.....	950	2,471	2,244	3,419	1,163	524	309	456	367	280
31	390	.....	912	.....	2,292	.....	1,127	516	.....	409	.....	284
Mean	493	860	1,270	1,398	3,032	3,324	1,864	968	345	317	377	323

Mean monthly discharge, in second-feet, of Kern River near Bakersfield, Cal.

Date.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	Mean.
January	661	809	747	373	363	263	362	493	509
February	717	1,252	617	809	434	302	280	860	659
March	1,001	1,374	951	923	388	590	413	1,270	864
April	1,495	2,724	972	2,914	710	893	472	1,398	1,447
May	1,607	4,269	1,401	4,580	735	835	1,111	3,032	2,209
June	1,085	2,906	2,456	2,309	551	1,331	1,283	3,324	1,906
July	700	1,482	1,346	1,006	244	489	392	1,864	940
August	335	629	486	469	120	156	144	968	413
September	248	344	304	298	116	105	166	345	241
October	279	327	267	340	160	160	160	317	251
November	244	346	355	355	166	221	349	377	302
December	470	403	347	422	199	279	373	323	352
Mean	737	1,413	854	1,234	348	468	459	1,216	841

MOHAVE RIVER AT VICTORVILLE, CAL.

This station, established February 27, 1899, is at the wagon bridge at the gorge at Victorville known as The Narrows. It is described in Water-Supply Paper No. 51, page 463. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 503. During 1901 the following measurements of discharge were made under the direction of J. B. Lippincott.

List of discharge measurements of Mohave River at Victorville, Cal.

Date.	Gage height.	Discharge.	Total discharge, including leakage through dam.	Date.	Gage height.	Discharge.	To c i- in th
1901.	*Feet.*	*Sec.-ft.*		1901.	*Feet.*	*Sec.-ft.*	
February 25	1.40	66.4	66.4	August 8	.90	44.6	
March 4	1.30	50.8	51.2	August 31	.90	49.0	
March 25	.90	40.0	50.0	September 6	.90	48.7	
April 9	.90	39.3	39.3	September —	.90	61.3	
April 27	.90	40.4	48.4	October 5	.90	57.1	
May 10	.85	43.4	47.4	October 24	.90	69.9	
May 25	.85	48.5	50.5	November 6	.90	70.9	
June 10	.85	37.2	43.2	November 24	.90	68.7	
June 25	.90	37.5	41.5	December 10	.90	56.3	
July 12	.90	34.2	40.2	December 25	.90	54.4	
July 28	.90	35.8	41.6				

Daily gage height, in feet, of Mohave River at Victorville, Cal., for 190

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov
1	0.90	0.90	1.40	0.90	0.90	0.85	0.90	0.90	0.90	0.90	0.90
2	.90	.90	1.40	.90	.90	.85	.90	.90	.90	.90	.90
3	.90	.90	1.30	.90	.90	.85	.90	.90	.90	.90	.90
4	.90	.90	1.30	.90	.90	.85	.90	.90	.90	.90	.90
5	.90	2.60	1.20	.90	.85	.85	.90	.90	.90	.90	.90
6	.90	4.00	1.20	.90	.85	.85	.90	.90	.90	.90	.90
7	3.60	2.00	1.20	.90	.85	.85	.90	.90	.90	.90	.90
8	1.00	1.60	1.20	.90	.85	.85	.90	.90	.90	.90	.90
9	1.00	1.00	1.20	.90	.85	.90	.90	.90	.90	.90	.90
10	.90	1.00	1.00	.90	.85	.90	.90	.90	.90	.90	.90
11	.90	1.00	1.00	.90	.85	.90	.90	.90	.90	.90	.90
12	.90	1.20	1.00	.90	.85	.90	.90	.90	.90	.90	.90
13	.90	1.20	1.00	.90	.85	.90	.90	.90	.90	.90	.90
14	.90	1.20	1.00	.90	.85	.90	.90	.90	.90	.90	.90
15	.90	1.40	1.00	.90	.85	.90	.90	.90	.90	.90	.90
16	.90	1.40	1.00	.90	.85	.90	.90	.90	.90	.90	.90
17	.90	1.60	.90	.90	.85	.90	.90	.90	.90	.90	.90
18	.90	1.60	.90	.90	.85	.90	.90	.90	.90	.90	.90
19	.90	1.80	.90	.90	.85	.90	.90	.90	.90	.90	.90
20	.90	1.90	.90	.90	.85	.90	.90	.90	.90	.90	.90
21	.90	2.00	.90	.90	.85	.90	.90	.90	.90	.90	.90
22	.90	2.00	.90	.90	.85	.90	.90	.90	.90	.90	.90
23	.90	2.00	.90	.90	.85	.90	.90	.90	.90	.90	.90
24	.90	1.50	.90	.90	.85	.90	.90	.90	.90	.90	.90
25	.90	1.40	.90	.90	.85	.90	.90	.90	.90	.90	.90
26	.90	1.40	.90	.90	.85	.90	.90	.90	.90	.90	.90
27	.90	1.40	.90	.90	.85	.90	.90	.90	.90	.90	.90
28	.90	1.40	.90	.90	.85	.90	.90	.90	.90	.90	.90
29	.90	------	.90	.90	.85	.90	.90	.90	.90	.90	.90
30	.90	------	.90	.90	.85	.90	.90	.90	.90	.90	.90
31	.90	------	.90	------	.85	------	.90	.90	------	.90	------

LOS ANGELES RIVER AT THE NARROWS, CALIFORNIA.

This stream is described in Water-Supply Paper No. 51, page The measurement of this stream was discontinued by the city o Angeles at the close of 1900. The following measurements made by William Mulholland in 1901.

The measurements were made at the first manhole above Bell reservoir diversion. The flow includes that of the Main supply and of the Crystal Springs, the latter amounting to about 8.4 sec feet. This volume has not been included in previous measurem

of the river. The Main supply ditch was measured opposite the Crystal Springs.

	Discharge, sec.-ft.
January 15	53.9
April 24	51.4
June 4	46.4

ARROYO SECO, CALIFORNIA.

This stream is a tributary of Los Angeles River, which it joins at the city of Los Angeles. The station is described in Water-Supply Paper No. 39, page 410. During 1901 the following measurements were made at the cable station at the Terminal quarries by E. P. Dewey and W. B. Clapp:

List of discharge measurements of Arroyo Seco near Pasadena, Cal., in 1901.

	Discharge, sec.-ft.		Discharge, sec.-ft.
January 6	7	January 29	11
January 7	172	February 4	29
Do	103	February 5	869
January 8	28	Do	410
January 11	14	February 6	200
January 14	7	February 9	102
January 20	5	February 11	102
January 21	11	March 6	17
January 23	7	April 29	1.6
January 28	32	May 10	5

SAN GABRIEL RIVER ABOVE AZUSA, CAL.

This station is described in Water-Supply Paper No. 51, page 472. Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 504.

Daily gage height of San Gabriel River above Azusa for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.
1	.....	1.90	3.40	1.95	2.80	1.35	17	1.30	4.00	2.20	1.50	1.40	.....
2	.....	1.90	3.40	1.90	2.20	1.30	18	1.20	4.00	2.15	1.50	1.35	.....
3	.....	1.90	3.30	1.90	2.15	1.30	19	1.15	4.00	2.15	1.40	1.30	.....
4	.....	2.30	3.30	1.90	2.50	1.35	20	1.08	4.10	2.15	1.40	1.30	.....
5	.....	6.00	3.00	1.90	2.00	1.30	21	2.70	4.10	2.25	1.37	1.25	.....
6	.....	5.00	2.95	1.80	1.95	1.20	22	2.35	4.20	2.10	1.35	1.20	.....
7	5.00	4.40	2.90	1.80	1.90	1.10	23	1.95	4.10	2.10	1.15	1.20	.....
8	3.50	4.50	2.80	1.80	1.80	1.02	24	1.80	4.00	2.05	1.15	1.30	.....
9	2.50	4.20	2.70	1.75	1.75	1.02	25	1.80	3.80	2.05	1.15	2.20	.....
10	2.20	3.90	2.70	1.75	1.70	1.02	26	1.80	3.60	2.00	1.15	1.80	.....
11	2.00	3.60	2.65	1.75	1.60	1.00	27	1.90	3.50	2.00	1.15	1.60	.....
12	1.90	3.50	2.55	1.75	1.55	.....	28	2.20	3.40	2.25	1.10	1.60	.....
13	1.70	3.40	2.50	1.70	1.50	.....	29	2.00	.....	2.25	1.10	1.50	.....
14	1.60	3.50	2.40	1.70	1.50	.....	30	1.90	.....	2.00	1.60	1.40	.....
15	1.50	3.80	2.30	1.65	1.50	.....	31	1.90	.....	2.00	.....	1.40	.....
16	1.40	3.80	2.20	1.60	1.45	.....							

Daily discharge, in second-feet, of San Gabriel canals, California, for

Day.	Jan.	Feb.	Mar.	Apr	May.	June.	July.	Aug.	Sept.	Oct.	No
1	28.0	67.0	70.0	55.0	72.0	66.0	41.0	23.5	15.0	21.0	36.
2	28.0	67.0	70.0	55.0	72.0	66.0	41.0	24.2	15.0	20.0	34.
3	28.0	67.0	70.0	55.0	59.0	66.0	41.0	25.0	[a]18.7	20.0	33.
4	28.0	67.0	70.0	55.0	59.0	63.0	40.0	25.0	19.0	20.0	32.
5	28.0	5.0	70.0	55.0	59.0	63.0	38.0	26.8	18.8	20.0	30.
6	.....	70.0	70.0	68.0	59.0	63.0	36.0	24.0	19.2	[b]20.0	30.
7	.....	70.0	70.0	60.0	59.0	63.0	34.0	23.4	19.0	17.0	30.
8	35.0	70.0	69.0	56.0	67.0	63.0	33.0	23.0	17.9	15.5	30.
9	20.0	70.0	69.0	56.0	67.0	63.0	33.0	22.0	17.3	16.0	30.
10	78.0	70.0	69.0	56.0	67.0	63.0	32.5	21.0	17.2	16.0	50.
11	71.0	70.0	69.0	56.0	68.0	63.0	32.0	20.0	16.8	15.5	46.
12	70.0	70.0	69.0	56.0	68.0	62.0	32.0	20.0	16.6	14.5	36.
13	69.0	70.0	69.0	56.0	68.0	62.0	31.5	21.0	16.4	14.5	35.
14	69.0	70.0	69.0	59.0	68.0	60.0	30.0	19.5	16.4	14.5	34.
15	68.0	70.0	69.0	63.0	68.0	60.0	30.0	19.5	15.9	15.0	33.
16	68.0	70.0	69.0	63.0	68.0	60.0	30.0	19.5	16.0	15.5	32.
17	67.0	70.0	68.0	70.0	68.0	55.0	29.0	19.0	15.7	15.5	32.
18	66.0	70.0	68.0	70.0	68.0	54.5	28.0	21.0	15.8	15.5	32.
19	66.0	70.0	68.0	70.0	68.0	54.0	27.0	19.3	15.6	16.0	31.
20	66.0	70.0	68.0	70.0	65.0	53.5	28.0	19.0	15.7	15.5	31.
21	77.0	70.0	35.0	71.5	65.0	50.0	29.0	19.0	16.5	14.5	31.
22	73.0	70.0	57.0	71.5	65.0	49.5	27.0	18.5	18.6	14.5	30.
23	70.0	70.0	57.0	82.0	65.0	49.5	26.0	18.0	19.6	16.0	29.
24	69.0	70.0	57.0	82.0	66.0	49.5	25.0	17.0	20.4	17.0	29.
25	68.0	70.0	57.0	82.0	66.0	52.0	24.7	15.7	19.1	18.0	30.
26	68.0	70.0	57.0	82.0	66.0	48.5	24.2	15.0	17.9	64.0	30.
27	68.0	70.0	57.0	82.0	66.0	46.5	24.2	15.0	17.5	52.0	29.
28	71.0	70.0	39.0	82.0	66.0	43.5	24.2	15.0	17.3	56.0	29.
29	70.0	.....	39.0	82.0	66.0	41.0	24.2	15.0	18.7	50.0	29.
30	67.0	.....	55.0	84.0	66.0	41.0	25.0	15.0	20.4	.....	29.
31	67.0	.....	55.0	.....	66.0	.....	24.2	15.0	.....	.....	...

[a] Water turned off for twelve hours.
[b] September 3 to 30, weir measurements computed from record of continuous hea

LYTLE CREEK AT HEAD GATES OF RIALTO CANALS, CALIFOR

The following record of daily flow of Lytle Creek, furnished th the courtesy of Mr. Thomas F. Keefe, secretary of the Fontana opment Company, has been obtained from measurements tak the point of diversion of the Rialto canal system, which utiliz entire summer flow of the creek. Previous records have been lished in Water-Supply Paper No. 39, page 413, and in the Twe Annual Report, Part IV, page 555.

Daily discharge, in second-feet, of Lytle Creek, at head gates Rialto canals for 1901.

Day.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.[a]
1		21.7	14.0	11.3	10.5	9.5	11.0	17.6
2		20.4	15.2	11.6	10.0	9.5	10.8	17.3
3		19.8	14.6	11.3	10.2	9.2	10.8	18.5
4		18.5	14.3	11.1	10.8	9.2	10.8	18.8
5		13.8	13.2	10.5	10.8	9.5	10.8	18.5
6		14.9	13.2	10.2	11.0	9.7	10.5	18.5
7		15.2	13.2	10.5	11.3	9.7	10.5	.....
8		15.1	14.6	10.2	11.3	9.7	12.6	.....
9		14.3	13.2	10.2	11.0	10.0	12.4	.....
10		12.1	12.4	10.0	10.5	9.7	12.1	.....
11		12.7	12.9	9.7	10.2	9.5	11.8	.....
12		13.5	12.7	9.5	10.5	9.5	12.1	.....
13		14.0	12.7	9.5	10.5	9.2	12.4	.....
14		14.3	.....	9.5	10.5	9.2	12.4	.....
15		14.3	12.9	9.5	10.5	9.0	12.6	.....
16		16.1	12.1	9.5	10.2	9.0	13.2	.....
17		16.1	12.1	9.5	10.2	8.7	12.6	.....
18		16.1	12.1	9.5	10.0	9.0	13.2	.....
19		16.1	12.1	8.7	10.0	9.2	13.2	.....
20		16.1	12.4	9.0	10.2	9.5	12.6	.....
21		15.8	12.4	9.5	10.5	9.7	12.6	.....
22		14.9	11.6	9.2	10.8	11.3	13.5	.....
23		14.9	11.8	9.5	10.5	11.5	14.0	.....
24		15.8	12.9	.....	10.5	11.0	14.0	.....
25		18.5	12.7	.....	10.0	10.8	15.8	.....
26		16.7	12.1	.....	10.2	10.5	[b]	.....
27	16.1	16.1	11.6	.....	10.2	10.5	[b]	.....
28	16.1	16.1	11.0	.....	10.0	10.2	[b]	.....
29	16.1	16.1	11.0	.....	10.0	10.8	16.1	.....
30	16.1	16.1	10.5	.....	10.0	11.3	16.1	.....
31	.....	15.2	.....	.....	9.7	.....	15.8	.....
Total	64.5	491.3	367.5	229.0	322.6	295.1	356.3	109.2

[a] No measurements taken in December on account of improvements being made.
[b] Heavy rain; water out of canal.

SANTA ANA RIVER BELOW WARMSPRINGS, CAL.

The original station was established in June, 1896, three-fourths of a mile below the head works of the Santa Ana Canal and opposite the warm springs in the canyon. It is described in Water-Supply Paper No. 51, page 475. It was found that this station could not be used during high water, and on January 1, 1901, observations were resumed at the old station and on Santa Ana Canal near the river station.

From June 1 to December 31, 1901, the discharge of Santa Ana River was obtained by observations on the weirs at the head works of Green Spot pipe line, Highlands canal, and Redlands canal; the water entering the Redlands canal from the Redlands tunnel and Morton Canyon were assumed to offset the loss by evaporation between the old gaging station and the mouth of the canyon.

Results of measurements for 1900 will be found in the Twenty-second Annual Report, Part IV, page 504.

During 1901 the following discharge measurements were made under the direction of J. B. Lippincott:

List of discharge measurements of Santa Ana River below Warmsprings, Cal.

Date.	Gage height.	Discharge.	Date.	Gage height.	Discharge.
1901.	*Feet.*	*Sec.-ft.*	1901.	*Feet.*	*Sec.-ft.*
February 5	1.65	101	July 6	1.15	26
February 23	1.80	110	August 20	1.24	31
March 4	1.70	102	October 8	1.25	32
March 30	1.35	41			

Daily discharge in second-feet of Santa Ana River below Warmsprings, for 1901.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov
1	31	48	114	56	63	36	41	41	60	51	34
2	31	48	114	56	48	37	37	48	53	55	36
3	31	440	114	48	42	36	35	[b]44	52	50	29
4	31	485	102	42	42	35	36	39	53	50	26
5	31	476	91	42	42	35	40	37	50	49	25
6	36	540	91	42	36	35	40	42	51	48	25
7	48	540	80	42	36	34	36	44	45	46	25
8	600	395	80	36	36	32	35	38	47	48	25
9	125	178	80	36	36	32	34	40	42	47	24
10	114	150	80	36	36	34	36	35	44	45	30
11	114	150	80	36	36	35	38	37	48	42	29
12	114	125	80	36	36	31	36	35	49	42	26
13	93	102	74	36	36	31	35	43	49	44	26
14	93	102	63	36	36	32	35	41	49	46	25
15	63	102	56	36	36	30	37	43	48	48	25
16	48	102	48	36	36	[a]33	37	49	49	49	26
17	48	102	48	36	36	33	36	[b]200	47	51	25
18	48	102	48	36	36	41	36	[b]75	50	51	24
19	48	125	48	36	36	42	36	[b]50	51	51	24
20	80	138	48	36	36	43	37	31	49	48	26
21	80	138	48	36	36	41	37	[b]34	48	50	25
22	48	138	48	36	36	41	40	[b]37	54	45	24
23	48	138	48	36	36	44	42	[b]40	47	48	22
24	48	114	48	36	36	44	41	43	51	46	24
25	48	114	42	36	36	40	37	51	50	44	24
26	48	102	42	36	36	40	38	51	47	[b]96	23
27	63	114	42	36	36	40	39	55	47	65	24
28	63	114	42	36	36	37	38	54	49	27	24
29	48	.....	42	36	31	36	37	55	48	24	24
30	48	.....	42	102	31	37	40	58	52	26	24
31	48	.....	56	.....	31	.....	41	60	.....	48	.....
Mean	78	194	68	43	42	37	38	50	49	48	26

[a] Ten second-feet turned out of Bear Valley reservoir.
[b] Water cut off at Bear Valley dam.

Daily discharge, in second-feet, of Green Spot pipe line, Santa Ana River head-works weir, for 1901.

Date.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	3.0	3.5	2.5	6.0	6.0	3.0
2	.5	3.5	2.5	6.0	6.0	3.0
3	.5	3.5	2.5	6.0	6.0	2.0
4	.5	3.5	2.5	6.0	6.0	2.0
5	.5	3.5	2.5	6.0	6.0	2.0
6	.5	3.5	0.0	6.0	6.0	0.0
7	.5	1.6	3.0	6.0	6.0	0.0
8	.5	1.6	3.0	6.0	6.0	0.0
9	.5	1.6	3.0	6.0	6.0	0.0
10	.5	1.6	3.0	6.0	6.0	1.7
11	1.5	1.6	3.0	6.0	6.0	3.5
12	1.5	1.6	5.5	6.0	4.0	2.6
13	1.5	1.6	2.5	6.0	4.0	2.6
14	1.5	1.8	2.5	6.0	4.0	3.7
15	1.5	1.8	2.5	6.0	4.0	4.5
16	1.5	1.8	2.5	6.0	6.0	4.3
17	1.5	1.8	0.0	4.0	6.0	.5
18	2.5	1.8	0.0	4.0	6.0	.5
19	2.5	1.8	0.0	4.0	6.0	.5
20	3.5	1.8	0.0	4.0	6.0	0.0
21	3.5	1.8	0.0	4.0	6.0	0.0
22	0.0	2.5	0.0	4.0	6.0	1.5
23	3.5	2.5	0.0	4.0	6.0	1.5
24	3.5	2.5	2.5	6.0	6.0	1.6
25	2.5	2.5	3.0	6.0	6.0	1.8
26	2.5	2.5	5.0	6.0	6.0	2.1
27	2.5	2.5	5.0	6.0	6.0	1.8
28	2.5	2.5	8.0	6.0	6.0	1.8
29	3.8	2.5	6.0	6.0	6.0	1.6
30	3.5	2.5	6.0	6.0	6.0	1.3
31	.....	2.5	6.0	.....	6.0	.....

Daily mean discharge, in second-feet, of Highlands canal, Santa Ana River, at Sand Box weir, for 1901.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	12.7	14.7	14.6	16.5	16.3	8.8	7.9
2	11.7	14.2	13.6	16.5	15.9	9.0	7.9
3	11.3	12.5	------	16.5	14.4	9.8	7.7
4	12.1	12.0	13.0	16.5	14.4	8.8	8.2
5	11.4	12.6	12.4	16.5	14.3	8.8	8.2
6	11.5	13.9	14.1	15.4	14.1	8.2	10.0
7	12.2	13.8	15.8	16.5	13.8	8.4	7.4
8	12.3	14.9	14.4	15.8	14.3	10.5	7.4
9	11.1	14.4	14.5	12.8	14.5	10.5	7.0
10	11.9	14.9	14.5	16.2	14.1	9.5	7.4
11	12.7	15.3	15.4	16.1	14.3	9.2	7.2
12	12.7	14.7	14.6	16.1	14.3	10.3	6.7
13	12.0	14.6	15.3	15.2	13.4	10.8	6.7
14	12.0	14.7	15.4	15.4	12.1	10.0	7.0
15	10.0	15.3	16.0	14.5	14.3	9.2	6.3
16	11.3	15.3	19.4	15.4	13.1	9.5	7.0
17	11.1	14.7	------	16.1	13.3	10.4	7.0
18	11.1	15.4	13.0	15.8	15.0	9.5	7.0
19	11.1	12.9	13.1	16.5	14.5	9.5	7.2
20	14.6	12.8	12.0	16.4	14.2	7.7	7.4
21	14.6	12.3	------	14.3	14.5	8.9	7.4
22	14.0	14.6	------	15.4	12.0	7.9	7.2
23	13.9	15.3	6.0	14.5	12.1	9.5	7.2
24	14.1	14.2	12.0	14.6	14.3	11.1	7.2
25	14.4	14.2	17.5	16.3	12.0	9.7	7.2
26	13.9	15.0	17.5	16.3	12.1	9.2	7.0
27	14.9	14.6	17.5	16.5	11.0	10.0	7.0
28	14.0	14.4	17.5	16.5	9.0	8.2	7.2
29	14.3	15.1	17.5	13.9	8.8	8.2	7.2
30	14.1	14.4	17.5	16.3	11.2	9.2	7.2
31	------	14.2	17.5	------	12.0	------	7.2

Daily discharge, in second-feet, of Redlands canal, Santa Ana River, at Sand Box weir, for 1901.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	20.0	22.7	23.9	37.3	28.0	22.0	14.9
2	24.6	18.9	31.4	30.0	32.0	24.0	14.9
3	24.0	18.9	------	29.3	30.0	17.1	14.4
4	22.0	20.7	23.3	30.2	30.0	15.3	13.8
5	23.3	23.7	22.0	27.3	28.0	14.0	13.8
6	22.7	22.8	27.9	29.3	28.0	16.6	12.0
7	20.8	20.7	25.2	23.3	26.6	16.9	16.4
8	19.5	18.9	20.7	25.3	28.0	14.1	16.4
9	20.6	18.3	22.0	23.3	26.6	13.8	15.2
10	21.4	19.5	17.1	21.4	25.2	18.6	14.7
11	20.7	20.7	18.9	25.9	21.4	16.1	15.2
12	17.1	19.5	14.8	27.3	23.3	13.6	16.6
13	17.7	18.9	25.2	28.0	26.6	12.5	16.4
14	18.3	18.9	23.3	28.0	29.5	11.4	12.8
15	18.9	19.5	24.6	27.3	30.0	10.9	14.1
16	20.1	19.5	27.4	27.3	30.0	12.0	15.8
17	20.7	19.5	0.0	27.3	31.4	13.8	15.8
18	27.3	18.3	0.0	30.0	30.0	14.1	15.2
19	28.6	21.4	11.6	30.0	30.0	14.1	14.1
20	24.6	22.6	9.3	28.6	28.0	17.8	14.1
21	22.6	22.6	34.3	30.0	29.4	16.4	14.9
22	27.3	23.3	11.6	34.3	27.0	14.9	14.9
23	26.6	24.6	28.0	28.6	29.4	11.2	16.4
24	26.6	23.9	28.0	30.0	25.8	11.2	16.6
25	23.3	20.7	30.0	27.6	26.0	12.2	16.4
26	23.3	20.7	28.0	24.6	28.0	12.0	15.8
27	22.6	21.4	32.9	24.6	17.0	12.0	15.8
28	20.7	20.7	28.6	26.6	12.0	14.4	15.2
29	18.3	18.9	31.4	27.9	9.0	14.4	14.9
30	18.9	22.6	34.3	30.0	9.0	13.6	13.8
31	------	24.6	36.4	------	30.0	------	13.8

MILL CREEK CANALS AT CRAFTON HEADWORKS, CALIFORNIA.

This station is described in Water-Supply Paper No. 51, page 4
The Crafton Water Company diverts all of the water of the cre
except during floods, at the mouth of the canyon. The water pas
over a weir, and the volume therefore is determined with considera
accuracy. The following tables, furnished by the Crafton Wa
Company, give the daily discharge of the creek entering the can
No record is given for the period from January 1 to June 18; the fl
during this time, taken from the canals, is estimated at 10 second-fe
The results of the measurements for 1900 will be found in the Twen
second Annual Report, Part IV, page 505.

*Daily discharge, in second-feet, of Mill Creek canals at Crafton headwo
Cal., for 1901.*

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	D
1		19.00	50.00	16.00	13.18	12.30	
2		19.12	30.00	16.00	13.18	12.30	
3		19.00	20.00	16.00	13.18	12.30	
4		19.00	20.00	16.58	13.18	12.30	
5		18.00	20.00	16.58	13.18	12.30	
6		16.96	19.10	16.58	13.18	12.30	
7		16.96	19.10	16.58	13.18	12.30	
8		16.80	18.00	16.00	13.18	12.30	
9		16.80	16.08	16.60	12.80	12.30	
10		16.00	16.08	14.04	12.64	12.30	
11		16.00	16.08	14.00	12.64	12.30	
12		16.00	18.24	14.00	12.64	12.30	
13		16.00	16.96	14.00	12.30	12.30	
14		15.04	16.96	14.00	12.30	12.30	
15		15.04	16.96	13.18	12.30	12.30	
16		15.04	(*a*)	13.18	12.30	12.30	
17		15.04		13.18	12.30	12.30	
18		15.04		12.30	12.30	12.30	
19	20.08	14.40		12.30	12.30	12.30	
20	20.08	13.94		12.30	12.30	12.30	
21	21.00	14.40		11.42	12.30	12.30	
22	20.90	14.40		11.42	12.30	12.30	
23	20.40	13.94		12.30	12.30	12.30	
24	20.08	13.94	16.00	12.30	12.30	12.30	
25	20.08	14.40	16.00	14.58	12.30	12.30	
26	20.00	14.40	15.04	13.18	12.30	12.30	
27	19.80	16.96	15.04	13.18	12.30	12.30	
28	19.80	15.04	15.04	13.18	12.30	12.30	
29	19.50	15.04	16.00	13.18	12.30	12.30	
30	19.40	15.04	16.00	13.18	12.30	11.60	
31		15.04	16.00		12.30		

a On August 16 a cloudburst in Mill Creek Canyon and Crafton hills filled zanja and su
canal with sand.

SWEETWATER RIVER AT SWEETWATER DAM, CAL.

This stream has its source on the western slope of the Cuyam
Mountains, in the extreme southern part of San Diego County, C
adjoining Mexico.

Observations of the discharge of this river into the Sweetwa
reservoir have been made by H. N. Savage, chief engineer of
Sweetwater Irrigation System. The measurements are of particu
accuracy, because the capacity of the reservoir is definitely kno
and the readings of the gage rod in the reservoir indicate volu
discharged. The discharge from this watershed of 186 square mi

during the winter of 1900–1901 was 861 acre-feet, the rainfall as measured at the dam being 11 inches.

MISCELLANEOUS DISCHARGE MEASUREMENTS IN CALIFORNIA.

Date.	Stream.	Location.	Discharge in second-feet.
1901.			
September 10	Upper Sacramento River.	1 mile above mouth of Pitt River	242
September 9	McCloud River	One-quarter mile above United States fishery.	1,096
Do	Squaw Creek	Copper City Bridge	23
Do	Pit River	Silverthorn Ferry, near Copper City	2,682
Do	do	Pecks Bridge	2,230
Do	Fall River	Fall River Bridge, near mouth	1,447
Do	Hat River	Bridge Carbon, Cal., near mouth	627
Do	Burney River		177
October 2	Sacramento River	Iron Canyon, 4 miles above Red Bluff	5,187
November 21	Briscoe River	Above proposed dam site	10.4
November 22	Grindstone River		38
September 7	Feather River	500 feet above Oroville Bridge	1,220
Do	Feather River, North Fork.	Huffs Bar in Big Bend	946
Do	Feather River, West Branch of North Fork.	Cherokee Pipe Crossing, near Cherokee, Cal.	33
September 19	American River, South Fork.	Mosquito Bar	69
September 13	do	Riverton	25
September 18	do	do	16
Do	Eldorado ditch	Above Riverton	23
September 13	American River, South Fork Silver Creek.		28
September 14	American, South Fork Main Forks.		40
August 31	Tuolumne, Lagrange ditch and Hydraulic Mining Co.'s canal.	Lagrange, Cal	4
October 11	Tuolumne	Old Bridge above Rancheria Creek	60
August 26	Tuolumne, Rancheria Creek.	Hetch Hetchy Valley	36.2
August 27	Tuolumne, Eleanor Creek Inlet.		9.3
September 19	Tuolumne, Falls Creek		3
October 16	San Joaquin	Pollasky Ford, Cal	315
October 17	Salinas River	Bridge near Salinas	24
September 24	Arroyo Seco	Pettitts ranch	9.7
April 15	San Lorenzo Creek		21
July 11	San Antonio Creek		.64
July 12	Nacimiento Creek	Harris ranch	3.8
October 20	Kaweah River	Below headworks Watumna ditch	52
Do	Watumna ditch		5
Do	Pogue lower ditch		5
July 29	South Tule River	Near mouth	.5
May 23	Tule River[a]	6 miles west of Portersville, Rockford Bridge.	152.4
June 24	Lower Tule River[b]	Canal at Tulare Lake	198.2
June 28	Tule River	Globe post-office	164.6
Do	do	McFarland's ranch	147.6
September 22	Kern River	First point of measurement	258
July 12	Pacoima River	Mouth of canyon	Dry.
Do	do	Submerged dam pumping	.41
Do	Little Tujunga River		Dry.
Do	Tujunga River		.22
September 20	Los Angeles River	Bridge No. 2	45.9
September 19	San Gabriel River	Intake weir of San Gabriel Power Co.'s canal.	15.6
October 7	San Antonio Creek	Division weir in canyon—to Ontario, 3.08; to Pomona, 2.91.	5.99
Do	Cucamonga Creek		2.06
December 5	Santa Ana River	Warmsprings	14
Do	Santa Ana Canal		9.7

[a] This point is below nearly all of the important ditches taking water from the Tule River.

[b] The above represents the unused water flowing through the canal into the lake. This water came from Elk Canyon, one of the numerous channels of the Kaweah. At this date the Tule River was practically dry at Rockford Bridge.

PRECIPITATION ON MOUNTAINS IN SOUTHERN CALIFORNIA.

In order to obtain rainfall data bearing upon river discharge number of rainfall gages have been established at various points i the mountainous region of California. Results obtained at these loca ities during 1901, together with a few figures from other sources, ar given in the following tables. The first table gives the location of th rainfall stations; the second table gives the depth of rainfall, i inches, for each month of the year. Similar figures for 1896 are give in the Eighteenth Annual Report, Part IV, page 418; for 1897, in th Nineteenth Annual Report, Part IV, page 539; for 1898, in the Twen tieth Annual Report, Part IV, page 560; for 1899, in Water-Suppl Paper No. 39, page 437; and for 1900, in Water-Supply Paper No. 5 page 495:

Rainfall stations in southern California.

Station.	County.	Post-office.	Latitude.		Longitude.		Elevation.
			°	′	°	′	*Feet.*
Alturas	Modoc	Alturas	41	30	120	30	4,3
Sisson	Siskiyou	Sisson	41	27	122	25	3,5
Dunsmuir	do	Dunsmuir	41	15	122	40	2,2
Delta	Shasta	Delta	40	58	122	27	1,1
Redding	do	Redding	40	30	122	40	5
Red Bluff	Tehama	Red Bluff	40	12	122	20	3
Julians	Glenn	Elk Creek	39	30	122	30	7
Lakeport	Lake	Lakeport	39	00	123	00	
Sonora	Tuolumne	Sonora	38	00	120	16	1,8
Second Garotte	do	Groveland	37	49	120	12	2,9
Crockers	do	Sequoia	37	48	119	53	4,4
Coulterville	Mariposa	Coulterville	37	43	120	12	1,6
Taylor's ranch	Kern	Weldon	36	20	118	17	2,6
Milo	Tulare	Milo	36	15	118	50	3,2
Priest Valley	Monterey	Soledad	36	15	120	45	2,4
Isabella	Kern	Isabella	35	48	118	25	2,6
Kernville	do	Kernville	35	45	118	25	2,6
Bear Valley	do	Tehachapi	35	15	118	45	4,0
Tejon ranch	do	Bakersfield	35	00	118	45	1,4
Fort Tejon	do	do	34	53	118	53	3,2
Glen ranch	San Bernardino	Cajon	34	50	117	30	3,1
Smith ranch	Ventura	Gorman	34	44	118	47	4,8
Upper Lake	do	Upper Lake					4,9
Sneddens	do	Griffin	34	41	119	03	4,9
Colby's Camp, No. 5	Los Angeles	Pasadena	34	30	118	15	3,8
Palmdale headworks	do	Palmdale	34	25	118	03	3,2
Magic Hill, No. 1	do	Burbank	34	23	118	22	2,8
Mount Sister Elsie	do	Monte Vista	34	17	118	14	5,0
Sierra Power House	do		34	15	117	45	
Headgate	do		34	15	117	45	
Power House	do		34	15	117	45	
Follows Camp	do	Azusa	34	14	117	49	1,8
Mill Creek "A"	San Bernardino	Redlands	34	10	116	45	5,2
Santa Ana Canyon	do		33	45	117	45	
Mutah Flat	Ventura	Griffin	34	38	119	03	4,8
Cuyamaca	San Diego	San Diego	32	58	115	35	4,8
Descanso	do	Descanso	32	50	116	40	3,5
Laguna	do	Campo	32	45	116	30	5,7
Sweetwater dam	do	National City	32	43	117	00	
La Mesa	do	La Mesa	32	30	117	00	4
Campo	do	Campo	32	15	116	30	2,6

Precipitation at rainfall stations in southern California, 1901.

Station.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Alturas										0.88	0.74	1.21	
Sisson	11.97	8.99	0.62	2.73	0.95	0.00	0.26	0.36	2.08	1.98	6.58	2.77	39.24
Dunsmuir	8.93	6.90	1.92	2.58	T.	.00	.00	.00	.00	.00	10.88	5.06	36.27
Delta	13.43	8.18	1.58	6.81	.65	.00	.00	.00	2.28	2.95	11.27	5.55	52.70
Redding	6.33	5.52	.57	5.11	.41	T.	.01	T.	3.11	3.08	6.45	4.37	34.96
Red Bluff	6.60	6.64	.12	2.06	.41	T.	T.	.00	1.84	2.00	4.22	1.56	25.51
Julians		4.26	.12	1.24	.50	.00	.00	.00	1.07	.60	3.18	.82	11.79
Lakeport	9.20	3.95	1.25	2.15	.62	.00	.00	.00	.88	2.20	4.18	.00	24.43
Sonora	9.04	12.89	1.25	4.73	1.18	.07	.00	.04	2.42	1.81	3.15	2.40	38.99
Second Garotte	11.00	17.75	1.25	4.00	1.00	.00	.00	.00	2.25	2.25	2.00	2.00	43.50
Crockers	16.99	15.71	3.03	6.35	3.81	.00	.00	.00	3.28	4.58	3.90	2.50	60.16
Coulterville	4.99	8.04	1.28	.66	3.29	T.	T.	T.	1.35	1.92	2.09	1.39	25.01
Taylor's ranch	1.06	1.96	.05	.41	1.02	.00	.00	2.60	.00	.38	.12	.00	7.61
Milo	5.74	4.06	1.33	2.45	3.36	.00	.00	.00	.51	1.80	1.47	.27	20.99
Priest Valley	6.27	9.51	.80	2.44	1.59	.00	.00	.00	.00	2.57	2.08	.66	25.92
Isabella	1.20	2.74	.33	.36	1.98	.00	.00	.99	.00	.64	.13	.00	8.37
Kernville	1.35	2.92	.15	.31	1.62	.00	.00	.70	.00	.72	.15	.00	7.92
Bear Valley	1.91	5.30	2.75	1.77	1.43	.00	T.	.00	.00	1.27	.56	.90	15.89
Tejon ranch	1.28	4.69	.95	1.36	1.28	.00	.00	T.	.00	.40	.17	.60	10.73
Fort Tejon	1.80	5.86	1.97	.78	.90	.00	.00	T.	.05	1.67	.26	T.	13.23
Glen ranch	6.53	9.78	.43	1.40	.96	.00	.00	.00	.00	2.67	.58	.10	22.39
Smith ranch	2.35	2.25	.10	.32	.45	.00	.00	.95	.10	.25	.20	.00	6.97
Upper Lake	6.44	4.75	1.06	2.43	.70	.00	T.	T.	1.11	1.09	4.35	2.09	24.02
Sneddens	3.70	3.80	.10	1.10	.47	.00	.00	.00	.00	1.75	1.75	.00	12.67
Colby's Camp. No. 5	6.94	13.54	.67	2.65	1.10								
Palmdale Headworks	1.34	4.50	.38	.15	T.	.00	.00	.33	T.	.32	.04	.00	7.06
Magic Hill, No. 1.	6.71	6.68	.78	1.79	.57								
Mount Sister Elsie	8.92	12.13	.95	3.60	1.93								
Sierra Power House	10.35	8.15	.78	.36	2.78	.01	.00	.00	.00	3.99	.97	.24	27.63
Headgate	6.44	5.09	.48	1.15	2.90	.00	.00	.02	.00	4.58	1.08	.18	21.92
Power House	5.23	3.81	.58	1.35	1.87	.00	.00	.03	.00	3.15	.64	.00	16.66
Follows Camp											.80	.15	
Mill Creek, "A"	4.32	6.00	.71	.39	1.85	.00	.00	1.20	.00	1.95	.82	.00	17.24
Santa Ana Canyon	5.24	5.77	1.05	1.26	1.17	.00	.00	1.25	.00	1.19	.11	.00	17.01
Mutah Flat	7.00	4.60	.25	1.10	.58	.00	.00	.00	.00	2.85	.65	.00	17.03
Cuyamaca	8.17	13.26	2.32	1.24	3.87	.00	T.	.09	.08	1.94	1.48	.52	32.97
Descanso	3.25	11.00	1.40	.57	1.53	.00	T.	.78	T.	1.25	.87	.12	20.77
Laguna	5.60	8.60	.95	.71	2.09	.00	.42	1.25	.00	1.42	.54	.35	21.93
Sweetwater dam	1.75	4.22	.54	.11	.74	.00	.00	.00	.03	.43	.19	.00	8.04
La Mesa	2.82	5.99	.97	.75	.47	.00	.00	.00	.05	.45	.58	.00	12.08
Campo	2.03	8.22	.69	.54	1.18	.00	.61	.63	.00	1.02	.43	.23	15.58

RATING TABLES.

Rating tables for stations in Montana, Wyoming, and South Dakota.

[Discharge in second-feet.]

Gage height, in feet.	St. Mary River at Main, Mont.	Milk River at Havre, Mont.	Milk River at Havre, Mont.	West Gallatin River near Salesville, Mont.	Madison River near Redbluff, Mont.	Jefferson River at Sappington, Mont.	Missouri River near Townsend, Mont.	Yellowstone River near Livingston, Mont.	Yellowstone River near Livingston, Mont.	Bighorn River near Thermopolis, Wyo.	Big Sioux River near Sioux Falls, S. Dak.	Medicine Bow River at Medicine Bow, Wyo.
−1.1	.....	[a]	[b]	.....	.....	.....	[c]	[d]1,265	[e]1,380	.....	.....	.....
−0.8	.....	.....	.....	.....	.....	.....	.....	1,420	1,520	.....	.....	.....
−0.6	.....	.....	.....	.....	.....	.....	.....	1,585	1,700	.....	.....	.....
−0.4	.....	.....	.....	.....	.....	.....	.....	1,760	1,900	.....	.....	10
−0.2	.....	.....	.....	.....	.....	.....	.....	1,950	2,100	60	.....	25
0.0	215	.....	.....	.....	.....	.....	1,200	2,150	2,320	210	.....	45
0.2	238	.....	.....	.....	.....	.....	1,590	2,375	2,560	400	.....	70
0.4	278	.....	.....	.....	.....	.....	2,020	2,605	2,820	620	.....	100
0.6	345	.....	.....	.....	.....	.....	2,490	2,855	3,100	940	.....	136
0.8	425	.....	.....	.....	.....	.....	3,020	3,130	3,380	1,340	.....	178
1.0	505	.....	.....	.....	950	.....	3,630	3,420	3,660	1,770	11	235
1.2	587	.....	.....	.....	1,175	430	4,270	3,730	3,980	2,210	17	310
1.4	677	.....	.....	.....	1,475	550	4,930	4,075	4,300	2,650	26	390
1.6	795	.....	12	.....	1,900	680	5,600	4,440	4,700	3,090	37	480
1.8	984	.....	15	.....	2,400	820	6,285	4,830	5,100	3,530	53	570
2.0	1,220	.....	23	.....	2,975	975	7,000	5,275	5,500	3,970	76	630
2.2	1,456	.....	40	.....	3,575	1,155	7,760	5,740	6,000	4,410	104	750
2.4	1,692	115	65	.....	4,175	1,375	8,555	6,220	6,500	4,850	146	840
2.6	1,928	155	95	.....	4,775	1,635	9,375	6,730	7,030	5,290	198	930
2.8	2,164	205	130	455	5,400	1,950	10,220	7,270	7,610	5,730	250	1,020
3.0	2,400	255	175	495	6,050	2,290	11,100	7,840	8,230	6,170	.....	1,110
3.2	2,636	305	230	535	6,700	2,630	12,015	8,470	8,850	6,610	.....	1,200
3.4	.....	360	290	590	7,350	2,980	12,960	9,140	9,550	7,050	.....	1,290
3.6	.....	420	350	660	8,000	3,340	13,930	9,860	10,350	7,490	.....	1,380
3.8	.....	480	425	750	8,650	3,710	14,925	10,800	11,200	7,930	.....	1,470
4.0	.....	540	500	915	9,300	4,090	15,950	11,900	12,200	8,370	.....	1,560
4.2	.....	630	600	1,160	.....	4,480	17,040	13,150	13,250	8,810	.....	1,650
4.4	.....	730	700	1,440	.....	4,880	18,210	14,450	14,450	9,250	.....	1,740
4.6	.....	830	820	1,720	.....	5,300	19,450	15,800	15,800	9,690	.....	1,830
4.8	.....	950	950	2,000	.....	5,730	20,760	17,230	17,230	10,130	.....	1,920
5.0	.....	1,100	.....	2,300	.....	6,170	22,150	18,660	18,660	10,570	.....	2,010
5.2	.....	1,340	.....	2,620	.....	6,630	23,650	20,090	20,090	11,010	.....	.....
5.4	.....	1,580	.....	2,940	.....	7,100	25,410	21,520	21,520	11,450	.....	.....
5.6	.....	1,820	.....	3,260	.....	7,580	27,490	22,950	22,950	.....	.....	.....
5.8	.....	2,060	.....	3,590	.....	8,075	29,830	24,380	24,380	.....	.....	.....
6.0	.....	2,300	.....	3,940	.....	8,575	.....	25,810	25,810	.....	.....	.....
6.2	.....	2,540	.....	4,310	.....	9,075	.....	.....	.....	.....	.....	.....
6.4	.....	2,780	.....	4,720	.....	.....	.....	.....	.....	.....	.....	.....
6.6	.....	3,020	.....	5,170	.....	.....	.....	.....	.....	.....	.....	.....
6.8	.....	3,260	.....	5,660	.....	.....	.....	.....	.....	.....	.....	.....
7.0	.....	3,500	.....	6,190	.....	.....	.....	.....	.....	.....	.....	.....
7.2	.....	3,740	.....	6,760	.....	.....	.....	.....	.....	.....	.....	.....
7.4	.....	3,980	.....	7,360	.....	.....	.....	.....	.....	.....	.....	.....
7.6	.....	.....	.....	7,960	.....	.....	.....	.....	.....	.....	.....	.....

[a] Applicable from January 1 to June 14, 1901.
[b] Applicable from June 15 to November 21, 1901.
[c] 88 feet should be added to the gage heights in order to refer them to the datum of the gage.
[d] Applicable from January 1 to May 20, 1901.
[e] Applicable from May 21 to December 31, 1901.

Rating tables for stations in Wyoming, Colorado, Nebraska, and Kansas.

[Discharge in second-feet.]

Gage height, in feet.	North Platte River near Guernsey, Wyo.	South Platte River at Denver, Colo.	Bear Creek near Morrison, Colo.	Clear Creek at Forkscreek, Colo.	South Boulder Creek near Marshall, Colo.	Boulder Creek near Boulder, Colo.	St. Vrain Creek near Lyons, Colo.	Big Thompson Creek near Arkins, Colo.	South Platte River at Kersey, Colo.	Elkhorn River near Norfolk, Nebr.	Republican River near Superior, Nebr.	Republican River at Junction, Kans.
0.2	[a]1,305							4			52	
0.4	1,550					32		19			85	
0.6	1,805					47		60			148	
0.8	2,075					77		116		140	240	
1.0	2,400		9		5	115		177		162	370	
1.2	2,820		12		17	161		239	62	192	560	
1.4	3,280		15	32	34	220		305	138	227	810	
1.6	3,810		19	58	57	292		378	214	270	1,112	
1.8	4,340		23	93	86	367	4	461	290	319	1,422	
2.0	4,870		27	133	119	444	25	556	370	370	1,747	
2.2	5,400		31	179	157	522	53	671	450	425	2,092	
2.4	5,930		36	235	206	603	87	813	540	493	2,482	20
2.6	6,460		41	299	263	688	126	990	646	575	2,907	75
2.8	6,990		46	367	324	778	171	1,190	771	668	3,352	150
3.0	7,520		51	441	394	870	223	1,390	927	763	3,817	230
3.2	8,050		56	522	473		286	1,590	1,137	860	4,307	315
3.4	8,580		62	614	559		362	1,790	1,398	971	4,822	405
3.6	9,110		69	719	652		478	1,990	1,675	1,087	5,357	510
3.8	9,640		77	832	750		604		1,955	1,205	5,912	625
4.0	10,170	10	85	946	850		730		2,235	1,334	6,487	770
4.2	10,700	12	96	1,060			857		2,519	1,444		930
4.4	11,230	18	110	1,174					2,803	1,577		1,100
4.6	11,760	36	132	1,288					3,087	1,705		1,300
4.8	12,290	70	160	1,402					3,371	1,843		1,520
5.0	12,820	113	198						3,655	1,980		1,750
5.2	13,350	160	240						3,939	2,135		1,995
5.4	13,880	213	283						4,223	2,300		2,265
5.6		273	326						4,507	2,480		2,555
5.8		341	368						4,791	2,660		2,850
6.0		422	411						5,075	2,840		3,160
6.2		540								3,020		3,535
6.4		686								3,200		3,990
6.6		848								3,380		4,470
6.8		1,026								3,560		5,010
7.0		1,220										
7.2		1,450										
7.4		1,755										
7.6		2,077										
7.8		2,399										
8.0		2,723										
8.2		3,047										
8.4		3,371										
8.6		3,696										
8.8		4,022										
9.0		4,348										
9.2		4,674										
9.4		5,000										
9.6		5,326										
9.8		5,652										

[a] Continued: Gage height −1.0, discharge 80; gage height −0.8, discharge 230; gage height −0.6, discharge 420; gage height −0.4, discharge 630; gage height −0.2, discharge 845; gage height 0.0, discharge 1,070.

Rating tables for stations in Kansas and Colorado.

[Discharge in second-feet.]

Gage height, in feet.	Solomon River near Niles, Kans.	Saline River near Salina, Kans.	Smoky Hill River at Ellsworth, Kans.	Blue River near Manhattan, Kans.	Kansas River at Lecompton, Kans.	Arkansas River near Canyon, Colo.	Arkansas River at Pueblo, Colo.	Arkansas River near Nepesta, Colo.	Arkansas River at Prowers, Colo.	Arkansas River at Hutchinson, Kans.	Verdigris River near Liberty, Kans.	Neosho River near Iola, Kans.
0.0						[a]			15			
0.2									61			
0.4								140	120			
0.6			7					190	250			32
0.8			14					350	658	23		46
1.0			23					717	1,130	45		70
1.2			50					1,165	1,602	80	2	94
1.4			81				174	1,616	2,074	120	5	118
1.6			120				254	2,068	2,546	165	10	142
1.8			165				338	2,520	3,018	220	27	166
2.0			227		275	270	430	2,972	3,490	295	55	190
2.2			310		625	323	556	3,424	3,962	400	90	240
2.4			398		1,000	377	698	3,876		530	140	310
2.6			486		1,425	442	852	4,328		715	205	400
2.8			574		1,885	535	1,014	4,780		960	280	500
3.0		25	662	150	2,375	650	1,185	5,232		1,250	368	610
3.2		31		200	2,890	780	1,367			1,550	464	750
3.4		37		270	3,415	937	1,560			1,875	560	900
3.6		43		340	3,940	1,135	1,762			2,300	660	1,070
3.8		51		420	4,465	1,357	1,974			2,820	760	1,270
4.0	22	60		500	5,000	1,579	2,200				860	1,500
4.2	38	71		590	5,550	1,801	2,452				960	1,760
4.4	54	85		680	6,120	2,023	2,736				1,060	2,050
4.6	70	100		770	6,710	2,245	3,058				1,164	2,380
4.8	80	115		860	7,300	2,467	3,416				1,280	2,720
5.0	100	130		960	7,900	2,689	3,780				1,400	3,060
5.2	128	145		1,060	8,510	2,911	4,144				1,520	3,400
5.4	159	162		1,160	9,130	3,133	4,508				1,650	3,740
5.6	193	180		1,270	9,770	3,355	4,872				1,780	4,080
5.8	229	198		1,380	10,430	3,577	5,236				1,920	4,420
6.0	265	216		1,500	11,110	3,799	5,600				2,060	4,760
6.2	303	235		1,625	11,790	4,021					2,200	5,100
6.4	341	255		1,755	12,470	4,243					2,340	5,440
6.6	379	275		1,890	13,150	4,465					2,480	5,780
6.8	417	295		2,030	13,830	4,687					2,620	6,120
7.0	455	315		2,175	14,510	4,909					2,760	6,460
7.2	493	335		2,325	15,200						2,900	6,800
7.4	531	357		2,480	15,900						3,043	7,140
7.6	570	379		2,640	16,600						3,188	7,480
7.8	610	401		2,800	17,300						3,334	7,820
8.0	650	425		2,970	18,000						3,480	8,180
8.5	755	487		3,400	19,750						3,850	9,130
9.0	860	550		3,850	21,500						4,225	10,080
9.5	967	621		4,315	23,250						4,600	11,030
10.0	1,084	696		4,800	25,000						5,000	12,000
11.0	1,327	865		5,870							5,400	14,000
12.0	1,604	1,050		7,000							6,619	16,100
13.0	1,900	1,260		8,240							7,458	18,350
14.0	2,204	1,485		9,860							8,300	
15.0	2,528	1,710		12,030							9,150	
16.0	2,884	1,960		14,280							10,100	
17.0	3,267	2,235		16,530							11,150	
18.0	3,681	2,530		18,780							12,300	
20.0		3,130		23,280							14,700	
25.0											21,300	
30.0											28,300	
35.0											35,450	

[a] Applicable from May 1 to December 31, 1901. Use table for 1900 from January 1 to April 30, 1902.

Rating tables of stations in Texas, Colorado, New Mexico, Wyoming, and Utah.

[Discharge in second-feet.]

Gage height, in feet.	Brazos River at Waco, Tex.	Colorado River at Austin, Tex.	Rio Grande near Del Norte, Colo.	Rio Grande at Cenicero, Colo.	Rio Grande at Embudo, N. Mex.	Rio Grande at Embudo, N. Mex.	Rio Grande at Rio Grande, N. Mex.	Rio Grande at Rio Grande, N. Mex.	Green River at Greenriver, Wyo.	Ashley Creek near Vernal, Utah.	Uinta River near Whiterocks, Utah.	Whiterocks River near Whiterocks, Utah.
0.0					[a]	[b]	[c]	[d]	85			
0.2									190			
0.4									315	32		
0.6									460	43		
0.8				32					625	72	134	53
1.0				43					865	111	182	79
1.2			140	79					1,015	152	239	114
1.4		100	258	142					1,235	198	331	164
1.6		210	384	236					1,470	250	463	231
1.8		380	518	414					1,720	309	640	316
2.0		580	660	594					1,980	369	846	404
2.2	61	825	812	774					2,280	429	1,056	492
2.4	95	1,190	978	954					2,655	492	1,266	580
2.6	145	1,908	1,149	1,134					3,130	558		668
2.8	221	2,704	1,329	1,314					3,705	626		756
3.0	315	3,500	1,522	1,494					4,375	694		844
3.2	415	4,296	1,734	1,674					5,090	762		932
3.4	515	5,092	1,968	1,854					5,822	830		1,020
3.6	616	5,888	2,216	2,034					6,554	898		1,108
3.8	721	6,684	2,478	2,214					7,286	966		
4.0	830	7,480	2,754	2,394					8,018	1,034		
4.2	962	8,276	3,054	2,574					8,750	1,102		
4.4	1,126	9,072	3,354	2,754				230	9,482	1,170		
4.6	1,322	9,868	3,654	2,934			180	300	10,214			
4.8	1,550	10,664	3,954	3,114			280	380	10,946			
5.0	1,800	11,460	4,254	3,294			390	480	11,678			
5.2	2,058	12,256	4,554				530	580	12,410			
5.4	2,315	13,052	4,854				690	710				
5.6	2,575	13,848	5,154				850	850				
5.8	2,836	14,644	5,454				1,020	1,020				
6.0	3,100	15,440	5,754				1,190	1,190				
6.2	3,365	16,236					1,360	1,360				
6.4	3,650	17,032					1,530	1,530				
6.6	3,955	17,828					1,700	1,700				
6.8	4,280	18,624					1,870	1,870				
7.0	4,625	19,420			200		2,040	2,040				
7.2	4,990	20,216			240	260	2,210					
7.4	5,375	21,012			280	340	2,380					
7.6	5,780	21,808			350	420	2,580					
7.8	6,205	22,604			450	500	2,810					
8.0	6,650	23,400			560	590	3,060					
8.2	7,115	24,196			680	690	3,320					
8.4	7,600	24,992			800	800	3,580					
8.6	8,105	25,788			920	920	3,860					
8.8	8,630	26,584			1,040	1,040	4,140					
9.0	9,180	27,380			1,160	1,160	4,420					
9.5	10,730	29,370			1,470	1,470	5,380					
10.0	12,530	31,360			2,020	2,020	6,630					
10.5	14,510				2,940							
11.0	16,750				4,200							
11.5	19,530				5,575							
12.0	22,310				6,950							
13.0	27,870											
14.0	33,430											
16.0	44,550											
18.0	55,670											

[a] Applicable from January 1 to July 27, 1901.
[b] Applicable from July 28 to December 31, 1901.
[c] Applicable from January 1 to June 29, 1901.
[d] Applicable from June 30 to December 31, 1901.

Rating tables for stations in Utah, Colorado, and Nevada.

[Discharge in second-feet.]

Gage height, in feet.	Uinta River at Fort Duchesne, Utah.	Uinta River at Ouray School, Utah.	Lake Creek, Utah, near mouth.	Duchesne River at Price road bridge, Utah.	Grand River at Glenwood Springs, Colo.	Gunnison River at Iola, Colo.	Dolores River at Dolores, Colo.	Los Pinos River at Ignacio, Colo.	Florida River near Durango, Colo.	Animas River at Durango, Colo.	Humboldt River near Elko, Nev.	South Fork of Humboldt River at Mason's ranch, Nev.
0.0	.....	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.2	.....	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
0.4	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
0.6	.....	133	.....	.....	.....	.....	.....	.....	.....	.....	.....	24
0.8	.....	171	.....	.....	.....	.....	.....	.....	11	.....	.....	47
1.0	.....	215	.....	.....	.....	.....	.....	.....	19	.....	.....	74
1.2	.....	265	.....	.....	.....	.....	.....	.....	30	.....	.....	105
1.4	.....	321	.....	.....	.....	.....	.....	.....	45	.....	.....	141
1.6	.....	383	.....	.....	.....	.....	.....	.....	74	.....	0.5	182
1.8	.....	457	85	.....	.....	.....	.....	.....	122	.....	7	227
2.0	.....	547	124	.....	.....	300	.....	25	170	.....	22	276
2.2	.....	653	189	.....	.....	426	.....	43	222	.....	43	327
2.4	57	780	268	.....	.....	574	20	73	274	.....	70	382
2.6	97	953	351	.....	.....	764	37	125	326	.....	104	439
2.8	152	1,145	438	.....	570	992	82	208	378	.....	144	499
3.0	218	1,360	531	.....	650	1,252	164	315	430	.....	190	559
3.2	295	1,580	629	.....	755	1,538	280	435	432	.....	240	619
3.4	392	1,800	732	.....	870	1,835	412	555	534	.....	292	679
3.6	525	2,020	836	.....	1,005	2,137	555	675	.....	.....	346	740
3.8	735	2,240	942	.....	1,160	2,442	700	795	.....	.....	402	801
4.0	1,025	2,460	1,051	.....	1,350	2,750	847	918	.....	.....	461	862
4.2	1,520	2,680	1,163	.....	1,570	3,062	1,001	1,042	.....	.....	525	922
4.4	2,120	2,900	1,280	.....	1,810	3,374	1,160	1,166	.....	.....	594	983
4.6	2,720	3,120	1,402	.....	2,090	3,686	1,327	1,290	.....	.....	667	1,045
4.8	3,320	.....	1,532	.....	2,430	3,998	1,506	1,414	.....	.....	743	1,106
5.0	3,920	.....	1,670	217	2,815	4,310	1,686	1,538	.....	.....	822	1,168
5.2	.....	.....	1,820	278	3,245	4,622	.....	1,662	.....	.....	903	1,230
5.4	.....	.....	1,980	355	3,770	4,934	.....	.....	.....	.....	988	1,292
5.6	.....	.....	2,144	473	4,420	7,246	.....	.....	.....	.....	1,076	1,354
5.8	.....	.....	2,314	630	5,080	.....	.....	.....	.....	.....	1,166	1,416
6.0	.....	.....	2,488	790	5,740	.....	.....	.....	.....	.....	1,257	1,478
6.2	.....	.....	2,665	950	6,420	.....	.....	.....	.....	122	1,352	.....
6.4	.....	.....	2,845	1,110	7,100	.....	.....	.....	.....	168	1,449	.....
6.6	.....	.....	.....	1,280	7,800	.....	.....	.....	.....	243	1,550	.....
6.8	.....	.....	.....	1,466	8,520	.....	.....	.....	.....	337	1,655	.....
7.0	.....	.....	.....	1,671	9,250	.....	.....	.....	.....	438	1,763	.....
7.2	.....	.....	.....	1,907	10,000	.....	.....	.....	.....	544	1,873	.....
7.4	.....	.....	.....	2,178	10,765	.....	.....	.....	.....	655	1,986	.....
7.6	.....	.....	.....	2,496	11,540	.....	.....	.....	.....	781	2,101	.....
7.8	.....	.....	.....	2,862	12,345	.....	.....	.....	.....	925	2,218	.....
8.0	.....	.....	.....	3,276	13,155	.....	.....	.....	.....	1,080	2,339	.....
8.2	.....	.....	.....	3,735	13,970	.....	.....	.....	.....	1,246	.....	.....
8.4	.....	.....	.....	4,203	14,800	.....	.....	.....	.....	1,424	.....	.....
8.6	.....	.....	.....	4,671	15,660	.....	.....	.....	.....	1,610	.....	.....
8.8	.....	.....	.....	5,141	16,520	.....	.....	.....	.....	1,805	.....	.....
9.0	.....	.....	.....	5,613	17,390	.....	.....	.....	.....	2,055	.....	.....
9.2	.....	.....	.....	6,085	18,300	.....	.....	.....	.....	2,319	.....	.....
9.4	.....	.....	.....	6,557	19,240	.....	.....	.....	.....	2,583	.....	.....
9.6	.....	.....	.....	.....	20,180	.....	.....	.....	.....	2,847	.....	.....
9.8	.....	.....	.....	.....	21,150	.....	.....	.....	.....	3,111	.....	.....
10.0	.....	.....	.....	.....	22,140	.....	.....	.....	.....	3,375	.....	.....
10.2	.....	.....	.....	.....	23,150	.....	.....	.....	.....	.....	.....	.....

Rating tables for stations in Nevada and California.

[Discharge in second-feet.]

Gage height, in feet.	Humboldt River near Golconda, Nev.	Humboldt River near Oreana, Nev.	East Fork of Carson River near Gardnerville, Nev.	East Fork of Carson River near Gardnerville, Nev.	West Fork of Carson River at Woodfords, Cal.	Carson River near Empire, Nev.	Carson River near Empire, Nev.	Truckee River at Tahoe, Cal.	Truckee River at Nevada-California State line.	Truckee River at Vista, Nev.	Steamboat Creek at Steamboat Springs, Nevada.	Susan River near Susanville, Cal.
−0.2	0.5	10	[a]	[b]	.....	[c]	[d]	15	.....	.....	[e]	.....
0.0	2.5	17	.....	.....	.....	.....	.....	25	.....	.....	.....	.....
0.2	8	26	.....	.....	.....	.....	.....	36	.....	.....	.....	.....
0.4	14	38	.....	.....	.....	.....	32	51	.....	.....	.....	.....
0.6	22	52	.....	.....	.....	.....	49	72	.....	.....	3	.....
0.8	30	69	.....	.....	.....	.....	70	100	.....	.....	7	.....
1.0	40	88	.....	.....	.....	.....	96	136	.....	.....	11	.....
1.2	52	110	.....	.....	.....	.....	128	178	.....	.....	17	.....
1.4	66	135	.....	.....	.....	.....	167	225	268	.....	25	.....
1.6	82	167	.....	.....	.....	.....	213	279	319	.....	34	.....
1.8	99	205	11	.....	.....	.....	267	339	383	.....	44	.....
2.0	118	249	17	.....	15	.....	329	407	463	110	56	.....
2.2	139	301	25	.....	26	.....	399	486	559	185	68	.....
2.4	162	361	35	.....	41	46	478	580	671	274	.....	11
2.6	188	430	48	.....	60	113	569	.....	795	370	.....	15
2.8	217	511	65	.....	83	203	672	.....	924	467	.....	22
3.0	248	604	86	35	112	496	788	.....	1,055	566	.....	30
3.2	282	712	115	57	147	715	924	.....	1,194	668	.....	44
3.4	317	839	157	85	187	943	1,084	.....	1,345	773	.....	60
3.6	352	986	219	122	232	1,177	1,267	.....	1,508	882	.....	90
3.8	395	1,152	313	179	281	1,427	1,473	.....	1,683	995	.....	134
4.0	438	1,331	438	271	336	1,700	1,708	.....	1,870	1,110	.....	180
4.2	485	1,519	575	401	396	1,988	1,988	.....	2,069	1,227	.....	248
4.4	533	1,716	715	550	461	2,304	2,304	.....	2,280	1,348	.....	316
4.6	583	1,930	856	.....	533	.....	2,639	.....	2,505	1,473	.....	390
4.8	635	2,175	998	.....	613	.....	2,985	.....	2,745	1,601	.....	470
5.0	688	2,459	1,141	.....	700	.....	3,339	.....	3,002	1,733	.....	550
5.2	742	.....	1,286	.....	794	.....	3,700	.....	3,283	1,871	.....	630
5.4	799	.....	1,435	.....	896	.....	.....	.....	3,596	2,015	.....	710
5.6	860	.....	1,590	.....	.....	.....	.....	.....	3,953	2,168	.....	790
5.8	926	.....	1,752	.....	.....	.....	.....	.....	4,370	2,338	.....	870
6.0	997	.....	1,922	.....	.....	.....	.....	.....	.....	2,537	.....	950
6.2	1,075	.....	2,094	.....	.....	.....	.....	.....	.....	2,780	.....	1,030
6.4	1,155	.....	2,267	.....	.....	.....	.....	.....	.....	3,079	.....	1,110
6.6	1,240	.....	2,442	.....	.....	.....	.....	.....	.....	3,438	.....	1,190
6.8	1,340	.....	2,619	.....	.....	.....	.....	.....	.....	3,857	.....	1,270
7.0	1,450	.....	2,798	.....	.....	.....	.....	.....	.....	4,386	.....	1,350
7.2	1,565	.....	2,979	.....	.....	.....	.....	.....	.....	.....	.....	.....
7.4	1,695	.....	3,162	.....	.....	.....	.....	.....	.....	.....	.....	.....
7.6	1,825	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7.8	1,965	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8.0	2,105	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8.2	2,245	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8.4	2,385	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8.6	2,525	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8.8	2,665	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9.0	2,805	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9.2	2,945	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

[a] Applicable from October 17, 1900, to August 2, 1901, and from December 5, 1901, to December 31, 1901.
[b] Applicable from August 3, 1901, to December 4, 1901.
[c] Applicable from October 21, 1900, to February 18, 1901.
[d] Applicable from February 19, 1901, to December 31, 1901.
[e] Applicable from January 4 to June 30, 1901.

Rating tables for stations in Idaho and Utah.

[Discharge in second-feet.]

Gage height, in feet.	Bear River at Battle Creek, Idaho.	Logan River at Logan, Utah.	Blacksmith Fork at Hyrum, Utah.	Bear River near Collinston, Utah.	Weber River near Uinta, Utah.	Spanish Fork near Mapleton, Utah.	Provo River near Provo, Utah.	American Fork near American Fork, Utah.	San Pitch River near Gunnison, Utah.	Sevier River near Gunnison, Utah.	Boise River near Boise, Idaho.	Weiser River near Weiser, Idaho.
0.2												39
0.4								43		6		71
0.6				300				99		17	800	105
0.8				400				186		33	920	150
1.0				520				306		49	1,060	215
1.2				690	110			440		69	1,200	290
1.4	434			870	210						1,350	375
1.6	522			1,070	320						1,510	470
1.8	640			1,270	440	36			15		1,690	585
2.0	770			1,470	560	75			37		1,870	720
2.2	912			1,670	684	119			65		2,070	875
2.4	1,070	137		1,880	816	164			95		2,300	1,050
2.6	1,250	167		2,100	955	212					2,570	1,235
2.8	1,450	213	108	2,330	1,095	260					2,880	1,425
3.0	1,650	275	120	2,570	1,235	308					3,260	1,625
3.2	1,854	350	147	2,820	1,375	359					3,708	1,840
3.4	2,058	450	241	3,080	1,515						4,156	2,075
3.6	2,262	574	347	3,340	1,655						4,604	2,325
3.8	2,466	706		3,600	1,795						5,052	2,585
4.0	2,670	850		3,860	1,935						5,500	2,855
4.2	2,874	1,015		4,140	2,075		240				5,948	3,125
4.4		1,185		4,420	2,215		279				6,396	3,395
4.6		1,355		4,700	2,355		327				6,844	3,665
4.8				5,000			381				7,292	3,935
5.0				5,300			445				7,740	4,205
5.2							536				8,188	4,475
5.4							645				8,636	4,745
5.6							788				9,084	5,015
5.8							962				9,532	5,285
6.0							1,136				9,980	5,555
6.2							1,310				10,428	5,825
6.4							1,484				10,876	6,095
6.6							1,658				11,324	6,365
6.8							1,832				11,772	6,635
7.0							2,006				12,220	
7.2											12,668	

Rating tables for stations in Montana, Washington, Oregon, and California.

[Discharge in second-feet.]

Gage height, in feet.	Blackfoot River near Bonner, Mont.	Missoula River at Missoula, Mont.	Spokane River at Spokane, Wash.	Naches River near North Yakima, Wash.	Yakima River at Union Gap, Wash.	Yakima River at Kiona, Wash.	Palouse River near Hooper, Wash.	Umatilla River at Gibbon, Oreg.	Elwha River at McDonald, Wash.	Kalawa River near Forks, Wash.	Soleduck River near Quillayute, Wash.	Sacramento River at Jellys Ferry, Cal.
0.0	.....	.....	.....	.....	.....	.....	.....	56	.....	71	.....	.....
0.2	400	.....	.....	.....	.....	.....	.....	74	.....	105	.....	.....
0.4	500	.....	.....	.....	.....	.....	.....	92	.....	147	.....	.....
0.6	620	.....	.....	.....	.....	.....	4	124	.....	194	.....	.....
0.8	760	.....	.....	.....	.....	.....	8	172	.....	246	.....	.....
1.0	900	.....	1,341	.....	.....	.....	12	333	.....	300	.....	.....
1.2	1,060	.....	1,611	.....	.....	.....	16	296	.....	356	.....	.....
1.4	1,220	.....	1,897	.....	.....	.....	20	372	460	416	.....	.....
1.6	1,400	.....	2,199	.....	.....	.....	26	454	490	480	.....	.....
1.8	1,580	.....	2,517	.....	.....	.....	40	544	565	548	.....	.....
2.0	1,760	.....	2,851	.....	.....	.....	61	642	645	620	.....	.....
2.2	1,980	.....	3,201	.....	.....	.....	86	748	735	698	.....	.....
2.4	2,220	.....	3,566	.....	.....	.....	115	862	820	784	.....	.....
2.6	2,500	.....	3,946	.....	.....	.....	148	984	929	882	.....	.....
2.8	2,800	.....	4,340	.....	.....	.....	185	1,114	1,042	995	155	.....
3.0	3,100	.....	4,749	.....	.....	445	226	1,252	1,160	1,118	201	.....
3.2	3,450	1,080	5,172	.....	.....	465	271	1,398	1,300	1,250	260	.....
3.4	3,800	1,300	5,609	.....	.....	495	320	1,552	1,460	1,389	325	.....
3.6	4,160	1,560	6,059	.....	.....	536	377	1,714	1,630	1,532	400	.....
3.8	4,592	1,820	6,523	.....	.....	663	446	1,884	1,900	1,679	483	.....
4.0	5,105	2,100	7,000	.....	650	780	525	2,061	2,320	1,830	580	2,400
4.2	5,629	2,430	7,489	.....	850	917	620	2,245	2,788	1,982	680	2,670
4.4	6,134	2,760	7,990	.....	1,050	1,074	735	2,435	3,256	2,134	780	2,970
4.6	6,648	3,100	8,503	.....	1,250	1,252	866	2,633	3,724	2,286	890	3,290
4.8	7,162	3,500	9,028	.....	1,450	1,468	998	2,839	4,192	2,438	1,022	3,630
5.0	7,672	3,900	9,565	350	1,700	1,705	1,130	3,052	4,660	2,590	1,180	3,980
5.2	8,190	4,400	10,114	390	1,950	1,962	1,262	3,272	5,128	2,742	1,350	4,360
5.4	8,704	4,900	10,673	470	2,350	2,240	1,394	3,498	5,596	2,894	1,540	4,760
5.6	9,218	5,400	11,243	590	2,600	2,534	1,526	3,730	6,064	3,046	1,780	5,170
5.8	9,732	6,000	11,824	750	3,000	2,842	1,658	3,970	6,532	3,198	2,050	5,590
6.0	10,246	6,600	12,416	910	3,500	3,160	1,790	4,217	7,000	3,350	2,320	6,030
6.2	10,760	7,300	13,019	1,090	4,000	3,490	1,922	.....	7,468	3,502	2,590	6,500
6.4	11,274	8,000	13,631	1,300	4,500	3,834	2,054	.....	7,936	3,654	2,860	7,000
6.6	11,788	8,700	14,253	1,550	5,100	4,190	2,186	.....	.....	3,806	3,130	7,530
6.8	12,302	9,400	14,885	1,840	5,700	4,556	2,318	.....	.....	3,958	3,400	8,070
7.0	12,816	10,200	15,525	2,170	6,300	4,935	2,450	.....	.....	4,110	3,670	8,630
7.2	.....	11,000	16,173	2,570	6,900	5,326	2,582	.....	.....	.....	3,940	9,200
7.4	.....	11,800	16,829	3,010	7,600	5,730	2,714	.....	.....	.....	4,210	9,800
7.6	.....	12,700	17,493	3,500	8,300	6,143	2,846	.....	.....	.....	4,480	10,400
7.8	.....	13,700	18,165	4,030	9,000	6,565	2,978	.....	.....	.....	4,750	11,000
8.0	.....	14,700	18,845	4,600	9,700	6,995	3,110	.....	.....	.....	5,020	11,600
8.2	.....	15,700	19,533	5,200	10,400	7,436	3,242	.....	.....	.....	5,290	12,200
8.4	.....	16,700	20,228	5,800	11,100	7,890	3,374	.....	.....	.....	5,560	12,800
8.6	.....	17,800	20,928	6,400	11,800	8,354	3,506	.....	.....	.....	5,830	13,400
8.8	.....	19,000	21,636	7,000	12,500	8,830	3,638	.....	.....	.....	6,100	14,000
9.0	.....	20,200	22,351	7,600	13,200	9,320	3,770	.....	.....	.....	6,370	14,600
9.5	.....	24,000	24,165	9,100	14,950	10,614	4,100	.....	.....	.....	7,045	16,100
10.0	.....	.....	26,012	.....	16,700	12,045	4,430	.....	.....	.....	7,720	17,600
11.0	.....	.....	29,787	.....	20,200	15,045	5,090	.....	.....	.....	9,070	20,800
12.0	.....	.....	33,653	.....	23,700	18,045	5,750	.....	.....	.....	10,420	24,400
13.0	.....	.....	.....	.....	.....	21,045	6,410	.....	.....	.....	11,770	28,400
14.0	.....	.....	.....	.....	.....	24,045	7,070	.....	.....	.....	.....	32,400
15.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36,800
20.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	64,200
25.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	96,600
30.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	129,600
35.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	162,600

Rating tables for stations in California.

[Discharge in second-feet.]

Gage height, in feet.	Stony Creek near Fruto, Cal.	Cache Creek near Lower Lake, Cal.	Mokelumne River at Electra, Cal.	Tuolumne River at Lagrange, Cal.	Merced River above Merced Falls, Cal.	San Joaquin River at Herndon, Cal.	King River near Red Mountain, Cal.	San Antonio Creek near Jolon, Cal.	San Lorenzo Creek near King City, Cal.	Arroyo Seco near Piney, Cal.	Salinas River near Salinas, Cal.	Tule River near Portersville, Cal.
1.0	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	18
1.2	.....	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
1.4	.....	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	51
1.6	.....	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	78
1.8	.....	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	109
2.0	.....	117	.....	.....	.....	.....	.....	.....	.....	.....	.....	144
2.2	.....	155	.....	.....	.....	340	.....	.....	.....	65	.....	183
2.4	.....	205	.....	.....	.....	380	.....	.....	.....	75	.....	226
2.6	.....	255	.....	.....	.....	430	.....	.....	.....	85	.....	273
2.8	.....	315	.....	.....	.....	500	.....	.....	.....	95	.....	324
3.0	0	380	.....	.....	.....	600	.....	.....	.....	105	.....	379
3.2	5	450	.....	.....	.....	730	.....	.....	.....	160	.....	440
3.4	15	530	.....	.....	.....	900	.....	.....	.....	240	20	515
3.6	35	615	330	25	.....	1,100	180	.....	.....	400	40	615
3.8	62	705	410	55	.....	1,315	250	.....	.....	610	65	770
4.0	97	805	510	115	.....	1,550	320	39	0	830	110	.....
4.2	140	920	610	200	.....	1,800	400	64	6	1,050	180	.....
4.4	195	1,040	710	300	.....	2,060	480	110	13	1,270	280	.....
4.6	260	1,175	830	410	.....	2,340	572	183	22	1,490	380	.....
4.8	340	1,330	950	560	.....	2,630	676	280	32	1,710	480	.....
5.0	435	1,520	1,070	750	.....	2,950	780	400	46	1,930	600	.....
5.2	555	1,720	1,200	950	.....	3,280	910	530	62	2,150	730	.....
5.4	725	1,920	1,350	1,180	.....	3,620	1,040	670	80	2,380	900	.....
5.6	925	2,120	2,520	1,440	.....	3,985	1,170	820	125	2,620	1,100	.....
5.8	1,125	2,320	1,720	1,740	.....	4,376	1,310	1,010	175	2,860	1,300	.....
6.0	1,325	2,520	1,960	2,080	.....	4,775	1,450	1,210	240	3,100	1,500	.....
6.2	1,540	.....	2,220	2,490	.....	5,190	1,642	1,440	350	3,360	1,715	.....
6.4	1,785	.....	2,480	2,900	.....	5,625	1,834	1,700	460	3,620	1,950	.....
6.6	2,060	.....	2,740	3,345	.....	6,080	2,034	1,980	600	3,900	2,205	.....
6.8	2,360	.....	3,020	3,830	.....	6,570	2,242	2,280	720	4,200	2,480	.....
7.0	2,790	.....	3,300	4,320	.....	7,090	2,450	2,600	870	4,500	2,790	.....
7.2	3,224	.....	3,580	4,900	.....	7,618	2,718	2,940	1,040	.....	3,150	.....
7.4	3,658	.....	3,860	5,500	.....	8,146	2,986	3,300	1,200	.....	3,590	.....
7.6	4,092	.....	4,200	6,120	.....	8,674	3,280	3,700	1,400	.....	4,110	.....
7.8	4,526	.....	4,600	6,760	.....	9,202	3,600	4,200	1,610	.....	4,710	.....
8.0	4,960	.....	5,000	7,400	.....	9,730	3,920	4,700	1,820	.....	5,400	.....
8.2	5,394	.....	5,420	8,040	130	10,262	4,300	.....	2,052	.....	6,110	.....
8.4	5,828	.....	5,860	8,680	170	10,794	4,680	.....	2,284	.....	6,820	.....
8.6	6,262	.....	6,320	9,320	220	11,328	5,096	.....	2,540	.....	7,530	.....
8.8	6,696	.....	6,790	9,960	280	11,864	5,548	.....	2,820	.....	8,240	.....
9.0	7,130	.....	7,270	10,600	360	12,400	6,000	.....	3,100	.....	8,950	.....
9.2	7,564	.....	7,770	.....	460	12,940	6,520	.....	3,420	.....	9,680	.....
9.4	7,998	.....	8,290	.....	580	13,480	7,040	.....	3,740	.....	10,410	.....
9.6	8,432	.....	8,830	.....	730	14,022	7,600	.....	4,080	.....	11,140	.....
9.8	8,866	.....	9,390	.....	900	14,566	8,220	.....	4,440	.....	11,870	.....
10.0	9,300	.....	9,980	.....	1,090	15,110	8,900	.....	4,800	.....	12,600	.....
10.2	9,734	.....	10,590	.....	1,310	15,662	9,610	.....	5,160	.....	13,350	.....
10.4	10,168	.....	11,220	.....	1,550	16,214	10,400	.....	5,520	.....	14,100	.....
10.6	10,602	.....	11,870	.....	1,810	16,766	11,300	.....	5,920	.....	14,850	.....
10.8	11,036	.....	12,530	.....	2,090	17,318	12,250	.....	6,360	.....	15,600	.....
11.0	11,470	.....	13,210	.....	2,390	17,870	13,240	.....	6,800	.....	16,350	.....
11.5	12,555	.....	.....	.....	3,200	19,300	16,040	.....	7,900	.....	18,225	.....
12.0	13,640	.....	.....	.....	4,140	20,780	19,230	.....	9,200	.....	20,100	.....
12.5	14,725	.....	.....	.....	5,230	.....	.....	.....	10,600	.....	21,975	.....
13.0	15,813	.....	.....	.....	6,510	.....	.....	.....	.....	.....	23,850	.....
14.0	17,980	.....	.....	.....	9,450	.....	.....	.....	.....	.....	27,600	.....
15.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	31,350	.....
16.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35,100	.....

INDEX.

1895.

Sixteenth Annual Report of the United States Geological Survey, 1894–95, Part II, Papers of an economic character, 1895; octavo, 598 pp.

Contains a paper on the public lands and their water supply, by F. H. Newell, illustrated by a large map showing the relative extent and location of the vacant public lands; also a report on the water resources of a portion of the Great Plains, by Robert Hay.

A geological reconnoissance of northwestern Wyoming, by George H. Eldridge, 1894; octavo, 72 pp. Bulletin No. 119 of the United States Geological Survey.

Contains a description of the geologic structure of portions of the Big Horn Range and Big Horn Basin, especially with reference to the coal fields, and remarks upon the water supply and agricultural possibilities.

Report of progress of the division of hydrography for the calendar years 1893 and 1894, by F. H. Newell, 1895; octavo, 126 pp. Bulletin No. 131 of the United States Geological Survey.

Contains results of stream measurements at various points, mainly within the arid region, and records of wells in a number of counties in western Nebraska, western Kansas, and eastern Colorado.

1896.

Seventeenth Annual Report of the United States Geological Survey, 1895–96, Part II, Economic geology and hydrography, 1896; octavo, 864 pp.

Contains papers on "The underground water of the Arkansas Valley in eastern Colorado," by G. K. Gilbert; "The water resources of Illinois," by Frank Leverett, and "Preliminary report on the artesian waters of a portion of the Dakotas," by N. H. Darton.

Artesian-well prospects in the Atlantic Coastal Plain region, by N. H. Darton, 1896; octavo, 232 pp., 19 plates. Bulletin No. 138 of the United States Geological Survey.

Gives a description of the geologic conditions of the coastal region from Long Island, New York, to Georgia, and contains data relating to many of the deep wells.

Report of progress of the division of hydrography for the calendar year 1895, by F. H. Newell, hydrographer in charge, 1896; octavo, 356 pp. Bulletin No. 140 of the United States Geological Survey.

Contains a description of the instruments and methods employed in measuring streams and the results of hydrographic investigations in various parts of the United States.

1897.

Eighteenth Annual Report of the United States Geological Survey, 1896–97, Part IV, Hydrography, 1897; octavo, 756 pp.

Contains a "Report of progress of stream measurements for the calendar year 1896," by Arthur P. Davis; "The water resources of Indiana and Ohio," by Frank Leverett; "New developments in well boring and irrigation in eastern South Dakota," by N. H. Darton; and "Reservoirs for irrigation," by J. D. Schuyler.

1899.

Nineteenth Annual Report of the United States Geological Survey, 1897–98, Part IV, Hydrography, 1899, octavo, 814 pp.

Contains a "Report of progress of stream measurements for the calendar year 1897," by F. H. Newell and others; "The rock waters of Ohio," by Edward Orton; and "A preliminary report on the geology and water resources of Nebraska west of the one hundred and third meridian," by N. H. Darton.

Part II of the Nineteenth Annual contains a paper on "Principles and conditions of the movements of ground water," by F. H. King, and one on "Theoretical investigation of the motion of ground waters," by C. S. Slichter.

1900.

Twentieth Annual Report of the United States Geological Survey, 1898–99, Part IV, Hydrography, 1900; octavo, 660 pp.

Contains a "Report of progress of stream measurements for the calendar year 1898," by F. H. Newell, and "Hydrography of Nicaragua," by A. P. Davis.

1901.

Twenty-first Annual Report of the United States Geological Survey, 1899–1900, Part IV, Hydrography, 1901; octavo, 768 pp.

Contains a "Report of progress of stream measurements for the calendar year 1899," by F. H. Newell; "Preliminary description of the geology and water resources of the southern half of the Black Hills and adjoining regions in South Dakota and Wyoming," by N. H. Darton; and "The High Plains and their utilization," by W. D. Johnson.

Such of the above papers as are published by the United States Geological Survey may be obtained on application until the edition is exhausted. Correspondence should be addressed to

The Director,
United States Geological Survey,
Washington, D. C.

WATER-SUPPLY AND IRRIGATION PAPERS.

1. Pumping water for irrigation, by Herbert M. Wilson, 1896.
2. Irrigation near Phoenix, Arizona, by Arthur P. Davis, 1897.
3. Sewage irrigation, by George W. Rafter, 1897.
4. A reconnoissance in southeastern Washington, by Israel C. Russell, 1897.
5. Irrigation practice on the Great Plains, by E. B. Cowgill, 1897.
6. Underground waters of southwestern Kansas, by Erasmus Haworth, 1897.
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8. Windmills for irrigation, by E. C. Murphy, 1897.
9. Irrigation near Greeley, Colorado, by David Boyd, 1897.
10. Irrigation in Mesilla Valley, New Mexico, by F. C. Barker, 1898.
11. River heights for 1896, by Arthur P. Davis, 1897.
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17. Irrigation near Bakersfield, California, by C. E. Grunsky, 1898.
18. Irrigation near Fresno, California, by C. E. Grunsky, 1898.
19. Irrigation near Merced, California, by C. E. Grunsky, 1899.
20. Experiments with windmills, by Thomas O. Perry, 1899.
21. Wells of northern Indiana, by Frank Leverett, 1899.
22. Sewage irrigation, Part II, by George W. Rafter, 1899.
23. Water-right problems of the Bighorn Mountains, by Elwood Mead, 1899.
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26. Wells of southern Indiana (continuation of No. 21), by Frank Leverett, 189
27, 28. Operations at river stations, 1898, Parts I, II, 1899.
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30. Water resources of the Lower Peninsula of Michigan, by Alfred C. Lane, 189
31. Lower Michigan mineral waters, by Alfred C. Lane, 1899.
32. Water resources of Porto Rico, by H. M. Wilson, 1900.
33. Storage of water on Gila River, Arizona, by J. B. Lippincott, 1900.
34. Geology and water resources of southeastern South Dakota, by J. E. Tod
35–39. Operations at river stations, 1899, Parts I–V, 1900.
40. The Austin dam, by Thomas U. Taylor, 1900.
41, 42. The windmill: its efficiency and use, Parts I, II, by E. C. Murphy, 190
43. Conveyance of water in irrigation canals, etc., by Samuel Fortier, 1901.
44. Profiles of rivers, by Henry Gannett, 1901.
45. Water storage on Cache Creek, California, by Albert E. Chandler, 1901.
46. Reconn. of Kern and Yuba rivers, Cal., by F. H. Olmsted and M. Manso
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