DEPARTMENT OF THE INTERIOR
Ray Lyman Wilbur, Secretary

U. S. GEOLOGICAL SURVEY
George Otis Smith, Director

WATER-SUPPLY PAPER 614

SURFACE WATER SUPPLY OF THE UNITED STATES

1925

PART XII. NORTH PACIFIC SLOPE DRAINAGE BASINS

C. PACIFIC SLOPE DRAINAGE BASINS IN OREGON AND LOWER COLUMBIA RIVER BASIN

NATHAN C. GROVER, Chief Hydraulic Engineer
F. F. HENSHAW and G. L. PARKER, District Engineers

Prepared in cooperation with the States of
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SURFACE WATER SUPPLY OF PACIFIC SLOPE DRAINAGE BASINS IN OREGON AND LOWER COLUMBIA RIVER BASIN, 1925

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1925.

The data presented in these reports were collected by the United States Geological Survey under the following authority contained in the organic law (20 Stat. L. p. 394):

Provided, That this officer [the director] shall have the direction of the Geological Survey and the classification of public lands and examination of the geological structure, mineral resources, and products of the national domain.

The work was begun in 1888 in connection with special studies relating to irrigation. Since the fiscal year ending June 30, 1895, successive appropriation bills passed by Congress have carried the following items:

For gaging the streams and determining the water supply of the United States and for the investigation of underground currents and artesian wells, and for the preparation of reports upon the best methods of utilizing the water resources.

Annual appropriations for the fiscal years ended June 30, 1895–1926

1895	$12,500.00	1911–1917	$150,000.00
1896	24,500.00	1918	175,000.00
1897–1899	50,000.00	1919	148,244.10
1900	70,000.00	1920	175,000.00
1901–2	100,000.00	1921–1923	180,000.00
1903–1906	200,000.00	1924–25	170,000.00
1907	150,000.00	1926	165,000.00
1908–1910	100,000.00		

In the execution of the work many private and State organizations have cooperated either by furnishing data or by assisting in collecting data. Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 10.

Measurements of stream flow have been made at about 5,120 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1925, 1,710 gaging stations were

being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements are made at other points. In connection with this work data were also collected in regard to precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in water-supply papers from time to time.

DEFINITION OF TERMS

The volume of water flowing in a stream—the "run-off" or "discharge"—is expressed in various terms each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, miner's inches, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, run-off in inches, and acre-feet. They may be defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

"Second-feet per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in depth in inches.

An "acre-foot," equivalent to 43,560 cubic feet, is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage for irrigation.

The following terms not in common use are here defined.

"Stage-discharge relation," an abbreviation for the term "relation of gage height to discharge."

"Control," a term used to designate the section or sections of the stream below the gage which determines the stage-discharge relation at the gage. It should be noted that the control may not be the same section or sections at all stages.

The "point of zero flow" for a gaging station is that point on the gage—the gage height—at which water ceases to flow over the control.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1924, and ending September 30, 1925. At the beginning of January in most parts of the United States much of the precipitation in the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as ground water, and this stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to

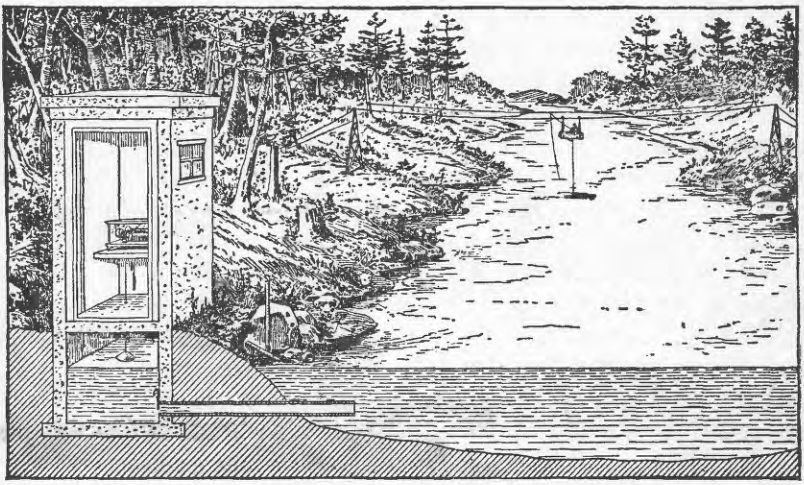

FIGURE 1.—Typical gaging station

supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter. The general methods are outlined in standard textbooks on the measurement of river discharge. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

From the discharge measurements rating tables are prepared that give the discharge for any stage. The application of the daily gage heights to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is computed.

The data presented for each gaging station in the area covered by this report comprise a description of the station, a table giving

results of discharge measurements, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off.

If the base data are insufficient to determine the daily discharge, tables giving daily gage heights and results of discharge measurements are published.

The description of the station gives, in addition to statements regarding location and equipment, information in regard to any condition that may affect the permanence of the stage-discharge relation, covering such subjects as the occurrence of ice, the use of the stream for log driving, shifting of control, and the cause and effect of backwater; it gives also information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the mean of the gage heights read each day. At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the mean flow for the day when the mean gage height was highest. As the gage height is the mean for the day it does not indicate correctly the stage when the water surface was at crest height, and the corresponding discharge was consequently larger than given in the maximum column. Likewise, in the column headed "Minimum" the quantity given is the mean flow for the day when the mean gage height was lowest. The column headed "Mean" is the average flow in cubic feet for each second during the month. On this average flow computations recorded in the remaining columns, which are defined on page 2, are based.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanence of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

A paragraph in the description of the station gives information regarding the (1) permanence of the stage-discharge relation, (2) precision with which the discharge rating curve is defined, (3) refinement of gage readings, (4) frequency of gage readings, and (5) meth-

ods of applying daily gage heights to the rating table to obtain the daily discharge.

For the rating tables "well defined" indicates, in general, that the rating is probably accurate within 5 per cent; "fairly well defined," within 10 per cent; "poorly defined" within 15 to 25 per cent. These notes are very general and are based on the plotting of the individual measurements with reference to the main rating curve.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches. All figures representing "second-feet per square mile" and "run-off in inches" published in earlier reports by the Geological Survey should be used with caution because of possible inherent sources of error that are not known.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and the discharge recorded does not show the water supply available for further development, as prior appropriations below the stations must first be satisfied. To give an idea of the amount of prior appropriations, a paragraph on diversions is presented in each station description. The figures given can not be considered exact but represent the best information available.

The table of monthly discharge gives only a general idea of the flow at the station and should not be used for other than preliminary estimates; the tables of daily discharge allow more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected to throw new light on data previously published.

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow of streams and studies of the conditions affecting that flow, but it has comprised also investigation of such closely allied subjects as irrigation, water storage, water powers, underground waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the bulletins, professional papers, annual reports, and monographs.

The results of stream-flow measurements are now published annually in 12 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

Part I. North Atlantic slope basins (St. John River to York River).
II. South Atlantic slope and eastern Gulf of Mexico basins (James River to the Mississippi).
III. Ohio River Basin.
IV. St. Lawrence River Basin.
V. Upper Mississippi River and Hudson Bay Basins.
VI. Missouri River Basin.
VII. Lower Mississippi River Basin.
VIII. Western Gulf of Mexico basins.
IX. Colorado River Basin.
X. Great Basin.
XI. Pacific slope basins in California.
XII. North Pacific slope basins, in three parts:
A. Pacific slope basins in Washington and Upper Columbia River Basin.
B. Snake River Basin.
C. Pacific slope basins in Oregon and Lower Columbia River Basin.

Water-supply papers and other publications of the United States Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as indicated below.

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will furnish lists giving prices.

2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

3. Complete sets are available for consultation in the local offices of the water-resources branch of the Geological Survey, as follows:

Boston, Mass., 2500 Customhouse.
Albany, N. Y., 904 Home Savings Bank Building.
Trenton, N. J., Statehouse.
Charlottesville, Va., care of University of Virginia.
Asheville, N. C., 608 City Hall.
Chattanooga, Tenn., 830 Power Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Chicago, Ill., 1510 Consumers Building.
Madison, Wis., care of Railroad Commission of Wisconsin.
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.
Helena, Mont., 45–46 Federal Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 313 Federal Building.
Idaho Falls, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Tacoma, Wash., 406 Federal Building.
Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 600 Federal Building.
Tucson, Ariz., 106 College of Law Building, University of Arizona.
Austin, Tex., State Capitol.
Honolulu, Hawaii, Territorial Office Building.

A list of the Geological Survey's publications may be obtained by applying to the Director of the United States Geological Survey, Washington, D. C.

Stream-flow records have been obtained at about 5,120 points in the United States, and the data obtained have been published in the reports tabulated below:

Stream-flow data in reports of the United States Geological Survey

[A=Annual Report; B=Bulletin; W=Water-Supply Paper]

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to Sept., 1890.
12th A, pt. 2	do	1884 to June 30, 1891.
13th A, pt. 3	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Descriptions, measurements, gage heights, and ratings	1893 and 1894.
16th A, pt. 2	Descriptive information only	
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11	Gage heights (also gage heights for earlier years)	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 and 1896.
W 15	Descriptions, measurements, and gage heights eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27	Measurements, ratings, and gage heights eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	1898.
W 35 to 39	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge	1899.
W 47 to 52	Descriptions, measurements, gage heights, and ratings	1900.
22d A, pt. 4	Monthly discharge	1900.
W 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W 75	Monthly discharge	1901.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907–8.
W 261 to 272	do	1909.
W 281 to 292	do	1910.
W 301 to 312	do	1911.
W 321 to 332	do	1912.
W 351 to 362	do	1913.
W 381 to 394	do	1914.
W 401 to 414	do	1915.
W 431 to 444	do	1916.
W 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919–20.
W 521 to 534	do	1921.
W 541 to 554	do	1922.
W 561 to 574	do	1923.
W 581 to 594	do	1924.
W 601 to 614	do	1925.

The records at most of the stations discussed in these reports extend over a series of years, and miscellaneous measurements at many points other than regular gaging stations have been made each year. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1925. The data for any particular station will, as a rule, be found in the reports covering the years during which the station was maintained. For example, data for Machias River at Whitneyville, Maine, 1903 to 1921, are published in Water-Supply Papers 97, 124, 165, 201, 241, 261, 281, 301, 321, 351, 381, 401, 431, 451, 471, 501, and 521, which contains records for the New England streams from 1903 to 1921. Results of miscellaneous measurements are published by drainage basins.

Number of water-supply papers containing results of stream measurements, 1899–1925

[For basins included see p. 6]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
												A	B	C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	33	38	38
1900 [g]	47, [h] 48	48	48, [i] 49	49	49	49, [j] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[k] 65, 66, 75	66, 75	[k] 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[b] 82, 83	83	[l] 82, 83	[k] 83, 85	84	[k] 83, 84	84	85	85	85	85	85	85
1903	97	[b] 97, 98	98	97	[k] 98, 99, [m] 100	99	[k] 98, 99	99	100	100	100	100	100	100
1904	[n] 124, [o] 125, [p] 126	[p] 126, 127	128	129	[k] 128, 130	130, [q] 131	[k] 128, 131	132	133	133, [r] 134	134	135	135	135
1905	[n] 165, [o] 166, [p] 167	[p] 167, 168	169	170	171	172	[k] 179, 173	174	175, [s] 177	176, [r] 177	177	178	178	[t] 177, 178
1906	[n] 201, [o] 202, [p] 203	[p] 203, 204	205	206	207	208	[k] 205, 209	210	211	212, [r] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [r] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [r] 271	271	272	272	272
1910	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332–A	332–B	332–C
1913	351	352	353	354	355	356	357	358	359	360	361	362–A	362–B	362–C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919–20	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925	601	602	603	604	605	606	607	608	609	610	611	612	613	614

[a] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in Twenty-first Annual Report, Part IV.
[b] James River only.
[c] Gallatin River.
[d] Green and Gunnison Rivers and Grand River above junction with Gunnison.
[e] Mohave River only.
[f] Kings and Kerns Rivers and south Pacific slope basins.
[g] Rating tables and index to Water-Supply Papers 47–52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV.
[h] Wissahickon and Schuylkill Rivers to James River.
[i] Scioto River.
[j] Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.
[k] Tributaries of Mississippi from east.
[l] Lake Ontario and tributaries to St. Lawrence River proper.
[m] Hudson Bay only.
[n] New England rivers only.
[o] Hudson River to Delaware River, inclusive.
[p] Susquehanna River to Yadkin River, inclusive.
[q] Platte and Kansas Rivers.
[r] Great Basin in California except Truckee and Carson River Basins.
[s] Below junction with Gila.
[t] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

The work in Oregon and Washington was carried on under cooperative agreements between the United States Geological Survey and the respective States.

Cooperation with the States is effected under contracts which are made between the Director of the United States Geological Survey and the State engineers or other officials and are authorized by legislative acts appropriating money.

The work in Washington was carried on in cooperation with the Department of Conservation and Development, Dan A. Scott, and Erle J. Barnes, directors. Cooperative relations were administered by Marvin Chase, and R. K. Tiffany, supervisors of hydraulics.

Acknowledgments are due to Rhea Luper, State engineer of Oregon, for the efficient manner in which he represented his State in the cooperative investigations.

Acknowledgments are also due to the United States Bureau of Reclamation and the United States Office of Indian Affairs, for assistance, suggestions, and the use of data gathered exclusively for them and paid for by them, and to the United States Weather Bureau for hydrographic and climatic data.

Special acknowledgments are due for financial assistance rendered by municipalities, corporations, and individuals, as follows: Water masters for Umatilla, Crook, Deschutes, and Jackson Counties; water bureau of city of Portland; Central Oregon Irrigation District; Deschutes County Municipal Improvement District; Eagle Point Irrigation District; Horse Heaven Irrigation District; Medford Irrigation District; Talent Irrigation District; Arnold Irrigation Co.; California Oregon Power Co.; Northwestern Electric Co.; Pacific Power & Light Co.; Portland Electric Power Co.; Puget Sound Power & Light Co.; Rogue River Valley Canal Co.; and Walla Walla Chamber of Commerce.

DIVISION OF WORK

Data for stations in Oregon and Washington, except those in Walla Walla River Basin in Washington, were collected and prepared for publication under direction of F. F. Henshaw, district engineer, assisted by G. H. Canfield, Kenneth N. Phillips, Wendell Dawson, and E. O. Hokanson.

The data for stations in Walla Walla River Basin in Washington were collected and prepared for publication under the direction of G. L. Parker, district engineer, assisted by D. J. F. Calkins, R. B. Kilgore, J. S. Gatewood, K. N. Vaksvik, and J. M. Rogers.

The manuscript was assembled and reviewed by J. W. Mangan.

GAGING-STATION RECORDS

MAIN STREAM

COLUMBIA RIVER AT THE DALLES, OREG.

LOCATION.—In NW. ¼ sec. 3, T. 1 N., R. 13 E., at foot of Court Street at The Dalles, Wasco County, 18 miles below Deschutes River and above Hood and Klickitat Rivers.

DRAINAGE AREA.—237,000 square miles.

RECORDS AVAILABLE.—June 1, 1878, to September 30, 1925. Maximum stages 1858 to 1877.

GAGE.—Vertical staff in several sections, belonging to United States Weather Bureau, attached to row of dolphins, with upper section on a warehouse. Gage of United States Engineer Corps at Cascade Locks, 40 miles below The Dalles attached to side of wooden fender of upper locks chamber between upper guard and lock gates. Elevation of datum of The Dalles gage, 46.36 feet (adjustment of primary level net, 1912).

DISCHARGE MEASUREMENTS.—In 1903, made by United States Engineer Corps with rod floats and meter from a steamer; in 1907, 1923, and 1924, by United States Geological Survey engineers with meter from a launch; in 1908, flood measurements by United States Geological Survey engineers 2,000 feet below gage at The Dalles; in 1910 and 1913, measurements by United States Geological Survey engineers on Columbia River above Snake River and on Snake River referred to The Dalles gage, allowance being made for intervening tributaries.

CHANNEL AND CONTROL.—Rocky and permanent at the rapids at Cascade Locks, the control for both gages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 36.6 feet May 24 and 25 (discharge, 642,000 second-feet); minimum stage, 0.0 foot October 23–28 (discharge, 68,000 second-feet).

1857–1925: Maximum stage recorded, 59.6 feet June 6, 1894 (discharge, 1,170,000 second-feet); minimum stage, −4.0 feet on gage at Cascade Locks December 17, 1919 (discharge, 47,000 feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Quantity of water diverted for irrigation is large in the aggregate but constitutes only a small proportion of the total flow; the low-water flow, which comes in the winter, is little affected.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage read to tenths once a day. Readings at Cascade Locks used October 2–11 and September 11–30 (sand around gage interfered with readings) and December 15 to January 5 (stage-discharge relation at The Dalles affected by ice). Daily discharge ascertained by applying daily gage height to rating table. Records excellent.

COOPERATION.—Gage-height record furnished by United States Weather Bureau.

No discharge measurements were made at this station during the year.

Daily discharge, in second-feet, of Columbia River at The Dalles, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83,400	71,000	78,900	82,500	122,000	137,000	147,000	291,000	616,000	435,000	198,000	131,000
2	84,500	71,600	79,600	88,600	133,000	131,000	147,000	291,000	598,000	433,000	197,000	127,000
3	83,500	72,200	78,200	95,200	158,000	131,000	151,000	297,000	578,000	432,000	195,000	124,000
4	82,500	74,700	76,800	103,000	178,000	127,000	155,000	303,000	560,000	424,000	195,000	121,000
5	82,500	77,500	77,500	115,000	195,000	127,000	162,000	311,000	547,000	416,000	194,000	116,000
6	82,500	80,300	78,900	114,000	219,000	127,000	168,000	316,000	526,000	407,000	192,000	113,000
7	81,500	83,400	78,200	108,000	233,000	127,000	181,000	327,000	509,000	397,000	190,000	109,000
8	80,500	85,900	77,500	104,000	233,000	127,000	192,000	332,000	495,000	385,000	187,000	108,000
9	77,700	86,800	77,500	100,000	229,000	131,000	204,000	372,000	485,000	374,000	185,000	108,000
10	77,700	87,700	77,500	97,000	205,000	137,000	218,000	390,000	471,000	365,000	184,000	108,000
11	75,900	87,700	80,300	95,000	192,000	137,000	233,000	390,000	463,000	354,000	181,000	111,000
12	74,700	86,800	81,000	92,200	178,000	137,000	251,000	388,000	453,000	342,000	176,000	110,000
13	74,000	85,000	78,200	89,500	165,000	129,000	275,000	386,000	449,000	328,000	173,000	107,000
14	72,800	83,400	79,600	89,500	156,000	123,000	316,000	399,000	441,000	320,000	168,000	106,000
15	72,200	82,600	87,500	87,700	150,000	120,000	318,000	416,000	433,000	311,000	165,000	104,000
16	71,600	81,800	87,500	85,000	144,000	116,000	327,000	439,000	426,000	305,000	162,000	104,000
17	71,000	81,000	85,500	81,000	137,000	113,000	330,000	467,000	420,000	297,000	159,000	104,000
18	71,000	80,300	83,500	84,200	132,000	112,000	327,000	491,000	416,000	289,000	160,000	103,000
19	70,400	80,300	81,500	88,600	129,000	111,000	359,000	516,000	418,000	281,000	162,000	103,000
20	69,200	85,900	79,500	86,800	124,000	113,000	363,000	536,000	428,000	275,000	160,000	102,000
21	69,200	86,800	75,900	93,100	122,000	115,000	363,000	572,000	432,000	269,000	160,000	102,000
22	68,600	95,000	75,000	90,400	122,000	117,000	359,000	607,000	439,000	261,000	154,000	101,000
23	68,000	96,000	75,000	90,400	126,000	120,000	350,000	629,000	445,000	255,000	151,000	99,600
24	68,000	97,000	75,000	94,000	129,000	124,000	339,000	642,000	447,000	249,000	148,000	98,500
25	68,000	107,000	74,100	94,000	130,000	126,000	339,000	642,000	453,000	242,000	144,000	96,300
26	68,000	102,000	74,100	93,100	136,000	127,000	328,000	633,000	451,000	236,000	143,000	95,200
27	68,000	98,000	75,000	93,100	145,000	130,000	316,000	629,000	447,000	229,000	142,000	95,200
28	68,000	93,100	75,900	98,000	143,000	133,000	305,000	622,000	443,000	222,000	138,000	95,200
29	68,600	87,700	77,700	101,000	.....	136,000	297,000	616,000	439,000	213,000	136,000	94,100
30	69,200	82,600	78,600	107,000	.....	137,000	292,000	616,000	437,000	206,000	133,000	94,100
31	70,400	.....	79,500	111,000	.....	141,000	.....	616,000	.....	199,000	132,000	.....

Monthly discharge of Columbia River at The Dalles, Oreg., for the year ending September 30, 1925

[Drainage area, 237,000 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	84,500	68,000	74,000	0.312	0.36	4,550,000
November	107,000	71,000	85,700	.362	.40	5,100,000
December	87,500	74,100	78,700	.332	.38	4,840,000
January	115,000	81,000	95,200	.402	.46	5,850,000
February	233,000	122,000	159,000	.671	.70	8,830,000
March	141,000	111,000	126,000	.532	.61	7,750,000
April	363,000	147,000	270,000	1.14	1.27	16,100,000
May	642,000	291,000	467,000	1.97	2.27	28,700,000
June	616,000	416,000	472,000	1.99	2.22	28,100,000
July	435,000	199,000	315,000	1.33	1.53	19,400,000
August	198,000	132,000	167,000	.705	.81	10,300,000
September	131,000	94,100	106,000	.447	.50	6,310,000
The year	642,000	68,000	201,000	.848	11.51	146,000,000

TRIBUTARIES OF COLUMBIA RIVER BELOW MOUTH OF SNAKE RIVER

WALLA WALLA RIVER BASIN

WALLA WALLA RIVER NEAR MILTON, OREG.

LOCATION.—In sec. 21, T. 5 N., R. 36 E., half a mile below junction of North and South Forks of Walla Walla River and 4 miles above Milton, Umatilla County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 13, 1903, to December 31, 1908; March 17, 1918, to September 30, 1919; March 19, 1920, to September 30, 1921; and irrigation seasons 1922 to 1925.

GAGE.—Water-stage recorder on left bank; inspected by W. C. Mason.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Channel straight at cable; current makes considerable angle with cable at low water but not at high water. Left bank is overflowed during high water. Control composed of gravel and small boulders; shifts at high stages.

EXTREMES OF DISCHARGE.—Maximum stage during period of record from water-stage recorder, 2.27 feet at 9 p. m. April 10 (discharge, 789 second-feet); minimum stage, 0.60 foot at 7 a. m. August 2 (discharge, 80 second-feet).

1903–1906; 1918–1925: Highest flood ever known occurred May 30, 1906, discharge, 8,130 second-feet estimated from observation of cross sections and slope, after flood had subsided. Minimum daily discharge recorded, that of August 2, 1925.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Few small canals divert water above station. Total area irrigated, only few hundred acres. Some small diversions between sites of present and former stations.

REGULATION.—The Pacific Power & Light Co.'s power plant 5 miles above this station affects the flow somewhat, especially at low water. Some water is ponded in fore bay.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve fairly well defined. Operation of water-stage recorder satisfactory except September 30. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records fair.

COOPERATION.—Most of data obtained under direction of A. E. Perry, water master for Umatilla County.

The following discharge measurements were made:

April 20, 1925: Gage height, 1.70 feet; discharge, 430 second-feet.
June 11, 1925: Gage height, 0.98 foot; discharge, 169 second-feet.
June 29, 1925: Gage height, 0.76 foot; discharge, 114 second-feet.

Daily discharge, in second-feet, of Walla Walla River near Milton, Oreg., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	321	252	112	90	100	16	570	369	145	102	98	100
2	------	321	252	115	94	98	17	594	369	140	98	100	100
3	------	321	242	115	94	98	18	504	361	125	96	102	100
4	------	321	229	110	96	100	19	480	337	120	98	102	105
5	------	341	214	108	94	105	20	435	337	118	96	102	108
6	------	365	205	105	92	110	21	403	486	115	94	98	108
7	430	416	196	105	92	110	22	373	412	115	98	100	110
8	470	416	190	105	94	110	23	333	361	115	96	110	108
9	540	381	193	102	94	108	24	309	325	112	98	110	105
10	642	365	190	98	96	105	25	284	302	112	96	110	102
11	677	369	175	100	96	105	26	274	280	110	96	108	105
12	663	357	165	102	94	102	27	277	260	108	96	108	110
13	594	357	160	100	92	102	28	284	260	105	94	102	110
14	516	357	155	102	94	102	29	294	277	110	92	102	112
15	510	361	152	102	94	100	30	321	277	115	92	102	110
							31	------	252	------	90	100	------

Monthly discharge of Walla Walla River near Milton, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 7–30	677	274	449	21,400
May	486	252	343	21,100
June	252	105	158	9,400
July	115	90	100	6,150
August	110	90	98.7	6,070
September	112	98	105	6,250
The period				70,400

WALLA WALLA RIVER NEAR WALLULA, WASH.

LOCATION.—In NW. ¼ sec. 30, T. 7 N., R. 32 E., at Attalia Irrigation District Canal crossing, just above Inland Empire highway bridge, 3 miles east of Wallula, Walla Walla County.

DRAINAGE AREA.—1,480 square miles (measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—May 17, 1924, to September 30, 1925, when records were discontinued.

GAGE.—Vertical staff on left bank, attached to Attalia Irrigation District Canal trestle; read by E. R. Birdsill and H. R. Cummings.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge.

CHANNEL AND CONTROL.—Bed is of gravel and small boulders. Right bank high; left bank is overflowed at extremely high stage. Control is boulder and gravel riffle; shifts at high stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.1 feet February 5 (discharge, 5,740 second-feet); river dry June 28–30, when Attalia Irrigation District Canal was taking entire flow.

1924–25: Maximum stage recorded on February 5, 1925; no flow August 1–15, 1924, and June 28–30, 1925.

ICE.—Stage-discharge relation seriously affected by ice.

DIVERSIONS.—Entire flow at low water above station appropriated for irrigation. Diversion through Attalia Irrigation District Canal added to flow at river gage to determine mean monthly flow available for use at the canal intake.

REGULATION.—See diversions.

ACCURACY.—Stage-discharge relation permanent; affected by ice December 20 to January 4. Rating curve well defined above 5 second-feet. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good October to May; otherwise fair.

Discharge measurements of Walla Walla River near Wallula, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Feb. 6	7.64	4,090	Apr. 25	3.45	602	Sept. 28	1.47	30.4
Mar. 4	3.51	666	July 12	.83	.30	Do	1.47	30.1
Mar. 20	3.73	770	July 15	.83	.27			

Daily discharge, in second-feet, of Walla Walla River near Wallula, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	164	425		2,080	650	582	326	385		0.1	0.5
2	22	198	405	1,650	1,910	605	560	365	385		.1	.3
3	50	198	448		2,800	700	538	365	365		.1	.3
4	65	198	448		4,480	650	605	290	326		.1	.4
5	68	212	425	1,100	5,740	650	700	365	290		.1	.4
6	72	212	538	1,160	4,040	700	800	308	212	0.2	.1	.4
7	72	241	515	1,160	2,620	700	800	290	185		.1	.3
8	72	241	470	1,040	1,990	650	920	650	212		.1	.3
9	75	257	448	920	1,750	605	980	560	226		.1	.3
10	79	273	515	800	1,440	560	1,040	515	172		.1	1.4
11	83	290	605	800	1,300	538	1,160	515	154		.1	2.5
12	94	290	650	800	1,160	492	1,230	538	136	.3	.1	3.9
13	94	273	920	750	1,160	470	1,160	448	119	.3	.1	5.3
14	98	273	750	700	980	425	1,040	515	115	.3	.1	5.1
15	94	273	650	650	860	405	920	470	126	.4	.1	5.0
16	115	257	560	605	800	385	980	448	102	.4	.2	4.8
17	132	273	515	1,160	750	470	1,370	405	84	.6	.2	5.0
18	123	290	425	1,160	700	492	1,040	365	72	.9	.3	5.1
19	115	326	365	1,590	700	538	1,040	345	40	.3	.4	5.3
20	115	560		980	700	800	980	326	21	2.0	.4	20
21	115	1,750		1,160	700	920	860	538	16	38	15	23
22	119	1,910		1,160	700	920	800	980	20	51	18	24
23	115	2,260		1,440	700	860	750	650	16	13	20	25
24	115	1,230	350	1,440	700	800	650	538	13	1.1	24	25
25	111	920		1,300	750	700	605	470	2.7	.6	25	25
26	111	800		1,300	700	800	515	405	.3	.5	8.5	28
27	102	650		1,300	700	700	470	365	.1	.4	5.0	30
28	119	560		1,230	700	650	385	385	.0	.3	1.6	30
29	128	515		1,440	-------	750	365	405	.0	.2	.8	30
30	159	448	950	1,910	-------	650	385	425	.0	.2	.8	31
31	154	-------		2,080	-------	605	-------	425	-------	.1	.7	------

NOTE.—Gage not read July 1–11, 13, 17, 28, 30, Aug. 1–3, 5, 6, 8, 10, 12, 14, 16–18, 20, 22, 27, 30, Sept. 1, 3, 4, 6, 8, 10, 12, 14, 15, 17, 18, 24, 26, and 29. Flow Aug. 20 estimated from general information; otherwise breaks in record filled by interpolation.

Monthly discharge of Walla Walla River and Attalia Irrigation District Canal near Wallula, Wash., for the year ending September 30, 1925

Month	Discharge in second-feet					Combined run-off in acre-feet
	Combined		River mean	Canal mean	Combined mean	
	Maximum	Minimum				
October	159	34	96.7	10.4	107	6,580
November	2,260	164	545	----------	545	32,400
December	----------	----------	519	----------	519	31,900
January	2,080	605	1,220	----------	1,220	75,000
February	5,740	700	1,560	----------	1,560	86,600
March	----------	385	640	8.04	648	39,800
April	----------	----------	808	30.4	838	49,900
May	----------	----------	451	32.0	483	29,700
June	----------	20	127	23.8	151	8,980
July	51	11.8	3.65	15.4	19.0	1,170
August	26	8.6	3.95	9.87	13.8	848
September	31	15.5	11.3	10.5	21.8	1,300
The year	5,740	8.6	491	----------	503	364,000

TOUCHET RIVER AT BOLLES, WASH.

LOCATION.—In sec. 8, T. 9 N., R. 37 E., half a mile above highway bridge, three-fourths mile southeast of Bolles, Walla Walla County, and 3 miles west of Waitsburg.

DRAINAGE AREA.—284 square miles (measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—February 1, 1924, to September 30, 1925.

GAGE.—Gurley 8-day water-stage recorder on left bank; inspected by W. F. Crowe and J. A. Weathers.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge.

CHANNEL AND CONTROL.—Bed composed of gravel. Banks fairly high; right bank is overflowed at extremely high stage. Control is formed by riffle over gravel and small boulders; moves downstream as stage rises.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.26 feet at 10 p. m. February 4 (discharge, 2,910 second-feet); minimum stage, 0.71 foot at midnight August 21 (discharge, 3.4 second-feet).

1924–25: Maximum and minimum stages recorded in 1925.

ICE.—Stage-discharge relation seriously affected by ice during severe winters.

DIVERSIONS.—Numerous small ditches divert water above gage for irrigation.

REGULATION.—Considerable fluctuation in stage at extremely low water caused by operation of flour mill at Waitsburg.

ACCURACY.—Stage-discharge relation changed November 19, gradually February 5–14, and as a result of construction of temporary wing dam near control sometime June 14 to July 12; affected by ice December 15 to January 3. Rating curve used to November 19 fairly well defined; later curves well defined. Operation of water-stage recorder fairly satisfactory except as noted in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection. Shifting-control method used February 5–14. Records good.

Discharge measurements of Touchet River at Bolles, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Feb. 4	4.18	1,750	Apr. 26	1.89	227	Sept. 24	1.22	37.2
Mar. 5	2.06	289	July 13	.87	10.6	Sept. 27	1.25	40.3
Mar. 21	2.33	380	July 14	.87	9.88			

Daily discharge, in second-feet, of Touchet River at Bolles, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	80	165		927	233	264	201	148		7.5	25
2	36	84	168	450	1,210	227	258	204	138		6.6	24
3	38	86	168		1,480	236	258	207	129		5.8	24
4	40	88	171	380	1,960	239	295	204	127	38	6.2	26
5	42	95	201	407	1,960	267	353	207	122		7.0	31
6	42	102	192	435	1,360	284	364	221	117		7.5	31
7	42	110	190	376	1,050	267	364	274	115		9.0	32
8	42	117	182	334	892	255	372	309	112		8.5	32
9	42	124	171	306	810	249	407	252	110		10	33
10	42	110	207	306	727	244	448	227	105	20	11	33
11	42	105	298	288	645	238	503	233	100		11	34
12	44	103	360	281	563	232	512	233	98		10	34
13	40	93	372	258	481	227	460	227	98	10	10	35
14	41	91	376	249	398	221	411	221		11	9.5	35
15	35	93		224	316	215	380	221		11	14	35
16	34	103		212	298	210	432	218	88	10	30	37
17	34	107	110	201	271	204	512	224		10	26	38
18	35	105		215	258	201	380	207		10	14	38
19	35	215		503	245	239	419	193		7.0	10	39
20	37	782		431	239	368	361	182		7.5	9.0	43
21	40	636		499	239	380	312	236	72	6.2	6.2	42
22	42	1,110		566	239	376	295	218		7.0	3.8	38
23	44	595		648	245	357	281	190		7.5	13	37
24	50	423	80	680	258	334	255	174		12	23	37
25	60	338		580	264	372	233	158		14	23	37
26	54	272		534	258	338	221	150		16	22	37
27	60	227		561	248	327	210	140	56	13	21	40
28	62	198		534	239	316	201	150		10	24	42
29	66	184	500	632	-------	309	196	171		7.5	27	43
30	71	171		730	-------	302	198	166		8.5	29	46
31	75	-------		829	-------	281	-------	157	-------	8.5	27	------

NOTE.—Water-stage recorder not operating Oct. 2-4, 20, 21, 29-31, Nov. 1, 5-8, Jan. 29-31, Feb. 9-14, Mar. 9-16, May 24, 31, June 1-2, 7-8, 14-30, July 1-12, Aug. 2, 23, and Sept. 6-13; discharge interpolated. Braced figures give mean discharge for periods indicated.

Monthly discharge of Touchet River at Bolles, Wash., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	75	34	45.2	2,780
November	1,110	80	232	13,800
December	-------	-------	221	13,600
January	829	201	437	26,900
February	1,960	239	646	35,900
March	380	201	276	17,000
April	512	196	338	20,100
May	309	140	206	12,700
June	148	-------	91.4	5,440
July	-------	6.2	17.2	1,060
August	30	3.8	14.2	873
September	46	24	35.3	2,100
The year	1,960	3.8	210	152,000

ATTALIA IRRIGATION DISTRICT CANAL NEAR WALLULA, WASH.

LOCATION.—In NE. ¼ sec. 30, T. 7 N., R. 32 E., at upper end of galvanized iron section of flume carried on trestle across Walla Walla River, 1,000 feet north of Inland Empire highway, 3 miles east of Wallula, Walla Walla County.

RECORDS AVAILABLE.—May 17, 1924, to September 30, 1925, when records were discontinued.

GAGE.—Vertical staff gage bolted to concrete wall on left side; read by employees of Attalia Irrigation District.

DISCHARGE MEASUREMENTS.—Made from cross ties near gage.

CHANNEL AND CONTROL.—Long section of semicircular galvanized iron flume.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.26 feet June 20 (discharge, 34 second-feet); discharge may have been greater during April and May when gage was not being read. Canal dry June 15–18, July 21, 22, August 21–25, and September 20–30, and during nonirrigating season.

1924–25: Maximum stage recorded on June 20, 1925. Canal dry during winter and on many days during irrigation seasons.

ACCURACY.—Stage-discharge relation changed sometime during winter. Rating curves well defined above 9 second-feet. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record furnished by Attalia Irrigation District.

Canal diverts water from left bank of Walla Walla River almost on line between secs. 22 and 23, T. 7 N., R. 32 E., 7 miles below mouth of Touchet River. Water is used for irrigation.

Discharge measurements of Attalia Irrigation District Canal near Wallula, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 20	1.42	14.1	July 12	1.54	17.5
Apr. 25	2.19	30.3	July 15	1.44	15.2

Daily discharge, in second-feet, of Attalia Irrigation District Canal near Wallula, Wash., for the year ending September 30, 1925

Day	Oct.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	-------				20.0	11.6	17.2
2	22	-------				18.2	10.0	16.2
3	22	-------				18.2	9.1	15.2
4	22	-------				20.0	9.1	15.2
5	22	-------				19.2	9.2	15.2
6	21	-------				17.2	10.0	15.2
7	21	-------				17.2	9.2	15.2
8	21	-------			28	18.2	8.5	16.2
9	22	-------				19.2	8.5	17.2
10	22	-------				19.2	8.8	17.2
11	22	-------				17.2	8.5	17.2
12		-------				17.2	9.1	17.2
13		-------	30			16.2	9.1	17.2
14	21	-------				15.2	10.0	17.2
15		-------			0	14.3	10.0	17.2
16	0	-------		32	0	15.2	10.8	17.2
17	-------	-------			0	15.2	11.6	17.2
18	-------	5.0			0	14.3	11.6	17.2
19	-------	10.0			30	13.4	12.5	18.2
20	-------	14.3			34	12.5	12.5	0
21	-------				30	0	0	-------
22	-------				30	0	0	-------
23	-------				30	20.0	0	-------
24	-------				30	19.2	0	-------
25	-------		31		27	17.2	0	-------
26	-------	20.0			26	15.2	17.2	-------
27	-------				24	15.2	19.2	-------
28	-------		32		21	15.2	17.2	-------
29	-------				20	13.4	18.2	-------
30	-------				20	11.6	17.2	-------
31	-------		-------		-------	13.4	17.2	-------

NOTE.—Gage not read Oct. 12–15, Mar. 18, 19, 21–31, Apr. 1–24, 26–30, May 1–31, and June 1–14; discharge estimated from information furnished by secretary of irrigation district and from general information.

Monthly discharge of Attalia Irrigation District Canal near Wallula, Wash., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October 1–15	22	0	21.5	640
March 18–31	----------	0	17.8	494
April	----------	----------	30.4	1,810
May	----------	----------	32.0	1,970
June	----------	0	23.8	1,420
July	20	0	15.4	947
August	19.2	0	9.87	607
September 1–19	18.2	0	16.6	626

UMATILLA RIVER BASIN

UMATILLA RIVER ABOVE McKAY CREEK, NEAR PENDLETON, OREG.

LOCATION.—In NW. ¼ sec. 8, T. 2 N., R. 32 E., near track of main line of Oregon-Washington Railroad & Navigation Co., one-fourth mile above mouth of McKay Creek, and 2 miles west of Pendleton, Umatilla County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 1, 1921, to September 30, 1925. Records at Pendleton, February, 1891, to July, 1892, and May 22, 1903, to March 21, 1906, are directly comparable with those at this station.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by A. E. Perry.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Channel straight 100 yards above and below gage. Banks high and are not overflowed. Control is gravel riffle. At low stages stream is confined to narrow channel along left bank.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.48 feet 3 to 4 p. m. February 3 (discharge, 4,700 second-feet); minimum discharge, 21 second-feet August 7 and 8.

1921–1925: Maximum stage recorded, 6.6 feet April 22, 1922 (discharge, 5,400 second-feet); minimum discharge, 7 second-feet August 14, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Water diverted for power at Pendleton is returned to river above this station. Some small diversions are made for irrigation above station.

REGULATION.—At low stages there is considerable diurnal fluctuation due to impounding and releasing of water in the power canals of the two flour mills at Pendleton.

ACCURACY.—Stage-discharge relation below 4.4 feet changed in April. Rating curves fairly well defined. Operation of water-stage recorder satisfactory except for periods shown by break in record and footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph or, for days of considerable variation in stage, by averaging the results obtained by applying mean gage height for shorter intervals. Records good.

The following discharge measurements were made:

April 20, 1925: Gage height, 4.70 feet; discharge, 1,260 second-feet.

September 15, 1925: Gage height, 2.57 feet; discharge, 50 second-feet.

Daily discharge, in second-feet, of Umatilla River above McKay Creek, near Pendleton, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	89	220	1,480	2,300	556		626	322	52	32	
2		91	220	1,310	1,660	566		632	306	50	32	
3		91	282	930	2,940	659		614	290	52	32	
4		93	282	750	4,040	672		590	263	50	30	
5	60	97	331	704	3,960	860	1,300	608	241	48	28	
6		108	343	691	2,610	965		632	224	48	25	
7	62	110	310	588	1,800	895		686	211	48	25	31
8	62	113	282	522	1,440	762		710	195	48	26	
9	62	128	254	455	1,150	762	1,620	638	192	45	25	
10	62	157	266	427	930	583	1,750	590	176	43	25	
11	64	151	414	396	795	528	1,840	572	165	39	25	
12	64	146	743	370	704	480	1,840	548	152	39	26	
13	64	135	1,000	336	623	445	1,660	530	145	37	28	
14	66	122	1,150	318	583	400	1,440	530	139	37	28	
15	60	135	895	306	561	378	1,230	512	129	36	30	50
16	58	154	710	274	528	528	1,350	494	115	36	32	52
17	60	177		262	495	517	1,350	476	106	34	32	54
18	62	180		266	475	762	1,270	446	98	32	31	56
19	66	262		445	485	828	1,230	416	90	32	30	58
20	64	966		600	517	1,440	1,270	410	86	32	28	60
21	64	1,190		583	583	2,200	1,230	888	80	30	28	60
22	62	2,740		736	659	1,890	1,150	990	78	30	26	58
23	60	1,480	425	828	672	1,620	1,030	745	74	34		5
24	62	965		828	724	1,390	892	620	63	34		52
25	58	691		776	717	1,270	780	530	52	34		50
26	58	534		678	684	1,150	686	458	50	34	24	50
27	66	432		828	641	1,070	638	404	48	32		50
28	75	357		860	600	1,040	608	380	52	32		56
29	83	294		1,040	-------	1,000	590	374	56	32		56
30	81	254		2,360	-------	895	620	386	54	32		60
31	85	-------	1,070	2,480	-------	795	-------	339	-------	32		------

NOTE.—Oct. 2–6 mean discharge estimated; Dec. 18–30, Apr. 1–8, and Sept. 1–14 mean discharge estimated to be the discharge at gaging station on Umatilla River above Furnish Reservoir minus the sum of the discharges of McKay and Birch Creeks; Aug. 23–31 mean discharge estimated; Sept. 16 and 17 daily discharge interpolated.

Monthly discharge of Umatilla River above McKay Creek, near Pendleton, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	85	58	64.2	3,950
November	2,740	89	415	24,700
December	1,150	220	475	29,200
January	2,480	262	756	46,500
February	4,040	475	1,210	67,200
March	2,200	378	900	55,300
April	1,840	590	1,220	72,600
May	990	339	560	34,400
June	322	48	142	8,450
July	52	30	38.5	2,370
August	32	----------	27.1	1,670
September	60	----------	43.7	2,600
The year	4,040	----------	482	349,000

UMATILLA RIVER ABOVE FURNISH RESERVOIR, NEAR YOAKUM, OREG.

LOCATION.—In NW. ¼ sec. 17, T. 2 N., R. 31 E., at Oregon-Washington Railroad & Navigation Co.'s bridge one-fourth mile above Campbell flag station, 5 miles by river above Yoakum and old gaging station, and 10 miles west of Pendleton, Umatilla County; just above backwater from Furnish Reservoir.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 18 to August 28, 1915; July 5, 1916, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on right bank of main channel at downstream end of bridge pier; inspected by A. E. Perry, water master.

DISCHARGE MEASUREMENTS.—Made from cable 20 feet above gage or by wading.

CHANNEL AND CONTROL.—Channel straight at bridge, with overflow channel under west span of bridge. Control 250 feet below gage at sharp turn below deep pool is composed of gravel and subject to slight shifts.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.63 feet at 1 p. m. February 5 (discharge, 5,730 second-feet); minimum discharge, 25 second-feet September 1–6.

1916–1925: Maximum stage from water-stage recorder, 9.9 feet January 3, 1921 (discharge, 10,000 second-feet); minimum discharge, 16 second-feet August 19, 1920.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—On Umatilla River above gaging station and below mouth of McKay Creek 150 acres are irrigated and above mouth of McKay Creek, 600 acres. On principal tributaries, 1,750 acres are irrigated on Birch and 1,300 acres on McKay Creek.

REGULATION.—At low stages water is ponded in the power canals of two flouring mills at Pendleton and released at intervals to obtain sufficient power for operating the mills. This causes considerable fluctuation at low stages. The backwater from Furnish Reservoir extends to within a few hundred yards below control.

ACCURACY.—Stage-discharge relation for stages below 3.2 feet changed when ice went out the last few days in December. Rating curves well defined. Operation of water-stage recorder satisfactory except for periods shown in footnote to tables of daily and monthly discharges. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection or, for days of considerable variation in stage, by averaging the results obtained by applying mean gage height for shorter intervals. Records excellent except for periods when discharge was estimated, for which they are fair.

Discharge measurements of Umatilla River above Furnish Reservoir, near Yoakum, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 19	3.02	686	June 2	2.58	409	June 20	1.66	100
Apr. 8	5.00	2,030	June 8	2.20	265	Sept. 2	.96	25
Apr. 19	4.50	1,630	June 15	1.95	175			

Daily discharge, in second-feet, of Umatilla River above Furnish Reservoir, near Yoakum, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	81	269	2,080	3,180	810		750	411	62		25
2	57	84	258	1,900	2,940	840		750	392	60		25
3	57	86	304	1,400	3,460	930		750	416	58		25
4	56	84	314	1,150	4,990	965	1,550	711	383	56		25
5	54	88	352	965	5,330	1,180		668	356	48		25
6	55	98	376	870	4,030	1,320		684	316	45		25
7	56	105	359	706	2,940	1,180		717	272	45		
8	55	109	328	735	2,380	1,040	2,130	810	260	42		
9	56	120	298	668	1,940	930	2,180	728	272	42		
10	53	146	298	612		840	2,230	673	249	40		36
11	55	144	525	568		945	2,380	656	231	39		
12	55	142	870	480		684	2,530	601	210	37		
13	54	134	1,100	435		634	2,180	585	198	37		
14	55	132	1,350	316	880	563	1,940	612	188	37		
15	54	132	1,070	347		546	1,690	585	168	38	30	48
16	52	142		268		411	1,770	563	142			50
17	52	164		224		684	1,770	520	126			55
18	53	172		213		1,000	1,650	490	119			52
19	55	202		596	750	1,070	1,610	460	111			52
20	56	780		810	780	1,610	1,730	445	104	36		56
21	55	1,140		840	870	2,230	1,690	1,010	143			56
22	55	2,700		1,100	965	2,080	1,610	1,650	128			53
23	52	1,750		1,180	965	1,900	1,460	1,210	99			50
24	53	1,040	670	1,240	1,040	1,770	1,280	965	89	35		48
25	52	700		1,180	1,000	1,610	1,140	840	75	33		45
26	50	570		1,040	965	1,570	1,000	717	70	34		45
27	56	472		1,210	900	1,490	900	601	64			51
28	67	384		1,320	870	1,460	810	520	60			54
29	75	331		1,420	-------	1,300	780	515	63	34		58
30	70	298		3,670	-------	1,200	780	505	59			60
31	74	-------		3,600	-------	1,000	-------	450	-------			-------

NOTE.—No gage-height record and discharge was estimated by comparison with records of flow for other stations in Umatilla Basin for Dec. 16–31, Jan. 2–4, Feb. 10–18, Mar. 29–31, Apr. 1–7, July 16–23, 27–31, Sept. 1, and 7–14. Braced figures give mean discharge for periods indicated.

Monthly discharge of Umatilla River above Furnish Reservoir, near Yoakum, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	75	50	56.6	3,480
November	2,700	81	418	24,900
December	-------	258	606	37,300
January	3,670	213	1,070	65,800
February	5,330	750	1,720	95,500
March	2,230	411	1,150	70,700
April	2,530	780	1,600	95,200
May	1,650	445	701	43,100
June	416	59	192	11,400
July	62	33	40.2	2,470
August	-------	-------	[a] 30.0	1,840
September	60	25	42.4	2,520
The year	5,330	25	628	454,000

[a] Estimated.

UMATILLA RIVER NEAR UMATILLA, OREG.

LOCATION.—In NW. ¼ sec. 21, T. 5 N., R. 28 E., near main line of Oregon-Washington Railroad & Navigation Co., 1½ miles below diversion point of West Division Main Canal of Umatilla project, and 1½ miles above Umatilla, Umatilla County, and mouth of river.

DRAINAGE AREA.—2,130 square miles.

RECORDS AVAILABLE.—October 21, 1903, to September 30, 1925.

GAGE.—Inclined staff in two sections; lower section 2.0 to 3.5 feet, upper 3.5 to 10.8 feet. Read by employees of United States Bureau of Reclamation.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Solid rock overlain with coarse gravel or sand. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.75 feet February 4 and 5 (discharge, 4,460 second-feet); minimum stage, 1.81 feet July 16 (discharge, 3 second-feet).

1903–1925: Maximum stage recorded, 11.0 feet May 31, 1906 (discharge, 19,600 second-feet); no flow July 25 and August 1–9, 1906, September 1–15, 1922, and June 2–6, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Large part of total flow of river diverted for irrigation above station. Umatilla project feed canal also diverts water during winter for storage in Cold Springs Reservoir. West Division Main Canal of Umatilla project of United States Bureau of Reclamation diverts 1½ miles above station. The low-water flow is return water from Hermiston project and other irrigated tracts.

REGULATION.—Discharge is occasionally affected by pondage at diversion dam

ACCURACY.—Stage-discharge relation below 1.8 feet changed November 23 and again May 23; affected by ice December 23–28. Rating curves well defined. Staff gage read to hundredths once a day; staff gage above dam also read once a day. Daily discharge ascertained by applying daily gage height to rating table. Records good.

The following discharge measurements were made:

April 15, 1925: Gage height, 3.90 feet; discharge, 1,160 second-feet.

May 14, 1925: Gage height, 2.07 feet; discharge, 16.2 second-feet.

August 13, 1925: Gage height, 2.10 feet; discharge, 13.7 second-feet.

Daily discharge, in second-feet, of Umatilla River near Umatilla, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	5	245	1,970	2,620	580	455	341	51	12	14	14
2	72	55	245	3,310	2,620	471	375	341	36	12	14	14
3	122	53	234	2,130	2,620	471	415	341	37	14	14	14
4	122	178	234	1,740	4,050	580	495	341	40	14	14	14
5	122	103	228	1,230	4,460	471	765	56	50	14	14	14
6	118	97	234	1,090	4,460	715	1,370	18	45	14	14	14
7	26	107	234	820	2,960	715	1,370	15	48	13	14	14
8	13	122	194	765	2,290	715	1,370	264	51	13	14	14
9	13	122	194	715	1,970	580	1,370	160	45	14	14	14
10	13	97	234	670	1,740	375	1,370	439	40	14	14	14
11	13	97	234	625	1,230	245	1,510	216	47	14	14	14
12	12	103	234	511	950	199	1,660	94	55	13	14	14
13	12	103	276	399	820	121	2,050	45	48	13	14	14
14	12	97	1,090	399	715	121	1,440	17	39	13	14	14
15	12	97	1,090	399	625	107	1,300	15	39	13	14	14
16	12	92	670	399	580	107	1,090	15	39	3	14	14
17	12	100	670	245	580	42	1,090	15	37	13	14	14
18	12	100	715	245	327	245	1,160	15	19	13	14	14
19	12	100	535	245	295	471	885	15	13	13	14	14
20	12	159	535	245	341	471	1,090	15	17	13	14	14
21	12	159	535	625	341	1,370	1,160	14	21	13	14	14
22	12	264	535	1,020	580	1,890	1,160	950	14	13	14	14
23	12	2,130	460	1,020	625	1,740	1,160	715	15	13	14	13
24	12	1,230	450	1,090	625	1,300	1,160	820	18	13	14	13
25	12	580	420	1,090	670	1,020	715	455	18	13	14	13
26	12	455	380	1,020	670	885	535	178	7	13	14	13
27	12	415	350	885	625	885	455	178	13	12	14	13
28	12	431	350	1,090	625	765	334	76	12	13	14	13
29	5	251	580	1,160	-------	765	321	53	12	14	14	13
30	5	245	715	1,510	-------	670	321	47	13	14	14	13
31	5	-------	2,290	3,310	-------	580	-------	47	-------	14	14	-------

Monthly discharge of Umatilla River near Umatilla, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	122	5	28.5	1,750
November	2,130	5	272	16,200
December	2,290	194	496	30,500
January	3,310	245	1,030	63,300
February	4,460	295	1,460	81,100
March	1,890	42	635	39,000
April	2,050	321	998	59,400
May	950	15	204	12,500
June	55	7	31.3	1,860
July	14	3	12.9	793
August	14	14	14.0	861
September	14	13	13.7	815
The year	4,460	3	426	308,000

McKAY CREEK NEAR PENDLETON, OREG.

LOCATION.—In sec. 34, T. 2 N., R. 32 E., at site of McKay Dam being built by United States Bureau of Reclamation and 5 miles south of Pendleton, Umatilla County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 31, 1918, to September 30, 1923; October 1, 1924, to September 30, 1925. Comparable records at station 4 miles downstream May 23, 1903, to July 6, 1904, and October 1, 1923, to September 30, 1924.

GAGE.—Vertical staff on right wing wall of concrete diversion dam; read by employees of Bureau of Reclamation.

DISCHARGE MEASUREMENTS.—Made from bridge 500 feet upstream or by wading.

CHANNEL AND CONTROL.—Channel is nearly straight from gage to bridge. Left bank is high; right bank is low and would be overflowed at extremely high stages. Concrete irrigation dam is control for gage 3 feet upstream from crest; practically permanent except for slight effect by head gate in right wing wall 5 feet upstream from gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.51 feet at 8 a. m. January 30 (discharge, 1,200 second-feet); no flow at various times.

1903–4; 1919–1925: Maximum discharge recorded, 3,250 second-feet February 10, 1921; no flow at times.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Numerous small irrigation ditches divert above station using total summer flow.

REGULATION.—The gates in partly completed dam were closed two hours on November 25 and 12 hours on February 6 and 7. The water was allowed to run through the reservoir except for a few hundred acre-feet stored for construction purposes for the summer.

ACCURACY.—Stage-discharge relation permanent; affected by ice December 19–28. Rating curve well defined above and fairly well defined below 500 second-feet. Staff gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of McKay Creek near Pendleton, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 31	1.42	428	Apr. 9	1.08	203
Jan. 19	1.00	224	Apr. 18	.96	180
Jan. 30	2.38	1,100			

Daily discharge, in second-feet, of McKay Creek near Pendleton, Oreg., for the year ending September 30, 1925

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		28	405	890	97	145	67	79
2		29	393	780	97	138	63	74
3		36	285	710	103	132	63	79
4		38	222	745	103	142	47	74
5		41	222	780	125	227	28	56
6		46	145	675	132	260	20	56
7		44	55	470	128	260	27	53
8		38	180	369	125	245	41	46
9		36	177	290	119	172	38	47
10		54	151	218	125	180	42	44
11		270	88	169	114	192	44	44
12		290	88	158	83	196	13	41
13		231	86	138	74	196	36	36
14		200	74	122	72	209	69	33
15	21	165	74	114	70	200	53	28
16	18	117	67	100	70	189	37	16
17	17	76	67	95	92	189	27	6
18	19	53	138	92	97	196	22	2
19	26		180	83	119	196	17	
20	56		214	74	189	222	17	
21	83		250	97	213	236	405	
22	335		296	108	227	236	605	
23	180		301	103	260	240	470	
24	108	25	301	103	240	231	405	
25	66		290	103	240	200	265	
26	74		301	95	240	105	192	
27	65		334	100	265	92	138	
28	41		345	97	270	92	151	
29	36	285	357		240	81	145	
30	29	605	1,160		196	74	117	
31		405	1,040		165		72	

NOTE.—No flow on days for which no record is given.

Monthly discharge of McKay Creek near Pendleton, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November	335	0	39.1	2,303
December	605		108	6,640
January	1,160	55	267	16,400
February	890	74	281	15,600
March	270	70	151	9,280
April	260	74	182	10,800
May	605	13	121	7,440
June	79	0	27.1	1,610
The year	1,160	0	92.0	70,100

NOTE.—No flow during months for which no record is given.

BIRCH CREEK NEAR PILOT ROCK, OREG.

LOCATION.—In SE. ¼ sec. 15, T. 1 N., R. 32 E., at Guderian ranch, 6 miles downstream from Pilot Rock, Umatilla County, and 8 miles southwest of Pendleton.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1919, to September 30, 1925.

GAGE.—Vertical staff gage on right bank 50 feet above bridge, 400 feet west of Guderian ranch house; read by Howard Guderian.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and small boulders; fairly permanent. Banks high and not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year from watermark noted on gage, 3.67 feet on June 21 (discharge, 1,080 second-feet); no flow at various times.

1920–1925: Maximum stage recorded, 3.80 feet at old gage April 13, 1920 (discharge, 1,270 second-feet). Stream bed dry at times.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Several small ditches divert water above station and use practically all the summer flow.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed April 6; affected by ice December 19–28. Rating curve used before the change well defined; curve used after change, fairly well defined. Gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table except June 21, when average daily flow from the cloudburst was estimated as the increase of flow on that date at the station on Umatilla River above Furnish Reservoir, near Yoakum. Records October to March, good; April to September, fair.

The following discharge measurements were made:

January 19, 1925: Gage height, 0.74 foot; discharge, 61 second-feet.

April 9, 1925: Gage height, 1.70 feet; discharge, 253 second-feet.

April 18, 1925: Gage height, 1.29 feet; discharge, 154 second-feet.

Daily discharge, in second-feet, of Birch Creek near Pilot Rock, Oreg., for the year ending September 30, 1925

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		20	77	196	44	78	89	39
2		19	54	196	44	72	76	39
3		18	54	183	48	72	62	38
4		18	54	170	54	78	54	36
5		20	51	170	62	133	41	36
6		20	49	170	70	212	28	36
7		18	49	170	70	212	21	36
8		18	41	158	73	255	18	36
9	7	18	40	158	67	255	15	34
10	8	22	36	146	57	255	13	31
11	8	40	33	128	48	350	13	16
12	8	38	31	120	44	385	13	6
13	8	36	28	101	44	315	13	2
14	9	51	28	78	44	240	13	
15	9	60	28	73	44	212	13	
16	10	50	28	68	43	189	13	
17	10	13	28	64	44	168	13	
18	10	13	28	59	49	157	13	
19	10		32	54	57	168	13	
20	12		57	51	67	178	13	
21	16		68	49	75	178	44	40
22	41		68	48	78	178	62	17
23	41		68	44	89	179	65	6
24	41	10	68	44	101	178	65	6
25	36		68	44	101	157	62	6
26	28		67	44	105	147	50	6
27	27		105	44	105	135	50	6
28	26		105	44	101	123	47	6
29	24	425	114		94	113	47	6
30	22	253	116		84	105	44	4
31		96	158		80		41	

NOTE.—No flow on days for which no record is given.

Monthly discharge of Birch Creek near Pilot Rock, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November	41	0	13.7	815
December	425		44.1	2,710
January	158	28	59.1	3,630
February	196	44	103	5,720
March	105	43	67.3	4,140
April	385	72	183	10,900
May	89	13	36.3	2,230
June		0	16.3	970
July		0	[a] 1	61
The year	425	0	43.0	31,200

[a] Estimated.

NOTE.—No flow during months for which no record is given.

UMATILLA PROJECT FEED CANAL NEAR ECHO, OREG.

LOCATION.—In SW. ¼ sec. 22, T. 3 N., R. 29 E., one-fourth mile below head gate at United States Bureau of Reclamation diversion dam on Umatilla River and 2 miles above Echo, Umatilla County.

RECORDS AVAILABLE.—October 1, 1920, to September 30, 1925.

GAGE.—Vertical staff on right bank 60 feet above concrete dam just below first waste gate in canal. Gage read by M. C. Wolverton, employee of United State Bureau of Reclamation.

DISCHARGE MEASUREMENTS.—Made at footbridge across concrete-lined section of canal half a mile below gage.

CHANNEL AND CONTROL.—Gage is at earth section of canal just above concrete dam having five piers. At middle of dam is a gate, 2 feet wide, of removable 2-inch planks, the top of which is 0.33 foot below crest of dam. Just above at left bank is a gate used to flush sand out of canal, but its operation does not affect the stage-discharge relation because gate is below crest of dam.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.92 feet March 31 (discharge, 292 second-feet); canal dry at times.

1920–1925: Maximum stage recorded, 2.0 feet on several days in March and April, 1922, and January, March, and April, 1923 (discharge, 315 second-feet). Canal dry at various times.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined above and fairly well defined below 40 second-feet. Gage read to hundredths once a day and also after making changes at head gate. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good.

Umatilla project feed canal diverts from right bank of Umatilla River at diversion dam. The water is carried to Cold Springs Reservoir from which it is released during the irrigation season.

The following discharge measurements were made:

February 5, 1925: Gage height, 1.80 feet; discharge, 268 second-feet.

March 10, 1925: Gage height, 1.90 feet; discharge, 284 second-feet.

May 6, 1925: Gage height, 1.20 feet; discharge, 132 second-feet.

Daily discharge, in second-feet, of Umatilla project feed canal near Echo, Oreg., for the year ending September 30, 1925

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		202		262	280	290	257	200
2		200		262	282	277	257	196
3		191		262	282	243	257	172
4		189		262	284	185	257	113
5		187	49	264	284	102	202	88
6		210	67	264	284	106	159	88
7		216	58	264	284	131	243	72
8		216	80	264	284	185	250	44
9		212	102	264	284	236	182	
10		228	127	267	284	243	65	
11		233	187	267	287	243	228	
12		238	150	270	287	231	243	
13		238	243	274	287	187	196	
14		240	243	274	287	187	196	
15		243	248	274	287	231	214	
16		233	252	280	287	238	196	
17	20	117	255	280	287	226	151	
18	28		257	280	287	226	149	
19	28		257	280	290	205	144	
20	96		257	280	290	198	162	
21	136		257	280	290	160	180	
22	148		257	280	290	146	243	
23	174		257	280	290	146	248	
24	200		260	280	290	170	240	
25	219		260	280	290	214	240	
26	233		260	280	290	214	240	
27	240		260	280	290	214	240	
28	212		260	280	290	202	219	
29	209		260		290	228	224	
30	205		262		290	250	207	
31			262		292		224	

NOTE.—No flow on days for which no record is given.

Monthly discharge of Umatilla project feed canal near Echo, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November	240	0	71.6	4,260
December	243	0	116	7,130
January	262	0	183	11,300
February	280	262	273	15,200
March	292	280	287	17,600
April	290	102	204	12,100
May	257	65	210	12,900
June	200	0	32.4	1,930
The year	292	0	114	82,400

NOTE.—No flow during months for which no record is given.

ECHO MILL TAILRACE AT ECHO, OREG.

LOCATION.—In NW. ¼ sec. 16, T. 3 N., R. 29 E., 100 yards west of Echo mill and 200 yards west of head gate on Umatilla project feed canal, at Echo, Umatilla County.

RECORDS AVAILABLE.—October 1, 1920, to September 30, 1925.

GAGE.—Vertical staff just below mill and above culvert under highway; installed January 11, 1925; read by L. M. Hills.

DISCHARGE MEASUREMENTS.—Made by wading or from strut across channel 15 feet below tunnel outlet.

CHANNEL AND CONTROL.—Earth channel; some growth of aqueous plants during summer. Control is plank across lower part of culvert; practically permanent.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 28 second-feet from 7 a. m. November 17 to 7 a. m. November 20 (total flow of Umatilla project feed canal diverted); channel dry at times.

1921–1925: Maximum discharge, 42 second-feet October 19, 1923; no flow during several periods.

ACCURACY.—Stage-discharge relation permanent. Rating curve poorly defined. Staff gage read to hundredths once a day and time noted when water was turned in or out. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Water diverted from the Umatilla project feed canal is used for power in the Echo flour mill or wasted into tailrace or occasionally into spillway at that point and returned to Umatilla River one-fourth mile below gage. The flow at gage is not subject to diurnal fluctuation.

The following discharge measurement was made by C. N. Taylor of United States Bureau of Reclamation:

March 10, 1925: Gage height, 0.68 foot; discharge, 1.0 second-foot.

Daily discharge, in second-feet, of Echo mill tailrace at Echo, Oreg., for the year ending September 30, 1925

Day	Nov.	Jan.	Feb.	Mar.	Apr.	May	June	Day	Nov.	Jan.	Feb.	Mar.	Apr.	May	June
1	------	------	1.5	4	1	1	1	16	------	1	1	1	1	1	------
2	------	------	1.5	1.5	1	1	1	17	20	1	1	1	1	1	------
3	------	------	7.5	1.5	1	1	1	18	28	1	6	1	1	1	------
4	------	------	1	1	1	1	1	19	28	1	6.0	1	1	1	------
5	------	------	1	1	1	1	1	20	8	1	6.5	1	1	1	------
6	------	------	1	1	1	1	.5	21	------	1.5	6.5	1	1	1	------
7	------	------	1	1	1	1	.5	22	------	1.5	6	1	1	1	------
8	------	------	1	1	1	1	.5	23	------	1.5	6.5	1	1	1	------
9	------	------	1	1	1	1	------	24	------	1.5	6.5	1	1	1	------
10	------	------	1	2	1	1	------	25	------	1.5	6	1	1	1	------
11	------	------	1	2	1	1	------	26	------	1.5	6	3	1	1	------
12	------	1	1	2	1	1	------	27	------	1.5	6	3	1	1	------
13	------	1	1	1	1	1	------	28	------	1.5	6.5	3	1	1	------
14	------	1	1	1	1	1	------	29	------	1.5	------	2	1	1	------
15	------	1	1	1	1	1	------	30	------	1.5	------	1	1	1	------
								31	------	1.5	------	1	------	1	------

NOTE.—No flow on days for which no record is given.

Monthly dicharge of Echo mill tailrace at Echo, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November	28	0	2.8	167
January	1.5	0	.82	50
February	6.5	1	3.32	184
March	4	1	1.45	89
April	1	1	1.0	60
May	1	1	1.0	61
June	1	0	.22	13
The year	28	0	.86	624

NOTE.—No flow during months for which no record is given.

WESTERN LAND & IRRIGATION CO.'S CANAL AT ECHO, OREG.

LOCATION.—In SE. ¼ sec. 17, T. 3 N., R. 29 E., at rectangular timber weir, half a mile below turnout to Allen Canal, 1 mile below head gate on Umatilla River, and 1 mile southwest of Echo, Umatilla County.

RECORDS AVAILABLE.—Irrigation seasons, 1921 to 1925.

GAGE.—Vertical staff gage on right wing wall of weir; read by Ed. Nunn and J. J. Cameron.

DISCHARGE MEASUREMENTS.—Made from footbridge half a mile upstream just below turnout to Allen Canal.

CHANNEL AND CONTROL.—Canal is in earth section. Control for gage is 16-foot rectangular weir having 2-inch crest.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 2.30 feet March 29, May 15, 17, and 18 (discharge, 203 second-feet). Canal dry at times.

1921–1925: Maximum stage recorded, 2.78 feet May 18 and 19, 1922 (discharge, 284 second-feet). Canal dry at various times.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Gage read to hundredths once daily except April to June when it was occasionally read twice a day. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records excellent except for periods from October to February when there was no gage-height record or note by the observer that the canal was dry.

Head gate is situated in NE. ¼ sec. 21, T. 3 N., R. 29 E., on left bank of Umatilla River. Part of flow may be turned into Allen Canal half a mile below head gate and into Pioneer & Courtney Canal one-fourth mile below gage. The amount of water turned into Allen Canal is given in the table of monthly discharge.

The following discharge measurement was made:

June 22, 1925: Gage height, 0.78 foot; discharge, 35.5 second-feet.

Daily discharge, in second-feet, of Western Land & Irrigation Co.'s canal at Echo, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Feb.	Mar.	Apr.	May	June	July	Sept.
1		17		45	166		133	20	
2				55	168		121	10	
3				80	154	99	105	22	
4				110	160	160	127	20	
5		10		112	160	160	133	21	
6		8		112	174	188	129	20	
7		5		112	174	188	127	15	
8		5		110	174	181	133	15	
9		52		108	174	188	142	26	
10		52		108	174	181	127	17	5
11		80		121	174	181	121	15	5
12		104		121	160	188	122		5
13		106		119	160	163	110		5
14		104		133	167	196	114		15
15		100		133	171	203	102		15
16		98		110	181	174	100		16
17		98		121	181	203	100		15
18		98	80	90	163	203	85		15
19		47	121	121	160	188	63		16
20		55	133	114	163	133	63		18
21		55	154	112	163	129	43		15
22		39		110	160	153	39		19
23		39		110	153	146	52		20
24		38	39	110	146	141	63		19
25		71	55	141	146	166	53		15
26		69	45	146	153	188	47		20
27			45	154	171	167	32		18
28			45	174	174	132	15		20
29	20			203	72	146	12		20
30	26			174		141	18		20
31	15			168		146			

NOTE.—Canal dry on days for which no discharge is given.

Monthly discharge of Western Land & Irrigation Co.'s canal at Echo, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet	Turned into Allen Canal (acre-feet)
	Maximum	Minimum	Mean		
October	26	0	2.0	123	2,360
November	106	0	45.0	2,680	696
December	0	0	0	0	330
January	0	0	0	0	221
February	154	0	25.6	1,420	530
March	203	45	121	7,440	676
April	181	0	157	9,340	1,310
May	203	0	156	9,590	1,350
June	142	12	87.7	5,220	1,040
July	22	0	6.5	400	1,250
August	0	0	0	0	682
September	20	0	10.5	625	1,180
The year	203	0	50.8	36,800	11,600

MAXWELL CANAL NEAR HERMISTON, OREG.

LOCATION.—In SW. ¼ sec. 20, T. 4 N., R. 28 E., below second wasteway, 2.34 miles below head gate on Umatilla River, and 3 miles southwest of Hermiston, Umatilla County.

RECORDS AVAILABLE.—March 18, 1921, to September 30, 1925.

GAGE.—Vertical staff and float gage in stilling well 200 feet below second wasteway into Umatilla River; read by W. H. Starr.

DISCHARGE MEASUREMENTS.—Made from foot plank 100 feet below gage.

CHANNEL AND CONTROL.—Canal is concrete lined and is straight between gage and measuring section. Control is permanent except when affected by aquatic growth.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.33 feet April 10, 11, and 13 (discharge, 86 second-feet). Canal dry during winter. 1921–1925: Maximum discharge recorded, 96 second-feet May 24 and 25, 1921. Canal dry at times.

ACCURACY.—Stage-discharge relation changed slightly during winter; affected during summer by growth of aquatic plants. Rating curves used before and after change fairly well defined. Staff gage read to hundredths once a day and also after making change at head gate. Daily discharge ascertained by applying daily or mean daily gage height to rating table directly March 15 to May 31 and indirectly for remainder of year. Records good.

Maxwell Canal diverts from right bank of Umatilla River at diversion dam in SW. ¼ sec. 28, T. 4 N., R. 28 E. The water is used for irrigation on the Umatilla project of United States Bureau of Reclamation.

During the winter of 1922 and 1923 United States Bureau of Reclamation constructed a wasteway from the A line canal into Maxwell Canal just above the second wasteway of Maxwell Canal into Umatilla River. The waste from the A line canal may go down Maxwell Canal or into Umatilla River, or both. In 1925 the total amount wasted at this point from the A line canal from March to September was 1,540 acre-feet.

Discharge measurements of Maxwell Canal near Hermiston, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 6	3.17	78	May 25	3.28	80	July 23	2.25	22.6
Apr 16	3.22	84	June 8	2.57	44.8	Aug. 11	1.96	14.1
May 15	2.98	66	June 19	2.08	24.6			
May 25	3.29	81	June 23	1.25	8.2			

Daily discharge, in second-feet, of Maxwell Canal near Hermiston, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				79	84	72	42	20	7
2				79	82	64	36	26	7
3				79	84	72	38	18	7
4				79	82	72	40	15	8
5				79	84	66	35	22	8
6				79	76	48	38	25	19
7		8.0		79	82	50	38	17	20
8				79	84	45	30	15	13
9				84	82	57	36	15	15
10				86	84	41	34	14	12
11				86	82	36	25	14	15
12				84	76	24	25	15	13
13				86	69	34	32	15	16
14				82	72	32	25	12	15
15			12	79	72	26	22	20	13
16	8		11	79	72	23	21	20	13
17			12	84	69	25	21	20	8
18			22	82	74	25	21	15	10
19			24	76	72	26	21	15	10
20			26	74	72	26	21	17	10
21		5.0	26	74	79	24	21	18	10
22			30	74	84	17	20	18	10
23			36	65	84	10	22	11	8
24			37	61	79	8	24	11	8
25			45	64	84	23	20	10	8
26			52	79	79	33	18	9	9
27			55	82	82	32	18	10	11
28			59	76	74	40	18	21	15
29			66	82	82	36	18	15	17
30			64	84	74	32	14	18	18
31		-------	79	-------	72	-------	14	17	-------

NOTE.—No flow on days for which no record is given.

Monthly discharge of Maxwell Canal near Hermiston, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	-------	-------	[a] 8.0	492
November	-------	-------	[a] 6.2	369
March	79	0	21.2	1,300
April	86	61	78.5	4,670
May	84	69	78.3	4,810
June	72	8	37.3	2,220
July	42	14	26.1	1,600
August	26	9	16.4	1,010
September	20	7	11.8	702
The year	86	0	23.7	17,200

[a] Estimated.

NOTE.—No flow during months for which no record is given.

WEST DIVISION MAIN CANAL NEAR UMATILLA, OREG.

LOCATION.—In SW. ¼ sec. 28, T. 5 N., R. 28 E., just below head gate at United States Bureau of Reclamation diversion dam on Umatilla River, 3 miles above Umatilla, Umatilla County.

RECORDS AVAILABLE.—March 17, 1921, to September 30, 1925.

GAGE.—Vertical staff gage in stilling well just below head gate used October 1 to December 1; inclined staff gage below Umatilla spillway used February 9 to September 30. Read by United States Bureau of Reclamation ditch rider.

DISCHARGE MEASUREMENTS.—Made from footbridge 2 miles below intake and just below Umatilla spillway.

CHANNEL AND CONTROL.—Canal is concrete lined. Stage-discharge relation of both gages seriously affected by aquatic growth during summer; stage-discharge relation of gage at head also seriously affected by sand drifting into canal and flushed out through Umatilla spillway.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 163 second-feet, which indicates 13 second-feet wasted through Umatilla spillway, April 18–21; canal dry at times.

1921–1925: Maximum discharge recorded, 164 second-feet, May 16–19, 1921, and June 10–14, 1922. Canal dry at times.

ACCURACY.—Obstructed channel condition for gage at head of canal constant October 1 to December 1; rating curve fairly well defined. Stage-discharge relation for inclined gage, below Umatilla wasteway practically permanent February 15 to May 20, but from May 21 to September 30 affected by the growth of aquatic plants; rating curve for open-channel conditions fairly well defined and correction curve fairly well defined. Staff gages read to hundredths once a day and time noted when a change was made at the head gate. Daily discharge October 1 to December 1, ascertained by applying daily gage height of gage at head of canal to rating curve and subtracting the flow wasted to the river through the Brownell by-pass; February 9 to September 30, by applying daily gage height at gage below Umatilla wasteway to rating table directly February 15 to May 20 and indirectly May 21 to September 30, and by adding to this amount the flow through Umatilla wasteway, which was estimated February 9 to April 16 and computed from daily gage height record and rating curve to September 30. Records good.

Main canal diverts water from left bank of Umatilla River at United States Bureau of Reclamation diversion dam for irrigation on the western division of the Umatilla project of United States Bureau of Reclamation. Part of the area was formerly irrigated by the Oregon Land & Water Co.'s ditch which diverted water from left bank of Umatilla River 1 mile below present diversion dam of United States Bureau of Reclamation.

Discharge measurements of West Division Main Canal near Umatilla, Oreg., during the year ending September 30, 1925

Date	At head		Below Umatilla wasteway		Date	At head		Below Umatilla wasteway	
	Gage height	Discharge	Gage height	Discharge		Gage height	Discharge	Gage height	Discharge
	Feet	*Sec.-ft.*	*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*	*Feet*	*Sec.-ft.*
Oct. 3	1.60	3	------	------	May 5	------	------	4.04	135
Oct. 17	4.06	84	3.58	65	May 18	------	------	3.75	118
Feb. 18	3.00	51	2.20	44.4	June 19	------	------	4.83	138
Apr. 13	5.00	161	4.11	137	July 10	------	------	4.91	144
Apr. 17	------	------	4.49	156	Aug. 10	------	------	4.82	133
Do	------	------	4.24	133	Sept. 18	------	------	4.46	76
Do	------	------	4.36	144					

Daily discharge, in second-feet, of West Division Main Canal near Umatilla, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	22	12	------	48	101	143	112	133	114	106
2	73	22	------	------	48	101	141	112	133	114	106
3	------	29	------	------	48	144	143	112	142	114	106
4	------	33	------	------	48	132	141	112	139	114	106
5	------	23	------	------	48	132	141	114	142	120	106
6	------	23	------	------	49	132	125	106	144	120	96
7	102	23	------	------	49	145	122	106	144	125	96
8	82	23	------	------	82	145	140	104	139	125	123
9	89	23	------	4	82	145	132	112	144	130	123
10	82	23	------	4	82	145	137	114	144	133	116
11	75	22	------	4	82	145	132	109	144	130	111
12	76	22	------	4	81	145	126	120	128	133	111
13	76	20	------	4	83	148	126	125	125	125	108
14	74	20	------	4	83	159	123	128	122	133	111
15	74	20	------	29	83	159	120	133	122	130	111
16	72	20	------	39	83	162	112	130	130	130	106
17	70	20	------	39	83	160	114	136	120	136	101
18	68	20	------	44	83	163	114	144	120	139	104
19	68	20	------	44	83	163	114	142	120	139	101
20	68	15	------	44	83	163	120	139	120	139	98
21	68	15	------	44	98	163	122	139	122	133	82
22	76	15	------	44	98	160	125	133	122	130	109
23	70	14	------	44	98	160	125	136	117	130	111
24	74	14	------	44	98	143	125	133	118	128	114
25	74	14	------	42	98	143	125	142	117	125	114
26	74	14	------	42	98	143	117	136	117	117	114
27	74	13	------	42	74	141	117	130	117	114	118
28	72	12	------	42	84	146	117	130	114	117	118
29	75	12	------	------	84	141	114	133	117	114	107
30	72	12	------	------	84	141	114	130	117	114	107
31	72	------	------	------	84	------	114	------	117	114	------

NOTE.—No flow on days for which no record is given.

Monthly discharge of West Division Main Canal near Umatilla, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	102	0	65.5	4,030
November	33	12	19.3	1,150
December	12	0	.39	24
January	0	0	0	0
February	44	0	21.7	1,210
March	98	48	77.7	4,780
April	163	101	149	8,870
May	143	112	125	7,690
June	144	104	125	7,440
July	144	114	127	7,810
August	139	114	125	7,690
September	123	96	108	6,430
The year	163	0	78.7	57,100

JOHN DAY RIVER BASIN

JOHN DAY RIVER AT McDONALD, OREG.

LOCATION.—In NW. ¼ sec. 11, T. 1 N., R. 19 E., at ferry at McDonald post office, Sherman County, half a mile below mouth of Rock Creek, 16 miles above junction with Columbia River, and 18 miles southwest of Arlington.

DRAINAGE AREA.—7,800 square miles.

RECORDS AVAILABLE.—December 16, 1904, to September 30, 1925.

GAGE.—Inclined staff on left bank, 183 feet above ferry cable; read by J. L. Garrett and M. F. Duncan.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Clean gravel and sand; shifts slightly. Banks high. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 7.92 feet at 8 a. m. February 6 (discharge, 14,900 second-feet); minimum discharge estimated, 100 second-feet December 26 and 27 (stage-discharge relation affected by ice).

1905–1925: Maximum stage recorded, 10.38 feet February 6, 1907 (discharge, 22,800 second-feet); minimum stage, 1.02 feet September 8–11, 1915 (discharge, 63 second-feet).

A flood, probably in 1894, is said to have reached a stage of 12.8 feet (discharge estimated from extension of rating curve, 33,000 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Large part of natural low-water flow of stream diverted in the upper John Day Valley for irrigation.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent; affected by ice December 25–31. Rating curve well defined below and fairly well defined above 10,000 second-feet. Staff gage read to quarter-tenths once a day except during summer and during high stages when it was read twice a day. Daily discharge ascertained by applying to rating table daily or mean daily gage height. Records good.

Discharge measurements of John Day River at McDonald, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 3	1.23	152	Nov. 23	2.59	1,120
Nov. 22	1.73	390	May 6	5.05	5,920

Daily discharge, in second-feet, of John Day River at McDonald, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	122	275	500	2,630	6,960	2,300	3,360	4,960	3,360	755	224	133
2	131	300	500	2,150	5,220	2,150	3,360	5,220	3,160	708	203	133
3	142	348	500	1,550	5,220	2,150	3,560	5,500	3,160	708	195	133
4	142	360	580	1,320	8,840	2,630	3,560	5,500	3,160	660	184	133
5	142	348	660	1,220	13,000	2,630	4,000	5,500	2,980	660	184	133
6	152	374	580	1,160	14,000	3,780	6,060	5,500	2,630	580	184	133
7	152	360	660	1,160	10,900	3,780	6,660	5,780	2,460	500	184	133
8	162	374	660	1,000	7,560	3,360	6,660	6,360	2,300	500	184	133
9	162	374	580	900	6,060	3,160	6,960	6,660	2,150	465	184	195
10	162	374	580	900	4,960	2,800	7,560	5,500	2,150	465	184	295
11	188	374	580	900	4,000	2,630	8,180	4,700	2,000	423	165	203
12	188	416	540	850	3,360	2,300	9,180	4,460	1,860	388	165	203
13	199	430	500	900	3,160	2,000	10,500	4,220	1,730	354	149	203
14	207	430	660	802	2,800	2,150	9,860	4,220	1,610	354	149	211
15	207	430	850	708	2,630	2,000	8,840	4,220	1,610	295	133	224
16	216	395	1,100	755	2,630	1,860	8,840	4,460	1,550	295	133	203
17	216	360	1,000	708	2,460	1,860	9,860	4,700	1,550	270	133	465
18	216	360	660	708	2,150	2,000	10,200	4,960	1,490	270	133	388
19	216	416	430	708	2,000	2,150	9,180	4,960	1,440	255	133	306
20	216	416	430	1,320	2,000	2,150	9,180	5,220	1,380	224	128	270
21	207	430	430	1,490	2,000	2,150	9,860	7,260	1,270	224	107	270
22	207	360	300	1,490	2,800	2,800	8,500	8,500	1,270	224	133	324
23	207	1,160	207	1,860	2,800	3,560	8,500	8,180	1,730	224	133	324
24	207	1,730	136	2,150	2,980	4,000	7,560	5,500	1,550	203	133	324
25	216	1,440	110	2,300	3,160	3,780	6,660	4,960	1,270	203	149	295
26	207	1,000	100	2,000	2,800	3,780	6,060	4,700	1,100	203	165	295
27	207	950	100	1,860	2,460	4,000	5,780	4,220	1,050	184	139	295
28	207	795	200	1,730	2,300	4,000	5,500	3,780	900	184	133	285
29	207	660	500	1,860	-------	4,000	4,960	3,360	850	211	133	270
30	216	580	1,000	2,630	-------	4,000	4,960	3,360	850	270	133	270
31	250	-------	1,400	5,500	-------	3,780	-------	3,360	-------	237	133	------

Monthly discharge of John Day River at McDonald, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	250	122	190	11,700
November	1,730	275	553	32,900
December	1,400	100	549	33,800
January	5,500	708	1,520	93,500
February	14,000	2,000	4,690	260,000
March	4,000	1,860	2,890	178,000
April	10,500	3,360	7,130	424,000
May	8,500	3,360	5,150	317,000
June	3,360	850	1,850	110,000
July	755	184	371	22,800
August	224	107	156	9,590
September	465	133	239	14,200
The year	14,000	100	2,080	1,510,000

DESCHUTES RIVER BASIN

DESCHUTES RIVER ABOVE SNOW CREEK, NEAR LAPINE, OREG.

LOCATION.—In NE. ¼ sec. 21, T. 20 S., R. 8 E., 1 mile above mouth of Snow Creek and backwater of Crane Prairie Reservoir, 30 miles northwest of Lapine, Deschutes County.

DRAINAGE AREA.—Indeterminate, as much of water comes from springs.

RECORDS AVAILABLE.—May 25, 1922, to September 30, 1925, when station was discontinued.

GAGE.—Vertical staff on left bank, read by C. J. Keefer.

DISCHARGE MEASUREMENTS.—Made from footbridge 150 feet above gage.

CHANNEL AND CONTROL.—Bed of gravel with steep soil banks; somewhat shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.46 feet, August 16 (discharge, 279 second-feet); minimum stage, 0.68 foot March 15 and April 1 (discharge, 46 second-feet).

1922–1925: Same as given above.

ICE.—Ice never forms; stream spring fed.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage read occasionally to hundredths once or twice a day. Daily discharge obtained by applying gage reading to rating table. Daily records good.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Deschutes River above Snow Creek, near Lapine, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 13	0.74	49.4	May 29	1.72	158
Apr. 16	.84	62	Sept. 25	2.10	210

Daily discharge, in second-feet, of Deschutes River above Snow Creek, near Lapine, Oreg., for the year ending September 30, 1925

Date	Discharge	Date	Discharge	Date	Discharge
Oct. 6	55	Jan. 23	49	May 17	71
Oct. 13	55	Feb. 6	52	May 29	154
Oct. 21	52	Feb. 14	49	July 17	192
Oct. 27	52	Mar. 1	49	Aug. 14	263
Nov. 7	55	Mar. 15	46	Aug. 16	279
Nov. 17	52	Apr. 1	46	Aug. 30	263
Dec. 17	46	Apr. 16	55	Sept. 7	247
Jan. 13	49	May 6	62	Sept. 25	215

Monthly discharge of Deschutes River above Snow Creek, near Lapine, Oreg., for the year ending September 30, 1925

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
October	54.1	3,330	May	90.8	5,580
November	51.8	3,080	June	173	10,300
December	48.5	2,980	July	198	12,200
January	48.9	3,010	August	252	15,500
February	49.5	2,750	September	232	13,800
March	46.9	2,880			
April	53.8	3,200	The year	109	78,600

NOTE.—Discharge for periods when gage was not read have been interpolated for the purpose of computing monthly means.

CRANE PRAIRIE RESERVOIR NEAR LAPINE, OREG.

LOCATION.—At reservoir dam, in NW. ¼ sec. 16, T. 21 S., R. 8 E., 28 miles by road west of Lapine, Deschutes County.

RECORDS AVAILABLE.—November 15, 1922, to September 30, 1926.

GAGE.—Vertical staff in sections on left bank; read by C. J. Keefer; datum 4,400 feet above sea level based on levels by United States Bureau of Reclamation in 1914.

EXTREMES OF CONTENTS.—Maximum stage recorded, 30.70 feet June 7 (contents, 2,495 acre-feet); minimum stage recorded, 28.70 feet October 21–26 (contents, 71 acre-feet).

1923–1925: Maximum stage recorded, 44.10 feet January 10–13, 1924 (contents, 50,830 acre-feet); minimum that of October 21–26, 1924.

Crane Prairie Reservoir temporary dam was completed in 1922, gates closed November 4, 1922; spillway crest at elevation 4,445 feet, capacity 55,200 acre-feet. Stored water to be used for irrigation, but not used in 1923 or 1924; practically no water stored in 1925.

Monthly stage and contents of Crane Prairie Reservoir near Lapine, Oreg., for the year ending September 30, 1925

Date	Gage height	Contents	Loss or gain during month	Date	Gage height	Contents	Loss or gain during month
	Feet	*Acre-feet*	*Acre-feet*		*Feet*	*Acre-feet*	*Acre-feet*
Oct. 31	29.05	254	+135	May 31	30.44	1,993	+828
Nov. 30	28.77	97	−157	June 30	30.28	1,736	−257
Dec. 31	28.78	101	+4	July 31	29.55	714	−1,022
Jan. 31	29.02	232	+131	Aug. 31	29.90	1,165	+451
Feb. 28	29.00	217	−15	Sept. 30	29.42	571	−594
Mar. 31	29.25	410	+193				
Apr. 30	29.90	1,165	+755	The year			+452

DESCHUTES RIVER AT CRANE PRAIRIE, NEAR LAPINE, OREG.

LOCATION.—In NW. ¼ sec. 16, T. 21 S., R. 8 E., 200 yards below Crane Prairie Dam and 28 miles by road west of Lapine, Deschutes County.

DRAINAGE AREA.—Indeterminate.

RECORDS AVAILABLE.—January 1, 1914, to June 30, 1917; February 23, 1922, to September 30, 1925; fragmentary gage readings 1907 to 1913.

GAGE.—Vertical staff on left bank, just above new Forest Service bridge; read by C. J. Keefer.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of rock and boulders; probably permanent; slight aquatic growth at times.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.05 feet June 6–11 (discharge, 449 second-feet); minimum stage, 1.16 feet December 16 (discharge, 155 second-feet).

1907–1917; 1922–1925: Maximum stage recorded, 2.40 feet April 18, 1924 (discharge, 604 second-feet); minimum stage, 0.05 foot April 24, 1923 (discharge, 2.5 second-feet, owing to closing of dam).

ICE.—None.

DIVERSIONS.—None.

REGULATION.—Gates at dam at outlet of Crane Prairie just above station were open throughout year, but the water in the prairie was maintained at a stage higher than natural on account of small capacity of gates.

ACCURACY.—Stage-discharge relation practically permanent during year. Rating curve well defined. Gage read to hundredths twice a day. Daily discharge ascertained by applying to rating table mean daily gage height. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Deschutes River at Crane Prairie, near Lapine, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 16	1.19	159	June 1	2.02	441
Apr. 15	1.45	254	Sept. 24	1.87	406

Daily discharge, in second-feet, of Deschutes River at Crane Prairie, near Lapine, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	173	195	165		189	187	200	272	436		400	424
2	173	198	165		189	187	200	276	436		400	416
3	173	198	162	164	209	189	200	272	441		400	416
4	170	195	162		226	195	209	279	441		400	424
5	165	195	162	173	238	206	214	285	445		404	420
6	168	192	162	168	241	206	217	292	449		404	416
7	170	187	160	168	235	203	217	295	449		404	424
8	168	187	158	168	235	203	214	295	449		404	420
9	168	192	158	168	212	200	214	302	449	420	408	420
10	168	187	158	168	229	195	217	315	449		408	416
11	168	184	158	168	235	189	217	322	449		408	412
12	165	165	158	165	229	189	223	326	445		412	412
13	165	168	158	165	212	189	220	340	441		412	412
14	165	170	158	165	223	189	223	340	441		412	412
15	165	176	158	165	217	189	232	340	441		416	412
16	168	178	155	165	217	189	247	346	441		416	408
17	165	170		165	212	189	253	361	441	408	416	408
18	165	165		165	214	189	253	361	432	400	416	408
19	162	165		165	207	189	266	373	432	408	416	408
20	165	178		165	207	198	272	388	432	400	416	396
21	160	184		168	200	206	276	400	432	400	416	392
22	160	198		165	200	212	279	408	432	392	416	392
23	160	192		165	200	214	279	416	432	396	416	392
24	158	187	164	165	198	214	272	424	432	400	420	377
25	158	184		165	195	214	269	424	432	392	420	377
26	158	178		165	189	214	266	432	432	400	424	377
27	158	176		168	187	214	268	432	432	400	424	377
28	165	170		173	187	212	269	432	428	400	420	400
29	170	168		184	-------	212	272	432	432	400	420	392
30	187	165		189	-------	212	272	432	432	392	420	392
31	195	-------		189	-------	212	-------	432	-------	392	424	------

Monthly discharge of Deschutes River at Crane Prairie, near Lapine, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	195	158	167	10,300
November	198	165	182	10,800
December	165	----------	162	9,960
January	189	187	168	10,300
February	241	187	212	11,800
March	214	----------	200	12,300
April	279	200	241	14,300
May	432	272	356	21,900
June	449	428	438	26,100
July	----------	392	410	25,200
August	424	400	413	25,400
September	424	377	405	24,100
The year	449	----------	280	202,000

DESCHUTES RIVER AT PRINGLE FALLS, NEAR LAPINE, OREG.

LOCATION.—In NE. ¼ sec. 23, T. 21 S., R. 9 E., at head of Pringle Falls, 9 miles by road northwest of Lapine, Deschutes County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 26, 1915, to June 17, 1916; October 1, 1916, to June 30, 1917; June 6, 1922, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on left bank 250 yards above road bridge; inspected by W. H. Dellbrugge and P. M. Smith.

DISCHARGE MEASUREMENTS.—Made from cable one-half mile below gage and below falls.

CHANNEL AND CONTROL.—Control is at head of falls, mostly rock and practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.5 feet several days in August and September (discharge, 1,010 second-feet); minimum discharge, 614 second-feet October 23–26.

1915–1917; 1922–1925: Maximum discharge recorded, 1,170 second-feet June 21–27, 29, and 30, 1917; minimum discharge, 540 second-feet December 27, 1915.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—None.

REGULATION.—Water stored in Crane Prairie Reservoir. (See p. 37.)

ACCURACY.—Stage-discharge relation practically permanent; affected by ice for short period in December. Rating curve well defined between 550 and 1,200 second-feet. Operation of water-stage recorder satisfactory except for two short periods. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Deschutes River at Pringle Falls, near Lapine, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 12	1.91	807	Sept. 26	2.40	977
May 27	2.36	975	Nov. 11	2.27	922
July 21	2.42	946			

Daily discharge, in second-feet, of Deschutes River at Pringle Falls, near Lapine, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	658	702		658	702	680	702	770	990	990	990	1,010
2	658	680	658	658	702	680	702	770	965	990	990	1,010
3	680	702		658	702	702	702	770	965	990	990	1,010
4	658	702	658	658	702	702	725	770	990	965	990	1,010
5	658	680	658	658	702	702	725	770	990	965	990	1,010
6	658	680	658	658	725	702	725	770	990	965	990	1,010
7	658	680	658	658	725	702	725	770	990	965	990	1,010
8	658	680	658	658	725	702	725	770	990	965	990	1,010
9	658	702	658	658	702	702	725	770	990	965	990	1,010
10	658	680	658	658	725	702	725	792	990	965	1,010	1,010
11	658	680	658	658	725	680	725	792	990	965	1,010	1,010
12	658	680	635	658	725	680	725	815	990	965	1,010	1,010
13	658	680	635	658	725	680	725	815	990	965	1,010	1,010
14	658	658	658	658	725	680	725	840	990	965	1,010	1,010
15	658	658	658	658	725	680	748		990	965	1,010	1,010
16	635	658	658	658	702	680	770		990	965	1,010	1,010
17	635			658	702	680	770		990	965	1,010	1,010
18	635			658	702	680	770		990	965	990	990
19	635			658	702	680	792	880	990	965	1,010	990
20	635			658	702	702	792		990	965	990	990
21	635			658	702	702	792		990	965	990	990
22	635			658	702	725	792		990	990	1,010	990
23	614			658	702	725	792		990	990	1,010	965
24	614	685	640	635	702	725	792		990	990	1,010	965
25	614			635	680	725	792	940	990	990	1,010	965
26	614			635	680	725	770	940	990	990	1,010	965
27	635			658	680	725	770	940	990	990	1,010	965
28	658			658	680	725	770	965	990	990	1,010	990
29	658			680	------	725	770	965	990	965	1,010	990
30	658			680	------	725	770	965	990	965	1,010	990
31	702	------	658	680	------	702	------	965	------	965	1,010	------

NOTE.—Recorder failed to operate Nov. 17 to Dec. 3 and Dec. 17–30; discharge estimated by comparison with flow at Crane Prairie.

Monthly discharge of Deschutes River at Pringle Falls, near Lapine, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	702	614	649	39,900
November	702	658	683	40,600
December	658	635	648	39,800
January	680	635	658	40,500
February	725	680	706	39,200
March	725	680	701	43,100
April	792	702	751	44,700
May	965	770	854	52,500
June	990	965	988	58,800
July	990	965	973	59,800
August	1,010	990	1,000	61,500
September	1,010	965	997	59,300
The year	1,010	614	801	580,000

DESCHUTES RIVER AT BENHAM FALLS, NEAR BEND, OREG.

LOCATION.—In SE. ¼ sec. 9, T. 19 S., R. 11 E., 50 yards above head of Benham Falls, 1½ miles below proposed dam site for Benham Falls Reservoir, and 14 miles by road south of Bend, Deschutes County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 30, 1909, to September 30, 1913; August 27 to December 22, 1920; July 1 to September 15, 1921; February 12, 1924, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by C. M. Redfield and P. M. Smith.

DISCHARGE MEASUREMENTS.—Made from cable 100 yards above gage.

CHANNEL AND CONTROL.—Control is rock reef at head of Benham Falls. Gage and cable located in comparatively deep and sluggish water above head of falls.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.30 feet at 5 p. m. May 21 (discharge, 1,850 second-feet); minimum stage, 0.52 foot at noon December 22 (discharge, 870 second-feet).

1909–1913; 1920–21; 1924–25: Maximum stage of flood of November 27, 1909; discharge not recorded (see Bend record, p. 43). Minimum discharge recorded, that of December 22, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Some irrigation in head waters of river. Station is above all large diversions near Bend.

REGULATION.—Discharge during 1925 affected by storage regulation in Crescent Lake Reservoir.

ACCURACY.—Stage-discharge relation permanent; affected by ice for a short period in December. Rating curve well defined. Operation of water-stage recorder satisfactory except December 18–22. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Discharge measurements of Deschutes River at Benham Falls, near Bend, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 21	1.04	1,140	July 22	1.82	1,560
Apr. 14	1.60	1,450	Nov. 12	1.51	1,380

Daily discharge, in second-feet, of Deschutes River at Benham Falls, near Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,080	1,250	1,140	1,180	1,330	1,310	1,350	1,520	1,740	1,530	1,630	1,480
2	1,080	1,220	1,170	1,180	1,380	1,300	1,330	1,500	1,740	1,510	1,630	1,470
3	1,070	1,250	1,150	1,200	1,450	1,310	1,320	1,500	1,740	1,500	1,610	1,460
4	1,070	1,250	1,140	1,200	1,560	1,310	1,330	1,500	1,750	1,500	1,610	1,460
5	1,060	1,250	1,140	1,220	1,650	1,320	1,360	1,500	1,740	1,480	1,610	1,460
6	1,060	1,220	1,120	1,190	1,600	1,340	1,360	1,500	1,730	1,470	1,610	1,460
7	1,060	1,200	1,100	1,180	1,600	1,350	1,360	1,510	1,700	1,470	1,600	1,460
8	1,060	1,200	1,100	1,160	1,630	1,340	1,360	1,520	1,680	1,460	1,600	1,460
9	1,060	1,200	1,100	1,160	1,620	1,320	1,370	1,530	1,660	1,460	1,600	1,470
10	1,060	1,190	1,100	1,150	1,560	1,300	1,380	1,590	1,660	1,440	1,600	1,460
11	1,060	1,160	1,100	1,150	1,540	1,280	1,410	1,620	1,640	1,430	1,610	1,460
12	1,060	1,160	1,090	1,140	1,530	1,260	1,420	1,640	1,620	1,460	1,620	1,450
13	1,060	1,130	1,080	1,140	1,500	1,240	1,420	1,670	1,610	1,520	1,620	1,480
14	1,060	1,130	1,080	1,130	1,500	1,240	1,430	1,700	1,600	1,520	1,630	1,530
15	1,060	1,130	1,030	1,130	1,480	1,230	1,470	1,690	1,590	1,520	1,640	1,500
16	1,060	1,130	1,060	1,120	1,450	1,240	1,520	1,680	1,580	1,510	1,640	1,480
17	1,060	1,130	975	1,110	1,420	1,240	1,550	1,700	1,580	1,520	1,640	1,480
18	1,060	1,130		1,120	1,390	1,240	1,580	1,690	1,570	1,520	1,630	1,480
19	1,050	1,140		1,130	1,370	1,240	1,640	1,710	1,570	1,520	1,630	1,480
20	1,050	1,180	965	1,130	1,360	1,240	1,670	1,760	1,560	1,540	1,620	1,480
21	1,050	1,240		1,140	1,380	1,250	1,710	1,840	1,550	1,550	1,620	1,480
22	1,040	1,290	870	1,140	1,370	1,280	1,740	1,820	1,550	1,570	1,620	1,470
23	1,040	1,330	985	1,150	1,360	1,300	1,760	1,820	1,550	1,570	1,630	1,470
24	1,040	1,350	1,010	1,150	1,350	1,310	1,760	1,820	1,550	1,590	1,630	1,460
25	1,040	1,320	980	1,150	1,320	1,310	1,740	1,830	1,540	1,620	1,620	1,450
26	1,040	1,260	965	1,150	1,310	1,310	1,700	1,820	1,540	1,630	1,610	1,440
27	1,040	1,190	995	1,160	1,300	1,320	1,630	1,800	1,530	1,630	1,610	1,430
28	1,080	1,150	1,100	1,180	1,310	1,330	1,580	1,760	1,530	1,630	1,610	1,440
29	1,110	1,150	1,190	1,220	------	1,340	1,550	1,740	1,530	1,630	1,610	1,440
30	1,120	1,150	1,310	1,280	------	1,350	1,530	1,730	1,530	1,630	1,580	1,440
31	1,200	------	1,260	1,300	------	1,350	------	1,720	------	1,630	1,510	------

NOTE.—No record Dec. 18–21; ice in recorder well and discharge estimated.

Monthly discharge of Deschutes River at Benham Falls, near Bend, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,200	1,040	1,070	65,800
November	1,350	1,130	1,200	71,400
December	1,310	870	1,070	65,800
January	1,300	1,110	1,170	71,900
February	1,650	1,300	1,450	80,500
March	1,350	1,240	1,290	79,300
April	1,760	1,320	1,510	89,800
May	1,840	1,500	1,670	103,000
June	1,750	1,530	1,620	96,400
July	1,630	1,430	1,530	94,100
August	1,640	1,510	1,610	99,000
September	1,530	1,430	1,470	87,500
The year	1,840	870	1,390	1,000,000

DESCHUTES RIVER BELOW BEND, OREG.

LOCATION.—In SE. ¼ sec. 20, T. 17 S., R. 12 E., half a mile below North Canal Dam and 2 miles north of Bend, Deschutes County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 27, 1914, to September 30, 1925.

GAGE.—Stevens water-stage recorder on right bank; inspected by W. L. Beebe.

DISCHARGE MEASUREMENTS.—Made from cable 50 feet above gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and boulders. Logs, drift, and aquatic plants lodged on the shallow control may affect stage-discharge relation at times.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.3 feet February 5–10 (discharge, 1,510 second-feet); minimum stage, 0.37 foot July 30 (discharge, 98 second-feet).

1915–1925: Maximum stage recorded, 2.90 feet December 7, 1921 (discharge, 2,500 second-feet); minimum stage, −0.26 foot June 6, 1924 (discharge, 6 second-feet).

1905–1925: Maximum discharge of river in this vicinity, 4,820 second-feet at 7.45 a. m. November 27, 1909, for gage height of 3.45 feet at pumping plant at Bend; no diversions.

ICE.—Stage-discharge relation unaffected by ice.

DIVERSIONS.—Station is below intakes of the six large canals which divert water from Deschutes River near Bend; only small diversions below station.

REGULATION.—Flow regulated by hydroelectric plant at Bend.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined. Operation of water-stage recorder fairly satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except for December, for which they are fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Discharge measurements of Deschutes River below Bend, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 19	1.84	1,030	June 4	1.45	685
Apr. 10	1.75	1,060	July 19	.52	158
May 13	1.25	576			

Daily discharge, in second-feet, of Deschutes River below Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	189	764	1,070	953	972	852	1,120		730	260	154	215
2	353	991	1,080	944	981	888	1,110		722	238	165	202
3	238	1,030	1,090	934	1,050	861	1,110	600	714	215	161	189
4	194	1,020	1,080	925	1,250	825	1,120		705	215	158	189
5	168	1,000	1,080	934	1,510	1,050	1,140		673	246	158	215
6	165	962	1,090	888	1,510	1,190	1,160	462	640	181	198	233
7	140	981	1,120	906	1,510	1,180	1,150	482	602	158	206	238
8	185	991		906	1,510	1,200	1,120	482	572	143	154	280
9	242	1,040		897	1,510	1,200	1,070	443	502	120	206	335
10	260	1,070		915	1,510	1,200	972	469	476	105	238	411
11	256	1,060	1,010	981	1,450	1,190	962	502	476	100	215	502
12	270	1,060		1,010	1,450	1,170	1,010	537	456	114	260	537
13	260	1,060		1,030	1,400	1,150	972	558	423	158	238	544
14	265	1,040	739	1,030	1,350	1,150	906	587	404	150	194	587
15	270	1,020	730	1,070	1,350	1,150	925	587	423	143	202	558

Daily discharge, in second-feet, of Deschutes River below Bend, Oreg., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.
16	251	1,010	852	1,070	1,350	1,160	981	587	423	136	172	537
17	256	1,010		1,050	1,350	1,150	1,200	587	385	136	194	558
18	246	1,000		1,060	1,300	1,130	1,050	587	385	136	168	625
19	251	1,020		1,050	1,250	1,060	1,070	640	305	143	168	648
20	251	1,070		1,050	1,250	1,010	1,110	900	290	154	544	664
21	270	1,120		1,050	1,250	981	1,150	900	265	154	640	633
22	270	1,030		1,030	1,350	953	1,180	991	275	242	633	625
23	251	861		1,020	1,300	1,000	1,200	972	270	270	502	648
24	260	825	1,000	1,020	1,250	1,070	1,200	952	260	194	322	656
25	251	799		1,020	1,200	1,070	1,190	906	242	172	270	625
26	256	852		1,050	1,190	1,070	1,110	888	224	154	270	633
27	275	1,080		1,060	1,150	1,120	1,110	852	215	147	256	595
28	295	1,070		1,070	1,030	1,130		816	198	136	247	610
29	322	1,070		1,060	-------	1,050	810	764	211	120	260	610
30	341	1,060		1,190	-------	1,080		730	206	98	310	618
31	449	-------		1,100	-------	1,100	-------	714	-------	120	260	------

NOTE.—No record Dec. 8–13, Apr. 28 to May 5, May 15, 16, 20, and 21. Stage-discharge relation affected by ice Dec. 17–31. Discharge estimated from records on Deschutes River at Benham Falls. Braced figures gives estimated mean discharge for periods indicated.

Monthly discharge of Deschutes River below Bend, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	449	140	256	15,700
November	1,120	764	999	59,400
December	1,120	----------	1,000	61,500
January	1,190	888	1,010	62,100
February	1,510	972	1,300	72,200
March	1,200	825	1,080	66,400
April	1,200	----------	1,050	62,500
May	991	443	674	41,400
June	730	198	422	25,100
July	270	98	163	10,000
August	640	154	262	16,100
September	664	189	484	28,800
The year	1,510	98	721	522,000

DESCHUTES RIVER NEAR MADRAS, OREG.

LOCATION.—In NW. ¼ sec. 19, T. 10 S., R. 13 E., at proposed Pelton dam site, 5 miles above mouth of Shitike Creek and 9 miles northwest of Madras, Jefferson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 28, 1923, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder on right bank, just below dam site; inspected by J. L. Campbell.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of boulders and heavy gravel; apparently permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.54 feet at 5 a. m. February 6 (discharge, 10,700 second-feet); minimum stage, 0.45 foot at noon October 8 (discharge, 3,320 second-feet).

1924–25: Maximum stage recorded, that of 1925; minimum stage, 0.35 foot August 29, 1924 (discharge, 3,230 second-feet).

ICE.—None.

DIVERSIONS.—Flow affected by diversions from upper Deschutes River, Crooked River, Tumalo and Squaw Creeks. Most of low-water flow comes from springs entering below irrigation diversions.

REGULATION.—Some fluctuation due to power plants and canal intakes near Bend.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory except for a few days when clock ran down and July 20–29 when inlet to well was stopped with sand. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspecting recorder graph. Records good.

Discharge measurements of Deschutes River near Madras, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 6	0.49	3,350	Feb. 5	5.77	9,700	May 12	1.46	4,300
Oct. 8	.47	3,360	Apr. 9	3.03	6,270	July 24	.88	3,730
Oct. 12	.62	3,330						

Daily discharge, in second-feet, of Deschutes River near Madras, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,400	3,910	4,470	5,560	7,820	4,940	5,440	4,940	4,580	3,910	3,710	3,710
2	3,420	4,500	4,470	5,190	6,940	4,940	5,440	4,940	4,580	3,960	3,610	3,660
3	3,560	4,470	4,470	4,940	7,320	5,060	5,440	4,820	4,470	3,910	3,610	3,660
4	3,440	4,360	4,470	4,820	8,320	5,190	5,440	4,700	4,360	3,860	3,560	3,610
5	3,400	4,260	4,470	4,700	9,880	5,440	5,560	4,700	4,360	3,910	3,560	3,610
6	3,380	4,260	4,360	4,700	10,200	6,190	5,940	4,580	4,260	3,910	3,560	3,610
7	3,400	4,260	4,470	4,580	8,450	6,060	5,940	4,580	4,260	3,860	3,560	3,710
8	3,350	4,260	4,470	4,470	7,690	5,820	6,060	4,470	4,160	3,810	3,560	3,710
9	3,390	4,360	4,470	4,470	7,190	5,690	6,060	4,360	4,160	3,810	3,560	3,710
10	3,430	4,160	4,470	4,470	6,690	5,440	6,060	4,360	4,160	3,760	3,610	3,760
11	3,450	4,360	4,580	4,470	6,440	5,320	6,060	4,360	4,010	3,710	3,660	3,910
12	3,460	4,360	4,470	4,470	6,320	5,190	6,190	4,360	4,010	3,710	3,610	3,960
13	3,460	4,360	4,470	4,580	6,190	5,060	6,320	4,360	4,010	3,710	3,660	3,960
14	3,480	4,260	4,260	4,470	5,940	5,060	6,060	4,470	4,010	3,710	3,660	3,960
15	3,460	4,260	4,110	4,470	5,940	4,940	6,060	4,470	4,010	3,660	3,560	4,010
16	3,450	4,260	4,110	4,470	5,940	5,060	6,440	4,580	4,060	3,660	3,610	4,060
17	3,450	4,260	4,160	4,470	5,820	5,190	6,940	4,700	4,010	3,660	3,660	4,010
18	3,440	4,260	3,910	4,580	5,690	5,440	6,560	4,700	4,010	3,660	3,560	4,010
19	3,450	4,360	3,860	4,700	5,560	5,440	6,320	4,940	4,010	3,660	3,610	4,010
20	3,450	4,700	3,860	4,700	5,560	5,440	6,440	5,880	4,010		3,610	4,060
21	3,460	5,070	4,060	5,060	5,440	5,690	6,820	6,820	4,060	3,710	3,960	4,110
22	3,450	5,940	4,160	5,190	5,690	6,190	6,560	6,320	4,160		4,010	4,110
23	3,440	5,060	4,110	5,560	5,690	6,320	6,690	6,060	4,060		4,010	4,060
24	3,450	4,820	4,160	5,440	5,690	6,060	6,440	5,820	4,060	3,760	3,860	4,060
25	3,430	4,470	4,160	5,320	5,440	6,060	6,060	5,560	3,960		3,710	4,060
26	3,440	4,360	4,160	5,190	5,440	5,940	5,820	5,440	4,060	3,710	3,710	4,060
27	3,460	4,470	4,260	5,060	5,320	5,940	5,690	5,320	4,060		3,710	4,010
28	3,530	4,470	4,580	5,560	5,190	5,690	5,440	5,190	4,110		3,710	3,960
29	3,510	4,470	4,820	6,560	-------	5,690	5,320	5,060	3,960		3,660	3,960
30	3,560	4,470	5,440	7,440	-------	5,560	5,190	4,820	3,860	3,660	3,810	3,960
31	3,710	-------	5,060	9,230	-------	5,560	-------	4,700	-------	3,660	3,760	------

NOTE.—Discharge interpolated Oct. 26, July 20–23, 25–29, and Aug. 6–7.

Monthly discharge of Deschutes River near Madras, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	3,710	3,350	3,460	213,000
November	5,940	3,910	4,460	265,000
December	5,440	3,860	4,370	269,000
January	9,230	4,470	5,120	315,000
February	10,200	5,190	6,560	364,000
March	6,320	4,940	5,540	341,000
April	6,940	5,190	6,030	359,000
May	6,820	4,360	4,980	306,000
June	4,580	3,860	4,130	246,000
July	3,960	3,660	3,750	231,000
August	4,010	3,560	3,680	226,000
September	4,110	3,610	3,900	232,000
The year	10,200	3,350	4,650	3,370,000

DESCHUTES RIVER AT MECCA, OREG.

LOCATION.—In SW. ¼ sec. 20, T. 9 S., R. 13 E., at bridge at Mecca station on Oregon Trunk Railway, Jefferson County, 1½ miles below mouth of Shitike Creek and 12 miles above mouth of Warm Springs River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 7, 1911, to September 30, 1925.

GAGE.—Gurley 8-day recorder on right bank 75 feet above bridge; inspected by H. E. Massey.

DISCHARGE MEASUREMENTS.—Made from highway bridge.

CHANNEL AND CONTROL.—Bed composed of rock and gravel; subject to occasional slight shifts.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.9 feet at 6 a. m. February 6 (discharge, 12,200 second-feet); minimum stage, 2.0 feet October 8, 14, 16, and 17 (discharge, 3,400 second-feet).

1911–1925: Maximum stage recorded, 6.9 feet during night of January 6, 1923 (discharge, 15,200 second-feet); minimum stage, 1.95 feet August 27–30, 1920 (discharge, 3,170 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Flow affected by diversions from upper Deschutes River, only small diversions below Bend gaging station. Summer flow of Crooked River above head of lower canyon near Terrebonne and of Tumalo and Squaw Creeks practically all diverted.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory except as shown by break in record and indicated in footnote to daily-discharge table; February 18–21, when recorder was not operating the staff gage was read once a day. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records fair.

Discharge measurements of Deschutes River at Mecca, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 5	2.05	3,500	Feb. 5	5.49	11,000	May 12	2.70	4,520
Oct. 8	2.00	3,470	Apr. 8	3.65	6,460	July 24	2.30	3,860

Daily discharge, in second-feet, of Deschutes River at Mecca, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			4,710		8,200	5,200	5,800	5,200	5,000	4,080	3,810	3,640
2			4,710		7,570	5,200	5,800	5,200	4,900	4,170	3,720	3,640
3			4,710		8,040	5,400	5,800	5,100	4,900	4,080	3,640	3,640
4			4,710		9,300	5,600	5,600	5,000	4,800	4,080	3,640	3,640
5		4,380	4,710		11,100	5,660	5,800	5,000	4,710	4,080	3,640	3,680
6	3,420		4,800	4,850	11,700	6,310	6,210	4,900	4,620	4,080	3,640	3,720
7			4,800		9,300	6,210	6,210	4,900	4,530	3,900	3,640	3,760
8			4,800		8,280	6,000	6,430	4,800	4,530	3,900	3,640	3,810
9		710	4,800		7,800	6,000	6,430	4,710	4,530	3,810	3,640	3,810
10		4,710			7,110	5,800	6,430	4,710	4,440	3,720	3,640	3,900
11		4,710			6,880	5,600	6,430	4,620	4,350	3,720	3,720	3,990
12		4,710	4,460		6,650	5,400	6,650	4,620	4,260	3,720	3,640	4,080
13	3,480	4,620		4,800	6,430	5,400	6,650	4,620	4,350	3,720	3,720	4,080
14	3,400	4,620		4,710	6,430	5,400	6,430	4,710	4,260	3,720	3,720	4,080
15	3,480	4,530		4,710	6,210	5,200	6,430	4,800	4,170	3,720	3,640	4,080
16	3,400	4,530	4,900	4,800	6,210	5,200	6,650	4,900	4,260	3,720	3,560	4,170
17	3,400	4,440	4,800	4,710	6,000	5,400	7,570	5,100	4,170			4,080
18	3,480	4,440	4,800	4,710	6,000	5,600	7,110	5,100	4,170		3,670	4,170
19	3,560	4,710	4,530	4,900	6,000	5,600	6,650	5,200	4,170			4,170
20	3,480	5,100	4,350	4,900	6,000	5,600	6,880	5,600	4,170		3,640	4,170
21	3,480	5,600		5,200	6,000	5,800	7,340	7,340	4,260		3,990	4,170
22	3,560	6,880		5,400	6,000	6,430	6,880	6,880	4,440	3,780	4,080	4,170
23	3,560	5,600		5,800	6,000	6,430	7,110	6,430	4,350		4,170	4,080
24	3,560	5,200		5,800	6,000	6,430	6,880	6,210	4,260		3,990	4,170
25	3,560	5,000		5,600	5,800	6,430	6,430	6,000	4,170		3,900	4,170
26	3,560	4,710	4,500	5,400	5,800	6,210	6,210	6,000	4,260		3,810	4,080
27	3,560	4,800		5,400	5,600	6,210	6,000	5,600	4,350		3,810	4,080
28	3,560	4,900		5,800	5,400	6,000	5,800	5,600	4,350		3,810	4,080
29		4,800		7,110	-------	6,000	5,600	5,400	4,170	3,720	3,900	4,080
30	3,660	4,710		7,800	-------	6,000	5,400	5,200	4,080	3,720	3,900	4,080
31		-------		10,100	-------	5,800	-------	5,000	-------	3,720	3,720	------

NOTE.—Braced figures give mean discharge for periods indicated; estimated to be the sum of mean discharges for the same periods at Deschutes River near Madras and Shitike Creek. Discharge interpolated Dec. 2, July 11, and Sept. 5–7.

Monthly discharge of Deschutes River at Mecca, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	-------	3,400	3,490	215,000
November	6,880	-------	4,770	284,000
December	4,900	-------	4,590	282,000
January	10,100	4,710	5,350	329,000
February	11,700	5,400	7,060	392,000
March	6,430	5,200	5,790	356,000
April	7,570	5,400	6,390	380,000
May	7,340	4,620	5,300	326,000
June	5,000	4,080	4,400	262,000
July	4,170	3,720	3,830	236,000
August	4,170	3,560	3,750	231,000
September	4,170	3,640	3,980	237,000
The year	11,700	3,400	4,870	3,530,000

DESCHUTES RIVER AT MOODY, NEAR BIGGS, OREG.

LOCATION.—In SE. ¼ sec. 26, T. 2 N., R. 15 E., opposite Moody railroad station 1¼ miles above bridge of Oregon-Washington Railroad & Navigation Co., 1½ miles above mouth of river, and 5 miles southwest of Biggs, Sherman County.

DRAINAGE AREA.—About 9,180 square miles.

RECORDS AVAILABLE.—July 7, 1906, to September 30, 1925. October 19, 1897, to December 31, 1899, for station near Moro, 10 miles above mouth of river in NE. ¼ sec. 5, T. 1 S., R. 16 E. Records for 1908 and 1910 somewhat fragmentary.

GAGE.—Staff in two sections; the lower inclined, the upper vertical; read by Lynn B. Mulkins.

DISCHARGE MEASUREMENTS.—Made from a cable 450 feet above gage.

CHANNEL AND CONTROL.—Bed composed of rock and gravel; shifting only in floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.95 feet February 6 (discharge, 19,200 second-feet); minimum stage, 2.2 feet October 1–12 (discharge, 3,820 second-feet).

1906–1925: Maximum stage recorded, 10.2 feet January 7, 1923 (discharge, 43,600 second-feet); minimum stage, 1.9 feet August 23–28, 1920 (discharge, 3,510 second-feet).

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—Summer discharge at this station has been progressively reduced since about 1904 or 1905 by diversions from the upper river. Some of the water returns but net reduction during midsummer now probably exceeds 20 per cent.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent; affected by ice December 20–28. Rating curve fairly well defined. Staff gage read to quarter-tenths once a day except October 7 to November 4 and January 30 to February 7 when it was read twice a day. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good.

Discharge measurements of Deschutes River at Moody, near Biggs, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 4	2.22	3,900	Nov. 21	3.06	6,230	Mar. 26	3.35	7,140
Oct. 14	2.24	3,960	Jan. 31	4.87	13,700	May 11	2.99	6,040
Nov. 6	2.66	4,830	Feb. 6	5.88	18,500	Aug. 5	2.30	4,010

Daily discharge, in second-feet, of Deschutes River at Moody, near Biggs, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,820	4,140	5,080	7,770	13,800	6,690	7,040	7,040	6,020	4,790	4,030	4,140
2	3,820	4,510	5,240	7,770	13,800	6,350	6,690	6,690	6,020	4,650	4,030	4,140
3	3,820	5,240	5,390	7,770	13,800	6,350	6,690	6,350	6,020	4,510	4,030	4,140
4	3,820	5,390	5,390	6,690	13,800	6,690	6,690	6,020	5,700	4,510	4,030	4,140
5	3,820	5,080	5,390	6,350	16,200	6,690	6,690	6,020	6,020	4,510	4,030	4,030
6	3,820	4,940	5,390	6,350	19,200	6,690	7,040	6,020	5,700	4,510	4,030	4,030
7	3,820	4,940	5,240	6,350	16,200	7,770	7,400	6,020	5,390	4,510	4,030	4,030
8	3,820	4,940	5,240	5,700	13,300	7,400	7,040	6,020	5,390	4,380	4,030	4,140
9	3,820	4,940	5,240	5,700	12,000	7,040	7,400	6,020	5,390	4,380	4,030	4,260
10	3,820	4,940	5,240	5,700	10,600	6,690	7,770	6,020	5,080	4,260	4,030	4,260
11	3,820	4,940	5,240	5,700	9,400	6,690	8,150	6,020	5,080	4,260	4,030	4,260
12	3,820	4,940	6,020	5,700	8,970	6,350	8,150	6,020	4,940	4,260	4,030	4,260
13	3,920	4,940	6,020	5,700	8,550	6,350	8,550	6,020	4,790	4,260	4,030	4,260
14	3,920	4,940	5,390	5,390	8,550	6,020	8,550	6,020	4,940	4,140	4,030	4,260
15	3,920	4,790	5,080	5,390	7,770	6,020	8,970	6,020	4,790	4,140	4,030	4,510

Daily discharge, in second-feet, of Deschutes River at Moody, near Biggs, Oreg., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	3,920	4,790	5,080	5,390	7,770	6,020	8,970	6,350	4,790	4,140	4,030	4,51
17	3,920	4,790	5,080	5,390	7,770	6,350	9,800	6,690	4,790	4,260	4,030	4,510
18	3,920	4,790	5,080	5,700	7,400	6,350	9,400	7,040	4,790	4,260	4,140	4,510
19	3,920	4,940	5,080	5,700	7,040	6,020	8,970	6,690	4,790	4,260	4,140	4,510
20	3,920	5,390		5,700	7,040	6,350	8,550	7,400	4,790	4,260	4,140	4,510
21	3,920	6,020		5,700	7,400	6,690	8,970	10,600	4,790	4,140	4,260	4,510
22	3,920	9,800		6,690	7,400	7,400	8,550	10,200	5,080	4,140	4,510	4,510
23	3,920	8,970		6,690	7,400	7,770	8,550	8,970	4,940	4,260	4,510	4,510
24	3,920	7,400	5,100	6,690	7,400	7,400	8,150	8,150	4,940	4,260	4,260	4,510
25	3,920	6,690		7,040	7,040	7,400	7,770	7,770	4,790	4,260	4,260	4,510
26	3,920	6,690		7,040	7,040	7,400	7,400	7,400	4,790	4,260	4,140	4,510
27	3,920	5,240		7,770	7,040	7,400	7,040	7,040	4,790	4,140	4,140	4,510
28	4,030	5,080		8,150	6,690	7,400	7,040	6,690	4,790	4,140	4,140	4,510
29	4,030	5,390	6,690	10,600	-------	6,690	7,400	6,690	4,790	4,140	4,140	4,510
30	4,030	5,080	8,150	10,600	-------	7,040	7,400	6,690	4,790	4,030	4,140	4,380
31	4,030	-------	8,150	13,300	-------	6,690	-------	6,020	-------	4,030	4,140	------

NOTE.—Discharge estimated from record at gaging station on Deschutes River near Madras Dec. 20-28.

Monthly discharge of Deschutes River at Moody, near Biggs, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	4,030	3,820	3,900	240,000
November	9,800	4,140	5,490	327,000
December	8,150	5,080	5,480	337,000
January	13,300	5,390	6,840	421,000
February	19,200	6,690	10,000	555,000
March	7,770	6,020	6,780	417,000
April	9,800	6,690	7,890	469,000
May	10,600	6,020	6,860	422,000
June	6,020	4,790	5,120	305,000
July	4,790	4,030	4,290	264,000
August	4,510	4,030	4,120	253,000
September	4,510	4,030	4,350	259,000
The year	19,200	3,820	5,900	4,270,000

SNOW CREEK ABOVE CRANE PRAIRIE, NEAR LAPINE, OREG.

LOCATION.—In SE. ¼ sec. 21, T. 20 S., R. 8 E., half a mile above mouth and backwater of proposed Crane Prairie Reservoir, 30 miles northwest of Lapine, Deschutes County.

DRAINAGE AREA.—Indeterminate; stream spring fed.

RECORDS AVAILABLE.—May 25, 1922, to September 30, 1925, when station was discontinued.

GAGE.—Vertical staff; read by C. J. Keefer.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Gravel; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 0.88 foot May 17 (discharge, 30 second-feet); minimum stage recorded, 0.72 foot December 17 (discharge, 21 second-feet).

1922–1925: Maximum discharge recorded, that of May 17, 1925; minimum discharge, that of December 17, 1924.

ICE.—Ice never forms.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation apparently permanent. Rating curve fairly well defined. Gage read to hundredths at various intervals throughout year. Daily discharge obtained by applying daily gage reading to rating table. The stream is spring fed and although the readings are few in number the record is considered good as the discharge is very uniform throughout the year.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Snow Creek above Crane Prairie, near Lapine, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
Jan. 13	0.81	25.5	May 29	0.87	30.1
Apr. 16	.84	32.4	Sept. 25	.87	28.1

Daily discharge, in second-feet, of Snow Creek above Crane Prairie, near Lapine, Oreg., for the year ending September 30, 1925

Date	Discharge	Date	Discharge	Date	Discharge
Oct. 6	27	Jan. 23	26	May 17	30
Oct. 13	27	Feb. 6	27	May 29	29
Oct. 21	27	Feb. 14	26	July 16	28
Oct. 27	27	Mar. 1	26	Aug. 14	28
Nov. 7	27	Mar. 15	26	Aug. 16	28
Nov. 17	26	Apr. 1	26	Aug. 30	28
Dec. 17	21	Apr. 16	27	Sept. 7	28
Jan. 13	26	May 6	28	Sept. 25	29

Monthly discharge of Snow Creek above Crane Prairie, near Lapine, Oreg., for the year ending September 30, 1925

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
October	27.0	1,660	May	29.2	1,800
November	25.8	1,540	June	29.0	1,730
December	23.4	1,440	July	28.0	1,720
January	25.2	1,550	August	28.0	1,720
February	26.5	1,470	September	28.2	1,680
March	26.0	1,600			
April	26.5	1,580	The year	26.8	19,500

NOTE.—Discharge for periods when gage was not read have been interpolated for the purpose of computing monthly means.

CULTUS RIVER ABOVE CULTUS CREEK, NEAR LAPINE, OREG.

LOCATION.—In SW. ¼ sec. 20, T. 20 S., R. 8 E., 2 miles above Cultus Creek and 5 miles north of Crane Prairie Dam, Deschutes County.

DRAINAGE AREA.—Indeterminate, mostly spring fed.

RECORDS AVAILABLE.—June 10, 1923, to September 30, 1925, when station was discontinued. June 13 to October 26, 1922, at station below mouth of Cultus Creek.

GAGE.—Vertical staff on left bank half a mile above footbridge and ford; read by C. J. Keefer.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Channel is wide and shallow. Bed consists of gravel and small stones; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 0.68 foot May 19 (discharge, 94 second-feet); minimum stage, 0.42 foot January 14, February 2, March 2, 16, and April 1 (discharge, 37 second-feet).

1923–1925: Same as given above.

ICE.—None.

DIVERSIONS.—None.

REGULATIONS.—Stream is fed by springs and yearly variation is small.

ACCURACY.—Stage-discharge relation somewhat unstable; affected by growth of aquatic plants July 31 to September 30. Rating curve fairly well defined. Staff gage read to hundredths occasionally. Daily discharge ascertained by applying daily gage height to rating table. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Cultus River above Cultus Creek, near Lapine, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-feet*		*Feet*	*Sec.-feet*
Jan. 14	0.42	36.2	May 29	0.65	84
Apr. 19	.49	59	Sept. 25	.69	78

Daily discharge, in second-feet, of Cultus River above Cultus Creek, near Lapine, Oreg., for the year ending September 30, 1925

Date	Discharge	Date	Discharge	Date	Discharge
Oct. 6	47	Feb. 2	37	July 24	94
Oct. 13	46	Feb. 15	39	July 31	91
Oct. 21	46	Mar. 2	37	Aug. 8	91
Oct. 27	47	Mar. 16	37	Aug. 15	91
Nov. 7	47	Apr. 1	37	Aug. 23	85
Nov. 17	46	Apr. 19	46	Aug. 30	82
Dec. 2	43	May 19	94	Sept. 7	82
Jan. 14	37	May 29	85	Sept. 12	82
Jan. 22	39	July 17	94	Sept. 20	85
				Sept. 25	79

Monthly discharge of Cultus River above Cultus Creek, near Lapine, Oreg., for the year ending September 30, 1925

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
October	46.4	2,850	May	78	4,800
November	45.4	2,700	June	90	5,360
December	40.2	2,470	July	91.5	5,630
January	38.8	2,390	August	88.2	5,420
February	38	2,110	September	82	4,880
March	37	2,280			
April	52.2	3,110	The year	60.7	44,000

NOTE.—Discharge for periods when gage was not read have been interpolated for the purpose of computing monthly means.

QUINN RIVER ABOVE CRANE PRAIRIE, NEAR LAPINE, OREG.

LOCATION.—In NW. ¼ sec. 1, T. 21 S., R. 7 E., 400 feet below head of river and 3 miles northwest of Crane Prairie Dam, Deschutes County.

DRAINAGE AREA.—Indeterminate because stream is spring fed.

RECORDS AVAILABLE.—June 1, 1922, to September 30, 1925, when station was discontinued.

GAGE.—Vertical staff on tree root, 400 feet below springs which form source of river; read by C. J. Keefer.

DISCHARGE MEASUREMENTS.—Made by wading 200 feet above gage.

CHANNELS AND CONTROL.—Bed composed of fine loose gravel; slight growth, where velocities are slow, of aquatic plants in summer; distinct riffle just below gage forms a well defined and practically permanent control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 0.64 foot July 17 and 24 (discharge, 35 second-feet); minimum stage, 0.16 foot January 7, 15, and 21 (discharge, 3 second-feet).

1922–1925: Maximum stage recorded, 0.83 foot July 15, 1923 (discharge, 36 second-feet); minimum, that of January, 1925.

ICE.—None.

REGULATION.—Stream is spring fed.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Daily discharge ascertained by applying gage height to rating table and interpolating for periods of missing gage heights. Records fair.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Quinn River above Crane Prairie, near Lapine, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 15	0.16	3.0	May 30	0.58	28.2
Apr. 17	.42	14.7	Sept. 25	.55	24.0

Daily discharge, in second-feet, of Quinn River above Crane Prairie, near Lapine, Oreg., for the year ending September 30, 1925

Date	Discharge	Date	Discharge	Date	Discharge
Oct. 6	8	Feb. 5	4	July 24	35
Oct. 13	8	Feb. 16	4	July 31	35
Oct. 21	7	Mar. 3	5	Aug. 8	34
Oct. 27	7	Mar. 17	6	Aug. 15	34
Nov. 3	8	Apr. 2	9	Aug. 23	32
Dec. 3	7	Apr. 17	13	Aug. 30	31
Dec. 15	6	May 5	16	Sept. 7	30
Jan. 7	3	May 19	23	Sept. 12	28
Jan. 15	3	May 30	28	Sept. 20	27
Jan. 21	3	July 17	35	Sept. 25	25

Monthly discharge of Quinn River above Crane Prairie, near Lapine, Oreg., for the year ending September 30, 1925

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
October	7.6	470	May	21.9	1,350
November	7.9	472	June	30.0	1,790
December	5.1	311	July	33.4	2,050
January	3.2	196	August	33.1	2,040
February	4.0	222	September	27.7	1,650
March	6.8	419			
April	12.2	726	The year	16.1	11,700

NOTE.—Discharge for periods when gage was not read have been interpolated for the purpose of computing monthly means.

BROWN CREEK NEAR LAPINE, OREG.

LOCATION.—In sec. 29, T. 21 S., R. 8 E., at road crossing a quarter of a mile above mouth, 3½ miles south of Crane Prairie dam site, and 20 miles west of Lapine, Deschutes County.

DRAINAGE AREA.—Indeterminate, spring fed.

RECORDS AVAILABLE.—May 24, 1922, to September 30, 1925, when station was discontinued.

GAGE.—Vertical staff on left bank; read by C. J. Keefer.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Gravel bar, with aquatic plants along sides; somewhat unstable.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 0.69 foot September 24 and 25 (discharge, 39 second-feet); minimum discharge, 28 second-feet for several days October to March.

1922–1925: Maximum discharge recorded, 47 second-feet January 1, 1924; mininum stage recorded, 0.24 foot May 20 and 24 (discharge, 25 second-feet).

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve fairly well defined. Gage read to hundredths once on days for which discharge is given. Daily discharge ascertained by applying daily gage reading to rating table. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

The following discharge measurements were made:

January 12, 1925: Gage height, 0.60 foot; discharge, 27.8 second-feet.[1]

April 18, 1925: Gage height, 0.43 foot; discharge, 33.8 second-feet.

September 25, 1925: Gage height, 0.57 foot; discharge, 40.8 second-feet.

Daily discharge, in second-feet, of Brown Creek near Lapine, Oreg., for the year ending September 30, 1925

Date	Discharge	Date	Discharge	Date	Discharge
Oct. 6	28	Dec. 6	28	May 1	32
Oct. 12	28	Jan. 12	28	June 1	32
Oct. 20	28	Feb. 12	30	July 17	37
Oct. 27	28	Mar. 4	28	Sept. 24	39
Nov. 3	28	Mar. 18	28	Sept. 25	39
Nov. 20	28	Apr. 4	30		
Nov. 27	28	Apr. 18	35		

[1] Stage-discharge relation affected by ice.

Monthly discharge of Brown Creek near Lapine, Oreg., for the year ending September 30, 1925

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
October	28.0	1,720	May	32.0	1,970
November	28.0	1,670	June	34.0	2,020
December	28.0	1,720	July	36.5	2,240
January	28.0	1,720	August	38.0	2,340
February	30.0	1,670	September	39.0	2,320
March	28.0	1,670			
April	32.6	1,940	The year	31.9	23,200

NOTE.—Discharge for periods when gage was not read have been interpolated for the purpose of computing monthly means.

LITTLE DESCHUTES RIVER ABOVE WALKER BASIN INTAKE, NEAR LAPINE, OREG.

LOCATION.—In sec. 33, T. 23 S., R. 9 E., above intake of canal of Walker Basin project and below Crescent Creek, half a mile from river road to Crescent, and 12 miles southwest of Lapine, Deschutes County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 26, 1914, to September 14, 1917; May 7, 1919, to September 30, 1925 (summer periods only, except May 1, 1922, to September 30, 1924). Records for 1919 and 1920 were collected below Walker Basin intake, but monthly discharge was corrected for the diversion.

GAGE.—Stevens continuous water-stage recorder on right bank above intake; inspected by P. M. Smith.

DISCHARGE MEASUREMENTS.—Made by wading or from road bridge.

CHANNEL AND CONTROL.—Bed composed of gravel and sand; may shift in floods. Banks steep, composed of silt, and overgrown with brush.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.64 feet from 3 to 6 a. m. June 2 (discharge, 424 second-feet). No record of minimum.

1914–1917; 1919–1925: Maximum stage, 6.73 feet June 12, 1917 (discharge, 835 second-feet); flood of November 24, 1909, may have reached 1,800 second-feet (estimated from records at Allen's ranch); minimum discharge recorded, 3.4 second-feet November 15, 1922 (gage height, 2.42 feet). Minimum discharge unaffected by storage, 40 second-feet September 3–11, 1915 (gage height, 0.40 feet at original gage).

ICE.—No records obtained during winter.

DIVERSIONS.—A few small ditches divert water above station; Walker Basin Canal diverts a short distance below.

REGULATION.—Affected by storage at Crescent Lake Reservoir.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory May 27 to September 18. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection. Records good.

COOPERATION.—Record furnished by the State engineer of Oregon.

The following discharge measurements were made:

October 7, 1924: Gage height, 2.39 feet; discharge, 41.9 second-feet.

May 27, 1925: Gage height, 4.48 feet; discharge, 405 second-feet.

August 26, 1925: Gage height, 3.90 feet; discharge, 250 second-feet.

Daily discharge, in second-feet, of Little Deschutes River above Walker Basin intake, near Lapine, Oreg., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	------	389	164	310	86	16	------	207	222	310	86
2	------	412	162	300	84	17	------	203	270	300	84
3	------	389	159	290	80	18	------	201	300	300	86
4	------	366	154	280	79	19	------	200	321	290	
5	------	321	148	280	79	20	------	189	321	280	
6	------	300	142	280	77	21	------	189	332	270	
7	------	280	135	280	75	22	------	203	366	260	
8	------	270	131	300	75	23	------	200	366	260	
9	------	260	130	310	75	24	------	200	366	260	
10	------	250	162	321	73	25	------	193	378	260	70
11	------	234	232	321	111	26	------	186	366	260	
12	------	222	230	321	178	27	378	183	366	260	
13	------	218	230	321	91	28	378	178	366	154	
14	------	212	230	321	75	29	378	175	354	98	
15	------	211	226	321	75	30	378	170	354	92	
						31	378	------	332	88	

NOTE.—Mean discharge Sept. 19–30 estimated from discharge measurement of 50 second-feet on Oct. 13, 1925, and record for Little Deschutes River near Lapine.

Monthly discharge of Little Deschutes River above Walker Basin intake, near Lapine, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 27–31	378	378	378	3,750
June	412	170	240	14,300
July	378	130	259	15,900
August	321	88	268	16,500
September	178	----------	80.3	4,780
The period	----------	----------	----------	55,200

LITTLE DESCHUTES RIVER NEAR LAPINE, OREG.

LOCATION.—In sec. 2, T. 22 S., R. 10 E., at wagon bridge at former town of Rosland, 1½ miles north of Lapine, Deschutes County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 22, 1910, to October 31, 1913, fragmentary; June 23 to November 2, 1918; August 26 to October 28, 1920; and May 15, 1924, to September 30, 1925.

GAGE.—Vertical staff on downstream side of east bent of bridge; read by Mrs. M. C. Bogue.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge.

CHANNEL AND CONTROL.—Earth banks that are overflowed at high stages, sandy bottom. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage during year, 4.30 feet observed from high-water marks, occurred probably May 21 (discharge, 558 second-feet); minimum stage recorded, 0.54 foot October 2–8, 11, 15–18, 23, and 26 (discharge, 34 second-feet).

1910–1913, 1918, 1920, and 1924–25: Maximum stage recorded, 4.6 feet about June 12, 1912, observed from high-water marks July, 1912 (discharge, 760 second-feet); minimum discharge, that of 1924.

ICE.—Stage-discharge relation affected by ice December 16 to January 31; flow estimated from gage-height record, discharge measurement, observer's notes, and weather records.

DIVERSIONS.—Some water diverted above station for irrigating small tracts of land.

REGULATION.—Affected by storage at Crescent Lake Reservoir.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Staff gage read to hundredths once a day. Daily discharge ascertained by applying daily gage reading to rating table except as stated in footnote to table of daily discharge. Records good.

COOPERATION.—Record furnished by the State engineer of Oregon

Discharge measurements of Little Deschutes River near Lapine, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 7	0.54	33.9	May 25	3.77	436	Aug. 26	2.60	222
Jan. 22	2.12	122	July 21	2.80	240	Sept. 22	1.35	90

Daily discharge, in second-feet, of Little Deschutes River near Lapine, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	119	94	102	337	148	148	265	318	119	265	68
2	34	138	94	128	357	148	148	265	357	119	265	64
3	34	138	94	138	378	138	148	265	337	119	265	64
4	34	128	86	138	442	138	148	265	318	110	265	64
5	34	110	86	148	464	148	171	265	282	110	236	64
6	34	102	74	148	442	171	159	282	265	110	250	68
7	34	86	74	138	442	148	171	300	236	102	250	71
8	34	86	74	138	420	128	182	318	222	98	250	71
9	35	78	74	128	420	128	182	337	208	94	250	74
10	35	98	71	128	337	119	195		182	90	265	71
11	34	78	71	128	282	110	222		171	159	265	71
12	35	78	74	119	337	102	236		171	171	282	171
13	35	71	78	119	300	102	250		159	171	282	94
14	35	64	78	119	265	102	265		159	171	282	78
15	34	64	78	110	222	102	337		148	171	265	86
16	34	74	74	110	208	110	337	480	148	171	265	94
17	34	78	78	110	208	110			148	182	265	90
18	34	71	84	110	159	110			148	208	265	86
19	35	138	64	102	148	110			138	236	250	90
20	35	148	54	110	171	110			138	250	236	86
21	35	148	54	119	159	128	440		138	250	236	90
22	35	195	54	119	148	148			138	250	236	90
23	34	236	50	128	159	148			138	282	236	86
24	35	182	50	128	128	138		510	138	300	236	78
25	35	148	54	119	138	138		464	138	318	222	78
26	34	128	57	119	138	148	337	420	138	300	222	71
27	35	98	57	119	148	148	318	399	128	300	222	71
28	47	119	64	128	110	159	300	378	128	300	222	71
29	60	110	64	182	------	148	265	318	128	300	102	68
30	78	102	78	208	------	148	265	318	128	300	86	68
31	110	------	86	282	------	159	------	318	------	282	78	------

NOTE.—Stage-discharge relation affected by ice Dec. 16 to Jan. 31. No gage-height record Feb. 5–9, Apr. 17–25, and May 10–23; discharge estimated from records for Deschutes River at Benham Falls and at Pringle Falls.

Monthly discharge of Little Deschutes River near Lapine, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	110	34	39.8	2,450
November	236	64	114	6,780
December	94	50	71	4,370
January	282	102	133	8,180
February	464	110	267	14,800
March	171	102	132	8,120
April	----------	148	291	17,300
May	----------	265	400	24,600
June	357	128	186	11,100
July	318	90	198	12,200
August	282	78	236	14,500
September	171	64	79.9	4,750
The year	----------	34	178	129,000

CRESCENT LAKE RESERVOIR NEAR CRESCENT, OREG.

LOCATION.—At reservoir dam in sec. 11, T. 24 S., R. 6 E., 16 miles west of Crescent, Klamath County.

RECORDS AVAILABLE.—August 25, 1922, to September 30, 1925.

GAGE.—Vertical staff on outlet gate tower; zero at level of gate sill, elevation 4,826 feet. Readings reported to sea-level datum.

EXTREMES OF CONTENTS.—Maximum stage recorded during year, 4,843.70 feet July 9 (storage, 61,070 acre-feet); minimum stage recorded, 4,835.86 feet October 25 (storage, 33,200 acre-feet).

1922–1925: Maximum stage recorded, 4,845.55 feet July 15, 1923 (storage, 67,760 acre-feet); minimum stage, 4,835.86 feet September 21, 22, and October 25, 1924 (storage, 33,200 second-feet).

Crescent Lake Reservoir was completed in 1922, the water was stored back of a coffer dam beginning some time in August. As most of the storage is obtained by lowering the outlet, storage began with about 41,380 acre-feet, as computed above the sill of the outlet gate. Water used by Deschutes County Municipal Improvement District through its canal diverting from Deschutes River at Bend.

Monthly stage and contents of Crescent Lake Reservoir near Crescent, Oreg., for the year ending September 30, 1925

Date	Gage height	Contents	Loss or gain during month
	Feet	*Acre-feet*	*Acre-feet*
Oct. 31	4,836.42	35,150	+1,670
Nov. 30	4,836.90	36,830	+1,680
Dec. 31	4,837.04	37,360	+530
Jan. 31	4,838.06	40,950	+3,590
Feb. 28	4,839.03	44,350	+3,400
Mar. 31	4,839.02	44,320	−30
Apr. 30	4,840.00	47,800	+3,480
May 31	4,842.12	55,390	+7,590
June 30	4,843.48	60,280	+4,890
July 31	4,841.40	52,810	−7,470
Aug. 31	4,838.84	43,680	−9,130
Sept. 30	4,839.18	44,890	+1,210
The year	----------	----------	+11,410

CRESCENT CREEK BELOW COLD CREEK, NEAR CRESCENT, OREG.

LOCATION.—In SW. ¼ sec. 7, T. 24 S., R. 7 E., 1 mile below Cold Creek, 2 miles by road below outlet of Crescent Lake, and 15 miles west of Crescent, Klamath County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 30, 1912, to December 11, 1913; June 17 to December 12, 1922; May 30, 1923, to September 30, 1924; and May 26 to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by P. M. Smith.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; wide and flat; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during period May 26 to September 30, from water-stage recorder, 1.71 feet August 8 (discharge, 253 second-feet); minimum stage recorded, −0.14 foot on several days in September (discharge, 20 second-feet).

1912–13; 1922–1925: Maximum stage recorded, 1.50 feet June 17, 1922 (discharge, 228 second-feet); minimum discharge, 5 second-feet (gage height, −0.39 foot) October 27, 1923.

ICE.—None during period of record.

DIVERSIONS.—None.

REGULATION.—Gates in Crescent Lake Reservoir Dam closed October 1 to July 8 and August 28 to September 30, except September 9 and 10; water released July 9 to August 27 and for 36 hours on September 9 and 10. (See p. 57.)

ACCURACY.—Stage-discharge relation practically permanent; affected by drift on control July 9 to August 25. Operation of water-stage recorder satisfactory except September 24–30. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Shifting-control method used July 9 to August 25. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

The following discharge measurements were made:
May 26, 1925: Gage height, 0.20 foot; discharge, 40.2 second-feet.
August 26, 1925: Gage height, 1.25 feet; discharge, 186 second-feet.

Daily discharge, in second-feet, of Crescent Creek below Cold Creek, near Crescent, Oreg., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	------	46	26	225	21	16	------	31	137	231	20
2	------	40	26	225	21	17	------	31	186	227	21
3	------	37	25	225	21	18	------	30	201	227	20
4	------	34	25	221	21	19	------	29	201	225	22
5	------	34	25	221	21	20	------	28	221	201	21
6	------	33	25	221	21	21	------	28	237	188	21
7	------	33	24	235	21	22	------	28	235	188	21
8	------	33	24	253	21	23	------	27	235	188	20
9	------	33	47	251	20	24	------	27	233	188	
10	------	33	116	245	90	25	------	27	231	188	
11	------	33	116	241	141	26	40	27	229	186	20
12	------	33	114	239	22	27	40	26	229	120	
13	------	33	116	237	20	28	40	26	229	21	
14	------	32	118	235	21	29	39	26	251	21	
15	------	32	119	233	20	30	38	26	247	21	
						31	39	------	225	21	------

NOTE.—No record Oct. 1 to May 25. Recorder not operating Sept. 24–30. Because no water was being released from Crescent Lake Reservoir, the mean discharge was estimated as the probable flow of Cold Creek.

Monthly discharge of Crescent Creek below Cold Creek, near Crescent, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	46	26	31.2	1,860
July	251	24	144	8,850
August	253	21	192	11,800
September	141		26.9	1,600
The period				24,100

ARNOLD CANAL NEAR BEND, OREG.

LOCATION.—In SW. ¼ sec. 23, T. 18 S., R. 11 E., 1 mile below intake of canal and 9 miles south of Bend, Deschutes County.

RECORDS AVAILABLE.—April 10, 1914, to September 30, 1925; information sufficient for an estimate, October, 1912, to March, 1914.

GAGE.—Stevens 8-day recorder in rock section; inspected by G. W. Shafer.

DISCHARGE MEASUREMENTS.—Made from collar of flume.

CHANNEL AND CONTROL.—Rock section; permanent flume 12 to 14 feet wide at old gage, fairly steep gradient.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.80 feet at 8 a. m. July 27 (discharge, 139 second-feet); canal dry at various times during year.

1914–1925: Maximum stage recorded, 2.50 feet August 4, 1923 (discharge, 151 second-feet); canal dry at various times.

ICE.—Canal dry during coldest weather of winter.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder operated satisfactorily except during December, January, February, March, April, and part of May, and staff gage read once a day during this period when water was in the canal. Daily discharge ascertained by applying daily and mean daily gage height to rating table. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

Arnold Canal diverts water from right bank of Deschutes River at head of Lava Island, in SW. ¼ sec. 27, T. 18 S., R. 11 E., and irrigates land south and east of Bend lying above Central Oregon Irrigation District's Carey Act segregation.

Discharge measurements of Arnold Canal near Bend, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 3	1.58	38.9	June 5	2.57	118
Do	1.79	54.7	July 22	2.77	133
Do	2.18	84			

Daily discharge, in second-feet, of Arnold Canal near Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	77	41	23			41	78	116	134	134	134
2	99	62	41	15			41	78	116	134	134	134
3	78	62	41				35	78	121	134	134	134
4	80	62	41			24	32	78	121	134	134	134
5	76	67	41			41	29	78	121	134	134	134
6	82	67	20			29	23	78	121	134	134	134
7	87	67				29	23	78	116	134	134	130
8	83	54		7		23		78	116	134	134	130
9	78	54		21		12		78	116	134	134	130
10	77	54		7				87	116	134	134	126
11	74	54						87	121	134	134	121
12	69	51						87	126	134	134	121
13	76	51						87	121	134	134	121
14	81	51						87	121	134	134	116
15	76	51						87	126	134	134	116
16	72	47						87	126	134	134	121
17	70	47						89	130	134	134	116
18	76	47						89	126	134	134	109
19	72	47			14			90	126	134	134	101
20	72	43			41			74	126	134	134	98
21	66	43		27	41			63	130	134	134	100
22	72	43		47	27			78	130	134	134	103
23	82	41		23				88	130	134	134	105
24	82	41		23				88	130	134	134	103
25	81	41		47			41	87	130	134	134	101
26	77	41		47			41	91	130	134	134	100
27	73	41		47			47	102	130	134	134	100
28	72	41		20			47	112	134	134	134	100
29	72	41					54	112	134	134	134	92
30	71	41	13				61	116	134	134	134	95
31	72		23					116		134	134	

Monthly discharge of Arnold Canal near Bend, Oreg., during the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	99	66	77.1	4,740
November	77	41	51.0	3,030
December	41	0	8.4	516
January	47	0	11.4	701
February	41	0	4.4	244
March	41	0	5.1	314
April	62	0	17.2	1,020
May	116	78	87.3	5,370
June	134	116	125	7,440
July	134	134	134	8,240
August	134	134	134	8,240
September	134	92	115	6,840
The year	134	0	64.5	46,700

CENTRAL OREGON CANAL NEAR BEND, OREG.

LOCATION.—In NE. ¼ sec. 7, T. 18 S., R. 12 E., at a flume section half a mile below point where waters in main diversion canal are divided between this canal and Pilot Butte Canal and 2 miles south of Bend, Deschutes County.

RECORDS AVAILABLE.—May 11, 1905, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder on left wing wall at entrance to flume section; inspected by Gustave Berry.

DISCHARGE MEASUREMENTS.—Made from yoke of flume 200 yards below gage.

CHANNEL AND CONTROL.—Earth section at gage; control at head of flume.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.95 feet at 8 p. m. August 19 (discharge, 468 second-feet). Canal dry at various times during year.

1905–1925: Maximum discharge recorded, that of August 19, 1925. Canal dry at various times.

ICE.—Canal operated in winter only for a few days during periods of moderately cold weather, for furnishing water for domestic use. The gradient of the flume below the gage is sufficient to maintain open channel at all times.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder operated satisfactorily October 1–8 and April 9 to September 30. Staff gage read to hundredths during periods that water was in canal and recorder was not operating. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspecting recorder graph or from staff gage readings. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Central Oregon Canal diverts water from right bank of Deschutes River in NE. ¼ sec. 13, T. 18 S., R. 11 E., and irrigates land lying to the east of Bend and near Powell Buttes.

Discharge measurements of Central Oregon Canal near Bend, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 1	2.72	203	Oct. 2	1.65	110	July 20	4.83	443
Do	3.50	277	Apr. 13	2.03	144			
Do	4.00	333	June 5	4.00	353			

Daily discharge, in second-feet, of Central Oregon Canal near Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	280	112	------	43	122	158	------	252	347	431	443	395
2	207	------	------	62	144	167	------	324	347	431	443	395
3	302	------	------	63	158	162	------	335	347	431	443	395
4	324	------	------	63	121	162	------	347	347	431	443	395
5	313	------	------	63	------	54	------	347	347	431	443	371
6	324	------	------	66	------	------	------	347	347	431	443	359
7	313	------	------	74	------	------	------	347	371	431	443	359
8	291	------	------	82	------	------	------	359	371	431	443	335
9	280	------	------	83	------	------	35	371	395	443	455	324
10	269	------	------	61	------	------	54	383	395	443	455	324
11	280	------	------	------	------	------	55	383	395	443	455	302
12	280	------	------	------	------	------	76	383	395	443	455	302
13	280	------	99	------	------	------	140	395	419	443	455	302
14	274	------	149	------	------	------	197	395	419	443	455	302
15	280	------	162	------	------	------	212	395	419	443	455	291
16	291	------	74	------	------	------	212	395	419	443	455	258
17	280	------	------	------	------	------	212	395	419	443	455	247
18	280	------	------	------	------	30	207	395	419	443	455	227
19	291	------	------	------	------	118	207	395	431	443	455	227
20	291	------	------	------	------	136	207	395	431	443	135	227
21	280	------	------	------	------	167	207	395	431	443	39	222
22	280	60	------	------	------	177	207	395	431	443	72	222
23	280	162	------	------	------	144	207	333	431	443	201	222
24	274	177	------	------	------	------	207	274	431	443	326	232
25	274	177	------	------	------	------	202	302	431	443	371	247
26	280	111	------	------	------	------	202	324	431	443	383	252
27	280	------	------	------	13	------	217	324	431	443	383	252
28	291	------	------	------	97	------	232	324	431	443	383	252
29	302	------	------	------	------	------	264	335	431	443	383	247
30	291	------	------	------	------	------	302	347	431	443	395	252
31	269	------	------	38	------	------	------	347	------	443	395	------

NOTE.—Canal dry on days for which no discharge is given.

Monthly discharge of Central Oregon Canal near Bend, Oreg., during the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	324	207	285	17,500
November	177	0	26.6	1,580
December	162	0	15.6	959
January	83	0	22.5	1,380
February	158	0	23.4	1,300
March	177	0	47.6	2,930
April	302	0	135	8,030
May	395	252	356	21,900
June	431	347	403	24,000
July	443	431	440	27,100
August	455	39	387	23,800
September	395	222	291	17,300
The year	455	0	204	148,000

PILOT BUTTE CANAL NEAR BEND, OREG.

LOCATION.—In NE. ¼ sec. 7, T. 18 S., R. 12 E., directly opposite old gage on Central Oregon Canal, half a mile below point where waters are divided between this canal and Central Oregon Canal, and 2 miles south of Bend, Deschutes County.

RECORDS AVAILABLE.—March 6, 1905, to September 30, 1925.

GAGE.—Vertical staff on right bank; read by Gustave Berry.

DISCHARGE MEASUREMENTS.—Made by wading at gage.

CHANNEL AND CONTROL.—Channel composed of gravel and sand. Control partly solid rock; somewhat shifting.

EXTREMES OF DISCHARGE.—Maximum discharge recorded during year, 22 second-feet June 19 to July 8; canal dry at various times.

1905–1925: Maximum stage recorded, 3.10 feet June 8, 11–16, July 19–21, 1913 (discharge, 244 second-feet); canal dry at various times.

ICE.—Canal dry during freezing weather.

ACCURACY.—Stage-discharge relation affected by drift on control. Rating curves well defined. Staff gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Pilot Butte Canal diverts water from right bank of Deschutes River in NE. ¼ sec. 13, T. 18 S., R. 11 E., in a flume common to it and the Central Oregon Canal for irrigating lands lying mostly north of Bend and extending nearly to Crooked River. North Canal also diverts water into Pilot Butte Canal.

Discharge measurements of Pilot Butte Canal near Bend, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 1	1.95	46.6	Apr. 13	1.52	19.0	July 20	0.89	22.8
Do	1.21	6.7	June 25	.81	20.0	Sept. 20	.47	5.5

Daily discharge, in second-feet, of Pilot Butte Canal near Bend, Oreg., for the year ending September 30, 1925

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

NOTE.—Canal dry on days for which no discharge is given.

Monthly discharge of Pilot Butte Canal near Bend, Oreg., during the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	11	9	10.0	615
November	13	0	1.9	113
December	0	0	0	0
January	10	0	1.9	117
February	10	0	1.7	94
March	10	0	1.7	105
April	21	0	13.6	809
May	21	19	20.5	1,260
June	22	21	21.4	1,270
July	22	0	20.0	1,230
August	21	0	15.2	935
September	10	5	7.4	440
The year	22	0	9.65	6,990

DESCHUTES COUNTY MUNICIPAL IMPROVEMENT DISTRICT CANAL AT BEND, OREG.

LOCATION.—In SE. ¼ sec. 29, T. 17 S., R. 12 E., at Bend, Deschutes County.

RECORDS AVAILABLE.—May 10, 1923, to September 30, 1925.

GAGE.—Stevens 8-day recorder on stream wall of canal 100 yards below intake; inspected by W. Andrews.

DISCHARGE MEASUREMENTS.—Made from footbridge near gage.

CHANNEL AND CONTROL.—Concrete and masonry lined at gage, trapezoidal section; permanent. Control is entrance of semicircular metal flume 100 yards below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.80 feet at 5 a. m. August 20 (discharge, 218 second-feet). Canal dry at times.

1923–1925: Maximum stage from recorder, 3.84 feet September 29, 1924 (discharge, 223 second-feet). Canal dry at various times.

ICE.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Staff gage read to hundredths January 2–14; recorder operated satisfactorily for remainder of year. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Records furnished by State engineer of Oregon.

Deschutes County Municipal Improvement District Canal diverts water from Deschutes River in NE. ¼ sec. 32 at Bend, using surplus natural flow, and water released from Crescent Lake Reservoir. The canal delivers the water to Tumalo project feed canal, to supplement the flow of Tumalo Creek in irrigating the Tumalo project.

The following discharge measurements were made:

October 3, 1924: Gage height, 3.48 feet; discharge, 192 second-feet.

July 22, 1925: Gage height, 3.09 feet; discharge, 156 second-feet.

Daily discharge, in second-feet, of Deschutes County Municipal Improvement District Canal at Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Jan.	June	July	Aug.	Sept.
1	160	83			16	191	164
2	160	77	35		16	191	156
3	164	66	66		16	191	160
4	152	50	74		16	191	156
5	152	63	68	19	15	191	156
6	152	80	80	60	45	191	156
7	152	73	80	62	68	191	160
8	133	63	71	71	76	196	160
9	112	42	63	76	89	186	160
10	112	38	53	77	92	191	64
11	112	15	80	32	98	191	
12	112		77		105	186	
13	112		68		105	200	
14	112		22		112	200	
15	112				119	200	25
16	112			32	119	196	75
17	112			64	119	200	75
18	112			64	116	200	76
19	112			64	116	200	73
20	112			64	126	200	69
21	112			64	152	196	86
22	112			66	152	151	105
23	112			65	118	112	98
24	112			65	160	163	89
25	112			64	178	178	79
26	112			64	182	168	86
27	112			64	182	168	105
28	112			65	182	168	108
29	108			65	182	129	108
30	105			58	186	87	108
31	95				98	152	

NOTE.—Canal dry on days for which no discharge is given.

Monthly discharge of Deschutes County Municipal Improvement District Canal at Bend, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	164	95	122	7,500
November	83	0	21.7	1,290
January	80	0	27.0	1,660
June	77	0	44.2	2,630
July	186	15	108	6,640
August	200	87	179	11,000
September	164	0	95.2	5,660
The year	200	0	50.3	36,400

NOTE.—Canal dry for months not shown in above table.

NORTH CANAL NEAR BEND, OREG.

LOCATION.—In NE. ¼ sec. 29, T. 17 S., R. 13 E., 500 feet below bridge on road to Tumalo, one-fourth mile below intake, and 1 mile north of Bend, Deschutes County.

RECORDS AVAILABLE.—June 14, 1913, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder just above railroad bridge; inspected by W. L. Beebe.

DISCHARGE MEASUREMENTS.—Made from plank across canal 100 yards above gage.

CHANNEL AND CONTROL.—Concrete-lined section extends 1,000 feet below gage; below this point the canal is unlined and sides and bottom are very rough. Changes in unlined section affect stage-discharge relation.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.28 feet at 9 p. m. July 12 (discharge, 460 second-feet). Canal dry at various times.

1913–1925: Maximum discharge recorded, that of July 12, 1925. Canal dry at various times.

ICE.—Stage-discharge relation not affected by ice.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Water-stage recorder operated satisfactorily October 1 and April 10 to September 30. Staff gage read to hundredths twice daily during periods that recorder was not operating. Daily discharge ascertained by applying to rating table mean daily gage height. Records excellent.

COOPERATION.—Records furnished by State engineer of Oregon.

North Canal diverts water from right bank of Deschutes River at a concrete dam 60 feet high, in NE. ¼ sec. 29, T. 17 S., R. 13 E., and extends eastward for 1 mile, where it discharges into Pilot Butte Canal.

The following discharge measurements were made:

April 13, 1925: Gage height, 3.70 feet; discharge, 164 second-feet.

June 4, 1925: Gage height, 6.20 feet; discharge, 356 second-feet.

July 2, 1925: Gage height, 7.20 feet; discharge, 456 second-feet.

Daily discharge, in second-feet, of North Canal near Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	------	------	20	141	154	105	322	322	440	450	394
2	257	------	------	52	141	154	105	322	340	450	450	394
3	225	------	------	52	141	154	105	331	358	450	450	394
4	241	------	------	52	59	154	105	358	358	450	450	394
5	281	------	------	64	------	51	105	376	358	432	450	394
6	281	------	------	60	------	------	105	385	358	450	450	394
7	273	------	------	56	------	------	105	385	358	450	450	385
8	257	------	------	56	------	------	105	403	367	450	450	358
9	233	------	------	64	------	------	129	412	394	450	450	340
10	241	------	------	64	------	------	154	412	403	450	450	340
11	233	------	------	28	------	------	161	403	421	450	450	331
12	233	------	------	------	------	------	161	403	430	450	450	322
13	225	------	29	------	------	------	161	403	430	450	450	322
14	233	------	117	------	------	------	168	403	430	450	450	322
15	233	------	117	------	------	------	175	403	430	450	450	305
16	233	------	39	------	------	------	175	403	430	450	450	297
17	233	------	------	------	------	------	175	403	430	450	450	281
18	233	------	------	------	------	------	175	403	430	450	450	241
19	225	------	------	------	------	------	175	403	430	450	450	241
20	225	------	------	------	------	------	175	305	430	450	450	241
21	225	------	------	------	------	------	175	243	430	450	450	241
22	225	70	------	------	------	------	175	289	430	450	450	241
23	225	141	------	------	------	------	175	289	430	450	450	225
24	233	189	------	------	------	------	175	305	440	450	450	217
25	225	189	------	------	------	------	175	322	440	450	412	217
26	------	63	------	------	------	------	175	322	440	450	394	217
27	------	------	------	------	------	56	189	322	440	450	394	217
28	------	------	------	------	26	154	233	322	440	450	394	217
29	------	------	------	------	123	154	265	322	440	450	394	217
30	------	------	------	------	------	154	297	322	440	450	394	217
31	------	------	------	------	------	129	------	322	------	450	394	------

NOTE.—Canal dry on days for which no discharge is given.

Monthly discharge of North Canal near Bend, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	281	0	194	11,900
November	189	0	21.7	1,290
December	117	0	9.7	596
January	64	0	18.3	1,130
February	141	0	22.5	1,250
March	154	0	42.4	2,610
April	297	105	162	9,640
May	412	243	355	21,800
June	440	322	409	24,300
July	450	432	449	27,600
August	450	394	438	26,900
September	394	217	297	17,700
The year	450	0	203	147,000

SWALLEY CANAL NEAR BEND, OREG.

LOCATION.—In NE. ¼ sec. 29, T. 17 S., R. 12 E., 100 yards above road crossing, one-fourth mile below intake of canal at North Canal Dam, and 1½ miles north of Bend, Deschutes County.

RECORDS AVAILABLE.—June 1, 1913, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder on right bank at lower end of intake flume; inspected by W. L. Beebe.

DISCHARGE MEASUREMENTS.—Made from plank across flume.

CHANNEL AND CONTROL.—Earth canal of regular cross section and practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.38 feet at 10 p. m. July 13 (discharge, 116 second-feet). Canal dry at various times.

1913–1925: Maximum discharge recorded, that of July 13, 1925. Canal dry at various times.

ICE.—Stage-discharge relation not affected by ice.

ACCURACY.—Stage-discharge relation probably permanent. Rating curve fairly well defined. Water-stage recorder operated satisfactorily October 4–25 and April 27 to September 30. Staff gage read to hundredths twice a day during remainder of year. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records fair.

COOPERATION.—Records furnished by State engineer of Oregon.

Swalley Canal diverts water from right bank of Deschutes River at North Canal Dam, in NE. ¼ sec. 29 and irrigates the Carey Act segregation of the Deschutes Reclamation & Irrigation Co. north of Bend and west of the Pilot Butte tract.

Discharge measurements of Swalley Canal near Bend, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 5	2.51	129	Oct. 5	1.23	33	June 5	2.08	93
Do	1.59	53	Apr. 13		34	July 19	2.35	110

Daily discharge, in second-feet, of Swalley Canal near Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	47	13	------	32	------	------	40	78	112	103	89
2	------	48	10	------	32	------	------	42	80	110	104	89
3	------	48	12	------	32	------	------	43	81	111	106	89
4	17	48	13	5	32	------	------	46	87	111	109	89
5	27	48	12	10	32	8	------	56	89	111	110	85
6	40	43	12	15	18	23	------	61	96	110	52	79
7	73	32	12	17	------	23	------	63	97	109	56	79
8	67	32	12	------	------	8	------	61	99	113	104	75
9	71	32	16	------	------	------	------	61	100	112	78	69
10	75	33	15	------	------	------	21	64	100	113	3	70
11	64	33	15	------	------	------	32	69	100	114	34	70
12	54	33	16	------	------	------	32	72	102	114	83	71
13	61	22	16	------	------	------	32	74	103	115	11	71
14	55	------	16	------	------	------	32	77	103	114	75	71
15	49	------	15	------	------	------	32	79	68	113	83	71
16	49	13	9	10	------	------	37	80	28	113	89	65
17	49	20	------	15	------	------	32	81	28	113	95	58
18	49	20	------	15	------	------	32	76	33	114	103	55
19	50	19	------	19	------	------	32	64	91	114	103	55
20	51	20	------	19	------	------	32	57	98	114	100	56
21	50	19	------	23	------	------	32	45	103	106	101	56
22	51	19	------	23	------	------	32	47	104	7	102	56
23	51	19	------	27	------	------	32	51	107	19	81	57
24	51	18	------	32	------	------	32	58	108	91	85	57
25	50	19	------	32	------	------	37	61	108	100	94	57
26	52	19	------	32	------	------	37	61	108	100	95	58
27	52	19	------	32	------	------	38	63	108	101	96	57
28	52	19	------	32	------	------	40	64	108	103	92	58
29	49	19	------	32	------	------	38	71	109	104	89	58
30	45	19	------	32	------	------	40	73	110	102	91	58
31	45	------	------	32	------	------	------	77	------	102	89	------

NOTE.—Canal dry on days for which no discharge is given.

Monthly discharge of Swalley Canal near Bend, Oreg., during the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	75	0	46.7	2,870
November	48	0	26.0	1,550
December	16	0	6.9	424
January	32	0	14.6	898
February	32	0	6.4	355
March	23	0	2.0	123
April	40	0	23.5	1,400
May	81	40	62.5	3,840
June	110	23	91.1	5,420
July	115	0	103	6,330
August	110	3	84.4	5,190
September	89	55	67.6	4,020
The year	115	0	44.7	32,400

TUMALO CREEK NEAR BEND, OREG.

LOCATION.—In SE. ¼ sec. 23, T. 17 S., R. 11 E., one-fourth mile above diversion dam of the feed canal of the Tumalo project, half a mile below highway bridge on old Bend-Sisters road, 4 miles above mouth, and 4 miles northwest of Bend, Deschutes County.

DRAINAGE AREA.—57 square miles.

RECORDS AVAILABLE.—November 1, 1913, to September 30, 1925; also during winters from October 6, 1906, to April 30, 1913, except 1909–10.

GAGE.—Stevens continuous water-stage recorder; inspected by W. Andrew. Records prior to November, 1910, obtained at different site.

DISCHARGE MEASUREMENTS.—At ordinary stages, made by wading near gage or from footbridge across canal when all water is diverted; at flood stages, from a large tree fallen across stream about 200 yards below gage or by wading below diversion dam and adding measured canal flow.

CHANNEL AND CONTROL.—Bed composed of rock and gravel; fairly permanent. One channel at all stages; fairly straight above and below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, estimated at 2.8 feet, occurred May 21 when float of water-stage recorder was caught (discharge, 504 second-feet); minimum stage, 0.78 foot at noon October 22 (discharge, 9 second-feet).

1906–1925: Maximum stage recorded, 4.55 feet during winter of 1923, probably on January 6, clock stopped (discharge, 1,420 second-feet); minimum stage, 0.55 foot October 28, 1922 (discharge, 4.0 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Columbia Southern Canal diverted water above station during most of the year. Water was diverted into head of Tumalo Creek from Crater Creek, tributary of Deschutes River; no record of this diversion in 1925.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during winter. Rating curves fairly well defined below 200 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records fair October to April; good May to September.

COOPERATION.—Record furnished by the State engineer of Oregon.

Discharge measurements of Tumalo Creek near Bend, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 10	1.39	77	June 2	1.94	172
Apr. 14	1.58	126	July 20	1.36	61

Daily discharge, in second-feet, of Tumalo Creek near Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	60	68		89	60	41	87	189	186	39	19
2	14	77	67		90	60	34	101	175	192	78	18
3	18		64		103	60	33	105	159	175	57	18
4	14		65		122	60	34	120	147	178	51	19
5	12		64	70	125	63	35	150	138	184	38	17
6	12		61		114	62	36	181	138	184	28	17
7	12		64		92	62	41	192	140	164	28	17
8	12		61		90	63	45	150	164	140	28	18
9	12	65	58		97	62	53	145	181	150	29	16
10	12		76	66	87	60	64	145	172	150	28	25
11	12		72	64	84	62	89	133	159	154	25	73
12	10		67	62	79	60	94	133	170	140	24	78
13	10			62	74	59	97	136	198	118	24	76
14	10			63	73	59	96	170	178	112	24	78
15	10			59	72	58	142	189	170	108	21	78
16	10	55		59	68	58	157	239	192	108	19	76
17	10	56		60	67	57	140	253	178	110	19	74
18	10	55		60	66	57	122	271	198	89	19	73
19	10	76		60	64	57	110	290	216	73	20	52
20	10	107		59	63	62	96	433	236	67	21	31
21	10	133		64	64	62	87	478	271	54	22	29
22	10	161	55	67	66	62	84	412	294	42	21	30
23	10	140		62	66	62	74	340	246	43	20	30
24	10	140		60	64	62	70	336	225	44	16	31
25	10	140		58	63	64	66	336	253	43	15	32
26	11	137		60	62	64	66	332	298	43	16	31
27	12	137		64	60	66	64	323	302	48	18	29
28	16	137		63	60	66	64	315	264	48	19	31
29	13	92		94	-------	66	73	275	216	46	16	30
30	50	70		90	-------	66	84	225	198	36	18	30
31	50	-------		87	-------	64	-------	204	-------	37	18	------

NOTE.—Water-stage recorder not operating satisfactorily Oct. 30 to Nov. 1, 3–15, Dec. 13 to Jan. 9, Jan. 11, May 21–22, and July 18–19. Oct. 30 to Nov. 1, discharge estimated by comparison with record of Columbia Southern Canal; Nov. 3–15, discharge interpolated; May 21–22 and July 18–19, discharge computed from estimated gage-height graph; ice effect Dec. 13 to Jan. 9, Jan. 11 and 15–16. Braced figures give mean discharge for periods indicated.

Monthly discharge of Tumalo Creek near Bend, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	----------	10	14.3	879
November	161	55	87.3	5,190
December	76	----------	59.1	3,630
January	----------	58	66.9	4,110
February	125	60	79.4	4,410
March	66	57	61.4	3,780
April	157	33	76.3	4,540
May	478	87	232	14,300
June	302	138	202	12,000
July	192	36	105	6,460
August	78	15	26.4	1,620
September	78	17	39.2	2,330
The year	478	10	87.4	63,200

Combined monthly discharge of Tumalo Creek and Columbia Southern Canal near Bend, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	57	45	49.5	3,040
November	161	55	87.3	5,190
December	76	----------	59.1	3,630
January	----------	58	66.9	4,110
February	125	60	79.4	4,410
March	80	57	62.0	3,810
April	206	65	116	6,900
May	533	131	280	17,200
June	392	169	258	15,400
July	272	104	172	10,600
August	125	----------	85.5	5,260
September	----------	66	73.9	4,400
The year	533	45	116	84,000

COLUMBIA SOUTHERN CANAL NEAR TUMALO, OREG.

LOCATION.—In sec. 1, T. 18 S., R. 10 E., 200 feet below highway bridge across canal on Tumalo Creek road, 1 mile below head gates, 9 miles west of Bend, and 12 miles southwest of Tumalo, Deschutes County.

RECORDS AVAILABLE.—May 15, 1906, to May 23, 1914; May 5 to July 28, 1916; October 1, 1917, to November 2, 1921; and April 1, 1923, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by W. Andrew.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Canal is earth cut 30 feet wide and 4 feet deep. Control not well defined but fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.92 feet at 9 p. m. June 25 (discharge, 98 second-feet); canal dry at times.

1906–1914; 1916–1921; 1923–1925: Maximum discharge recorded, 165 second-feet July 2, 1921 (gage height, 2.42 feet); canal dry at times.

ICE.—None during period of record.

DIVERSIONS.—None above gage.

REGULATION.—Flow controlled by head gates.

ACCURACY.—Stage-discharge relation changed July 1. Rating curves fairly well defined. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records good except for periods discharge was estimated, for which they are fair.

COOPERATION.—Record furnished by the State engineer of Oregon.

Columbia Southern Canal diverts water from Tumalo Creek in SE. ¼ sec. 2, T. 18 S., R. 10 E. It has been operated since 1916 primarily to supplement the Tumalo feed canal. Most of the water eventually finds its way to the Tumalo project canals.

The following discharge measurements were made:

April 11, 1925: Gage height, 1.38 feet; discharge, 54 second-feet.

June 2, 1925: Gage height, 1.32 feet; discharge, 38 second-feet.

July 20, 1925: Gage height, 1.29 feet; discharge, 40 second-feet.

Daily discharge, in second-feet, of Columbia Southern Canal near Tumalo, Oreg., for the year ending September 30, 1925

Day	Oct.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35		33	44	38	83	67	
2	36		32	44	38	80	47	
3	36		32	42	34	79	44	
4	35		32	46	32	79	41	
5	34		32	48	31	77	52	60
6	34		32	50	31	79	64	
7	34		32	50	32	72	64	
8	35		32	48	35	70	64	
9	36		34	48	37	71	64	
10	36		36	48	35	74	63	
11	38		42	48	33	75	61	
12	38		42	48	37	68	61	
13	38		44	50	40	65	60	
14	40		45	53	37	62	61	
15	42		48	56	36	59	58	
16	42		49	54	38	61	57	
17	42		48	48	50	63		
18	43		47	49	64	56		
19	43		45	50	72	51		20
20	43		43	58	81	43		41
21	42		42	55	86	52	60	40
22	40		41	50	86	62		38
23	38		40	48	82	63		38
24	36		40	46	82	65		38
25	35		40	45	92	63		38
26	35		40	45	90	64	62	38
27	35		39	44	90	65		37
28	35		40	44	83	65		37
29	35		42	42	79	66	60	38
30			44	38	75	70		38
31		16		38		70		

NOTE.—Water-stage recorder not operating Oct. 27-29 and Aug. 17-25, recorder graph lost Aug. 26 to Sept. 20; discharge estimated by comparison with records for Tumalo Creek near Bend. Braced figures give mean discharge for periods indicated. No flow for periods for which no discharge is given.

Monthly discharge of Columbia Southern Canal near Tumalo, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	43	0	35.2	2,160
March	16	0	.5	31
April	49	32	39.6	2,360
May	58	38	47.7	2,930
June	92	31	55.9	3,330
July	83	43	66.8	4,110
August	67	52	59.0	3,630
September		0	34.7	2,060
The year	92	0	28.5	20,600

NOTE.—Canal dry during months for which no record is given.

TUMALO FEED CANAL NEAR BEND, OREG.

LOCATION.—In SE. ¼ sec. 23, T. 17 S., R. 11 E., in concrete-lined section, 300 feet below diversion dam, half a mile below bridge across Tumalo Creek on old road from Bend to Sisters, and 4 miles from Bend, Deschutes County.

RECORDS AVAILABLE.—May 21, 1914, when water was first diverted, to September 30, 1919; October 1–31, 1920; April 1 to September 30, 1921; May 19 to October 16, 1922; and April 1, 1923, to September 30, 1925.

GAGE.—Painted on sloping concrete lining; gage reader, W. Andrew.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage.

CHANNEL AND CONTROL.—Trapezoidal concrete section. Control is sand trap just above intake to a steel flume.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.3 feet on several occasions in June (discharge, 148 second-feet); canal dry at various times.

1914–1925: Maximum stage recorded, 3.80 feet May 4–6, 1916 (discharge, 219 second-feet); canal dry at various times.

ICE.—Water has to be turned out in extremely cold weather.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve fairly well defined. Gage read to half-tenths twice a day when water was in canal. Daily discharge ascertained by applying mean daily gage height to rating table except as stated in footnote to daily-discharge table. Records good except July to September, for which they are fair.

COOPERATION.—Record furnished by the State engineer of Oregon.

The following discharge measurements were made:

June 2, 1925: Gage height, 3.27 feet; discharge, 146 second-feet.

July 20, 1925: Gage height, 2.32 feet; discharge, 60 second-feet.

Daily discharge, in second-feet, of Tumalo feed canal near Bend, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	46	59	------	------	59	------	100	134	------	36	15
2	9	------	56	------	------	59	------	91	148	------	42	15
3	8	16	56	------	------	59	------	91	141	------	42	15
4	10	70	59	------	------	59	------	91	122	------	42	15
5	8	59	59	------	17	25	------	91	110	19	36	15
6	8	59	59	------	34	------	------	96	110	110	30	15
7	8	53	59	------	34	------	------	122	122	105	32	15
8	8	53	39	------	17	------	------	122	134	110	30	15
9	8	53	------	------	------	------	------	122	134	100	28	15
10	8	53	------	------	------	------	26	122	128	96	28	36
11	8	53	------	------	------	------	38	122	134	96	26	66
12	8	18	------	------	------	40	38	122	134	91	26	66
13	8	------	34	------	------	59	38	122	134	82	26	66
14	8	28	}	------	------	59	38	122	122	86	22	66
15	8	42	} 59	------	------	59	74	122	128	74	22	66
16	8	42	}	------	------	59	74	122	141	82	22	66
17	8	42	------	------	------	59	74	110	148	62	22	66
18	8	42	------	------	------	59	74	122	148	62	18	66
19	8	47	------	------	------	25	74	110	148	59	20	66
20	8	59	------	------	------	------	59	100	148	53	18	26
21	8	59	------	------	------	------	59	91	148	53	18	11
22	8	82	------	------	29	------	47	91	148	44	18	------
23	8	74	------	------	47	------	12	91	141	38	16	------
24	8	62	------	34	47	------	------	91	134	38	18	------
25	8	59	------	59	47	------	10	91	148	38	18	9
26	8	59	------	59	47	------	47	91	148	38	16	26
27	8	59	------	59	47	------	47	91	148	50	17	26
28	8	59	------	59	59	------	47	91	148	50	17	26
29	8	59	------	39	------	------	50	91	148	38	16	26
30	8	59	------	------	------	------	82	110	136	36	15	26
31	30	------	------	------	------	------	------	120	------	32	15	------

NOTE.—No gage-height record Dec. 14–16; discharge estimated. No flow on days for which no discharge is given.

Monthly discharge of Tumalo feed canal near Bend, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	10	8	8.9	547
November	82	0	48.9	2,910
December	59	0	21.2	1,300
January	59	0	10.0	615
February	59	0	15.2	844
March	59	0	21.9	1,350
April	82	0	33.6	2,000
May	122	91	106	6,520
June	148	110	137	8,150
July	110	0	56.2	3,460
August	42	15	24.3	1,490
September	66	0	31.4	1,870
The year	148	0	42.9	31,000

SQUAW CREEK NEAR SISTERS, OREG.

LOCATION.—In NW. ¼ sec. 32, T. 15 S., R. 10 E., immediately above intake of McCallister ditch and 5 miles by road above Sisters, Deschutes County.

DRAINAGE AREA.—63 square miles.

RECORDS AVAILABLE.—Irrigation seasons, 1913, 1914, and 1916 to 1925. From July 1, 1906, to May 23, 1913, in sec. 29, at station below intake of McCallister ditch and about 700 feet downstream.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by water master.

DISCHARGE MEASUREMENTS.—Made from a cable about 100 yards above gage or by wading near gage.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during period April 23 to September 30, from water-stage recorder, 3.22 feet at 6 a. m. June 22 (discharge, 384 second-feet); minimum stage, 2.04 feet at 5 a. m. September 30 (discharge, 56 second-feet).

1906–1925: Maximum stage recorded, 7.5 feet at old station, November 22, 1909 (discharge, estimated from extension of rating curve, 1,940 second-feet); minimum discharge recorded, 19 second-feet December 6, 1922.

DIVERSIONS.—Pole Creek, a tributary of Squaw Creek from the west, has been diverted for irrigation. The diversion canal has been eroded until it carries the entire flow of this creek. Low-water flow entirely diverted below the station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records good except July and September, for which they are fair.

COOPERATION.—Record furnished by the State engineer of Oregon.

Discharge measurements of Squaw Creek near Sisters, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 23	2.28	103	July 9	2.80	226	July 31	2.60	174
June 3	2.55	160	July 25	2.55	171	Sept. 11	2.30	90

Daily discharge, in second-feet, of Squaw Creek near Sisters, Oreg., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	116	186	245	194	104	16	------	226	196	213	122	80
2	------	128	186	235	202	104	17	------	238	196	218	126	80
3	------	128	163	226	178	110	18	------	245	221	223	126	75
4	------	139	153	221	158	112	19	------	257	257	218	133	69
5	------	166	144	221	160	102	20	------	332	264	207	133	67
6	------	186	144	226	166	98	21	------	341	320	194	135	67
7	------	181	146	226	166	104	22	------	271	375	189	124	67
8	------	158	156	204	160	100	23	102	242	354	183	106	82
9	------	148	168	218	148	102	24	96	242	341	173	92	78
10	------	148	160	242	141	102	25	92	245	338	163	92	80
11	------	148	153	257	141	106	26	94	245	336	196	102	78
12	------	148	173	245	141	102	27	98	245	312	196	110	67
13	------	158	194	232	144	102	28	98	248	292	199	100	67
14	------	194	186	223	137	102	29	104	235	274	199	96	61
15	------	199	176	213	120	96	30	114	202	257	181	100	58
							31	------	186	------	178	104	------

NOTE.—No record Oct. 1 to Apr. 22. Water-stage recorder not operating satisfactorily because of poor connection between well and river July 10, 12-14, and 26-30; daily discharge computed from an estimated gage-height graph.

Monthly discharge of Squaw Creek near Sisters, Oreg., for the period April 23 to September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April 23-30	114	92	100	1,590
May	341	116	205	12,600
June	375	144	227	13,500
July	257	163	212	13,000
August	202	92	134	8,240
September	106	58	87.9	5,230
The period				54,200

CROOKED RIVER NEAR CULVER, OREG.

LOCATION.—In NW. ¼ sec. 11, T. 12 S., R. 12 E., one-eighth mile below Cove power plant and 6 miles west of Culver, Jefferson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1917, to September 30, 1925.

GAGE.—Inclined staff on right bank 100 feet below power house; read by A. K. McAlpine.

DISCHARGE MEASUREMENTS.—Made from cable half a mile below gage.

CHANNEL AND CONTROL.—Rocky banks. Bed and control of boulders; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.6 feet at 8 a. m. February 6 (discharge, 7,320 second-feet); minimum stage, 0.38 foot October 1–7 (discharge, 1,110 second-feet).

1917–1925: Maximum discharge recorded, that of 1925; minimum discharge, 970 second-feet July 12 to September 5, 1921.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Practically all the summer flow of Crooked River above Prineville is diverted for irrigation. Low-water flow at this station is derived from springs a few miles above.

REGULATION.—Slight regulation by power plant above gage and storage reservoir on Ochoco project.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage usually read once a day to hundredths, read twice a day to tenths at high water. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good.

Discharge measurements of Crooked River near Culver, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 6	0.46	1,160	Apr. 10	2.90	2,630
Feb. 5	5.00	6,040	July 23	.62	1,160

Daily discharge, in second-feet, of Crooked River near Culver, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,110	1,150	1,180	1,180	4,720	1,450	1,830	1,690	1,300	1,180	1,180	1,180
2	1,110	1,180	1,180	1,690	2,370	1,450	1,760	1,630	1,260	1,180	1,180	1,180
3	1,110	1,180	1,180	1,570	2,630	1,450	1,830	1,630	1,260	1,180	1,180	1,180
4	1,110	1,180	1,180	1,350	3,880	1,690	1,760	1,570	1,260	1,180	1,180	1,180
5	1,110	1,180	1,180	1,300	5,640	1,760	1,760	1,510	1,260	1,180	1,180	1,180
6	1,110	1,180	1,180	1,280	6,660	2,540	2,210	1,510	1,260	1,180	1,180	1,180
7	1,110	1,180	1,180	1,220	4,200	2,130	2,130	1,400	1,260	1,180	1,180	1,180
8	1,120	1,180	1,180	1,200	2,810	1,830	2,130	1,400	1,260	1,180	1,180	1,180
9	1,120	1,180	1,180	1,200	2,290	1,760	2,450	1,400	1,260	1,180	1,180	1,180
10	1,120	1,180	1,180	1,200	1,900	1,630	2,540	1,400	1,260	1,180	1,180	1,180
11	1,120	1,180	1,160	1,180	1,760	1,470	2,720	1,350	1,240	1,180	1,180	1,180
12	1,120	1,180	1,160	1,180	1,630	1,510	2,720	1,350	1,240	1,180	1,180	1,180
13	1,120	1,180	1,160	1,160	1,570	1,450	2,630	1,300	1,240	1,180	1,180	1,200
14	1,120	1,180	1,160	1,160	1,570	1,450	2,540	1,300	1,240	1,180	1,180	1,200
15	1,120	1,180	1,160	1,160	1,570	1,400	2,450	1,300	1,240	1,180	1,180	1,200
16	1,120	1,160	1,160	1,160	1,570	1,450	2,540	1,300	1,240	1,180	1,180	1,220
17	1,120	1,150	1,160	1,160	1,570	1,510	2,810	1,300	1,220	1,180	1,180	1,220
18	1,120	1,150	1,160	1,160	1,510	1,630	2,540	1,300	1,200	1,180	1,180	1,220
19	1,120	1,150	1,160	1,160	1,510	1,760	2,630	1,400	1,200	1,180	1,180	1,220
20	1,120	1,150	1,160	1,300	1,510	1,900	2,810	1,690	1,200	1,180	1,180	1,220
21	1,120	1,150	1,160	1,350	1,510	2,370	2,900	2,050	1,200	1,180	1,180	1,220
22	1,120	1,510	1,160	1,400	1,630	3,020	2,810	1,970	1,200	1,180	1,180	1,220
23	1,120	1,450	1,160	1,830	1,570	2,810	2,900	1,900	1,200	1,180	1,180	1,220
24	1,120	1,350	1,160	1,830	1,570	2,630	2,540	1,690	1,180	1,180	1,180	1,220
25	1,120	1,300	1,160	1,690	1,510	2,540	2,130	1,510	1,180	1,180	1,180	1,220
26	1,120	1,260	1,160	1,510	1,510	2,370	2,050	1,510	1,180	1,180	1,180	1,220
27	1,120	1,220	1,160	1,400	1,510	2,210	1,970	1,400	1,180	1,180	1,180	1,220
28	1,120	1,220	1,160	2,050	1,510	2,130	2,050	1,400	1,180	1,180	1,180	1,220
29	1,150	1,200	1,180	2,630	-------	1,970	1,830	1,300	1,180	1,180	1,180	1,220
30	1,150	1,180	1,180	3,420	-------	1,970	1,690	1,300	1,180	1,180	1,180	1,220
31	1,150	-------	1,180	5,640	-------	1,830	-------	1,300	-------	1,180	1,180	------

Monthly discharge of Crooked River near Culver, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,150	1,110	1,120	68,900
November	1,510	1,150	1,210	72,000
December	1,180	1,160	1,170	71,900
January	5,640	1,160	1,600	98,400
February	6,660	1,510	2,330	129,000
March	3,020	1,400	1,910	117,000
April	2,900	1,690	2,320	138,000
May	2,050	1,300	1,490	91,600
June	1,300	1,180	1,230	73,200
July	1,180	1,180	1,180	72,600
August	1,180	1,180	1,180	72,600
September	1,220	1,180	1,200	71,400
The year	6,660	1,110	1,490	1,080,000

OCHOCO CREEK ABOVE MILL CREEK, NEAR PRINEVILLE, OREG.

LOCATION.—In SW. ¼ sec. 36, T. 14 S., R. 17 E., on Dobb ranch, 1½ miles above mouth of Mill Creek and 12 miles east of Prineville, Crook County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—December 8, 1917, to September 30, 1922; February 18, 1924, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder on right bank; inspected by S. B. Ellis.

DISCHARGE MEASUREMENTS.—Made from cable 75 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel; may shift slightly. Control is a riffle 100 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.91 feet at 11 p. m. February 4 (discharge, 600 second-feet); stream dry at times.

1917–1920; 1924–25: Maximum discharge recorded, 600 second-feet April 4, 1919, and February 4, 1925. Stream dry at times.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Many small private ditches divert water for a distance of about 30 miles above station.

REGULATION.—None above station; reservoir of Ochoco Irrigation District controls entire flow of creek immediately below station.

ACCURACY.—Stage-discharge relation permanent; affected by ice December 30 to January 1. Rating curve well defined below 300 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height obtained from recorder graph by inspection, except May 30, June 2, 5, 7, July 4, 12, when daily staff gage readings were used. Records good except for periods discharge was estimated, for which they are fair.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Ochoco Creek above Mill Creek, near Prineville, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 8	0.70	12	Apr. 4	1.95	97
Mar. 31	1.70	80	June 9	1.15	40

Daily discharge, in second-feet, of Ochoco Creek above Mill Creek, near Prineville, Oreg., for the year ending September 30, 1925

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1			22	118	73	87	100	56	
2			20	136	81	82	96	50	
3			19	290	89	78	88	48	
4			18	530	103	96	79	48	
5			18	497	141	109	72	46	
6			17	325	122	122	68	42	2
7		10	16	218	108	105	70	37	
8			16	180	100	125	84	34	
9			14	146	92	125	73	32	
10			14	128	73	122	65	29	
11			14	115	68	126	60	27	
12				104	73	126	53	24	2
13				95	65	114	55	22	
14		8		87	65	103	58	22	
15		10		79	66	161	52	22	
16		9		75	66	184	56	22	
17		10		70	63	164	78	20	
18			26	69	63	159	63	18	
19				72	68	168	62	16	
20				83	81	174	100	13	
21				84	98	161	146	12	1
22				82	104	162	122	12	
23		12		82	90	164	100	12	
24				77	89	164	86	10	
25			26	74	91	161	76	10	
26				72	86	157	70		
27	12			72	85	143	65		
28				69	86	130	64	6	
29		28	100		78	115	64		
30		28			78	106	63		
31		26			79		57		

NOTE.—Water-stage recorder not operating Dec. 1-13, 18-28, Jan. 12-24, 26-31, Apr. 22, May 28 to June 8, and after June 25. Daily staff gage reading used May 30, June 2, 5, 7, July 4, and 12. Discharge Dec. 1-13, 18-28, Jan. 12-24, and 26-31 estimated from records of Mill and McKay Creeks and accumulation of storage in Ochoco Reservoir. Discharge for other periods interpolated. Braced figures give mean discharge for periods indicated. Creek dry Oct. 1 to Nov. 23 and Aug. 1 to Sept. 30.

Monthly discharge of Ochoco Creek above Mill Creek, near Prineville, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November		0	2.8	167
December	28	8	12.3	756
January		14	37.2	2,290
February	530	69	144	8,000
March	141	63	84.6	5,200
April	184	78	133	7,910
May	146		75.6	4,650
June			23.8	1,420
July	2		1.4	86
The year	530	0	42.1	30,500

NOTE.—No flow during months for which no record is given.

MILL CREEK NEAR PRINEVILLE, OREG.

LOCATION.—In SE. ¼ sec. 22, T. 14 S., R. 17 E., on Dill ranch 1 mile above mouth and 10 miles east of Prineville, Crook County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 14 to September 5, 1916; December 8, 1917, to July 4, 1918; December 21, 1919, to September 30, 1922; April 1, 1924, to September 30, 1925.

GAGE.—Stevens 8-day recorder on left bank; inspected by S. B. Ellis.

DISCHARGE MEASUREMENTS.—Made by wading or from footlog at gage.

CHANNEL AND CONTROL.—Bed and control composed of gravel; subject to shift at high stages.

EXTREMES OF DISCHARGE.—Maximum stage, 4.2 feet reported to S. B. Ellis, water master, probably occurred at 11 p. m. February 4 (discharge, 314 second-feet); stream practically dry at times.

1916; 1918; 1920–1922; 1924–25: Maximum discharge recorded, that of 1925; stream practically dry every summer.

DIVERSIONS.—Many small ditches above station. Two diverted some water around gage during year; probably not over a few hundred acre-feet.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined below 100 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except for discharges over 100 second-feet and estimated discharges, for which they are fair.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of Mill Creek near Prineville, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 8	0.64	7.0	Apr. 14	1.79	85
Mar. 31	1.16	39	June 9	.80	17.5

Daily discharge, in second-feet, of Mill Creek near Prineville, Oreg., for the year ending September 30, 1925

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1			7	80	33	40	72	38
2			7	89	34	39	71	38
3			7	194	36	38	66	32
4			10	274	38	44	61	29
5			9	249	44	51	59	28
6			8	166	45	53	56	26
7		4	8	130	43	57	56	24
8			7	103	41	62	55	21
9			6	81	40	72	52	15
10			6	70	35	86	45	11
11			6	64	30	100	42	8
12			6	57	30	98	38	8
13			6	52	29	94	40	6
14		4	6	50	27	91	38	5
15		4	6	48	26	121	33	4
16		4	5	45	25	130	37	3
17		3	5	43	24	126	49	
18		3	4	41	24	116	43	
19		3		40	25	121	43	
20		3		45	26	121	72	
21		3	16	46	30	112	121	
22				46	34	105	112	
23				46	35	98	99	
24				43	35	91	87	1
25		4	28	41	35	95	77	
26			33	39	37	88	68	
27	5		42	37	39	84	59	
28			40	34	41	80	57	
29		5	76	------	40	76	54	
30		5	99	------	40	74	47	
31	------	5	89	------	39	------	42	------

NOTE.—Water-stage recorder not operating Dec. 1–13, 22–28, 30, 31, Jan. 1–3, 18–24, Feb. 4–7, Apr. 22, and June 17–30. Discharge Dec. 1–13 estimated from additional water stored in Ochoco Reservoir; Feb. 4–7 estimated from gage-height graph drawn by comparison with those of Ochoco and McKay Creeks; discharge for other periods interpolated. No flow on days for which no discharge is given.

Monthly discharge of Mill Creek near Prineville, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
November	----------	0	1.2	70
December	5	3	3.9	240
January	99	4	20.1	1,240
February	274	34	80.5	4,470
March	45	24	34.2	2,100
April	130	38	85.4	5,080
May	121	33	59.7	3,670
June	38	----------	10.3	613
The year	274	0	24.2	17,500

NOTE.—No flow during months for which no record is given.

McKAY CREEK NEAR PRINEVILLE, OREG.

LOCATION.—In SE. ¼ sec. 28, T. 13 S., R. 16 E., one-fourth mile below Allen Creek and 9 miles north of Prineville, Crook County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 25, 1915, to June 21, 1916; January 17 to June 30, 1918; March 8 to May 30, 1919; January to June, 1920, fragmentary; and October 1, 1924, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder on left bank; inspected by S. B. Ellis. Present gage is 3 miles above station used prior to July, 1916, and 1½ miles above station used 1918 to 1920.

DISCHARGE MEASUREMENTS.—Made by wading above gage.

CHANNEL AND CONTROL.—Bed composed of sand and gravel; fairly permanent; not affected by small irrigation dam below gage. Banks are overflowed between 4 and 5 feet.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.27 feet at 10 p. m. February 4 (discharge, 429 second-feet); stream dry at times.

1915, 1916, 1918, 1919, 1925: Maximum discharge, that of February 4, 1925; stream dry at times.

ICE.—Stage-discharge relation not affected by ice during period of record.

DIVERSIONS.—A few small ditches divert water above gage for irrigation; one a short distance below.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 150 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records fair for discharge over 150 second-feet; otherwise good.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of McKay Creek near Prineville, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 9	0.60	6.7	Mar. 29	1.09	45.3	Apr. 15	1.31	59.6
Mar. 25	1.11	45.3	Apr. 4	1.17	45.8	May 23	1.75	120

Daily discharge, in second-feet, of McKay Creek near Prineville, Oreg., for the year ending September 30, 1925

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1			92	41	46	44	35	
2			100	42	46	39	34	
3			206	43	45	35	40	
4		4	369	47	47	30	36	
5			288	57	50	25	31	
6			203	54	48	24	27	
7		7	152	48	48	25	23	
8		6	116	46	46	27	19	
9		6	87	42	49	23	18	
10		6	72	36	52	20	16	
11		6	69	31	53	16	14	
12		6	68	32	53	17	13	
13		6	65	30	51	33	16	
14		6	61	30	47	41	14	
15		5	58	29	59	33	12	
16	4	5	55	29	72	38	13	1
17		6	53	29	77	60	26	
18			47	27	73	53	23	
19			47	30	76	46	7	
20			52	35	79	136	3	
21		30	55	42	77	310	3	
22			54	46	79	178	3	
23			53	44	77	121	3	
24		53	49	43	74	97	2	
25		44	47	43	71	83	2	
26		47	44	41	66	70	2	
27		67	43	42	61	61	2	
28		58	40	43	54	54	2	
29		89	-------	41	49	49	2	
30		124	-------	41	46	44	2	
31		104	-------	41	-------	39	-------	

NOTE.—Water-stage recorder not operating Jan. 1–6, 18–23, 31, Feb. 3–8, Mar. 1, Apr. 26, May 18, June 14 and 23–30. Discharge Jan. 1–6 estimated; Jan. 31 and Feb. 6–8 estimated from a gage-height graph drawn by a comparison with those of Mill and Ochoco Creeks; for other days and periods, discharge interpolated. Braced figures give mean discharge for periods indicated.

Monthly discharge of McKay Creek near Prineville, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December			[a] 4	246
January	124	-------	27.6	1,700
February	369	40	94.5	5,250
March	57	27	39.5	2,430
April	79	45	59.0	3,510
May	310	16	60.4	3,710
June	40	2	14.8	881
July	-------	-------	[a] 1	62
The year	369	0	24.6	17,800

[a] Estimated.

NOTE.—No flow during months for which no record is given.

METOLIUS RIVER NEAR GRANDVIEW, OREG.

LOCATION.—In NE. ¼ sec. 19, T. 11 S., R. 11 E., at Montgomery ranch, 10 miles northwest of Grandview post office, Jefferson County, and 11 miles above mouth.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1921, to September 30, 1925.

GAGE.—Vertical staff on right bank; read by E. A. Montgomery.

DISCHARGE MEASUREMENTS.—Made from cable one-fourth mile above gage.

CHANNEL AND CONTROL.—Bed composed of smooth boulders. Current swift. Channel straight. River confined to its banks at all stages.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 1.62 feet February 5 (discharge, 2,930 second-feet); minimum discharge, 1,300 second-feet October 1–30 and December 18–25.

1922–1925: Maximum stage recorded, 3.32 feet January 7, 1923 (discharge from approximate extension of rating curve, 5,780 second-feet); minimum stage, that of October 1–30 and December 18–25, 1924.

ICE.—Ice never forms on river.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 2,000 second-feet; extended above. Gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records below 2,000 second-feet good; others fair.

The following discharge measurements were made:

October 7, 1924: Gage height, 0.30 foot; discharge, 1,340 second-feet.

April 24, 1925: Gage height, 0.66 foot; discharge, 1,740 second-feet.

July 23, 1925: Gage height, 0.57 foot; discharge, 1,570 second-feet.

Daily discharge, in second-feet, of Metolius River near Grandview, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,300	1,500	1,400	1,610	2,200	1,720	1,560	1,610	1,720	1,660	1,560	1,450
2	1,300	1,720	1,450	1,560	2,340	1,720	1,560	1,610	1,720	1,660	1,560	1,450
3	1,300	1,450	1,450	1,560	2,480	1,720	1,560	1,610	1,720	1,610	1,560	1,450
4	1,300	1,400	1,450	1,560	2,630	1,720	1,560	1,660	1,720	1,610	1,500	1,450
5	1,300	1,400	1,400	1,560	2,930	1,660	1,560	1,660	1,720	1,610	1,500	1,450
6	1,300	1,400	1,400	1,560	2,780	1,660	1,560	1,660	1,660	1,610	1,500	1,450
7	1,300	1,350	1,400	1,560	2,630	1,660	1,560	1,660	1,660	1,610	1,500	1,450
8	1,300	1,350	1,400	1,560	2,480	1,660	1,560	1,660	1,660	1,610	1,500	1,450
9	1,300	1,350	1,400	1,560	2,200	1,610	1,560	1,660	1,660	1,610	1,500	1,450
10	1,300	1,350	1,400	1,500	2,200	1,610	1,560	1,660	1,660	1,610	1,500	1,450
11	1,300	1,350	1,400	1,500	2,070	1,610	1,560	1,660	1,660	1,610	1,500	1,450
12	1,300	1,350	1,400	1,500	2,070	1,610	1,560	1,660	1,660	1,610	1,500	1,450
13	1,300	1,350	1,400	1,500	1,950	1,610	1,560	1,660	1,660	1,610	1,500	1,450
14	1,300	1,350	1,400	1,450	1,950	1,610	1,560	1,660	1,660	1,610	1,500	1,450
15	1,300	1,350	1,400	1,450	1,830	1,610	1,720	1,660	1,660	1,610	1,500	1,450
16	1,300	1,350	1,400	1,450	1,830	1,610	1,950	1,720	1,660	1,610	1,500	1,450
17	1,300	1,350	1,400	1,450	1,780	1,610	1,830	1,830	1,660	1,610	1,500	1,450
18	1,300	1,350	1,300	1,450	1,780	1,610	1,830	1,950	1,720	1,610	1,500	1,450
19	1,300	1,350	1,300	1,500	1,720	1,610	1,830	1,830	1,720	1,610	1,500	1,450
20	1,300	1,780	1,300	1,500	1,720	1,610	1,780	1,950	1,720	1,610	1,500	1,450
21	1,300	2,480	1,300	1,500	1,830	1,610	1,780	2,340	1,720	1,610	1,500	1,450
22	1,300	2,200	1,300	1,500	1,780	1,610	1,780	1,950	1,720	1,610	1,500	1,450
23	1,300	1,950	1,300	1,500	1,780	1,610	1,720	1,950	1,720	1,610	1,500	1,450
24	1,300	1,780	1,300	1,610	1,780	1,610	1,660	1,830	1,720	1,560	1,500	1,450
25	1,300	1,500	1,300	1,560	1,720	1,610	1,660	1,830	1,720	1,560	1,500	1,450
26	1,300	1,500	1,350	1,610	1,720	1,610	1,610	1,830	1,720	1,560	1,500	1,450
27	1,300	1,450	1,350	1,660	1,720	1,560	1,610	1,830	1,720	1,560	1,450	1,400
28	1,300	1,400	1,450	1,720	1,720	1,560	1,610	1,830	1,720	1,560	1,450	1,400
29	1,300	1,400	1,500	1,950	-------	1,560	1,610	1,830	1,720	1,560	1,450	1,400
30	1,300	1,400	1,720	2,200	-------	1,560	1,610	1,830	1,720	1,560	1,450	1,400
31	1,400	-------	1,610	2,070	-------	1,560	-------	1,720	-------	1,560	1,450	-------

Monthly discharge of Metolius River near Grandview, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,400	1,300	1,300	79,900
November	2,480	1,350	1,510	89,800
December	1,720	1,300	1,400	86,100
January	2,200	1,450	1,590	97,800
February	2,930	1,720	2,060	114,000
March	1,720	1,560	1,620	99,600
April	1,950	1,560	1,650	98,200
May	2,340	1,610	1,770	109,000
June	1,720	1,660	1,700	101,000
July	1,660	1,560	1,600	98,400
August	1,560	1,450	1,500	92,200
September	1,450	1,400	1,440	85,700
The year	2,930	1,300	1,590	1,150,000

LAKE CREEK NEAR SISTERS, OREG.

LOCATION.—In SE. ¼ sec. 24, T. 13 S., R. 8 E., one-fourth mile below outlet of Suttle Lake, 6 miles from mouth of creek, and 15 miles northwest of Sisters, Jefferson County.

DRAINAGE AREA.—20.5 square miles.

RECORDS AVAILABLE.—April 7, 1915, to September 30, 1925, with a few gaps; occasional readings during summers of 1911 to 1913.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by Joe Hansen.

CHANNEL AND CONTROL.—Bed composed of heavy gravel and boulders; practically permanent.

EXTREMES OF DISCHARGE.—Maximum discharge during year, from water-stage recorder, 138 second-feet February 7–14; minimum stage, 0.47 foot at 8 p. m. October 13 (discharge, 28 second-feet).

1911–1913; 1915–1925: Maximum stage recorded, 2.58 feet January 10, 1923 (discharge, 302 second-feet); minimum stage recorded, 0.31 foot October 18, 1916 (discharge, 20 second-feet).

ICE.—Stage-discharge relation apparently unaffected by ice.

DIVERSION.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 100 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records good except for periods recorder was not operating and for discharges above 100 second-feet, for which they are fair.

COOPERATION.—Record furnished by the State engineer of Oregon.

Discharge measurements of Lake Creek near Sisters, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 20	0.92	59	July 7	0.66	42	Aug. 5	0.57	36
Apr. 23	1.24	106	July 24	.60	37	Sept. 10	.54	32

Daily discharge, in second-feet, of Lake Creek near Sisters, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		46	59	69	97	69	59	74	85	46	35	32
2	30	49	59	74	104	69	59	74	85	46	35	31
3		47	58	79	110	69	59	74	79	44	35	31
4		45	57	79	117	68	59	74	74	43	34	31
5	32	46	57	79	110	67	59	79	74	42	34	31
6	32	46	56	79	131	66	59	79	74	40	34	31
7	32	44	54	79	138	65	59	85	69	40	34	31
8	32	44	54	79	138	64	59	85	67	40	34	32
9	32	43	53	79	138	64	60	91	64	39	33	32
10	31	44	51	79	138	64	60	91	64	39	33	32
11	30	42	49	79	138	64	63	91	61	38	32	32
12	29	42	48	79	138	64	65	91	60	38	31	32
13	29	42	47	74	138	63	69	91	59	37	31	32
14	29	41	47	69	138	63	74	91	57	38	31	32
15	29	40	46	69	131	60	85	91	56	39	31	32
16	29	40	46	67	131	59	91	91	55	39	31	32
17	29	40	46	64	131	60	97	97	54	39	31	32
18	29	40	46	61	131	60	104	97	54	39	31	32
19	29	40	45	61	131	61	110	97	53	40	31	32
20	29	43		61	131	62	110	104	53	39	30	32
21	29	47		61	131	64	110	104	53	38	31	32
22	29	51		61	131	64	104	104	53	37	32	32
23	29	53		63	124	64	97	110	53	37	33	32
24	29	58	40	64	85	64	91	110	52	36	33	32
25	29	64		66	79	64	85	110	50	35	32	32
26	29	66		69	74	64	85	104	46	34	32	32
27	30	65		74	74	64	85	104	46	34	32	32
28	34	64		74	69	61	79	97	46	34	32	32
29	34	63		85	-------	59	79	91	46	34	32	32
30	36	60	57	85	-------	59	74	91	46	34	32	32
31	42	-------	53	97	-------	59	-------	85	-------	34	32	-------

NOTE.—Water-stage recorder not operating Oct. 1–4 and Dec. 20–29; discharge estimated. Braced figures give mean discharge for periods indicated.

Monthly discharge of Lake Creek near Sisters, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	42	29	30.7	1,890
November	66	40	48.5	2,890
December	59	----------	48.0	2,950
January	97	61	72.8	4,480
February	138	69	119	6,610
March	69	59	63.4	3,900
April	110	59	78.3	4,660
May	110	74	92.2	5,670
June	85	46	59.6	3,550
July	46	34	38.4	2,360
August	35	30	32.4	1,990
September	32	31	31.8	1,890
The year	138	29	59.1	42,800

FIRST CREEK NEAR SISTERS, OREG.

LOCATION.—In SW. ¼ sec. 12, T. 13 S., R. 8 E., Jefferson County, just above a trail crossing, 1½ miles from road leading to Suttle Lake, and 15 miles northwest of Sisters.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 7, 1915, to March 31, 1917; March 1 to July 31, 1924, and February 14 to Spetember 30, 1925.

GAGE.—Stevens continuous water-stage recorder on left bank at same location as old vertical staff used prior to 1924.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed of heavy gravel and angular boulders; fairly permanent. Control is a round-crested weir about 15 feet long with considerable velocity of approach.

EXTREMES OF DISCHARGE.—Maximum stage during period February 14 to September 30, from water-stage recorder, 1.98 feet at 2 a. m. May 21 (discharge, 116 second-feet); minimum discharge, 1.7 second-feet, August 17–19.

1915–1917; 1924–25: Maximum discharge recorded, that of May 21, 1925; minimum discharge estimated at 0.1 second-foot March 2–23, 1917 (stage-discharge relation affected by ice).

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 35 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspecting recorder graph. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

Discharge measurements of First Creek near Sisters, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 24	1.20	30	July 7	0.87	8.1
June 3	1.21	31	July 24	.67	4.4

Daily discharge, in second-feet, of First Creek near Sisters, Oreg., for the year ending September 30, 1925

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		14	14	28	34	12	3.8	
2		14	13	30	34	11	3.8	
3		14	13	30	30	10	3.8	
4		14	13	30	28	10	3.6	
5		14	13	34	24	10	3.4	2.2
6		14	12	39	24	10	3.0	
7		14	12	44	22	9.0	3.0	
8		14	13	39	23	8.6	2.8	
9		12	14	34	24	8.0	2.7	
10		12	16	34	23	6.6	2.5	2.2
11		12	21	34	21	5.9	2.3	2.2
12		12	28	34	19	5.5	2.2	2.0
13		12	30	39	20	5.5	2.0	2.0
14	39	12	44	54	18	5.1	2.0	2.0
15	34	10	54	54	16	5.1	1.9	2.0
16	30	10	60	60	16		1.8	
17	29	10	54	60	16		1.7	
18	27	10	54	60	17		1.7	
19	26	10	49	66	18		1.7	
20	26	12	44	82	18	4.4	1.9	
21	25	12	39	100	22		2.1	
22		12	34	76	23		2.3	
23	20	12	34	71	19		2.5	2.0
24		12	30	66	16	4.0	2.7	
25		12	27	60	16	4.0	2.6	
26	14	12	28	60	17	3.9	2.5	
27	14	12	26	54	18	3.8	2.5	
28	14	13	26	49	17	3.8	2.5	
29		14	26	44	14	3.8		
30		14	27	39	14	3.8	2.5	
31		14		34		3.8		

NOTE.—Braced figures show estimated mean discharge for periods indicated. No record Oct. 1 to Feb. 13.

Monthly discharge of First Creek near Sisters, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February 14-28	39	14	23.9	711
March	14	10	12.4	762
April	60	12	28.9	1,720
May	100	28	49.6	3,050
June	34	14	20.7	1,230
July	12	3.8	6.08	374
August	3.8	1.7	2.54	156
September			2.07	123
The period				8,140

SHITIKE CREEK AT WARMSPRING, OREG.

LOCATION.—In NW. ¼ sec. 26, T. 9 S., R. 12 E., at Warmspring, Jefferson County, 2 miles above mouth of creek and below all tributaries.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 10, 1911, to October 31, 1916; April 1, 1923, to September 30, 1925.

GAGE.—Vertical staff on left bank opposite store; read by L. E. See.

DISCHARGE MEASUREMENTS.—Made by wading near gage or from wagon bridges over three channels one-fourth mile upstream.

CHANNEL AND CONTROL.—Gravel and small boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year occurred on December 30 and was estimated by the observer a few days later from water line on gage at 1.9 feet (discharge, 530 second-feet); minimum discharge, 37 second-feet October 23–27.

1911–1916; 1923–1925: Maximum discharge recorded, 720 second-feet February 9, 1916; minimum discharge, 32 second-feet September 7 and 13–18, 1924.

ICE.—Stage-discharge relation often affected by ice for short periods.

DIVERSIONS.—Probably none above station.

REGULATION.—Practically none. There is a small power plant just above station.

ACCURACY.—Stage-discharge relation changed during high water on December 30 and May 21. Rating curve used October 1 to December 29 well defined; curves used after that date well defined between 50 and 150 second-feet. Staff gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records good for October; fair for remainder of year.

Discharge measurements of Shitike Creek at Warmspring, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 5	0.31	44.7	May 12	0.68	147
Oct. 9	28	43.8	July 24	.46	86
Apr. 8	.60	126	Dec. 1	.38	70

Daily discharge, in second-feet, of Shitike Creek at Warmspring, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	82	69	209	375	123	115	140	128	124	76	59
2	52	180	66	107	392	123	115	144	139	124	76	59
3	52	120	61	135	445	123	115	144	128	128	73	56
4	52	88	61	127	445	123	115	148	120	124	73	56
5	50	78	61	115	428	123	115	160	112	120	70	54
6	47	72	58	111	375	123	119	171	108	124	70	59
7	44	64	58	103	310	123	123	196	112	124	70	67
8	44	61	58	99	280	119	123	183	124	108	70	65
9	42	61	58	96	250	115	119	171	139	112	70	62
10	42	61	58	96	250	115	119	148	128	120	70	59
11	42	61	61	96	222	115	196	144	116	116	67	59
12	42	58	61	88	183	111	196	135	112	112	67	56
13	42	58	69	85	171	111	196	131	128	104	65	54
14	42	52	72	82	160	107	196	148	124	128	65	54
15	42	52	72	80	148	107	250	160	116	124	67	54
16	42	52	78	80	148	103	310	222	120	116	67	54
17	42	52		77	140	103	310	222	120	124	65	51
18	42	58		77	131	99	280	222	128	101	62	51
19	42	109		88	131	99	209	236	139	112	62	49
20	39	218		99	131	107	196	250	150	94	62	49
21	39	193		135	135	119	171	410	161	87	67	49
22	39	440	50	140	135	123	160	236	172	87	65	49
23	37	168		144	131	123	144	222	150	83	67	46
24	37	145		148	131	123	135	196	139	87	70	46
25	37	124		148	127	123	127	196	139	83	80	46
26	37	109		160	123	123	123	196	150	83	87	46
27	37	102		160	123	123	119	196	150	80	76	46
28	64	85		171	123	119	119	196	139	80	65	49
29	61	72	193	196	-------	119	127	196	128	83	59	51
30	58	69	530	392	-------	115	135	184	124	80	59	51
31	72	-------	375	375	-------	115	-------	161	-------	76	56	-------

NOTE.—Discharge estimated Dec. 17–28 because of ice.

Monthly discharge of Shitike Creek at Warmspring, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	72	37	45.5	2,800
November	440	52	105	6,250
December	530	----------	87.7	5,390
January	392	77	136	8,360
February	445	123	219	12,200
March	123	99	116	7,130
April	310	115	163	9,700
May	410	131	189	11,600
June	172	108	131	7,800
July	128	76	105	6,460
August	87	56	68.3	4,200
September	67	46	53.5	3,180
The year	530	37	118	85,100

WHITE RIVER BELOW TYGH VALLEY, OREG.

LOCATION.—In NW. ¼ sec. 8, T. 4 S., R. 14 E., just below Pacific Power & Light Co.'s plant at White Falls and 4½ miles below Tygh Valley, Wasco County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—November 20, 1917, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on left bank; read by M. F. Coberth.

DISCHARGE MEASUREMENTS.—Made from cable one-fourth mile below gage.

CHANNEL AND CONTROL.—Control of rock overlain with sand deposits; shifts occasionally.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.8 feet at 2 a. m. February 5 (discharge, 3,020 second-feet); minimum stage, 0.74 foot at 8.30 a. m. September 20 (discharge, 100 second-feet).

1917–1925: Maximum stage recorded, 12.9 feet at 11 a. m. January 6, 1923 (discharge, 13,300 second-feet); minimum discharge estimated from records at power plant, 10 second-feet December 11–14, 1919.

ICE.—Stage-discharge relation not seriously affected by ice.

DIVERSIONS.—Numerous small irrigation canals take out above this station.

REGULATION.—Operation of power plant above regulates flow to some extent.

ACCURACY.—Stage-discharge relation practically permanent; affected by ice December 20–30. Rating curve fairly well defined. Operation of water-stage recorder satisfactory except for a few periods; staff gage also read to hundredths once a day. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection, or, for days of considerable variation in stage, by averaging results obtained by applying mean gage height for shorter periods. Records good.

Discharge measurements of White River below Tygh Valley, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 11	0.88	129	May 4	2.82	782	July 31	1.08	166
Mar. 27	2.65	603	June 23	1.75	335	Aug. 25	.83	117
Apr. 7	2.85	698	July 11	1.30	199	Sept. 4	.92	124

Daily discharge, in second-feet, of White River below Tygh Valley, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	125	258	312	700	1,570	600	582	660	530	245	153	131
2	136	299	400	660	1,820	600	565	680	530	235	154	131
3	140	340	385	620	2,180	600	582	680	495	227	151	131
4	141	284	370	1,080	2,400	582	660	680	512	248	143	134
5	138	271	370	765	2,690	600	660	720	445	235	145	134
6	125	253	340	640	2,000	565	660	788	445	235	147	140
7	120	237	340	582	1,730	548	680	910	430	218	147	153
8	120	250	326	565	1,650	530	720	810	430	208	145	151
9	124	240	312	548	1,430	512	835	742	415	190	145	151
10	147	218	460	582	1,260	495	965	720	415	187	141	147
11	124	206	742	512	1,130	478	1,180	700	400	222	138	149
12	156	190	742	495	992	460	1,220	680	400	208	138	145
13	149	187	788	445	885	460	1,150	680	385	203	138	154
14	143	183	860	430	810	445	1,020	720	370	203	138	164
15	138	194	742	400	742	445	1,180	765	370	203	138	141
16	136	218	620	400	700	445	1,360	810	370	208	132	153
17	131	208	460	400	660	512	1,180	910	355	203	134	138
18	129	194	400	400	640	478	1,150	965	355	199	132	145
19	156	269	370	582	600	478	1,080	860	340	190	136	145
20	140	210		530	620	620	965	1,080	355	190	134	131
21	139	936		700	680	582	885	1,430	355	185	131	131
22	137	1,260		680	660	620	835	1,050	340	181	131	134
23	136	700		720	700	620	788	938	326	174	132	138
24	127	548		700	700	620	720	835	312	181	132	134
25	127	460	260	660	680	640	720	788	298	172	129	136
26	132	400		660	680	620	640	720	284	166	132	136
27	136	355		700	680	620	620	680	326	185	134	140
28	185	340		720	640	600	620	680	284	177	134	138
29	181	312		1,050	-------	582	640	680	279	177	132	138
30	185	312		1,500	-------	620	660	600	261	172	131	143
31	190	-------	720	1,500	-------	565	-------	565	-------	151	131	------

NOTE.—Oct. 21–22 and 26, Nov. 2, and Feb. 11 recorder not operating or gage read by observer (discharge interpolated). Recorder not operating and discharge computed from one daily gage reading Oct. 23–25, 27, Oct. 30 to Nov. 1, 3, Dec. 17–19, July 11–22, 27–30, and Sept. 12–19. Mean discharge for Dec. 20–30, when stage-discharge relation was affected by ice or there was no gage-height record, estimated by comparison with hydrograph for Hood River.

Monthly discharge of White River below Tygh Valley, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	190	120	142	8,730
November	1,260	183	344	20,500
December	860		417	25,600
January	1,500	400	675	41,500
February	2,690	600	1,140	63,300
March	640	445	553	34,000
April	1,360	565	851	50,600
May	1,430	565	791	48,600
June	530	261	380	22,600
July	248	151	199	12,200
August	154	129	138	8,480
September	164	131	141	8,390
The year	2,690	120	476	344,000

KLICKITAT RIVER BASIN

KLICKITAT RIVER NEAR GLENWOOD, WASH.

LOCATION.—In NE. ¼ sec. 14, T. 7 N., R. 12 E., just below Dairy Creek, 2½ miles below southern boundary of Yakima Indian Reservation, 3 miles below Big Muddy Creek, and 6 miles north of Glenwood, Klickitat County.

DRAINAGE AREA.—356 square miles.

RECORDS AVAILABLE.—December 16, 1910, to September 10, 1925, with gaps in winters of 1921 to 1924. October 29, 1909, to December 15, 1910, at a point 1 mile above.

GAGE.—Stevens water-stage recorder on left bank; read by A. G. Hanson. Datum lowered 1.0 foot October 1, 1918.

DISCHARGE MEASUREMENTS.—Made from cable just below gage.

CHANNEL AND CONTROL.—Bed composed of heavy gravel; shifts in high water.

EXTREMES OF DISCHARGE.—Maximum stage during year indicated by recorder pencil while clock was stopped sometime in period November 11 to May 24, 3.90 feet (discharge, 3,030 second-feet); minimum stage, 1.36 feet at 2 p. m. September 21 (discharge, 388 second-feet).

1909–1925: Maximum stage recorded, 5.20 feet on original gage, November 24, 1909 (discharge, estimated by extension of rating curve, 6,250 second-feet); minimum discharge, 285 second-feet November 13, 1915.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during winter. Rating curve for October and November fairly well defined; for May to September well defined. Operation of water-stage recorder satisfactory only for short periods. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good.

The following discharge measurements were made:

May 25, 1925: Gage height, 3.19 feet; discharge, 2,000 second-feet.

August 4, 1925: Gage height, 1.78 feet; discharge, 538 second-feet.

Daily discharge, in second-feet, of Klickitat River near Glenwood, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	May	June	Aug.	Sept.	Day	Oct.	Nov.	May	June	Aug.	Sept.
1	------	591	-------	1,510	------	506	16	457	------	-------	1,270	510	452
2	------	778	-------	1,510	------	506	17	------	------	-------	1,330	520	449
3	------	664	-------	1,390	------	525	18	------	------	-------	1,390	540	442
4	------	657	-------	1,270	607	502	19	------	------	-------	1,390	555	432
5	------	585	-------	1,270	583	502	20	------	------	-------	1,510	577	418
6	------	555	-------	1,270	583	492	21	------	------	-------	1,570	555	394
7	------	567	-------	1,210	589	488	22	------	------	-------	1,570	525	394
8	------	544	-------	1,270	583	577	23	------	------	-------	1,450	484	400
9	------	528	-------	1,270	589	484	24	500	------	-------	1,390	479	404
10	------	506	-------	1,270	577	484	25	528	------	2,010	1,390	488	400
11	------	------	-------	1,210	571	488	26	490	------	2,010	1,390	492	397
12	452	------	-------	1,210	565	492	27	506	------	2,010	1,450	492	394
13	452	------	-------	1,210	545	492	28	544	------	2,010	-------	479	391
14	466	------	-------	1,150	506	488	29	522	------	1,940	-------	484	391
15	466	------	-------	1,150	510	470	30	516	------	1,690	-------	506	391
							31	511	------	1,570	-------	530	------

HOOD RIVER BASIN

HOOD RIVER AT POWERDALE, NEAR HOOD RIVER, OREG.

LOCATION.—In NE. ¼ sec. 36, T. 3 N., R. 10 E., at Powerdale, three-fourths mile south of Hood River, Hood River County, above discharge of tailrace of Powerdale plant of Pacific Power & Light Co., and 1½ miles above mouth of stream.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 31, 1913, to September 30, 1925.

GAGE.—Gurley and Friez water-stage recorders on right bank near power plant, half a mile above railroad bridge; inspected by R. E. Fewel.

DISCHARGE MEASUREMENTS.—Made from cable 100 feet above gage.

CHANNEL AND CONTROL.—Bed composed of rock and boulders; shifts slightly.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.94 feet at 6 p. m. November 21 (discharge, 8,560 second-feet); minimum discharge, 29 second-feet at noon August 18.

1913–1925: Maximum stage recorded, 10.1 feet January 6, 1923 (discharge, 34,000 second-feet); minimum stage, −0.48 foot at 5 p. m. November 13, 1923 (discharge, 5 second-feet).

ICE.—Stage-discharge relation not seriously affected by ice.

DIVERSIONS.—Large diversions for irrigation above station; water for power plant is diverted around gage. A record is kept of this diversion (p. 91).

REGULATION.—Water stored at sawmill at Dee has caused sudden fluctuations at low water in former years.

ACCURACY.—Stage-discharge relation changed below 6.6 feet during high water on November 21. Rating curves fairly well defined. Operation of water-stage recorder satisfactory except for short periods. Staff gage read by observer once a day to hundredths December 16–29 and April 1 to September 30. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection, except as noted in footnote to table of daily discharge. Records good.

Discharge measurements of Hood River at Powerdale, near Hood River, Oreg., during the year ending Sept. 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 2	1.41	87	Mar. 26	3.18	790	Aug. 5	1.88	130
Nov. 20	5.20	3,850	Apr. 7	2.94	648			
Jan. 22	4.04	1,760	May 26	3.18	818			

Daily discharge, in second-feet, of Hood River at Powerdale, near Hood River, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	116	364	370	1,340	4,580	1,070	830	830	710	232	224	110
2	105	1,840	504	1,230	5,660	875	670	830	642	280	264	100
3	116	1,260	516	1,340	6,240	830	642	1,020	588	478	186	106
4	63	970	516	1,510	5,660	790	642	830	588	534	139	126
5	105	880	576	2,020	5,100	710	920	830	498	588	132	119
6	46	630	474	1,700	4,100	710	710	1,020	395	361	139	252
7	44	630	432	1,280	3,380	670	588	1,340	558	240	139	200
8	48	430	380	1,120	3,180	830	656	1,020	468	208	155	193
9	80	391	334	920	2,440	750	830	1,020	390	193	132	179
10	63	425	830	1,230	2,090	656	1,070	920	462	240	116	208
11	36	315	1,450	1,230	1,760	594	1,280	1,020	375	420	106	200
12	33	234	1,510	1,120	1,570	564	1,570	710	338	516	129	162
13	36	200	1,640	1,020	1,340	516	1,230	670	426	280	148	200
14	34	194	1,570	790	1,180	480	1,020	750	621	165	172	172
15	40	192	1,280	663	1,120	600	1,340	830	405	280	78	182
16	37	163	1,000	588	1,020	830	1,570	920	356	193	63	148
17	36	147	710	534	830	875	1,510	1,340	330	179	66	106
18	37	152	635	875	750	710	1,340	1,230	370	256	68	94
19	59	1,310	370	1,760	750	750	1,700	1,120	343	232	94	142
20	36	3,200	240	1,640	830	1,070	1,340	1,640	400	172	106	152
21	34	4,980	280	2,090	1,020	920	1,120	2,090	670	132	110	126
22	33	5,240	182	1,830	1,180	1,120	1,020	1,510	564	158	100	116
23	31	3,080	148	2,440	1,230	920	970	1,180	390	145	126	100
24	33	1,960	68	2,090	1,230	790	875	1,230	352	132	58	106
25	55	1,280	68	1,830	1,180	970	790	1,120	400	145	63	106
26	44	920	43	1,570	1,070	875	1,020	875	415	280	87	119
27	38	750	35	1,700	1,120	790	920	875	432	248	94	126
28	38	1,570	193	2,090	920	920	750	920	576	236	94	74
29	38	516	1,180	3,990	------	750	750	920	312	220	81	58
30	33	456	1,230	4,830	------	1,070	790	830	268	182	158	63
31	94	------	1,280	5,100	------	875	------	875	------	208	106	------

NOTE.—Discharge interpolated Dec. 15–16 and 30–31; no gage-height record. Discharge computed from daily gage readings Dec. 17–29 and July 14–15; recorder was not operating.

Monthly discharge of Hood River at Powerdale, near Hood River, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	116	31	52.9	3,250
November	5,240	147	1,160	69,000
December	1,640	35	647	39,800
January	5,100	534	1,720	106,000
February	6,240	750	2,230	124,000
March	1,120	480	803	49,400
April	1,700	588	1,020	60,700
May	2,090	670	1,040	64,000
June	710	268	455	27,100
July	588	132	262	16,100
August	264	58	120	7,380
September	208	58	138	8,210
The year	6,240	31	794	575,000

Combined daily discharge, in second-feet, of Hood River and Pacific Power & Light Co.'s conduit at Powerdale, near Hood River, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	574	799	821	1,800	4,840	1,270	1,250	1,220	1,080	707	509	405
2	558	2,130	959	1,690	6,000	1,240	1,120	1,240	1,060	701	554	390
3	545	1,580	974	1,800	6,660	1,260	1,060	1,180	1,020	633	443	399
4	464	1,400	972	1,730	6,070	1,200	1,040	1,140	1,000	646	429	427
5	415	1,310	1,030	2,370	5,520	1,170	1,080	1,220	926	675	435	420
6	421	1,060	929	2,110	4,510	1,140	1,040	1,380	851	710	436	459
7	413	1,060	892	1,750	3,820	1,090	1,000	1,680	760	686	435	493
8	438	867	841	1,590	3,500	1,160	1,070	1,420	835	644	450	494
9	504	827	795	1,380	2,830	1,110	1,240	1,250	849	646	426	480
10	449	879	1,290	1,690	2,520	1,100	1,460	1,130	906	647	410	510
11	413	754	1,910	1,420	2,190	1,050	1,670	1,380	851	714	382	504
12	408	700	1,970	1,540	2,000	1,010	1,740	1,140	813	659	416	467
13	413	657	2,070	1,400	1,770	960	1,570	1,100	899	609	381	444
14	415	652	1,790	1,260	1,610	914	1,430	1,160	791	481	413	481
15	428	650	1,630	1,130	1,350	859	1,750	1,250	807	623	378	488
16	413	618	1,420	1,060	1,370	1,040	1,980	1,360	831	606	363	473
17	402	606	1,150	999	1,260	1,280	1,920	1,550	866	472	336	484
18	398	608	987	1,190	1,180	1,140	1,760	1,610	831	564	352	440
19	378	1,760	711	2,110	1,170	1,170	1,900	1,540	817	502	399	456
20	386	3,640	562	2,060	1,230	1,490	1,680	2,030	876	462	404	453
21	384	5,340	536	2,500	1,410	1,350	1,540	2,520	876	443	406	430
22	380	5,590	449	2,280	1,430	1,350	1,440	1,920	938	462	396	428
23	375	3,320	446	2,840	1,580	1,240	1,380	1,590	866	444	342	440
24	388	2,310	346	2,520	1,660	1,190	1,290	1,400	827	428	332	444
25	433	1,740	374	2,080	1,600	1,350	1,200	1,480	873	431	343	453
26	412	1,380	356	1,920	1,460	1,220	1,160	1,310	890	443	371	437
27	457	1,210	362	2,120	1,530	1,190	1,150	1,300	908	496	383	414
28	483	2,030	503	2,500	1,380	1,330	1,140	1,350	809	527	378	394
29	477	972	1,580	4,400	-------	928	1,150	1,350	749	510	369	402
30	481	911	1,690	5,230	-------	1,400	1,180	1,180	743	479	380	435
31	550	-------	1,740	5,510	-------	1,270	-------	1,050	-------	493	398	------

Combined monthly discharge of Hood River and Pacific Power & Light Co.'s conduit at Powerdale, near Hood River, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	574	375	440	27,100
November	5,590	606	1,580	94,000
December	2,070	346	1,040	64,000
January	5,510	999	2,130	131,000
February	6,660	1,170	2,620	146,000
March	1,490	859	1,180	72,600
April	1,980	1,000	1,380	82,100
May	2,520	1,050	1,400	86,100
June	1,080	743	870	51,800
July	714	428	566	34,800
August	554	332	402	24,700
September	510	390	448	26,700
The year	6,660	332	1,160	841,000

EAST FORK IRRIGATION DISTRICT CANAL NEAR MOUNT HOOD, OREG.

LOCATION.—In SE. ¼ sec. 33, T. 1 N., R. 10 E., 1 mile below point of diversion, 1½ miles south of Mount Hood post office, Hood River County, and 2 miles east of Parkdale station on Mount Hood Railroad.

RECORDS AVAILABLE.—June 17, 1913, to September 30, 1925; irrigation seasons only.

GAGE.—Stevens water-stage recorder on left side of canal just below road crossing; inspected by C. H. Shaw.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Channel is smooth earth section. Head of flume probably acts as control; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.09 feet at 10 p. m. August 20 (discharge, 144 second-feet); canal dry at various times.

1913–1925: Maximum discharge recorded, 153 second-feet July 9, 1919 (gage height, 3.42 feet); canal dry at various times.

ICE.—No water carried in cold weather.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined above and fairly well defined below 80 second-feet. Operation of water-stage recorder satisfactory except as stated in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except for discharges below 80 second-feet, for which they are fair.

COOPERATION.—Record furnished by the State engineer of Oregon.

Discharge measurements of East Fork Irrigation District Canal near Mount Hood, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 2	2.22	36.4	Aug. 5	3 02	138	Sept. 9	2.15	64
May 15	1.71	52	Aug. 24	2 85	114			
June 30	2.60	106	Sept. 7	2.51	95			

Daily discharge, in second-feet, of East Fork Irrigation District Canal near Hood River, Oreg., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		38	57	117	135	96	16		56	73	130	135	62
2		37	57	126	140	95	17	32	62	82	130	135	58
3		37	57	126	135	99	18		62	94	126	140	62
4		37		126	135	99	19	43	68	109	122	140	60
5		45	60	126	140	96	20	42	60	113	126	140	59
6		48		126	140	95	21	41	44	113	135	140	52
6		48	68	126	140	94	22	41	44	109	135	135	43
8	32	48	68	126	140	87	23	41	44	109	135	126	41
9		48	68	126	135	79	24	40	44	113	130	126	41
10		48	74	113	140	75	25	40	51	117	130	126	41
11		47	77	122	140	68	26	39	57	122	130	126	41
12		47	77	135	140	69	27	39	58	126	130	122	42
13		47	75	130	140	69	28	38	58	126	135	105	42
14		47	73	130	140	70	29	38	58	126	135	100	42
15		47	73	130	135	70	30	38	58	105	135	105	42
							31		57		135	101	

NOTE.—No gage-height record April 1–18 except observer's statement that canal was at an average stage of 1.3 feet. Water-stage recorder not operating satisfactorily May 2 and June 4–6. April 1–18, discharge computed from estimated stage of 1.3 feet; May 2 and June 4–6, discharge interpolated.

Monthly discharge of East Fork Irrigation District Canal near Hood River, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	43		35.2	2,090
May	68	37	50.0	3,070
June	126	57	88.0	5,240
July	135	113	129	7,930
August	140	100	132	8,120
September	96	41	66.3	3,950
The period				30,400

FARMERS CANAL NEAR OAKGROVE, OREG.

LOCATION.—In SW. ¼ sec. 20, T. 2 N., R. 10 E., 300 feet below mouth of flume crossing Ditch Creek, 2 miles below head of canal, and 2 miles south of Oakgrove, Hood River County.

RECORDS AVAILABLE.—May 1 to August 30, 1917; July 7 to September 30, 1920; July 1 to September 30, 1921; June 1 to September 30, 1922, and May 16 to August 31, 1925.

GAGE.—Vertical staff nailed to clump of oak trees on left bank; gage reader, W. C. Davis. Prior to 1925 the gage was 1 mile farther up the canal in SE. ¼ sec. 30.

DISCHARGE MEASUREMENTS.—Made by wading at gage or from bridge 50 feet above.

CHANNEL AND CONTROL.—Channel is earth section. Bed composed of hardpan; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period May 16 to August 31, 2.6 feet on several days in June, July, and August (discharge, 62 second-feet); minimum stage, 1.7 feet May 21–23 (discharge, 29 second-feet).

1917; 1920–1922; 1925: Maximum discharge recorded, 6.7 second-feet on several days in July and August, 1920.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage read to hundredths once a day. Daily discharge obtained by applying daily gage height to rating table, except August 30–31 when discharge was estimated because gage was not read. Records good.

COOPERATION.—Record furnished by State engineer of Oregon.

Farmers Canal diverts from right bank of Hood River in SE. ¼ sec. 36, T. 2 N., R. 9 E. Water is used for irrigating west side of Hood River Valley near Oakgrove and Rockford.

Discharge measurements of Farmers Canal near Oakgrove, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
May 16	2.40	57	Sept. 7	2.24	48.7
July 20	2.56	60	Sept. 13	1.32	15.4
Aug. 23	2.50	55			

Daily discharge, in second-feet, of Farmers Canal near Oakgrove, Oreg., for the period May 16 to August 31, 1925

Day	May	June	July	Aug.	Day	May	June	July	Aug.
1		49	62	58	16	55	55	62	58
2		49	62	58	17	55	58	62	58
3		49	62	62	18	55	58	62	62
4		49	62	62	19	51	58	58	58
5		51	62	62	20	45	58	62	62
6		51	62	62	21	29	58	62	62
7		51	62	62	22	29	58	62	58
8		55	58	62	23	29	58	62	58
9		55	58	62	24	32	58	62	58
10		55	58	62	25	42	62	62	55
11		55	62	62	26	45	62	62	55
12		55	62	62	27	47	58	58	55
13		55	58	62	28	49	58	62	55
14		55	62	62	29	49	62	62	49
15		58	62	58	30	49	62	62	49
					31	49		62	49

Monthly discharge of Farmers Canal near Oakgrove, Oreg., for the period May 16 to August 31, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 16–31	55	29	44.4	1,410
June	62	49	55.8	3,320
July	62	58	61.2	3,760
August	62	49	58.7	3,610
The period				12,100

PACIFIC POWER & LIGHT CO.'S CONDUIT NEAR HOOD RIVER, OREG.

LOCATION.—In NE. ¼ sec. 36, T. 3 N., R. 10 E., at new power house on Hood River, half a mile southeast of Hood River, Hood River County.

RECORDS AVAILABLE.—May 1, 1923, to September 30, 1925. Also on tailrace of old plant October 1, 1913, to September 30, 1914, and January 1, 1916, to July 31, 1922, when operation of old plant was discontinued.

GAGE.—Indicating dial of Venturi meter read every hour and integrating watt-hour meter read once a day at midnight by operator on duty at power house.

DISCHARGE MEASUREMENTS.—Made from collar of flume between diversion dam and intake to pipe line, 2½ miles above power house.

EXTREMES OF DISCHARGE.—Maximum load of 6,600 kilowatts occurred frequently (discharge, 480 second-feet); maximum discharge from Venturi meter, 486 second-feet 10 a. m. to 1 p. m. June 13. Plant shut down for a few hours at a time on several days during year.

1913–14; 1916–1925: Maximum discharge, that of June 13, 1925.

ACCURACY.—Relation of discharge in second-feet to electrical load in kilowatts practically permanent as operating head varies only about 5 feet from an average of about 200 feet. Kilowatt discharge relation curve fairly well defined; from this curve, which is practically a straight line, has been prepared a rating table showing relation between output in kilowatt-hours for 24 hours and discharge in second-feet. Integrating watt-hour meter read once a day at midnight. Daily discharge ascertained by applying to rating table daily output in kilowatt-hours. Records good.

Pacific Power & Light Co.'s conduit diverts from Hood River in SE. ¼ sec. 11, T. 2 N., R. 10 E., immediately below the mouth of Neal Creek. Water is returned to river in NE. ¼ sec. 36, T. 3 N., R. 10 E., being diverted around the gage on Hood River at Powerdale near Hood River.

Discharge measurements of Pacific Power & Light Co.'s conduit near Hood River, Oreg., during the year ending September 30, 1925

	Electric output	Discharge	Venturi meter reading
	Kw.	*Sec.-ft.*	*Sec.-ft.*
Mar. 26	6,500	476	475
Aug. 5	4,200	313	325

Daily discharge, in second-feet, of Pacific Power & Light Co.'s conduit, near Hood River, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	458	435	451	460	260	198	421	394	366	475	285	295
2	453	288	455	464	335	361	449	408	415	421	290	290
3	429	316	458	460	415	434	417	164	428	155	257	293
4	401	432	456	218	414	406	394	313	413	112	290	301
5	310	426	458	348	422	458	159	393	428	87	303	301
6	375	428	455	410	411	435	335	357	456	349	297	207
7	369	426	460	466	439	424	415	338	202	446	296	293
8	390	437	461	468	323	329	414	404	367	436	295	301
9	424	436	461	465	389	361	409	228	459	453	294	301
10	386	454	461	464	430	444	388	212	444	407	294	302
11	377	439	461	194	427	453	393	360	476	294	276	304
12	375	466	458	418	428	450	170	428	475	143	287	305
13	377	457	434	375	430	444	340	431	473	329	233	244
14	381	458	219	466	434	434	410	406	170	316	241	309
15	388	458	348	468	230	259	412	416	402	343	300	306
16	376	455	419	467	346	211	411	436	475	413	300	325
17	366	459	436	465	431	403	412	214	476	293	270	378
18	361	456	352	315	427	428	416	384	461	308	284	346
19	319	449	341	354	422	417	205	425	474	270	305	314
20	350	436	322	415	404	421	344	394	476	290	298	301
21	350	364	256	411	394	432	419	431	206	311	296	304
22	347	347	267	447	250	228	422	415	374	304	296	312
23	344	240	298	401	348	322	406	413	476	299	216	340
24	355	346	278	428	425	404	415	169	475	296	274	338
25	378	457	306	249	423	380	407	359	473	286	280	347
26	368	456	313	354	388	348	141	437	475	163	284	318
27	419	456	327	420	412	400	230	426	476	248	289	288
28	445	456	310	413	457	407	392	431	233	291	284	320
29	439	456	404	408	------	178	403	432	437	290	288	344
30	448	453	464	397	------	335	391	349	475	297	222	372
31	456	------	459	412	------	392	------	177	------	285	292	------

Monthly discharge of Pacific Power & Light Co.'s conduit near Hood River, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	458	310	388	23,900
November	466	240	421	25,100
December	464	256	389	23,900
January	468	194	403	24,800
February	457	230	390	21,700
March	458	178	374	23,000
April	449	141	365	21,700
May	437	164	359	22,100
June	476	170	415	24,700
July	475	87	304	18,700
August	305	216	281	17,300
September	378	207	310	18,400
The year	476	87	366	265,000

WHITE SALMON RIVER BASIN

WHITE SALMON RIVER NEAR UNDERWOOD, WASH.

LOCATION.—In NW. ¼ sec. 14, T. 3 N., R. 10 E., 200 yards below Northwestern Electric Co.'s Condit power plant, 2 miles north of Underwood, Skamania County.

DRAINAGE AREA.—384 square miles (measured on map of Columbia National Forest).

RECORDS AVAILABLE.—March 1, 1915, to September 30, 1925. October 18, 1912, to February 26, 1913, at dam 1 mile above.

GAGE.—Au water-stage recorder on right bank; inspected by D. J. Shore.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of rock and gravel; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.8 feet at 3 p. m. February 3 (discharge, 5,190 second-feet); minimum discharge, practically zero, when plant was occasionally shut down; float will not operate recorder below a stage of about 0.2 foot.

1915–1925: Maximum stage from high-water marks, 9.5 feet (old gage datum) December 29, 1917 (discharge, about 9,700 second-feet); minimum stage occurs when power plant is occasionally shut down suddenly, recorder does not operate to such low stages, discharge practically zero.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—About 3,500 acres irrigated above this station.

REGULATION.—At low and medium stages practically all the water is used through the wheels of power plant. Pond above dam covers about 80 acres; daily discharges have been corrected for storage, except during continuous overflow at dam from February to May.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory except as indicated in footnote to table of daily discharge. Daily discharge obtained by discharge integrator, when all the flow was passing through power plant and there was considerable variation in stage; by applying to rating table mean daily gage height obtained by inspecting recorder graph when there was flow over dam and little variation in stage; or, as indicated in footnote to table of daily discharge, from electrical output of power plant and flow over dam. Records good.

Discharge measurements of White Salmon River near Underwood, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 12	1.32	360	Jan. 23	3.98	1,910	May 24	3.49	1,560
Nov. 20	3.16	1,260	Mar. 25	3.20	1,380	Aug. 3	2.58	963

Daily discharge, in second-feet, of White Salmon River near Underwood, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	512	622	747	865	3,550	1,840	1,250	1,400	1,320	961	788	638
2	517	910	741	909	3,790	1,940	1,220	1,400	1,310	932	781	628
3	509	910	718	976	4,800	1,750	1,250	1,400	1,250	950	731	594
4	463	936	739	1,030	4,540	1,750	1,220	1,480	1,240	932	756	602
5	448	858	728	1,210	4,030	1,720	1,200	1,480	1,210	936	741	598
6	477	725	707	1,180	3,080	1,560	1,400	1,560	1,160	954	746	599
7	455	750	693	1,080	2,200	1,640	1,400	1,800	1,160	915	736	601
8	448	749	672	1,030	2,040	1,800	1,400	1,800	1,200	902	741	609
9	458	727	656	974	1,370	1,800	1,480	1,720	1,190	892	756	604
10	457	654	738	1,050	1,310	1,800	1,640	1,560	1,160	870	726	602
11	458	666	1,030	1,000	1,260	1,720	1,720	1,560	1,180	892	716	604
12	428	602	1,170	994	1,270	1,640	1,880	1,470	1,170	829	716	611
13	450	582	1,220	966	1,260	1,560	1,880	1,660	1,150	852	691	607
14	439	597	1,310	930	1,260	1,560	1,880	1,750	1,120	856	721	608
15	449	556	1,300	898	1,170	1,400	1,880	1,860	1,110	862	704	581
16	423	563	1,180	848	1,190	1,560	1,960	2,120	1,110	832	678	616
17	446	556	1,010	850	1,240	1,480	2,150	1,980	1,130	858	685	585
18	438	543	870	1,080	1,230	1,400	2,050	2,120	1,070	864	685	609
19	397	805	835	1,170	1,530	1,400	1,960	1,880	1,110	816	674	594
20	413	1,210	784	1,260	1,980	1,400	1,800	1,880	1,100	833	679	593
21	416	1,610	816	1,280	2,110	1,400	1,720	1,960	1,130	812	667	581
22	430	1,790	814	1,270	2,050	1,320	1,640	1,880	1,190	821	659	586
23	416	1,560	792	1,970	2,400	1,480	1,560	1,800	1,060	816	628	612
24	426	1,310	744	1,870	2,520	1,320	1,480	1,640	1,060	820	633	584
25	427	1,120	744	1,710	2,400	1,320	1,480	1,640	1,050	822	628	578
26	424	958	718	1,560	2,310	1,280	1,400	1,560	1,060	788	658	596
27	464	877	725	1,570	2,050	1,320	1,400	1,480	1,040	800	620	588
28	532	840	758	1,890	2,050	1,320	1,400	1,400	1,030	792	631	598
29	568	808	884	2,450	-------	1,250	1,400	1,480	1,040	793	642	577
30	568	760	980	2,900	-------	1,280	1,480	1,400	926	792	623	592
31	539	-------	903	3,350	-------	1,280	-------	1,320	-------	792	635	------

NOTE.—Because water-stage recorder was not operating satisfactorily, daily discharge computed from electrical output and flow over dam, when there was any overflow, Oct. 16, 25, Nov. 16, 29, Jan. 11–22, Feb. 6 to Mar. 5, May 12–18, July 14 to Aug. 3, 26, and Sept. 13. Daily discharges have been corrected for storage.

Monthly discharge of White Salmon River near Underwood, Wash., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	568	397	461	28,300
November	1,790	543	872	51,900
December	1,310	656	862	53,000
January	3,350	848	1,360	83,600
February	4,800	1,170	2,210	123,000
March	1,940	1,250	1,530	94,100
April	2,150	1,200	1,590	94,600
May	2,120	1,320	1,660	102,000
June	1,320	926	1,130	67,200
July	961	792	858	52,800
August	788	620	693	42,600
September	638	577	599	35,600
The year	4,800	397	1,140	829,000

NOTE.—Discharge corrected for storage at power plant.

SANDY RIVER BASIN

SANDY RIVER NEAR MARMOT, OREG.

LOCATION.—In SE. ¼ sec. 24, T. 2 S., R. 5 E., on Vanderhoof ranch, 1½ miles above Marmot post office, Clackamas County, 2 miles above Sandy River Dam of Portland Electric Power Co., and 5 miles below mouth of Salmon River.

DRAINAGE AREA.—262 square miles (measured on topographic map).

RECORDS AVAILABLE.—August 15, 1911, to December 21, 1915, and July 1, 1919, to September 30, 1925. Combined discharge of Sandy River and canal gives same results for gap in record.

GAGE.—Stevens 8-day water-stage recorder on right bank; inspected by employees of Portland Electric Power Co.

DISCHARGE MEASUREMENTS.—Made from a cable 1 mile below gage.

CHANNEL AND CONTROL.—Beds composed of rocks and gravel; may shift slightly.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 10.48 feet at 3 p. m. November 21 (discharge, 11,600 second-feet); minimum discharge, 297 second-feet October 22.

1911–1925: Maximum stage recorded, 17.5 feet about noon of January 6, 1923 (discharge from extension of rating curve, 29,200 second-feet); minimum discharge, 260 second-feet September 22, 1924.

ICE.—Stage-discharge relation often slightly affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation fairly permanent; affected by an obstruction on control October 9–27 and by ice December 24. Rating curve fairly well defined below 12,000 second-feet. Operation of water-stage recorder satisfactory except December 17–27, when float was frozen in well; staff gage also read once a day except December 17. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection, or, for days of considerable variation in stage, by averaging discharge for intervals of a day. Records good.

Discharge measurements of Sandy River near Marmot, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 17	2.60	347	Jan. 30	7.36	5,120	Apr. 19	5.62	2,980
Oct. 31	4.07	1,580	Feb. 18	3.77	1,230	June 10	3.67	1,160

NOTE.—Discharge estimated Oct. 9–27; interpolated Dec. 17.

Daily discharge, in second-feet, of Sandy River near Marmot, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	552	2,500	1,110	2,780	4,590	1,450	1,720	1,820	1,070	647	485	372
2	636	3,420	1,630	2,980	6,210	1,580	1,680	1,790	1,110	636	472	360
3	826	2,380	1,580	3,200	6,570	1,540	1,630	1,630	1,150	642	440	376
4	728	2,000	2,000	3,090	5,870	1,450	1,790	1,680	1,150	636	440	364
5	585	1,910	2,090	4,150	5,230	1,400	1,720	1,820	1,070	620	444	346
6	534	1,680	1,680	3,200	3,890	1,270	1,680	1,960	990	625	454	350
7	534	1,680	1,450	2,580	3,200	1,190	1,680	2,180	990	610	458	380
8	605	1,820	1,190	2,280	2,980	1,110	1,820	1,860	1,030	595	440	376
9	715	1,820	1,150	2,000	2,580	1,070	2,180	1,580	990	590	428	353
10	590	1,450	2,480	2,480	2,230	1,400	2,480	1,500	1,150	585	416	353
11	484	1,450	3,310	2,050	1,960	950	2,880	1,500	1,150	590	408	350
12	446	1,230	2,980	1,960	1,790	935	2,680	1,450	1,150	595	408	339
13	438	990	2,880	1,790	1,630	935	2,380	1,500	1,150	585	404	342
14	404	990	2,480	1,630	1,580	928	2,180	1,540	1,110	566	424	353
15	386	1,190	2,230	1,400	1,540	1,030	2,680	1,580	1,030	562	396	342

Daily discharge, in second-feet, of Sandy River near Marmot, Oreg., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	370	1,230	1,860	1,270	1,450	1,270	2,380	1,790	990	566	372	328
17	352	1,150	1,560	1,190	1,360	2,050	2,580	1,720	950	580	364	318
18	336	1,120	1,270	1,720	1,270	1,580	2,580	1,680	920	534	392	322
19	320	3,890	1,150	2,680	1,230	2,210	2,980	1,680	875	512	416	350
20	312	4,750	1,110	2,580	1,400	3,090	2,780	2,390	905	494	420	318
21	304	7,200	1,110	3,650	1,680	2,480	2,380	3,090	950	498	400	304
22	304	6,340	990	3,090	1,790	2,140	2,330	2,280	935	503	392	304
23	304	3,360	950	3,650	1,820	1,910	2,330	1,910	826	485	384	314
24	304	2,780	906	2,980	1,960	1,720	2,180	1,680	792	472	360	318
25	336	2,230	861	2,280	2,000	1,960	2,000	1,500	840	467	346	314
26	328	1,820	740	2,380	1,960	1,720	1,860	1,360	854	462	356	322
27	454	1,540	728	2,580	1,820	1,580	1,820	1,270	805	462	364	318
28	760	1,360	2,050	2,680	1,580	1,500	1,790	1,360	779	467	346	311
29	875	1,230	5,320	5,110	-------	1,360	1,860	1,270	692	454	339	308
30	1,190	1,150	4,750	5,550	-------	1,360	1,860	1,190	660	449	350	336
31	1,500	-------	3,090	5,070	-------	1,360	-------	1,070	-------	472	368	-------

Monthly discharge of Sandy River near Marmot, Oreg., for the year ending September 30, 1925

[Drainage area, 262 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,500	304	542	2.07	2.39	33,300
November	7,200	990	2,260	8.63	9.63	134,000
December	5,320	728	1,890	7.21	8.31	116,000
January	5,550	1,190	2,780	10.6	12.22	171,000
February	6,570	1,230	2,610	9.96	10.37	145,000
March	3,090	928	1,530	5.84	6.73	94,100
April	2,980	1,630	2,180	8.32	9.28	130,000
May	3,090	1,070	1,700	6.49	7.48	105,000
June	1,150	669	969	3.70	4.13	57,700
July	647	449	547	2.09	2.41	33,600
August	485	339	403	1.54	1.78	24,800
September	380	304	338	1.29	1.44	20,100
The year	7,200	304	1,470	5.61	76.17	1,060,000

SALMON RIVER AT WELCHES, OREG.

LOCATION.—In S. ½ sec. 9, T. 3 S., R. 7 E., just below mouth of Sheeny Creek, 200 feet west of Tawney's Hotel and three-fourths mile southeast of Welches post office, Clackamas County.

DRAINAGE AREA.—100 square miles (from Forest Service map).

RECORDS AVAILABLE.—July 26, 1920, to September 30, 1921; April 1 to September 30, 1925. August 15, 1913, to September 30, 1914, at station three-fourths mile downstream.

GAGE.—Vertical staff on right bank; read by F. H. Tawney.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge half a mile below.

CHANNEL AND CONTROL.—Bed composed of coarse gravel; one channel at all stages; shifts occasionally; no definite control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period April 1 to September 30, 1.95 feet on afternoon of April 19 (discharge, 1,200 second-feet); minimum stage, —0.15 foot September 16–18 and 24–29 (discharge, 82 second-feet).

1913–14; 1920–21; 1925: Maximum discharge recorded, 5,230 second-feet January 2, 1921; minimum discharge, that of 1925.

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent during period. Rating curve fairly well defined. Staff gage read to hundredths twice a day April 1 to June 23, once a day thereafter. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good.

The following measurement was made:

April 19, 1925: Gage height, 1.85 feet; discharge, 1,080 second-feet.

Daily discharge, in second-feet, of Salmon River at Welches, Oreg., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	650	595	395	174	111	98	16	1,040	565	295	124	107	82
2	630	625	395	171	111	90	17	1,040	565	295	124	104	82
3	650	565	395	165	107	90	18	960	595	255	120	98	82
4	700	565	395	165	107	90	19	1,040	625	255	120	98	90
5	700	625	345	165	107	90	20	960	855	255	120	98	90
6	650	658	345	159	107	90	21	820	1,040	236	115	98	90
7	650	820	345	153	107	90	22	755	755	236	124	98	90
8	700	820	345	148	104	90	23	755	625	218	124	107	90
9	755	595	345	143	104	90	24	690	625	214	124	104	82
10	890	565	370	138	104	90	25	625	505	208	124	104	82
11	1,040	565	345	138	104	90	26	625	505	194	120	98	82
12	960	535	345	133	104	90	27	595	450	186	120	98	82
13	960	535	345	133	98	90	28	565	422	183	115	107	82
14	890	535	345	128	128	90	29	595	450	183	115	104	82
15	960	535	295	128	118	90	30	625	450	177	111	104	90
							31		395		111	104	

Monthly discharge of Salmon River at Welches, Oreg., for the year ending September 30, 1925

[Drainage area, 100 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
April	1,040	565	782	7.82	8.72	46,500
May	1,040	395	599	5.99	6.91	36,800
June	395	177	291	2.91	3.25	17,300
July	174	111	134	1.34	1.54	8,240
August	128	98	105	1.05	1.21	6,460
September	98	82	87.9	.879	.98	5,230
The period						121,000

BULL RUN RIVER NEAR BULL RUN, OREG.

LOCATION.—In SE. ¼ sec. 25, T. 1 S., R. 5 E., 1½ miles above intake of Portland water-supply pipe line and 5 miles east of Bull Run, Clackamas County.

DRAINAGE AREA.—102 square miles.

RECORDS AVAILABLE.—August 20, 1907, to September 30, 1925; also readings on a gage of city water department, January 5, 1895, to November 13, 1906.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by John Williams.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of rocks and gravel; shifting in extreme floods.

EXTREMES OF DISCHARGE.—Maximum stage from water-stage recorder, 8.35 feet at 3 p. m. November 21 (discharge, 9,400 second-feet); minimum discharge, 70 second-feet September 13–14 (recorded) and September 15–18 (estimated).

1895–1925: Maximum discharge recorded, 20,300 second-feet, November 20, 1921, at spillway of diversion dam; minimum discharge 68 second-feet October 1, 1918.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None above station. The three water-supply pipes divert practically all the low-water flow 1½ miles below station.

REGULATION.—Flow is slightly regulated during summer by storage in Bull Run Lake.

ACCURACY.—Stage-discharge relation changed below 3.3 feet during high water November 21. Rating curves well defined. Stage-discharge relation for gage at dam changed owing to the construction, during the summer of 1924, of a head gate for a third water-supply pipe; new rating curve fairly well defined except below 200 second-feet, where it is rarely used. Water-stage recorder operated satisfactorily except during short periods when mean daily gage height at gage at dam was generally used. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection or, for days of considerable variation in stage, by averaging discharge for intervals of the day. Records good.

Discharge measurements of Bull Run River near Bull Run, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 31	3.61	2,060	June 11	1.60	587
Feb. 17	1.58	602	Aug. 26	.31	104
Apr. 18	2.78	1,380			

Daily discharge, in second-feet, of Bull Run River near Bull Run, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	432	3,000	561	1,800	3,840	900	835	775	420	174	112	86
2	649	4,100	1,200	2,160	4,720	965	742	710	500	172	112	84
3	644	1,960	1,280	2,350	5,050	932	715	649	632	166	112	81
4	455	1,780	1,680	2,520	5,670	835	715	627	649	160	112	81
5	330	1,830	1,550	3,630	3,380	775	693	627	562		112	79
6	264	1,710	1,200	2,070	2,300	676	638	632	500		109	84
7	264	1,500	965	1,550	2,510	605	610	688	510	150	107	86
8	464	1,710	775	1,390	1,920	572	627	605	530		104	88
9	616	1,540	715	1,240	1,710	550	715	530	510		104	77
10	446	1,140	1,710	2,070	1,230	510	835	480	660		104	72
11	362	1,140	2,570	1,430	1,100	465	1,030	425	616	136	102	72
12	320	920	2,070	1,310	775	475	1,040	380	660	136	102	74
13	316	684	1,760	1,140	676	505	835	340	644	139	102	70
14	284	690	1,470	1,140	710	480	742	336	610	134	110	70
15	260	850	1,470	868	715	616	932	332	535	129	121	
16	250	720	1,100	742	660	605	1,030	336	480	126	107	70
17	230	672	760	660	610	1,350	965	348	425	124	100	
18	230	719	540	1,170	561	968	1,340	348	384	121	100	
19	210	3,870	400	1,710	535	1,440	1,980	364	360	121	97	116
20	200	5,100	280	2,320	644	2,020	1,590	610	336	119	100	95
21	180	6,020	250	2,400	965	1,350	1,240	1,100	312	116	102	86
22	180	3,600	230	1,980	1,040	1,100	1,310	805	288	116	102	81
23	180	1,940	180	2,930	1,100	870	1,390	688	270	116	104	79
24	180	1,310	170	1,860	1,430	880	1,170	594	252	116	109	79
25	210	1,330	170	1,310	1,430	1,000	965	460	234	116	107	79
26	250	868	170	1,590	1,390	810	868	460	224	119	100	81
27	510	715	235	2,100	1,280	680	775	415	210	119	102	86
28	770	638	1,580	2,450	1,040	676	742	490	204	116	121	84
29	930	605	4,980	3,700	-------	622	742	515	195	116	104	84
30	1,550	566	3,150	4,720	-------	644	715	485	183	114	93	107
31	1,940	-------	2,070	4,720	-------	654	-------	435	-------	114	88	------

NOTE.—Because of no record at water-stage recorder the daily discharge was computed from mean daily gage height on gage at dam Oct. 16 to Nov. 5, Dec. 16–28, Feb. 6–11, and Mar. 22–27; interpolated July 5–10 and Aug. 14; estimated from climatic records Sept. 15–18.

Monthly discharge of Bull Run River near Bull Run, Oreg., for the year ending September 30, 1925

[Drainage area, 102 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,940	180	455	4.46	5.14	28,000
November	6,020	566	1,770	17.4	19.41	105,000
December	4,980	170	1,200	11.8	13.60	73,800
January	4,720	660	2,030	19.9	22.94	125,000
February	5,670	535	1,750	17.2	17.91	97,200
March	2,020	465	824	8.08	9.32	50,700
April	1,980	610	951	9.32	10.40	56,600
May	1,100	332	535	5.25	6.05	32,900
June	660	183	430	4.22	4.71	25,600
July	174	114	133	1.30	1.50	8,180
August	121	88	105	1.03	1.19	6,460
September	116	70	81.4	.798	.89	4,840
The year	6,020	70	849	8.32	113.06	614,000

LITTLE SANDY RIVER NEAR BULL RUN, OREG.

LOCATION.—In NE. ¼ sec. 10, T. 2 S., R. 5 E., three-eighths mile above Portland Electric Power Co.'s dam and tunnel from Sandy River and between 3 and 4 miles south of Bull Run station, Clackamas County.

DRAINAGE AREA.—23.0 square miles.

RECORDS AVAILABLE.—May 21, 1911, to April 29, 1913, fragmentary; July 1, 1919, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder on left bank; inspected by employees of Portland Electric Power Co.

DISCHARGE MEASUREMENTS.—Made from suspension bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders and gravel; fairly permanent. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage from water-stage recorder, 6.33 feet at 2 p. m. December 29 (discharge, 1,820 second-feet); minimum discharge, 16 second-feet September 23–25.

1911–1913; 1919–1925: Maximum stage recorded, 8.90 feet November 20, 1921 (discharge, 3,950 second-feet); minimum discharge, 10 second-feet September 17, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—None.

REGULATIONS.—None.

ACCURACY.—Stage-discharge relation probably changed slightly below 3.5 feet during high water on November 21; affected by ice December 18–27. Rating curves well defined. Operation of recorder satisfactory except December 18–28; staff gage read once a day during latter period. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection or, for days of considerable variation in stage, by averaging discharge for intervals of the day. Mean discharge December 18–27 estimated by a comparison with record for Bull Run River near Bull Run. Records good.

Discharge measurements of Little Sandy River near Bull Run, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 1	4.28	499	June 11	2.90	120
Feb. 18	2.92	115	Aug. 28	1.90	20.0

Daily discharge, in second-feet, of Little Sandy River near Bull Run, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	490	99	367	500	152	183	173	82	38	19	18
2	138	615	200	465	640	183	163	154	97	36	19	19
3	146	290	177	440	665	173	161	140	106	35	19	18
4	93	230	244	423	640	154	165	138	102	33	19	18
5	66	223	238	615	540	143	154	143	89	33	19	18
6	50	206	191	392	406	128	143	146	83	33	18	18
7	55	192	158	284	325	113	131	154	93	31	18	20
8	98	201	134	263	308	109	140	125	101	31	18	24
9	132	216	124	226	255	103	165	108	93	30	18	20
10	89	181	260	353	219	97	181	109	152	29	18	19
11	70	170	430	260	187	92	241	102	119	28	18	18
12	59	142	342	238	167	89	221	94	158	27	18	17
13	60	114	304	216	148	90	173	92	140	27	18	17
14	50	119	233	209	161	88	150	92	128	27	22	17
15	43	150	214	183	163	116	216	87	110	26	20	17
16	39	136	165	163	146	148	214	89	97	26	19	17
17	34	119	130	148	131	207	181	93	87	25	18	17
18	32	122		194	120	165	228	87	78	25	18	20
19	29	640		304	115	246	360	79	72	24	18	27
20	26	810		311	143	388	311	156	65	23	17	20
21	25	1,130		482	183	244	252	257	61	22	17	18
22	24	750		353	194	194	284	177	57	22	18	17
23	25	423	50	468	194	163	297	128	52	22	22	16
24	25	281		336	231	145	238	110	49	22	23	16
25	30	205		238	241	216	196	97	47	22	19	16
26	35	159		287	216	171	173	87	44	21	22	17
27	73	136		353	214	152	163	79	42	21	26	17
28	85	119	500	412	173	145	163	101	41	21	20	17
29	85	108	1,080	810	------	130	167	96	41	20	18	17
30	155	105	690	750	------	131	169	88	39	20	18	27
31	269	------	423	665	------	138	------	77	------	19	17	------

Monthly discharge of Little Sandy River near Bull Run, Oreg., for the year ending September 30, 1925

[Drainage area, 23.0 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	269	24	72.6	3.16	3.64	4,460
November	1,130	105	293	12.7	14.17	17,400
December	1,080	----------	221	9.61	11.08	13,600
January	810	148	362	15.7	18.10	22,300
February	665	115	272	11.8	12.29	15,100
March	388	88	155	6.74	7.77	9,530
April	360	131	199	8.65	9.65	11,800
May	257	77	118	5.13	5.91	7,260
June	158	139	84.2	3.66	4.08	5,010
July	38	19	26.4	1.15	1.33	1,620
August	26	17	19.1	.831	.96	1,170
September	27	16	18.6	.809	.90	1,110
The year	1,130	16	152	6.61	89.88	110,000

WILLAMETTE RIVER BASIN

MIDDLE FORK OF WILLAMETTE RIVER AT EULA, OREG.

LOCATION.—In sec. 18, T. 20 S., R. 2 E., a quarter of a mile southwest of railroad station and post office of Eula, Lane County, and 8 miles below mouth of North Fork.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—July 1, 1923, to September 30, 1925.

GAGE.—Inclined staff in sections on right bank; read by Eula Blakely.

DISCHARGE MEASUREMENTS.—Made from cable 1 mile above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and small boulders; shifting in floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.0 feet January 30 (discharge, 19,500 second-feet); minimum stage, 1.92 feet September 23 (discharge, 574 second-feet).

1923–1925: Maximum stage recorded, that of January 30, 1925; minimum discharge recorded, 495 second-feet September 11 and 18–20, 1924.

ICE.—Stage-discharge relation affected by ice only during extremely cold weather.

DIVERSIONS.—None.

REGULATION.—Considerable diurnal fluctuation during low water due to operation of logging dam 10 miles upstream; readings at 7.30 a. m. are believed to represent daily average fairly closely.

ACCURACY.—Stage-discharge relation changed December 30. Rating curves well defined below 3,000 second-feet and fairly well defined below 6,000 second-feet. Gage read once a day to tenths at medium and high stages, to quarter-tenths at low water. Daily discharge ascertained by applying mean daily gage reading to rating table. Records good.

Discharge measurements of Middle Fork of Willamette River at Eula, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 9	5.20	4,260	Mar. 11	3.70	2,250
Jan. 23	5.40	5,120	July 16	2.54	1,050

Daily discharge, in second-feet, of Middle Fork of Willamette River at Eula, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	690	10,200	2,690	8,010	10,400	3,330	2,530	3,630	4,100	1,700	850	700
2	690	8,890	3,140	7,000	9,990	3,330	2,400	3,630	5,120	1,700	850	700
3	850	6,390	3,140	6,050	10,400	3,190	2,660	3,480	4,950	1,600	850	700
4	1,310	5,410	3,140	6,430	15,200	3,190	2,790	3,480	5,120	1,500	930	700
5	1,030	5,410	4,460	6,620	16,800	3,050	2,920	4,100	3,940	1,400	890	630
6	690	2,840	3,950	6,430	12,400	2,920	2,920	4,440	3,480	1,300	850	735
7	690	3,440	3,610	5,670	9,770	2,790	2,790	4,440	3,330	1,300	810	810
8	770	3,950	3,440	5,120	9,330	2,660	2,920	3,940	3,050	1,300	770	930
9	850	4,290	3,290	4,780	8,010	2,660	3,190	3,330	3,050	1,250	770	890
10	770	4,840	3,290	4,100	6,810	2,400	3,630	3,480	2,920	1,160	770	850
11	770	3,290	3,290	3,780	6,050	2,270	4,100	3,480	2,660	1,110	770	850
12	770	2,990	3,290	4,100	5,670	2,270	4,100	3,330	2,660	1,110	770	810
13	690	2,990	3,290	4,270	5,300	2,270	3,780	3,190	2,530	1,110	770	810
14	690	3,140	3,140	4,100	5,120	2,150	3,780	3,330	2,400	1,020	770	770
15	690	3,140	2,990	3,940	4,440	2,150	4,610	3,480	2,400	1,020	735	770

Daily discharge, in second-feet, of Middle Fork of Willamette River at Eula, Oreg., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	690	3,290	2,990	3,480	3,780	2,150	5,860	3,780	2,270	1,060	735	770
17	690	3,610	2,840	2,920	3,780	2,400	5,670	4,270	2,150	1,020	735	770
18	690	3,610	2,260	3,330	3,480	2,270	5,480	4,100	2,150	975	700	770
19	690	7,190	2,130	4,100	3,330	2,150	6,620	3,940	2,150	930	700	770
20	690	12,400	2,130	4,610	3,330	2,400	5,670	6,050	2,150	930	700	770
21	610	11,300	2,260	4,950	3,330	2,400	4,780	6,620	2,150	930	700	850
22	610	13,600	2,130	4,950	3,330	3,630	4,270	5,860	2,150	930	700	700
23	770	8,010	2,000	4,780	3,330	2,920	3,780	4,270	2,150	890	1,110	574
24	610	7,390	1,750	4,780	3,780	2,660	3,630	4,270	2,030	890	975	630
25	690	6,190	1,870	4,780	3,630	2,660	3,330	3,940	1,920	890	770	665
26	690	5,410	2,690	4,100	3,780	2,660	3,330	3,630	1,920	890	770	700
27	770	5,030	2,990	8,890	3,630	2,660	3,330	3,480	1,810	890	770	700
28	2,690	3,950	6,790	8,670	3,480	2,660	3,480	3,330	1,810	850	700	700
29	2,130	3,610	11,100	11,300	-------	2,660	3,480	3,480	1,810	850	700	700
30	2,130	2,390	19,500	12,900	-------	2,530	3,630	3,190	1,700	850	700	700
31	12,900	-------	10,900	11,100	-------	2,530	-------	3,190	-------	850	700	------

Monthly discharge of Middle Fork of Willamette River at Eula, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	12,900	610	1,290	79,300
November	13,600	2,390	5,610	334,000
December	19,500	1,750	4,080	251,000
January	12,900	2,920	5,810	357,000
February	16,800	3,330	6,490	360,000
March	3,330	2,150	2,640	162,000
April	6,620	2,400	3,850	229,000
May	6,620	3,190	3,940	242,000
June	5,120	1,700	2,730	162,000
July	1,700	850	1,100	67,600
August	1,110	700	785	48,300
September	930	574	747	44,400
The year	19,500	574	3,230	2,340,000

WILLAMETTE RIVER AT EUGENE, OREG.

LOCATION.—In SW. ¼ sec. 29, T. 17 S., R. 3 W., at highway bridge at Eugene, Lane County.

DRAINAGE AREA.—2,050 square miles (revised; measured on base map of Oregon).

RECORDS AVAILABLE.—June 1, 1919, to September 30, 1925. Record at Springfield November 27, 1911, to September 30, 1913.

GAGE.—Vertical staff graduated to tenths, fixed to first pier from left bank of highway bridge; read by G. M. deBrokert.

DISCHARGE MEASUREMENTS.—Made from highway bridge at Springfield 4 miles above gage.

CHANNEL AND CONTROL.—Bed composed of gravel and sand; subject to shift at high stages. Channel straight with even current.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.2 feet at 8 a. m. February 5 (discharge, 55,100 second-feet); minimum discharge, 550 second-feet October 19–26.

1911–1913; 1919–1925: Maximum stage recorded, 18.0 feet January 7, 1923 (discharge, 72,500 second-feet); minimum discharge, 550 second-feet September 6–8, 15–18, and October 19–26, 1924.

Maximum stage in recent years from records of United States Weather Bureau, 21.5 feet November 23, 1909 (discharge, about 96,000 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—Operation of logging dam near Oak Ridge causes some diurnal fluctuation.

ACCURACY.—Stage-discharge relation somewhat unstable; shifted twice during floods. Rating curves used as follows: October 1–31, well defined; November 1 to December 29, fairly well defined; December 30 to September 30, well defined below 13,000 second-feet and fairly well defined between 13,000 and 20,000 second-feet. Gage read to tenths once a day; twice a day in floods. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

COOPERATION.—Gage-height record furnished by United States Weather Bureau.

Discharge measurements of Willamette River at Eugene, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 8	7.00	14,900	Feb. 14	5.65	11,400	July 17	1.10	1,220
Nov. 11	5.63	9,840	Mar. 11	3.28	4,380			
Jan. 22	5.60	11,500	Mar. 23	3.25	4,380			

Daily discharge, in second-feet, of Willamette River at Eugene, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	680	49,600	3,880	21,000	29,400	6,140	3,820	5,620	3,820	1,960	1,010	880
2	760	43,200	4,020	19,500	29,400	5,620	3,820	5,620	6,140	1,960	940	880
3	840	29,500	4,820	15,400	28,300	5,380	3,820	5,140	8,560	1,730	1,010	880
4	930	13,700	4,820	15,400	47,900	5,140	4,020	4,900	7,300	1,730	1,010	880
5	1,320	17,000	10,400	22,000	52,600	5,140	4,660	4,900	6,420	1,620	1,010	820
6	760	14,100	9,780	23,400	35,800	4,900	5,140	4,900	5,880	1,620	940	820
7	930	14,900	7,940	18,500	29,400	4,660	4,900	5,140	3,120	1,520	940	880
8	610	16,200	6,640	14,500	26,700	4,220	4,900	5,140	4,900	1,520	940	1,080
9	680	12,200	6,640	12,900	27,200	4,220	4,660	4,900	4,440	1,420	940	1,010
10	1,320	16,200	6,160	12,900	20,500	4,440	4,660	4,440	4,020	1,420	940	1,010
11	840	10,400	6,160	13,700	17,100	4,220	4,900	5,380	3,820	1,330	940	1,010
12	760	9,460	5,700	12,100	16,200	3,820	6,140	4,660	3,640	1,330	940	1,010
13	610	7,660	5,480	13,700	14,500	3,820	5,620	4,440	3,460	1,240	880	940
14	610	6,400	5,040	12,900	12,100	3,640	5,380	4,660	3,280	1,240	880	1,010
15	610	6,640	4,600	13,700	10,600	3,640	5,880	4,660	3,120	1,330	940	880
16	610	7,140	4,820	12,100	9,240	3,640	9,580	4,900	2,960	1,240	940	940
17	760	6,640	4,200	9,240	8,560	4,020	9,580	6,700	2,800	1,240	940	880
18	760	6,640	3,480	7,920	4,900	4,220	9,580	6,140	2,800	1,240	940	1,010
19	550	7,940	3,140	11,000	6,140	4,220	16,200	5,880	2,650	1,160	880	1,080
20	550	17,000	3,140	12,100	6,140	4,020	20,000	5,880	2,650	1,080	880	1,520
21	550	20,700	3,140	12,100	6,140	4,220	15,400	11,400	2,650	1,080	880	1,240
22	550	42,200	2,980	12,900	6,420	4,440	12,500	9,920	2,500	1,240	880	940
23	550	24,200	2,980	12,100	6,420	4,440	11,800	7,600	2,500	1,160	940	1,080
24	550	14,900	2,830	13,700	8,560	4,220	11,800	6,140	2,500	1,160	1,240	820
25	550	10,400	2,830	12,900	8,560	4,020	8,560	5,620	2,360	1,160	1,010	820
26	550	8,540	2,680	11,000	9,420	3,820	7,300	5,140	2,360	1,010	940	820
27	680	6,640	2,540	23,400	7,300	3,820	6,700	4,660	2,220	1,080	940	820
28	2,110	5,920	2,540	27,200	6,700	4,020	6,140	4,220	2,220	1,080	880	880
29	4,980	5,040	7,940	29,400	-------	4,220	5,880	4,900	1,960	1,080	880	1,010
30	5,960	4,600	55,000	39,100	-------	4,020	5,620	4,400	2,090	1,010	880	1,010
31	19,900	-------	38,000	29,400	-------	4,020	-------	4,400	-------	1,010	880	------

Monthly discharge of Willamette River at Eugene, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	19,900	550	1,690	104,000
November	49,600	4,600	15,200	904,000
December	55,000	2,540	7,560	465,000
January	39,100	7,920	16,700	1,030,000
February	52,600	6,700	17,600	978,000
March	6,140	3,640	4,330	266,000
April	20,000	3,820	7,630	454,000
May	11,400	4,220	5,560	342,000
June	8,560	1,960	3,640	217,000
July	1,960	1,010	1,320	81,200
August	1,240	880	942	57,900
September	1,520	820	962	57,200
The year	55,000	550	6,840	4,960,000

WILLAMETTE RIVER AT ALBANY, OREG.

LOCATION.—In SW. ¼ sec. 6, T. 11 S., R. 3 E., at end of Broadalbin Street, Albany, Linn County, half a mile above Southern Pacific Railroad bridge, just below mouth of Calapooya River, and 9 miles above Santiam River.

DRAINAGE AREA.—4,860 square miles.

RECORDS AVAILABLE.—November 24, 1878, to April 30, 1882; January 21, 1892, to September 30, 1925; some fragmentary records 1883 to 1888.

GAGE.—Vertical staff on right bank; read by F. M. French.

DISCHARGE MEASUREMENTS.—Made from Southern Pacific bridge.

CHANNEL AND CONTROL.—Bed composed of sand and fine gravel. Control practically permanent. Above gage height of 17 feet some water flows through a slough several hundred feet to left of main channel.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 23.5 feet at 10 p. m. February 6 (discharge, 130,000 second-feet); minimum stage, 0.4 foot August 18–23 and September 3–5 (discharge, 2,460 second-feet).

1878–1882; 1892–1925: Maximum stage recorded, 32.8 feet January 14, 1881 (discharge, 245,000 second-feet); minimum stage recorded, 0.2 foot September 21–27, 1879 (discharge, 1,870 second-feet, somewhat uncertain). Lowest stages recorded in recent years are 0.4 foot October 30 to November 10, 1895 (discharge, 2,220 second-feet); and 0.5 foot August 26 to September 25, 1905, and September 5–14, 1915 (discharge, 2,400 second-feet).

Maximum stage ever known was 36.0 feet December 8, 1861 (discharge estimated from extension of rating curve, 302,000 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Albany power canal has diverted water from South Santiam River near Lebanon and discharged into Willamette River above gage and measuring section since the early nineties. It ordinarily carries between 100 and 250 second-feet.

REGULATION.—Practically none.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Gage read to tenths once a day. Daily discharge ascertained by applying daily gage reading to rating table. Records good.

COOPERATION.—Gage-height record furnished by United States Weather Bureau.

Discharge measurements of Willamette River at Albany, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 1	4.98	14,200	Feb. 15	9.20	33,400
Jan. 19	6.60	20,400	July 15	1.37	4,300

Daily discharge, in second-feet, of Willamette River at Albany, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,920	35,600	14,800	93,300	82,200	19,100	10,600	13,800	10,300	5,320	3,090	2,610
2	2,920	59,500	14,200	63,500	74,800	17,500	10,600	13,800	10,300	5,320	3,090	2,610
3	2,920	90,600	15,200	50,000	74,800	15,900	10,600	13,100	14,200	5,080	3,090	2,460
4	3,260	85,400	16,700	43,500	80,600	15,200	10,600	12,500	15,200	5,080	3,090	2,460
5	3,260	54,000	21,200	43,500	102,000	14,500	10,300	12,200	14,500	4,860	2,920	2,460
6	3,090	48,000	32,000	48,500	126,000	13,800	10,900	11,800	14,200	4,860	2,920	2,610
7	3,090	42,500	29,200	54,000	110,000	13,100	10,900	11,500	13,500	4,640	2,920	2,760
8	2,920	44,000	25,200	46,000	85,400	13,100	10,900	11,200	11,800	4,420	2,920	3,090
9	2,920	49,000	21,200	38,000	73,400	12,800	10,600	11,800	10,600	4,220	2,920	3,260
10	3,090	45,000	19,100	33,800	68,400	12,200	10,600	11,800	9,700	4,220	2,920	3,260
11	3,090	42,000	17,500	33,300	56,500	11,500	10,600	11,200	9,400	4,220	2,920	3,260
12	3,090	32,800	17,500	33,300	47,500	11,200	11,800	12,800	9,100	4,220	2,760	3,090
13	3,090	29,200	16,300	31,500	43,500	11,200	13,500	11,800	8,800	4,020	2,760	3,090
14	3,090	23,400	15,200	32,400	38,000	10,900	12,800	11,800	8,500	4,020	2,610	3,090
15	3,090	19,500	14,500	31,500	32,400	10,600	12,500	11,800	8,200	4,020	2,610	2,920
16	2,920	19,100	15,200	30,600	28,800	10,300	14,500	12,200	7,920	4,020	2,610	2,920
17	2,920	18,300	14,800	27,900	25,600	10,300	19,100	12,200	7,640	4,020	2,610	3,090
18	2,920	17,500	14,200	23,400	21,200	10,000	19,900	14,200	7,360	4,020	2,460	3,090
19	2,920	19,100	11,500	20,300	17,900	10,000	21,600	14,200	7,080	4,020	2,460	3,090
20	2,920	29,200	10,600	27,000	17,900	11,200	34,600	14,200	6,820	3,820	2,460	3,090
21	2,920	47,500	9,700	29,700	17,500	11,500	39,000	14,200	6,560	3,820	2,460	3,090
22	2,760	59,000	8,200	34,200	18,300	11,500	34,200	22,000	6,300	3,820	2,460	3,090
23	2,760	76,200	7,640	34,600	19,500	11,800	29,700	19,900	6,040	3,820	2,460	3,090
24	2,760	80,600	7,080	33,300	22,500	11,500	27,400	16,300	5,800	3,440	2,760	2,920
25	2,760	50,500	6,820	32,800	26,100	11,200	26,100	14,500	5,800	3,440	3,260	2,920
26	2,760	34,200	6,560	32,800	25,600	10,900	25,200	13,100	5,800	3,440	3,440	2,920
27	2,760	26,100	6,300	32,800	23,400	10,900	18,300	11,800	5,800	3,440	3,440	2,920
28	3,440	21,200	6,300	46,000	21,600	10,900	16,300	10,900	5,800	3,260	3,090	2,760
29	5,800	19,500	15,200	58,000	-------	10,600	15,200	11,200	5,560	3,260	2,920	2,760
30	11,500	17,100	40,000	67,800	-------	10,600	14,500	11,500	5,560	3,260	2,760	3,440
31	15,600	-------	68,400	89,700	-------	10,600	-------	10,900	-------	3,260	2,610	------

Monthly discharge of Willamette River at Albany, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	15,600	2,760	3,750	231,000
November	90,600	17,100	41,200	2,450,000
December	68,400	6,300	17,400	1,070,000
January	93,300	20,300	41,800	2,570,000
February	126,000	17,500	49,300	2,740,000
March	19,100	10,000	12,100	744,000
April	39,000	10,300	17,400	1,040,000
May	22,000	10,900	13,100	806,000
June	15,200	5,560	8,800	524,000
July	5,320	3,260	4,060	251,000
August	3,440	2,460	2,830	174,000
September	3,440	2,460	2,940	175,000
The year	126,000	2,460	17,600	12,800,000

COAST FORK OF WILLAMETTE RIVER AT SAGINAW, OREG.

LOCATION.—In NW. ¼ sec. 15, T. 20 S., R. 3 W., at highway bridge at Saginaw, Lane County, 1 mile above mouth of Row River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 1, 1923, to April 30, 1925.

GAGE.—Chain gage on highway bridge; read by M. A. Horn for United States Weather Bureau.

DISCHARGE MEASUREMENTS.—Made from suspension footbridge one-fourth mile downstream or by wading.

CHANNEL AND CONTROL.—River generally sluggish and fairly straight. Control is well-defined gravel riffle 200 yards below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period October 1 to April 30, 11.4 feet at 8 a. m. November 1 (discharge, 20,800 second-feet); minimum stage, 0.50 foot October 1, 21, 23, and 24 (discharge, 65 second-feet).

1923–1925: Maximum stage recorded, that of November 1, 1925; minimum stage recorded, 0.48 foot October 3, 1923 (discharge, 61 second-feet).

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 6,000 second-feet; extended above. Staff gage read to tenths except at low stages when it is read to hundredths once a day October 1 to April 30. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Discharge measurements of Coast Fork of Willamette River at Saginaw, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 10	5.61	5,120	Mar. 22	2.20	926
Jan. 24	3.82	2,490	July 17	.66	109
Feb. 13	4.44	3,570			

Daily discharge, in second-feet, of Coast Fork of Willamette River at Saginaw, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
1	65	20,800	1,770	2,460	6,800	1,230	730
2	102	16,200	1,770	3,400	7,440	1,230	730
3	102	6,400	1,480	5,460	9,780	1,230	730
4	203	6,000	1,390	5,640	9,780	1,150	730
5	134	4,200	1,310	6,200	8,580	1,230	730
6	102	4,560	1,390	6,400	14,400	1,150	730
7	90	7,660	3,720	5,460	7,000	1,150	730
8	96	5,280	1,770	4,920	6,400	1,150	765
9	102	7,000	1,990	5,640	4,380	1,230	800
10	227	4,200	1,770	5,460	4,560	1,150	765
11	155	5,640	1,480	4,560	5,280	1,150	730
12	134	3,560	1,480	3,880	5,280	975	765
13	187	3,260	1,390	3,560	4,920	940	800
14	75	2,980	1,390	3,880	4,040	940	800
15	96	3,880	1,310	5,280	3,400	940	940
16	120	3,120	1,310	5,640	3,120	975	1,040
17	127	2,700	1,310	5,460	1,570	940	1,390
18	134	2,980	1,230	6,400	1,480	940	1,770
19	127	6,400	1,080	6,800	1,390	940	6,000
20	102	8,820	870	5,640	1,480	800	5,460
21	65	10,800	765	6,400	1,480	765	5,460
22	80	12,400	730	4,920	1,570	765	3,880
23	65	7,660	730	4,920	1,480	765	3,560
24	65	3,120	640	2,980	1,390	730	3,120
25	80	2,840	730	3,260	2,700	700	2,840
26	179	2,340	730	3,560	1,310	670	2,460
27	1,310	1,480	870	6,800	1,310	640	1,770
28	1,880	1,480	1,230	6,400	1,310	640	1,990
29	3,260	1,480	1,480	6,800	-------	640	1,770
30	3,720	1,080	6,800	7,880	-------	670	1,770
31	17,200	-------	3,120	6,400	-------	700	-------

Monthly discharge of Coast Fork of Willamette River at Saginaw, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	17,200	65	980	60,300
November	20,800	1,080	5,680	338,000
December	6,800	730	1,580	97,200
January	7,880	2,460	5,240	322,000
February	14,400	1,310	4,420	245,000
March	1,230	640	940	57,800
April	6,000	730	1,860	111,000
The period				1,230,000

McKENZIE RIVER AT McKENZIE BRIDGE, OREG.

LOCATION.—In sec. 14, T. 16 S., R. 5 E., at highway bridge at McKenzie Bridge, Lane County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 8, 1910, to September 30, 1925, with some breaks.

GAGE.—Vertical staff attached to right abutment of highway bridge at McKenzie bridge; read by S. L. Taylor, M. C. Hall, and Felix Sparks.

DISCHARGE MEASUREMENTS.—Made from cable three-eighths mile above ranger station.

CHANNEL AND CONTROL.—Bed rocky; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.04 feet at 6 p. m. February 4 (discharge, 7,420 second-feet); minimum stage, 0.40 foot October 13–26 (discharge, 890 second-feet).

1910–1925: Maximum stage recorded, 8.3 feet on January 6, 1923, determined by leveling to high-water marks (discharge from extension of rating curve, 18,000 second-feet); minimum discharge, that of October 13–26, 1924.

ICE.—Stage-discharge relation unaffected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed November 1. Rating curves well defined below 2,500 second-feet. Staff gage read to nearest 0.02 foot, once a day October 1 to May 17 and twice a day May 18 to September 30. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except above 2,500 second-feet, for which they are fair.

The following discharge measurements were made:

January 21, 1925: Gage height, 2.08 feet; discharge, 2,300 second-feet.

July 18, 1925: Gage height, 1.07 feet; discharge, 1,400 second-feet.

Daily discharge, in second-feet, of McKenzie River at McKenzie Bridge, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	968	2,550	1,840	2,210	5,370	1,840	1,630	1,840	1,840	1,430	1,310	1,170
2	968	3,540	1,880	2,210	5,770	1,840	1,590	1,840	1,840	1,430	1,270	1,170
3	968	2,310	1,930	2,110	7,420	1,840	1,590	1,840	1,840	1,430	1,270	1,170
4	968	1,840	1,930	2,210	7,420	1,840	1,590	1,930	1,800	1,430	1,270	1,190
5	908	1,750	1,930	2,550	6,370	1,840	1,590	1,930	1,750	1,430	1,270	1,190
6	908	1,670	1,880	2,310	6,370	1,750	1,590	1,930	1,750	1,430	1,270	1,190
7	908	1,590	1,880	2,310	5,370	1,750	1,590	1,930	1,750	1,430	1,270	1,180
8	908	1,550	1,840	2,310	4,770	1,750	1,590	1,930	1,750	1,430	1,270	1,160
9	908	1,510	1,750	2,110	3,700	1,750	1,590	1,930	1,750	1,430	1,270	1,140
10	908	1,470	1,750	1,930	3,540	1,750	1,670	1,930	1,750	1,430	1,240	1,140

Daily discharge, in second-feet, of McKenzie River at McKenzie Bridge, Oreg., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11	899	1,470	1,750	1,930	3,240	1,670	2,110	1,880	1,750	1,430	1,240	1,140
12	899	1,430	1,750	1,880	2,810	1,670	2,020	1,880	1,710	1,430	1,240	1,130
13	890	1,390	1,750	1,840	2,310	1,590	1,930	1,930	1,670	1,430	1,200	1,130
14	890	1,350	1,670	1,840	2,310	1,590	1,930	1,930	1,670	1,420	1,200	1,130
15	890	1,350	1,670	1,670	2,210	1,590	2,430	1,930	1,670	1,410	1,200	1,130
16	890	1,430	1,630	1,590	2,110	1,590	2,550	2,020	1,630	1,400	1,190	1,140
17	890	1,430	1,590	1,590	2,020	1,590	2,210	2,020	1,630	1,390	1,190	1,140
18	890	1,430	1,510	1,590	2,020	1,590	2,210	1,980	1,590	1,390	1,190	1,150
19	890	2,110	1,510	1,930	1,930	1,550	2,210	1,980	1,590	1,390	1,170	1,160
20	890	2,810	1,470	1,930	1,930	1,550	2,110	2,260	1,590	1,390	1,170	1,140
21	890	3,860	1,470	2,210	1,930	1,670	2,020	2,430	1,590	1,390	1,160	1,140
22	890	3,860	1,470	2,110	1,930	1,670	2,020	2,210	1,590	1,390	1,160	1,130
23	890	2,680	1,470	2,310	1,930	1,670	1,930	2,060	1,550	1,390	1,170	1,130
24	890	2,550	1,470	2,310	1,930	1,670	1,930	2,020	1,550	1,350	1,170	1,120
25	890	2,550	1,470	2,430	1,930	1,670	1,840	1,930	1,550	1,350	1,170	1,120
26	890	2,210	1,510	2,550	1,930	1,670	1,840	1,930	1,510	1,350	1,170	1,120
27	968	2,110	1,510	2,950	1,930	1,670	1,840	1,880	1,510	1,350	1,170	1,120
28	1,260	2,020	1,670	3,090	1,840	1,670	1,840	1,880	1,470	1,310	1,190	1,110
29	1,150	1,840	1,930	5,370	-------	1,630	1,840	1,980	1,470	1,310	1,190	1,100
30	1,280	1,840	2,210	4,970	-------	1,630	1,840	1,880	1,430	1,310	1,190	1,100
31	1,860	-------	2,550	5,370	-------	1,630	-------	1,840	-------	1,310	1,180	-------

Monthly discharge of McKenzie River at McKenzie Bridge, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,860	890	971	59,700
November	3,860	1,350	2,050	122,000
December	2,550	1,470	1,730	106,000
January	5,370	1,590	2,440	150,000
February	7,420	1,840	3,370	187,000
March	1,840	1,550	1,680	103,000
April	2,550	1,590	1,890	112,000
May	2,430	1,840	1,960	121,000
June	1,840	1,430	1,650	98,200
July	1,430	1,310	1,390	85,500
August	1,310	1,160	1,210	74,400
September	1,190	1,100	1,140	67,800
The year	7,420	890	1,780	1,290,000

McKENZIE RIVER NEAR VIDA, OREG.

LOCATION.—In NE. ¼ sec. 5, T. 17 S., R. 3 E., at Rennie ranch and suspension bridge, 1 mile above head of Martin Rapids and 5 miles above Vida, Lane County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 22, 1924, to September 30, 1925. At head of Martin Rapids, gage heights only June 25, 1910, to March 31, 1911.

GAGE.—Inclined gage on left bank 50 feet below suspension footbridge; read by C. E. Winter and employees of Eugene Water Board.

DISCHARGE MEASUREMENTS.—Made from suspension footbridge.

CHANNEL AND CONTROL.—Channel is wide, shallow, and straight. Banks high and are not overflowed. Current even and bottom fairly smooth. Control is well-defined coarse-gravel riffle 100 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period September 22, 1924, to September 30, 1925, 9.1 feet February 3 (discharge, about 26,700 second-feet); minimum stage not recorded.

ICE.—Stage-discharge relation unaffected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 10,000 second-feet. Staff gage read once a day to quarter-tenths September 25, 1924, to February 28, 1925; read occasionally after that date. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of McKenzie River near Vida, Oreg., for the period September 22, 1924, to September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
1924	*Feet*	*Sec.-ft.*	1925	*Feet*	*Sec.-ft.*
Sept. 22	0.49	1,420	Jan. 22	3.80	8,280
Nov. 10	2.20	4,080	Mar. 22	2.20	4,290
			July 17	1.12	2,210

Daily discharge, in second-feet, of McKenzie River near Vida, Oreg., for the period September 22, 1924, to September 30, 1925

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Sept.
1	------	1,520	11,100	3,930	9,520	15,500	------	------	------	------	------	------
2	------	1,460	15,500	5,030	8,280	17,200	------	------	------	------	2,520	------
3	------	1,460	7,400	4,350	4,570	20,400	------	------	------	------	------	------
4	------	1,520	6,290	6,560	9,520	26,700	------	------	------	------	------	------
5	------	1,480	6,020	6,290	13,500	21,900	------	------	------	------	------	------
6	------	1,520	5,270	5,270	9,520	13,800	------	------	------	------	------	------
7	------	1,520	4,800	4,570	7,400	12,800	------	------	------	------	------	------
8	------	1,460	4,570	4,570	6,560	10,500	------	------	4,570	------	------	------
9	------	1,460	4,800	3,930	5,760	9,840	------	------	------	------	------	------
10	------	1,480	4,140	4,570	6,560	8,580	------	------	------	------	------	------
11	------	1,460	3,930	4,800	7,980	7,980	------	------	------	------	------	------
12	------	1,550	3,720	4,570	8,280	7,400	------	------	------	------	------	------
13	------	1,520	3,350	4,350	8,580	6,560	------	------	------	------	------	------
14	------	1,520	3,720	4,140	5,030	6,290	------	------	------	------	------	------
15	------	1,520	3,530	4,140	4,570	5,510	------	------	------	------	------	------
16	------	1,520	3,720	4,140	4,570	5,270	------	------	------	------	------	------
17	------	1,520	3,720	3,440	3,930	4,570	------	------	------	------	2,220	------
18	------	1,480	3,720	3,170	4,140	4,350	------	------	------	------	------	------
19	------	1,460	10,200	3,000	10,200	4,350	------	------	------	------	------	------
20	------	1,460	16,900	3,170	6,020	4,570	------	------	------	------	------	------
21	------	1,460	21,500	3,080	9,520	4,570	------	------	------	------	------	------
22	1,450	1,460	17,200	2,830	8,280	4,800	4,140	------	------	------	------	------
23	------	1,480	10,800	2,830	8,580	5,270	------	------	------	------	2,150	1,690
24	------	1,460	8,280	2,670	8,280	5,510	------	------	------	------	------	------
25	2,020	1,480	6,290	2,600	7,120	5,270	------	5,030	------	2,830	------	------
26	1,950	1,520	5,510	2,520	8,580	5,030	------	------	------	------	------	------
27	1,690	1,950	4,800	2,520	12,800	5,030	------	------	------	------	------	------
28	1,520	3,530	4,570	5,510	12,100	4,800	------	------	------	------	------	------
29	1,630	2,830	4,350	17,200	20,400	------	------	------	------	------	------	------
30	1,630	2,920	4,140	14,500	19,000	------	------	------	------	------	------	1,880
31	------	10,200	------	10,500	15,800	------	------	------	------	------	------	------

Monthly discharge of McKenzie River near Vida, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	10,200	1,460	1,940	119,000
November	21,500	3,350	7,130	424,000
December	17,200	2,520	4,990	307,000
January	20,400	3,930	8,870	545,000
February	26,700	4,350	9,080	504,000
The period	------	------	------	1,900,000

LONG TOM RIVER NEAR MONROE, OREG.

LOCATION.—In sec. 21, T. 14 S., R. 5 W., at highway bridge 1½ miles north of Monroe, Benton County.

DRAINAGE AREA.—400 square miles.

RECORDS AVAILABLE.—November 13, 1920, to September 30, 1925.

GAGE.—Vertical staff on right abutment of bridge; read by William Pfouts.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of silt and gravel. Banks low and wooded. Control 400 feet below gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.9 feet 1 to 4 p. m. November 2 (discharge, 12,600 second-feet); minimum discharge, 9 second-feet August 16 and 17.

1920–1925: Maximum stage recorded, 14.4 feet January 7, 1923 (discharge, 18,600 second-feet); minimum discharge, 8 second-feet September 14–19 and 22, 1924.

ICE.—Stage-discharge relation not affected.

DIVERSIONS.—None.

REGULATION.—Probably some fluctuation at low stages due to pondage at mill dam at Monroe.

ACCURACY.—Stage-discharge relation changed during high water, date assumed as February 6. Rating curve used prior to February 6 well defined; fairly well defined curve thereafter. Gage read daily to 0.02 foot at medium and low stages; twice daily to tenths at high stages. Daily discharge ascertained by applying daily gage height to rating table; shifting-control method used on account of growth of aquatic plants October 1–24. Records good.

The following discharge measurements were made:

January 20, 1925: Gage height, 6.05 feet; discharge, 1,720 second-feet.

July 16, 1925: Gage height, 0.54 foot; discharge, 35.7 second-feet.

Daily discharge, in second-feet, of Long Tom River near Monroe, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	1,970	1,020	6,960	6,720	1,640	286	312	120	60	41	29
2	30	9,500	1,000	5,000	8,880	1,420	274	286	120	60	21	19
3	30	11,900	1,220	4,080	6,720	1,200	299	262	120	54	26	24
4	25	8,580	1,430	3,440	7,740	1,060	390	238	120	52	41	21
5	18	6,280	2,310	3,260	9,500	930	754	214	120	50	41	19
6	35	5,160	2,670	3,260	8,060	840	446	214	120	60	19	19
7	38	5,520	2,670	3,260	7,320	782	338	190	120	60	16	21
8	41	6,280	2,210	3,260	7,080	698	286	184	116	60	14	12
9	27	8,300	1,870	2,940	7,080	698	262	178	107	57	14	21
10	16	6,960	1,510	2,610	6,620	754	238	178	102	60	35	19
11	40	5,700	1,260	2,430	5,140	782	238	214	98	57	29	14
12	22	3,960	1,100	2,430	4,310	670	250	226	98	54	19	16
13	34	3,100	1,000	2,310	3,950	614	238	226	94	57	12	12
14	24	2,550	880	2,370	3,550	558	214	226	94	57	12	13
15	40	1,920	925	2,430	3,050	530	238	190	90	57	12	14
16	24	1,510	970	2,310	2,560	502	338	190	86	40	9	16
17	28	1,290	1,030	1,830	2,050	474	418	190	82	41	9	19
18	42	1,060	880	1,640	1,640	446	586	190	78	32	19	14
19	22	1,640	822	1,550	1,410	446	1,060	226	74	24	18	16
20	20	2,310	570	1,730	1,270	418	1,640	250	74	24	16	16
21	19	3,100	570	2,260	1,310	418	2,320	238	78	19	16	29
22	19	5,520	542	2,730	1,680	390	2,150	190	71	47	21	32
23	19	6,720	626	2,550	2,000	351	1,800	166	74	26	26	26
24	19	5,520	626	2,550	2,560	338	1,030	154	67	29	35	21
25	63	3,640	598	2,610	3,050	312	810	142	60	50	29	19
26	27	2,550	510	2,670	3,050	286	642	131	60	19	26	21
27	25	1,830	430	2,940	2,630	286	530	120	60	33	32	19
28	54	1,400	514	3,440	2,000	286	446	116	54	47	24	24
29	84	1,160	1,060	5,520	-------	299	432	116	60	35	19	32
30	238	1,030	2,730	7,480	-------	338	418	131	60	24	24	32
31	710	-------	8,300	7,740	-------	312	-------	131	-------	44	38	-------

Monthly discharge of Long Tom River near Monroe, Oreg., for the year ending September 30, 1925

[Drainage area, 400 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	710	16	60.1	0.150	0.17	3,700
November	11,900	1,030	4,270	10.7	11.94	254,000
December	8,300	430	1,410	3.52	4.06	86,700
January	7,740	1,550	3,280	8.20	9.45	202,000
February	9,500	1,270	4,390	11.0	11.45	244,000
March	1,640	286	615	1.54	1.78	37,800
April	2,320	214	646	1.62	1.81	38,400
May	312	116	194	.485	.56	11,900
June	120	54	89.2	.223	.25	5,310
July	60	19	44.7	.112	.13	2,750
August	41	9	23.0	.058	.07	1,410
September	32	12	20.3	.051	.06	1,210
The year	11,900	9	1,230	3.08	41.73	889,000

NORTH SANTIAM RIVER AT MEHAMA, OREG.

LOCATION.—In NW. ¼ sec. 18, T. 9 S., R. 2 E., at Mehama, Marion County, half a mile below mouth of Little North Santiam River and 1 mile north of Lyons railroad station.

DRAINAGE AREA.—740 square miles.

RECORDS AVAILABLE.—July 11, 1905, to March 31, 1907; October 11, 1910, to September 30, 1914; September 9, 1921, to September 30, 1925.

GAGE.—Staff in two sections on right bank; lower section inclined, upper vertical; read by W. P. Mulkey.

DISCHARGE MEASUREMENTS.—Made from highway bridge 200 feet above gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and boulders; shifting in floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 11.5 feet at 5 p. m. January 29 (discharge, 31,500 second-feet); minimum discharge, 520 second-feet October 21–24.

1905–1907; 1910–1914; 1921–1925: Maximum stage, 17.5 feet November 20, 1922, and January 6, 1923 (discharge, 62,000 second-feet); minimum stage, 1.45 feet September 18, 1924 (discharge, 420 second-feet).

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed below 8.0 feet during high water on November 21. Rating curves fairly well defined below 15,000 second-feet. Staff gage read to half-tenths once a day except January 29 and February 3, when it was read twice daily. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good.

Discharge measurements of North Santiam River at Mehama, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 30	3.65	3,540	July 14	2.04	1,090
Jan. 18	3.52	3,440	July 30	1.79	840

Daily discharge, in second-feet, of North Santiam River at Mehama, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,200	11,100	3,530	7,960	14,400	4,130	2,980	4,130	2,800	1,480	850	715
2	1,580	27,000	4,130	7,440	16,800	3,920	2,980	4,130	2,980	1,410	850	715
3	1,200	10,500	4,780	8,480	24,000	4,130	2,800	3,920	3,530	1,410	850	715
4	1,200	7,600	5,220	8,480	20,800	3,920	2,980	3,720	3,920	1,340	850	670
5	870	8,160	7,700	9,900	25,500	3,720	3,160	4,130	3,530	1,280	805	670
6	780	6,300	5,460	9,300	15,200	3,530	3,160	4,780	3,160	1,280	805	670
7	690	5,280	4,560	7,180	11,100	3,160	2,980	4,780	2,980	1,280	805	715
8	690	6,040	3,920	6,420	9,900	2,980	3,160	4,130	2,980	1,220	805	805
9	870	5,780	3,920	5,460	9,300	2,800	3,920	3,530	2,980	1,220	760	715
10	870	4,800	3,920	6,660	8,740	2,620	4,780	3,340	2,800	1,160	760	670
11	780	3,900	5,460	5,460	7,180	2,450	5,460	3,530	2,800	1,160	760	670
12	690	2,960	5,460	5,220	6,180	2,450	6,180	3,340	2,800	1,160	760	670
13	690	2,960	4,780	4,780	5,700	2,290	5,000	3,340	2,800	1,050	760	670
14	690	2,630	4,780	4,780	5,220	2,290	4,560	4,560	2,620	1,050	760	670
15	600	2,960	4,340	4,340	4,340	2,290	4,780	4,130	2,450	1,050	760	670
16	600	3,140	3,920	3,920	3,920	2,290	7,180	4,340	2,290	1,050	760	670
17	600	3,140	3,340	3,530	3,720	4,560	6,660	5,700	2,290	1,050	760	670
18	600	2,960	2,980	3,340	3,340	3,340	5,940	4,780	2,290	1,050	760	670
19	600	15,600	2,620	9,300	3,160	2,980	7,960	5,220	2,290	1,000	760	850
20	600	19,600	2,620	6,660	3,160	5,940	7,180	4,780	2,290	1,000	760	805
21	520	12,000	2,620	11,700	4,130	5,220	5,940	9,600	2,290	950	760	715
22	520	27,500	2,450	9,300	5,000	4,780	5,460	6,920	2,450	900	805	670
23	520	14,400	2,130	8,740	5,000	4,340	5,220	5,460	2,130	900	805	670
24	520	8,480	1,980	9,020	6,420	3,720	4,780	4,560	1,980	900	760	670
25	600	6,660	1,980	7,700	5,700	3,720	4,130	3,920	2,130	850	760	670
26	690	5,460	1,830	6,180	5,460	3,720	3,920	3,720	2,130	850	760	670
27	870	4,560	1,830	11,700	5,000	3,530	3,920	3,530	1,980	850	760	670
28	2,790	3,920	3,340	10,800	4,560	3,340	3,920	3,340	1,830	850	760	670
29	3,900	3,720	6,660	20,400	-------	2,980	4,340	3,720	1,680	850	715	670
30	3,900	3,720	15,600	21,600	-------	2,980	4,340	3,160	1,540	850	715	715
31	9,000	-------	9,300	19,600	-------	2,980	-------	2,980	-------	850	715	------

Monthly discharge of North Santiam River at Mehama, Oreg., for the year ending September 30, 1925

[Drainage area, 740 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	9,000	520	1,300	1.76	2.03	79,900
November	27,500	2,630	8,090	10.9	12.16	481,000
December	15,600	1,830	4,420	5.97	6.88	272,000
January	21,600	3,340	8,560	11.6	13.37	526,000
February	25,500	3,160	8,680	11.7	12.18	482,000
March	5,940	2,290	3,450	4.66	5.37	212,000
April	7,960	2,800	4,660	6.30	7.03	277,000
May	9,600	2,980	4,360	5.89	6.79	268,000
June	3,920	1,540	2,560	3.46	3.86	152,000
July	1,480	850	1,070	1.45	1.67	65,800
August	850	715	776	1.05	1.21	47,700
September	850	670	696	.941	1.05	41,400
The year	27,500	520	4,020	5.43	73.60	2,900,000

SOUTH SANTIAM RIVER AT WATERLOO, OREG.

LOCATION.—In NW. ¼ sec. 28, T. 12 S., R. 1 W., 4 miles above Hamilton Creek, at Waterloo, Linn County.

DRAINAGE AREA.—640 square miles.

RECORDS AVAILABLE.—July 28, 1905, to March 31, 1907; October 3, 1910, to December 30, 1911; July 1, 1923, to September 30, 1925.

GAGE.—Inclined staff on left bank, 200 yards below former highway bridge, on which was located the gage used 1905–1911; read by Leo Lueck.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge 4 miles downstream, and below Hamilton Creek, the flow of which is deducted.

CHANNEL AND CONTROL.—Bed composed of gravel and small boulders; may shift during extreme floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.0 feet November 23 (discharge, 49,000 second-feet); minimum discharge, 100 second-feet September 16, 17, 26, and 27.

1905–1907; 1911; 1923–1925: Maximum recorded stage, that is considered reliable, 16.8 feet February 16, 1907 (discharge, 50,000 second-feet); minimum discharge, that of September 16, 17, 26, and 27, 1925.

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed below 4.3 feet during high water November 23. Rating curves fairly well defined below 15,000 second-feet. Gage read to half-tenths once a day at low stages; tenths at medium and high stages. Daily discharge ascertained by applying daily gage height to rating table. Records good except for discharges above 15,000 second-feet, for which they are fair.

Discharge measurements of South Santiam River at Waterloo, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 30	4.10	3,080	Feb. 15	4.76	4,150
Jan. 19	6.41	9,890	July 14	2.08	359

Daily discharge, in second-feet, of South Santiam River at Waterloo, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	365	27,200	2,620	23,200	17,700	2,430	2,820	1,920	2,430	595	215	175
2	430	36,400	3,020	21,700	20,200	2,250	3,240	2,080	2,430	560	215	260
3	570	20,200	3,680	20,700	27,200	2,250	3,680	2,250	2,620	560	215	260
4	570	8,230	4,420	15,700	27,200	2,080	3,020	2,250	2,620	490	215	310
5	430	10,200	7,180	14,700	33,800	2,080	2,620	2,620	2,250	490	215	310
6	430	8,230	9,830	16,700	22,200	2,430	2,250	2,620	2,250	490	215	310
7	430	11,700	2,620	12,700	15,200	2,430	2,250	2,620	2,080	490	215	370
8	500	11,200	3,680	11,700	16,200	3,020	2,250	2,620	2,080	430	215	310
9	650	8,630	3,460	8,630	14,200	3,920	2,250	2,430	1,840	430	215	310
10	650	6,480	3,240	8,230	9,030	2,620	2,250	2,430	1,770	400	215	260
11	650	5,840	3,240	6,830	8,230	1,920	2,430	2,430	1,620	400	215	215
12	430	4,940	3,240	6,830	7,180	1,770	4,160	2,080	1,620	400	207	215
13	430	4,160	3,240	6,480	5,520	1,770	3,680	2,080	1,480	370	195	175
14	365	3,680	3,460	5,840	4,680	1,620	3,240	2,250	1,340	370	195	175
15	310	3,680	3,460	4,680	3,920	1,620	2,620	2,430	1,280	340	195	135
16	205	3,680	3,240	4,680	3,460	1,620	3,020	2,430	1,160	340	195	100
17	205	14,700	3,240	4,680	2,820	1,620	4,940	2,620	1,100	310	183	100
18	205	15,200	3,240	4,420	2,820	1,620	7,880	2,430	990	310	183	135
19	205	19,700	3,240	6,160	2,250	2,250	9,830	2,620	940	300	175	175
20	165	27,700	3,460	9,830	2,430	3,920	8,230	2,620	890	285	175	175
21	165	32,200	3,240	17,700	2,620	3,460	7,880	3,020	990	285	175	175
22	135	35,400	2,820	12,700	3,020	3,460	6,830	3,460	890	285	175	175
23	165	49,000	2,620	15,700	3,920	3,240	6,160	3,240	800	285	175	135
24	165	28,200	2,250	17,200	4,160	3,240	5,220	2,820	755	270	167	135
25	255	26,200	2,080	17,700	4,160	3,240	4,420	2,430	710	260	167	135
26	310	22,200	1,920	17,200	3,680	3,240	3,920	2,250	670	260	167	100
27	365	20,700	1,770	17,700	3,240	3,460	2,620	2,250	630	260	167	100
28	2,040	17,700	1,770	17,200	2,250	3,460	2,620	2,250	670	251	175	175
29	2,670	5,220	1,770	17,700	-------	3,240	2,250	2,620	630	251	175	260
30	3,920	3,680	10,200	34,800	-------	3,020	1,620	2,620	630	238	175	215
31	20,200	-------	29,200	27,700	-------	2,820	-------	2,430	-------	224	175	------

Monthly discharge at South Santiam River at Waterloo, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	20,200	135	1,240	76,200
November	49,000	3,680	16,400	976,000
December	29,200	1,770	4,400	271,000
January	34,800	4,420	13,800	848,000
February	33,800	2,250	9,760	542,000
March	3,920	1,620	2,620	161,000
April	9,830	1,620	4,010	239,000
May	3,460	1,920	2,490	153,000
June	2,620	630	1,410	83,900
July	595	224	362	22,300
August	215	167	192	11,800
September	370	100	203	12,100
The year	49,000	100	4,609	3,400,000

CLACKAMAS RIVER AT BIG BOTTOM, OREG.

LOCATION.—In SE. ¼ sec. 26, T. 6 S., R. 7 E., half a mile above proposed dam site, just below Pot Creek, 10 miles above mouth of Oak Grove Fork, and 26 miles southeast of Cazadero, Clackamas County.

DRAINAGE AREA.—132 square miles (measured on topographic map).

RECORDS AVAILABLE.—April 11, 1920, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by employees of Portland Electric Power Co.

DISCHARGE MEASUREMENTS.—Made from cable 1,000 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of boulders. Control fairly permanent. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.55 feet at 4 p. m. February 3 (discharge, 3,740 second-feet); minimum stage, 1.44 feet October 6–8 and 19–23 (discharge, 220 second-feet).

1920–1925: Maximum stage recorded, 8.15 feet January 7, 1923 (discharge, 6,600 second-feet); minimum stage, 1.40 feet September 22, 1924 (discharge, 210 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly below 2.1 feet during high water February 3. Rating curves well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspecting recorder graph or, for days of considerable variation in stage, by averaging discharge for intervals of the day. Records excellent.

COOPERATION.—Field data furnished by Portland Electric Power Co.

Discharge measurements of Clackamas River at Big Bottom, Oreg., during the year ending September 30, 1925

Date	Gige height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 14	1.44	211	Feb. 6	4.86	2,020	May 13	2.56	610
Nov. 13	1.79	307	Feb. 7	4.28	1,580	June 29	1.74	312
Jan. 18	2.14	439	Feb. 18	2.37	527	July 15	1.64	286
Jan. 19	2.80	694	Mar. 29	2.13	440	Aug. 13	1.56	269
Jan. 20	2.63	632	Mar. 30	2.13	437			
Feb. 5	5.42	2,460	Apr. 17	3.42	998			

Daily discharge, in second-feet, of Clackamas River at Big Bottom, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	248	755	520	600	1,680	560	476	600	500	307	257	249
2	230	1,090	580	580	2,450	560	456	620	520	301	257	249
3	238	665	560	600	3,050	560	460	600	520	295	257	246
4	230	620	642	580	3,050	540	520	620	484	292	257	246
5	225	540	642	732	2,750	540	520	665	484	289	257	249
6	220	468	560	688	1,950	520	500	732	444	286	257	249
7	220	472	520	600	1,500	496	520	778	436	283	257	255
8	220	444	496	560	1,300	484	540	710	436	283	257	264
9	222	413	460	520	1,090	472	600	642	428	280	254	257
10	222	374	484	540	940	448	688	642	420	277	254	254
11	222	360	520	492	845	432	822	642	410	277	254	252
12	222	335	520	476	778	420	845	620	399	280	254	252
13	222	317	540	460	710	406	822	620	392	277	254	249
14	222	320	540	448	665	396	778	665	385	277	265	254
15	225	332	560	420	642	392	965	688	376	277	262	252
16	225	326	520	406	600	416	1,090	755	373	277	260	252
17	222	317	444	399	560	468	1,040	868	367	277	257	252
18	222	320	413	496	540	432	940	822	361	271	254	254
19	220	710	402	732	520	452	890	800	358	271	254	271
20	220	1,180	402	688	540	488	800	1,040	352	268	254	260
21	220	2,060	399	845	620	480	688	1,210	349	268	254	257
22	220	2,150	392	822	620	476	665	915	343	268	254	252
23	220	1,300	378	915	642	472	620	800	337	268	262	252
24	222	990	364	890	665	460	600	710	328	265	257	249
25	225	845	357	800	642	484	560	665	322	265	254	249
26	230	732	357	845	620	476	560	620	319	262	252	249
27	266	642	360	1,060	600	468	540	600	313	262	254	252
28	344	600	452	1,020	580	460	540	600	310	260	252	252
29	326	560	665	1,740	-------	444	560	580	307	260	252	254
30	317	520	822	2,400	-------	436	580	540	307	260	249	257
31	406	-------	665	2,150	-------	448	-------	540	-------	260	249	------

Monthly discharge of Clackamas River at Big Bottom, Oreg., for the year ending September 30, 1925

[Drainage area, 132 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	406	220	242	1.83	2.11	14,900
November	2,150	317	692	5.24	5.85	41,200
December	822	357	501	3.80	4.38	30,800
January	2,400	399	790	5.98	6.89	48,600
February	3,050	520	1,110	8.41	8.76	61,600
March	560	392	471	3.57	4.12	29,000
April	1,090	456	673	5.10	5.69	40,000
May	1,210	540	707	5.36	6.18	43,500
June	520	307	389	2.95	3.29	23,100
July	307	260	276	2.09	2.41	17,000
August	265	249	256	1.94	2.24	15,700
September	271	246	253	1.92	2.14	15,100
The year	3,050	220	526	3.98	54.06	380,000

CLACKAMAS RIVER ABOVE THREE LYNX CREEK, OREG.

LOCATION.—In NE. ¼ sec. 21, T. 5 S., R. 6 E., one-fourth mile above Three Lynx Creek and 25 miles above Estacada, Clackamas County.

DRAINAGE AREA.—488 square miles (measured on Forest Service map).

RECORDS AVAILABLE.—October 1, 1911, to December 31, 1913; October 1, 1921, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by employees of Portland Electric Power Co.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL, AND CONTROL.—Bed composed of heavy gravel and boulders, overlain with some lighter material washed in from construction operations immediately above.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 10.73 feet at 7 p. m. November 21 (discharge, 18,800 second-feet); minimum stage, 0.87 foot at 12.30 p. m. August 7 (discharge, 445 second-feet, Oak Grove power plant shut down temporarily).

1911–1913; 1922–1925: Maximum stage recorded, 15.2 feet January 6, 1923 (discharge, 33,700 second-feet); minimum discharge, 375 second-feet August 10 and 16, 1924.

ICE.—Ice never forms.

DIVERSIONS.—None.

REGULATION.—Some fluctuation during low water due to operation of Oak Grove power project; monthly mean unaffected.

ACCURACY.—Stage-discharge relation changed during high water on November 21. Rating curves well defined below 8,000 second-feet. Operation of water-stage recorder satisfactory throughout year. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspecting recorder graph or, for days of considerable variation in stage, by averaging discharges for intervals of the day. Records good except above 8,000 second-feet, for which they are fair.

COOPERATION.—Field data furnished by Portland Electric Power Co.

Discharge measurements of Clackamas River above Three Lynx Creek, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 31	3.15	2,000	Feb. 9	5.17	4,810	May 1	3.40	2,600
Nov. 23	5.75	6,130	Feb. 14	3.62	2,770	May 16	3.63	2,820
Dec. 3	3.25	2,280	Mar. 3	3.36	2,466	June 3	2.82	1,870
Dec. 5	4.12	3,390	Mar. 20	3.36	2,480	July 11	1.91	1,160
Dec. 30	5.16	4,850	Apr. 2	2.78	1,870	Aug. 12	1.37	732
Jan. 5	4.68	4,260	Apr. 20	4.22	3,530	Sept. 15	1.44	793

Daily discharge, in second-feet, of Clackamas River above Three Lynx Creek, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	825	4,660	1,780	3,150	8,270	2,460	1,980	2,520	1,830	1,000	767	702
2	790	8,090	2,460	3,020	12,600	2,460	1,880	2,520	1,930	1,000	747	695
3	825	3,900	2,400	3,350	15,300	2,460	1,880	2,460	1,880	970	774	708
4	790	3,460	3,220	4,700	14,200	2,340	2,030	2,460	1,880	1,000	695	695
5	720	3,110	3,350	4,120	12,800	2,340	2,030	2,640	1,830	970	767	669
6	688	2,420	2,700	3,700	9,450	2,180	2,030	2,960	1,690	970	802	688
7	655	2,420	2,340	3,080	6,800	2,030	2,080	3,150	1,640	970	747	695
8	688	2,360	2,080	2,700	6,000	1,980	2,130	2,760	1,640	970	740	669
9	720	2,200	1,880	2,460	5,030	1,930	2,520	2,460	1,600	970	708	695
10	688	1,890	1,230	2,580	4,120	1,780	3,080	2,400	1,600	900	760	669
11	688	1,760	1,520	2,340	3,560	1,740	3,420	2,400	1,560	900	734	695
12	655	1,580	2,580	2,290	3,220	1,640	3,560	2,340	1,510	900	734	669
13	655	1,410	2,640	2,180	2,960	1,600	3,280	2,340	1,470	900	728	650
14	655	1,370	2,700	2,080	2,760	1,510	3,080	2,640	1,470	830	767	676
15	648	1,450	2,580	1,930	2,640	1,560	3,840	2,580	1,430	830	760	662
16	655	1,450	2,290	1,780	2,460	1,740	4,400	2,820	1,390	865	721	669
17	642	1,370	1,930	1,690	2,340	2,240	4,120	3,220	1,310	830	754	662
18	642	1,370	1,640	2,290	2,180	1,980	3,840	3,020	1,350	830	734	630
19	629	5,040	1,640	4,120	2,130	2,030	3,840	3,150	1,310	795	695	795
20	622	7,690	1,600	3,560	2,130	2,460	3,490	3,360	1,230	830	747	682
21	622	12,500	1,600	4,700	2,760	2,400	3,150	4,900	1,270	830	721	682
22	616	11,100	1,510	4,400	2,890	2,340	2,890	3,700	1,270	865	721	643
23	622	5,800	1,430	5,030	3,080	2,340	2,760	3,020	1,190	760	760	643
24	629	4,120	1,350	4,550	3,560	2,180	2,580	2,760	1,110	816	774	669
25	629	3,220	1,310	3,840	3,280	2,240	2,340	2,520	1,190	816	714	695
26	688	2,700	1,310	4,120	3,020	2,180	2,290	2,340	1,110	774	708	662
27	860	2,290	1,350	5,400	2,820	2,030	2,240	2,180	1,080	830	747	643
28	1,530	2,080	1,780	5,030	2,640	1,980	2,180	2,290	1,040	767	734	643
29	1,620	1,930	3,660	9,350	------	1,880	2,340	2,240	1,080	774	714	682
30	1,620	1,780	4,860	10,700	------	1,880	2,520	2,030	1,040	760	695	688
31	2,090	------	3,490	10,200	------	1,830	------	1,880	------	760	702	------

Monthly discharge of Clackamas River above Three Lynx Creek, Oreg., for the year ending September 30, 1925

[Drainage area, 488 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	2,090	616	820	1.68	1.94	50,400
November	12,500	1,370	3,550	7.27	8.11	211,000
December	4,860	1,230	2,230	4.57	5.27	137,000
January	10,700	1,690	4,010	8.22	9.48	247,000
February	15,300	2,130	5,180	10.6	11.04	288,000
March	2,460	1,510	2,060	4.22	4.86	127,000
April	4,400	1,880	2,790	5.72	6.38	166,000
May	4,900	1,880	2,700	5.53	6.38	166,000
June	1,930	1,040	1,430	2.93	3.27	85,100
July	1,000	760	870	1.78	2.05	53,500
August	802	695	738	1.51	1.74	45,400
September	795	630	677	1.39	1.55	40,300
The year	15,300	616	2,230	4.57	62.07	1,620,000

CLACKAMAS RIVER NEAR CAZADERO, OREG.

LOCATION.—In NE. ¼ sec. 11, T. 4 S., R. 4 E., half a mile above backwater from Cazadero Dam of Portland Electric Power Co. and 3 miles southeast of Cazadero, Clackamas County.

DRAINAGE AREA.—665 square miles (measured on topographic map).

RECORDS AVAILABLE.—January 1, 1909, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by employees of Portland Electric Power Co.

DISCHARGE MEASUREMENTS.—Made from a cable half a mile below gage.

CHANNEL AND CONTROL.—Bed composed of rocks and gravel. Control practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 47.25 feet at 8.30 p. m. November 21 (discharge, 28,500 second-feet); minimum stage, 32.29 feet, 11 a. m. to noon September 27, caused by shutdown at power house at Three Lynx (discharge, 511 second-feet).

1909–1925: Maximum stage recorded from watermark inside of recorder shelter, 56.2 feet about 6 p. m. January 6, 1923 (discharge, 60,000 second-feet); minimum stage, 31.58 feet August 10, 1924 (discharge, 415 second-feet); minimum natural discharge, 690 second-feet.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—Flow is regulated to some extent by power house of Portland Electric Power Co. just above Three Lynx Creek. Water is diverted from Oak Grove Fork at intake and returned to Clackamas River through this power house. Except for a few hours after a shutdown, daily fluctuation at gage is small.

ACCURACY.—Stage-discharge relation changed during high water on November 21 and again on February 3. Rating curves well defined below and fairly well defined above 6,000 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean

daily gage height determined from recorder graph by inspection or, for days of considerable variation in stage, by averaging discharges for intervals of the day. Discharge December 20 and 21 interpolated. Records excellent except for discharges above 6,000 second-feet, for which they are fair.

COOPERATION.—Most of field data furnished by Portland Electric Power Co.

Discharge measurements of Clackamas River near Cazadero, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 24	32.42	784	Feb. 16	35.98	3,050	July 1	33.71	1,160
Oct. 30	34.53	2,070	Mar. 5	35.80	2,940	July 12	33.48	1,080
Nov. 26	36.73	3,490	Mar. 21	36.48	3,650	Aug. 11	33.06	828
Nov. 28	35.83	2,650	Mar. 27	35.59	2,800	Sept. 15	32.79	753
Jan. 7	27.26	4,410	Apr. 1	35.48	2,670	Sept. 27	32.36	529
Jan. 22	38.46	5,740	Apr. 17	35.98	3,160	Do	32.30	521
Feb. 12	36.93	4,050	June 8	34.88	2,100			

Daily discharge, in second-feet, of Clackamas River near Cazadero, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,020	7,340	2,170	4,550	9,400	3,190	2,660	3,300	2,280	1,210	945	820
2	995	12,200	3,060	4,690	10,100	3,300	2,560	3,190	2,370	1,180	895	798
3	1,230	6,520	3,060	5,250	17,600	3,190	2,560	3,080	2,370	1,180	845	820
4	1,080	5,150	4,160	5,110	16,000	3,080	2,760	3,080	2,420	1,150	870	820
5	940	4,860	4,830	4,550	14,400	2,970	2,660	3,190	2,280	1,150	870	820
6	840	3,660	3,650	5,390	10,200	2,760	2,660	3,520	2,190	1,150	895	820
7	815	3,920	3,060	4,290	7,850	2,560	2,660	3,850	2,100	1,090	870	870
8	890	3,920	2,650	3,770	7,270	2,460	2,760	3,520	2,060	1,090	920	895
9	995	3,660	2,300	3,290	6,320	2,460	3,300	3,080	2,010	1,090	820	845
10	940	3,080	2,850	3,770	5,410	2,280	3,850	2,970	2,010	1,090	820	820
11	890	2,790	3,530	3,290	4,760	2,140	4,400	2,970	1,960	1,060	895	798
12	840	2,390	3,530	3,170	4,180	2,060	4,520	2,860	2,010	1,060	870	820
13	840	2,080	3,530	2,950	2,760	1,960	4,180	2,760	1,840	1,060	870	775
14	840	1,990	3,530	2,850	3,630	1,880	3,960	3,080	2,010	1,030	920	845
15	815	2,210	3,290	2,550	3,410	1,920	4,520	3,080	1,880	970	920	820
16	815	2,210	2,850	2,350	3,190	2,190	5,540	3,300	1,800	1,060	820	820
17	790	2,160	2,350	2,080	2,970	3,190	5,280	3,850	1,720	1,000	895	820
18	765	2,080	2,080	2,750	2,760	2,760	4,760	3,630	1,680	1,000	870	820
19	765	4,710	1,990	5,530	2,660	2,860	5,150	3,740	1,600	970	870	920
20	740	11,000	1,940	4,830	2,760	4,070	5,020	4,180	1,560	970	870	870
21	740	17,100	1,890	6,440	3,410	3,740	4,400	6,320	1,530	970	870	870
22	740	15,600	1,830	6,130	3,630	3,410	4,070	4,890	1,530	970	845	820
23	740	8,200	1,710	6,760	3,850	3,190	4,070	3,960	1,460	945	870	798
24	740	5,830	1,600	6,280	4,640	2,970	3,850	3,520	1,390	970	970	820
25	765	4,420	1,560	5,110	4,290	3,080	3,520	3,190	1,330	970	870	820
26	790	3,530	1,560	5,250	3,960	2,970	3,300	2,860	1,330	970	845	845
27	1,050	2,950	1,530	6,920	3,740	2,760	3,190	2,760	1,300	920	920	745
28	2,080	2,550	2,170	6,440	3,410	2,660	3,080	2,760	1,270	870	870	798
29	1,520	2,350	5,710	11,300	-------	3,520	3,190	2,760	1,270	920	870	798
30	2,580	2,220	7,560	12,600	-------	2,420	3,300	2,560	1,240	895	820	845
31	3,420	-------	5,250	11,400	-------	2,370	-------	2,320	-------	870	870	------

Monthly discharge of Clackamas River near Cazadero, Oreg., for the year ending September 30, 1925

[Drainage area, 665 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	3,420	740	1,060	1.59	1.83	65,200
November	17,100	1,990	5,090	7.65	8.54	303,000
December	7,560	1,530	2,990	4.50	5.19	184,000
January	12,600	2,080	5,210	7.83	9.03	320,000
February	17,600	2,660	6,020	9.05	9.42	334,000
March	4,070	1,880	2,790	4.20	4.84	172,000
April	5,540	2,560	3,720	5.59	6.24	221,000
May	6,320	2,320	3,360	5.05	5.82	207,000
June	2,420	1,240	1,790	2.69	3.00	107,000
July	1,210	870	1,030	1.55	1.79	63,300
August	970	820	876	1.32	1.52	53,900
September	920	745	826	1.24	1.38	49,200
The year	17,600	740	2,870	4.32	58.60	2,080,00 0

OAK GROVE FORK AT TIMOTHY MEADOWS, OREG.

LOCATION.—In SW. ¼ sec. 23, T. 5 S., R. 8 E., at Timothy Meadows, 11¼ miles above station at intake, 17 miles above mouth of Oak Grove Fork, and 43 miles above Cazadero, Clackamas County.

DRAINAGE AREA.—54 square miles (measured on topographic map).

RECORDS AVAILABLE.—February 25, 1913, to November 26, 1916; July 14, 1918, to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by employees of Portland Electric Power Co.

DISCHARGE MEASUREMENTS.—Made from footbridge 20 feet above gage.

CHANNEL AND CONTROL.—Bed composed of gravel. Control fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage from water-stage recorder, 2.38 feet at 9 p. m. February 4 (discharge, 670 second-feet); minimum stage, 0.52 foot October 18–25 (discharge, 100 second-feet).

1913–1916; 1918–1925: Maximum stage recorded, 3.20 feet January 7, 1923 (discharge, 970 second-feet); minimum discharge, 100 second-feet November 11, 1915, and October 18–25, 1924.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during moderately high water on November 21–22; affected by ice December 20–27. Rating curves fairly well defined. Water-stage recorder operated satisfactorily throughout year. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records good.

COOPERATION.—Field data furnished by Portland Electric Power Co.

Discharge measurements of Oak Grove Fork at Timothy Meadows, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 8	0.55	106	Jan. 22	0.93	194	June 17	0.85	184
Nov. 15	.54	106	Mar. 27	.97	215	July 28	.67	145

Daily discharge, in second-feet, of Oak Grove Fork of Timothy Meadows, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	116	131	169	395	217	217	281	230	160	140	129
2	105	140	142	169	512	217	220	281	236	158	140	129
3	107	125	142	176	582	217	225	281	234	155	140	127
4	105	123	142	172	618	217	250	278	228	153	140	127
5	103	118	142	189	600	215	242	281	220	153	140	127
6	105	116	138	186	495	207	236	281	217	153	140	127
7	103	115	133	174	442	202	236	305	212	153	140	127
8	105	111	131	166	408	202	239	323	210	151	140	127
9	103	108	127	162	353	199	244	305	207	151	140	127
10	103	107	142	162	332	194	255	296	207	148	140	127
11	102	107	151	160	317	192	287	287	204	148	138	127
12	102	103	153	155	302	189	305	284	197	146	138	127
13	102	102	153	153	284	186	308	281	194	146	135	127
14	102	102	151	151	275	184	311	278	192	144	135	127
15	102	103	151	148	269	184	359	275	189	144	135	127
16	102	103	142	146	258	194	408	281	184	142	135	127
17	102	103	133	142	253	210	395	305	182	142	135	127
18	100	103	131	158	242	204	380	305	182	142	135	127
19	100	122	129	176	228	210	395	296	179	142	133	127
20	100	149		186	228	231	362	329	176	142	133	125
21	100	238		199	239	225	344	380	174	142	133	125
22	100	314		204	239	220	332	329	172	142	133	123
23	100	242		223	236	215	320	299	169	142	133	123
24	100	199	120	215	236	210	308	284	166	142	131	123
25	100	176		204	231	220	296	269	164	142	131	123
26	102	160		202	231	215	290	264	162	142	131	123
27	102	151		202	228	212	287	255	162	142	131	123
28	103	142	142	207	220	212	284	255	162	140	131	123
29	105	138	199	290	------	210	284	255	162	140	131	121
30	103	133	215	347	------	210	287	250	160	140	129	121
31	103	------	186	380	------	212	------	239	------	140	129	------

Monthly discharge of Oak Grove Fork at Timothy Meadows, Oreg., for the year ending September 30, 1925

[Drainage area, 54 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	107	100	103	1.91	2.20	6,330
November	314	102	139	2.57	2.87	8,270
December	215	----------	141	2.61	3.01	8,670
January	380	142	193	3.57	4.12	11,900
February	618	220	330	6.11	6.36	18,300
March	231	184	207	3.83	4.42	12,700
April	408	217	297	5.50	6.14	17,700
May	380	239	287	5.31	6.12	17,600
June	236	160	191	3.54	3.95	11,400
July	160	140	146	2.70	3.11	8,980
August	140	129	135	2.50	2.88	8,300
September	129	121	126	2.33	2.60	7,500
The year	618	100	190	3.52	47.78	138,000

OAK GROVE FORK AT PORTLAND ELECTRIC POWER CO.'S INTAKE, OREG.

LOCATION.—In SE. ¼ sec. 4, T. 6 S., R. 7 E., three-fourths mile above intake of Oak Grove power development of Portland Electric Power Co. and 35 miles above Estacado, Clackamas County.

DRAINAGE AREA.—126 square miles (measured by Portland Electric Power Co.).

RECORDS AVAILABLE.—December 3, 1923, to September 30, 1925. At site below Kink Creek half a mile downstream May 21, 1909, to December 2, 1923, with some breaks.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by employees of Portland Electric Power Co.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of boulders; irregular but apparently fairly permanent. A small spring-fed tributary enters just below cable, discharge of which is included in measurements.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.03 feet from 6 to 8 p. m. February 4 (discharge, 2,080 second-feet); minimum stage, 1.49 feet October 23 and 24 (discharge, 301 second-feet).

1909–1925: Maximum stage recorded, 5.45 feet (at old stage) January 7, 1923 (discharge, 5,000 second-feet); minimum discharge occurred October 23 and 24, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly at low stage in October, owing to some unknown cause; change estimated to have occurred at the time of the first slight rise on October 27. Rating curves well defined. Operation of water-stage recorder satisfactory during year. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records excellent except for October, for which they are good.

COOPERATION.—Field data furnished by Portland Electric Power Co.

Discharge measurements of Oak Grove Fork at Portland Electric Power Co.'s intake, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 28	1.65	362	Jan. 12	2.00	518	June 10	1.98	534
Nov. 2	2.36	729	Feb. 4	3.77	1,840	July 21	1.69	387
Nov. 22	2.96	1,170	Apr. 3	2.09	604	Aug. 12	1.64	356
Dec. 2	2.00	513	Apr. 16	2.79	1,050	Sept. 9	1.61	350
Jan. 3	2.19	603	May 14	2.30	689			

Daily discharge, in second-feet, of Oak Grove Fork at Portland Electric Power Co.'s intake, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	336	500	445	608	1,320	618	602	728	580	411	369	346
2	332	659	505	608	1,720	618	596	728	591	406	365	346
3	328	505	495	635	1,900	618	596	714	580	406	365	346
4	328	490	530	613	1,900	613	635	728	560	401	365	346
5	323	455	520	683	1,850	608	624	747	545	401	365	346
6	318	430	490	653	1,560	586	624	760	530	401	361	346
7	318	435	470	596	1,360	570	624	830	525	401	361	346
8	323	430	450	575	1,240	560	653	816	520	396	356	346
9	323	411	440	560	1,080	555	689	767	515	396	356	341
10	318	387	510	570	970	545	747	747	520	396	356	341
11	314	387	555	540	900	535	816	728	505	396	356	341
12	314	373	565	530	858	525	851	708	505	387	356	341
13	314	346	586	520	802	520	851	708	500	383	356	337
14	314	351	575	505	754	515	858	714	495	383	365	337
15	314	351	570	490	714	520	1,010	721	490	383	356	337
16	310	351	545	475	689	560	1,080	754	480	378	356	337
17	310	346	500	470	659	596	1,040	809	475	378	356	332
18	310	356	480	535	630	560	1,010	816	470	378	356	341
19	310	495	470	608	613	602	1,010	795	465	373	356	346
20	310	641	460	602	624	677	935	935	455	373	356	332
21	310	1,010	455	671	671	653	879	1,045	445	373	356	328
22	305	1,160	445	671	665	641	851	886	440	373	356	328
23	305	886	435	781	683	630	823	795	440	373	361	328
24	301	714	420	754	683	624	781	747	430	373	356	328
25	305	618	416	689	671	653	747	708	425	373	356	332
26	310	565	411	714	671	630	728	671	420	373	356	337
27	315	520	411	728	653	618	714	653	420	369	351	337
28	351	495	480	754	624	608	714	760	416	369	351	328
29	356	470	695	1,080	------	596	721	641	416	369	351	332
30	356	450	774	1,280	------	591	728	613	416	369	351	328
31	383	------	653	1,360	------	586	------	596	------	369	346	------

Monthly discharge at Oak Grove Fork at Portland Electric Power Co.'s intake, Oreg., for the year ending September 30, 1925

[Drainage area, 126 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	383	301	321	2.55	2.94	19,700
November	1,160	346	520	4.13	4.61	30,900
December	774	411	508	4.03	4.65	31,200
January	1,360	470	673	5.34	6.16	41,400
February	1,900	613	981	7.79	8.11	54,500
March	653	515	591	4.69	5.41	36,300
April	1,080	596	785	6.23	6.95	46,700
May	1,040	596	754	5.98	6.89	46,400
June	591	416	486	3.86	4.31	28,900
July	411	369	384	3.05	3.52	23,600
August	369	346	358	2.84	3.27	22,000
September	346	328	338	2.68	2.99	20,100
The year	1,900	301	556	4.41	59.81	402,000

LEWIS RIVER BASIN

LEWIS RIVER NEAR COUGAR, WASH.

LOCATION.—In SE. ¼ sec. 29, T. 7 N., R. 5 E., Skamania County, three-quarters of a mile above Peterson ranch, 1 mile below Swift Creek, and 5 miles above Cougar, Cowlitz County.

DRAINAGE AREA.—483 square miles.

RECORDS AVAILABLE.—July 1, 1910, to March 2, 1912; June 19, 1924, to September 30, 1925. July 27, 1909, to June 30, 1910, at site 1,000 feet above Swift Creek.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by Ole Peterson.

DISCHARGE MEASUREMENTS.—Made from cable 40 feet below gage.

CHANNEL AND CONTROL.—Coarse gravel and large boulders at control at head of island about 1,000 feet below gage with some sand at gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 10.3 feet at 3 p. m. February 3 (discharge, 23,100 second-feet); minimum discharge recorded, 656 second-feet October 7 and September 26.

1910–1912; 1924–25: Maximum stage recorded, 13.8 feet November 21, 1910 (discharge, not computed); minimum discharge, 500 second-feet September 22, 1924.

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed below 6.0 feet during high water February 3. Rating curves well defined below 20,000 second-feet. Water-stage recorder operated satisfactorily. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records good.

Discharge measurements of Lewis River near Cougar, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 17	0.68	768	Jan. 31	7.80	15,200	May 6	3.60	4,800
Nov. 7	4.30	6,250	Feb. 4	8.30	16,700	June 23	2.22	2,420
Dec. 4	3.00	3,240	Feb. 5	7.42	15,000	Aug. 12	.79	940
Dec. 30	2.90	3,280	Mar. 14	1.90	2,150	Sept. 19	.48	727
Jan. 30	6.45	12,000	Mar. 16	2.06	2,300			

Daily discharge, in second-feet, of Lewis River near Cougar, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	848	4,460	2,660	2,951	14,500	3,850	2,330	3,500	2,600	1,750	1,070	796
2	800	8,340	3,020	3,020	18,000	3,670	2,260	3,500	2,670	1,640	1,070	788
3	736	7,800	3,100	3,180	21,000	3,500	2,400	3,500	2,960	1,640		788
4	696	8,340	3,340	3,260	17,400	3,260	2,670	3,580	2,810	1,640		788
5	696	7,800	3,340	4,260	13,300	3,100	2,740	4,030	2,670	1,590		788
6	676	6,320	2,950	4,060	11,600	2,880	2,880	4,900	2,600	1,540	1,020	780
7	656	5,740	2,800	3,590	9,200	2,740	2,960	5,840	2,570	1,440		780
8	720	5,740	2,590	3,260	7,710	2,600	3,180	5,200	2,670	1,390		804
9	792	4,880	2,450	2,950	6,520	2,570	3,850	4,500	2,740	1,340	972	756
10	728	3,690	2,950	3,020	5,620	2,460	4,900	4,120	2,810	1,340	948	764
11	720	3,420	6,090	2,800	5,200	2,330	4,840	3,940	2,670	1,340	932	756
12	720	3,100	6,550	2,730	4,320	2,200	6,060	4,030	2,570	1,340	940	740
13	816	2,800	6,320	2,660	3,850	2,140	5,410	4,120	2,600	1,300	932	740
14	848	2,590	6,320	2,590	3,500	2,080	5,000	4,500	2,570	1,300	924	740
15	888	2,450	6,550	2,380	3,180	2,200	5,200	4,900	2,570	1,300	868	740
16	848	2,380	5,860	2,180	2,880	2,330	6,060	5,620	2,600	1,200	836	733
17	800	2,250	4,660	2,120	2,740	2,460	6,750	5,620	2,670	1,200	836	726
18	736	2,180	8,610	3,270	2,600	2,260	6,290	5,410	2,670	1,200	844	726
19	704	4,360	3,500	4,880	2,460	2,570	5,620	5,200	2,670	1,160	852	726
20	704	6,550	3,260	7,050	2,670	2,810	5,000	5,200	2,810	1,160	868	698
21	712	8,340	2,950	5,400	3,180	2,670	4,600	5,410	3,030	1,070	868	684
22	728	9,960	2,730	5,190	3,420	2,740	4,120	4,600	2,960	1,120	852	684
23	720	7,800	2,520	6,800	4,030	2,670	3,670	4,030	2,600	1,120	868	684
24	840	6,320	2,320	6,320	4,700	2,670	3,420	3,580	2,570	1,120	836	677
25	1,220	5,190	2,250	5,520	4,700	2,600	3,180	3,420	2,570	1,120	804	670
26	1,740	4,260	2,120	5,080	4,600	2,570	3,030	3,340	2,460	1,070	804	684
27	2,180	3,690	2,120	5,080	4,410	2,460	2,880	3,340	2,330	1,070	824	691
28	2,880	3,860	2,520	5,860	4,120	2,460	2,960	3,580	2,200	1,070	805	691
29	3,770	2,950	3,210	7,550	-------	2,330	2,880	2,760	2,020	1,070	780	740
30	4,360	2,730	3,340	10,800	-------	2,330	3,500	3,180	1,860	1,070	772	796
31	4,360	-------	3,020	15,600	-------	2,260	-------	2,810	-------	1,070	788	------

NOTE.—No gage-height record and discharge interpolated Oct. 6, July 31, Aug. 1, 3–8. Braced figure gives mean discharge for period indicated.

Monthly discharge of Lewis River near Cougar, Wash., for the year ending September 30, 1925

[Drainage area, 483 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	4,360	656	1,250	2.59	2.99	76,900
November	9,960	2,180	5,010	10.40	11.60	298,000
December	8,610	2,120	3,740	7.74	8.92	230,000
January	15,600	2,120	4,690	9.71	11.20	288,000
February	21,000	2,460	6,840	14.20	14.79	380,000
March	3,850	2,080	2,640	5.47	6.31	162,000
April	6,750	2,260	4,020	8.32	9.28	239,000
May	5,840	2,760	4,230	8.76	10.10	260,000
June	3,030	1,860	2,600	5.38	6.00	155,000
July	1,750	1,070	1,280	2.65	3.06	78,700
August	1,070	772	904	1.87	2.16	55,600
September	804	677	739	1.53	1.71	44,000
The year	21,000	656	3,130	6.48	88.12	2,270,000

LEWIS RIVER NEAR AMBOY, WASH.

LOCATION.—In sec. 36, T. 6 N., R. 3 E., at a former river crossing known as Cresap's Ferry, 1 mile below new bridge on country road between Amboy and Cougar, 1½ miles below Canyon Creek, 2 miles above Speilei Creek, and 5 miles northeast of Amboy, Clark County.

DRAINAGE AREA.—665 square miles (measured on map in Water-Supply Paper 253, p. 74, and checked on Forest Service map).

RECORDS AVAILABLE.—January 20, 1911, to September 30, 1925.

GAGE.—Inclined staff with vertical upper section on left bank; read by J. M. Hanley.

DISCHARGE MEASUREMENTS.—Made from cable 30 feet above gage.

CHANNEL AND CONTROL.—Bed composed of gravel and small boulders; shifts during extreme floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.5 feet at 6 p. m. February 3 (discharge, 38,600 second-feet); minimum stage, 0.02 foot September 24–26 (discharge, 822 second-feet).

1911–1925: Maximum stage determined by leveling to high-water marks 16.4 feet December 18,1917 (discharge estimated from extension of rating curve, 60,000 second-feet); minimum discharge recorded, 660 second-feet September 5–14 and 19–22, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed below 0.60 foot during high water February 3. Rating curves well defined below and fairly well defined above 15,000 second-feet. Staff gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table except December 27 when gage was not read and discharge was interpolated. Records good.

Discharge measurements of Lewis River near Amboy, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 16	0.74	1,430	Mar. 3	3.09	5,210	Aug. 12	0.42	1,190
Nov. 6	4.10	9,180	May 7	3.60	6,710	Sept. 24	.02	833
Dec. 7	2.65	4,290	June 22	2.01	3,200			

Daily discharge, in second-feet, of Lewis River near Amboy, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	1,570	6,520	3,490	5,440	19,900	5,570	3,120	4,520	3,120	2,050	1,170	926
2	1,680	13,400	4,740	6,800	27,800	5,440	3,120	4,520	3,120	1,920	1,170	919
3	1,460	9,520	4,300	6,800	35,600	4,960	3,300	4,520	3,490	1,920	1,130	912
4	1,310	10,900	5,700	9,200	27,200	4,740	3,490	4,520	3,880	1,920	1,130	905
5	1,160	10,200	5,700	10,500	21,800	4,300	3,780	4,960	3,580	1,800	1,090	905
6	1,090	8,300	4,960	8,000	16,800	3,980	3,880	5,960	3,300	1,800	1,090	905
7	1,030	8,900	4,520	6,800	13,000	3,880	3,880	6,520	3,120	1,740	1,090	912
8	1,240	9,200	3,980	5,960	11,200	3,680	4,100	5,960	3,400	1,680	1,090	905
9	1,460	8,300	3,780	5,960	9,520	3,490	4,740	5,200	3,300	1,680	1,090	905
10	1,260	6,520	4,960	5,960	8,300	3,490	6,240	4,850	3,680	1,620	1,090	905
11	1,160	8,000	12,600	4,960	6,800	3,120	7,100	4,740	3,490	1,570	1,090	884
12	1,160	5,200	10,500	4,740	6,100	3,120	7,400	4,740	3,300	1,570	1,090	870
13	1,570	4,300	9,200	4,300	5,440	3,040	6,800	4,960	3,300	1,520	1,090	870
14	1,570	4,300	8,900	3,980	4,850	2,950	6,660	5,200	3,300	1,520	1,050	870
15	1,460	4,080	9,520	3,580	4,520	3,300	6,240	5,700	3,120	1,460	1,050	870

Daily discharge, in second-feet, of Lewis River near Amboy, Wash., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	1,360	4,080	8,000	3,300	4,300	3,880	7,400	6,240	3,120	1,460	1,050	864
17	1,260	3,880	6,240	3,120	3,980	4,520	8,000	6,520	3,120	1,410	1,010	858
18	1,180	3,580	5,440	6,100	3,680	4,080	8,000	6,520	3,300	1,360	1,010	884
19	1,140	9,200	4,740	9,520	3,580	4,300	8,000	5,960	3,300	1,360	1,010	905
20	1,090	11,200	4,410	10,200	3,880	5,320	7,400	5,700	3,300	1,310	1,010	864
21	1,070	14,100	3,880	9,840	5,200	4,740	6,380	5,830	3,490	1,310	1,010	834
22	1,030	14,100	3,490	8,600	5,700	4,520	5,830	5,200	3,300	1,260	1,010	834
23	1,030	10,900	3,210	12,600	7,400	4,300	5,320	4,300	3,120	1,260	1,050	834
24	1,050	8,600	2,950	10,500	8,000	4,080	4,850	4,080	2,950	1,260	975	822
25	1,800	6,800	2,700	8,600	7,700	3,880	4,520	3,880	2,860	1,260	940	822
26	2,260	5,960	2,470	7,700	7,100	3,680	4,300	3,680	2,780	1,260	954	822
27	3,490	4,960	3,180	8,000	6,100	3,490	4,080	3,680	2,780	1,220	954	846
28	4,740	4,520	3,880	9,200	5,960	3,490	4,080	3,880	2,540	1,220	940	864
29	8,000	4,080	7,400	13,400	-------	3,300	3,980	4,100	2,330	1,220	940	858
30	7,400	3,680	6,800	18,000	-------	3,120	4,300	3,680	2,190	1,170	940	912
31	6,800	-------	5,700	22,800	-------	3,120	-------	3,490	-------	1,170	933	------

Monthly discharge of Lewis River near Amboy, Wash., for the year ending September 30, 1925

[Drainage area, 665 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	8,000	1,030	2,090	3.14	3.62	129,000
November	14,100	3,580	7,580	11.4	12.72	451,000
December	12,600	2,470	5,530	8.32	9.59	340,000
January	22,800	3,120	8,270	12.4	14.30	508,000
February	35,600	3,580	10,400	15.6	16.24	578,000
March	5,570	2,950	3,960	5.96	6.87	243,000
April	8,000	3,120	5,340	8.03	8.96	318,000
May	6,520	3,490	4,950	7.44	8.58	304,000
June	3,880	2,190	3,170	4.77	5.32	189,000
July	2,050	1,170	1,490	2.24	2.58	91,600
August	1,170	933	1,040	1.56	1.80	64,000
September	926	822	876	1.32	1.47	52,100
The year	35,600	822	4,510	6.78	92.05	3,270,000

LEWIS RIVER NEAR ARIEL, WASH.

LOCATION.—In SE. ¼ sec. 33, T. 6 N., R. 2 E., 3½ miles southwest of Ariel post office, Cowlitz County, and 12 miles by road above mouth of river

DRAINAGE AREA.—733 square miles.

RECORDS AVAILABLE.—July 27, 1922, to September 30, 1925; July 7 to November 30, 1909, for station at Ariel, 3½ miles upstream.

GAGE.—Inclined staff on right bank; read by Walter Chilton.

DISCHARGE MEASUREMENTS.—Made from cable 60 feet below gage.

CHANNEL AND CONTROL.—Gravel, smooth and fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.85 feet at 5 p. m. February 3 (discharge, 42,600 second-feet); minimum stage, 0.65 foot on September 22 and 23 (discharge, 880 second-feet).

1909; 1922–1925: Maximum discharge recorded, that of February 3, 1925; minimum discharge recorded, 760 second-feet September 12, 13, 18–22, 1924.

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed below a stage of 3.0 feet during the flood on February 3. Rating curves fairly well defined. Staff gage read to hundredths twice a day except during August and September when it was read only once a day. Daily discharge ascertained by applying mean daily or daily gage height to rating table. Records good.

Discharge measurements of Lewis River near Ariel, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 18	1.42	1,470	Feb. 2	11.85	32,900	Aug. 10	0.92	1,140
Nov. 9	4.96	11,300	Mar. 12	2.32	3,370	Sept. 21	.66	868
Dec. 2	3.12	5,310	May 5	3.02	5,040			
Jan. 5	5.88	13,500	June 24	2.09	2,960			

Daily discharge, in second-feet, of Lewis River near Ariel, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,550	7,950	3,700	7,350	25,200	6,750	3,370	4,760	3,150	2,510	1,200	950
2	1,860	17,200	5,010	8,550	32,400	6,150	3,370	4,760	3,150	2,320	1,200	950
3	1,480	11,600	5,010	9,760	38,400	5,570	3,600	4,760	3,830	2,150	1,200	950
4	1,290	9,760	6,450	10,700	32,700	5,280	3,600	5,010	4,060	1,990	1,200	950
5	1,290	9,760	7,350	13,500	28,800	4,760	3,600	5,010	3,600	1,830	1,150	950
6	1,180	9,150	6,450	10,700	23,000	4,520	3,830	6,150	3,600	1,680	1,150	950
7	1,180	10,700	6,150	8,250	17,200	4,290	3,830	6,150	3,370	1,620	1,150	950
8	1,290	10,700	5,860	7,050	14,400	4,060	4,290	5,860	3,370	1,620	1,150	950
9	1,550	9,760	5,570	6,150	12,200	4,060	5,010	5,570	3,600	1,550	1,150	950
10	1,410	8,550	6,150	7,650	10,100	3,600	6,450	5,570	3,600	1,550	1,100	950
11	1,290	7,650	16,600	6,450	8,850	3,600	7,650	5,010	3,600	1,550	1,100	950
12	1,240	6,750	12,600	5,860	7,650	3,370	8,250	5,010	3,600	1,480	1,100	900
13	1,620	5,860	11,600	5,280	6,750	3,370	7,350	5,010	3,370	1,480	1,050	950
14	2,040	5,010	10,400	5,010	5,860	3,600	6,450	5,280	3,370	1,480	1,050	950
15	1,780	5,010	11,000	4,480	5,280	3,600	6,450	5,570	3,370	1,420	1,050	900
16	1,550	4,740	9,760	3,440	5,010	4,060	6,150	6,150	3,370	1,420	1,000	900
17	1,550	4,480	7,650	3,700	4,520	5,010	8,550	6,750	3,370	1,360	1,000	900
18	1,480	3,960	6,450	6,750	4,290	4,520	8,850	6,450	3,370	1,360	1,000	900
19	1,410	9,150	6,750	12,600	4,060	5,010	9,150	6,450	3,150	1,360	1,050	900
20	1,290	13,500	6,750	10,400	4,290	6,150	8,550	6,450	3,150	1,360	1,050	900
21	1,290	15,300	4,480	12,600	5,570	6,150	7,350	5,860	3,600	1,360	1,050	868
22	1,290	18,200	3,960	10,700	7,350	5,280	6,750	5,570	3,600	1,300	1,050	868
23	1,290	13,200	3,960	13,800	8,250	4,760	6,150	4,760	3,370	1,300	1,050	860
24	1,290	9,150	3,700	12,600	9,760	5,010	5,280	4,290	2,930	1,300	1,000	868
25	1,350	7,350	3,440	10,100	9,150	6,450	5,010	4,060	2,720	1,250	1,000	884
26	2,040	6,750	3,310	9,150	8,550	5,570	4,520	3,830	2,620	1,250	1,000	892
27	3,960	6,150	3,180	9,760	8,550	4,520	4,520	3,830	2,510	1,250	1,000	892
28	5,570	5,010	2,700	11,000	7,350	3,830	4,290	4,290	2,420	1,250	1,000	884
29	7,350	4,480	7,950	16,000	-------	3,600	4,290	4,520	2,320	1,250	950	884
30	10,400	3,960	8,850	22,600	-------	3,370	4,520	4,060	2,150	1,200	950	884
31	8,850	-------	6,750	27,100	-------	3,370	-------	3,600	-------	1,200	950	------

Monthly discharge of Lewis River near Ariel, Wash., for the year ending September 30, 1925

[Drainage area, 733 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	10,400	1,180	2,390	3.26	3.76	147,000
November	18,200	3,960	8,690	11.9	13.28	517,000
December	16,600	2,700	6,760	9.22	10.63	416,000
January	27,100	3,440	9,970	13.6	15.68	613,000
February	38,400	4,060	12,700	17.3	18.01	705,000
March	6,750	3,370	4,620	6.30	7.26	284,000
April	9,150	3,370	5,700	7.78	8.68	339,000
May	6,750	3,600	5,170	7.05	8.13	318,000
June	4,060	2,150	3,240	4.42	4.93	193,000
July	2,510	1,200	1,520	2.07	2.39	93,500
August	1,200	950	1,070	1.46	1.68	65,800
September	950	860	914	1.25	1.40	54,400
The year	38,400	860	5,170	7.05	95.83	3,740,000

SWIFT CREEK NEAR COUGAR, WASH.

LOCATION.—In NW. ¼ sec. 28, T. 7 N., R. 5 E., Skamania County, one-eighth mile above mouth, 2 miles east of Peterson ranch, and 6 miles east of Cougar, Cowlitz County.

DRAINAGE AREA.—26 square miles (measured on topographic map).

RECORDS AVAILABLE.—June 18, 1924, to September 30, 1925. At a site one-fourth mile upstream and 30 feet above present cable July 27 to October 31, 1909.

GAGE.—Stevens continuous recorder on left bank 200 feet above Forest Service trail bridge; read by Ole Peterson.

DISCHARGE MEASUREMENTS.—Made from cable one-fourth mile above gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and boulders.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.98 feet at 9 a. m. February 3 (discharge, 1,470 second-feet); minimum stage, 0.40 feet October 7 (discharge, 80 second-feet).

1909; 1924–25: Maximum discharge, that of February 3, 1925; minimum discharge, 80 second-feet September 17, 21, and October 7, 1924.

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during high water of December 11 and again February 3 and continued until summer low water. Rating curves fairly well defined. Operation of water-stage recorder satisfactory except October 1–17 and December 17–27. Shifting-control method was used February 6 to August 9. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records good except for estimated periods, for which they are fair.

Discharge measurements of Swift Creek near Cougar, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 17	0.63	118	Jan. 31	2.00	717	May 6	0.96	248
Nov. 8	1.30	323	Feb. 1	1.95	712	June 23	.85	166
Dec. 5	.98	210	Feb. 4	2.07	740	Aug. 11	.68	142
Dec. 31	.92	224	Mar. 13	.89	193	Sept. 20	.57	126
Jan. 3	1.14	281	Mar. 15	.95	187			

Daily discharge, in second-feet, of Swift Creek near Cougar, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	168	282	165	225	702	231	193	231	191	169	151	125
2	98	370	227	249	1,070	225	193	231	210	169	151	125
3		279	184	265	1,150	213	193	225	258	169	151	123
4		361	257	262	766	205	196	234	231	166	149	121
5	90	289	212	430	702	199	196	240	210	166	149	117
6		242	195	310	600	199	193	252	202	166	149	115
7	80	317	187	268	475	199	199	258	196	164	147	115
8	108	313	179	246	435	196	199	243	205	164	147	115
9		270	172	240	366	205	207	231	205	161	147	115
10		224	242	243	322	205	205	225	213	161	147	114
11	96	236	540	213	288	199	249	222	199	161	147	114
12		192	395	207	271	196	258	225	199	161	145	110
13	85	150	330	202	258	196	255	228	193	158	145	110
14		173	285	169	246	193	216	234	188	158	150	110
15	100	168	430	177	234	210	262	237	188	158	147	108
16		168	296	169	228	199	265	249	180	158	145	106
17	120	155		161	219	202	268	246	180	158	145	106
18	118	182		354	213	193	281	243	177	156	142	106
19	112	349		322	207	191	240	243	174	156	142	125
20	102	329		342	191	219	258	243	174	156	140	123
21	100	455		326	240	210	243	240	172	156	138	121
22	96	353	210	310	268	205	243	228	166	156	140	119
23	96	260		390	318	202	231	216	169	153	138	117
24	102	224		303	330	202	231	213	166	153	136	119
25	142	204		262	322	199	225	207	166	153	136	119
26	140	192		281	292	199	219	202	169	153	136	119
27	210	182		288	281	196	216	202	169	153	133	119
28	251	173	196	358	252	193	222	237	169	153	131	117
29	257	173	271	530	-------	185	222	219	166	151	131	117
30	276	171	228	660	-------	185	222	204	166	151	129	123
31	276	-------	219	720	-------	188	-------	196	-------	151	127	------

NOTE.—No gage-height record and discharge interpolated Oct. 3–6, 9–12, 14–16, and Aug. 10; estimated Dec. 17–27.

Monthly discharge of Swift Creek near Cougar, Wash., for the year ending September 30, 1925

[Drainage area, 26 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	276	80	128	4.92	5.67	7,870
November	455	150	248	9.54	10.64	14,800
December	540	----------	243	9.35	10.78	14,900
January	720	161	306	11.80	13.60	18,800
February	1,150	191	402	15.50	16.14	22,300
March	231	185	201	7.73	8.91	12,400
April	281	193	227	8.73	9.74	13,500
May	258	196	229	8.81	10.16	14,100
June	258	166	188	7.23	8.07	11,200
July	169	151	159	6.12	7.06	9,780
August	151	127	142	5.46	6.30	8,730
September	125	106	116	4.46	4.98	6,900
The year	1,150	80	214	8.23	112.05	155,000

CANYON CREEK NEAR AMBOY, WASH.

LOCATION.—In SW. ¼ sec. 4, T. 5 N., R. 4 E., at wagon bridge, 2 miles above mouth and 6 miles northeast of Amboy, Clark County.

DRAINARE AREA.—64 square miles.

RECORDS AVAILABLE.—July 25, 1922, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder just below bridge; read by J. C. Hanley and W. H. Lawffer.

DISCHARGE MEASUREMENTS.—Made from cable above bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; shifts in floods.

EXTREMES OF DISCHARGE.—Maximum stage from water-stage recorder, 8.3 feet at noon February 3 (discharge, 7,000 second-feet); minimum stage, 0.18 foot September 24 and 25 (discharge, 19 second-feet).

1922–1925: Maximum stage, 11.3 feet December 24, 1922, observed from high-water mark (discharge, about 13,000 second-feet); minimum discharge, that of September 24 and 25, 1925.

ICE.—None.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation below 3.2 feet changed during high water February 3. Rating curves well defined below and fairly well defined above 1,000 second-feet. Water-stage recorder operated satisfactorily except for short periods as indicated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection or, for days of considerable variation in stage, by averaging discharge for intervals of the day. Records good except for estimated periods, for which they are fair.

Discharge measurements of Canyon Creek near Amboy, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 15	1.54	229	Mar. 20	2.92	711	Aug. 12	0.32	32.0
Nov. 5	3.66	1,080	May 7	1.72	357	Sept. 25	.18	19.2
Dec. 8	2.23	454	June 22	.98	148			

Daily discharge, in second-feet, of Canyon Creek near Amboy, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	276	1,440	307	1,100	3,030	580	302	331		92	39	28
2	282	2,340	570	1,360	4,000	562	278	315		88	39	25
3	240	1,220	570	1,630	5,340	510	280	295		86	38	25
4	185	1,100	910	1,840		460	290	288	200	76	36	24
5	147	1,070	935	2,730	2,900	430	280	300		81	35	24
6	124	935	710	1,510		385	272	318		80	34	24
7	119	1,130	610	1,040		349	262	331		78	34	23
8	188	1,630	510	835	1,400	328	255	302	275	76	33	24
9	228	1,400	475	810	1,190	320	295	275	262	73	33	23
10	192	935	885	1,130	910	310	346	262	312	68	33	23
11	161	910	2,700	810	780	290	400	255	302	66	33	22
12	168	710	1,660	785	680	290	415	242	308	62	33	22
13	267	570	1,400	650	562	305	361	240	295	59	33	22
14	258	610	1,190	530	528	292	318	245	285	59	50	21
15	230	690	1,190	440	510	343	355	242	268	58	40	21
16	198	610	1,010	380	475	492	400	252	248	55	35	21
17	170	530		335	445	660	445	250	228	53	34	21
18	152	530		860	400	528	640	240	208	52	31	23
19	139	1,760			385	600	910	232	192	52	30	25
20	130	1,550		1,640	475	740	780	232	175	51	29	22
21	120	2,400			660	620	620	252	165	50	29	22
22	111	1,890	250		800	545	580	220	146	50	30	21
23	115	1,220		2,290	910	492	528	195	137	48	34	20
24	119	885		1,400	935	430	492	180	128	47	31	19
25	205	690		935	860	400	445	170	122	46	31	19
26	267	550		910	820	358	400	160	112	44	39	21
27	492	475		1,100	780	328	379	155	106	44	33	22
28	328	398		1,400	680	315	334	188	100	42	31	22
29	1,180	349	3,470	2,840	-------	290	328	188	96	41	29	30
30	1,710	318	1,940	3,600	-------	285	322	170	92	40	30	41
31	1,510	-------	1,190	3,600	-------	265	-------	152	-------	40	28	-------

NOTE.—No gage-height record Dec. 11, 12, Dec. 17–28, Jan. 19–22, Feb. 4–7, June 1–7; discharge estimated.

Monthly discharge of Canyon Creek near Amboy, Wash., for the year ending September 30, 1925

[Drainage area, 64 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,710	111	339	5.30	6.11	20,800
November	2,400	318	1,030	16.1	17.96	61,300
December	3,470	----------	814	12.7	14.64	50,100
January	3,600	335	1,400	21.9	25.25	86,100
February	5,340	385	1,400	21.9	22.80	77,800
March	740	265	423	6.61	7.62	26,000
April	910	255	410	6.41	7.15	24,400
May	331	152	241	3.77	4.35	14,800
June	312	92	199	3.11	3.47	11,800
July	92	40	59.9	.936	1.08	3,680
August	50	28	33.8	.528	.61	2,080
September	41	19	23.3	.364	.41	1,390
The year	5,340	19	525	8.20	111.45	380,000

KALAMA RIVER BASIN

KALAMA RIVER NEAR KALAMA, WASH.

LOCATION.—In sec. 7, T. 6 N., R. 1 E., 150 feet below power house of Puget Sound Power & Light Co. and 9 miles by road east of Kalama, Cowlitz County.

DRAINAGE AREA.—184 square miles (measured on map of Mount St. Helens quadrangle and map of Columbia National Forest).

RECORDS AVAILABLE.—July 6, 1911, to January 11, 1912; December 1, 1912, to September 30, 1913; August 19, 1916, to September 30, 1925.

GAGE.—Vertical staff bolted to rock ledge; section, 0 to 3.3 feet, on right bank; section, 0 to 8 feet, on left bank; upper section, 8 to 12 feet, in a cove on right bank; read by E. G. Moser and H. E. Tegarden.

DISCHARGE MEASUREMENTS.—Made from cable half a mile below gage or by wading.

CHANNEL AND CONTROL.—Control is rock reef and bar of coarse gravel 100 feet below gage; may shift in extreme floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.9 feet at noon February 3 (discharge, 9,200 second-feet); minimum stage recorded, 0.62 foot September 24 and 25 (discharge, 191 second-feet).

1911–1913; 1916–1925: Maximum stage recorded, 10.6 feet at 9 a. m. January 8, 1923 (discharge, 12,300 second-feet); minimum stage, 0.50 foot September 17 and 22, 1924 (discharge, 158 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—Operation of power plant causes some fluctuation, but gage is read only at times when load is steady.

ACCURACY.—Stage-discharge relation changed during high water, probably October 30. Rating curves well defined. Gage read to two-hundredths once a day; to tenths twice a day at high stages. Daily discharge ascertained by applying mean daily gage reading to rating table. Records good.

Discharge measurements of Kalama River near Kalama, Wash., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 3	3.12	1,530	May 5	2.28	978	Aug. 10	0.80	238
May 4	2.22	941	June 24	1.35	414	Sept. 18	.78	236

Daily discharge, in second-feet, of Kalama River near Kalama, Wash., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	825	3,000	1,000	2,100	5,280	1,660	1,030	1,100	472	370	258	212
2	665	3,570	1,820	2,100	8,100	1,660	960	1,000	520	352	258	207
3	665	2,600	1,520	2,600	8,640	1,520	960	930	750	352	252	207
4	498	3,000	3,210	2,800	6,130	1,450	1,000	900	840	352	252	202
5	395	2,700	2,500	3,570	5,700	1,380	960	930	750	335	246	202
6	342	2,400	2,000	3,000	4,860	1,240	960	1,030	660	335	246	202
7	325	4,080	1,740	2,400	3,950	1,170	930	1,030	630	335	246	207
8	415	3,950	1,450	2,100	4,210	1,100	900	960	690	335	240	218
9	435	3,210	1,590	2,000	3,570	1,100	1,030	840	660	335	240	207
10	378	2,500	2,100	2,600	3,000	1,030	1,240	810	720	335	234	202
11	360	2,300	4,730	1,900	2,400	960	1,380	780	660	318	234	207
12	415	1,820	3,450	1,310	2,200	960	1,310	750	690	318	234	202
13	715	1,590	2,800	2,200	1,740	930	1,100	750	690	318	240	202
14	825	1,740	2,400	2,000	1,660	900	960	750	660	300	270	196
15	615	1,660	2,700	1,740	1,590	1,030	1,170	750	660	300	252	196
16	520	1,660	2,200	1,520	1,450	1,380	1,240	780	600	300	240	202
17	435	1,520	1,740	2,200	1,380	1,520	1,310	750	572	300	234	218
18	395	1,380	1,520	2,300	1,310	1,380	1,740	720	545	300	229	229
19	342	3,200	1,380	2,800	1,240	1,820	2,100	720	495	300	229	240
20	325	2,900	1,240	3,210	1,450	1,820	1,820	690	495	285	229	207
21	310	2,800	1,100	3,000	2,200	1,590	1,520	690	495	285	229	202
22	289	2,600	1,030	2,800	2,200	1,450	1,520	600	450	285	285	196
23	289	2,200	960	4,860	2,800	1,380	1,520	572	450	285	258	196
24	325	1,820	900	3,450	2,900	1,380	1,450	545	430	285	229	191
25	1,410	1,520	900	2,500	2,600	1,240	1,310	520	410	285	218	191
26	1,690	1,310	900	2,600	2,300	1,100	1,170	495	410	270	240	207
27	2,250	1,310	930	2,400	2,100	1,100	1,170	495	410	270	234	202
28	2,550	1,100	1,240	2,700	1,900	1,030	1,030	690	390	270	223	196
29	3,880	1,030	2,700	4,240	-------	960	1,100	600	370	264	218	240
30	4,240	1,000	2,100	5,700	-------	960	1,100	545	370	258	212	252
31	3,570	-------	1,100	5,420	-------	900	-------	495	-------	258	212	-------

Monthly discharge of Kalama River near Kalama, Wash., for the year ending September 30, 1925

[Drainage area, 184 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	4,240	289	990	5.38	6.20	60,900
November	4,080	1,000	2,250	12.2	13.61	134,000
December	4,730	900	1,840	10.0	11.53	113,000
January	5,700	1,310	2,780	15.1	17.41	171,000
February	8,640	1,240	3,170	17.2	17.91	176,000
March	1,820	900	1,260	6.85	7.90	77,500
April	2,100	900	1,230	6.68	7.45	73,200
May	1,100	495	749	4.07	4.69	46,100
June	840	370	565	3.07	3.42	33,600
July	370	258	306	1.66	1.91	18,800
August	285	212	239	1.30	1.50	14,700
September	252	191	208	1.13	1.26	12,400
The year	8,640	191	1,290	7.01	94.79	931,000

STREAMS BETWEEN COLUMBIA RIVER AND KLAMATH RIVER

ROGUE RIVER BASIN

ROGUE RIVER NEAR PROSPECT, OREG.

LOCATION.—In NE. ¼ sec. 19, T. 32 S., R. 3 E., 1 mile above intake of power flume of California Oregon Power Co., 3 miles above mouth of Mill Creek, and 2 miles northwest of Prospect, Jackson County.

DRAINAGE AREA.—315 square miles, revised.

RECORDS AVAILABLE.—July 17 to October 10, 1907; January 1, 1908, to February 17, 1912; October 1, 1923, to September 30, 1925.

GAGE.—Stevens water-stage recorder on left bank; inspected by L. H. Pankey.

DISCHARGE MEASUREMENTS.—Made from cable at gage.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders at and below gage. Control is a bar just below gage which becomes an island at low stages; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 6.20 feet at 5 a. m. December 30 (discharge, 7,180 second-feet); minimum stage, 1.34 feet October 8 and 12–14 (discharge, 291 second-feet).

1907–1912; 1924–25: Maximum stage recorded, 7.0 feet November 22, 1909 (discharge estimated from extension of rating curve, 9,300 second-feet, both stage and discharge very uncertain); minimum stage recorded, 1.29 feet September 11, 12, and 15–18, 1924 (discharge, 278 second-feet).

ICE.—None.

DIVERSIONS.—None above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Discharge estimated October 21–26 from comparison with record for Rogue River below Prospect. Records good.

Discharge measurements of Rogue River near Prospect, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 21	1.33	279	June 18	2.22	732	Sept. 5	1.59	405
Dec. 30	5.33	5,140	July 7	1.84	580	Sept. 22	1.59	384
Mar. 13	2.06	644	Aug. 16	1.60	462	Do	1.59	386
Apr. 10	2.89	1,260	Sept. 4	1.60	393			

Daily discharge, in second-feet, of Rogue River near Prospect, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	299	970	605	1,560	2,020	792	766	1,320	1,180	578	420	398
2	303	878	740	1,270	1,840	806	746	1,320	1,220	566	416	398
3	303	820	672	1,140	2,760	806	772	1,320	1,140	561	420	402
4	307	855	726	1,010	4,840	827	848	1,460	1,010	539	420	407
5	295	746	726	1,010	4,300	915	841	1,560	938	534	420	398
6	295	632	672	994	2,840	892	841	1,670	908	529	420	393
7	295	594	632	878	2,020	827	885	1,670	885	518	416	407
8	291	556	644	820	1,720	785	970	1,360	862	513	411	443
9	295	672	627	752	1,410	772	1,140	1,220	841	508	407	411
10	299	616	610	720	1,220	746	2,380	1,220	820	497	411	402

Daily discharge, in second-feet, of Rogue River near Propect, Oreg., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11	295	566	605	672	1,220	690	1,410	1,220	806	487	407	402
12	291	524	605	672	1,180	666	1,460	1,180	785	482	411	398
13	291	487	622	649	1,090	644	1,360	1,140	806	482	407	398
14	291	492	660	644	1,050	627	1,410	1,180	766	477	402	411
15	311	529	672	605	986	616	1,720	1,220	752	477	407	402
16	376	524	654	588	922	616	1,900	1,360	740	472	402	407
17	311	524	578	583	878	627	1,720	1,320	726	468	402	430
18	303	545	472	588	834	616	1,460	1,220	733	463	402	430
19	295	1,050	497	766	806	622	1,320	1,220	740	453	398	502
20	295	2,680	583	740	841	684	1,220	1,360	746	443	398	443
21	300	1,840	578	746	908	799	1,090	1,460	740	434	398	411
22	300	1,720	550	752	900	900	1,050	1,270	714	434	407	402
23	300	1,270	481	778	938	930	1,010	1,180	684	430	472	398
24	300	1,010	453	778	908	900	962	1,180	672	434	416	393
25	300	855	481	759	885	900	970	1,180	672	430	402	389
26	325	766	508	915	855	900	994	1,140	660	430	402	384
27	453	696	566	1,960	834	908	1,090	1,090	649	430	402	384
28	708	649	834	1,720	813	930	1,180	1,090	632	430	402	384
29	529	621	2,110	2,160	-------	855	1,270	1,090	605	425	402	393
30	439	605	5,060	2,520	-------	834	1,320	962	588	425	398	407
31	1,670	-------	2,300	2,300	-------	799	-------	954	-------	425	393	------

Monthly discharge of Rogue River near Prospect, Oreg., for the year ending September 30, 1925

[Drainage area, 315 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,670	291	376	1.19	1.37	23,100
November	2,680	487	843	2.68	2.99	50,200
December	5,060	453	856	2.72	3.14	52,600
January	2,520	583	1,030	3.27	3.77	63,300
February	4,840	806	1,490	4.73	4.92	82,800
March	930	616	782	2.48	2.86	48,100
April	2,380	746	1,200	3.81	4.25	71,400
May	1,670	954	1,260	4.00	4.61	77,500
June	1,220	588	801	2.54	2.83	47,700
July	578	425	477	1.51	1.74	29,300
August	472	393	409	1.30	1.50	25,100
September	502	384	408	1.30	1.45	24,300
The year	5,060	291	823	2.61	35.43	595,000

ROGUE RIVER BELOW PROSPECT, OREG.

LOCATION.—In NW. ¼ sec. 6, T. 33 S., R. 3 E., at Prospect power plant of California Oregon Power Co., 1 mile below mouth of Mill Creek, 2 miles below Prospect, Jackson County, and 47 miles northeast of Medford.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 3, 1913, to September 30, 1925.

GAGE.—Vertical staff on right bank 100 feet above power house; read by William Stinson.

DISCHARGE MEASUREMENTS.—Made from cable 500 feet above gage.

CHANNEL AND CONTROL.—Control composed of large boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.5 feet at 5.30 a. m. December 30 (discharge, 8,180 second-feet; total including discharge of flume, 8,370 second-feet); minimum stage, 2.17 feet October 13, 19, 20, 24, and 25 (discharge, 285 second-feet); minimum discharge including flume, 455 second-feet October 13.

1913–1925: Maximum discharge recorded, that of December 30, 1925; minimum discharge, that of 1925; 285 second-feet also recorded September 16–18, 20–22, October 13, 19, 20, 24, and 25, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—The California Oregon Power Co.'s flume diverts around this station; a record is kept of this diversion (see p. 139).

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during high water December 30 Rating curve used October 1 to December 29, well defined below 1,500 second-feet; December 30 to September 30, well defined below 2,000 second-feet and fairly well defined below 6,000 second-feet. Staff gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Rogue River below Prospect, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 30	5.75	5,190	June 18	3.22	942	Sept. 4	2.44	476
Mar. 13	3.15	892	July 8	2.75	631			
Apr. 9	3.96	1,530	Aug. 17	2.48	501			

Daily discharge, in second-feet, of Rogue River below Prospect, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	305	1,110	645	2,050	2,530	1,070	1,070	1,570	1,570	725	510	483
2	305	975	735	1,570	2,360	1,070	1,070	1,570	1,480	725	510	474
3	305	915	735	1,390	3,500	1,070	1,070	1,570	1,390	695	510	474
4	305	975	795	1,310	5,740	1,150	1,150	1,670	1,310	665	510	474
5	305	795	795	1,310	5,010	1,230	1,070	1,780	1,230	665	510	474
6	305	615	735	1,310	3,500	1,230	1,070	1,910	1,230	665	510	478
7	305	615	675	1,150	2,360	1,070	1,150	1,910	1,150	638	510	492
8	305	585	645	1,070	2,050	1,070	1,230	1,780	1,070	638	510	785
9	305	795	675	1,070	1,780	1,070	1,310	1,570	1,070	610	510	492
10	305	645	675	995	1,570	995	1,480	1,570	1,070	610	510	488
11	305	555	675	925	1,670	995	1,780	1,570	1,070	585	510	483
12	305	528	675	855	1,570	925	1,780	1,480	1,070	585	510	483
13	305	500	645	855	1,480	925	1,670	1,480	1,070	585	506	483
14	305	500	735	785	1,390	925	1,670	1,480	995	585	496	488
15	305	555	675	755	1,390	855	2,050	1,480	995	585	496	483
16	372	555	735	695	1,310	855	2,200	1,670	925	585	496	488
17	328	555	615	695	1,310	855	2,050	1,570	925	585	496	492
18	305	555	472	695	1,150	855	1,780	1,570	925	560	496	492
19	285	915	500	995	1,150	855	1,670	1,570	925	560	496	610
20	285	2,350	585	925	1,150	995	1,570	1,670	925	560	496	535
21	305	1,790	615	925	1,230	1,070	1,480	1,670	925	535	492	496
22	305	1,710	585	925	1,230	1,230	1,390	1,570	925	535	496	483
23	305	1,390	500	995	1,310	1,230	1,310	1,480	925	535	585	478
24	285	1,110	445	995	1,230	1,230	1,310	1,480	855	560	501	474
25	305	975	472	925	1,230	1,230	1,310	1,480	855	535	501	478
26	328	795	445	995	1,150	1,230	1,390	1,390	855	535	501	474
27	395	795	615	2,360	1,150	1,230	1,390	1,390	855	535	496	474
28	795	705	915	2,050	1,070	1,230	1,480	1,390	785	535	492	474
29	615	675	1,710	2,710	------	1,150	1,570	1,390	755	535	492	474
30	445	645	6,120	3,280	------	1,150	1,570	1,230	725	535	488	483
31	1,870	------	2,710	2,710	------	1,070	------	1,230	------	535	488	------

Monthly discharge of Rogue River below Prospect, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,870	285	390	24,000
November	2,350	500	873	51,900
December	6,120	445	921	56,600
January	3,280	695	1,300	79,900
February	5,740	1,070	1,910	106,000
March	1,230	855	1,070	65,800
April	2,200	1,070	1,470	87,500
May	1,910	1,230	1,550	95,300
June	1,570	725	1,030	61,300
July	725	535	591	36,300
August	585	488	504	31,000
September	785	474	498	29,600
The year	6,120	285	1,000	725,000

ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OREG.

LOCATION.—In sec. 18, T. 36 S., R. 2 W., at Raygold railroad station, just below dam and power house of California Oregon Power Co., half a mile below mouth of Bear Creek, and 6 miles northwest of Central Point, Jackson County.

DRAINAGE AREA.—2,020 square miles.

RECORDS AVAILABLE.—August 30, 1905, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder bolted to concrete pier of bridge near right bank; inspected by James Robins and H. D. Hamor.

DISCHARGE MEASUREMENTS.—Made from cable 300 feet below gage.

CHANNEL AND CONTROL.—Bed composed of rock and boulders; practically permanent. One channel at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 15.22 feet at 9 a. m. December 30 (discharge, 44,400 second-feet); minimum stage recorded, 0.00 foot 9 a. m. to 3 p. m. October 20 (discharge, 600 second-feet), true minimum may be less as recorder does not operate below zero stage. Discharge may have gone as low as 500 second-feet momentarily owing to sudden decrease in power load.

1905–1925: Maximum stage recorded, 20.00 feet at 7.30 a. m. November 23, 1909 (discharge estimated by extension of rating curve at 60,000 second-feet); minimum stage indeterminate, as water goes below intake pipe of well during low stages which are usually of short duration.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—A large area of land is irrigated from Rogue River and its tributaries.

REGULATION.—Discharge is influenced by changes of load on power plant just above station.

ACCURACY.—Stage-discharge relation apparently permanent during year. Rating curve well defined. Operation of water-stage recorder satisfactory except June 29–30, July 1–7, 9, 12–14, and August 2, for which days one reading on staff gage was used. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph or, for days of considerable variation in stage, by averaging discharges for intervals of a day. Records excellent.

Discharge measurements of Rogue River at Raygold, near Central Point, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 21	8.86	20,200	May 1	3.23	4,040	Aug. 12	0.84	1,190
Mar. 11	2.30	2,780	July 31	.89	1,300	Sept. 18	1.08	1,370

Daily discharge, in second-feet, of Rogue River at Raygold, near Central Point, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	926	5,810	1,880	8,160	8,420	3,140	3,010	3,990	3,540	1,670	1,230	1,190
2	950	3,140	2,350	6,230	8,680	3,080	2,830	3,830	3,990	1,620	1,190	1,150
3	950	2,770	2,230	5,210	10,000	3,010	2,830	3,830	3,540	1,620	1,190	1,150
4	942	2,590	3,400	6,920	18,100	3,010	3,200	3,830	3,200	1,570	1,150	1,190
5	918	2,470	3,990	6,450	18,800	3,080	3,400	3,990	3,080	1,520	1,190	1,150
6	910	2,050	3,400	6,020	15,400	3,140	3,270	4,150	2,890	1,520	1,150	1,190
7	926	2,170	2,830	4,840	11,500	3,010	3,140	4,150	2,770	1,520	1,150	1,190
8	910	2,590	3,830	4,310	15,100	2,950	3,200	3,830	2,770	1,520	1,150	1,280
9	903	7,440	3,400	3,830	11,200	2,950	3,270	3,540	2,710	1,470	1,150	1,280
10	910	4,480	2,830	3,990	7,900	2,890	3,400	3,400	2,590	1,470	1,150	1,230
11	903	2,890	2,530	3,540	8,680	2,770	3,680	3,400	2,470	1,420	1,150	1,230
12	903	2,470	2,350	3,440	9,200	2,710	3,990	3,270	2,410	1,420	1,150	1,190
13	918	2,110	2,170	3,680	7,640	2,650	3,830	3,200	2,410	1,420	1,150	1,190
14	934	1,880	2,110	4,660	6,920	2,590	3,680	3,200	2,290	1,420	1,150	1,230
15	934	1,940	2,110	3,830	6,020	2,590	4,310	3,270	2,290	1,370	1,150	1,230
16	1,070	2,000	2,230	3,140	5,020	2,590	5,020	3,400	2,230	1,370	1,150	1,280
17	990	1,880	2,000	3,080	4,310	2,590	5,210	3,540	2,170	1,320	1,150	1,320
18	926	1,830	1,620	3,140	3,990	2,470	5,210	3,270	2,110	1,320	1,150	1,470
19	918	4,580	1,370	4,310	3,830	2,410	11,200	3,270	2,050	1,320	1,150	1,420
20	875	16,500	1,670	4,150	3,830	2,530	7,160	3,540	2,050	1,320	1,150	1,520
21	1,030	7,400	1,830	3,990	3,990	2,710	5,810	4,310	2,050	1,280	1,110	1,370
22	1,030	6,020	2,000	3,830	3,830	2,830	5,210	3,680	2,110	1,280	1,110	1,320
23	910	4,480	1,780	3,830	3,830	2,890	5,020	3,400	2,000	1,280	1,370	1,320
24	910	3,540	1,520	3,990	3,990	2,890	4,480	3,270	1,880	1,280	1,320	1,230
25	974	2,950	1,320	3,830	3,680	2,830	4,150	3,200	1,880	1,280	1,280	1,190
26	966	2,650	1,420	3,680	3,540	2,830	4,150	3,140	1,880	1,280	1,230	1,190
27	1,070	2,410	1,670	8,160	3,400	2,830	4,150	3,010	1,830	1,280	1,230	1,190
28	1,470	2,170	2,410	7,640	3,200	3,080	4,150	2,950	1,780	1,230	1,190	1,190
29	2,350	2,050	11,400	8,160	------	2,950	4,150	2,950	1,780	1,230	1,190	1,190
30	1,620	1,940	33,900	11,500	------	2,950	4,150	2,770	1,670	1,230	1,190	1,230
31	12,900	------	13,000	9,460	------	2,830	------	2,710	------	1,230	1,190	------

Monthly discharge of Rogue River at Raygold, near Central Point, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	12,900	875	1,410	86,700
November	16,500	1,830	3,640	217,000
December	33,900	1,320	3,950	243,000
January	11,500	3,080	5,190	319,000
February	18,800	3,200	7,640	424,000
March	3,140	2,410	2,830	174,000
April	11,200	2,830	4,340	258,000
May	4,310	2,710	3,460	213,000
June	3,990	1,670	2,410	143,000
July	1,670	1,230	1,390	85,500
August	1,370	1,110	1,180	72,600
September	1,520	1,150	1,250	74,400
The year	33,900	875	3,190	2,310,000

CALIFORNIA OREGON POWER CO.'S FLUME NEAR PROSPECT, OREG.

LOCATION.—In NW. ¼ sec. 32, T. 32 S., R. 3 E., half a mile below intake, half a mile northwest of Prospect, Jackson County, and 1½ miles above lower end of flume.

RECORDS AVAILABLE.—August 1, 1913, to September 30, 1925.

GAGE.—Vertical staff in stilling box on right side of flume; read by employees of California Oregon Power Co.

DISCHARGE MEASUREMENTS.—Made from collar of flume.

CHANNEL AND CONTROL.—Wooden flume, supports of which are practically stable.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.91 feet December 28, January 27, and August 23 (discharge, 190 second-feet); minimum stage, 3.42 feet at 9 a. m. January 3 (discharge, 162 second-feet).

1913–1925: Maximum stage recorded, 2.7 feet April 25, 26, 30, May 1, 2, 1916, and December 12, 1919 (discharge, 212 second-feet). Flume dry at times.

ICE.—Stage-discharge relation seldom affected by ice.

ACCURACY.—Stage-discharge relation permanent; affected by ice December 19–21, 23–27. Rating curve well defined. Staff gage read once a day to hundredths. Daily discharge ascertained by applying daily gage height to rating table. Records excellent.

California Oregon Power Co.'s flume diverts water from Rogue River in SW. ¼ sec. 30, T. 32 S., R. 3 E., and extends about 2 miles to power house in NW. ¼ sec. 6, T. 33 S., R. 3 E., where a head of about 500 feet is developed.

Discharge measurements of California Oregon Power Co.'s flume near Prospect, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 13	3.60	174	Aug. 15	3.74	181
Apr. 10	3.61	175	Sept. 4	3.76	183

Daily discharge, in second-feet, of California Oregon Power Co.'s flume near Prospect, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	171	178	170	170	174	174	168	172	179	178	179	179
2	171	170	184	164	171	173	168	172	176	181	178	179
3	169	166	171	162	181	173	174	172	171	179	181	179
4	169	167	172	163	177	173	176	176	170	178	180	179
5	171	165	174	166	181	173	176	177	170	178	180	179
6	171	165	182	168	167	174	176	171	172	177	180	179
7	171	168	174	170	177	174	176	170	172	180	179	179
8	170	165	174	167	174	173	179	166	172	180	179	187
9	170	179	172	170	168	172	179	167	170	178	179	182
10	169	171	170	170	175	171	173	170	170	181	180	179
11	165	176	171	172	179	171	176	168	173	181	180	178
12	168	175	171	172	178	168	176	168	171	181	180	178
13	170	174	171	170	177	172	166	167	176	179	179	178
14	170	171	171	170	175	172	166	167	174	180	179	176
15	176	170	174	168	173	171	181	174	175	179	179	179
16	188	174	174	166	168	171	181	178	174	178	179	181
17	176	174	170	174	174	172	172	168	174	178	178	181
18	175	174	170	172	174	172	168	165	182	180	178	181
19	176	184	170	182	170	172	171	174	183	179	178	188
20	176	182	170	172	171	172	172	176	174	181	178	176
21	178	183	170	173	179	180	170	175	177	180	178	178
22	176	170	175	172	176	179	176	175	176	180	178	178
23	174	182		172	178	174	174	168	174	179	190	176
24	171	176		173	178	174	174	172	178	179	180	177
25	178	176	170	172	178	174	172	175	178	179	183	176
26	164	172		176	176	174	175	174	178	178	181	173
27	168	172		190	176	174	178	170	178	181	181	180
28	164	174	190	177	174	174	176	172	178	180	181	179
29	166	172	188	184	-------	172	174	171	181	179	179	179
30	172	172	186	187	-------	172	173	166	180	179	178	178
31	176	-------	172	168	-------	172	-------	171	-------	178	181	------

Monthly discharge of California Oregon Power Co.'s flume near Prospect, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	188	164	172	10,600
November	184	165	173	10,300
December	190		174	10,700
January	190	162	172	10,600
February	181	168	175	9,720
March	180	168	173	10,600
April	181	166	174	10,400
May	178	165	171	10,500
June	183	170	175	10,400
July	181	177	179	11,000
August	190	178	180	11,100
September	187	173	179	10,700
The year	190	162	175	127,000

SOUTH FORK OF ROGUE RIVER NEAR PROSPECT, OREG.

LOCATION.—In SW. ¼ sec. 7, T. 33 S., R. 4 E., a quarter of a mile below mouth of Imnaha Creek and 9 miles (by road and trail) southeast of Prospect, Jackson County.

RECORDS AVAILABLE.—April 26, 1924, to September 30, 1925.

GAGE.—Stevens 8-day recorder on left bank; inspected by employees of California Oregon Power Co.

DISCHARGE MEASUREMENTS.—Made from a cable 25 feet above gage or by wading.

CHANNEL AND CONTROL.—Bed composed of smooth gravel near right bank; large boulders and bedrock near left bank. Control is riffle over bedrock, overlain with a few large boulders, 20 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.97 feet at 2 a. m. December 30 (discharge, 1,500 second-feet); minimum stage, 0.38 foot on October 1, 6–8, and 14 (discharge, 53 second-feet).

1924–25: Maximum stage recorded, that of December 30, 1924; minimum stage, 0.34 foot September 18 and 19, 1924 (discharge, 48 second-feet).

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent; affected by ice December 17–25. Rating curve fairly well defined below 400 second-feet Operation of water-stage recorder satisfactory except October 16–24, December 17–25, July 2 and 3; discharge interpolated. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good except during high water of December and February, for which they are fair.

Discharge measurements of South Fork of Rogue River near Prospect, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharg
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 11	1.81	278	Aug. 18	0.74	100
June 16	1.37	170	Sept. 3	.70	85
July 31	.84	123			

Daily discharge, in second-feet, of South Fork of Rogue River near Prospect, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	146	117	445	445	205	177	319	335	134	106	88
2	54	120	120	352	445	205	168	319	388	134	103	86
3	56	110	115	303	612	205	177	319	303	134	102	89
4	55	127	123	289	870	205	186	335	262	134	102	88
5	54	110	122	289	870	205	186	370	238	134	102	88
6	53	98	117	262	810	196	186	388	227	134	101	89
7	53	94	114	238	640	196	196	388	216	134	101	91
8	53	90	118	227	560	186	205	319	216	127	100	92
9	55	110	115	216	468	186	227	303	205	127	98	89
10	55	101	114	205	425	177	250	289	196	126	98	86
11	54	96	112	196	388	168	275	289	196	124	98	85
12	54	91	110	186	352	168	289	275	196	123	98	84
13	54	88	109	186	335	168	289	275	196	120	98	84
14	53	90	108	177	303	160	303	275	186	119	98	84
15	66	95	108	168	289	160	370	289	186	118	97	84
16		94	107	160	275	160	405	319	186	117	97	84
17		91		160	262	160	370	289	177	114	96	92
18		91		168	250	160	335	275	168	114	95	92
19		153		196	238	160	335	275	168	113	95	117
20	60	405		177	238	168	303	445	168	112	95	108
21		275	105	168	238	177	303	425	168	112	94	97
22		335		168	227	186	275	319	160	110	96	92
23		227		186	227	186	262	303	160	109	119	88
24		177		186	216	186	262	289	153	109	100	86
25	55	153		177	216	186	262	275	146	110	96	85
26	57	140	103	196	205	186	262	275	146	109	94	85
27	77	134	107	388	205	196	275	262	146	109	94	85
28	112	124	153	405	205	196	289	250	140	108	94	85
29	88	120	450	445	-------	186	303	262	140	108	92	84
30	102	117	1,140	445	-------	177	303	227	140	107	90	84
31	250	-------	640	425	-------	177	-------	238	-------	106	89	-------

Monthly discharge of South Fork of Rogue River near Prospect, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	250	53	67.8	4,170
November	405	88	140	8,330
December	1,140	103	173	10,600
January	445	160	251	15,400
February	870	205	386	21,400
March	205	160	182	11,200
April	405	168	268	15,900
May	445	227	306	18,800
June	388	140	197	11,700
July	134	106	119	7,320
August	119	89	98.0	6,030
September	117	84	89.0	5,300
The year	1,140	53	188	136,000

SOUTH FORK OF BIG BUTTE CREEK NEAR BUTTE FALLS, OREG.

LOCATION.—In SW. ¼ sec. 11, T. 35 S., R. 2 E., just below Ginger Creek, 1 mile above Butte Falls, Jackson County, and 2 miles above junction of North and South Forks.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 20, 1910, to October 5, 1911; August 5 to October 10, 1915; October 31, 1917, to September 30, 1922, and March 28 to September 30, 1925. These records are almost directly comparable with those at station at Butte Falls, August 23, 1922, to March 31, 1925.

GAGE.—Stevens continuous water-stage recorder on right bank; inspected by engineers at time of meter measurements.

DISCHARGE MEASUREMENTS.—Made by wading or from cable 20 feet below gage.

CHANNEL AND CONTROL.—Bed composed of rock and boulders; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year by levels to high-water mark of December 30, 2.72 feet (discharge estimated at 1,200 second-feet); minimum stage, 0.67 foot August 20 (discharge, 91 second-feet).

1910–11; 1915; 1918–1922; 1925: Maximum stage recorded, 3.4 feet February 21, 1921 (discharge, 1,480 second-feet); minimum discharge, 83 second-feet August 29, 1920.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—A canal diverts water above station for use in State fish hatchery, but water is returned to creek just above station through Ginger Creek. A small amount of land is irrigated above this station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent; affected by log on control March 28 to April 3. Rating curve fairly well defined below 350 second-feet; extended above. Operation of water-stage recorder not satisfactory for periods shown by breaks in records. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Mean discharge for periods of no gage-height record estimated by comparison with record for South Fork of Little Butte Creek near Lake Creek or interpolated. Records good except for periods of no gage-height record, for which they are fair.

Discharge measurements of South Fork of Big Butte Creek near Butte Falls, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 4	1.00	179	June 16	0.86	134	Sept. 3	0.72	100
Apr. 24	1.26	288	July 22	.72	98	Sept. 18	.68	105
May 26	.87	141	Aug. 14	.69	94			

Daily discharge, in second-feet, of South Fork of Big Butte Creek near Butte Falls, Oreg., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.	Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1		156	224	216	114		93	16			150	130		93	98
2		156	213	220	114		93	17			150	130		93	106
3		167	205	201	111		93	18			146	127		93	102
4		186	197	190	111		96	19			146	124	103	93	119
5			190	220	111		96	20		300	174	124		91	106
6			186	178	111	95	96	21			190	130		93	100
7			182	171	111		98	22			163	136	100	98	96
8			178	205	111		102	23			153	127		106	94
9			171	160	111		100	24		284	150	124		96	93
10		300	167	156	109		98	25		272	140	122		96	93
11			163	150	109		96	26		260	136	119	98	96	94
12			156	150	106		96	27		252	133	119		96	94
13			153	143			96	28	197	248	130	116		93	96
14			153	143	103	94	98	29	178	240	140	119		93	96
15			150	136		93	96	30	174	232	140	119		93	96
								31	167		146			93	

Monthly discharge of South Fork of Big Butte Creek near Butte Falls, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April		156	272	16,200
May	224	130	164	10,100
June	220	116	150	8,930
July	114		104	6,400
August	106	91	94.8	5,830
September	119	93	97.7	5,810
The period				53,300

SOUTH FORK OF BIG BUTTE CREEK AT BUTTE FALLS, OREG.

LOCATION.—In NE. ¼ sec. 10, T. 35 S., R. 2 E., one-fourth mile north of Butte Falls, Jackson County, one-fourth mile below falls of creek, and 1 mile above mouth of North Fork.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—August 23, 1922, to March 31, 1925; station discontinued. At station 1 mile upstream and above some inflow from springs, September 20, 1910, to October 5, 1911, August 5 to October 10, 1915, October 31, 1917, to September 30, 1922, and March 28 to September 30, 1925.

GAGE.—Stevens continuous water-stage recorder on left bank; inspected by engineers of Eagle Point Irrigation District.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed composed of rock, sand, and gravel; slightly shifting in high water.

EXTREMES OF DISCHARGE.—Maximum stage during period October 1 to March 31 from water-stage recorder, 3.40 feet at 1 a. m. December 30 (discharge, 1,200 second-feet). No record after this time; stage may have continued to rise until about 2 a. m. Minimum stage recorded, 0.76 foot October 5 (discharge, 64 second-feet). Minimum discharge, including Eagle Point Irrigation District Canal, 84 second-feet October 5.

1922–1925: Maximum discharge recorded, that of December 30, 1924; minimum discharge, that of October 5, 1924.

ICE.—None.

DIVERSIONS.—Eagle Point Irrigation District Canal began diverting around gage April 29, 1924; a record has been kept of this diversion. (See p. 145.)

REGULATION.—Flow fluctuates occasionally for short periods owing to manipulation of dam at crest of falls, a quarter of a mile upstream; practically no effect in 1925.

ACCURACY.—Stage-discharge relation changed during high water on December 30. Rating curves fairly well defined below and poorly defined above 300 second-feet. Operation of water-stage recorder not satisfactory for following days and periods: October 7, 24–31, November 1–9, 18–24, 29, 30, December 1–10, 14–16, 30, 31, January 1–13, 18–25, and February 21–23; recorder removed March 26. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Discharge for days and periods recorder was not operating estimated by comparison with hydrograph for South Fork of Rogue River near Prospect; daily discharge, March 27–31, is that obtained at new station 1 mile upstream near Butte Falls. Records poor.

The following discharge measurements were made:

March 26, 1925: Gage height, 1.40 feet; discharge, 182 second-feet.

April 24, 1925: Gage height, 1.86 feet; discharge, 288 second-feet.

Daily discharge, in second-feet, of South Fork of Big Butte Creek at Butte Falls, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1	70				432	225	16	105	134	147	245	333	186
2	69		150		411	220	17	111	133	146	241	312	183
3	68				470	218	18	129		127		300	181
4	66		160		595	216	19	123		129		288	183
5	64	170			655	216	20	122		134		285	188
6	65				655	220	21	118	285	138	250	275	186
7	72		158	350	575	216	22	118		138		265	183
8	78				610	213	23	116		125		255	186
9	79				509	216	24			118		248	183
10	83	175			450	213	25		164	120		240	181
											290		
11	86	160	156		460	204	26		154	120		238	181
12	96	148	154		436	199	27	150	148	131	418	234	184
13	103	138	148		411	195	28		140	160	474	227	197
14	105	133	147	275	375	189	29		140	340	426	------	178
15	105	136		270	360	186	30		140	800	453	------	174
							31		------	560	426	------	167

Monthly discharge of South Fork of Big Butte Creek at Butte Falls, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	----------	64	108	6,640
November	----------	133	186	11,100
December	----------	118	185	11,400
January	----------	----------	325	20,000
February	655	227	389	21,600
March	225	167	196	12,100
The period	----------	----------	----------	82,800

EAGLE POINT IRRIGATION DISTRICT CANAL AT BUTTE FALLS, OREG.

LOCATION.—In NE. ¼ sec. 10, T. 35 S., R. 2 E., 1,200 feet below intake flume across South Fork of Big Butte Creek and half a mile north of Butte Falls, Jackson County.

RECORDS AVAILABLE.—April 29, 1924, to September 30, 1925.

GAGE.—Vertical staff in stilling box on left bank; read by ditch walker for Eagle Point Irrigation District.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage.

CHANNEL AND CONTROL.—Canal is earth section on a steep hillside. Bed composed of clay, gravel, and boulders. Control is transition section, 90 feet downstream, at entrance to semicircular wooden flume.

EXTREMES OF DISCHARGE.—Maximum stage recorded during 1924, 2.18 feet August 23 and 24 (discharge, 35 second-feet); canal dry at times.

1924–25: Maximum discharge, that of 1925.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Staff gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Eagle Point Irrigation District Canal, completed in the spring of 1924, diverts from South Fork of Big Butte Creek in NE. ¼ sec. 10, T. 35 S., R. 2 E. for the irrigation of lands near Eagle Point. About 1,750 acres were irrigated in 1925. A considerable portion of the return waters find their way to Little Butte Creek between the station at Bieberstedt ranch and station below Eagle Point at Crater Lake highway bridge.

Discharge measurements of Eagle Point Irrigation District Canal at Butte Falls, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 14	0.56	[a] 0.4	June 16	2.01	29.2	Sept. 3	2.04	30.5
Do	1.40	13.0	July 22	2.10	32.8	Sept. 18	.72	1.35
Do	1.84	24.4	Aug. 14	2.14	34.2			
May 26	.86	2.89	Aug. 21	2.15	32.6			

[a] Estimated.

Daily discharge, in second-feet, of Eagle Point Irrigation District Canal at Butte Falls, Oreg., for the year ending September 30, 1925

Day	Oct.	Apr.	May	June	July	Aug.	Sept.	Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	20.1	-----	9.4	25	30	32	23	16	-----	-----	-----	29	30	34	22
2	20.1	-----	10	-----	30	32	31	17	-----	-----	-----	29	27	34	22
3	20.1	-----	11	25	-----	32	30	18	-----	-----	-----	29	30	34	-----
4	20.1	-----	17	24	30	32	30	19	-----	-----	-----	30	30	34	-----
5	20.1	-----	17	28	30	32	30	20	-----	-----	17	30	30	34	-----
6	20.1	-----	-----	28	30	32	31	21	-----	-----	17	30	31	34	-----
7	20.1	-----	-----	30	30	32	31	22	-----	-----	20	30	32	34	15
8	20.1	-----	-----	25	30	32	22	23	-----	-----	24	30	32	35	15
9	5.9	-----	-----	29	30	32	22	24	-----	-----	24	31	32	35	15
10	5.9	-----	-----	30	30	32	22	25	-----	-----	-----	30	32	24	15
11	11.1	-----	-----	30	30	32	22	26	-----	-----	-----	30	32	24	11
12	11.1	-----	-----	29	30	32	22	27	-----	-----	-----	30	32	24	11
13	11.1	-----	-----	30	30	34	22	28	-----	5.0	17	30	32	24	15
14	11.1	-----	-----	30	30	34	22	29	-----	5.0	20	30	32	24	15
15	11.1	-----	-----	29	30	34	22	30	-----	9.4	23	30	31	24	15
								31	-----	-----	23	-----	31	24	-----

NOTE.—Canal dry on days for which no records are given.

Monthly discharge of Eagle Point Irrigation District Canal at Butte Falls, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	20.1	5.9	15.2	452
April	9.4	0	.65	39
May	24	0	8.05	495
June	31	0	28.0	1,670
July	32	0	29.5	1,810
August	35	24	31.0	1,910
September	31	0	18.4	1,090
The year				7,010

SOUTH FORK OF LITTLE BUTTE CREEK NEAR LAKE CREEK, OREG.

LOCATION.—In SE. ¼ sec. 29, T. 36 S., R. 2 E., one-fourth mile above intake of Mount Pitt Irrigation Co.'s South Fork Canal and 1½ miles southeast of Lake Creek post office, Jackson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 29, 1921, to September 30, 1925. At station in sec. 11, T. 37 S., R. 2 E., 5 miles above Lake Creek post office, November 26, 1910, to April 19, 1913.

GAGE.—Stevens 8-day recorder on left bank; inspected by employees of Mount Pitt Irrigation Co.

CHANNEL AND CONTROL.—Bed composed of gravel and small boulders; somewhat shifting in floods.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 5.25 feet at 2 a. m. December 30 (discharge, from extension of rating curve, 2,210 second-feet); minimum discharge, 12 second-feet at 2 p. m. August 20.

1910–1913; 1921–1925: Maximum discharge recorded, that of December 30, 1924; minimum discharge recorded, 5 second-feet, very uncertain, December 8, 1911.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—Several hundred acres irrigated in small tracts above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during period March 12–15. Rating curves well defined below and poorly defined above 600 second-feet. Operation of water-stage recorder satisfactory except as indicated in footnote to daily-discharge table. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Records good except for periods when discharge was estimated and for discharge above 600 second-feet, for which they are fair.

Discharge measurements of South Fork of Little Butte Creek near Lake Creek, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 31	2.57	407	May 5	2.24	236	July 28	1.27	17.6
Feb. 4	3.07	646	June 8	1.90	120	Aug. 13	1.26	16.8
Mar. 12	1.80	103	June 22	1.62	61	Aug. 28	1.30	20.2
Mar. 25	1.96	136	July 7	1.35	26.2	Sept. 21	1.35	23.9
Apr. 21	2.53	350	July 16	1.27	18.3			

Daily discharge, in second-feet, of South Fork of Little Butte Creek near Lake Creek, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	86	49	335	367	134	158	229	229	27	16	18
2	15	52	52	269	358	138	145	225	185	29	17	18
3	18	43	47	257	455	131	155	225	148	29	16	18
4	18	56	63	222	615	134	192	221	145	29	16	17
5	17	48	69	295	610	144	233	229	148	27	16	17
6	17	42	68	261	585	148	210	237	131	25	16	17
7	16		60	208	520	138	210	245	125	25	17	17
8	15		69	193	545	138	210	225	117	23	16	22
9	18		61	171	440	131	221	206	110	23	16	20
10	19		58	208	460	126	225	192	102	22	14	19
11	18		52	168	545	118	261	182	92	21	15	18
12	18		48	151	468	109	266	168	88	20	16	18
13	18		48	161	391	102	257	155	80	20	17	18
14	17	200	46	186	354	102	261	152	72	20	16	18
15	22		44	157	308	95	301	145	69	20	16	17
16	26		46	123	269	93	336	139	66	18	16	18
17	22		44	120	236	86	365	134	59	19	16	27
18	21		45	118	216	82	336	125	55	19	16	24
19	20		45	157	200	84	470	120	48	20	16	32
20	19		46	141	200	104	410	168	45	21	13	30
21	18		44	131	186	109	365	168	48	22	14	21
22	18	282	49	138	175	115	365	137	59	22	16	22
23	19	175	41	148	175	120	314	123	49	18	31	21
24	19	123	40	154	154	126	284	107	43	19	24	20
25	19	97	40	138	144	134	270	97	41	19	20	19
26	20	78	40	138	144	137	249	88	37	16	19	19
27	21	71	39	265	144	142	237	80	35	18	20	19
28	42	63	59	286	138	165	233	76	34	17	20	20
29	48	59	490	274	------	152	229	80	32	16	19	19
30	39	54	1,040	410	------	162	229	78	28	16	19	20
31	291	------	460	377	------	158	------	86	------	14	19	------

NOTE.—No gage-height records Nov. 7–21; discharge estimated by comparison with records for Little Butte Creek above Eagle Point and North Fork of Little Butte Creek near Lake Creek. Discharge interpolated Dec. 18–19, 24–26, Feb. 12, and 26; computed from mean of two daily gage readings May 16, July 26–27, and Sept. 8–10.

Monthly discharge of South Fork of Little Butte Creek near Lake Creek, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	291	15	29.8	1,830
November		42	144	8,570
December	1,040	39	110	6,760
January	410	118	205	12,600
February	615	138	336	18,700
March	165	82	124	7,620
April	470	145	267	15,900
May	245	76	156	9,590
June	229	28	84.0	5,000
July	29	14	21.1	1,300
August	24	13	17.4	1,070
September	32	17	20.1	1,200
The year	1,040	13	124	90,100

LITTLE BUTTE CREEK ABOVE EAGLE POINT, OREG.

LOCATION.—In NW. ¼ sec. 5, T. 36 S., R. 1 E., at Bieberstedt ranch, 1 mile above intake of Eagle Point Canal and 3 miles east of Eagle Point, Jackson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 24, 1916, to September 30, 1925. Station at Tronson ranch, maintained July 13, 1907, to April 30, 1916, was below intake of Eagle Point Canal.

GAGE.—Vertical staff on right bank; read by Carl Bieberstedt. A staff gage 200 feet below was used up to September 30, 1924, and for some high-water periods thereafter.

CHANNEL AND CONTROL.—Bed composed of bedrock overlain on one side by firm gravel; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year determined by leveling to high-water marks, 13.0 feet at 4 a. m. December 30 (discharge, 7,000 second-feet); minimum stage, 0.79 foot October 9 (discharge, 8 second-feet).

1916–1925: Maximum discharge recorded, that of December 30, 1924; minimum discharge, 6.0 second-feet June 17, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Mount Pitt Irrigation Co. and Medford Irrigation District Canals divert water above station, the records at Bradshaw drop showing about the quantity carried past the gage; also, the municipal water supply (about 7.5 second-feet) for Medford is taken out above. Several hundred acres are irrigated along the creek above station. Eagle Point Canal diverts just below this station but above the old station at Tronson ranch (for records see p. 158).

REGULATION.—Water was stored in Fish Lake Reservoir from October to May and released June to September (see record of stage of reservoir, p. 151).

ACCURACY.—Stage-discharge relation changed during high water December 30; affected by ice December 19–27. Rating curve before change fairly well defined below 1,200 second-feet; after change fairly well defined below 3,000 second-feet. Staff gage read to hundredths twice a day except the afternoon of December 29 and morning of December 30. Daily discharge ascertained by applying mean daily gage height to rating table except October 31, November 9, 19, 20, and December 28–31 when mean daily gage height was determined from two daily readings and gage-height graphs for the stations on North Fork and South Fork; mean discharge December 19–27 estimated by comparison with records on North Fork and South Fork. Records fair October 1 to December 30 and good December 31 to September 30.

Discharge measurements of Little Butte Creek above Eagle Point, Oreg., during the period September 22, 1924, to September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
1924	*Feet*	*Sec.-ft.*	1925	*Feet*	*Sec.-ft.*
Sept. 22	0.89	11.6	Mar. 14	2.26	176
Oct. 31	4.38	1,130	June 9	2.02	135
1925			July 6	1.22	17.0
Feb. 4	5.80	1,740	July 28	1.26	20.8

Daily discharge, in second-feet, of Little Butte Creek above Eagle Point, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	197	80	650	650	223	310	295	490	22	15	14
2	22	95	104	530	610	223	250	280	280	17	18	14
3	17	72	83	470	960	223	250	280	210	25	14	14
4	16	158	236	1,010	1,480	223	310	265	197	18	16	15
5	12	91	265	650	1,010	223	380	250	184	17	17	15
6	11	76	250	570	1,210	236	345	250	159	19	16	18
7	10	76	171	450	825	223	328	250	159	14	16	22
8	10	135	382	450	1,260	223	310	223	145	18	17	28
9	8	1,210	197	398	735	223	310	197	129	21	21	26
10	10	382	146	570	570	223	310	184	107	22	19	25
11	10	197	221	415	825	197	362	171	94	18	23	21
12	10	184	104	398	690	197	380	159	86	16	19	21
13	9	130	104	490	735	184	362	147	70	18	18	22
14	10	121	87	650	570	184	362	133	52	22	17	26
15	13	124	82	450	490	184	450	120	47	21	14	23
16	24	106	126	735	432	184	470	138	36	20	14	22
17	16	99	99	328	380	171	530	129	28	19	15	46
18	12	93	50	328	345	171	690	118	14	18	16	30
19	11	829		450	310	171	960	105	10	18	14	75
20	12	1,120		380	328	197	735	210	11	16	15	35
21	13	452		345	310	197	570	197	16	20	18	27
22	12	470		345	280	197	570	138	41	22	19	23
23	13	281	65	380	310	210	530	116	21	31	37	22
24	14	210		432	280	210	432	99	22	21	24	22
25	12	171		380	250	210	398	90	18	17	18	22
26	21	135		362	250	210	362	73	17	18	16	23
27	28	117		915	250	223	345	66	16	18	18	23
28	104	108	210	690	223	328	328	63	17	22	16	23
29	104	95	2,180	610	------	265	310	66	19	22	16	22
30	56	83	2,940	960	------	310	295	58	19	21	16	23
31	820	------	960	735	------	280	------	77	------	18	14	------

Monthly discharge of Little Butte Creek above Eagle Point, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	820	8	47.0	2,890
November	1,210	76	254	15,100
December	2,940	50	312	19,200
January	1,010	328	533	32,800
February	1,480	223	592	32,900
March	328	171	217	13,300
April	960	250	418	24,900
May	295	58	160	9,840
June	490	10	90.5	5,390
July	31	14	19.6	1,210
August	37	14	17.6	1,080
September	46	14	24.7	1,470
The year	2,940	8	221	160,000

LITTLE BUTTE CREEK BELOW EAGLE POINT, OREG.

LOCATION.—In SW. ¼ sec. 3, T. 36 S., R. 1 W., at bridge on Crater Lake highway, half a mile southwest of Eagle Point, Jackson County, and 1 mile above mouth of Antelope Creek.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 1 to September 20, 1924; June 1 to September 20, 1925, with some miscellaneous measurements in 1923.

GAGE.—Vertical gage on right bank 30 feet above bridge; read by G. W. Daley, deputy water master.

CHANNEL AND CONTROL.—Rocky riffle overlain with small gravel and obstructed at times by growth of aquatic plants.

EXTREMES OF DISCHARGE.—Maximum stage during period June 1 to September 20, water over top of gage on June 1 (discharge estimated at 800 second-feet); minimum discharge, 8 second-feet June 20, 28, July 3 and 14.

ICE.—No record during winter.

DIVERSIONS.—Stage is below all diversions from Little Butte Creek and below practically all return seepage water from irrigation, including the lands of the Eagle Point Irrigation District watered from Big Butte Creek.

REGULATION.—Discharge is entirely controlled by operation of irrigation diversions above.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Staff gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

The following discharge measurements were made:

June 9, 1925: Gage height, 2.26 feet; discharge, 131 second-feet.
July 6, 1925: Gage height, 1.30 feet; discharge, 10.2 second-feet.
August 28, 1925: Gage height, 1.30 feet; discharge, 10.3 second-feet.

Daily discharge, in second-feet, of Little Butte Creek below Eagle Point, Oreg., for the year ending September 30, 1925

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	800	11	9	10	16	32	13	11	14
2	250	10	11	10	17	26	10	13	48
3	193	8	10	14	18	13	9	12	32
4	166	9	10	12	19	9	12	11	70
5	166	12	10	12	20	8	12	10	34
6	131	12	9	14	21	11	11	13	
7	136	11	10	14	22	39	12	10	
8	127	11	10	29	23	18	18	26	
9	113	11	10	24	24	10	11	14	
10	86	11	11	21	25	12	11	12	
11	80	10	16	17	26	18	10	10	
12	76	10	13	16	27	10	10	11	
13	70	9	18	17	28	8	11	10	
14	47	8	14	19	29	9	11	11	
15	45	10	11	19	30	13	12	11	
					31		12	9	

Monthly discharge of Little Butte Creek below Eagle Point, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	800	8	90.7	5,400
July	18	8	10.9	670
August	26	9	11.8	726
September 1–20	70	10	22.3	885
The period				7,680

FISH LAKE RESERVOIR NEAR LAKE CREEK, OREG.

LOCATION.—In SW. ¼ sec. 3, T. 37 S., R. 4 E., at dam of Fish Lake Reservoir, 18 miles east of Lake Creek, Jackson County.

RECORDS AVAILABLE.—December 8, 1915, to September 30, 1925.

GAGE.—Vertical staff on outside of new outlet tower graduated to read heights above sea level. Gage read by employees of Mount Pitt Irrigation Co.

EXTREMES OF STAGE.—Maximum stage recorded during year, 4,824.97 feet about 7 a. m. June 19 (contents, 7,112 acre-feet); minimum stage, 4,801.09 feet at 7 a. m. October 1 (contents, 109 acre-feet).

1915–1925: Maximum stage recorded, that of June 19, 1925.

COOPERATION.—Gage readings and storage table furnished by Mount Pitt Irrigation Co.

Gage height and contents of Fish Lake Reservoir near Lake Creek, Oreg., on last day of each month of the year ending September 30, 1925

Date	Gage height	Contents	Loss or gain during month	Date	Gage height	Contents	Loss or gain during month
	Feet	*Acre-feet*	*Acre-feet*		*Feet*	*Acre-feet*	*Acre-feet*
Sept. 30	4,801.10	110		May 31	4,824.02	6,736	+1,258
Oct. 31	4,807.50	1,305	+1,195	June 30	4,823.27	6,445	−291
Nov. 30	4,810.68	2,181	+876	July 31	4,811.84	2,524	−3,921
Dec. 31	4,813.02	2,883	+702	Aug. 31	4,806.02	935	−1,589
Jan. 31	4,814.71	3,418	+535	Sept. 30	4,810.15	2,026	+1,091
Feb. 28	4,816.88	4,133	+715				
Mar. 31	4,817.75	4,428	+295	The year			+1,916
Apr. 30	4,820.70	5,478	+1,050				

NORTH FORK OF LITTLE BUTTE CREEK AT FISH LAKE, NEAR LAKE CREEK, OREG.

LOCATION.—In SE. ¼ sec. 4, T. 37 S., R. 4 E., at outlet of Fish Lake, 18 miles east of Lake Creek post office, Jackson County.

DRAINAGE AREA.—15 square miles.

RECORDS AVAILABLE.—October 21, 1914, to July 20, 1915; June 11 to November 5, 1916; May 26, 1917, to September 30, 1925.

GAGE.—Stevens water-stage recorder 500 yards below dam; inspected by employees of Mount Pitt Irrigation Co.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.10 feet from 1 to 8 p. m. July 15 (discharge, 115 second-feet); stream practically dry October 5–30.

1914–1925: Maximum discharge recorded, 115 second-feet September 28, 1922, and July 15, 1925; creek practically dry during fall of 1923, 1924, and 1925, when gates of dam were first closed.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Water has been diverted from Fourmile Creek over divide beginning in 1924. The amount of water, in acre-feet, delivered to lake during 1925 has been estimated as follows: July, 8; August, 1,470; September, 696.

REGULATION.—Discharge is controlled by reservoir dam at outlet of Fish Lake one-fourth mile above; a record has been kept of the height of water in reservoir and monthly run-off corrected.

ACCURACY.—Stage-discharge relation somewhat unstable. Rating curves well defined. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good.

Discharge measurements of North Fork of Little Butte Creek at Fish Lake, near Lake Creek, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 1	1.87	27.6	June 20	2.09	37.2	Aug. 5	2.86	97
Oct. 2	.80	1.4	June 20	2.33	51	Sept. 8	2.12	46.4
May 15	1.76	19.0	July 12	2.92	96	Sept. 11	1.96	34.7
June 19	1.80	21.6	July 28	3.06	112			

Daily discharge, in second-feet, of North Fork of Little Butte Creek at Fish Lake, near Lake Creek, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	0.2	2.7	5.3	6.7	11	12	17	20	73	100	46
2	12	.2	2.9	5.4	6.9	11	12	17	20	79	99	51
3	1.2	.2	2.9	5.4	7.1	11	12	17	20	86	98	51
4	.4	.4	3.2	5.4	7.5	11	12	18	20	80	97	51
5	0	.4	3.5	5.4	7.9	11	12	18	20	80	96	51
6	0	.4	3.8	5.6	8.1	11	12	18	20	80	97	51
7	0	.5	3.8	5.6	8.3	10	12	18	21	87	97	45
8	0	.6	3.8	5.6	8.3	10	13	18	21	94	98	45
9	0	.7	3.9	5.6	8.3	10	13	19	21	95	100	39
10	0	.7	4.1	5.7	8.5	10	14	19	21	95	99	39
11	0	.7	4.2	5.7	8.7	11	14	19	21	95	105	36
12	0	.7	4.3	5.7	8.7	11	14	19	21	96	105	36
13	0	.8	3.9	5.9	8.7	11	14	19	21	102	100	37
14	0	.8	3.4	5.9	8.7	11	15	19	21	108	96	39
15	0	1.0	3.5	5.9	8.7	11	16	19	21	111	90	28
16	0	1.0	3.6	6.1	8.7	11	16	20	21	111	88	21
17	0	1.0	3.6	6.1	8.7	11	16	19	21	109	85	21
18	0	1.1	3.6	6.2	8.9	11	16	19	21	110	82	21
19	0	1.4	3.8	6.4	9.2	11	16	19	23	111	81	5.8
20	0	1.5	3.9	6.4	9.2	11	16	20	42	112	85	1.3
21	0	1.5	3.9	6.5	9.2	11	16	20	51	112	92	1.3
22	0	1.6	3.9	6.4	9.2	11	16	19	51	111	88	1.3
23	0	1.7	3.9	6.5	9.4	11	16	19	52	109	78	1.4
24	0	1.9	4.1	6.4	9.6	12	16	19	65	109	69	1.6
25	0	1.9	4.2	6.4	9.8	12	16	19	65	111	57	1.8
26	0	2.1	4.3	6.5	10	12	16	19	64	112	57	1.9
27	0	2.1	4.4	6.7	10	12	16	19	65	112	52	1.9
28	0	2.3	4.6	6.5	11	12	17	19	69	111	47	1.9
29	0	2.4	5.1	6.5	-------	12	17	20	75	110	45	1.9
30	0	2.6	5.6	6.7	-------	12	17	20	74	110	44	2.0
31	.2	-------	5.3	6.7	-------	12	-------	19	-------	109	45	------

Monthly discharge of North Fork of Little Butte Creek at Fish Lake, near Lake Creek, Oreg., for the year ending September 30, 1925

Month	Observed discharge in second-feet			Run-off in acre-feet		
	Maximum	Minimum	Mean	Observed	Gain or loss in storage [a]	Corrected for storage
October	28	0.0	1.35	83	+1,195	1,280
November	2.6	.2	1.15	68	+876	944
December	5.6	2.7	3.93	242	+702	944
January	6.7	5.3	6.04	371	+535	906
February	11	6.7	8.71	484	+715	1,200
March	12	10	11.1	682	+295	977
April	17	12	14.7	875	+1,050	1,920
May	20	17	18.8	1,160	+1,258	2,420
June	75	20	35.6	2,120	−291	1,830
July	112	73	101	6,210	−3,929	2,280
August	105	44	83.0	5,100	−3,059	2,040
September	51	1.3	24.4	1,450	+395	1,840
The year	112	0	26.0	18,800	−258	18,600

[a] Storage change in Fish Lake Reservoir, corrected for Cascade Canal. A considerable inflow from this source in March and April is not included, as amount is unknown.

NORTH FORK OF LITTLE BUTTE CREEK ABOVE MEDFORD INTAKE, NEAR LAKE CREEK, OREG.

LOCATION.—In SW. ¼ sec. 25, T. 36 S., R. 2 E., 200 yards above intake of city of Medford water-supply pipe and 5 miles above Lake Creek post office, Jackson County, and mouth of South Fork.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 10, 1911, to March 31, 1913; May 26, 1922, to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder on right bank; inspected by employees of Mount Pitt Irrigation Co.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage during period, from water-stage recorder, 3.30 feet at 2 p. m. December 30 (discharge estimated by upward extension of rating curve, 680 second-feet); minimum stage, 1.24 feet October 12–14 (discharge, 15 second-feet).

1911–1913; 1922–1925: Maximum discharge recorded, that of December 30, 1924; minimum discharge recorded, that of October 12–14, 1924.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—Some minor diversions for irrigation about station. Hanley ditches and water-supply pipe line of city of Medford divert just below gage.

REGULATION.—Flow is controlled by storage in Fish Lake 12 miles upstream; a record has been kept of stage in reservoir and monthly run-off figures corrected.

ACCURACY.—Stage-discharge relation changed during flood of December 30. Rating curves well defined below 100 second-feet. Operation of water-stage recorder satisfactory except January 10 to April 8, when it was not attended and during ice period December 16–18 and 22–25. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records excellent except for discharges greater than 100 second-feet, for which they are good.

Discharge measurements of North Fork of Little Butte Creek above Medford intake, near Lake Creek, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 1	1.40	26.0	Apr. 29	1.87	79	Aug. 24	1.98	102
Dec. 19	1.48	32.0	July 1	2.03	104	Sept. 21	1.39	23.6
Mar. 12	1.66	49.9	July 16	2.17	149			

Daily discharge, in second-feet, of North Fork of Little Butte Creek above Medford intake, near Lake Creek, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Apr.	May	June	July	Aug.	Sept.
1	44	22	27	75		76	99	110	128	72
2	36	20	28	65		76	83	112	128	78
3	20	20	28	65		75	76	124	124	78
4	18	24	32	83		75	73	120	120	78
5	17	21	33	81		73	73	120	120	78
6	16	20	33	76		72	73	118	120	78
7	16	22	32	67		72	72	122	120	76
8	16	25	41	67		68	70	131	124	72
9	17	60	35	62	61	67	68	128	122	72
10	16	33	32		61	67	67	128	120	67

Daily discharge, in second-feet, of North Fork of Little Butte Creek above Medford intake, near Lake Creek, Oreg., for the year ending September 30, 1925—Con.

Day	Oct.	Nov.	Dec.	Jan.	Apr.	May	June	July	Aug.	Sept.
11	16	28	32		65	66	67	128	128	61
12	15	28	32		64	66	67	128	128	61
13	15	25	32		64	64	67	133	126	64
14	15	25	32		64	64	66	135	120	67
15	18	26	32		68	64	66	137	114	60
16	18	25	32		73	66	66	135	112	51
17	17	25	32		72	67	64	128	112	54
18	17	25	32		70	66	64	137	108	52
19	17	48	32		86	64	64	139	106	48
20	17	64	32		84	75	81	139	108	26
21	17	41	32		83	68	95	137	116	24
22	17	43	31		91	64	93	137	116	24
23	17	45	31		88	64	91	133	106	24
24	17	32	30		86	62	104	128	99	24
25	17	29	29		83	61	104	135	83	24
26	18	28	29		81	61	104	137	83	24
27	19	28	33		81	61	104	137	81	24
28	27	27	46		80	62	106	137	76	25
29	22	27	136		76	64	112	137	72	25
30	23	27	241		76	64	112	137	72	25
31	35		91			67		137	72	

Monthly discharge of North Fork of Little Butte Creek above Medford intake, near Lake Creek, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	44	15	19.7	1,210
November	64	20	30.4	1,810
December	241	27	44.2	2,720
January 1–9	83	62	71.2	1,270
April 9–30	91	61	75.3	3,290
May	76	61	67.1	4,130
June	112	64	81.7	4,860
July	139	110	130	7,990
August	128	72	109	6,700
September	78	24	51.2	3,050

NORTH FORK OF LITTLE BUTTE CREEK ABOVE INTAKE OF ROGUE RIVER VALLEY CANAL, NEAR LAKE CREEK, OREG.

LOCATION.—In NW. ¼ sec. 21, T. 36 S., R. 2 E., one-eighth mile above intake of Rogue River Valley Canal and 1 mile above Lake Creek post office, Jackson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 20 to October 13, 1916; May 7, 1917, to September 30, 1919; April 13, 1921, to September 30, 1925.

GAGE.—Stevens 8-day recorder on right bank; inspected by employees of Mount Pitt Irrigation Co.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed composed of boulders and gravel; fairly permanent except in extreme floods.

EXTREMES OF DISCHARGE.—Maximum staff during year from water-stage recorder, 5.42 feet at 3 a. m. December 30 (discharge, 1,560 second-feet); minimum stage, 0.60 foot October 15 (discharge, 8 second-feet).

1916–1919; 1921–1925: Maximum stage recorded, that of December 30, 1924; minimum discharge, that of October 15, 1924.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Pipe line for water supply of city of Medford, capacity about 7.5 second-feet, carries water past gage. Several hundred acres irrigated above station.

REGULATION.—Water was stored in Fish Lake Reservoir, 15 miles above station on which a gage-height record has been kept. (See p. 151.)

ACCURACY.—Stage-discharge relation changed during high water on December 30; affected by ice December 16–27. Rating curves well defined below 300 second-feet. Operation of water-stage recorder satisfactory except December 16–27, February 14–19, and May 16. Daily discharge ascertained by applying to rating table mean daily gage height determined from recorder graph by inspection. Mean discharge, December 16–27, estimated; February 14–19 and May 16, interpolated. Records good.

Discharge measurements of North Fork of Little Butte Creek above intake of Rogue River Valley Canal, near Lake Creek, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 31	1.60	144	Mar. 25	1.16	50	July 7	1.48	99
Dec. 1	.89	30.0	Apr. 29	1.40	82	July 16	1.57	116
Feb. 4	1.96	189	May 5	1.22	56	Aug. 24	1.38	77
Mar. 12	1.18	48.8	June 22	1.36	81	Sept. 21	.85	16.4

Daily discharge, in second-feet, of North Fork of Little Butte Creek above intake of Rogue River Valley Canal, near Lake Creek, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	22	28	108	104	52	78	77	146	92	115	50
2	36	18	29	83	92	53	61	72	83	96	112	59
3	18	16	28	142	121	53	61	73	69	110	110	53
4	12	31	34	158	144	50	75	77	67	98	106	56
5	10	19	44	121	119	50	83	60	64	98	106	66
6	10	18	49	106	130	53	75	56	54	98	108	61
7	9	30	38	85	125	54	72	56	59	102	108	63
8	9	31	60	83	158	54	69	53	54	119	123	56
9	10	171	48	73	115	54	67	50	56	119	121	53
10	10	54	40	102	104	54	66	54	54	119	112	49
11	10	34	37	78	123	54	70	52	53	115	119	44
12	9	32	36	72	108	50	69	49	52	112	119	43
13	9	26	33	83	110	49	69	46	49	115	117	45
14	9	22	32	112		49	67	45	56	121	110	48
15	13	21	32	89		48	73	45	52	123	100	43
16	15	20		67	90	48	81	44	45	123	96	36
17	10	20		63		46	83	43	45	117	96	46
18	10	40		64		46	94	43	43	119	92	38
19	10	169		66		48	169	44	45	121	89	53
20	9	198		75	70	49	139	80	61	121	89	20
21	10	59	30	73	67	49	119	54	91	125	102	17
22	9	60		73	63	49	125	48	81	125	121	16
23	10	40		80	64	49	117	46	75	119	98	16
24	9	35		91	61	49	104	45	87	119	85	16
25	10	32		80	59	49	100	41	81	134	63	16
26	10	29		83	57	50	98	40	83	128	61	16
27	12	28		193	56	52	91	41	83	125	61	16
28	32	28	64	146	53	63	85	45	83	125	60	16
29	23	28	355	121	------	60	83	43	94	125	54	17
30	15	25	601	132	------	72	83	44	96	125	53	17
31	77	------	158	121	------	78	------	50	------	125	52	------

Monthly discharge of North Fork of Little Butte Creek above intake of Rogue River Valley Canal, near Lake Creek, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	77	9	15.5	953
November	198	16	45.2	2,690
December	601	----------	67.9	4,180
January	193	63	97.5	6,000
February	158	53	94.4	5,240
March	78	46	52.7	3,240
April	169	61	87.5	5,210
May	80	40	52.1	3,200
June	146	43	68.7	4,090
July	134	92	117	7,190
August	123	52	95.4	5,870
September	66	16	38.2	2,270
The year	601	9	69.2	50,100

HOPKINS CANAL[2] NEAR BROWNSBORO, OREG.

LOCATION.—In SW. ¼ sec. 8, T. 36 S., R. 1 E., at head of Bradshaw drop, 50 feet below intake of Medford Irrigation District Canal, 2 miles southwest of Brownsboro, 8 miles below intake, and 16 miles from Medford, Jackson County.

RECORDS AVAILABLE.—Irrigation seasons of 1913, 1915 to 1919, and 1921 to 1925.

GAGE.—Stevens 8-day water-stage recorder on right bank; read by L. S. Brophy.

DISCHARGE MEASUREMENTS.—Made by wading or from a plank.

CHANNEL AND CONTROL.—Bed is solid rock reef 50 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during season from water-stage recorder, 2.31 feet at noon June 1 (discharge, 77 second-feet); canal dry November 1 to April 2.

1913–1925: Maximum discharge recorded, that of 1925. Canal dry each winter.

ACCURACY.—Stage-discharge relation changed slightly during winter. Rating curves well defined. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records excellent.

The name Hopkins Canal is applied to the old portion, below diversion point of the Medford Irrigation District Canal, of Rogue River Valley Canal which diverts water from North Fork of Little Butte Creek in NE. ¼ sec. 20, T. 36 S., R. 2 E., to irrigate about 4,400 acres in the basin of Bear Creek. Any seepage or return water from irrigation of about 300 acres above this point reaches Little Butte Creek above the station on Little Butte Creek above Eagle Point.

Discharge measurements of Hopkins Canal near Brownsboro, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 21	1.24	15.6	May 26	1.73	42.7	Aug. 25	1.26	18.3
Apr. 21	.77	4.53	June 9	1.34	22.4	Aug. 28	1.16	14.5
Apr. 29	1.52	30.2	June 29	1.87	49.1	Sept. 16	.80	4.47
May 4	1.43	27.5	July 6	1.83	46.9	Sept. 18	1.05	11.4
May 5	1.52	30.2	Aug. 10	1.68	38.0			

[2] Published in previous reports as Rogue River Valley Canal.

Daily discharge, in second-feet, of Hopkins Canal near Brownsboro, Oreg., for the year ending September 30, 1925

Day	Oct.	Apr.	May	June	July	Aug	Sept.	Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	30	------	24	42	43	45	8.8	16	14	18	37	36	43	34	8.5
2	26	------	24	15	43	49	14	17	14	18	40	34	39	35	18
3	20	2.6	26	22	45	48	17	18	13	22	39	44	44	32	12
4	14	14	26	19	46	41	15	19	11	43	40	40	43	28	15
5	11	13	30	22	45	42	19	20	12	6.9	47	36	43	22	7.4
6	11	12	29	23	44	41	24	21	12	4.3	48	43	44	24	12
7	11	12	24	22	41	39	26	22	12	3.8	41	43	42	28	20
8	10	12	25	22	44	40	20	23	16	2.8	39	47	42	34	18
9	13	13	30	21	47	42	17	24	18	4.5	38	49	45	30	18
10	16	12	34	22	46	37	17	25	18	7.2	34	52	53	20	17
11	14	13	36	25	47	38	12	26	12	9.1	38	46	53	15	16
12	13	14	36	31	43	46	11	27	9.5	8.8	36	43	51	14	17
13	12	14	36	31	46	45	11	28	6.1	9.9	34	41	47	14	17
14	14	5.0	38	38	44	44	13	29	.2	26	37	47	47	12	17
15	13	12	39	40	47	38	13	30	.2	25	38	46	44	12	14
								31	3.8	------	40	-----	47	10	------

NOTE.—Canal dry Nov. 1 to Apr. 2.

Monthly discharge of Hopkins Canal near Brownsboro, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	30	0.2	12.9	793
April	43	0	11.9	708
May	48	24	34.9	2,150
June	52	15	34.7	2,060
July	53	39	45.1	2,770
August	49	10	32.2	1,980
September	26	7.4	15.5	922
The year	53	0	15.7	11,400

NOTE.—Canal dry for months not shown in table

MEDFORD IRRIGATION DISTRICT CANAL NEAR BROWNSBORO, OREG.

LOCATION.—In SW. ¼ sec. 8, T. 36 S., R. 1 E., 100 yards below diversion from Rogue River Valley Canal and 2 miles southwest of Brownsboro, Jackson County.

RECORDS AVAILABLE.—May 14, 1922, to September 30, 1925.

GAGE.—Lietz water-stage recorder on right bank; inspected by Ed. Leach, of Medford Irrigation District.

DISCHARGE MEASUREMENTS.—Made from a footbridge near gage.

EXTREMES OF DISCHARGE.—Maximum stage during period, from water-stage recorder, 3.27 feet at 9 p. m. July 13 (discharge, 78 second-feet). Canal dry at times.

1922–1925: Maximum discharge recorded, 91 second-feet November 18, 1923, canal dry at times.

REGULATION.—Flow regulated at diversion from Rogue River Valley Canal.

ACCURACY.—Stage-discharge relation affected by growth of moss. Standard rating curve well defined. Operation of water-stage recorder satisfactory, except June 3–5, July 14–17, 31, August 12, 14, 21, and September 2–4. Daily discharge ascertained by applying to rating table mean daily gage height with correction for shifting control. Records good.

Medford Irrigation District Canal diverts water from Rogue River Valley Canal in SW. ¼ sec. 8, just above Bradshaw drop and extends along east side of Rogue River Valley to Phoenix, where its waters are conducted across Bear Creek in a siphon into Phoenix Canal. About 8,900 acres were irrigated in 1925.

Discharge measurements of Medford Irrigation District Canal near Brownsboro, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 29	0.88	12.3	June 30	2.48	52.5	Aug. 10	2.88	52.4
May 4	.90	13.2	July 6	2.79	61.4	Aug. 15	3.05	57.5
May 5	1.29	23.2	Do	2.79	60.7	Aug. 25	3.00	53.0
May 16	1.27	23.4	July 11	2.91	62.1	Aug. 28	2.82	47.7
May 23	1.26	22.6	July 19	3.16	71.9	Aug. 31	2.75	43.7
May 26	1.27	22.9	July 25	2.96	61.1	Sept. 16	2.43	32.6
June 9	1.26	19.3	July 27	2.97	61.8	Sept. 18	2.17	24.4
June 20	2.03	42.5	July 30	3.14	66.0			
June 29	2.48	54.8	Aug. 1	3.02	61.4			

Daily discharge, in second-feet, of Medford Irrigation District Canal near Brownsboro, Oreg., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	12	22	52	61	36	16	------	23	38	76	56	29
2	------	13	20	51	54	33	17	------	23	44	72	56	24
3	------	12	20	55	54	32	18	------	23	43	70	57	24
4	------	12	20	62	52	31	19	------	23	41	70	57	24
5	------	17	20	61	54	32	20	------	23	42	72	57	18
6	------	23	20	60	52	34	21	------	23	47	72	58	6
7	------	27	20	59	52	34	22	------	23	49	70	61	------
8	------	28	20	61	53	33	23	------	23	50	57	63	------
9	------	23	20	62	54	32	24	------	23	50	59	60	------
10	------	23	20	62	52	32	25	11	22	50	62	55	------
11	------	24	20	62	53	33	26	12	23	56	61	53	------
12	------	23	21	63	55	33	27	12	23	55	62	51	------
13	------	23	20	66	55	32	28	12	23	52	62	46	------
14	------	23	26	68	57	34	29	13	22	53	63	44	------
15	------	23	29	70	57	34	30	12	23	54	65	45	------
							31	------	22	------	66	44	------

NOTE.—Canal dry Apr. 1–24 and Sept. 22–30.

Monthly discharge of Medford Irrigation District Canal near Brownsboro, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	13	0	2.40	143
May	28	12	21.6	1,330
June	56	20	34.7	2,066
July	76	51	63.6	3,910
August	63	44	54.1	3,330
September	36	0	20.7	1,230
The period				12,000

EAGLE POINT CANAL NEAR EAGLE POINT, OREG.

LOCATION.—In SE. ¼ sec. 31, T. 35 S., R. 1 E., halfway between point of diversion and point where canal crosses Eagle Point-Brownsboro road, 100 feet above intake of Pelouze lateral, and 2½ miles east of Eagle Point, Jackson County.

RECORDS AVAILABLE.—Irrigation seasons 1920 to 1925.

GAGE.—Vertical staff fixed to an alder tree on left bank; read by assistant water master.

CHANNEL AND CONTROL.—Artificial earth channel. Banks high and uniform. No definite control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period June 1 to September 20, 2.38 feet August 23 (discharge, 31 second-feet); canal dry June 26 and at times in winter.

1920–1925: Maximum discharge recorded, that of 1925; canal dry at various times.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—Flow in canal regulated by head gates.

ACCURACY.—Stage-discharge relation unstable owing to operation of fish screens below gage. Fairly well defined rating curve used September 16–20; indirect shifting-control method June 1 to September 15. Gage read to hundredths once a day. Daily discharge ascertained by applying daily height to rating table. Records good.

Eagle Point Canal of Little Butte Irrigation Co. diverts water from Little Butte Creek, in SE. ¼ sec. 31, T. 35 S., R. 1 E. Water is used for irrigating near Eagle Point.

Discharge measurements of Eagle Point Canal near Eagle Point, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 24	0.82	[a]2.0	June 9	1.82	14.5	July 27	2.01	21.0
May 5	1.80	16.5	July 6	1.98	18.5	Sept. 18	1.56	13.0

[a] Estimated.

Daily discharge, in second-feet, of Eagle Point Canal near Eagle Point, Oreg., for the year ending September 30, 1925

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	16	20	16	16	16	16	21	16	16
2	16	15	19	15	17	11	21	17	14
3	15	17	17	16	18	8.1	22	16	13
4	15	17	16	17	19	7.2	18	16	9.4
5	12	16	18	16	20	8.7	20	16	8.6
6	12	17	17	18	21	12	23	19	
7	12	16	17	21	22	27	26	19	
8	11	18	18	21	23	19	29	31	
9	12	20	20	20	24	15	25	23	
10	14	23	22	16	25	15	16	21	
11	14	19	28	16	26	0	19	14	
12	16	19	23	15	27	14	19	20	
13	16	19	21	16	28	17	23	17	
14	16	20	19	16	29	19	22	17	
15	16	21	16	16	30	19	23	17	
					31		21	14	

Monthly discharge of Eagle Point Canal near Eagle Point, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
June	27	0	14.0	833
July	29	15	20.2	1,240
August	31	14	18.7	1,150
September 1–20	21	8.6	15.8	627
The period				3,850

EMIGRANT GAP RESERVOIR NEAR ASHLAND, OREG.

LOCATION.—At Emigrant Gap Dam of Talent Irrigation District in SE. ¼ sec. 20, T. 39 S., R. 2 E., 8 miles southeast of Ashland, Jackson County.

RECORDS AVAILABLE.—December 16, 1924, to September 30, 1925.

GAGE.—Vertical staff on upstream face of dam; graduated to read elevation above sea level; read by employees of Talent Irrigation District.

EXTREMES OF STAGE.—Maximum stage recorded during year, 2,173.75 feet on April 17 (contents, 8,400 acre-feet); reservoir practically dry before December 15, when gates were closed.

Emigrant Gap Reservoir was completed in 1924 by Talent Irrigation District to provide water for lands under East and Talent laterals near Talent, Oreg.

Monthly stage and contents of Emigrant Gap Reservoir near Ashland, Oreg., for the year ending September 30, 1925

	Gage height	Contents	Loss or gain during month
	Feet	*Acre-feet*	*Acre-feet*
Nov. 30		0	0
Dec. 31	2,131.00	1,996	+1,996
Jan. 31	2,159.40	5,491	+3,495
Feb. 28	2,165.90	6,684	+1,193
Mar. 31	2,172.88	8,196	+1,512
Apr. 30	2,173.50	8,342	+146
May 31		[a] 8,280	−62
June 30	2,168.60	7,243	−1,037
July 31	2,145.62	3,514	−3,729
Aug. 31	2,123.70	1,446	−2,368
Sept. 30	2,104.57	518	−928
The year			+518

[a] Interpolated.

EMIGRANT CREEK NEAR ASHLAND, OREG.

LOCATION.—In SE. ¼ sec. 20, T. 39 S., R. 2 E., at a private road bridge 300 feet below Emigrant Gap Reservoir Dam and 8 miles by road above Ashland, Jackson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 27, 1920, to September 30, 1925, with some gaps during low-water periods.

GAGE.—Stevens continuous water-stage recorder on left bridge abutment; inspected by employees of Talent Irrigation District.

DISCHARGE MEASUREMENTS.—Made by wading or from highway bridge.

CHANNEL AND CONTROL.—Bed composed of gravel; shifts in flood. Channel fairly straight.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.5 feet at 10.30 a. m. April 20, with two siphon spillways of Emigrant Gap Reservoir discharging (discharge, 2,100 second-feet). Stream practically dry on December 16 when gates were first closed and September 18–30.

1920–1925: Maximum discharge, that of April 20, 1925; maximum stage unaffected by storage from water-stage recorder, 7.65 feet February 13, 1921 (discharge, 900 second-feet). Creek dry each summer.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Station is above practically all diversions in Rogue River Valley, except East lateral which takes out at Emigrant Gap Dam just above. Keene Creek Canal diverts water into Emigrant Creek from Klamath River drainage basin.

REGULATION.—Run-off regulated by storage in Emigrant Gap Reservoir of Talent Irrigation District, capacity 8,224 acre-feet, immediately upstream. Reservoir gates were closed December 16, stored water released beginning June 25.

ACCURACY.—Stage-discharge relation unstable. Rating curves used as follows: February 4 to April 18, well defined below 600 second-feet; April 20 to September 30, well defined below 50 second-feet; for April 19 curve is based on first measurement of April 20. Operation of water-stage recorder satisfactory except for short periods beginning February 6. Daily discharge ascertained by applying to rating table mean gage height determined from gage-height graph by inspection. Records fair.

Discharge measurements of Emigrant Creek near Ashland, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Feb. 6	3.52	*e* 2.0	Feb. 17	6.02	353	June 6	4.68	11.4
Feb. 16	4.82	95	Apr. 20	4.89	*e* 45	June 15	4.40	*e* 2.2
Do	4.28	39.8	Do	7.80	1,050	June 25	4.36	1.6
Do	5.69	261	Do	4.75	14	July 13	4.84	19.9
Do	3.55	*e* 2.5	May 7	4.99	29.8	Sept. 17	4.15	*e* .1
Feb. 17	6.62	511	May 13	4.68	11.6			

e Estimated.

Daily discharge, in second-feet, of Emigrant Creek near Ashland, Oreg., for the year ending September 30, 1925

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	25	65	61	12	14	12	7.7
2	2	2.6	65	54	14	9.6	12	7.7
3	2		64	50	14	5.0	12	2.2
4	82		112	42	12	6.0	12	.5
5	193		173	46	11	12	14	.4
6	218		113	36	11	19	15	.3
7	270		87	29	10	22	15	.3
8	385		86	20	10	25	14	.3
9	356	2	89	22	9.6	24	15	.3
10	370		80	18	8.4	23	14	.3
11	595		96	16	7.0	20	13	.2
12	505		40	14	6.4	19	12	.2
13	490		9.6	11	4.7	19	12	.2
14	490		50	10	3.7	18	12	.2
15	490		83	8.8	2.2	15	9.6	.2
16	208	34	79	8.0	1.7	17	9.6	.2
17	45	34	78	6.7	1.6	16	10	.1
18	71	1.4	86	6.0	1.4	16	10	-------
19	96	7.2	167	5.7	1.4	16	11	-------
20	96	52	106	7.3	1.4	17	12	-------
21	96	79	100	12	1.4	17	14	-------
22	99	71	124	12	1.6	18	16	-------
23	99	89	112	11	1.7	17	16	-------
24	97	79	92	10	1.8	18	16	-------
25	96	65	93	10	5.4	18	14	-------
26	93	67	83	9.2	14	17	11	-------
27	67	62	74	8.0	11	18	9.2	-------
28	63	76	80	6.7	14	17	7.3	-------
29	-------	66	67	6.4	17	17	7.3	-------
30	-------	66	63	5.4	16	16	7.3	-------
31	-------	66	-------	5.4	-------	14	8.0	-------

NOTE.—Creek dry Sept. 18–30.

Monthly discharge of Emigrant Creek near Ashland, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	----------	----------	[a] 6.8	418
November	----------	----------	[a] 47.0	2,800
December	----------	----------	[a] 16.5	1,010
January	----------	----------	[a] 1.0	61
February	595	2	203	11,300
March	89	1.4	31.2	1,920
April	173	9.6	87.2	5,190
May	61	5.4	18.3	1,130
June	17	1.4	7.58	451
July	25	5.0	16.8	1,030
August	16	7.3	12.0	738
September	7.7	0	.71	42
The year	595	0	36.0	26,100

[a] Estimated.

BEAR CREEK NEAR ASHLAND, OREG.

LOCATION.—In sec. 31, T. 38 S., R. 1 E., 300 yards below mouth of Butler Creek, 3 miles southeast of Talent, and 3 miles northwest of Ashland, Jackson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—April 30 to August 31, 1923; April 26 to July 6, 1924, and May 11 to September 30, 1925.

GAGE.—Stevens 8-day recorder on left bank; inspected by employees of Talent Irrigation District.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Gravel bar 200 feet below gage, acts as control. Channel divided at low stages, shifting at high stages. Right bank low, left bank high; both wooded.

EXTREMES OF DISCHARGE.—Maximum stage during period May 11 to September 30, from water-stage recorder, 2.25 feet at 7.55 a. m. June 1 (discharge, 154 second-feet); minimum stage, 0.60 foot at 4 p. m. August 21 (discharge, 0.9 second-foot).

1923–1925: Maximum discharge recorded, that of June 1, 1925; minimum discharge, 0.4 second-foot August 24, 1923.

ICE.—None.

DIVERSIONS.—Station is below diversions of Talent Irrigation District and above point of return of most of seepage water from area irrigated.

REGULATION.—None, except by irrigation diversions.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of recorder satisfactory, except that inlet through pipe was sluggish May 12–28 and June 2–5; inlet pipe stopped May 29–31; and clock stopped September 26–30. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph; May 29–31 and September 26–30 estimated by comparison with Bear Creek below Phoenix Canal and with Phoenix Canal. Records poor May 11 to June 5 and September 26–30; good June 6 to September 25.

Discharge measurements of Bear Creek near Ashland, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
May 11	1.90	92	July 11	1.10	9.5	Aug. 21	0.60	0.9
June 1	2.18	141	July 13	1.02	6.6	Sept. 17	1.45	35.0
June 13	1.46	35.7	July 29	.76	2.2			
June 25	1.13	10.4	Aug. 8	.62	1.2			

Daily discharge, in second-feet, of Bear Creek near Ashland, Oreg., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	------	148	16	1.2	1.5	16	73	25	4.8	1.3	14
2	------	115	13	1.4	1.5	17	70	24	6.3	1.2	33
3	------	95	13	1.3	2.9	18	69	20	4.6	1.1	25
4	------	86	12	1.2	5.5	19	64	17	4.4	1.1	30
5	------	89	13	1.1	5.0	20	84	16	3.7	1.1	25
6	------	77	13	1.0	5.5	21	105	25	3.0	1.1	20
7	------	71	13	1.0	8.4	22	97	38	1.5	1.2	38
8	------	67	13	1.1	11	23	92	21	1.5	5.5	32
9	------	59	12	1.2	11	24	89	15	1.3	5.7	14
10	------	57	11	1.2	9.5	25	84	14	1.3	3.7	13
11	80	52	10	1.5	9.1	26	83	16	1.7	3.2	
12	66	50	8.8	1.5	8.8	27	80	17	2.7	2.8	
13	63	39	7.3	1.4	8.8	28	66	18	1.9	3.1	12
14	70	37	5.3	1.4	11	29		17	2.8	2.5	
15	67	28	4.6	1.5	10	30	55	17	2.3	2.5	
						31		------	2.2	1.9	------

Monthly discharge of Bear Creek near Ashland, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 11-31	105	----------	74.6	3,110
June	148	14	45.7	2,720
July	16	1.3	6.81	419
August	5.7	1.0	1.87	115
September	38	1.5	13.8	821
The period	----------	----------	----------	7,180

BEAR CREEK BELOW PHOENIX CANAL, NEAR TALENT, OREG.

LOCATION.—In sec. 23, T. 38 S., R. 1 W., 500 feet below intake of Phoenix Canal and 1 mile north of Talent, Jackson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 11 to October 12, 1923; April 17 to July 9, 1924, and May 11 to September 30, 1925.

GAGE.—Friez 8-day water-stage recorder on left bank; inspected by employees of Medford Irrigation District.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Channel fairly straight. Banks high and are not overflowed except during extremely high stages. Riffle 100 feet downstream, where bed consists of gravel and boulders, forms a well-defined and practically permanent control.

EXTREMES OF DISCHARGE.—Maximum stage during period, from water-stage recorder, 1.93 feet from 1 to 9 p. m. June 1 (discharge, 173 second-feet); minimum stage, 0.04 foot at 1 a. m. July 27 (stream bed practically dry).

1923–1925: Maximum stage recorded, that of June 1, 1925; stream practically dry at times each season.

DIVERSIONS.—Many diversions for irrigation above.

REGULATION.—None except by irrigation diversions.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Operation of water-stage recorder satisfactory, except May 22–28, June 21–23, and September 20–25, when clock stopped. Daily discharge ascertained by applying to rating table mean gage height obtained by inspection of recorder graph. Periods of missing gage-height record estimated by comparison with Bear Creek near Ashland and Phoenix Canal. Records good except for periods of no gage-height record, for which they are fair.

Discharge measurements of Bear Creek below Phoenix Canal, near Talent, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
May 11	1.55	97	June 24	0.12	[a] 0.20	Sept. 14	.80	18.3
June 1	1.87	159	July 13	.12	[a] .15	Sept. 17	1.18	46.4
June 12	1.25	54	July 29	.21	[a] .30			
June 13	.88	20.5	Aug. 29	0.46	4.3			

[a] Estimated.

Daily discharge, in second-feet, of Bear Creek below Phoenix Canal, near Talent, Oreg., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	------	141	0.2	0.1	3.5	16	75	7.9	0.2	0.1	17
2	------	131	.1	.1	3.2	17	75	4.5	.2	.2	41
3	------	110	.1	.2	3.8	18	76	2.7	.1	.2	34
4	------	101	.1	.2	6.7	19	72	.7	.3	.2	32
5	------	103	.1	.3	5.8	20	101	1.0	.3	.2	
6	------	96	.1	.4	6.7	21	116			.2	.2
7	------	94	.1	.4	11	22		11	.2	4.0	30
8	------	84	.1	.4	14	23			.2	13	
9	------	78	.1	.6	15	24		.1	.1	14	
10	------	66	.1	.5	16	25	97	.1	.2	7.3	
11	86	54	.1	.3	16	26		.5	.1	6.7	12
12	83	44	.1	.2	16	27		.6	.1	5.8	14
13	84	32	.1	.2	16	28		.4	.1	5.5	14
14	78	27	.1	.2	18	29	55	1.6	.4	4.8	14
15	70	20	.2	.1	18	30	51	.2	.7	4.2	14
						31	58	------	.3	3.8	------

Monthly discharge of Bear Creek below Phoenix Canal, near Talent, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 11-31			83.8	3,490
June	141	0.1	41.1	2,450
July	.7	.1	.174	11
August	14	.1	2.40	148
September		3.2	18.1	1,080
The period				7,180

BEAR CREEK AT MEDFORD, OREG.

LOCATION.—In NW. ¼ sec. 30, T. 37 S., R. 1 W., just above Main Street Bridge in Medford, Jackson County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 13, 1915, to September 30, 1925, with some breaks during low-water periods.

GAGE.—Lietz water-stage recorder on left bank at southeast corner of Page theater building; installed September 20, 1918.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel of loose gravel. A concrete sewer passing under stream forms a partial control.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.40 feet at 4 a. m. December 30 (discharge, 2,180 second-feet); minimum discharge, 2.6 second-feet July 18.

1915–1925: Maximum stage determined from high-water marks, 6.8 feet in forenoon of February 9, 1919 (discharge, estimated from extension of rating curve, 2,400 second-feet); stream practically dry at times.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—A large area is irrigated above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed at time of high water December 30. Rating curve well defined. Operation of water-stage recorder satisfactory except for short periods. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph; for days of considerable fluctuation, discharges averaged for intervals of the day. Discharge estimated October 1–9, December 18–20, December 24–26, and February 11–15; interpolated, November 30, January 8–11, and March 24–26. Daily readings used as mean gage height July 5–8 and July 26. Records excellent, except for very high and very low stages, for which they are good.

Discharge measurements of Bear Creek at Medford, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 31	3.39	513	Apr. 7	2.40	231	July 30	0.92	3.0
Dec. 22	1.46	53	May 12	1.85	95	Aug. 29	1.20	14.6
Dec. 30	6.08	1,990	June 10	1.82	85	Sept. 14	1.44	30.6
Jan. 23	2.02	109	June 15	1.50	40.2			
Feb. 9	3.87	831	June 24	1.07	9.4			

Daily discharge, in second-feet, of Bear Creek at Medford, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		272	70	285	194	192	164	192	144	5.5	4.0	16
2		129	75	230	189	146	159	180	149	4.9	4.3	14
3		85	72	203	302	139	159	172	124	4.6	4.9	13
4		78	114	262	530	134	206	162	111	7.3	4.3	13
5	4.0	69	120	206	710	136	345	151	120	8.2	3.8	16
6		59	121	175	710	146	309	141	115	9.1	3.8	18
7		69	108	151	710	139	227	127	107	7.3	3.8	23
8		70	103		1,180	129	206	113	96	8.2	4.6	28
9		230	105		845	127	215	107	90	6.8	4.9	28
10	4.0	180	97	131	710	124	206	107	78	5.2	4.9	26
11	4.8	129	92			115	233	100	67	5.2	6.4	24
12	4.8	94	87	111		113	230	88	58	5.5	6.0	26
13	4.5	74	82	132	650	109	149	90	44	5.5	4.6	29
14	4.2	64	84	164		134	154	88	38	5.2	4.0	34
15	4.2	64	84	132		139	230	77	33	3.8	4.3	36
16	7.7	64	68	111	367	139	249	86	22	3.8	4.6	35
17	10	62	57	109	295	141	236	86	14	2.9	5.5	60
18	8.6	59		109	272	113	224	84	14	2.9	6.0	51
19	8.6	116	33	146	298	96	378	80	9.6	4.3	6.0	52
20	8.6	728		127	295	115	360	102	8.2	4.9	6.8	50
21	6.9	460	46	124	285	169	306	134	7.8	4.6	8.2	40
22	6.6	320	54	120	282	167	312	120	21	4.9	6.8	44
23	6.9	209	43	127	320	164	334	118	12	4.9	14	52
24	7.2	155		129	298		282	111	8.6	6.0	21	32
25	8.2	125	29	115	275	158	252	104	6.0	6.0	21	24
26	9.6	106		109	272		243	98	5.5	7.3	22	21
27	11	94	39	164	249	151	224	88	4.9	5.5	21	22
28	34	84	57	162	212	175	224	75	4.9	4.9	19	23
29	60	78	340	151	-------	169	221	66	6.0	4.3	17	24
30	35	74	1,310	262	-------	167	203	58	6.0	4.3	18	24
31	369	-------	421	224	-------	164	-------	61	-------	3.2	17	------

Monthly discharge of Bear Creek at Medford, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	369	----------	21.3	1,310
November	728	59	147	8,750
December	1,310	----------	130	7,990
January	285	109	157	9,650
February	1,180	189	466	25,900
March	192	96	143	8,790
April	378	149	241	14,300
May	192	58	109	6,700
June	149	4.9	50.8	3,020
July	9.1	2.9	5.39	331
August	22	3.8	9.11	560
September	60	13	29.9	1,780
The year	1,310	2.9	123	89,100

BEAR CREEK NEAR CENTRAL POINT, OREG.

LOCATION.—In sec. 2, T. 37 S., R. 2 W., 1 mile northeast of Central Point, Jackson County, on road to Agate station.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 23 to September 30, 1923, April 1 to September 30, 1924, and April 30 to September 30, 1925.

GAGE.—Barrett & Lawrence water-stage recorder on right bank 600 feet above highway bridge; inspected by L. S. Brophy.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed composed of gravel, with cobblestone riffle 300 feet below gage, somewhat shifting in floods. Left bank may be overflowed during extremely high water.

EXTREMES OF DISCHARGE.—Maximum stage during period April 30 to September 30, from water-stage recorder, 2.58 feet April 30 (discharge, 212 second-feet); minimum discharge, 1.0 second-foot August 21.

1923–1925: Maximum stage recorded, that of April 30, 1925; stream practically dry at times.

ICE.—No record during winter.

DIVERSIONS.—Station below all present diversions, at intake of proposed Oakleigh Canal. During irrigation season practically all water is diverted, the flow being mostly return water.

REGULATION.—Only by head gates of irrigation canals.

ACCURACY.—Stage-discharge relation not permanent. Fairly well defined rating curve used April 30 to May 14; shifting-control method thereafter. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean gage height obtained by inspecting recorder graph. Records fair.

Discharge measurements of Bear Creek near Central Point, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 24	2.49	192	June 10	1.99	89	Sept. 14	1.73	31.5
Mar. 30	2.40	171	July 24	1.02	2.9			
May 11	2.06	108	Aug. 4	1.00	2.0			

Daily discharge, in second-feet, of Bear Creek near Central Point, Oreg., for the year ending September 30, 1925

Day	Mar.	Apr.	May	June	July	Aug.	Sept.	Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1			207	123	1.9	2.2	4.5	16			97	20	2.2	3.1	35
2			194	163	1.9	2.8	4.5	17			106	8.5	2.2	2.8	68
3			184	132	1.6	2.8	3.1	18			104	7.0	2.2	2.5	74
4			173	125	1.6	2.2	1.9	19			101	5.5	2.2	1.9	67
5			155	129	1.6	2.5	3.4	20			113	3.4	2.2	1.6	71
6			151	123	1.9	2.8	5.5	21			153	2.8	2.2	1.3	54
7			130	114	2.2	2.5	14	22			136	6.0	2.5	1.9	52
8			123	106	2.5	2.2	29	23			132	7.0	2.5	11	67
9			113	96	2.5	2.2	27	24	192		127	3.7	2.8	23	50
10			113	86	2.5	2.5	26	25			121	3.4	2.8	21	34
11			111	70	2.2	3.1	26	26			111	2.5	4.0	14	30
12			99	55	2.5	3.1	23	27			104	1.9	4.0	11	27
13			106	39	2.5	2.8	24	28			94	1.9	4.0	11	27
14			101	30	2.5	2.8	31	29			86	1.9	3.4	8.0	26
15			91	28	2.5	2.8	33	30	173	212	74	2.2	2.2	6.0	26
								31			74		1.9	6.5	

Monthly discharge of Bear Creek near Central Point, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May	207	74	122	7,500
June	163	1.9	49.9	2,970
July	4.0	1.6	2.44	150
August	23	1.3	5.35	329
September	74	1.9	32.1	1,910
The period				12,900

ASHLAND LATERAL NEAR ASHLAND, OREG.

LOCATION.—In NW. ¼ sec. 33, T. 39 S., R. 2 E., at point where canal passes through Songer Gap, a divide separating Emigrant Creek and Hill Creek Basins, about 9 miles southeast of Ashland, Jackson County.

RECORDS AVAILABLE.—May 29 to September 30, 1925.

GAGE.—Stevens 8-day water-stage recorder; inspected by employees of Talent Irrigation District.

DISCHARGE MEASUREMENTS.—Made from footbridge near gage.

CHANNEL AND CONTROL.—Gage is at upper end of concrete section; break in grade 40 feet downstream acts as control; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 1.54 feet at 11 p. m. August 8 (discharge, 21 second-feet). Canal dry at times.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good.

Ashland lateral which diverts from Sampson Creek in SW. ¼ sec. 26, T. 39 S., R. 2 E., is used to irrigate 800 acres lying on west side of Emigrant Creek in vicinity of Ashland and to deliver to the city of Ashland under contract water sufficient to irrigate 600 acres. Some water was diverted in April and May but practically all was wasted into Hill Creek and reached Emigrant Gap Reservoir. Beginning about June 1 discharge at this station is almost directly comparable with that of Keene Creek Canal near Ashland; practically all water coming from Hyatt Prairie Reservoir.

Discharge measurements of Ashland lateral near Ashland, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
May 29	0.67	1.48	June 25	1.36	15.5	Aug. 21	1.26	12.8
June 1	.88	4.18	July 13	1.29	14.2	Sept. 2	.97	6.08
June 15	.52	a .50	July 25	1.31	13.4	Sept. 17	1.02	6.83

a Estimated.

Daily discharge, in second-feet, of Ashland lateral near Ashland, Oreg., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1		3.6	12	13	5.8	16		0.4	15	15	4.7
2		2.6	11	13	6.0	17		7.0	16	15	6.4
3		1.0	11	13	5.8	18		8.7	15	15	4.9
4		2.8	11	13	6.0	19		8.5	14	14	5.8
5		3.1	10	13	5.8	20		11	14	13	4.7
6		2.4	10	13	5.8	21		14	14	13	1.2
7		2.1	10	13	6.2	22		18	14	13	
8		1.6	11	14	6.2	23		17	14	13	
9		1.4	13	14	6.0	24		16	14	13	
10		1.2	13	14	5.8	25		16	14	12	
11		.6	13	14	6.0	26		16	14	9.4	
12		.6	13	14	6.0	27		16	14	8.9	
13		.6	13	14	5.6	28		15	14	7.4	
14		.4	14	15	4.5	29	1.5	15	14	6.4	
15		.4	14	15	4.2	30	1.5	14	14	5.8	
						31	1.8		13	5.8	

Monthly discharge of Ashland lateral near Ashland, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May 29-31	1.8	1.5	1.60	10
June	18	.4	7.23	430
July	16	10	13.1	806
August	15	5.8	12.4	762
September	6.4	0	3.78	225
The period				2,230

EAST LATERAL NEAR ASHLAND, OREG.

LOCATION.—In SE. ¼ sec. 20, T. 39 S., R. 2 E., 500 feet below Emigrant Gap Dam and 7 miles southeast of Ashland, Jackson County.

RECORDS AVAILABLE.—Irrigation seasons of 1923 to 1925.

GAGE.—Stevens 8-day recorder on left bank; inspected by employees of Talent Irrigation District.

DISCHARGE MEASUREMENTS.—Made from footbridge at gage.

CHANNEL AND CONTROL.—Concrete-lined section for short distance at gage, bottom below grade and some sediment may collect, earth section above and below. No defined control, aquatic plants cause unstable conditions.

EXTREMES OF DISCHARGE.—Maximum stage during period from water-stage recorder, 2.84 feet July 20–22 (discharge, 52 second-feet); canal dry at times.

1923–1925: Maximum discharge recorded, that of 1925; canal dry at times.

ICE.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Rating curves well defined. Operation of water-stage recorder satisfactory after May 12. Daily discharge ascertained by applying to rating table mean daily gage height, obtained by inspecting recorder graph; May 7, by computations based on measurement notes; May 8–12, interpolated. Records fair May 7–12; others good.

East lateral of Talent Irrigation District diverts water from Emigrant Creek in SE. ¼ sec. 20, at Emigrant Gap Dam, for the irrigation of about 3,000 acres of land lying along the right or east side of Bear Creek Valley and extending to a point nearly opposite Medford.

Discharge measurements of East lateral near Ashland, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
May 7	1.47	10.7	May 13	1.52	14.4	July 13	2.70	45.7
Do	2.12	24.7	June 6	.91	5.46	July 25	2.80	51.0
Do	2.43	37.4	June 15	1.33	11.2	Aug. 21	1.95	27.4
Do	2.80	50.8	June 25	2.73	47.1	Sept. 17	1.54	18.8

Daily discharge, in second-feet, of East lateral near Ashland, Oreg., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	------	7.8	41	45	13	16	13	11	49	17	18
2	------	7.9	32	40	13	17	13	12	49	17	19
3	------	8.1	26	34	21	18	12	12	48	17	15
4	------	8.1	27	31	26	19	11	13	48	20	11
5	------	6.5	32	31	26	20	9.4	24	51	25	11
6	------	5.6	37	31	26	21	7.5	26	52	27	7.1
7	10	5.5	38	27	26	22	7.7	31	52	26	------
8		5.1	40	22	26	23	6.2	32	50	24	------
9		5.1	40	19	26	24	5.3	42	49	22	------
10	12	5.1	40	18	26	25	5.4	48	50	18	------
11		5.4	40	17	26	26	5.5	51	50	18	------
12		6.4	41	17	26	27	5.6	51	50	14	------
13	14	6.8	46	17	26	28	5.6	49	50	13	------
14	13	7.7	47	17	26	29	5.6	50	50	14	------
15	13	11	49	18	22	30	7.2	48	48	14	------
						31	7.8	------	47	13	------

NOTE.—No flow May 1–6 and Sept. 22–30.

Monthly discharge of East lateral near Ashland, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May	14	0	7.67	472
June	51	5.1	20.1	1,200
July	52	26	44.2	2,720
August	45	13	22.0	1,350
September	26	0	14.5	863
The period	52	0	9.12	6,600

TALENT LATERAL NEAR ASHLAND, OREG.

LOCATION.—In SE. ¼ sec. 32, T. 38 S., R. 1 E., three-fourths mile below intake, one-half mile below mouth of Ashland Creek, and 1 mile north of Ashland, Jackson County.

RECORDS AVAILABLE.—Irrigation seasons 1920 to 1925.

GAGE.—Stevens 8-day recorder; inspected by employees of Talent Irrigation District. Station located at intake prior to 1925.

DISCHARGE MEASUREMENTS.—Made from a plank or by wading near gage.

CHANNEL AND CONTROL.—Channel excavated in earth and gravel; slightly shifting owing to growth of aquatic plants.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 2.57 feet at 5 p. m. April 23 (discharge, 39 second-feet); canal dry at times.

1923–1925: Maximum stage recorded, that of 1925; canal dry at times.

ACCURACY.—Stage-discharge relation not permanent. Rating curves well defined. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph. Records good.

Talent lateral diverts water from Bear Creek in SW. ¼ sec. 33, above mouth of Ashland Creek, but Ashland Creek may be diverted to enter Bear Creek above Talent lateral. Water from Talent lateral irrigated about 2,200 acres of Bear Creek valley land in 1925, lying principally on the left or southwest side of Bear Creek.

Discharge measurements of Talent lateral near Ashland, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 23	1.36	11.3	July 14	2.05	22.5	July 29	1.97	20.7
Do	1.00	6.32	May 13	2.22	29.8	Aug. 21	1.68	14.5
Do	1.85	21.5	June 1	1.62	15.5	Sept. 17	.38	*.1
Do	2.21	28.4	June 25	1.77	18.9			
Do	2.55	38.8	July 11	1.94	20.2			

* Estimated.

NOTE.—Water measured Apr. 23 not diverted for irrigation; wasted back into creek at first spillway.

Daily discharge, in second-feet, of Talent lateral near Ashland, Oreg., for the year ending September 30, 1925

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	------	18	28	17	8.6	16	17	15	23	14	------
2	------	13	24	15	8.0	17	18	15	20	15	------
3	------	14	16	15	6.3	18	19	17	24	15	------
4	4.2	13	13	16	1.4	19	15	16	24	14	------
5	3.6	14	15	16	------	20	19	17	24	16	------
6	3.4	14	20	18	------	21	15	20	21	14	------
7	6.1	14	24	18	------	22	11	28	21	15	------
8	5.0	13	20	18	------	23	10	26	20	16	------
9	5.2	13	19	18	------	24	9.7	22	20	16	------
10	4.9	11	20	19	------	25	9.3	20	21	17	------
11	12	9.5	18	17	------	26	9.0	24	21	14	------
12	29	10	20	16	------	27	8.4	22	21	13	------
13	28	16	21	16	------	28	12	23	20	11	------
14	17	15	23	15	------	29	17	28	20	9.7	------
15	16	17	23	14	------	30	17	28	19	9.3	------
						31	18	------	18	9.2	------

NOTE.—Canal dry May 1–3 and Sept. 5–30.

Monthly discharge of Talent lateral near Ashland, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May	29	0	11.6	713
June	28	9.5	17.5	1,040
July	28	13	20.7	1,270
August	19	9.2	15.0	922
September	8.6	0	.810	48
The period				3,990

WEST FORK OF ASHLAND CREEK NEAR ASHLAND, OREG.

LOCATION.—In sec. 32, T. 39 S., R. 1 E., three-quarters of a mile above confluence with East Fork, half a mile above diversion for power plant, 4 miles south of Ashland, Jackson County.

DRAINAGE AREA.—9.4 square miles (measured on map of Crater National Forest).

RECORDS AVAILABLE.—September 1, 1924, to September 30, 1925.

GAGE.—Stevens 8-day recorder on right bank; inspected by E. R. Hosler.

CHANNEL AND CONTROL.—Bed composed of solid rock and boulders; permanent except as boulders have been removed to prevent lodging of drift.

EXTREMES OF DISCHARGE.—Maximum stage during period September 1, 1924, to September 30, 1925, from water-stage recorder, 2.85 feet at 1 a. m. October 31 (discharge computed from weir and orifice data at diversion dam, 203 second-feet); minimum stage, 0.57 foot at 8 p. m. September 12, 1924 (discharge, 1.4 second-feet.)

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—None above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed October 31 and again November 8; affected by ice December 18–22 and 25–27. Standard rating curve well defined. Operation of water-stage recorder fairly satisfactory. Daily discharge ascertained by applying to rating table mean gage height obtained by inspecting recorder graph. Indirect corrections applied to observed gage heights September 10 to November 1. Discharge estimated September 19–23, 1924, November 2–7, December 18–22, 25–27, and September 13–18, 1925. Records fair September 10 to November 7, 1924; good after that date.

Discharge measurements of West Fork of Ashland Creek near Ashland, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 8	0.78	6.3	Mar. 30	1.01	13.7	June 1	1.44	34.6
Dec. 23	.76	6.7	Apr. 9	1.19	21.4	July 14	.78	7.3
Jan. 24	.85	8.2	Apr. 28	1.33	29.3	July 23	.72	5.8
Jan. 30	1.12	19.1	May 4	1.35	29.8	Aug. 21	.61	3.5
Feb. 17	1.18	20.8	May 20	1.56	40.9	Sept. 4	.58	3.2

Daily discharge, in second-feet, of West Fork of Ashland Creek near Ashland, Oreg., for the period September 1, 1924, to September 30, 1925

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	2.3	30	7.2	19	17	17	14	26	34	12	4.4	3.5
2	2.4	2.3		7.7	16	17	17	14	26	30	12	4.6	3.3
3	2.1	4.0		6.9	15	23	17	15	28	28	11	4.6	3.2
4	2.2	3.0		9.3	14	53	18	16	28	27	11	4.4	3.2
5		3.0	11	9.0	13	49	18	17	30	26	10	4.4	3.2
6	2.2	3.0		8.5	12	41	17	17	30	24	10	4.2	3.7
7	2.2	2.7		8.2	11	35	16	18	30	24	9.8	4.2	4.2
8	2.2	2.7	6.5	8.5	11	30	15	20	30	24	9.3	4.2	4.0
9	2.1	3.3	11	8.2	11	26	15	21	29	24	9.0	4.4	3.7
10	1.7	3.3	9.3	7.9	10	26	14	23	29	22	8.2	4.0	3.5

Daily discharge, in second-feet, of West Fork of Ashland Creek near Ashland, Oreg., for the period September 1, 1924, to September 30, 1925—Continued

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
11	1.8	3.0	7.9	7.7	9.6	32	14	26	28	22	7.7	4.0	3.3
12	1.7	3.2	6.7	7.4	9.6	32	13	25	28	21	7.7	4.0	3.3
13	1.7	3.3	6.2	7.4	9.3	29	12	25	28	21	7.4	4.0	
14	1.7	3.5	6.2	7.4	9.0	28	12	26	28	20	7.2	3.8	
15	1.7	8.5	6.5	7.2	8.5	25	12	35	28	20	6.9	3.7	3.5
16	1.7	6.5	6.0	6.9	8.5	23	12	32	30	20	6.7	3.8	
17	1.8	4.2	6.0	5.6	8.2	22	11	30	30	19	6.5	3.7	
18	1.7	3.7	6.2		8.5	20	11	28	30	19	6.2	3.7	
19		3.5	17		9.0	18	12	28	30	18	6.0	3.5	6.5
20		3.3	30	5.5	9.0	18	14	28	37	18	5.8	3.5	4.9
21	2.0	3.5	22		9.0	17	15	28	36	18	6.0	3.5	4.4
22		3.3	20		9.3	20	15	27	33	18	6.0	4.2	4.0
23		3.5	16	6.0	9.0	22	15	27	33	17	6.0	5.3	3.7
24	3.3	3.3	14	6.0	9.0	21	15	26	32	16	5.8	4.2	3.7
25	3.0	3.5	12		8.5	20	15	26	32	15	5.3	4.0	3.5
26	2.7	4.2	11	5.8	9.0	19	15	26	32	15	4.9	3.8	4.0
27	2.3	6.7	9.3		1.	18	15	26	31	15	4.9	4.0	4.4
28	2.3	26	8.5	7.9	11	17	15	27	30	14	4.9	4.0	4.6
29	2.2	9.8	7.7	15	11		15	27	30	14	4.7	3.7	4.4
30	2.0	18	7.2	36	13		14	26	28	13	4.6	3.7	4.2
31		105		24	17		14		28		4.4	3.5	

Monthly discharge of West Fork of Ashland Creek near Ashland, Oreg., for the year ending September 30, 1925

[Drainage area, 9.4 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1924						
September			2.10			125
1924–25						
October	105	2.3	8.36	0.889	1.02	514
November	30	6.0	11.6	1.23	1.37	690
December	36		8.74	.930	1.07	537
January	19	8.2	11.1	1.18	1.36	682
February	53	17	25.6	2.72	2.83	1,420
March	18	11	14.5	1.54	1.78	892
April	35	14	24.1	2.56	2.86	1,430
May	37	26	29.9	3.18	3.67	1,840
June	34	13	20.5	2.18	2.43	1,220
July	12	4.4	7.35	.782	.90	452
August	5.3	3.5	4.03	.429	.49	248
September	6.5	3.2	3.85	.410	.46	229
The year	105	2.3	14.0	1.49	20.24	10,200

EAST FORK OF ASHLAND CREEK NEAR ASHLAND, OREG.

LOCATION.—In sec. 28, T. 39 S., R. 1 E., a quarter of a mile above confluence with West Fork, 100 yards above diversion for power plant, and 3½ miles south of Ashland, Jackson County.

DRAINAGE AREA.—7.8 square miles (measured on map of Crater National Forest).

RECORDS AVAILABLE.—September 1, 1924, to September 30, 1925.

GAGE.—Stevens 8-day recorder on left bank; inspected by E. R. Hosler.

CHANNEL AND CONTROL.—Bed composed of large boulders. Control well defined just below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during period September 1, 1924, to September 30, 1925, from water-stage recorder, 2.30 feet at 3 a. m. October 31 (discharge computed from weir and orifice data, 171 second-feet); minimum stage, 0.63 foot September 11–15, 1924 (discharge, 1.4 second-feet).

ICE.—Stage-discharge relation apparently unaffected by ice.

DIVERSIONS.—None above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 50 second-feet, poorly defined above by computed discharge by weir and orifice formulas. Water-stage recorder operated satisfactorily September 10, 1924, to September 30, 1925, except as noted in footnote to table of daily discharge. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph. Records excellent except for interpolated or estimated periods, for which they are fair.

Discharge measurements of East Fork of Ashland Creek near Ashland, Oreg., during the years ending September 30, 1924 and 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
1924	*Feet*	*Sec.-ft.*	1925	*Feet*	*Sec.-ft.*	1925	*Feet*	*Sec.-ft.*
Sept. 10	0.64	1.50	Jan. 30	1.14	18.0	May 20	1.64	41.8
Nov. 8	.90	6.6	Feb. 17	1.17	19.4	June 1	1.56	38.8
Dec. 23	.90	6.9	Mar. 30	1.09	14.1	July 14	1.02	12.0
			Apr. 9	1.20	21.5	July 23	.96	10.6
1925			Apr. 28	1.29	25.4	Aug. 21	.80	4.3
Jan. 24	.93	7.6	May 4	1.36	28.7	Sept. 4	.78	4.1

Daily discharge, in second-feet, of East Fork of Ashland Creek near Ashland, Oreg., for the period September 1, 1924, to September 30, 1925

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.9	26	11	16		17		24	41	20	6.7	3.8
1	1.7	1.9	16	11	14	19	17		24	34	19	6.2	3.8
3	1.6	2.6	14	9.7	14		17	15	28	31	18	6.2	3.6
4		2.1	13	11	14		18		28	29	18	6.2	3.6
5	1.6	2.2	10	10	14		18	17	30	28	17	5.6	3.6
6	1.6	2.4	8.4	9.7		43	18	17	31	27	16	5.6	4.5
7	1.5	2.2	8.0	8.8			17	18	30	26	16	5.1	5.6
8	1.6	2.1	7.1	9.3	12		18	19	30	26	15	5.1	5.4
9	1.6	2.4	12	9.3			18	21	30	25	14	5.4	4.8
10	1.5	2.2	11	8.4	11		17	23	29	24	14	5.1	4.5
11	1.4	2.1	9.3	8.4			16	26	28	24	13	4.5	4.0
12	1.4	2.2	8.0	8.0		25	16	26	28	25	13	4.8	4.0
13	1.4	2.2	7.1	8.0			16	25	28	24	12	4.8	4.0
14	1.4	2.7	6.7	8.8			16	28	28	24	12	4.3	
15	1.4	5.9	7.1	8.8			16	36	28	24	12	4.3	
16	1.5	4.8	6.4	8.4			15	33	32	24	12	4.3	4.5
17	1.5	3.1	6.4	7.6	9.0	18	15	30	32	24	11	4.3	
18	1.6	2.6	7.1				14	28	34	24	11	4.3	
19		2.2	37				15	27	35	23	11	4.3	5.9
20		2.2	53	7.5			16	26	41	23	9.3	4.0	5.1
21	1.8	2.6	33			17	17	24	41	27	9.3	3.8	4.5
22		2.4	29				18	24	40	27	9.7	4.5	4.0
23		2.6	22	8.4			18	23	41	26	9.3	5.6	4.0
24	2.2	2.2	18	9.7	8.0	18	18	22	41	24	8.8	4.5	3.8
25	2.7	2.4	16	7.6		18	18	22	41	24	8.4	4.3	3.6
26	2.2	2.9	15	6.7		18	18	22	41	23	8.4	4.0	4.0
27	2.1	7.1	14	6.7	9.0	18	18	22	41	22	8.4	4.3	4.3
28	2.0	22	13	7.6		17	18	24	40	22	8.0	4.0	4.5
29	1.9	6.4	11	16			17	25	38	22	8.0	3.8	4.3
30	1.9	14	10	28	18		16	24	36	20	7.6	3.8	4.3
31		94		19	17		16		35		7.1	3.8	

NOTE.—No gage-height record Sept. 19–23, 1924, Dec. 18–22, Jan. 6–9, 11–31, Feb. 1–23, Mar. 31 to Apr. 4, June 26, and Sept. 14–18; discharge interpolated or estimated by comparison with record on West Fork of Ashland Creek.

Monthly discharge of East Fork of Ashland Creek near Ashland, Oreg., for the period September 1, 1924, to September 30, 1925

[Drainage area, 7.8 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1924						
September			1.71			102
1924–25						
October	94	1.9	6.79	0.871	1.00	418
November	53	6.4	15.2	1.95	2.18	904
December	28		9.79	1.25	1.44	602
January			10.8	1.38	1.59	664
February			23.0	2.95	3.07	1,280
March	18	14	16.8	2.15	2.48	1,030
April	36		23.1	2.96	3.30	1,370
May	41	24	33.3	4.27	4.92	2,050
June	41	20	25.6	3.28	3.66	1,520
July	20	7.1	12.1	1.55	1.79	744
August	6.7	3.8	4.76	.610	.70	293
September		3.6	4.33	.555	.62	258
The year	94	1.9	15.4	1.97	26.75	11,100

PHOENIX CANAL AT TALENT, OREG.

LOCATION.—In NW. ¼ sec. 23, T. 38 S., R. 1 W., three-eighths mile below intake, behind barn of Southern Oregon Experiment Station, and 1 mile north of Talent, Jackson County.

RECORDS AVAILABLE.—Irrigation seasons, 1916 to 1925.

GAGE.—Lietz water-stage recorder on left bank; inspected by employees of Medford Irrigation District. Gage just below intake used prior to 1925.

DISCHARGE MEASUREMENTS.—Made from footbridge.

CHANNEL AND CONTROL.—Concrete channel subject to silt deposition and moss growth; no well-defined control.

EXTREMES OF DISCHARGE.—Maximum discharge during period, 32. second-feet about noon June 1; canal dry in winter.

1916–1925: Maximum discharge recorded, 48 second-feet May 28, 1921; canal dry at various times.

ACCURACY.—Stage-discharge relation fairly permanent to June 23 but continually changing thereafter owing to growth of moss and flat gradient of canal. Standard rating curve well defined. Operation of water-stage recorder fairly satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height determined by inspecting recorder graph. Shifting-control method used June 24 to September 25. Records good April to June, fair July to September.

Phoenix Canal diverts water from Bear Creek in NW. ¼ sec. 23, T. 38 S., R. 1 W., and furnishes a supplemental water supply for that part of Medford Irrigation District lands lying west of Bear Creek.

Discharge measurements of Phoenix Canal at Talent, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Apr. 28	0.46	5.45	June 19	1.28	21.3	July 29	0.91	5.75
May 11	.82	9.71	June 24	1.21	18.6	Aug. 10	.99	4.98
Do	.82	11.8	June 30	1.51	22.1	Aug. 12	.93	4.50
May 29	.94	13.6	July 2	1.34	18.4	Aug. 17	.87	3.73
June 1	.20	1.95	July 3	1.48	20.6	Aug. 29	.74	2.81
June 12	1.32	21.4	July 13	1.38	15.4	Sept. 15	.75	2.61
June 13	1.57	26.8	July 27	1.01	7.42	Sept. 17	.82	2.97

Daily discharge, in second-feet, of Phoenix Canal at Talent, Oreg., for the year ending September 30, 1925

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	------	4.3	11	23	6.4	1.5	16	------	9.4	23	6.6	3.9	2.0
2	------	4.2	7.5	18	5.6	1.3	17	------	9.4	24	10	3.6	2.7
3	------	3.9	11	18	5.4	1.6	18	------	9.6	22	6.9	3.6	2.4
4	------	6.1	11	18	6.1	3.1	19	------	9.6	21	6.4	4.0	2.1
5	------	14	10	18	5.6	4.6	20	------	9.7	19	7.1	5.2	3.0
6	------	14	10	20	4.8	5.8	21	------	10	22	5.2	5.0	2.4
7	------	13	10	18	5.2	5.0	22	------	10	26	3.9	3.0	2.6
8	------	12	10	17	4.2	4.6	23	------	10	24	4.2	0	2.5
9	------	12	11	17	2.8	4.0	24	------	9.9	21	2.7	0	.8
10	------	11	18	16	4.5	3.6	25	5.6	9.9	18	2.7	5.2	.2
11	------	11	21	13	5.2	3.1	26	5.6	9.7	20	3.2	6.4	------
12	------	11	21	13	4.6	2.6	27	5.4	9.7	21	5.2	4.0	------
13	------	11	24	12	3.9	2.6	28	5.5	10	22	4.3	4.0	------
14	------	10	24	9.1	4.0	2.5	29	4.6	16	23	5.5	3.1	------
15	------	9.6	22	6.7	3.5	2.5	30	3.8	21	24	7.1	2.2	------
							31	------	21	------	7.2	1.5	------

NOTE.—Canal practically dry Apr. 1–24 and Sept. 26–30.

Monthly discharge of Phoenix Canal at Talent, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	5.6	0	1.02	61
May	21	3.9	10.7	658
June	26	7.5	18.4	1,090
July	23	2.7	10.5	646
August	6.4	0	4.06	250
September	5.8	0	2.30	137
The period				2,840

McDONALD CREEK CANAL NEAR TALENT, OREG.

LOCATION.—In NE. ¼ sec. 34, T. 39 S., R. 1 W., 8 miles by road south of Talent, Jackson County.

RECORDS AVAILABLE.—Irrigation seasons 1923 to 1925.

GAGE.—Vertical staff on left bank 150 feet above weir at end of canal, where water is discharged into Wagner Creek; read by employees of Talent Irrigation District.

DISCHARGE MEASUREMENTS.—Made from footbridge 20 feet above gage.

CHANNEL AND CONTROL.—Channel is in smooth earth section. Control at low stages is a slight riffle 20 feet below gage; at higher stages, is probably the weir 150 feet below gage. Slight changes in rating may be caused by shifting sand dunes.

EXTREMES OF DISCHARGE.—Maximum stage recorded, 1.31 feet June 17 and 20 (discharge, 19 second-feet). Canal dry at times.

1923–1925: Maximum stage recorded, 1.45 feet July 6, 1923 (discharge, 24.2 second-feet).

ICE.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Gage read to hundredths twice a day. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

McDonald Creek Canal diverts water from McDonald Creek, which enters Little Applegate River practically on line between secs. 10 and 11, T. 40 S., R. 1 W., and discharges it into head of Wagner Creek from which it is again diverted for irrigation of about 1,000 acres near Talent.

Discharge measurements of McDonald Creek Canal near Talent, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
June 24	1.21	16.1	July 13	0.75	5.22
July 2	.96	9.58	July 29	.62	3.64

Daily discharge, in second-feet, of McDonald Creek Canal near Talent, Oreg., for the year ending September 30, 1925

Day	May	June	July	Day	May	June	July	Day	May	June	July
1	------	12	11	11	6.1	12	6.7	21	11	19	4.6
2	------	11	10	12	6.1	13	6.3	22	12	18	4.6
3	3.2	10	9.9	13	6.1	13	6.0	23	12	18	4.3
4	3.5	9.9	9.4	14	6.7	15	5.6	24	11	16	4.2
5	3.8	9.7	9.2	15	7.5	18	5.6	25	11	15	4.2
6	3.8	9.2	8.8	16	8.1	18	5.3	26	11	14	4.0
7	4.8	8.5	8.3	17	8.3	19	5.3	27	11	14	3.8
8	6.3	9.9	7.9	18	9.2	19	4.9	28	12	13	3.6
9	6.3	12	7.7	19	10	19	4.8	29	11	13	3.5
10	6.1	12	7.1	20	12	19	4.6	30	11	12	3.2
								31	11	------	3.2

Monthly discharge of McDonald Creek Canal near Talent, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
May	12	0	7.80	480
June	19	8.5	14.1	839
July	11	3.2	6.05	372
The period	------	------	------	1,690

COQUILLE RIVER BASIN

SOUTH FORK OF COQUILLE RIVER AT POWERS, OREG.

LOCATION.—In SW. ¼ sec. 13, T. 31 S., R. 12 W., 1,000 feet below Salmon Creek, 200 feet above Bingham Creek, and one-fourth mile due west of Powers post office, Coos County, present terminus of Marshfield branch of Southern Pacific Railroad.

DRAINAGE AREA.—168 square miles (measured on topographic and Douglas County Abstract Co.'s maps).

RECORDS AVAILABLE.—September 4, 1916, to September 30, 1925.

GAGE.—Inclined staff in three sections on left bank under footbridge; read by Ray Brown and J. C. Brown.

DISCHARGE MEASUREMENTS.—Made by wading. Footbridge washed out in flood, no equipment at present for high-water measurement.

CHANNEL AND CONTROL.—Bed composed of gravel and solid rock; shifts during floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 17.5 feet at 11 p. m. October 31 (discharge, 25,300 second-feet); minimum stage, 2.4 feet October 7, 8, 13, and 14 (discharge, 25 second-feet).

1916–1925: Maximum discharge recorded, that of October 31, 1924; minimum discharge, 17 second-feet September 12–18, 1924.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed during flood of November 1. Rating curve for October 1 to November 1 well defined below 11,000 second-feet; for November 2 to September 30, well defined below 700 and fairly well defined below 11,000 second-feet. Gage read once a day to tenths at high stages; to quarter-tenths at low stages. Daily discharge ascertained by applying daily gage height to rating table. Records good except for period of estimate, for which they may be fair.

Discharge measurements of South Fork of Coquille River at Powers, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
July 6	3.90	68	July 28	3.70	40.1
July 20	3.78	45.2	Aug. 20	3.60	27.9

Daily discharge, in second-feet, of South Fork of Coquille River at Powers, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	20,300	205	1,650		1,100	490	490	670	86	38	28
2	42	11,500	490	1,360		845	580	430	775	82	39	28
3	38	3,980	740	1,270		670	1,020	330	880	77	40	28
4	33	1,960	2,810	1,450		610	1,180	265	1,100	72	40	28
5	29	3,510	2,550	2,070		580	950	205	880	68	39	28
6	29	2,180	1,960	1,850		550	880	245	580	68	38	28
7	25	5,100	1,360	1,450		490	740	490	490	68	38	46
8	25	3,510	1,270	1,270		610	610	380	430	65	34	40
9	31	3,230	1,180	1,360		740	550	430	285	65	34	34
10	29	2,550	1,100	1,270		1,020	490	330	213	65	34	30
11	29	2,070	740	1,180		610	610	380	205	60	34	30
12	29	1,450	610	1,180		580	490	380	188	56	34	30
13	25	1,180	430	1,270	2,100	550	430	330	170	56	34	40
14	25	950	330			550	380	245	170	56	30	34
15	600	550	288			490	810	245	140	56	30	
16	355	430	245			670	880	245	177	54	30	
17	135	380	205			580	1,750	245	170	53	30	
18	78	330	170			880	10,300	222	155	53	30	
19	64	3,660	140			670	17,600	177	110	53	29	
20	58	5,900	110			740	6,500	245		50	28	
21	52	5,500	810			670	2,180	225		50	28	
22	42	3,370			2,400	550	1,960	205		48	28	50
23	44	2,300	400			460	1,960	155		46	53	
24	42	1,450				380	490	110		46	46	
25	47	490			2,180	330	775	86	100	46	43	
26	64	740	205		1,750	265	490	65		44	40	
27	1,030	490	245		1,360	330	430	86		43	37	
28	4,020	285	285		1,100	610	330	177		40	34	
29	4,510	205	430		-------	670	285	213		38	30	
30	4,340	245	4,900		-------	550	285	245		38	29	
31	16,900	-------	2,180		-------	550	-------	285	-------	38	28	

NOTE.—Braced figures give estimated mean discharge for periods indicated.

Monthly discharge of South Fork of Coquille River at Powers, Oreg., for the year ending September 30, 1925

[Drainage area, 168 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	16,900	25	1,060	6.31	7.28	65,200
November	20,300	205	2,990	17.8	19.86	178,000
December	4,900	110	890	5.30	6.11	54,700
January	----------	----------	1,990	11.8	13.6	122,000
February	----------	----------	2,030	12.1	12.6	113,000
March	1,100	265	610	3.63	4.18	37,500
April	17,600	285	1,880	11.2	12.5	112,000
May	490	65	263	1.57	1.81	16,200
June	1,100	----------	296	1.76	1.96	17,600
July	86	38	56.1	.334	.39	3,450
August	53	28	34.8	.207	.24	2,140
September	----------	28	41.7	.248	.28	2,480
The year	20,300	25	1,000	5.95	80.81	724,400

UMPQUA RIVER BASIN

SOUTH UMPQUA RIVER NEAR BROCKWAY, OREG.

LOCATION.—In sec. 15, T. 28 S., R. 6 W., at Winston Bridge, 6 miles south of Roseburg, 3 miles below Lookingglass Creek, 3 miles east of Brockway post office, Douglas County, and 18 miles above confluence with North Umpqua River.

RECORDS AVAILABLE.—December 6, 1905, to June 30, 1912; October 1, 1923, to September 30, 1925.

DRAINAGE AREA.—1,630 square miles (measured on topographic and Forest Service maps).

GAGE.—Chain gage on bridge; read by John Lander and Kenneth Winston. No determined relation to 1912 datum.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—One channel at all ordinary stages. Bed at control, one-fourth mile below station, composed of gravel and boulders on left bank, bedrock on right bank; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 18.92 feet at 8 a. m. December 30 (discharge, 38,600 second-feet); minimum stage, 0.94 foot October 2–4 (discharge, 94 second-feet).

1905–1912; 1924–25: Maximum stage recorded, 26.0 feet January 4, 1907, determined by leveling to high-water mark discharge, 71,000 second-feet, obtained by extending 1907 rating curve parallel to that for 1924); minimum discharge, 49 second-feet September 17–19, 1924.

Maximum stage for winter of 1886–87 or 1887–88 as determined by levels to high-water mark indicated by old resident, about 32 feet, datum of 1924 gage (discharge, estimated by extension of rating curve, 85,000 second-feet).

ICE.—Practically none ever forms.

DIVERSIONS.—Numerous small diversions for irrigation above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined. Chain gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of South Umpqua River near Brockway, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 23	1.11	108	Nov. 2	10.48	13,500	June 17	2.74	756
Nov. 1	13.96	23,100	Jan. 26	5.70	4,200	Aug. 21	1.02	104

Daily discharge, in second-feet, of South Umpqua River near Brockway, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	33,400	1,600	10,400	9,400	3,230	1,510	2,610	985	350	133	108
2	94	14,100	1,510	7,990	8,450	2,970	1,780	2,390	1,780	314	133	108
3	94	9,170	2,080	6,640	8,220	2,610	1,780	2,180	2,610	298	124	108
4	94	4,970	2,180	7,070	20,400	2,500	2,180	1,980	2,180	268	124	108
5	108	4,800	6,240	10,100	29,600	2,280	2,850	1,980	1,980	253	115	108
6	100	3,880	6,240	10,400	20,400	2,390	2,610	1,880	1,880	226	115	115
7	108	4,020	4,470	8,690	17,100	2,180	2,390	1,780	1,600	253	115	154
8	105	9,640	4,630	5,860	14,900	1,980	2,180	1,780	1,420	253	115	226
9	103	10,100	6,640	5,860	19,800	1,980	1,980	1,510	1,340	253	115	226
10	100	13,500	5,140	5,500	12,800	1,980	1,980	1,420	1,190	240	115	226
11	115	7,070	4,020	6,240	10,400	1,980	1,980	1,420	1,050	226	115	154
12	133	5,500	3,360	5,500	10,600	1,780	2,180	1,420	985	226	115	133
13	133	4,470	2,970	5,860	8,690	1,780	1,980	1,260	925	200	108	133
14	124	3,360	2,730	5,680	7,070	1,690	1,780	1,260	865	213	108	176
15	165	3,100	2,500	6,050	5,860	1,600	1,780	1,190	805	213	108	133
16	115	3,230	2,730	5,860	9,400	1,600	3,490	1,260	745	200	100	133
17	133	2,970	2,280	5,680	4,310	1,600	3,360	1,600	745	188	100	144
18	253	4,160	1,980	4,160	3,750	1,780	3,100	1,510	662	176	108	176
19	188	13,800	1,690	4,160	3,360	1,600	12,800	1,340	635	176	108	176
20	154	13,800	1,600	5,500	2,970	1,600	13,800	1,260	608	176	108	226
21	133	13,800	1,690	4,800	3,620	1,780	9,400	1,340	555	176	115	213
22	124	9,640	1,880	4,160	3,100	1,780	6,640	1,420	530	176	115	200
23	115	6,850	1,880	4,160	4,160	1,600	5,140	1,260	505	176	124	176
24	115	4,970	1,780	4,160	10,400	1,600	4,470	1,120	480	176	200	165
25	133	3,880	1,690	3,880	6,850	1,510	4,160	1,050	458	165	226	154
26	124	3,100	1,340	3,620	5,140	1,420	3,620	985	435	165	154	154
27	144	2,610	1,420	5,500	4,310	1,420	3,360	925	391	165	133	154
28	268	2,180	1,600	7,520	3,620	1,420	3,100	865	350	154	108	154
29	188	1,980	3,750	8,690	-------	1,510	3,100	865	350	154	108	154
30	124	1,780	38,600	9,880	-------	1,420	2,850	925	350	154	108	154
31	8,690	-------	18,500	12,300	-------	1,600	-------	865	-------	144	108	-------

Monthly discharge of South Umpqua River near Brockway, Oreg., for the year ending September 30, 1925

[Drainage area, 1,630 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	8,690	94	409	0.251	0.29	25,100
November	33,400	1,780	7,330	4.50	5.02	436,000
December	38,600	1,340	4,540	2.79	3.22	279,000
January	12,300	3,620	6,510	3.99	4.60	400,000
February	29,600	2,970	9,600	5.89	6.13	533,000
March	3,230	1,420	1,880	1.15	1.33	116,000
April	13,800	1,510	3,780	2.32	2.59	225,000
May	2,610	865	1,440	.884	1.02	88,500
June	2,610	350	980	.601	.67	58,300
July	350	144	210	.129	.15	12,900
August	226	100	122	.0749	.09	7,500
September	226	108	158	.0969	.11	9,400
The year	38,600	94	3,030	1.86	25.22	2,190,000

UMPQUA RIVER NEAR ELKTON, OREG.

LOCATION.—In sec. 8, T. 23 S., R. 7 W., at ferry crossing 4 miles south (by road) from Elkton, Douglas County, and 8 miles above Elk Creek.

DRAINAGE AREA.—3,680 square miles.

RECORDS AVAILABLE.—October 18, 1905, to December 31, 1906; May 12, 1907, to September 30, 1925.

GAGE.—Staff in five sections. Low-water section inclined, the others vertical. Gage read by H. H. Gilbreth.

DISCHARGE MEASUREMENTS.—Made from car on ferry cable 100 feet below gage.

CHANNEL AND CONTROL.—Channel of gravel; somewhat shifting. Control of rock; practically permanent, except as affected by growth of aquatic plants in summer.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 30.0 feet at 8 p. m. December 30 (discharge, 116,000 second-feet); minimum stage recorded, —0.05 foot at 5 p. m. October 24 (discharge, 790 second-feet).

1905–1925: Maximum stage recorded, 38.5 feet (present datum) at 7 a. m. November 23, 1909 (discharge estimated from extension of rating curve, 163,000 second-feet); minimum stage recorded, —0.20 foot September 17 and 19, 1924 (discharge, 645 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Numerous small diversions above station, mostly in South Umpqua Basin.

REGULATION.—Practically none.

ACCURACY.—Stage-discharge relation apparently permanent except as affected by growth of aquatic plants at low stages. Well defined rating curve used October 1–29; well defined below 40,000 second-feet thereafter, except August 1 to September 7 for which indirect method of shifting control was used. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Umpqua River near Elkton, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 24	0.01	841	June 18	1.84	3,050
Jan. 25	6.35	12,500	Aug. 24	.26	1,180

Daily discharge, in second-feet, of Umpqua River near Elkton, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	955	96,500	5,630	39,100	32,300	9,600	4,900	8,600	4,070	1,950	1,300	1,160
2	955	52,600	5,440	27,200	33,100	8,850	5,260	7,660	5,260	1,950	1,300	1,130
3	886	33,900	6,400	22,700	31,100	8,120	5,260	7,220	9,100	1,840	1,250	1,110
4	928	19,900	7,660	22,000	61,600	7,220	5,630	6,800	8,120	1,840	1,250	1,090
5	955	20,600	23,800	27,200	69,700	6,800	7,010	6,400	7,010	1,730	1,250	1,090
6	955	20,200	22,700	31,100	54,400	6,800	7,220	6,400	6,400	1,680	1,200	1,090
7	955	16,800	19,200	26,200	47,100	6,400	6,800	6,200	6,010	1,680	1,200	1,110
8	902	26,600	14,400	21,300	39,100	6,010	6,400	6,200	5,260	1,620	1,200	1,160
9	902	26,900	18,500	19,900	49,900	5,630	6,010	5,630	4,900	1,620	1,160	1,250
10	955	33,900	15,000	17,800	33,100	6,010	6,010	5,440	4,560	1,570	1,160	1,340
11	955	22,000	12,000	19,900	26,200	5,820	6,010	5,260	4,230	1,520	1,160	1,300
12	973	17,400	11,100	17,800	27,200	5,630	6,400	5,080	3,910	1,520	1,130	1,250
13	955	14,100	9,600	18,800	24,800	5,260	6,400	4,900	3,910	1,520	1,160	1,200
14	902	10,800	8,360	21,000	20,600	5,080	6,010	4,900	3,590	1,520	1,130	1,200
15	928	9,600	7,890	19,900	17,800	4,900	5,820	4,900	3,440	1,480	1,140	1,200
16	928	10,800	8,350	17,800	15,000	4,900	8,360	4,730	3,290	1,430	1,110	1,140
17	902	10,800	7,660	14,400	12,600	5,260	10,500	5,440	3,140	1,430	1,090	1,160
18	1,140	10,800	6,400	12,000	11,100	5,820	11,400	6,010	2,990	1,380	1,110	1,160
19	1,040	13,800	5,630	12,000	9,900	5,630	29,900	5,630	2,840	1,380	1,140	1,250
20	955	43,100	4,900	17,100	9,100	5,260	39,100	5,260	2,840	1,340	1,090	1,340
21	955	39,100	5,260	15,000	8,850	5,260	27,200	5,820	2,690	1,340	1,110	1,620
22	902	32,300	5,630	15,000	9,600	5,630	20,600	6,600	2,690	1,340	1,110	1,520
23	870	27,200	5,820	14,400	10,200	5,630	18,200	5,820	2,550	1,340	1,160	1,380
24	830	19,200	5,630	13,200	19,900	5,260	15,700	5,260	2,420	1,340	1,200	1,250
25	894	14,400	5,260	13,200	19,200	4,900	13,200	4,900	2,420	1,340	1,380	1,250
26	910	11,100	4,900	12,600	14,400	4,900	10,800	4,560	2,300	1,340	1,300	1,200
27	928	9,350	4,560	20,200	12,300	4,730	10,200	4,230	2,180	1,300	1,250	1,200
28	1,300	7,660	4,390	33,100	10,800	4,560	9,600	4,230	2,180	1,300	1,250	1,140
29	7,440	6,600	12,000	31,100	-------	4,900	9,600	4,070	2,060	1,300	1,200	1,200
30	9,100	6,010	83,900	37,900	-------	4,900	9,100	4,203	1,950	1,300	1,160	1,160
31	31,500	-------	60,200	39,100	-------	4,900	-------	4,230	------	1,300	1,160	------

Monthly discharge of Umpqua River near Elkton, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	31,500	830	2,410	148,000
November	96,500	6,010	22,800	1,360,000
December	83,000	4,390	13,500	830,000
January	39,100	12,000	21,600	1,330,000
February	69,700	8,850	26,100	1,450,000
March	9,600	4,560	5,820	358,000
April	39,100	4,900	11,200	666,000
May	8,600	4,070	5,570	342,000
June	9,100	1,950	3,940	234,000
July	1,950	1,300	1,500	92,200
August	1,380	1,090	1,190	73,200
September	1,620	1,090	1,220	72,600
The year	96,500	830	9,600	6,960,000

NORTH UMPQUA RIVER AT TOKETEE FALLS, OREG.

LOCATION.—In T. 26 S., R. 3 E. (unsurveyed) one-eighth mile below mouth of Clearwater River, half a mile above Toketee Falls, and 30 miles east of Hoaglin post office, Douglas County.

DRAINAGE AREA.—337 square miles (measured on topographic map).

RECORDS AVAILABLE.—February 26, 1908, to July 20, 1909; December 19, 1914, to November 19, 1917; July 1, 1924, to September 30, 1925, with missing periods.

GAGE.—Stevens continuous water-stage recorder on left bank.

DISCHARGE MEASUREMENTS.—Made from cable 75 feet below gage.

CHANNEL AND CONTROL.—Bed composed of boulders, rock, and heavy gravel; fairly smooth; probably permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.30 feet at 5 p. m. February 4 (discharge, 3,760 second-feet); minimum stage, 0.81 foot from 8 to 10 p. m. October 21 (discharge, 525 second-feet).

1908–9; 1915–1917; 1924–25: Maximum stage recorded, that of February 4, 1925; minimum stage, that of October 21, 1924.

ICE.—Stage-discharge relation unaffected, as much of the water comes from springs.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve well defined below 750 second-feet. Operation of water-stage recorder satisfactory October 1 to February 5 and July 3 to September 30. Records fair.

Discharge measurements of North Umpqua River at Toketee Falls, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 19	0.85	526	July 3	1.51	931
Mar. 16	1.48	962	Aug. 14	1.19	749
Mar. 17	1.48	937			

NOTE.—No record Feb. 6 to Mar. 15 and Mar. 18 to July 2.

Daily discharge, in second-feet, of North Umpqua River at Toketee Falls, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	July	Aug.	Sept.
1	535	828	802	1,410	1,800	------	950	776	718
2	530	854	828	1,290	1,800	------	950	770	711
3	535	802	776	1,210	2,360	------	950	770	711
4	535	789	848	1,130	3,280	------	950	770	711
5	530	737	841	1,170	3,040	------	950	770	718
6	530	711	815	1,130	------	------	915	770	724
7	535	704	789	1,060	------	------	915	763	724
8	540	685	808	1,020	------	------	915	744	724
9	535	724	789	985	------	------	880	744	711
10	535	692	789	985	------	------	880	744	704
11	535	685	782	950	------	------	880	744	704
12	535	661	776	915	------	------	874	744	704
13	535	661	776	915	------	------	867	744	698
14	530	679	789	915	------	------	848	744	698
15	535	744	789	860	------	------	841	744	704
16	535	704	776	841	------	950	841	744	704
17	535	704	737	854	------	950	841	737	718
18	540	711	673	890	------	------	834	737	718
19	550	998	673	920	------	------	822	730	776
20	535	1,410	718	950	------	------	822	730	730
21	530	1,290	730	985	------	------	815	724	711
22	545	1,370	711	985	------	------	815	744	704
23	550	1,130	679	985	------	------	815	782	698
24	545	1,020	661	985	------	------	802	737	698
25	550	950	655	985	------	------	802	730	692
26	555	880	655	1,090	------	------	802	730	685
27	603	848	711	1,660	------	------	796	730	679
28	744	828	880	1,620	------	------	796	724	679
29	637	808	1,880	1,940	------	------	796	718	685
30	649	802	2,940	2,090	------	------	796	718	692
31	985	------	1,750	1,940	------	------	782	718	------

Monthly discharge of North Umpqua River at Toketee Falls, Oreg., for the year ending September 30, 1925

[Drainage area, 337 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	985	530	568	1.69	1.95	34,900
November	1,410	661	847	2.51	2.80	50,400
December	2,940	655	898	2.66	3.07	55,200
January	2,090	841	1,150	3.41	3.93	70,700
February 1–5	3,280	1,800	2,460	7.30	1.36	24,400
July	950	782	856	2.54	2.93	52,600
August	782	718	744	2.21	2.55	45,700
September	776	679	708	2.10	2.34	42,100

NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OREG.

LOCATION.—In NW. ¼ sec. 12, T. 26 S., R. 3 W., 7 miles above mouth of Little River, half a mile above mouth of Rock Creek, 19 miles northeast of Roseburg, and 7 miles above Glide, Douglas County.

DRAINAGE AREA.—886 square miles (measured on Forest Service maps).

RECORDS AVAILABLE.—June 15, 1924, to September 30, 1925.

GAGE.—Water-stage recorder on left bank; inspected by J. H. Hayes.

DISCHARGE MEASUREMENTS.—Made from cable one-fourth mile above gage. Channel deep and current sluggish at low stages.

CHANNEL AND CONTROL.—Bed composed of rock and boulders at gage; permanent. Control is a reef of solid rock, 200 feet below gage. One channel at gage at all stages.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 15.45 feet at 5 a. m. December 30 (discharge, about 37,900 second-feet); minimum stage, 2.22 feet at 3 p. m. October 6 (discharge, 710 second-feet).

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—No diversions above station.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 12,000 second-feet. Operation of water-stage recorder satisfactory except for short periods. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspecting recorder graph or, for days of considerable fluctuation, by averaging discharges for intervals of the day. Discharge estimated January 13–17, March 30 to April 2, April 27, June 22, July 6–8, August 3–8, 24, and September 11–19; interpolated, September 2. Records good except for periods of discharge greater than 12,000 second-feet and for estimated periods, for which they are fair.

Discharge measurements of North Umpqua River above Rock Creek, near Glide, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 2	8.38	10,300	Feb. 12	7.22	7,100	June 19	3.75	1,810
Jan. 28	8.00	9,050	Mar. 20	4.27	2,190	Aug. 22	2.58	887

Daily discharge, in second-feet, of North Umpqua River above Rock Creek, near Glide, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	750	11,200	1,920	7,010	10,200	2,700	2,060	3,330	3,040	1,350	970	890
2	772	9,320	2,440	6,000	9,060	2,700	2,110	3,180	4,330	1,310	940	890
3	772	5,600	2,500	5,400	17,800	2,560	2,160	3,040	4,080	1,310	940	890
4	795	4,500	3,900	7,010	24,700	2,500	2,440	3,110	3,410	1,270	935	890
5	750	4,670	5,210	9,320	18,300	2,630	2,560	3,330	2,970	1,270	930	890
6	730	3,990	3,990	7,220	13,400	2,500	2,440	3,490	2,700	1,270	925	915
7	730	3,650	3,180	5,210	9,600	2,270	2,380	3,570	2,440	1,220	920	915
8	730	3,650	3,650	4,500	9,900	2,160	2,440	3,110	2,320	1,200	915	1,000
9	750	4,160	3,820	3,990	7,880	2,160	2,630	2,760	2,220	1,200	915	915
10	772	3,570	3,260	4,500	6,200	2,060	2,830	2,700	2,110	1,200	915	915
11	750	2,900	3,180	3,990	6,400	1,960	3,110	2,700	2,060	1,200	915	910
12	730	2,900	2,830	3,990	7,010	1,920	3,180	2,440	2,010	1,160	915	900
13	730	2,270	2,630		5,800	1,820	2,970	2,440	1,960	1,160	890	890
14	730	2,320	2,560		5,030	1,820	2,900	2,560	1,870	1,160	890	890
15	772	3,650	2,380	3,350	4,500	1,820	3,900	2,560	1,820	1,160	890	880
16	915	3,740	2,220		3,990	1,870	4,670	3,040	1,780	1,130	890	890
17	818	3,740	1,960		3,570	2,380	4,670	3,490	1,780	1,130	890	1,000
18	772	3,900	1,640	2,830	3,180	2,160	5,600	2,970	1,740	1,130	890	1,130
19	750	10,200	1,560	5,400	2,970	2,010	8,570	2,900	1,740	1,060	890	1,200
20	730	17,600	1,640	4,670	2,970	2,160	7,220	3,410	1,740	1,030	890	1,060
21	730	10,800	1,640	5,210	3,180	2,320	5,600	4,160	1,740	1,030	890	940
22	730	10,500	1,510	5,030	3,410	2,380	4,850	3,490	1,690	1,030	890	915
23	750	6,400	1,390	4,670	3,410	2,270	4,670	3,040	1,600	1,030	1,100	915
24	750	4,670	1,270	4,330	3,990	2,160	4,080	2,830	1,560	1,030	1,000	890
25	772	3,570	1,270	4,330	3,740	2,160	3,820	2,700	1,560	1,000	915	890
26	818	2,900	1,310	4,740	3,330	2,110	3,650	2,560	1,510	1,000	915	865
27	1,270	2,320	1,470	12,100	3,180	2,060	3,740	2,440	1,470	1,000	915	865
28	3,180	2,220	3,040	9,320	2,270	2,160	3,740	2,380	1,430	970	915	865
29	2,900	2,110	14,700	16,400	-------	2,060	3,900	2,440	1,390	970	915	865
20	2,990	2,010	27,400	14,400	-------	2,060	3,740	2,220	1,390	970	915	915
31	19,100	-------	10,200	11,200	-------	2,010	-------	2,160	-------	970	890	------

Monthly discharge of North Umpqua River above Rock Creek, near Glide, Oreg., for the year ending September 30, 1925

[Drainage area, 886 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	19,100	730	1,590	1.79	2.06	97,800
November	17,600	2,010	5,170	5.84	6.52	308,000
December	27,400	1,270	3,920	4.42	5.10	241,000
January	16,400	----------	6,110	6.90	7.96	376,000
February	24,700	2,270	7,110	8.02	8.35	395,000
March	2,700	1,820	2,190	2.47	2.85	135,000
April	8,570	2,060	3,750	4.23	4.72	223,000
May	4,160	2,160	2,920	3.30	3.80	180,000
June	4,330	1,390	2,120	2.39	2.67	126,000
July	1,350	970	1,130	1.28	1.48	69,500
August	1,100	890	920	1.04	1.20	56,600
September	1,200	865	926	1.05	1.17	55,100
The year	27,400	730	3,120	3.52	47.88	2,260,000

NORTH UMPQUA RIVER AT WINCHESTER, OREG.

LOCATION.—In NE. ¼ sec. 25, T. 26 S., R. 6 W., at Southern Pacific Railroad bridge in Winchester, Douglas County, 100 yards below new highway bridge, 300 yards below plant of California Oregon Power Co., 5 miles north of Roseburg.

DRAINAGE AREA.—1,290 square miles (measured on topographic and Forest Service maps).

RECORDS AVAILABLE.—November 10, 1908, to December 31, 1913; October 1, 1923, to September 30, 1925.

GAGE.—Vertical staff in sections bolted to left railroad bridge pier. Datum of 1924 gage 0.74 foot higher than that of earlier gage.

DISCHARGE MEASUREMENTS.—Made from railroad bridge or from old highway bridge above Winchester Dam.

CHANNEL AND CONTROL.—Bed composed of rock and gravel; practically permanent. One channel at high and low stages; two at medium.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 15.3 feet at 8 a. m. December 30 (discharge, 42,800 second-feet); minimum stage, 0.44 foot at 6 p. m. September 16 and 24 (discharge, 635 second-feet).

1908–1913; 1924–25: Maximum stage recorded, 28.1 feet November 23 1909 (discharge, 92,000 second-feet), information obtained from other gaging stations on the river and from residents indicated this to have been the highest flood in at least 50 or 60 years; minimum discharge recorded, that of September 16 and 24, 1925.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—None.

REGULATION.—Considerable diurnal fluctuation due to operation of hydroelectric plant immediately above station.

ACCURACY.—Stage-discharge relation practically permanent. Rating curve fairly well defined. Gage read to hundredths twice a day except at high stages when it was read to tenths. Some readings during early part of year are uncertain. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair for October and July to September; good for other months.

Discharge measurements of North Umpqua River at Winchester, Oreg., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 23	0.62	736	June 19	1.98	2,190
Jan. 26	3.95	4,850	Aug. 23	.89	885
Mar. 21	2.78	3,050			

Daily discharge, in second-feet, of North Umpqua River at Winchester, Oreg., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	775	25,800	2,580	11,500	14,200	3,490	2,580	4,010	2,580	1,490	872	745
2	775	15,900	2,730	8,820	13,900	3,330	2,580	3,830	5,970	1,400	940	715
3	775	9,870	3,330	8,300	19,200	3,330	2,730	3,650	4,940	1,400	975	840
4	808	6,190	4,190	10,100	24,000	3,030	3,180	3,490	4,190	1,400	940	745
5	775	5,550	8,820	13,300	23,300	3,180	3,330	3,650	3,650	1,400	940	808
6	775	6,630	7,300	12,100	21,200	3,180	3,180	3,650	3,330	1,400	940	840
7	775	7,790	5,140	8,300	15,900	2,880	3,180	3,830	3,030	1,400	1,090	808
8	775	6,190	5,970	7,070	16,600	2,730	3,030	3,830	2,880	1,310	940	872
9	775	11,000	5,970	6,410	13,000	2,730	3,030	3,180	2,730	1,310	840	1,050
10	775	7,790	4,940	6,850	9,080	2,730	3,330	3,030	2,580	1,220	840	1,010
11	775	5,140	4,560	6,410	8,820	2,730	3,330	3,180	2,430	1,220	905	872
12	905	5,140	4,010	6,190	9,870	2,430	3,650	2,880	2,290	1,220	905	840
13	905	3,830	3,650	6,850	8,040	2,430	3,330	3,030	2,290	1,220	1,050	975
14	872	3,490	3,330	6,410	6,850	2,290	3,330	2,880	2,160	1,220	975	975
15	905	5,340	3,330	5,970	5,970	2,290	3,830	2,880	2,160	1,220	905	940
16	905	5,550	3,330	4,940	5,140	2,290	5,140	3,030	2,040	1,220	905	840
17	905	5,340	2,730	4,190	4,750	3,030	5,340	3,830	1,920	1,010	905	1,090
18	872	5,140	2,430	4,190	4,010	2,880	5,760	3,650	1,920	1,130	808	905
19	840	13,900	2,160	8,300	3,830	2,730	13,000	3,180	1,920	1,090	872	975
20	840	33,800	2,430	6,410	3,650	2,730	11,800	3,330	1,920	1,130	775	1,220
21	872	14,500	2,430	6,630	3,830	2,880	8,560	4,560	1,920	1,090	775	1,010
22	872	17,900	2,430	6,850	4,190	3,030	6,850	4,010	1,800	1,010	872	775
23	715	9,080	2,160	6,410	4,370	2,730	6,850	3,330	1,800	1,090	1,090	745
24	872	5,970	1,920	5,760	5,140	2,580	5,760	3,180	1,680	1,090	1,010	745
25	872	5,140	1,680	5,760	4,750	2,580	5,140	3,030	1,800	1,090	872	872
26	872	4,190	1,800	5,140	4,370	2,580	4,750	2,880	1,680	1,090	775	745
27	872	3,650	1,920	16,900	4,010	2,580	4,560	2,880	1,580	1,130	840	872
28	1,680	3,030	2,580	13,900	3,650	2,580	4,560	2,730	1,580	1,090	1,010	975
29	2,160	2,730	13,000	21,200	-------	2,580	4,750	2,580	1,490	1,180	775	745
30	2,290	2,730	38,500	21,200	-------	2,580	4,560	2,580	1,490	940	808	872
31	32,600	-------	16,600	16,900	-------	2,580	-------	2,430	-------	872	775	------

Monthly discharge of North Umpqua River at Winchester, Oreg., for the year ending September 30, 1925

[Drainage area, 1,290 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	32,600	715	1,970	1.53	1.76	121,000
November	33,800	2,730	8,610	6.67	7.44	512,000
December	38,500	1,680	5,420	4.20	4.84	333,000
January	21,200	4,190	9,010	6.98	8.05	554,000
February	24,000	3,650	9,490	7.36	7.66	527,000
March	3,490	2,290	2,770	2.15	2.48	170,000
April	13,000	2,580	4,830	3.74	4.17	287,000
May	4,560	2,430	3,300	2.56	2.95	203,000
June	5,970	1,490	2,460	1.91	2.13	146,000
July	1,490	872	1,200	.930	1.07	73,800
August	1,090	775	901	.698	.80	55,400
September	1,220	715	881	.683	.76	52,400
The year	38,500	715	4,190	3.25	44.11	3,030,000

LAKE CREEK AT DIAMOND LAKE, NEAR FORT KLAMATH, OREG.

LOCATION.—In SW. ¼ sec. 30, T. 27 S., R. 6 E., 150 yards below outlet of Diamond Lake and 35 miles north of Fort Klamath, Klamath County.

DRAINAGE AREA.—56 square miles.

RECORDS AVAILABLE.—May 24 to November 17, 1922; April 12 to October 10, 1923; March 12 to October 17, 1924; and April 1 to September 30, 1925, when station was discontinued.

GAGE.—Vertical staff on right bank; read by P. B. Motschenbacher.

DISCHARGE MEASUREMENTS.—Made by wading near gage.

CHANNEL AND CONTROL.—Bed composed of gravel and boulders; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period April 1 to September 30, 2.13 feet June 1 (discharge, 146 second-feet); minimum discharge, 16 second-feet August 20–22, 26, 28–31, September 1, 2, 9, and 10.

1922–1925: Maximum recorded, that of June 1, 1925; minimum stage recorded, 0.91 foot September 12, 1924 (discharge, 12 second-feet).

ICE.—No ice forms in creek near gage.

DIVERSIONS.—None.

REGULATION.—Temporary wooden dam about 100 yards above gage may cause some fluctuation in discharge.

ACCURACY.—Stage-discharge relation changed May 6, owing to scouring effect of ice jam. Rating curves well defined. Gage read to hundredths once a day. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

COOPERATION.—Gage-height record furnished by State Fish Commission.

The following discharge measurements were made:

October 17, 1925: Gage height, 1.16 feet; discharge, 22.7 second-feet.

July 2, 1925: Gage height, 1.53 feet; discharge, 64 second-feet.

August 15, 1925: Gage height, 1.23 feet; discharge, 19.8 second-feet.

Daily discharge, in second-feet, of Lake Creek at Diamond Lake, near Klamath, Oreg., for the year ending September 30, 1925

Day	Oct.	Apr.	May	June	July	Aug.	Sept.	Day	Oct.	Apr.	May	June	July	Aug.	Sept.
1	21	37	52	146	57	29	16	16	-----	42	78	83	36	19	20
2	-----	37	51	142	53	29	16	17	22	42	78	82	36	18	20
3	-----	37	50	138	52	29	17	18	-----	43	79	80	36	18	25
4	21	37	51	136	51	29	17	19	-----	47	80	78	36	17	27
5	22	38	52	134	50	29	17	20	-----	48	80	75	35	16	28
6	-----	38	52	130	49	28	18	21	-----	49	80	74	34	16	30
7	-----	38	62	118	47	28	18	22	-----	51	80	72	34	16	
8	-----	39	63	116	46	27	17	23	-----	52	81	71	33	17	
9	-----	39	64	115	44	27	16	24	-----	53	82	67	33	17	30
10	-----	39	65	111	43	27	16	25	-----	53	82	66	33	17	
11	-----	40	67	107	42	25	18	26	-----	53	82	65	31	16	
12	-----	40	71	102	41	24	18	27	-----	52	83	64	31	17	
13	-----	40	73	97	39	23	19	28	-----	52	82	62	31	16	30
14	-----	41	75	92	38	22	19	29	-----	52	80	62	31	16	30
15	-----	41	76	88	38	20	20	30	-----	52	90	61	30	16	29
								31	-----	-----	99	-----	30	16	-----

NOTE.—Gage read on an average two days out of three in April, May, and June; discharge interpolated for days when gage was not read. Braced figure is estimated mean for period included.

Monthly discharge of Lake Creek at Diamond Lake, near Fort Klamath, Oreg., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
April	53	37	44.1	2,620
May	99	50	72.3	4,450
June	146	61	94.5	5,620
July	57	30	39.4	2,420
August	29	16	21.4	1,320
September	30	16	22.7	1,350
The period				17,800

SILETZ RIVER BASIN

SILETZ RIVER AT SILETZ, OREG.

LOCATION.—In SW. ¼ sec. 9, T. 10 S., R. 10 W., three-eighths mile above county road to Toledo and three-eighths mile southwest of Siletz, Lincoln County.

DRAINAGE AREA.—204 square miles (measured on special drainage basin map prepared from subdivisional surveys).

RECORDS AVAILABLE.—November 5, 1924, to September 30, 1925. At site one-fourth mile upstream, November 25, 1905, to May 4, 1912. At highway bridge three-eighths mile downstream, January 1 to June 7, 1924.

GAGE.—Staff gage at rear of home of S. C. Brassfield, the gage reader.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and sand; shifts in extreme floods.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period November 5 to September 30, 14.5 feet at 4.30 p. m. January 28 (discharge, 18,800 second-feet); minimum stage, −1.35 feet September 14 (discharge, 63 second-feet.

1905–1912; 1924–25: Maximum stage, 24.6 feet about 2 p. m. November 22, 1909, determined by leveling to high-water marks in 1910 (discharge from extension of rating curve on basis of studies in 1924, 34,600 second-feet); minimum discharge recorded, that of September 14, 1925.

The flood of November 20, 1921, reached a stage of 31.16 feet at bridge, as determined by leveling to a nail driven in pile by county surveyor (discharge by extension of rating curve, 40,800 second-feet).

ICE.—None.

DIVERSIONS.—None.

REGULATION.—Operation of Cobbs & Mitchell logging dam at Valsetz may affect discharge slightly at times, during low and medium stages.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined. Gage read once a day generally to half-tenths. Daily discharge ascertained by applying daily gage height to rating table. Records good.

The following discharge measurements were made:

November 5, 1924: Gage height not given; discharge, 4,640 second-feet.

July 15, 1925: Gage height, −0.92 foot; discharge, 174 second-feet.

Daily discharge, in second-feet, of Siletz River at Siletz, Oreg., for the year ending September 30, 1925

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	1,880	6,680	12,500	1,400	1,020	1,240	435	340	150	95
2	-------	1,970	4,700	13,000	1,320	1,020	1,160	600	318	150	95
3	-------	2,060	5,660	13,200	1,160	880	1,160	880	295	150	84
4	-------	4,110	7,460	10,800	1,090	880	1,160	950	295	135	84
5	4,760	6,290	7,330	9,540	1,020	845	1,090	1,020	275	135	84
6	4,000	5,660	7,200	8,560	915	810	1,090	950	295	150	95
7	6,940	2,600	5,900	7,200	880	740	1,160	1,090	295	120	84
8	6,940	2,150	4,460	5,540	950	670	1,240	1,020	255	135	84
9	8,840	2,060	4,940	4,700	915	600	1,160	1,020	255	150	73
10	8,280	2,240	5,660	4,220	880	540	1,160	1,090	295	150	73
11	7,720	2,510	5,900	3,780	880	540	1,090	950	255	135	84
12	6,940	2,330	5,660	3,560	810	600	1,020	880	255	135	73
13	6,290	2,150	6,160	3,120	810	635	1,020	810	255	150	73
14	5,420	1,800	5,900	2,510	740	670	880	740	215	135	63
15	4,220	1,800	5,660	2,060	740	670	1,020	670	180	135	73
16	2,900	1,880	5,420	1,720	880	740	1,020	540	198	120	86
17	2,420	1,800	5,180	1,400	1,020	810	1,090	485	180	120	91
18	7,070	1,880	4,940	1,240	1,090	880	1,020	435	180	120	95
19	6,940	1,800	4,700	1,020	1,160	3,120	810	435	180	120	180
20	6,940	1,640	4,700	1,160	1,160	2,510	670	385	180	135	132
21	11,900	1,560	5,420	1,090	1,240	2,150	540	385	180	120	120
22	9,400	1,480	5,660	1,560	1,320	1,970	435	385	180	120	115
23	5,420	1,400	6,810	2,150	1,400	1,880	385	435	198	120	105
24	3,670	1,240	5,180	2,240	1,320	1,800	385	385	180	120	95
25	3,560	1,160	3,450	2,060	1,240	1,720	295	385	180	108	77
26	3,340	1,090	4,700	1,800	1,240	1,640	295	385	180	108	77
27	1,720	880	3,780	1,480	1,090	1,560	255	410	180	95	73
28	1,480	1,970	14,400	1,320	1,160	1,480	295	385	165	95	120
29	1,400	6,940	11,400	-------	1,160	1,480	295	385	165	84	180
30	1,880	7,070	11,100	-------	1,090	1,320	340	362	180	95	150
31	-------	6,940	9,540	-------	1,090	-------	385	-------	165	95	-------

Monthly discharge of Siletz River at Siletz, Oreg., for the year ending September 30, 1925

[Drainage area, 204 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
November 5–30	11,900	1,400	5,400	26.5	25.63	278,000
December	7,070	880	2,660	13.0	14.99	164,000
January	14,400	3,450	6,310	30.9	35.62	388,000
February	13,200	1,020	4,450	21.8	22.70	247,000
March	1,400	740	1,070	5.25	6.05	65,800
April	3,120	540	1,210	5.93	6.62	72,000
May	1,240	255	812	3.98	4.59	49,900
June	1,090	362	643	3.15	3.51	38,300
July	340	165	224	1.10	1.27	13,800
August	150	84	125	.613	.71	7,690
September	180	63	97.1	.476	.53	5,780
The period	-------	-------	-------	-------	-------	1,330,000

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages, measurements of flow were made at a number of other points, as shown by the following table:

Miscellaneous discharge measurements in Pacific slope drainage basins in Oregon and in lower Columbia River Basin during the year ending September 30, 1925

Umatilla River Basin

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Feb. 5	Stanfield drain	Umatilla River	Near outlet at Stanfield, Oreg.		10.6
Mar. 6	do	do	do		7.3
May 6	do	do	do		12.5
28	do	do	do		15.1
June 22	do	do	do		15.0
July 9	do	do	do		12.1
Aug. 12	do	do	do		7.1
Sept. 18	do	do	do		4.9
Apr. 6	Hermiston drain	do	Near outlet, Hermiston, Oreg.	0.60	38.4
15	do	do	do	.61	41.7
May 1	do	do	do	.81	56
18	do	do	do	.90	62
26	do	do	do	.97	67
June 19	do	do	do	1.00	67
July 21	do	do	do	1.12	77
Aug. 11	do	do	do	1.16	84

Deschutes River Basin

Oct. 8	Rock Creek	Deschutes River	Below forks in Crane Prairie, Oreg.		14.8
Dec. 15	do	do	do		15.7
Apr. 25	Charlton Creek	do	Above Crane Prairie, Oreg.	0.2	1.5
May 30	do	do	do	.56	11.1
Jan. 17	Davis Creek	do	At Graft ranch, at mouth, in sec. 10, T. 22 S., R. 8 E., Oregon.	.29	182
Apr. 20	do	do	do	.46	215
Nov. 17	do	do	do	.40	212
Feb. 5	Fall River	do	Above falls in SE. ¼ sec. 33, T. 20 S., R. 10 E., Oregon.	.61	106
May 25	do	do	do	.66	112
July 21	do	do	do	.63	111
Nov. 25	do	do	do	.64	111
Apr. 17	Cultus Creek	do	SE. ¼ sec. 24, T. 20 S., R. 7 E., Oregon.	.88	37
May 30	do	do	do	1.89	143
Apr. 17	Deer Creek	do	NW. ¼ sec. 36, T. 20 S., R. 7 E., Oregon.	1.75	43
May 30	do	do	do	1.39	26.8
Oct. 9	Warm Springs River	do	Former gaging station near Warmspring, Oreg.		268

Willamette River Basin

July 18	Horse Creek	McKenzie River	Sec. 24, T. 16 S., R. 5 E., near McKenzie Bridge, Oreg.		378
7	Willamina Creek	South Yamhill River	Willamina, Oreg.	0.52	32
May 1	Clackamas River	Willamette River	Below Cripple Creek, above Oak Grove power house, Oreg.		2,560
Sept. 4	Collawash River	Clackamas River	Half a mile above mouth, Oregon.	.68	56
Feb. 10	Three Lynx Creek	do	2,000 feet above mouth, Oregon.		30.6
14	Roaring River	do	Bridge near mouth, Oregon.		45.6
14	Fish Creek	do	One-fourth mile above mouth, Oregon.		13.2

Lewis River Basin

Oct. 18	Cougar Creek	Lewis River	In SE. ¼ sec. 27, T. 7 N., R. 4 E., at Cougar, Wash.		89

Miscellaneous discharge measurements in Pacific slope drainage basins in Oregon and in lower Columbia River Basin during the year ending September 30, 1925—Continued

Cowlitz River Basin

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Oct. 4	Lake Creek	Cowlitz River	Former gaging station at outlet of Packwood Lake, near Lewis, Wash.	1.48	75.7
2	Johnson Creek	do	Former gaging station at mouth, near Lewis, Wash.	.67	51.0
4	do	do	do	.58	42.0
July 27	Toutle River	do	At outlet of Spirit Lake, Wash., in NE. ¼ sec. 15, T. 9 N., R. 5 E.	.28	36.0
27	do	do	do	.28	40.6
28	do	do	SW. ¼ sec. 2, T. 9 N., R. 4 E., below Coldwater Creek, Wash.	3.94	176

Rogue River Basin

Aug. 17	Mill Creek	Rogue River	In SE. ¼ sec. 28, T. 32 S., R. 3 E., near Prospect, Oreg.	1.41	52
Sept. 5	do	do	do	1.41	40.9
June 17	Middle Fork of Rogue River.	do	In NE. ¼ sec. 1, T. 33 S., R. 3 E., near Prospect, Oreg.	1.72	221
July 7	do	do	do	1.52	184
Aug. 18	do	do	do	1.37	135
Sept. 4	do	do	do	1.37	124
June 17	Red Blanket Creek	Middle Fork of Rogue River.	In NE. ¼ sec. 34, T. 32 S., R. 3 E., near Prospect, Oreg.	1.26	141
July 7	do	do	do	.80	102
Aug. 17	do	do	do	.36	72
Sept. 4	do	do	do	.36	67
3	South Fork of Rogue River.	do	Above Imnaha Creek, near Prospect, Oreg.		62
3	Imnaha Creek	South Fork of Rogue River.	One-fourth mile above trail crossing, Oregon.		21.2
July 22	South Fork of Big Butte Creek.	Big Butte Creek	Below Big Butte Springs, near Butte Falls, Oreg.		55
Aug. 14	do	do	Below Butte Falls, opposite gage on Eagle Point Irrigation District Canal, Oreg.		76
Sept. 3	do	do	do		86
Nov. 14	Spring channel No. 1	South Fork of Big Butte Creek.	6 miles east of Butte Falls, Oreg.		12.2
Feb. 18	do	do	do		16.9
May 26	do	do	do		15.4
July 22	do	do	do		15.0
Feb. 18	Spring channel No. 2	do	do		.90
May 26	do	do	do		1.1
Feb. 18	Spring channel No. 3	do	do		4.5
Mar. 26	do	do	do		5.0
Feb. 18	Spring channel No. 4	do	do		5.5
July 22	Willow Creek	do	Near mouth, 6 miles east of Butte Falls, Oreg.		1.0
Nov. 17	Leak in tunnel	North Fork of Little Butte Creek.	Fish Lake Dam, Oreg	[a]4,809.50	.01
May 13	do	do	do	[a]4,822.21	6.7
27	do	do	do	[a]4,823.66	8.5
June 20	do	do	do	[a]4,824.83	9.0
Aug. 3	do	do	do	[a]4,810.65	.0
Oct. 1	Cold Spring Creek	North Fork of Little Butte Creek.	At mouth, near Fish Lake, Oreg.	.48	10.4
2	do	do	do	.46	9.6
16	do	do	do	.39	8.2
Nov. 17	do	do	do	.42	9.1
Sept. 29	Medford pipe line	Diverts from North Fork of Little Butte Creek.	Below tunnel near Brownsboro, Oreg.		6.46
3	do	do	City reservoir at Medford, Oreg.		6.00
28	do	do	do		6.18

[a] Of Fish Lake Reservoir.

Miscellaneous discharge measurements in Pacific slope drainage basins in Oregon and in lower Columbia River Basin during the year ending September 30, 1925—Continued

Rogue River Basin—Continued

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
May 12	Emigrant Creek	Bear Creek	Above Sampson Creek and siphon crossing on Ashland lateral, Oreg.	0.88	18.2
29	do	do	do	.62	6.4
June 25	do	do	do	.41	2.3
July 13	do	do	do	.17	.4
25	do	do	do	.11	.2
1	do	do	Above Walker Creek, near Ashland, Oreg.		14.0
1	Bear Creek	Rogue River	Below Neil Creek, near Ashland, Oreg.		17.1
1	do	do	2 miles southeast of Ashland, Oreg.		23.0
1	do	do	Above Talent lateral near Ashland, Oreg.		27.2
Apr. 25	Sampson Creek	Emigrant Creek	Above intake of Ashland lateral, Oreg.	1.16	22.5
May 12	do	do	do	.68	3.4
29	do	do	do	.56	1.59
June 13	do	do	do	.53	1.43
July 25	do	do	do	1.02	14.0
May 2	Neil Creek diversion flume.	Diverts from Neil Creek.	Junction with Ashland lateral, Oreg.	.32	1.18
2	do	do	do	.11	.20
2	do	do	do	.63	4.3
2	do	do	do	.78	5.9
2	do	do	do	.48	2.76
June 1	do	do	do	.92	8.2
July 1	Ashland Creek	Bear Creek	Below Talent Irrigation District diversion, Oreg.		12.9
June 24	Wagner Creek	do	Above Frederick lateral of Talent Irrigation District, Oreg.	.74	18.7
July 2	do	do	do	.15	12.3
13	do	do	do	−.05	7.1
29	do	do	do	−.16	4.1
June 27	Little Applegate River	Applegate River	Above Gallagher ditch, 1½ miles above Yale Creek, Oreg.	.73	15.4
July 18	do	do	do	.68	14.0
May 6	do	do	Above Sterling Creek, Oreg.	1.45	142
June 27	do	do	do	.61	21.5
July 9	do	do	do	.46	13.4
18	do	do	do	.45	13.5

Umpqua River Basin

Oct. 18	Clearwater River	North Umpqua River	Above Trap Creek and lower road crossing, Oreg. Sec. 1, T. 27 S., R. 4 E.		112
Aug. 14	do	do	do		154
Mar. 15	Fish Creek	do	Below Camas Creek, Oreg.	4.73	184
Feb. 10	Steamboat Creek	do	Bridge at ranger station, near mouth, Oreg.		1,960
Mar. 19	do	do	do		626
Aug. 22	Rock Creek	do	Mouth near Glide, Oreg.		24.9
22	Little River	do	do		37.4

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