UNITED STATES DEPARTMENT OF THE INTERIOR
RAY LYMAN WILBUR, Secretary
GEOLOGICAL SURVEY
W. C. MENDENHALL, Director

Water-Supply Paper 709

SURFACE WATER SUPPLY *of the* UNITED STATES

1930

PART 12

NORTH PACIFIC SLOPE DRAINAGE BASIN

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

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SURFACE WATER SUPPLY OF PACIFIC SLOPE BASINS IN OREGON AND LOWER COLUMBIA RIVER BASIN, 1930

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting records of measurements of flow made on streams in the United States during the year ending September 30, 1930.

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 ending June 30, 1895–1931

1895	$12,500.00	1908–1910	$100,000.00	1926	$165,000.00
1896	24,500.00	1911–1917	150,000.00	1927	151,000.00
1897–1899	50,000.00	1918	175,000.00	1928	147,000.00
1900	70,000.00	1919	148,244.10	1929	270,500.00
1901–2	100,000.00	1920	175,000.00	1930	275,000.00
1903–1906	200,000.00	1921–1923	180,000.00	1931	565,000.00
1907	150,000.00	1924–25	170,000.00		

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 6,070 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1930, 2,430 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements were

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 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 natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1929, and ending September 30, 1930. 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 supplement the gage heights and discharge measurements in deter-

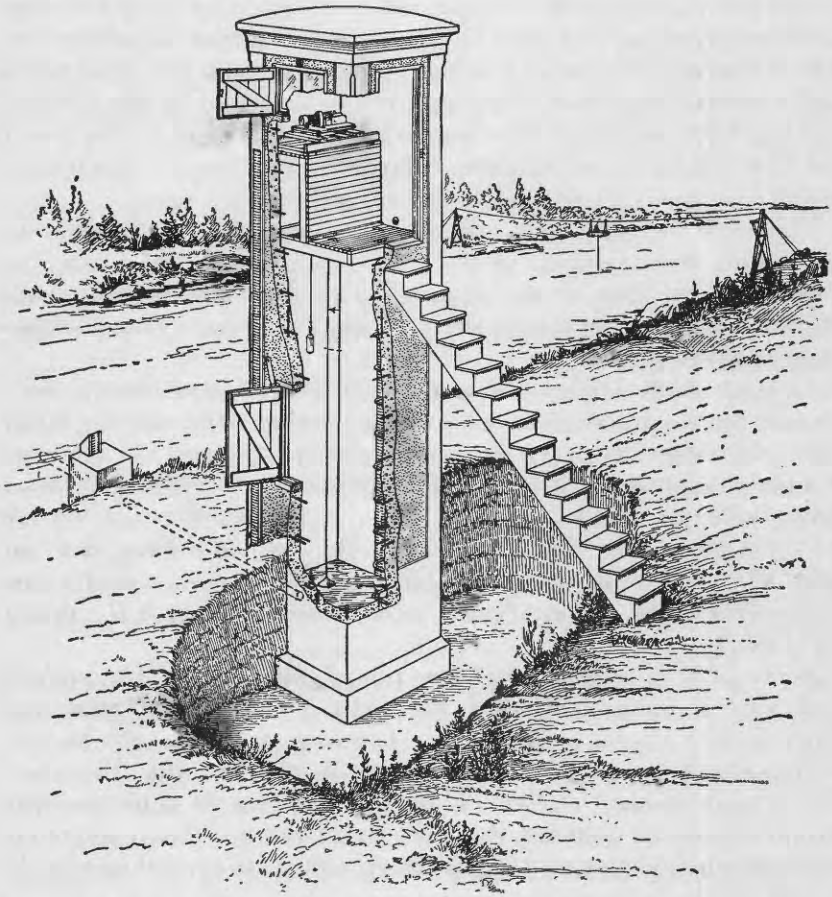

FIGURE 1.—Typical river-measurement station showing concrete well and house for water-stage recorder and staff gages, cable, and car

mining 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 by the general methods 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 height 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 showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded discharge, and the accuracy of the records. The maximum discharge given under "Extremes" does not represent the crest discharge unless a water-stage recorder was in operation or unless a nonrecording gage was read at the time of the crest.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height, which may be a once daily reading or the mean of twice daily readings of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

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 for obtaining mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the maximum daily discharge, and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 2.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that records are accurate within 5 per cent; "good," within 10 per cent; "fair," within 15 per cent; and "poor," 20 per cent or more.

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.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows 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.

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.

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 power, underground water, and quality of water. 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, monographs, and annual reports.

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 1. North Atlantic slope basins (St. John River to York River).
2. South Atlantic slope and eastern Gulf of Mexico Basins (James River to the Mississippi).
3. Ohio River Basin.
4. St. Lawrence River Basin.
5. Hudson Bay and upper Mississippi River Basins.
6. Missouri River Basin.
7. Lower Mississippi River Basin.
8. Western Gulf of Mexico basins.
9. Colorado River Basin.
10. The Great Basin.
11. Pacific slope basins in California.

12. North Pacific slope drainage 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, on application, furnish lists giving prices.

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

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

Augusta, Me., Statehouse.
Boston, Mass., 2500 Customhouse.
Hartford, Conn., 318 State Office Building.
Albany, N. Y., 603 State Public Works Building.
Trenton, N. J., 710 Trenton Trust Building.
Harrisburg, Pa., Claster Building.
Charlottesville, Va., Brooks Museum, University of Virginia.
South Charleston, W. Va., Naval Ordnance Plant.
Asheville, N. C., 220 Post Office Building.
Columbia, S. C., 801 National Loan & Exchange Bank Building.
Ocala, Fla., Post Office Building.
Tuscaloosa, Ala., Post Office Building.
Chattanooga, Tenn., 630 Power Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Indianapolis, Ind., 319 Federal Building.
Urbana, Ill., 302 University New Agricultural Building.
Madison, Wis., 337N State Capitol.
St. Paul, Minn., 202 Old State Capitol.
Topeka, Kans., 28 Federal Building.
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.
Fort Smith, Ark., Post Office Building.
Austin, Tex., State Capitol.
Sante Fe, N. Mex., State Capitol.
Tucson, Ariz., 210 Post Office Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 313 Federal Building.
Idaho Falls, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Helena, Mont., 416 Power Block.
Tacoma, Wash., 406 Federal Building.
Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 751 South Figueroa Street, room 510.
Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 6,070 points in the United States, and the data obtained have been published in the reports tabulated as follows:

Stream-flow data 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 Rivers, 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.
W 621 to 634	do	1926.
W 641 to 654	do	1927.
W 661 to 674	do	1928.
W 681 to 694	do	1929.
W 696 to 709	do	1930.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year

and are published under "Miscellaneous discharge measurements" at the end of each report, in the same relative order as the regular gaging stations. 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 1930. The data for any station will, as a rule, be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by Part 3 are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for these years.

Numbers of water-supply papers containing results of stream measurements, 1899–1930

[For basins included see p. 5]

Year	1	2	3	4	5	6	7	8	9	10	11	12-A	12-B	12-C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	38	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] 169, 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, [s] 213	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	268	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
1926	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930	696	697	698	699	700	701	702	703	704	705	706	707	708	709

[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 4.
[b] James River only.
[c] Gallatin River.
[d] Green and Gunnison Rivers and Colorado River above junction with Gunnison.
[e] Mohave River only.
[f] Kings and Kern 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 4.
[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 was done under cooperative agreements with the States of Oregon and Washington as follows: In Oregon with the office of the State engineer, Rhea Luper; and in Washington with the Department of Conservation and Development, Erle J. Barnes, director, and R. K. Tiffany, supervisor of hydraulics, division of water resources, succeeded by Chas. J. Bartholet.

Acknowledgments are due also to the Corps of Engineers, United States Army, for financial assistance in collecting records published herein, and to the United States Weather Bureau for hydrographic and climatic data.

Assistance in collecting the records was also rendered by the following municipalities, corporations, and individuals: In Oregon by Coos, Crook, Deschutes, Jackson, and Umatilla Counties; cities of Astoria, Eugene, McMinnville, and Portland; The California-Oregon Power Co.; Columbia Valley Power Co.; Deschutes Falls Power Co.; Pacific Power & Light Co.; and Portland General Electric Co; in Washington by city of Tacoma, Backus-Brooks Co., and Northwestern Electric Co.

DIVISION OF WORK

The data for stations in Oregon and Washington, except Cowlitz River Basin in Washington, were collected and prepared for publication under the direction of G. H. Canfield, district engineer, assisted by K. N. Phillips, B. S. Barnes, A. H. Williams, H. M. Orem, W. T. Miller, A. R. Peracca, and Miss Belle Irwin. Data for some stations in Oregon, as noted in the station descriptions, were collected by the State under supervision of Rhea Luper, State engineer. Records for these stations, computed in the office of the State engineer, were reviewed and prepared for publication by G. H. Canfield, K. N. Phillips, and A. H. Williams.

The data for stations in Cowlitz 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, Arthur Johnson, G. M. Thayer, M. C. Boyer, H. C. Woster, L. I. Meyer, and R. J. Swanson.

The records were reviewed and manuscript assembled by F. L. LeMert.

GAGING-STATION RECORDS

MAIN COLUMBIA RIVER

COLUMBIA RIVER AT THE DALLES, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 3, T. 1 N., R. 13 E., at foot of Court Street at The Dalles, 18 miles below Deschutes River and above Hood and Klickitat Rivers. Zero of gage 46.55 feet above mean sea level.

DRAINAGE AREA.—237,000 square miles.

RECORDS AVAILABLE.—June, 1878, to September, 1930. Maximum stages 1858 to 1877.

EXTREMES.—Maximum discharge during year, 332,000 second-feet June 14 (gage height, 20.2 feet); minimum, 40,000 second-feet Jan. 18, 21 (gage height, 88.8 feet on gage above Celilo Falls).

1858–1930: Maximum discharge, 1,170,000 second-feet June 6, 1894 (gage height, 59.6 feet); minimum, that of Jan. 18, 21, 1930.

REMARKS.—Records good. Gage readings at head of Celilo Falls, 12 miles upstream, used for periods of ice effect or no gage readings at The Dalles. Diversions for irrigation constitute only a small proportion of the total flow. Gage-height record furnished by United States Weather Bureau.

Daily discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82,900	[a]63,400	[a]58,200	60,700	[a]52,100	82,000	115,000	228,000	271,000	268,000	186,000	120,000
2	83,800	[a]63,400	57,300	[a]55,000	[a]61,600	76,600	115,000	226,000	274,000	265,000	179,000	116,000
3	83,800	[a]63,400	[a]58,200	55,300	[a]75,200	73,900	110,000	226,000	281,000	261,000	173,000	115,000
4	[a]84,100	[a]63,400	[a]56,600	55,300	[a]81,800	72,300	108,000	229,000	276,000	261,000	170,000	114,000
5	[a]81,800	[a]65,200	[a]55,000	56,000	[a]79,500	71,400	106,000	241,000	281,000	261,000	167,000	113,000
6	[a]79,500	[a]65,200	[a]55,000	56,700	[a]79,500	69,800	106,000	251,000	277,000	260,000	162,000	112,000
7	70,600	[a]63,400	56,000	56,000	[a]79,500	67,500	107,000	253,000	277,000	256,000	158,000	110,000
8	70,600	60,700	[a]55,000	56,000	91,300	68,200	109,000	251,000	282,000	250,000	158,000	107,000
9	70,600	[a]65,200	[a]55,000	55,300	87,500	70,600	113,000	255,000	290,000	247,000	156,000	103,000
10	69,800	[a]67,100	58,000	51,800	82,900	70,600	123,000	250,000	300,000	244,000	152,000	101,000
11	69,800	[a]67,100	58,000	50,300	87,500	69,800	123,000	244,000	310,000	238,000	149,000	101,000
12	69,800	[a]67,100	58,700	[a]50,800	87,500	70,600	135,000	235,000	313,000	231,000	146,000	100,000
13	69,800	[a]67,100	58,000	[a]50,800	82,900	67,500	135,000	232,000	325,000	231,000	146,000	99,100
14	69,000	[a]65,200	[a]59,900	[a]48,300	84,700	64,700	136,000	234,000	332,000	231,000	143,000	100,000
15	69,000	[a]65,200	[a]63,400	[a]45,100	83,800	64,700	139,000	235,000	328,000	228,000	146,000	100,000
16	66,800	[a]63,400	69,800	[a]41,500	81,100	66,100	145,000	244,000	325,000	228,000	144,000	100,000
17	66,100	[a]63,400	69,800	[a]44,100	79,300	66,800	156,000	234,000	325,000	225,000	145,000	99,100
18	65,400	[a]63,400	73,100	[a]40,000	78,400	66,800	157,000	244,000	321,000	223,000	145,000	99,100
19	64,000	[a]61,600	78,400	[a]43,200	80,200	66,800	156,000	250,000	320,000	222,000	148,000	97,200
20	64,000	[a]61,600	75,700	[a]43,200	84,700	67,500	152,000	253,000	318,000	220,000	145,000	95,200
21	64,000	60,000	73,100	[a]40,000	88,400	67,500	148,000	261,000	310,000	223,000	145,000	95,200
22	63,400	60,000	71,400	[a]41,500	92,200	69,000	153,000	261,000	302,000	223,000	145,000	95,200
23	62,700	[a]61,600	70,600	[a]41,500	97,200	70,600	157,000	263,000	297,000	223,000	145,000	95,200
24	62,700	[a]61,600	67,500	[a]46,100	97,200	74,800	162,000	268,000	297,000	220,000	143,000	92,200
25	63,400	[a]59,900	66,100	[a]46,100	92,200	83,800	167,000	265,000	290,000	219,000	141,000	91,300
26	64,000	59,300	64,700	[a]46,100	89,400	86,600	193,000	261,000	282,000	210,000	137,000	91,300
27	66,100	[a]58,200	63,400	[a]45,100	86,600	86,600	214,000	258,000	281,000	202,000	134,000	91,300
28	65,400	[a]58,200	62,000	[a]48,300	84,700	96,200	220,000	256,000	277,000	195,000	130,000	91,300
29	64,000	[a]58,200	60,700	[a]45,100	-------	100,000	223,000	255,000	269,000	197,000	131,000	91,300
30	62,700	[a]58,200	60,700	[a]46,100	-------	104,000	225,000	255,000	268,000	197,000	129,000	89,400
31	62,700	-------	60,700	[a]49,500	-------	110,000	-------	263,000	-------	189,000	124,000	-------

[a] Discharge determined from gage at head of Celilo Falls.

Monthly discharge, in second-feet, of Columbia River at The Dalles, Oreg., 1929–30

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	83,800	62,700	69,400	0.293	0.38	4,270,000
November	67,100	58,200	62,700	.265	.30	3,730,000
December	78,400	55,000	62,900	.265	.31	3,870,000
January	60,700	40,000	48,700	.205	.24	2,990,000
February	97,200	52,100	83,200	.351	.37	4,620,000
March	110,000	64,700	75,600	.319	.37	4,650,000
April	225,000	106,000	147,000	.620	.69	8,750,000
May	268,000	226,000	248,000	1.05	1.21	15,200,000
June	332,000	268,000	297,000	1.25	1.40	17,700,000
July	268,000	189,000	231,000	.975	1.12	14,200,000
August	186,000	124,000	149,000	.629	.73	9,160,000
September	120,000	89,400	101,000	.426	.48	6,010,000
The year	332,000	40,000	131,000	.553	7.60	95,200,000

TRIBUTARIES OF COLUMBIA RIVER BELOW MOUTH OF SNAKE RIVER

UMATILLA RIVER BASIN

UMATILLA RIVER ABOVE McKAY CREEK, NEAR PENDLETON, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 8, T. 2 N., R. 32 E., one-fourth mile above mouth of McKay Creek and 2 miles west of Pendleton.

RECORDS AVAILABLE.—May, 1921, to September, 1930. Records at Pendleton, February, 1891, to July, 1892, and May, 1903, to March, 1906, are directly comparable.

EXTREMES.—Maximum discharge during year, 3,100 second-feet Mar. 25 (gage height, 6.63 feet); minimum, 13 second-feet July 31 (gage height, 2.04 feet).

1891–92, 1903–1906, 1921–1930: Maximum discharge, 7,920 second-feet Jan. 13, 1928 (gage height, 9.43 feet); minimum, 7 second-feet Aug. 14, 1924 (gage height, 1.87 feet).

REMARKS.—Records good except those estimated, Jan. 14–31, which are fair. Small diversions for irrigation above station. Considerable regulation at low stages. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	57	60	109	330	411	1,100	416	838	54	16	22
2	45	57	60	115	1,380	435	940	398	674	56	17	22
3	42	56	62	120	845	435	847	455	597	52	18	21
4	40	55	60	124	701	430	802	435	520	49	18	19
5	38	55	62	115	915	892	766	416	485	44	18	20
6	40	57	62	116	1,220	1,510	820	388	411	40	16	21
7	42	59	63	111	950	1,210	856	362	366	38	17	25
8	42	59	74	109	1,140	1,050	901	314	322	38	16	27
9	45	59	82	109	1,100	940	847	290	272	38	20	29
10	49	57	85	109	845	892	706	272	240	38	24	30
11	49	59	88	102	880	730	615	255	215	38	24	30
12	49	59	106	66	915	1,000	580	237	200	34	21	32
13	46	59	111	57	810	1,040	594	220	185	32	18	31
14	45	59	104		1,560	865	601	218	165	28	18	29
15	45	57	113		2,370	698	587	240	148	26	17	29
16	45	57	120		1,760	580	550	237	134	25	24	27
17	45	56	129		1,410	505	500	218	114	26	20	32
18	45	59	127		1,260	450	465	208	110	25	20	27
19	46	60	129		1,260	420	440	198	106	26	22	29
20	46	60	120		1,310	475	425	202	122	27	24	28
21	46	56	116		1,110	674	430	220	140	25	27	29
22	45	50	122	71	838	1,560	455	222	120	25	24	27
23	45	51	135		706	1,760	450	215	103	23	22	27
24	44	54	159		580	1,910	485	208	96	22	18	28
25	46	48	159		520	2,950	465	202	89	21	19	31
26	48	57	161		515	2,490	440	190	82	19	20	32
27	55	60	154		475	2,080	515	175	70	18	21	31
28	62	60	138		435	1,710	505	165	62	18	19	38
29	59	60	131		------	1,560	485	160	60	16	19	48
30	57	60	122		------	1,510	455	200	57	14	19	51
31	57	------	109		------	1,310	------	562	------	15	21	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	62	38	46.9	2,880
November	60	48	57.1	3,400
December	161	60	107	6,580
January	124	----------	85.2	5,240
February	2,370	330	1,000	55,500
March	2,950	411	1,110	68,200
April	1,100	425	621	37,000
May	455	160	274	16,800
June	838	57	237	14,100
July	56	14	30.6	1,880
August	27	16	19.9	1,220
September	51	19	29.1	1,730
The year	2,950	14	297	215,000

UMATILLA RIVER ABOVE FURNISH RESERVOIR, NEAR YOAKUM, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 17, T. 2 N., R. 31 E., at Oregon-Washington Railroad & Navigation Co.'s bridge one-fourth mile above Campbell and 5 miles above Yoakum.

RECORDS AVAILABLE.—June, 1915, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,400 second-feet Mar. 25 (gage height, 5.78 feet); minimum, 32 second-feet Sept. 26, 27 (gage height, 1.30 feet).

1915–1930: Maximum discharge, 10,000 second-feet Jan. 3, 1921 (gage height, 9.9 feet); minimum, 14 second-feet Aug. 17, 1926 (gage height, 1.17 feet).

REMARKS.—Records good except those estimated, which are fair. Diversions for irrigation above station. Some regulation at low stages caused by operation of mills at Pendleton. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	248	80	76	134		479	1,220	430	850	247	255	140
2	248	78	75	134		490	1,080	366	730	247	251	140
3	240	76	76	141	[a] 922	490	1,010	382	640	247	258	137
4	236	75	78	143		490	975	408	586	244	258	134
5	236	72	78	146		850	910	413	523	240	258	134
6	233	72	78	148	1,210	1,560	940	403	468	240	255	134
7	233	74	78	146	[a] 997	1,260	940	371	413	247	258	134
8	230	75	82	[a] 86	[a] 1,200	1,080	975	341	366	255	258	137
9	230	75	92	[a] 86	[a] 1,170	1,010	940	311	321	258	262	131
10	226	75	92	[a] 86	[a] 909	880	850	290	282	265	265	55
11	226	76	96		854	820	790	277	240	277	265	46
12	222	76	111		960	1,040	700	258	216	269	255	43
13	219	76	117		900	1,120	688	255	195	262	247	41
14	219	75	115		1,240	975	688	294	176	269	244	39
15	219	74	119		2,440	820	682	326	156	290	244	38
16	219	72	125		2,140	700	652	282	134	290	244	38
17	219	72	127		1,520	610	610	262	120	286	244	37
18	219	72	132		1,340	534	563	282	114	262	237	36
19		72	136		1,340	501	523	273	109	262	237	35
20		72	134		1,380	552	496	303	120	262	237	33
21	[a] 310	[a] 70	132	[a] 86	1,180	760	496	298	230	255	244	33
22		[a] 70	130		940	1,520	479	286	182	255	240	33
23		68	159		820	[a] 1,820	468	273	188	251	237	33
24		68	236		688	[a] 1,920	462	269	258	247	230	33
25	294	71	167		610	[a] 3,250	479	265	331	244	226	33
26	302	69	167		610	[a] 2,890	490	262	286	247	216	33
27	302	72	175		552	[a] 2,380	501	262	265	255	137	33
28	302	75	230		506	[a] 1,920	523	277	258	255	137	[a] 40
29	272	75	148		-------	1,760	501	286	262	255	134	46
30	96	76	139		-------	1,660	468	321	258	251	131	50
31	84	-------	136		-------	1,420	-------	598	-------	255	137	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	-------	84	246	15,100
November	80	68	73.4	4,370
December	236	75	124	7,620
January	148	-------	98.6	6,060
February	2,440	506	1,080	60,000
March	3,250	479	1,210	74,400
April	1,220	462	703	41,800
May	598	255	320	19,700
June	850	109	309	18,400
July	290	240	258	15,900
August	265	131	229	14,100
September	140	33	67.6	4,020
The year	3,250	33	388	281,000

[a] Estimated.

UMATILLA RIVER NEAR UMATILLA, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 21, T. 5 N., R. 28 E., 1½ miles below West Division Main Canal of Umatilla project and 2 miles above mouth at Umatilla.

DRAINAGE AREA.—2,130 square miles.

RECORDS AVAILABLE.—October, 1903, to September, 1930.

EXTREMES.—Maximum discharge during year, 2,590 second-feet Mar. 26 (gage height, 4.80 feet); no flow at times Apr. 19–21.

1903–1930: Maximum discharge, 19,600 second-feet May 31, 1906 (gage height, 11.0 feet); no flow at times.

REMARKS.—Records poor. Discharge estimated for days of no readings except in November and December. Several diversions for irrigation above station; Brownell Canal diverts below. Flow regulated by storage in McKay, Furnish, and Cold Springs Reservoirs. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	------	------	107	149	415	a 1,000	22	36	a 21	22	31
2	48	122	149	a 106	620	415	a 900	a 22	63	a 21	19	22
3	53	------	------	a 104	1,150	380	810	21	63	21	a 20	a 22
4	57	------	140	103	1,300	245	650	a 21	40	a 24	a 21	21
5	45	------	------	a 103	875	315	525	21	36	28	22	a 21
6	40	------	122	a 103	810	288	525	a 21	40	24	a 22	21
7	37	------	------		1,010	875	a 538	a 21	36	a 24	22	a 21
8	43	------	122		1,160	940	a 552	21	34	a 23	a 22	21
9	43	------	------		1,010	810	565	a 21	32	23	22	a 21
10	47	------	122		875	752	a 360	21	31	a 23	a 22	21
11	37	114	------		810	752	210	a 21	25	a 22	22	a 21
12	37	------	122		695	810	85	21	23	22	a 22	a 21
13	57	122	------		1,160	875	40	a 21	21	a 22	22	21
14	64	------	------		1,960	810	28	21	125	a 22	a 22	a 21
15	64	------	118		1,710	810	a 25	a 21	125	22	22	21
16	68	125	------		1,380	752	22	a 21	23	a 22	a 23	a 21
17	86	129	------	a 80	1,300	605	a 22	21	a 22	22	a 24	21
18	110	------	110		1,080	488	a 21	a 21	a 21	a 22	a 26	a 21
19	71	------	------		1,160	a 402	11	21	21	22	28	a 21
20	78	140	129		1,160	315	0	a 22	a 22	a 26	a 30	21
21	83	------	------		1,300	a 302	18	22	23	29	32	a 21
22	122	162	------		1,080	288	a 21	a 22	22	26	a 32	21
23	140	------	129		1,010	1,460	a 21	22	a 22	31	32	a 21
24	140	------	------		875	1,380	21	a 22	a 21	22	a 32	21
25	140	162	149		752	2,140	a 21	22	21	a 22	32	a 21
26	140	------	------		623	2,590	21	a 22	a 21	21	40	a 21
27	107	153	------		589	1,960	a 21	23	a 21	a 21	36	21
28	a 106	------	140		581	1,380	21	a 32	21	21	32	a 22
29	a 104	------	------	122	------	a 1,460	a 21	40	a 21	a 22	145	22
30	103	157	118	a 128	------	1,540	a 22	40	21	22	165	23
31	a 110	------	------	133	------	1,160	------	49	------	a 22	165	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	140	37	78.2	4,810
November	----------	----------	139	8,270
December	----------	----------	129	7,930
January	133	----------	89.3	5,490
February	1,960	149	1,010	56,100
March	2,590	245	894	55,000
April	1,000	0	237	14,100
May	49	21	23.8	1,460
June	125	21	35.1	2,090
July	31	21	23.1	1,420
August	165	19	38.6	2,370
September	31	21	21.5	1,280
The year	2,590	0	221	160,000

a Estimated.

McKAY CREEK NEAR PILOT ROCK, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 23, T. 1 N., R. 32 E., 1 mile above backwater from McKay Dam and 5 miles northeast of Pilot Rock.
RECORDS AVAILABLE.—May to August, 1921; October, 1926, to September, 1930.
EXTREMES.—Maximum discharge during year, 788 second-feet Feb. 14 (gage height, 6.29 feet); no flow at times.
1921, 1926–1930: Maximum discharge, 910 second-feet Jan. 13, 1928, Mar. 21, 1929; no flow at times during summer.
REMARKS.—Records good except those estimated, which are poor. Numerous small diversions for irrigation above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Nov.	Feb.	Mar.	Apr.	May	June	July
1			117	209	39	95	
2			137	178	37	89	
3	[a]0.3	[a]320	135	164	39	82	
4			137	158	41	74	
5			390	145	40	64	[a]2.8
6	.6	170	587	135	38	54	
7		138	432	128	36	42	
8		226	390	123	36	35	
9		185	337	114	35	29	1.5
10		147	301	96	30	26	
11		145	310	85	28	23	
12		143	361	79	24	22	[a].7
13		137	306	75	19	21	
14		617	268	74	18	19	
15		557	226	72	19	16	
16		380	192	69	19	13	0
17		292	167	63	17	11	0
18		252	156	59	18	7.9	0
19	[a].5	219	150	[a]56	18	6.7	0
20		178	170	[a]52	18	6.7	0
21		137	260	[a]49	21	7.0	0
22		119	411	[a]45	20	7.4	0
23		114	375	[a]41	18	7.4	0
24		106	563	38	16	7.0	0
25		106	660	37	15	6.7	0
26		110	551	40	14	6.0	0
27		114	432	50	13	[a]5.6	0
28		114	342	44	12	[a]5.2	0
29		-------	301	41	12	[a]4.8	0
30		-------	268	40	14	[a]4.5	0
31	-------	-------	241	-------	72	-------	0

Month	Maximum	Minimum	Mean	Run-off in acre-feet
November	----------	----------	[b]0.47	28
December	----------	----------	[a]5	307
January	----------	----------	[a]5	307
February	617	106	[b]225	12,500
March	660	117	312	19,200
April	209	37	85.3	5,080
May	72	12	25.7	1,580
June	95	4.5	26.6	1,580
July	----------	0	[b]0.91	56
September	----------	----------	[a]2	119
The year	660	0	56.3	40,800

[a] Discharge estimated.
[b] Discharge partly estimated.

NOTE.—No flow during October and August.

McKAY CREEK NEAR PENDLETON, OREG.

LOCATION.—Water-stage recorder in sec. 34, T. 2 N., R. 32 E., just above irrigation diversion dam, one-fourth mile below McKay Dam, and 5 miles south of Pendleton.

RECORDS AVAILABLE.—November, 1918, to September, 1923; October, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 315 second-feet Oct. 19, 20 (gage height, 1.38 feet); no flow at times.

1918–1930: Maximum discharge, 3,250 second-feet Feb. 10, 1921; no flow at times.

REMARKS.—Records good except those estimated, Oct. 11–18, which are fair. Diversions for irrigation above McKay Reservoir use total summer flow. Discharge records include flow diverted by irrigation canal at gage. Flow regulated since 1927 by storage above McKay Dam. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	May	June	July	Aug.	Sept.
1	225	0	0	206	249	115
2	225	0	0	206	249	115
3	225	0	0	206	254	115
4	225	0	0	206	258	115
5	225	0	0	210	258	115
6	225	0	0	214	258	115
7	225	0	0	221	258	115
8	225	0	0	225	258	115
9	225	0	0	229	258	79
10	225	0	0	236	254	0
11		0	0	244	254	0
12		21	0	244	249	0
13		58	0	249	249	0
14		101	0	258	249	0
15	225	75	0	263	233	0
16		45	0	263	229	0
17		75	0	244	225	0
18		97	0	233	221	0
19	262	101	0	233	217	0
20	315	97	43	233	217	0
21	310	67	118	233	214	0
22	305	56	68	233	214	0
23	300	56	122	233	210	0
24	295	56	192	233	206	0
25	266	60	263	233	203	0
26	275	79	229	240	161	0
27	266	93	210	249	112	0
28	262	119	210	249	115	0
29	172	122	210	249	115	0
30	0	107	210	249	115	0
31	0	22	-------	249	115	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	315	0	228	14,000
May	122	0	48.6	2,990
June	263	0	62.5	3,720
July	263	206	235	14,400
August	258	115	215	13,200
September	115	0	33.3	1,980
The year	315	0	69.6	50,300

NOTE.—No flow during months omitted.

BIRCH CREEK AT RIETH, OREG.

LOCATION.—Staff gage in SE. ¼ sec. 13, T. 2 N., R. 31 E., one-fourth mile above mouth and 1 mile southwest of Rieth.

RECORDS AVAILABLE.—May, 1921, to September, 1923; April, 1927, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 475 second-feet Feb. 1 (gage height, 2.90 feet); no flow at times.

1921–1923, 1927–1930: Maximum discharge, 1,640 second-feet Jan. 29, 1928 (gage height, 6.00 feet); no flow at times.

REMARKS.—Records fair. Diversions for irrigation above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	14	247	61	142	0	
2	0	14	65	60	133	0	
3	0	14	46	62	116	0	a 38
4	0	14	37	60	108	0	
5	0	14	43	94	108	0	
6	0	14	45	133	101	0	37
7	0	13	47	124	94	0	33
8		10	57	116	88	0	a 33
9	a 3.0		69	108	88	0	33
10			64	101	76	0	25
11	5.3		61	101	70	0	20
12			60	124	59	0	13
13			62	133	51	0	12
14			101	116	43	0	11
15			184	108	36	0	a 8.0
	a 10.0						
16			162	94	31	0	5.9
17			133	88	23	0	4.7
18			124	82	15	0	3.4
19			133	76	13	0	2.5
20	14	a 5	133	82	7.9	0	2.1
21	a 16		116	88	3.1	.4	1.5
22	17		101	101	1.5		a 1.4
23	17		101	116	1.2		a 1.3
24	15		88	133	.9		a 1.2
25	17		76	173	.9		1.1
26	14		76	215	.9	a .4	0
27	14		68	236			0
28	14		61	215			0
29	14		--------	204	a .5		0
30	14		--------	194			0
31	13	14	--------	173			0

Month	Maximum	Minimum	Mean	Run-off in inches
December	17	0	a 8.82	542
January	14	----------	a 7.5	461
February	247	37	91.4	5,080
March	236	60	122	7,500
April	142	0.5	a 47.1	2,800
May	----------	0	a 0.14	9
June	----------	0	a 14.7	675
The year	247	0	23.8	17,300

a Estimated.

NOTE.—No flow during months omitted.

DIVERSIONS FROM UMATILLA RIVER BETWEEN FURNISH RESERVOIR AND UMATILLA, OREG.

Furnish Canal diverts from right bank of Umatilla River in sec. 36, T. 3 N. R. 29 E. Crayne-Lisle Canal diverts from left bank of Furnish Canal half a mile below Furnish Canal head gate but above gage on Furnish Canal. Slusher and Taylor ditches divert from left bank of Umatilla River near Nolin. Wilson-Ramos ditches divert from right bank of Umatilla River half a mile above intake of Umatilla project feed canal, which diverts water from right bank of Umatilla River in SW. ¼ sec. 22, T. 3 N., R. 29 E., to feed Cold Springs Reservoir of United States Bureau of Reclamation. Western Land & Irrigation Co.'s canal diverts from left bank of Umatilla River in NE. ¼ sec. 21, T. 3 N., R. 29 E.; gage 1 mile below intake. Allen Canal diverts from right bank of Western Land & Irrigation Co.'s canal half a mile below head gate of latter canal. Dillon Canal diverts from left bank of Umatilla River in sec. 5, T. 3 N., R. 29 E. Maxwell Canal diverts from right bank of Umatilla River in SW. ¼ sec. 28, T. 4 N., R. 28 E. West Division Main Canal diverts from left bank of Umatilla River in SW. ¼ sec. 28, T. 5 N., R. 28 E. Brownell Canal diverts from right bank of Umatilla River about 2 miles below West Division Main Canal diversion and about 1½ miles above mouth of Umatilla River.

Water diverted by these canals is used for irrigation of lands on both sides of Umatilla River below Furnish Reservoir except that diverted by West Division Main Canal, which is applied to lands along Columbia River in vicinity of Irrigon.

Records are available from March, 1926, to September, 1930; records for some of the canals published separately prior to 1926.

Records furnished by State engineer.

Monthly diversions, in acre-feet, 1929–30

Month	Furnish Canal	Crayne-Lisle Canal	Slusher and Taylor ditches [a]	Wilson-Ramos ditches [a]	Umatilla project feed canal	Western Land & Irrigation Co.'s canal	Allen Canal	Dillon Canal	Maxwell Canal	West Division Main Canal	Brownell Canal	Total
October	0	(b)	0	0	12,100	0	(b)	(c)	(d)	4,120	0	
November	0		0	0	2,990	0				1,090	0	
December	0		0	0	6,150	0				0	0	
January	0		0	0	2,110	0				0	0	
February	0		0	0	9,330	0				0	0	
March	0		0	0	15,400	0				1,330	0	
April	4,740	720	387	298	11,000	10,700	1,180	260	2,720	6,600	512	39,100
May	5,400	322	385	295	2,000	10,000	984	756	2,050	7,320	1,050	30,600
June	4,930	306	520	143	2,890	9,160	1,240	613	1,590	7,620	916	29,900
July	4,910	0	296	50	[e] 0	9,650	972	390	1,790	8,920	1,010	28,000
August	4,360	0	274	0	0	8,480	947	221	1,550	7,010	1,030	23,900
September	0	0	0	0	0	2,360	1,100	247	1,470	7,020	940	13,100
The period	24,300	1,350	[f] 1,860	786	64,000	50,400	6,420	2,490	11,170	51,000	5,460	

[a] From records of water master; original field data lost.
[b] Probably some water October to March; no record.
[c] Probably dry till some time in March.
[d] Flow recorded Oct. 1–11; no record Oct. 12 to Mar. 31.
[e] Possibly slight flow at times when monthly run-off is recorded as zero; however, amount is negligible.
[f] Partly estimated; field data for Taylor Canal lost.

WILLOW CREEK BASIN

WILLOW CREEK NEAR MORGAN, OREG.

LOCATION.—Staff gage in NW. ¼ NE. ¼ sec. 27, T. 1 N., R. 23 E., 1½ miles south of Morgan.
RECORDS AVAILABLE.—January to June, 1921; October, 1928, to September, 1930.
EXTREMES.—Maximum discharge during year, 2,000 second-feet Feb. 1 (gage height, 4.7 feet); no flow July to September.
1921, 1928–1930: Maximum discharge, that of 1930.
REMARKS.—Records fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0.5	e 0.3	e 0.5	3	436	24	11	0.3	e 0.2
2	.5	.3	.5	3	199	24	10	.3	.2
3	.3	.3	.5	e 3	69	24	9	.3	.3
4	.3	e .3	e .5	3	50	24	6	.3	e .2
5	.5	.3	e .5	e 3	66	41	5	.3	.2
6	.5	e .3	.5	3	66	76	5	.3	.2
7	.5	e .3	e .5	e 3	61	72	3	.3	.2
8	.5	.3	.5	3	52	69	1	.2	.2
9	.5	e .3	.8	e 3	47	62	1	.2	.2
10	.5	.3	1	e 2	45	56	.5	.2	.2
11	e .5	e .3	e 1	1	45	49	.3	.2	.1
12	.5	e .3	1	e 1	50	43	.3	.2	.1
13	.5	.3	e 1	1	45	40	.3	.2	
14	e .5	e .3	1	e 1	50	41	.3	.2	
15	e .5	e .3	e 1	1	76	40	.3	.2	
16	.5	.3	.8	e 1	66	39	.3	e .2	
17	e .4	.3	e 1	1	59	35	.3	.2	
18	.3	e .3	1	e 1	54	31	.3	.2	
19	e .3	e .3	e 1	e 1	49	26	.3	.2	
20	e .3	.3	1	1	45	20	.3	.2	
21	.3	e .3	e 1	e 1	35	20	.3	.2	e .1
22	e .4	.3	1	e 1	47	20	.3	.2	
23	.5	e .3	e 1	1	40	27	.3	.2	
24	e .5	.3	e 1	e 1	27	27	.3	.2	
25	.5	e .4	1	1	27	24	.3	.2	
26	e .4	e .4	e 1	e 1	26	20	.3	.2	
27	.3	.5	e 1	1	24	20	.3	.2	
28	e .3	e .5	.8	e 1	26	18	.3	.2	
29	.3	.5	1	1	-------	15	.3	.2	
30	e .3	e .5	e 2	e 3	-------	11	.3	e .2	
31	.3	-------	3	4	-------	10	-------	.2	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	0.5	0.3	0.42	26
November	.5	.3	.33	20
December	3	.5	.95	58
January	4	1	1.8	111
February	436	24	67.2	3,730
March	76	10	33.8	2,080
April	11	.3	1.92	114
May	.3	.2	.22	14
June	.2	.1	.13	8
The year	436	0	8.51	6,160

e Estimated.

NOTE.—No flow during months omitted.

JOHN DAY RIVER BASIN

JOHN DAY RIVER AT PRAIRIE CITY, OREG.

LOCATION.—Staff gage in NE. ¼ sec. 10, T. 13 S., R. 33 E., above outlet of Prairie power canal, at power plant three-fourths mile southwest of Prairie City.

RECORDS AVAILABLE.—October, 1926, to September, 1930. At station below outlet of Prairie power canal, October, 1916, to September, 1917; and March, 1925, to September, 1926.

EXTREMES.—Maximum discharge during year, 188 second-feet Feb. 5 (gage height, 1.64 feet); minimum, 5 second-feet July 27, 31, Aug. 1 (gage height, 0.54 foot).

1926–1930: Maximum daily discharge (estimated), 900 second-feet June 9, 1927; minimum, that of July 27, 31, Aug. 1, 1930.

REMARKS.—Records good except those estimated, Jan. 11–28, which are fair. Diversions above station for irrigation and for Prairie power canal. See page 26 for records of Prairie power canal.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	13	10	22	28	23	39	17	56	10	6	9
2	14	13	10	19	50	28	39	18	70	9	6	9
3	14	13	10	19	39	28	61	20	66	8	6	10
4	14	13	10	19	39	30	41	21	79	8	6	10
5	14	13	10	18	121	39	38	22	56	8	6	9
6	14	13	10	14	68	39	34	20	38	7	6	10
7	14	12	10	11	58	28	36	18	32	8	6	10
8	14	12	11	8	72	30	46	21	31	8	6	9
9	15	12	12	9	48	30	44	21	29	7	8	10
10	14	13	32	9	36	26	40	18	25	9	8	10
11	14	13	30		81	28	31	17	21	8	8	11
12	14	12	26		54	30	29	16	19	8	11	10
13	14	11	31		53	30	31	14	13	8	11	10
14	14	11	26		65	31	36	16	13	8	12	10
15	14	11	31		63	30	35	48	12	8	9	10
16	14	12	44		51	30	35	45	12	8	9	10
17	14	12	34		50	28	30	75	10	8	10	10
18	14	12	28		51	26	28	50	9	8	10	10
19	13	11	34		79	28	23	46	8	8	11	9
20	13	10	39	10	81	31	16	61	12	8	12	9
21	13	9	32		65	29	16	75	14	10	10	8
22	14	9	25		53	31	13	66	14	12	9	8
23	14	12	28		51	32	12	51	14	12	9	8
24	14	12	26		42	34	17	40	13	12	9	10
25	14	14	26		38	31	14	36	13	12	13	10
26	14	13	28		35	36	14	30	12	10	13	10
27	15	12	24		32	39	15	26	12	6	13	9
28	16	12	21		26	40	18	24	11	6	8	8
29	16	11	19	25	-------	46	18	24	11	6	8	13
30	14	12	20	22	-------	50	18	50	10	6	7	9
31	13	-------	20	22	-------	42	-------	66	-------	6	12	-------

Month	River only				River and Prairie power canal			
	Maximum	Minimum	Mean	Run-off in acre-feet	Maximum	Minimum	Mean	Run-off in acre-feet
October	16	13	14.1	867	71	62	66.0	4,060
November	14	9	11.9	708	69	48	65.1	3,870
December	44	10	23.1	1,420	96	61	77.2	4,750
January	25	-------	12.8	787	76	-------	56.8	3,490
February	121	26	54.6	3,030	175	77	106	5,890
March	50	23	32.4	1,990	104	80	88.5	5,440
April	61	12	28.9	1,720	103	53	82.6	4,920
May	75	14	34.6	2,130	132	61	89.5	5,500
June	79	8	24.5	1,460	133	35	66.3	3,950
July	12	6	8.4	516	55	27	35.8	2,200
August	13	6	9.0	553	42	21	31.4	1,930
September	13	8	9.6	571	74	35	43.2	2,570
The year	121	6	21.8	15,800	175	21	67.1	48,600

JOHN DAY RIVER AT PICTURE GORGE, NEAR DAYVILLE, OREG.

LOCATION.—Water-stage recorder in sec. 20, T. 12 S., R. 26 E., on John Day highway seven-tenths mile above Rock Creek Bridge and 7 miles northwest of Dayville.

RECORDS AVAILABLE.—April, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 628 second-feet Feb. 6 (gage height, 4.34 feet); minimum, 1 second-foot several days in August, September.

1926–1930: Maximum discharge, 3,000 second-feet June 9, 1927 (gage height, 10.25 feet); minimum, that of August, September, 1930.

REMARKS.—Records good except those estimated, which are fair. Numerous diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	107	140	199		279	336	194	203	23	2	1
2	95	109	138	194		279	324	180	203	19	2	1
3	92	110	136	192	[a] 384	290	290	206	216	18	2	1
4	91	110	136	188		279	279	223	227	18	2	1
5	88	114	136	190		302	268	221	229	18	2	1
6	84	117	138	182	592	313	249	214	192	18	1	2
7	88	115	139	157	438	290	245	214	160	17	1	2
8	92	[a] 117	140	144	560	290	253	206	144	15	1	3
9	100	119	150		464	279	266	204	140	[a] 15	1	2
10	104	120	173		399	268	258	195	119	15	2	3
11	106	119	192		503	268	239	190	98	13	2	4
12	108	120	206		451	279	216	178	88	12	2	4
13	109	122	194		412	290	210	159	77	11	2	5
14	107	126	204		503	302	233	160	58	10	1	5
15	107	130	210		503	302	245	221	41	10	1	4
16	102	130	255		438	290	235	302	35	9	1	5
17	94	133	260		425	279	221	386	27	9	2	5
18	87	133	268		425	268	204	399	29	5	2	4
19	86	134	360		464	266	197	348	23	5	2	5
20	90	126	399	[a] 119	490	268	178	348	31	3	2	5
21	92	119	348		464	279	165	360	33	4	2	6
22	94	122	290		438	290	145	360	38	4	2	5
23	96	145	262		412	290	127	324	38	3	2	7
24	96	145	255		373	302	130	279	36	2	2	5
25	98	148	245		360	302	144	255	34	3	2	6
26	100	150	243		336	313	145	239	33	4	2	7
27	97	148	223		324	348	159	197	32	3	1	7
28	103	145	210		302	360	199	168	32	2	1	8
29	106	144	201		------	360	219	148	29	3	1	8
30	108	142	199		------	373	208	150	27	2	1	15
31	109	------	203		------	360	------	216	------	2	1	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	109	84	97.5	6,000
November	150	107	127	7,560
December	399	136	215	13,200
January	------	------	135	8,300
February	------	------	428	23,800
March	373	266	299	18,400
April	336	127	220	13,100
May	399	148	240	14,800
June	229	23	89.1	5,300
July	23	2	9.5	584
August	2	1	1.6	98
September	15	1	4.6	274
The year	------	1	154	111,000

[a] Estimated.

JOHN DAY RIVER AT SERVICE CREEK, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 18, T. 9 S., R. 23 E., one-fourth mile below Service Creek and three-fourths mile southwest of Service Creek post office.

RECORDS AVAILABLE.—October, 1929, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,260 second-feet Feb. 15 (gage height, 6.67 feet); minimum, 40 second-feet Sept. 7 (gage height, 0.65 foot).

REMARKS.—Records good except those estimated, which are fair. Many diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			275	466		1,010	2,240	1,460	1,300	270	61	
2			252	478		1,010	2,080	1,370	1,200	255	a 61	
3		a 205	225	450	a 710	958	2,000	1,400	1,270	235	61	
4			230	430		985	2,000	1,640	1,270	221		a 44
5			235	434		1,010	1,920	1,500	1,270	207		
6		212	250	400	a 2,000	1,340	1,920	1,370	1,240	190		
7		214	262	289	1,640	1,270	2,080	1,300	1,170	180	a 59	40
8		225	278	221	2,080	1,100	2,240	1,240	1,100	174		
9		230	292	207	1,680	1,240	2,480	1,140	1,070	164		
10		a 224	319	162	1,370	1,140	2,320	1,070	985	155	57	
11		218	396		1,600	1,100	2,160	1,010	902	152	a 60	a 60
12		240	486		1,850	1,240	2,000	985	848	148	a 60	
13		238	562		1,500	1,540	1,920	930	770	145	85	
14		203	562		1,780	1,500	2,080	958	695	136	84	
15		178	645		2,810	1,400	2,080	1,040	620	126	74	79
16	a 170	205	695		2,480	1,270	1,920	1,370	575	117	a 68	79
17		190	795		2,240	1,170	1,710	1,460	510	110	63	73
18		209	745		2,160	1,070	1,570	1,570	486	106		a 70
19		209	720		2,400	1,070	1,500	1,430	474	102		a 67
20		190	705		2,810	1,140	1,570	1,340	466	99		a 64
21		a 181	710	a 242	2,720	1,300	1,500	1,400	486	96	a 64	61
22		172	730		2,320	1,430	1,540	1,430	670	93		a 60
23		212	508		2,000	1,850	1,640	1,340	575	90		a 58
24		203	562		1,740	1,780	1,740	1,240	490	84	65	57
25		242	562		1,500	1,740	2,080	1,140	a 453	81		62
26		248	540		1,430	2,080	1,850	1,070	a 416	80		59
27		292	510		1,300	2,480	1,780	1,010	a 378	80	a 56	61
28		310	464		1,170	2,480	1,740	930	a 341	a 76		70
29		289	375		-------	2,560	1,710	930	304	a 72		80
30		280	340		-------	2,560	1,570	875	298	a 69	48	84
31		-------	368		-------	2,480	-------	985	-------	a 65	a 47	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	----------	----------	a 170	10,500
November	310	172	221	13,200
December	795	225	476	29,300
January	----------	----------	278	17,100
February	2,810	----------	1,720	95,500
March	2,560	958	1,490	91,600
April	2,480	1,500	1,900	113,000
May	1,640	875	1,220	75,000
June	1,300	298	754	44,900
July	270	65	135	8,300
August	85	----------	61.7	3,790
September	84	----------	60.3	3,590
The year	2,810	----------	699	506,000

a Estimated.

JOHN DAY RIVER AT McDONALD, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 11, T. 1 N., R. 19 E., at McDonald, half a mile below Rock Creek. Zero of gage 392.02 feet above mean sea level.

DRAINAGE AREA.—7,800 square miles.

RECORDS AVAILABLE.—December, 1904, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,420 second-feet Feb. 16 (gage height, 4.10 feet); minimum, 34 second-feet Sept. 7 (gage height, 0.92 foot).

1904–1930: Maximum discharge, 22,800 second-feet Feb. 6, 1907 (gage height, 10.38 feet); minimum. 23 second-feet Aug. 14, 1926 (gage height, 0.83 foot).

Maximum stage known, 12.8 feet, probably in 1894 (discharge, estimated, 33,000 second-feet).

REMARKS.—Records good except those estimated because of ice, Nov. 21–24, Dec. 4, 5, Jan. 12, 13, Jan. 15 to Feb. 1, which are fair. Diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	198	300	450	1,000	1,260	2,710	1,640	890	331	65	44
2	141	208	288	382	2,380	1,150	2,380	1,440	1,040	331	60	44
3	158	213	288	485	1,510	1,000	2,060	1,380	1,200	300	55	46
4	167	218	270	485	1,150	1,100	2,060	1,320	1,150	271	55	44
5	167	203	251	485	1,320	1,100	2,060	1,510	1,200	254	50	42
6	167	213	232	565	1,580	1,040	1,910	1,510	1,200	218	46	42
7	167	213	238	485	2,060	1,150	1,910	1,380	1,200	218	46	40
8	171	213	238	450	2,220	1,380	2,220	1,260	1,150	194	42	44
9	167	213	288	485	1,910	1,260	2,540	1,200	1,100	184	42	42
10	158	213	288	288	2,540	1,200	2,540	1,150	1,040	158	48	46
11	167	213	288	194	1,770	1,260	2,540	1,150	990	158	46	46
12	167	232	313	162	1,640	1,200	2,220	1,040	890	154	42	46
13	171	218	363	150	2,060	1,150	1,910	990	792	150	38	44
14	175	208	450	141	1,770	1,380	1,910	940	792	127	40	48
15	189	249	525		1,640	1,580	1,910	940	698	120	40	50
16	194	243	565		2,880	1,510	2,060	940	650	113	42	58
17	194	222	608		2,710	1,380	1,910	1,200	608	113	40	62
18	194	198	745		2,380	1,260	1,770	1,440	650	113	50	62
19	194	175	792		2,220	1,150	1,640	1,440	608	113	68	60
20	194	194	840		2,380	1,150	1,510	1,440	608	87	65	65
21	175	192	650		2,710	1,100	1,510	1,380	565	72	231	75
22	175	190	840		3,050	1,150	1,510	1,380	565	72	203	68
23	171	188	792	335	2,380	1,380	1,580	1,320	565	72	103	65
24	171	186	840		2,060	1,640	1,580	1,320	608	70	75	65
25	171	184	698		1,910	1,770	1,640	1,260	565	78	60	62
26	171	222	650		1,640	1,770	1,910	1,150	450	78	55	62
27	194	222	650		1,580	1,910	1,770	1,100	382	75	52	62
28	175	238	565		1,440	2,380	1,640	1,040	363	72	50	65
29	175	249	565		-------	2,540	1,770	990	363	72	50	65
30	175	294	525		-------	2,540	1,770	940	331	65	46	65
31	184	-------	485		-------	2,710	-------	890	-------	65	44	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	194	90	172	10,600
November	294	175	214	12,700
December	840	232	498	30,600
January	-------	-------	352	21,600
February	3,050	1,000	2,000	111,000
March	2,710	1,040	1,470	90,400
April	2,710	1,510	1,950	116,000
May	1,640	890	1,230	75,600
June	1,200	331	774	46,100
July	331	65	145	8,920
August	231	38	62.9	3,870
September	75	40	54.3	3,230
The year	3,050	38	733	531,000

STRAWBERRY CREEK NEAR PRAIRIE CITY, OREG.

LOCATION.—Staff gage in S. ½ sec. 8, T. 14 S., R. 34 E., 6 miles southeast of Prairie City.

RECORDS AVAILABLE.—November, 1916, to September, 1917; April, 1925, to September, 1930, when station was discontinued.

EXTREMES.—Maximum discharge during year, 44 second-feet May 20, 27, 29 (gage height, 0.88 foot); minimum, 1.8 second-feet Nov. 4, 5, Sept. 22–27.

1925–1930: Maximum discharge, 234 second-feet June 9, 1927; minimum, that of Nov. 4, 5, 1929, Sept. 22–27, 1930.

REMARKS.—Records fair; discharge estimated Oct. 19, 20, 24, Nov. 20, 21, 25, Jan. 6–12. Three small ditches divert water for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	2.6	2.6	5.7	3.1	4.2	6.4	23	33	12	6.1	2.9
2	3.3	2.6	2.6	5.7	2.8	4.2	6.4	24	32	12	6.1	2.7
3	3.3	2.6	2.6	5.3	2.8	4.4	6.6	26	29	11	5.9	2.7
4	3.3	1.8	2.6	5.3	3.1	4.2	7.3	24	31	10	5.9	2.7
5	3.3	1.8	2.6	5.0	4.6	3.9	7.7	25	31	10	5.9	2.5
6	3.3	2.0	2.6		4.2	3.9	9.8	25	32	9.8	5.6	2.3
7	3.3	2.3	2.6		3.9	3.9	12	26	33	9.4	5.3	2.2
8	3.3	2.6	2.8		3.9	3.7	17	25	32	9.4	5.3	2.2
9	3.3	2.6	3.5	4.0	3.9	3.7	19	24	33	8.5	5.3	2.2
10	3.1	2.4	8.7		4.4	3.5	19	23	34	8.5	5.3	2.2
11	3.1	2.6	3.5		4.6	3.5	19	23	35	8.5	5.3	2.7
12	3.1	2.6	6.8		4.2	3.7	20	23	36	8.5	5.1	2.5
13	3.1	2.6	6.0	2.6	3.9	3.7	20	23	34	8.1	5.1	2.2
14	3.1	2.8	6.4	2.8	3.9	3.5	23	30	31	8.1	4.6	2.0
15	2.8	2.6	7.1	2.8	4.4	3.5	20	29	29	8.1	4.6	2.0
16	2.8	3.3	10	2.8	4.2	3.5	19	31	27	8.1	4.3	2.0
17	2.8	3.3	6.0	2.8	4.2	3.5	17	35	24	8.1	4.3	2.0
18	2.8	2.6	7.1	2.8	4.4	3.5	17	39	23	7.7	4.3	2.0
19	2.7	2.6	9.6	2.8	4.4	3.5	17	42	21	7.3	4.1	2.0
20	2.7	2.6	8.7	2.8	4.6	3.3	17	44	22	7.3	3.9	2.0
21	2.6	2.6	7.8	2.6	4.6	3.5	19	43	20	8.5	3.7	1.9
22	2.6	2.6	7.1	2.6	5.3	3.9	23	42	21	8.5	3.5	1.8
23	2.6	2.6	7.8	2.8	5.7	3.5	27	40	19	8.5	3.3	1.8
24	2.6	2.6	6.8	2.8	6.4	3.9	29	42	18	8.1	3.3	1.8
25	2.6	2.6	6.0	2.6	4.6	3.9	27	39	16	7.7	3.3	1.8
26	2.6	2.6	5.7	2.6	4.6	4.4	24	40	15	7.3	3.3	1.8
27	2.6	2.6	5.7	2.8	4.4	4.6	22	44	13	6.9	3.3	1.8
28	2.8	2.6	5.0	2.8	4.2	4.6	23	43	14	6.6	3.1	1.9
29	2.8	2.6	4.6	3.1	------	6.0	23	44	13	6.6	3.1	2.5
30	2.6	2.6	5.0	3.1	------	6.1	23	42	13	6.4	2.9	2.3
31	2.8	------	5.0	3.3	------	5.9	------	35	------	6.4	2.9	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3.3	2.6	2.94	181
November	3.3	1.8	2.56	152
December	10	2.6	5.51	339
January	5.7	----------	3.49	215
February	6.4	2.8	4.26	237
March	6.1	3.3	4.04	248
April	29	6.4	18.0	1,070
May	44	23	32.8	2,020
June	36	13	25.5	1,520
July	12	6.4	8.45	520
August	6.1	2.9	4.45	274
September	2.9	1.8	2.18	130
The year	44	1.8	9.53	6,910

PRAIRIE POWER CANAL AT PRAIRIE CITY, OREG.

LOCATION.—Staff gage in sec. 11, T. 13 S., R. 33 E., 40 feet above county road bridge over canal and 1 mile south of Prairie City.

RECORDS AVAILABLE.—May, 1925, to September, 1930.

EXTREMES.—Maximum discharge during year, 71 second-feet Dec. 10; no flow at times.

1925–1930: Maximum discharge, that of Dec. 10, 1929; no flow at times.

REMARKS.—Records fair. Canal diverts from John Day River in SE. ¼ sec. 7, T. 13 S., R. 34 E. Water is used by power plant at Prairie City and is returned to river below gaging station on John Day River at Prairie City.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	54	54	54	49	57	54	50	57	29	35	26
2	48	54	51	54	51	57	54	57	57	26	36	26
3	51	54	54	54	54	57	27	60	54	24	36	27
4	49	54	54	51	51	57	48	57	54	22	35	27
5	48	54	54	54	54	57	57	54	50	22	36	27
6	49	54	54	50	57	54	57	57	57	21	26	27
7	50	57	54	44	54	57	57	57	60	20	23	26
8	51	54	54	39	51	57	57	57	57	20	19	27
9	51	57	57	39	54	57	57	54	57	20	20	26
10	54	51	60	33	57	54	57	48	57	20	21	28
11	51	54	54	33	57	54	57	48	51	20	21	34
12	54	51	57	35	54	54	57	47	42	19	10	35
13	51	51	54	34	54	54	57	47	43	19	10	32
14	54	57	57	46	54	57	57	48	39	19	10	32
15	54	54	57	49	54	57	57	54	36	19	21	34
16	51	54	51	48	57	57	57	57	35	20	21	33
17	51	54	51	35	54	54	57	57	30	20	20	32
18	50	54	54	42	42	57	57	57	28	20	22	34
19	51	51	54	48	32	54	57	57	27	24	23	38
20	51	46	57	38	32	57	57	57	45	27	24	37
21	51	39	54	42	37	57	57	57	44	29	23	36
22	54	51	54	42	51	57	54	57	43	30	24	36
23	50	57	54	40	51	54	49	57	35	35	23	34
24	57	51	51	42	54	57	57	57	29	39	22	33
25	54	54	54	43	54	54	47	57	29	43	12	33
26	54	54	54	42	54	57	39	57	27	41	12	34
27	54	54	51	41	54	57	43	57	27	40	12	35
28	54	54	54	43	57	60	57	54	28	42	23	38
29	54	57	51	50	-------	57	57	54	27	45	24	61
30	57	54	54	48	-------	54	57	60	29	39	25	61
31	54	-------	54	50	-------	57	-------	57	-------	36	25	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	57	48	52.0	3,200
November	57	39	53.1	3,160
December	60	51	54.1	3,330
January	54	33	44.0	2,710
February	57	32	51.2	2,840
March	60	54	56.1	3,450
April	57	27	53.7	3,200
May	60	47	55.0	3,380
June	60	27	41.8	2,490
July	45	19	27.4	1,680
August	36	10	22.4	1,380
September	61	26	33.6	2,000
The year	61	10	45.3	32,800

NORTH FORK OF JOHN DAY RIVER NEAR DALE, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 35, T. 6 S., R. 31 E., three-eighths mile below Desolation Creek and 1½ miles northeast of Dale.
RECORDS AVAILABLE.—October, 1929, to September, 1930.
EXTREMES.—Maximum discharge during year, 1,170 second-feet Apr. 24 (gage height, 4.75 feet); minimum, 11 second-feet Nov. 13 (gage height, 1.55 feet).
REMARKS.—Records excellent except those above 600 second-feet and those estimated, which are fair. Some small diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	51		e 140		124	472	615	565	151	40	33
2	46	52		e 163		111	490	640	590	142	42	29
3	40	52		158		117	555	772	555	135	43	32
4	39	44		153		122	580	665	565	126	44	32
5	43	50		117		133	615	590	540	113	40	35
6	e 42	56		95		124	745	580	545	105	42	38
7	40	52		67		131	855	530	570	97	39	38
8	37	37	e 92			142	1,020	490	540	93	45	36
9	52	69			e 177	126	992	463	500	91	50	33
10	54	64				120	882	436	481	93	75	37
11	50	52				140	828	422	472	91	64	44
12	47	31				168	828	422	422	91	52	58
13	e 44	19				173	910	440	392	82	49	49
14	42	22				178	938	468	360	75	45	37
15	52	37				163	800	590	336	72	44	39
16	58		223			149	718	585	308	69	45	35
17	38		124		445	133	640	570	292	67	45	37
18	36		95		376	142	615	535	269	65	44	36
19	42		73		288	156	718	505	246	65	49	35
20	e 40		88	e 48	288	183	690	580	320	65	56	34
21	38		84		272	191	745	565	409	59	46	34
22	e 38		86		239	242	828	515	300	61	44	33
23	38	e 60	82		196	229	882	472	253	58	40	30
24	37		82		163	216	1,080	458	232	56	38	35
25	39		80		160	257	938	432	210	55	36	37
26	42		77		146	360	882	409	196	54	35	37
27	55				135	436	828	422	186	52	37	36
28	59				124	476	772	454	186	49	39	46
29	54		e 70			580	718	427	173	47	38	67
30	44					580	640	525	158	46	38	73
31	45					486		590		44	36	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	59	36	44.3	2,720
November		19	52.9	3,150
December	223		91.1	5,600
January	163		66.0	4,060
February	445		202	11,200
March	580	111	222	13,600
April	1,080	472	773	46,000
May	772	409	522	32,100
June	590	158	372	22,100
July	151	44	79.6	4,890
August	75	35	44.5	2,740
September	73	29	39.2	2,330
The year	1,080	19	208	150,000

e Estimated.

NORTH FORK OF JOHN DAY RIVER AT MONUMENT, OREG.

LOCATION.—Water-stage recorder in E. ½ sec. 1, T. 9 S., R. 27 E., just below entrance to canyon and three-fourths mile west of Monument.

RECORDS AVAILABLE.—March, 1925, to September, 1930.

EXTREMES.—Maximum discharge during year, 2,740 second-feet Feb. 15 (gage height, 4.07 feet); minimum (estimated), 31 second-feet Nov. 15.

1925–1930: Maximum discharge, 8,370 second-feet Apr. 27, 1927 (gage height, 7.96 feet); minimum, 29 second-feet Dec. 5, 1928.

REMARKS.—Records good except those estimated, which are fair. Numerous small diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	96	112	236		699	1,650	1,160	1,080	240	62	48
2	87	104	102	228		673	1,560	1,120	1,080	226	60	46
3	93	104	104	202		660	1,560	1,330	1,080	216	57	42
4	86	104	96	206		660	1,560	1,280	1,080	202	57	40
5	86	100	104	188	} *490	839	1,510	1,160	1,040	187	59	44
6	84	102	120	158		1,000	1,600	1,080	1,000	171	56	45
7	82	110	127		860	839	1,750	1,040	965	156	54	52
8	84	112	132		1,700	846	2,000	965	965	147	54	57
9	82	96	138		1,040	860	2,060	895	895	144	59	59
10	89	102	168		895	804	1,850	860	832	144	67	56
11	93	122	228		1,280	846	1,650	825	790	142	86	60
12	93	108	306		1,040	1,080	1,600	804	738	137	96	62
13	91	68	306		965	1,160	1,650	804	673	130	75	79
14	91	46	396		1,750	1,080	1,750	832	624	116	70	82
15	87	46	432		2,110	965	1,650	1,000	576	110	63	73
16	82	57	486		1,750	895	1,460	1,120	524		62	68
17	86	77	500		1,600	804	1,330	1,120	485		60	57
18	86	79	306		1,650	790	1,240	1,080	458		60	59
19	87	80	293	*104	1,950	811	1,280	1,000	420		62	57
20	87	*74	288		2,260	930	1,240	1,000	430	*90	60	54
21	89	*69	340		1,900	1,040	1,280	1,040	648		73	54
22	91	63	251		1,560	1,280	1,380	965	600		67	52
23	87	57	232		1,380	1,420	1,460	930	474		59	51
24	91	82	244		1,120	1,330	1,700	860	415		*54	51
25	93	98	240		1,040	1,510	1,750	846	385	73	*50	54
26	93	148	240		930	1,900	1,560	797	348	73	46	60
27	100	166	199		832	2,060	1,510	777	312	71	45	65
28	108	136	141		732	2,000	1,460	777	294	70	45	71
29	118	129	108		-------	2,060	1,380	777	290	70	46	82
30	114	120	114		-------	2,060	1,240	770	266	63	46	114
31	104	-------	222		-------	1,850	-------	1,040	-------	65	48	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	118	82	91.5	5,630
November	166	46	95.2	5,660
December	500	96	228	14,000
January	-------	-------	123	7,560
February	2,260	-------	1,190	66,100
March	2,060	660	1,150	70,700
April	2,060	1,240	1,560	92,800
May	1,330	770	969	59,600
June	1,080	266	659	39,200
July	240	63	121	7,440
August	96	45	59.9	3,680
September	114	40	59.8	3,560
The year	2,260	40	519	376,000

* Estimated.

MIDDLE FORK OF JOHN DAY RIVER AT RITTER, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 8, T. 8 S., R. 30 E., at bridge half a mile south of Ritter.

RECORDS AVAILABLE.—October, 1929, to September, 1930.

EXTREMES.—Maximum discharge during year, 488 second-feet Mar. 27; maximum gage height, 7.37 feet Feb. 5, caused by ice jam; minimum discharge, 2.5 second-feet Nov. 21 (gage height, 1.44 feet).

REMARKS.—Records excellent except those estimated because of ice, Nov. 14 to Dec. 1, Jan. 7 to Feb. 5, which are fair. Some small diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	31	32	62		130	343	263	216	45	14	9.0
2	35	32	31	58		128	323	269	224	44	13	9.5
3	29	32	31	50	93	134	320	320	211	40	13	9.5
4	29	31	32	52		132	317	287	208	37	13	9.5
5	28	30	39	42		173	305	260	200	35	14	11
6	28	32	46	32	144	177	323	251	188	32	14	12
7	28	32	43		113	146	352	236	177	30	13	14
8	28	31	43		154	169	409	219	169	28	14	15
9	31	32	45		115	160	406	205	156	27	15	16
10	32	33	63		113	162	356	195	144	29	16	16
11	31	35	84		158	191	336	188	134	30	24	17
12	29	31	68		140	272	333	186	121	30	21	20
13	29	16	110		156	287	336	188	108	26	17	21
14	29		87		198	251	366	205	103	24	13	20
15	29		87		269	216	333	269	96	22	11	19
16	28		115		257	198	299	302	87	20	12	17
17	26		97		260	193	272	327	80	17	12	17
18	25		72		296	200	254	302	74	17	10	16
19	28		47	41	343	222	269	272	70	16	12	16
20	29		64		451	281	260	278	87	16	12	15
21	30	26	67		396	293	275	272	126	16	12	14
22	30		60		305	385	293	251	97	16	11	13
23	30		60		278	392	311	236	82	15	9.5	14
24	30		58		219	362	379	227	74	14	8.5	14
25	28		63		205	406	359	214	68	14	8.5	17
26	28		55		179	470	336	200	62	14	8.0	18
27	32		41		162	470	327	193	59	14	8.5	19
28	34		28		142	448	327	186	55	14	7.5	22
29	35		30		-------	451	296	177	53	14	6.7	37
30	32		43		-------	440	275	205	50	14	7.0	43
31	31	-------	55		-------	382	-------	242	-------	14	8.0	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	35	25	29.7	1,830
November	----------	----------	28.0	1,670
December	115	28	57.9	3,560
January	----------	----------	42.6	2,620
February	451	----------	197	10,900
March	470	128	268	16,500
April	409	254	323	19,200
May	327	177	240	14,800
June	224	50	119	7,080
July	45	14	23.4	1,440
August	24	6.7	12.2	750
September	43	9.0	17.0	1,010
The year	470	----------	112	81,400

COTTONWOOD CREEK NEAR MONUMENT, OREG.

LOCATION.—Staff gage in SW. ¼ NW. ¼ sec. 30, T. 9 S., R. 28 E., 300 feet above private irrigation diversion dam and 4 miles south of Monument.

RECORDS AVAILABLE.—March, 1925, to September, 1930; summer record only in 1925, 1926, 1927.

EXTREMES.—Maximum discharge during year, 530 second-feet, probably Feb. 1 (gage height, 2.3 feet, from high-water mark); minimum, 1.3 second-feet July 20–30.

1925–1930: Maximum discharge, 585 second-feet Mar. 28, 1929; minimum, 0.2 second-foot Aug. 13–15, 27, 28, 1925. Both maximum and minimum somewhat uncertain.

REMARKS.—Records fair except those for Mar. 1–20 and those estimated because of ice, Nov. 20 to Dec. 6, Jan. 18–30, which are poor. Gage read on alternate days; mean discharge taken as mean of days when gage was read. Several small diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5				475	11			17		1.9	
2		7	10	17			20	12		1.9		2.6
3	5	7			308	28			11		1.9	
4		8	12	16			21	15		1.9		2.6
5	5				205	17			8		1.9	
6		7	14	16			20	13		1.9		2.9
7	7				132	35			9		1.9	
8		7	16	15	107		20	16		1.9		2.9
9	7				100	45			7		1.9	
10		5	18	15			20	18		1.5		2.9
11	7				84	28			7	2.2	1.9	
12		3.3	17	13			18	16		1.5		3.3
13	8				80	24			5		1.9	
14		10	20	12			18	15		1.5		3.3
15	7				110	24			4.6		1.9	
16		11	18	12			18	12		1.5		3.3
17	7				48	20			3.3		1.9	
18		13	18	10			17	12		1.5		3.3
19	7				62	17			3.3		1.9	
20		11	17	10			13	12		1.3		3.3
21	7				40	12		12	4.0		1.9	
22		10		8			11	12		1.3		3.3
23	8		16		29	18			2.9		1.9	
24		9		8			17	11		1.3		3.3
25	8		17		17	17			2.6		1.9	
26		10		8		16	13	11		1.3		3.3
27	7		17		15	18			2.6		2.2	
28		10		10			12	9		1.3		
29	7		17			20			2.6		2.2	5
30		10		20			11	21		1.3		5
31	7		18			18					2.6	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	8	5	6.8	418
November	11	3.3	8.64	514
December	20	10	16.3	1,000
January	20	8	12.7	781
February	475	15	121	6,720
March	45	11	21.6	1,330
April	21	11	16.6	988
May	21	9	13.6	836
June	17	2.6	5.99	356
July	2.2	1.3	1.57	97
August	2.6	1.9	1.98	122
September	5	2.6	3.35	199
The year	475	1.3	18.5	13,400

DESCHUTES RIVER BASIN

CRANE PRAIRIE RESERVOIR NEAR LAPINE, OREG.

LOCATION.—Staff gage at reservoir dam in NW. ¼ sec. 16, T. 21 S., R. 8 E., 15 miles northwest of Lapine. Gage readings are elevation above mean sea level.

RECORDS AVAILABLE.—November, 1922, to September, 1930.

EXTREMES.—Maximum elevation during year, 4,435.50 feet May 18 (contents, 15,650 acre-feet); minimum, about 4,827 feet July 27 to Sept. 30 (no storage). 1922–1930: Maximum elevation, 4,444.10 feet Jan. 10–13, 1924 (contents, 50,830 acre-feet); no storage at times.

REMARKS.—Records good; furnished by State engineer.

Monthly elevation and contents of Crane Prairie Reservoir, 1929–30

Date	Elevation in feet	Contents in acre-feet	Change in contents in acre-feet	Date	Elevation in feet	Contents in acre-feet	Change in contents in acre-feet
Sept. 30	4,429.12	305		May 31	4,434.84	13,460	−1,780
Oct. 31	29.65	832	+527	June 30	32.48	6,530	−6,930
Nov. 30	29.98	1,279	+447	July 31	• 27.0	0	−6,530
Dec. 31	31.88	5,031	+3,752	Aug. 31	• 27.0	0	0
Jan. 31	33.06	8,089	+3,058	Sept. 30	• 27.0	0	0
Feb. 28	34.80	13,330	+5,241				
Mar. 31	35.08	14,250	+920	The year			−305
Apr. 30	35.38	15,240	+990				

• Water below gage; elevation estimated.

DESCHUTES RIVER AT CRANE PRAIRIE, NEAR LAPINE, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 16, T. 21 S., R. 8 E., 200 yards below Crane Prairie Dam and 15 miles northwest of Lapine.

RECORDS AVAILABLE.—January, 1914, to June, 1917; February, 1922, to September, 1930.

EXTREMES.—Maximum discharge during year, 373 second-feet July 9–11 (gage height, 2.00 feet); minimum, 72 second-feet Feb. 15–24 (gage height, 0.88 foot).

1914–1917, 1922–1930: Maximum discharge, 604 second feet Apr. 18, 1924 (gage height, 2.40 feet); minimum, 2.5 second-feet Apr. 24, 1923, caused by closing of dam (gage height, 0.05 foot).

REMARKS.—Records good. No diversions. Some regulation caused by operations at Crane Prairie Dam. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	194	175	136	93	89	180	120	128	288	288	154	154
2	194	175	136	93	89	180	130	128	272	288	154	154
3	194	175	136	93	89	170	132	128	256	272	154	154
4	194	175	136	93	89	147	132	132	240	272	154	154
5	194	175	136	93	89	132	132	132	240	272	154	154
6	186	175	136	93	89	132	132	132	240	272	154	154
7	186	175	136	93	89	132	132	132	240	305	154	154
8	186	175	136	97	89	132	132	145	256	338	154	154
9	186	175	136	97	89	132	128	150	256	338	154	154
10	202	175	136	97	89	132	128	150	256	373	159	154
11	224	175	136	97	89	132	128	154	272	373	159	154
12	224	175	136	97	89	132	128	154	272	373	159	154
13	200	175	136	97	82	132	116	154	272	356	159	154
14	180	175	136	99	82	104	116	154	272	338	154	154
15	180	175	136	101	72	104	116	157	272	322	154	154
16	180	175	136	101	72	104	116	157	272	305	154	154
17	180	170	136	101	72	104	116	157	272	288	154	154
18	180	164	136	101	72	104	116	159	272	272	154	154
19	180	141	112	101	72	104	116	159	272	272	154	154
20	180	136	112	101	72	104	124	159	272	240	170	154
21	180	136	112	101	72	104	124	191	272	240	164	154
22	180	136	108	101	72	101	124	191	272	208	159	154
23	175	136	93	101	72	101	124	159	272	202	154	154
24	175	136	93	101	72	101	124	159	272	180	154	154
25	175	136	93	101	75	101	128	240	272	164	154	154
26	175	136	93	104	75	101	128	305	272	159	154	154
27	175	136	93	104	75	101	128	305	272	159	154	154
28	175	136	93	104	119	101	128	305	288	154	154	154
29	175	136	93	104	------	108	128	288	305	154	154	154
30	175	136	93	104	------	120	128	288	305	154	154	154
31	175	------	93	89	------	120	------	288	------	154	154	-----

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	224	175	186	11,400
November	175	136	159	9,460
December	136	93	120	7,380
January	104	93	98.5	6,060
February	119	72	82.0	4,550
March	180	101	121	7,440
April	132	116	125	7,440
May	305	128	182	11,200
June	305	240	269	16,000
July	373	154	261	16,000
August	170	154	156	9,590
September	154	154	154	9,160
The year	373	72	160	116,000

DESCHUTES RIVER ABOVE DAVIS CREEK, NEAR LAPINE, OREG.

LOCATION.—Staff gage in SE. ¼ sec. 3, T. 22 S., R. 8 E., at wagon bridge at Graft ranch, half a mile above Davis Creek and 12 miles west of Lapine.

RECORDS AVAILABLE.—July, 1925, to September, 1930.

EXTREMES.—Maximum discharge during year, 666 second-feet July 10–12 (gage height, 1.5 feet); minimum, 358 second-feet Feb. 22–28 (gage height, 0.50 foot).

1925–1930: Maximum discharge, 806 second-feet Aug. 13, 14, Aug. 16 to Sept. 16, 1925 (gage height, 2.0 feet); minimum, that of Feb. 22–28, 1930.

Minimum known discharge, 334 second-feet Apr. 25, 1923, when gates in Crane Prairie Dam were closed.

REMARKS.—Records good. No diversions. Flow slightly regulated by storage in Crane Prairie Reservoir. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	522	488	445	395	375	485	415	421	570	586	445	433
2	522	488	445	395	378	476	415	421	570	586	445	433
3	507	488	445	395	378	476	439	421	538	586	445	433
4	507	488	445	395	378	473	439	421	538	586	445	433
5	507	488	445	398	378	457	439	424	538	570	451	436
6	507	488	445	400	375	433	439	427	538	570	457	439
7	507	488	445	400	375	427	439	427	538	570	451	439
8	507	488	457	403	375	427	439	433	538	634	445	439
9	507	488	470	398	378	433	433	439	538	618	445	439
10	507	488	470	395	373	430	427	445	538	666	445	439
11	507	482	464	383	380	430	427	451	570	666	445	436
12	507	479	476	396	380	433	427	451	570	666	445	433
13	507	476	457	380	378	415	421	451	570	650	442	430
14	507	476	470	386	375	409	415	451	554	634	442	427
15	507	476	470	386	375	406	415	457	554	634	442	424
16	504	476	457	386	375	403	415	451	554	602	442	424
17	501	476	451	380	369	398	412	451	554	570	445	427
18	498	476	476	380	364	392	412	451	554	570	445	427
19	498	476	415	380	364	392	415	451	554	554	451	427
20	498	470	415	375	364	392	412	457	554	538	451	427
21	495	470	412	364	364	392	415	457	554	538	451	427
22	495	445	409	364	358	392	418	457	554	522	445	424
23	492	445	406	375	358	392	421	457	554	501	445	421
24	492	445	398	375	358	392	421	457	554	479	442	430
25	492	445	398	375	358	392	421	522	570	470	439	427
26	492	445	395	378	358	392	421	602	570	457	436	427
27	492	445	395	380	358	392	424	602	570	451	436	427
28	492	445	395	380	358	392	421	602	554	451	436	427
29	492	445	395	380	------	392	421	602	570	454	436	427
30	492	445	395	378	------	415	421	586	586	457	436	427
31	488	------	395	375	------	415	------	570	------	454	436	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	522	488	502	30,900
November	488	445	471	28,000
December	476	395	434	26,700
January	403	364	385	23,700
February	380	358	370	20,500
March	485	392	418	25,700
April	439	412	423	25,200
May	602	421	475	29,200
June	586	538	556	33,100
July	666	451	558	34,300
August	457	436	444	27,300
September	439	421	430	25,600
The year	666	358	456	330,000

DESCHUTES RIVER AT PRINGLE FALLS, NEAR LAPINE, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 23, T. 21 S., R. 9 E., at head of Pringle Falls, 7 miles northwest of Lapine.

RECORDS AVAILABLE.—December, 1915, to June, 1917; June, 1922, to September, 1930.

EXTREMES.—Maximum discharge during year, 825 second-feet July 10–12 (gage height, 2.07 feet); minimum, 555 second-feet several days in January and February.

1915–1917, 1922–1930: Maximum discharge, 1,170 second-feet June 21–27, 29, 30, 1917; minimum, 540 second-feet Dec. 27, 1915.

REMARKS.—Records good except those estimated, Jan. 8–15, 21–23, Mar. 10–27, May 26 to June 9, Sept. 16–19, which are fair. No diversions. Flow slightly regulated by storage in Crane Prairie Reservoir. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	688	642	598	575	575	642	598	575		755	642	642
2	688	642	598	575	575	665	598	598		755	642	642
3	688	642	598	575	555	665	620	598		755	642	642
4	688	642	598	575	555	642	620	598		732	642	642
5	665	642	598	575	575	620	620	598	728	732	620	642
6	688	665	598	575	555	620	620	598		732	620	642
7	688	665	598	575	555	620	620	598		732	620	642
8	688	665	598	575	575	620	620	598		778	620	642
9	688	665	620		575	620	620	620		778	620	642
10	688	665	665		575		620	620	710	825	620	642
11	688	665	620		575		598	642	732	825	620	642
12	710	642	642	604	575		598	642	732	825	620	620
13	710	642	642		575		598	642	732	825	620	620
14	665	642	642		575		598	642	732	800	620	598
15	665	642	665		575		598	642	732	800	620	598
16	665	642	665	688	555		598	642	732	778	620	
17	665	642	642	665	555		598	642	732	778	620	598
18	665	642	688	665	555	595	598	642	710	755	620	
19	665	620	665	665	575		598	642	732	755	620	
20	665	620	620	665	575		575	642	732	732	620	598
21	665	620	598	660	575		598	642	732	732	620	598
22	642	620	598	655	555		598	688	710	710	620	598
23	642	620	598	650	555		575	642	710	710	620	598
24	642	620	598	642	555		575	642	710	688	620	598
25	642	620	575	620	555		575	665	732	665	620	598
26	642	620	575	598	555		575		732	665	620	575
27	642	620	575	598	555		575		732	642	620	575
28	642	620	575	598	555	575	598	770	732	642	620	575
29	642	620	575	575	------	575	598		755	642	642	575
30	642	620	575	575	------	598	598		755	642	642	575
31	642	------	575	575	------	598	------		------	642	642	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	710	642	668	41,100
November	665	620	638	38,000
December	688	575	612	37,600
January	688	----------	610	37,500
February	575	555	565	31,400
March	665	----------	605	37,200
April	620	575	599	35,600
May	----------	575	655	40,300
June	----------	----------	729	43,400
July	825	642	736	45,300
August	642	620	625	38,400
September	642	575	612	36,400
The year	825	555	638	462,000

DESCHUTES RIVER AT BENHAM FALLS, NEAR BEND, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 9, T. 19 S., R. 11 E., 50 yards above head of Benham Falls, 1½ miles below dam site for proposed Benham Falls Reservoir, and 10 miles southwest of Bend.

RECORDS AVAILABLE.—March, 1909, to September, 1914; August, 1920, to September, 1921; February, 1924, to September, 1930.

EXTREMES.—Maximum discharge recorded during year, 1,320 second-feet July 15 (gage height, 1.43 feet); minimum, 959 second-feet Sept. 26, 27 (gage height, 0.58 foot).

1909–1913, 1920–21, 1924–1930: Maximum discharge (estimated), 5,000 second-feet Nov. 27, 1909 (gage height not determined); minimum, 836 second-feet about Jan. 22, 1927 (gage height, 0.24 foot).

REMARKS.—Records good except those estimated, which are fair. Minor diversions for irrigation above station. Some regulation caused by storage in Crane Prairie and Crescent Lake Reservoirs. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	1,040	996	1,060			1,110	1,130	1,210		1,080	982
2	1,060	1,040	996	1,060			1,100	1,120	1,210		1,070	976
3	1,060	1,040	996	1,040			1,100	1,100	1,210		1,070	972
4	1,060	1,040	996	1,040	[a] 1,100		1,110	1,090	1,180		1,070	965
5	1,060	1,040	996	1,030			1,110	1,090	1,180		1,060	962
6	1,060	1,040	996	1,010			1,110	1,080	1,160		1,060	962
7	1,060	1,040	993	990			1,120	1,080	1,160		1,060	962
8	1,060	1,040	1,000		1,160		1,120	1,070	1,150	[a] 1,330	1,050	965
9	1,060	1,040	1,030		1,180	[a] 1,130	1,120	1,060	1,150		1,050	972
10	1,060	1,030	1,090		1,210		1,120	1,110	1,150		1,060	976
11	1,060	1,040	1,090		1,230		1,110	1,090	1,150		1,060	976
12	1,080	1,030	1,110		1,250		1,110	1,080	1,160		1,060	976
13	1,080	1,020	1,160		1,250		1,100	1,090	1,160		1,060	976
14	1,070	1,020	1,150		1,250		1,100	1,080	1,210		1,050	972
15	1,040	1,020	1,160		1,230		1,090	1,080	1,230	1,290	1,040	972
16	1,040	1,020	1,210		1,230		1,100	1,080	1,230	1,290	1,040	972
17	1,040	1,020	1,210		1,210	1,060	1,100	1,080	1,230	1,290	1,040	972
18	1,040	1,020	1,230	[a] 965	1,210	1,070	1,100	1,070	1,230	1,270	1,040	972
19	1,040	1,020	1,270		1,210	1,070	1,100	1,060	1,230	1,250	1,040	968
20	1,040	993	1,270		1,210	1,070	1,100	1,060	1,250	1,230	1,040	965
21	1,040	996	1,270		1,210	1,070	1,100	1,060	1,270	1,210	1,030	965
22	1,040	990	1,270		1,210	1,070	1,100	1,070	1,270	1,180	1,030	965
23	1,040	1,010	1,270		1,180	1,080	1,100	1,110	1,270	1,160	1,020	962
24	1,040	1,000	1,250		1,160	1,080	1,100	1,090		1,150	1,020	962
25	1,040	1,000	1,180		1,150	1,080	1,100	1,080		1,130	1,010	965
26	1,040	1,000	1,150		1,130	1,080	1,100	1,110	[a] 1,310	1,120	1,010	962
27	1,040	1,000	1,100		1,120	1,080	1,100	1,210		1,110	1,000	962
28	1,040	1,000	1,080	1,020	[a] 1,110	1,080	1,110	1,210		1,100	1,000	965
29	1,040	1,000	1,050	[a] 1,040		1,080	1,120	1,210		1,100	993	965
30	1,040	1,000	1,060	[a] 1,040		1,080	1,130	1,210		1,090	990	962
31	1,040		1,060	[a] 1,040		1,110		1,210		1,080	986	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,080	1,040	1,050	64,600
November	1,040	990	1,020	60,700
December	1,270	993	1,120	68,900
January	1,060		989	60,800
February	1,250		1,170	65,000
March		1,060	1,100	67,600
April	1,130	1,090	1,110	66,000
May	1,210	1,060	1,110	68,200
June		1,150	1,230	73,200
July		1,080	1,250	76,900
August	1,080	986	1,040	64,000
September	982	962	968	57,600
The year			1,090	794,600

[a] Estimated.

DESCHUTES RIVER BELOW LAVA ISLAND, NEAR BEND, OREG.

LOCATION.—Water-stage recorder in SW. ¼ sec. 23, T. 18 S., R. 11 E., three-fourths mile below Lava Island, 1 mile below intake of Arnold Canal, and 6 miles southwest of Bend.

RECORDS AVAILABLE.—March, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,300 second-feet July 9, 11–14 (gage height, 1.13 feet); minimum, 832 second-feet Sept. 20, 21, 23–27 (gage height, 0.57 foot).

1926–1930: Maximum discharge, 1,780 second-feet Jan. 3, 1928 (gage height, 1.55 feet); minimum, 830 second-feet Dec. 24, 1926.

REMARKS.—Records good except those estimated Jan. 10–30, which are fair. Arnold Canal diverts water for irrigation above station. Flow regulated by storage in Crescent Lake and Crane Prairie Reservoirs. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	889	882	889	915	985	994	932	932	1,040	1,210	1,030	863
2	889	889	896	915	932	1,070	932	924	1,040	1,200	1,020	863
3	882	882	896	915	884	1,100	967	900	1,050	1,200	1,020	856
4	882	876	876	945	868	1,140	1,000	892	1,050	1,180	1,020	850
5	882	882	844	945	900	1,110	1,000	884	1,040	1,220	998	850
6	882	882	850	922	940	1,030	1,010	868	1,030	1,240	945	850
7	882	889	870	902	949	1,000	1,020	868	1,020	1,240	945	850
8	896	882	896	855	1,010	994	1,020	860	1,000	1,250	945	850
9	922	896	896	[a] 820	1,050	1,000	1,020	868	1,000	1,260	938	856
10	945	938	968		1,090	1,030	1,020	908	1,010	1,210	945	856
11	945	930	1,010		1,140	1,030	[a] 1,000	900	1,020	1,300	945	856
12	968	876	1,030		1,150	1,030	994	892	1,020	1,300	945	856
13	975	882	1,080		1,160	1,030	976	900	1,020	1,300	945	850
14	952	922	1,090		1,170	1,010	958	892	1,080	1,250	930	850
15	915	922	1,090		1,160	1,000	940	892	1,110	1,250	930	844
16	945	922	1,120		1,160	985	916	884	1,110	1,250	922	844
17	938	938	1,140		1,150	976	924	884	1,090	1,200	915	850
18	938	938	1,160		1,140	976	924	876	1,090	1,200	915	844
19	930	922	1,200		1,140	985	916	876	1,110	1,160	922	838
20	922	915	1,200	[a] 910	1,130	985	900	876	1,150	1,150	915	832
21	930	896	1,200		1,130	985	892	892	1,150	1,140	915	832
22	[a] 940	889	1,200		1,130	976	892	900	1,160	1,160	908	838
23	[a] 920	908	1,200		1,120	976	892	1,010	1,150	1,150	902	832
24	[a] 902	896	1,200		1,100	976	900	1,010	1,150	1,130	902	832
25	902	896	1,120		1,080	976	908	994	1,170	1,100	896	832
26	902	896	1,090		1,040	976	900	1,000	1,180	1,050	882	832
27	896	896	1,030		1,030	967	916	1,060	1,200	1,010	882	832
28	896	896	982		1,000	967	924	1,040	1,180	1,010	882	838
29	896	889	952		-------	967	924	1,050	1,170	990	876	838
30	889	889	930		-------	924	940	1,050	1,200	975	870	844
31	889	-------	915	976	-------	940	-------	1,040	-------	975	870	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	975	882	914	56,200
November	938	876	901	53,600
December	1,200	844	1,030	63,300
January	----------	820	[a] 910	56,000
February	1,170	868	1,060	58,900
March	1,140	924	1,000	61,500
April	1,020	892	949	56,500
May	1,060	860	930	57,200
June	1,200	1,000	1,090	64,900
July	1,300	975	1,170	71,900
August	1,030	870	931	57,200
September	863	832	845	50,300
The year	1,300	832	978	708,000

[a] Estimated.

DESCHUTES RIVER BELOW BEND, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 20, T. 17 S., R. 12 E., half a mile below North Canal Dam and 2 miles north of Bend.

RECORDS AVAILABLE.—November, 1914, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,210 second-feet Dec. 24 (gage height, 2.04 feet); minimum, 1 second-foot Aug. 25 (gage height, −0.42 foot).

1914–1930: Maximum discharge, 2,500 second-feet Dec. 7, 1921 (gage height, 2.90 feet); minimum, that of Aug. 25, 1930.

Maximum discharge of river in this vicinity since 1905, 4,820 second-feet Nov. 27, 1909.

REMARKS.—Records good except those estimated because of ice, Jan. 7–10, 12–24, 26–30, and Feb. 2, 3, which are fair. Six large canals divert above station. Flow regulated by hydroelectric plant at Bend and storage in Crescent Lake and Crane Prairie Reservoirs. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	487	809	827	752	645	615	193	180	169	84	139
2	139	474	800	881	694	660	448	176	176	165	113	169
3	150	585	827	720	636	675	448	176	184	161	119	165
4	158	776	908	660	578	705	448	154	189	154	122	165
5	146	514	854	668	660	776	448	150	189	150	102	154
6	150	507	854	675	728	1,020	442	146	172	146	10	158
7	146	468	854	665	890	953	399	146	165	143	3	161
8	176	454	720	660	854	926	281	146	154	146	3	165
9	197	448	698	670	845	917	210	161	143	176	4	161
10	260	698	744	710	881	944	176	193	154	116	3	165
11	232	845	776	751	926	935	165	176	161	165	3	161
12	317	776	935		998	917	158	165	161	197	3	154
13	500	563	1,040		1,100	917	133	155	158	184	3	150
14	468	514	1,020		1,100	917	105	165	184	165	3	150
15	146	630	998		1,090	926	110	165	169	143	3	143
16	165	608	1,050		1,080	980	122	165	176	143	20	146
17	165	720	1,080		1,080	998	165	169	161	139	3	158
18	223	845	1,120	817	1,080	1,010	154	146	150	139	2	150
19	454	827	1,050		1,080	1,020	150	169	158	122	2	143
20	454	872	1,060		1,060	1,010	139	143	176	146	2	136
21	448	863	1,070		1,060	989	139	130	172	133	93	139
22	454	881	1,080		1,060	989	146	172	172	176	139	136
23	411	908	1,050		1,060	980	143	237	169	197	210	133
24	393	908	1,090		1,020	962	150	218	169	189	124	119
25	405	827	1,110	904	953	944	161	201	180	146	122	130
26	399	660	1,090		935	935	165	193	165	154	158	127
27	399	608	1,050		962	935	165	242	176	80	154	127
28	387	578	980	904	971	917	176	193	180	80	154	133
29	387	578	944		------	899	184	189	161	71	150	136
30	442	645	908		------	845	193	193	165	19	139	136
31	480	------	863	863	------	863	------	172	------	3	139	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	500	139	304	18,700
November	908	448	669	39,800
December	1,120	698	949	58,400
January		660	800	49,200
February	1,100	578	933	51,800
March	1,020	645	907	55,800
April	615	105	231	13,700
May	242	130	174	10,700
June	180	143	169	10,100
July	197	3	139	8,550
August	210	2	70.6	4,340
September	169	119	147	8,750
The year	1,120	2	456	330,000

DESCHUTES RIVER NEAR MADRAS, OREG.

LOCATION.—Water-stage recorder 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.

RECORDS AVAILABLE.—December, 1923, to September, 1930.

EXTREMES.—Maximum discharge during year, 6,190 second-feet Feb. 15 (gage height, 3.02 feet); minimum, 3,070 second-feet Aug. 2 (gage height, 0.18 foot).

1923–1930: Maximum discharge, 10,700 second-feet Feb. 6, 1925 (gage height, 6.54 feet); minimum, that of Aug. 2, 1930.

REMARKS.—Records excellent. Discharge estimated Dec. 1–3, Jan. 25–28, Mar. 2–6. Diversions for irrigation near Bend and Prineville. Gage-height record furnished by Columbia Valley Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,380	3,710	4,020	4,300	4,460	4,580	4,580	3,520	3,460	3,420	3,270	3,300
2	3,360	3,710	4,130	4,300	4,580		4,180	3,560	3,470	3,410	3,240	3,300
3	3,360	3,660	4,080	4,300	4,350		4,080	3,560	3,440	3,400	3,300	3,320
4	3,380	3,860	4,130	4,130	4,240	4,500	4,130	3,520	3,440	3,400	3,310	3,330
5	3,390	3,910	4,130	4,130	4,460		4,130	3,510	3,440	3,390	3,340	3,320
6	3,370	3,710	4,180	4,080	4,700		4,080	3,490	3,460	3,390	3,340	3,310
7	3,380	3,660	4,130	4,180	5,190	4,700	4,020	3,480	3,500	3,390	3,310	3,290
8	3,380	3,710	4,130	4,180	5,190	4,580	4,020	3,480	3,500	3,380	3,280	3,310
9	3,400	3,710	4,240	4,180	5,060	4,580	3,860	3,460	3,480	3,390	3,250	3,300
10	3,390	3,760	4,240	4,020	5,060	4,580	3,810	3,460	3,480	3,400	3,250	3,330
11	3,460	4,080	4,240	4,020	5,060	4,580	3,760	3,490	3,500	3,370	3,250	3,340
12	3,470	3,960	4,240	4,020	4,060	4,580	3,710	3,510	3,480	3,400	3,250	3,330
13	3,560	3,710	4,580	4,020	5,320	4,580	3,710	3,520	3,440	3,450	3,250	3,320
14	3,710	3,760	4,700	4,130	5,440	4,580	3,660	3,560	3,420	3,430	3,240	3,310
15	3,660	3,860	4,700	4,130	5,820	4,580	3,610	3,560	3,410	3,390	3,250	3,320
16	3,410	3,910	4,580	4,180	5,940	4,580	3,560	3,560	3,470	3,380	3,230	3,320
17	3,390	3,860	4,580	4,130	4,940	4,580	3,520	3,520	3,480	3,350	3,230	3,330
18	3,400	4,130	5,060	4,180	4,820	5,580	3,560	3,510	3,450	3,350	3,260	3,340
19	3,460	4,130	5,690	4,240	4,940	4,580	3,560	3,520	3,440	3,350	3,270	3,310
20	3,660	4,130	5,190	4,130	5,060	4,580	3,560	3,560	3,440	3,340	3,240	3,310
21	3,660	4,130	4,940	4,180	5,690	4,580	3,560	3,560	3,450	3,350	3,230	3,310
22	3,660	4,180	4,940	4,180	5,560	4,700	3,560	3,520	3,430	3,350	3,230	3,310
23	3,660	4,180	4,940	4,180	5,320	4,700	3,610	3,520	3,430	3,380	3,280	3,280
24	3,610	4,240	4,700	4,240	5,190	4,700	3,560	3,560	3,420	3,400	3,390	3,290
25	3,610	4,240	4,820	4,300	5,060	4,580	3,520	3,560	3,420	3,390	3,340	3,270
26	3,610	4,080	4,700	4,300	4,820	4,580	3,560	3,520	3,430	3,350	3,300	3,280
27	3,660	3,960	4,700	4,300	4,820	4,580	3,520	3,520	3,420	3,330	3,330	3,290
28	3,610	3,910	4,580	4,400	4,820	4,700	3,510	3,560	3,410	3,300	3,330	3,300
29	3,610	3,910	4,460	4,460	-------	4,700	3,510	3,520	3,400	3,300	3,330	3,290
30	3,610	3,910	4,460	4,460	-------	4,580	3,520	3,500	3,400	3,300	3,310	3,320
31	3,660	-------	4,350	4,460	-------	4,580	-------	3,480	-------	3,300	3,300	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,710	3,360	3,510	216,000
November	4,240	3,660	3,920	233,000
December	5,690	4,020	4,530	279,000
January	4,460	4,020	4,210	259,000
February	5,940	4,240	5,030	279,000
March	4,700	-------	4,590	282,000
April	4,580	3,510	3,750	223,000
May	3,560	3,460	3,520	216,000
June	3,500	3,400	3,450	205,000
July	3,450	3,300	3,370	207,000
August	3,390	3,230	3,280	202,000
September	3,340	3,270	3,310	197,000
The year	5,940	3,230	3,870	2,800,000

DESCHUTES RIVER AT SHERARS BRIDGE, OREG.

LOCATION.—Staff gage in NE. ¼ sec. 3, T. 4 S., R. 14 E., half a mile above Sherars Bridge and 44 miles above mouth of river.

RECORDS AVAILABLE.—February, 1912, to September, 1914 (stage only); June, 1923, to September, 1930; incomplete.

EXTREMES.—Maximum discharge, 8,650 second-feet Feb. 2 (gage height, 3.20 feet); minimum, 3,530 second-feet Aug. 18, 22 (gage height, 0.56 foot).

1923–1930: Maximum discharge (estimated), 32,000 second-feet Feb.21, 1927; minimum, that of Aug. 18, 22, 1930.

REMARKS.—Records good. Diversions for irrigation near Bend and Prineville. Gage-height record furnished by Deschutes Falls Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,660	4,040	4,160	4,930	6,880	5,810	6,070	4,290	4,040	3,760	3,590	3,600
2	3,660	4,040	4,500	5,030	8,050	5,810	5,810	4,290	4,040	3,780	3,570	3,590
3	3,650	3,980	4,430	4,930	7,170	5,340	5,240	4,290	3,980	3,760	3,560	3,570
4	3,650	3,980	4,430	4,930	6,330	5,340	5,340	4,220	4,040	3,760	3,610	3,600
5	3,650	4,360	4,580	4,660	6,880	5,570	5,240	4,160	4,040	3,730	3,620	3,620
6	3,650	4,040	4,580	4,580	6,880	5,340	5,240	4,160	3,980	3,730	3,650	3,620
7	3,650	4,040	4,580	4,500	6,330	5,570	5,130	4,100	3,980	3,730	3,630	3,590
8	3,660	4,040	4,580	4,500	6,880	5,570	5,340	4,040	4,040	3,710	3,590	3,590
9	3,670	3,980	4,580	4,430	6,330	5,340	5,130	4,040	3,980	3,710	3,570	3,590
10	3,680	3,980	4,840	4,360	6,330	5,340	4,930	4,040	3,980	3,710	3,560	3,600
11	3,700	4,500	4,750	4,360	6,880	5,340	4,840	4,040	3,980	3,740	3,560	3,630
12	3,710	4,430	4,750	4,360	6,600	5,340	4,750	3,980	3,930	3,670	3,560	3,610
13	3,730	4,290	4,840	4,430	6,600	5,340	4,750	4,100	3,910	3,740	3,560	3,600
14	4,040	4,040	5,240	4,500	7,170	5,570	4,750	4,290	3,850	3,760	3,550	3,600
15	3,980	4,160	5,570	4,580	7,460	5,340	4,660	4,290	3,830	3,710	3,550	3,600
16	3,890	4,290	5,340	4,580	7,750	5,340	4,500	4,290	3,890	3,700	3,550	3,600
17	3,700	4,220	5,240	4,580	7,170	5,340	4,500	4,290	3,890	3,650	3,540	3,620
18	3,670	4,580	5,570	4,580	6,880	5,340	4,430	4,160	3,850	3,650	3,530	3,620
19	3,660	4,500	6,330	4,660	7,170	5,340	4,430	4,160	3,830	3,650	3,600	3,630
20	3,910	4,500	6,330	4,580	7,750	5,340	4,500	4,290	3,830	3,650	3,560	3,620
21	3,930	4,430	5,810	4,750	7,460	5,340	4,580	4,290	3,830	3,650	3,540	3,590
22	3,930	4,430	5,810	4,840	7,170	5,570	4,750	4,290	3,830	3,650	3,530	3,560
23	3,930	4,580	6,330	4,660	6,880	5,810	4,660	4,290	3,810	3,650	3,540	3,550
24	3,910	4,580	5,810	4,660	6,600	5,810	4,580	4,220	3,790	3,700	3,620	3,550
25	3,890	4,580	5,810	4,750	6,330	5,810	4,500	4,220	3,790	3,680	3,630	3,560
26	3,890	4,580	6,070	4,750	6,330	5,810	4,500	4,160	3,790	3,680	3,630	3,550
27	3,910	4,430	5,570	4,750	6,070	5,810	4,430	4,160	3,780	3,630	3,600	3,570
28	3,930	4,360	5,340	4,750	5,810	6,070	4,430	4,220	3,740	3,630	3,620	3,590
29	3,930	4,290	5,240	4,840	-------	6,070	4,360	4,100	3,710	3,610	3,630	3,570
30	3,930	4,290	5,130	5,030	-------	6,070	4,290	4,100	3,780	3,600	3,620	3,570
31	3,930	-------	5,030	5,130	-------	5,810	-------	4,040	-------	3,590	3,600	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	4,040	3,650	3,800	234,000
November	4,580	3,980	4,280	255,000
December	6,330	4,160	5,200	320,000
January	5,130	4,360	4,680	288,000
February	8,050	5,810	6,860	381,000
March	6,070	5,340	5,570	342,000
April	6,070	4,290	4,820	287,000
May	4,290	3,980	4,180	257,000
June	4,040	3,710	3,890	231,400
July	3,780	3,590	3,690	227,000
August	3,650	3,530	3,580	220,000
September	3,630	3,550	3,590	214,000
The year	8,050	3,530	4,500	3,260,000

DESCHUTES RIVER AT MOODY, NEAR BIGGS, OREG.

LOCATION.—Staff gage replaced in July by water-stage recorder in SE. ¼ sec. 26, T. 2. N., R. 15 E., at Moody, 1½ miles above mouth and 5 miles southwest of Biggs. Zero of gage 167.12 feet above mean sea level.

DRAINAGE AREA.—9,180 square miles.

RECORDS AVAILABLE.—July, 1906, to September, 1930.

EXTREMES.—Maximum discharge during year, 8,550 second-feet Feb. 2 (gage height, 3.7 feet); minimum, 3,520 second-feet Aug. 13–18, 22, 23 (gage height, 2.13 feet).

1906–1930: Maximum discharge, 43,600 second-feet Jan. 7, 1923 (gage height, 10.2 feet); minimum, 3,510 second-feet Aug. 23–28, 1920 (gage height, 1.9 feet).

REMARKS.—Records excellent. Diversions for irrigation in upper river basin. Gage-height record furnished by Eastern Oregon Land Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,750	4,060	4,190	5,030	5,340	5,820	5,650	4,190	4,060	3,750	3,630	3,610
2	3,750	4,060	4,190	4,740	8,550	5,180	5,650	4,190	3,990	3,750	3,610	3,630
3	3,820	4,190	4,320	4,740	8,150	5,030	5,030	4,320	3,990	3,750	3,590	3,630
4	3,820	4,190	4,320	4,740	6,330	5,030	5,030	4,140	3,990	3,750	3,630	3,660
5	3,820	4,190	4,460	4,600	7,380	5,180	5,030	4,140	3,990	3,700	3,610	3,660
6	3,820	4,190	4,460	4,600	7,020	5,340	5,030	4,060	3,940	3,700	3,610	3,660
7	3,820	4,190	4,460	4,460	7,020	5,500	5,030	4,060	3,940	3,700	3,610	3,630
8	3,820	4,190	4,600	4,460	7,020	5,340	5,030	4,060	3,940	3,700	3,610	3,610
9	3,820	4,190	4,600	4,460	6,500	5,340	5,030	3,990	3,940	3,700	3,610	3,660
10	3,820	4,190	4,740	4,460	6,330	5,180	4,880	3,990	3,940	3,700	3,610	3,660
11	3,820	4,190	5,030	4,320	6,330	5,180	4,740	3,940	3,940	3,750	3,590	3,610
12	3,820	4,190	5,180	4,320	5,500	5,180	4,740	3,940	3,940	3,750	3,570	3,680
13	3,820	4,190	5,340	4,320	6,670	5,340	4,740	3 990	3 890	3 820	3,550	3,680
14	3,890	4,190	5,500	4,460	7,200	5,180	4,740	4,060	3,890	3,820	3,550	3,630
15	3,890	4,190	5,500	4,460	7,380	5,180	4,600	4,190	3,890	3,750	3,550	3,630
16	3,890	4,190	5,500	4,460	7,380	5,030	4,460	4,190	3,890	3,700	3,550	3,630
17	3,890	4,190	5,650	4,460	7,380	5,030	4,460	4,190	3,890	3,700	3,550	3,630
18	3,890	4,190	5,650	4,460	7,020	5,030	4,460	4,140	3,890	3,700	3,550	3,630
19	3,890	4,190	5,650	4,320	7,200	5,030	4,320	4,140	3,820	3,700	3,590	3,630
20	3,890	4,320	5,820	4,320	7,570	5,180	4,320	4,140	3,820	3,700	3,610	3,630
21	3,890	4,320	5,820	4,320	7,760	5,180	4,320	4,190	3,820	3,720	3,570	3,630
22	3,890	4,460	5,820	4,460	7,380	5,340	4,460	4,190	3,820	3,720	3,550	3,630
23	3,940	4,460	5,990	4,460	7,020	5,340	4,460	4,190	3,820	3,720	3,550	3,630
24	3,940	4,460	5,990	4,460	6,500	5,500	4,460	4,190	3,820	3,720	3,610	3,630
25	3,940	4,460	5,990	4,600	6,330	5,650	4,460	4,140	3,820	3,750	3,700	3,630
26	3,940	4,320	5,990	4,600	6,160	5,650	4,320	4,140	3,820	3,750	3,660	3,610
27	3,990	4,320	5,650	4,600	6,160	5,500	4,320	4,140	3,890	3,720	3,590	3,630
28	3,990	4,320	5,650	4,740	5,820	5,820	4,320	4,060	3,820	3,700	3,630	3,660
29	3,990	4,190	5,340	4,880	-------	5,990	4,320	4,060	3,820	3,660	3,630	3,660
30	4,060	4,190	5,340	4,880	-------	5,820	4,320	4,060	3,820	3,660	3,630	3,630
31	4,060	-------	5,180	5,030	-------	5,820	-------	4,060	-------	3,660	3,630	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	4,060	3,750	3,880	239,000
November	4,460	4,060	4,240	252,000
December	5,990	4,190	5,220	321,000
January	5,030	4,320	4,560	280,000
February	8,550	5,340	6,910	384,000
March	5,990	5,030	5,350	329,000
April	5,650	4,320	4,690	279,000
May	4,320	3,940	4,110	253,000
June	4,060	3,820	3,900	232,000
July	3,820	3,660	3,720	229,000
August	3,700	3,550	3,600	221,000
September	3,680	3,610	3,640	217,000
The year	8,550	3,550	4,470	3,240,000

LITTLE DESCHUTES RIVER NEAR LAPINE, OREG.

LOCATION.—Staff gage in sec. 2, T. 22 S., R. 10 E., at former town of Rosland, 1½ miles north of Lapine.

RECORDS AVAILABLE.—September, 1910, to October, 1913, incomplete; June to November, 1918; August to October, 1920; May, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 404 second-feet Dec. 20 (gage height, 3.17 feet); minimum, 29 second-feet Sept. 20–23 (gage height, 0.09 foot).

1910–1913, 1918, 1920, 1924–1930: Maximum discharge, 760 second-feet about June 12, 1912; maximum gage height, 4.98 feet May 21, 1927; minimum discharge, 28 second-feet June 7, 1926.

REMARKS.—Records excellent except those estimated, which are fair. Small diversions for irrigation above station. Flow regulated by storage in Crescent Lake Reservoir. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	42	43	150	202	167	150	167	131	231	150	46
2	48		41	144	214	179	150	156	132	231	150	40
3	48		43	131	226	e 177	144	144	134	231	144	35
4			44		267	e 175	144	139	134	231	144	36
5		e 41	37		286	173	150	139	132	226	137	37
6	e 51		41		307	167	150	135	130	226	134	38
7			38		328	167	150	131	125	220	128	38
8		40	49		350	161	150	130	119	220	125	38
9	54	38	50		335	156	156	127	118	220	126	38
10	55	41	78		358	156	150	126	118	220	135	39
11	53	41	134		328	150	150	126	116	214	131	40
12	52	38	174		293	150	144	119	139	220	129	44
13	52	40	162		280	150	144	117	185	208	120	42
14	50	43	145		286	150	144	116	197	202	115	39
15	49	46	193		293	139	156	115	185	208	113	36
16	48	47	258	e 70	293	134	161	116	185	208	109	35
17	49	46	220		280	139	156	115	185	202	106	34
18		53	180		267	139	150	110	202	191	103	32
19		49	282		261	144	150	108	226	185	103	30
20		38	380		274	131	150	106	237	185	105	30
21	e 52	46	380		280	128	144	109	237	179	104	30
22		41	380		267	136	150	122	231	179	100	30
23		41	314		249	144	156	126	249	167	97	30
24	56	41	255		231	150	156	115	e 255	150	93	30
25		49	237		202	144	156	110	261	161	85	31
26		41	202		e 190	150	161	117	261	161	83	31
27		44	179		e 180	150	161	119	255	161	78	32
28	e 49	44	156		e 170	156	173	118	243	161	71	32
29		43	161		------	156	191	119	237	156	66	33
30		43	156	179	------	161	179	128	237	156	63	33
31		------	156	197	------	156	------	132	------	150	58	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	------	------	50.7	3,120
November	53	38	42.7	2,540
December	380	37	167	10,300
January	197	------	84.5	5,200
February	358	170	268	14,900
March	179	128	153	9,410
April	191	144	154	9,160
May	167	106	124	7,620
June	261	116	187	11,100
July	231	150	195	12,000
August	150	58	110	6,760
September	46	30	35.3	2,100
The year	380	30	130	94,200

e Estimated.

CRESCENT LAKE RESERVOIR NEAR CRESCENT, OREG.

LOCATION.—Staff gage at dam in sec. 11, T. 24 S., R. 6 E., 14 miles west of Crescent. Zero of gage 4,826.0 feet above mean sea level; published elevations are referred to mean sea-level datum.

RECORDS AVAILABLE.—August, 1922, to September, 1930.

EXTREMES.—Maximum elevation during year, 4,837.09 feet May 24 (contents, 37,500 acre-feet); minimum, 4,830.76 feet Aug. 29, 30 (contents, 15,740 acre feet).

1922–1930: Maximum elevation, 4,845.55 feet July 15, 1923 (contents, 67,760 acre-feet); minimum, that of Aug. 29, 30, 1930.

REMARKS.—Water stored in Crescent Lake Reservoir is used by Deschutes County Municipal Improvement District through its canal diverting from Deschutes River at Bend. Gates in dam were opened May 24 and closed Aug. 29. Records furnished by State engineer.

Monthly elevation and contents of Crescent Lake Reservoir near Crescent, Oreg., 1929–30

Date	Elevation in feet	Contents in acre-feet	Change in contents in acre-feet	Date	Elevation in feet	Contents in acre-feet	Change in contents in acre-feet
Sept. 30	4,833.12	24,420		May 31		• 37,350	+1,060
Oct. 31		• 24,950	+530	June 30	4,834.88	29,790	−7,560
Nov. 30	4,833.26	24,900	−50	July 31		• 19,720	−10,070
Dec. 31		• 30,520	+5,620	Aug. 31		• 15,740	−3,980
Jan. 31		• 31,530	+1,010	Sept. 30		• 15,740	0
Feb. 28		• 34,480	+2,950				
Mar. 31		• 34,750	+270	The year			−8,680
Apr. 30		• 36,290	+1,540				

• Estimated from discharge of Crescent Creek or from gage readings made about once a week.

CRESCENT CREEK AT CRESCENT LAKE, NEAR CRESCENT, OREG.

LOCATION.—Water-stage recorder in sec. 11, T. 24 S., R. 6 E., 100 yards below dam at outlet of Crescent Lake and 14 miles west of Crescent.

RECORDS AVAILABLE.—January, 1911, to July, 1915; July, 1927, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 241 second-feet June 25 (gage height, 2.37 feet); no flow Oct. 25 to May 23.

1911–1915, 1927–1930: Maximum discharge, 313 second-feet July 9, 1929 (gage height, 2.73 feet); no flow at times.

REMARKS.—Records fair in October; good, May to August. Flow regulated by storage in Crescent Lake Reservoir, this storage being released May 24 to Aug. 29 for Deschutes County Municipal Improvement District Canal near Bend. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	May	June	July	Aug.
1		0	22	199	120
2		0	23	199	116
3		0	23	194	112
4		0	23	192	108
5		0	23	188	106
6		0	20	184	102
7		0	18	184	100
8		0	18	190	100
9		0	18	184	100
10	2	0	23	180	98
11		0	110	192	96
12		0	129	155	91
13		0	118	184	88
14		0	119	184	85
15		0	119	180	81
16		0	129	168	77
17		0	154	157	75
18		0	168	149	71
19		0	168	147	68
20	4	0	162	146	66
21	9	0	192	140	64
22	9	0	222	117	62
23	9	0	226	136	60
24	4	8	230	141	57
25	0	22	224	140	56
26	0	22	207	134	54
27	0	22	205	131	53
28	0	23	205	131	51
29	0	23	205	127	29
30	0	22	203	122	0
31	0	22		121	0

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	9	0	2.4	148
May	23	0	5.3	326
June	230	18	124	7,380
July	199	117	161	9,900
August	120	0	75.7	4,650
The year	230	0	30.9	22,400

NOTE.—Creek dry during months for which no discharge is given.

DIVERSIONS FROM DESCHUTES RIVER NEAR BEND, OREG.

The following canals divert from Deschutes River between the gaging station at Benham Falls and the station below Bend: Arnold Canal diverts from right bank of Deschutes River at head of Lava Island, in SW. ¼ sec. 27, T. 18 S., R. 11 E.; water used for irrigation of lands southeast of Bend. Central Oregon Canal diverts on right bank in NE. ¼ sec. 13, T. 18 S., R. 11 E.; water used for irrigation of lands east of Bend. Pilot Butte Canal diverts in NE. ¼ sec. 17, T. 18 S., R. 12 E., from Central Oregon Canal above Central Oregon Canal gage; water used for irrigation of lands east and northeast of Bend. Deschutes County Municipal Improvement District Canal diverts from left bank in NE. ¼ sec. 32, T. 17 S., R. 12 E., at Bend; water used to supplement flow of Tumalo project feed canal for irrigation of lands near Tumalo; water stored at Crescent Lake Reservoir is diverted by this canal. North and Swalley Canals divert from right bank in NE. ¼ sec. 29, T. 17 S., R. 12 E.; water used to irrigate lands north of Bend, mostly near Redmond. No other diversions between gaging stations at Benham Falls and below Bend.

Records available from October, 1926, to September, 1930; records for these canals published separately prior to 1926. Records furnished by State engineer.

Monthly diversions, in acre-feet, from Deschutes River near Bend, Oreg., 1929–30

Month	Arnold Canal	Central Oregon Canal	Pilot Butte Canal	Deschutes County Municipal Improvement District Canal	North Canal	Swalley Canal	Total
October	2,310	10,100	416	5,230	20,600	2,710	41,366
November	1,340	6,370	86	3,430	3,870	940	16,036
December	[a] 566	1,760	53	1,250	1,810	307	5,746
January	[a] 197	1,720	73	935	228	[a] 12	3,165
February	[a] 444	2,080	94	528	1,590	811	5,547
March	[a] 609	1,750	60	2,310	1,680	307	6,716
April	2,640	17,100	613	1,810	20,500	2,720	45,383
May	4,490	20,100	916	0	21,800	4,100	51,406
June	3,270	21,500	988	3,650	22,800	4,360	56,568
July	2,370	22,300	892	8,420	22,800	4,940	61,722
August	3,210	20,800	738	4,450	20,400	4,030	53,628
September	3,780	18,000	464	60	18,400	3,250	43,954
The year	25,226	143,580	5,393	32,073	156,478	28,487	391,237

[a] Estimated.

TUMALO CREEK NEAR BEND, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 23, T. 17 S., R. 11 E., one-fourth mile above diversion dam of feed canal of Tumalo project, 4 miles above mouth, and 4 miles northwest of Bend.

DRAINAGE AREA.—57 square miles.

RECORDS AVAILABLE.—November, 1913, to September, 1930; also during winters from October, 1906, to April, 1913, except 1909 and 1910.

EXTREMES.—Maximum discharge during year, 349 second-feet Dec. 19 (gage height, 2.33 feet); minimum, 24 second-feet Nov. 11 (gage height, 0.97 foot). 1906–1908, 1911–1930: Maximum discharge, 1,420 second-feet about Jan. 6, 1923 (gage height, 4.55 feet); minimum, 4.0 second-feet Oct. 28, 1922 (gage height, 0.55 foot).

REMARKS.—Records good except those estimated, which are fair. Columbia Southern Canal diverts above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	61	59	62	e 110	e 95	77	104	92	70	41	34
2	58	59	58	61	e 113	94	81	108	91	77	40	32
3	58	56	59	61	e 114	87	86	102	92	77	41	33
4	58	58	58	61	e 112	77	83	97	86	81	40	35
5	58	56	59	62	e 110	67	81	97	110	78	41	50
6	58	56	59		78	64	92	97	164	75	42	51
7	58	56	58		71	63	97	87	178	77	41	49
8	62	46	61		75	62	110	83	178	87	51	50
9	64	30	72		70	60	97	81	164	84	60	53
10	59	29	73		73	60	73	80	178	75	59	65
11	58	31	64		77	62	74	83	193	71	56	57
12	56	50	70		75	64	78	95	140	74	55	37
13	55	46	79		78	63	84	99	115	78	57	37
14	52	32	97		83	62	87	108	110	78	54	37
15	33	32	109		86	62	108	108	118	71	39	37
16	32	30	103		84	63	108	110	135	67	41	37
17	31	30	91		81	63	108	120	122	60	38	39
18	32	30	144	e 56	81	62	111	111	104	44	41	37
19	33		223		86	62	120	132	94	42	43	42
20	33		118		87	62	132	140	e 90	43	40	54
21	31	e 45	93		83	63	152	106	106	44	38	54
22	32		82		81	63	164	97	110	46	46	54
23	32		79		80	63	132	97	106	45	51	54
24	32	59	75		77	63	146	104	102	45	53	53
25	32	56	72		75	63	164	104	101	55	51	51
26	32	56	69		74	66	146	108	104	59	51	36
27	33	58	67		74	67	120	125	e 88	56	51	37
28	34	58	65		e 75	71	106	128	e 67	57	49	41
29	34	56	65		-------	77	101	111	e 60	59	34	39
30	42	56	65		-------	78	104	101	e 62	60	35	37
31	59	-------	64		-------	77	-------	94	-------	57	34	-------

Month	Tumalo Creek				Columbia Southern Canal (run-off in acre-feet)	Combined creek and canal (run-off in acre-feet)
	Discharge in second-feet			Run-off in acre-feet		
	Maximum	Minimum	Mean			
October	64	31	45.2	2,780	609	3,389
November	----------	29	47.1	2,800	595	3,395
December	223	58	81.0	4,980	0	4,980
January	----------	----------	56.9	3,500	0	3,500
February	114	70	84.4	4,690	0	4,690
March	95	60	67.9	4,180	0	4,180
April	164	73	107	6,370	339	6,709
May	140	80	104	6,400	861	7,261
June	193	60	115	6,840	660	7,500
July	87	42	64.3	3,950	529	4,479
August	60	34	45.6	2,800	467	3,267
September	65	32	44.1	2,620	470	3,090
The year	223	29	71.7	51,900	4,530	56,440

e Estimated

SQUAW CREEK NEAR SISTERS, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 32, T. 15 S., R. 10 E., immediately above intake of McCallister ditch and 4 miles by road above Sisters.

DRAINAGE AREA.—63 square miles.

RECORDS AVAILABLE.—Irrigation seasons, 1913, 1914, and 1916 to 1925; October, 1925, to September, 1930. From July, 1906, to May, 1913, at station 700 feet downstream, below intake of McCallister ditch.

EXTREMES.—Maximum discharge during year, 785 second-feet Dec. 18 (gage height, 2.85 feet); minimum not determined.

1906–1914, 1916–1930: Maximum discharge (estimated), 1,940 second-feet November 22, 1909 (gage height at old station, 7.5 feet); minimum, 19 second-feet December 6, 1922.

REMARKS.—Records fair except those estimated, which are poor. Pole Creek, a tributary above station, has been diverted for irrigation. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		a 50		62		68	59	88	91	155	110	77
2		a 49		60		66	60	100	88	146	103	80
3		a 48		60		66	60	93	88	158	100	88
4		a 47		60		65	60	88	86	152	110	88
5		46	a 38	59	a 52	64		86	100	149	119	88
6		46		57		62	a 67	83	134	149	122	77
7		46		55		60		78	164	146	125	67
8		48		a 50		60		77	149	149	125	67
9	a 59	46	36	a 45		59		74	155	137	110	65
10		43	42	a 37	155	a 59	71	76	186	122	119	76
11		45	36	a 33	119	a 58	72	77	186	131	116	65
12		51	41	a 37	96	a 58	77	83	161	140	125	66
13		60	55		103	a 57	82	88	146	155	125	66
14		64	171		125	57	77	88	149	146	122	68
15		59	113		105	57	72	84	161	137	125	72
16		51	74		98	57	72	96	180	125	105	78
17	59	41	66		93	58	74	96	164	116	96	83
18	a 59	42	342		96	56	78	98	155	110	98	78
19	a 59	42	364		108	56	86	131	140	105	91	77
20	a 59	31	164		100	56	98	125	131	110		74
21	a 59		119	a 40	88	57	119	98	131	116		76
22	59		96		84	56	134	86	134	119	a 86	69
23			83		78	56	140	86	137	125		57
24		a 35	77		78	57	137	91	137	122		55
25			76		76	57	131	88	140	116		56
26			70		71	58	122	96	152	103	80	62
27	a 55	39	76		68	58	116	110	149	98	82	66
28		a 39	68		67	60	98	122	128	103	84	62
29		a 39	66		-------	60	91	110	128	131	91	58
30		a 39	65		-------	60	86	98	146	116	83	a 62
31		-------	63		-------	58	-------	91	-------	116	80	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	----------	----------	57.8	3,550
November	64	----------	44.0	2,620
December	364	----------	86.0	5,290
January	62	33	44.4	2,730
February	155	----------	81.3	4,520
March	68	56	59.2	3,640
April	140	59	86.7	5,160
May	131	74	93.1	5,720
June	186	86	140	8,330
July	158	98	129	7,930
August	125	----------	102	6,270
September	88	55	70.8	4,210
The year	364	----------	82.8	60,000

a Estimated.

CROOKED RIVER NEAR CULVER, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 11, T. 12 S., R. 12 E., at Cove power plant, 3 miles northwest of Culver.

RECORDS AVAILABLE.—October, 1917, to September, 1930.

EXTREMES.—Maximum discharge during year, 2,390 second-feet Feb. 7 (gage height, 2.20 feet); minimum, 1,150 second-feet July 31 (gage height, 0.40 foot).

1917–1930: Maximum discharge, 7,320 second-feet Feb. 6, 1925 (gage height, 5.6 feet); minimum, 970 second-feet July 12 to Sept. 5, 1921.

REMARKS.—Records good. Flow regulated slightly by storage in Ochoco Reservoir. Summer flow above Prineville diverted for irrigation. Springs increase flow about 1,000 second-feet in a few miles above station. Gage-height record furnished by Pacific Power & Light Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,170	1,160	1,250	1,250	1,250	1,430	1,560	1,200	1,220	1,190	1,180	1,170
2	1,170	1,160	1,250	1,250	1,250	1,430	1,490	1,220	1,220	1,190	1,180	1,170
3	1,170	1,160	1,250	1,250	1,370	1,430	1,490	1,220	1,200	1,190	1,180	1,170
4	1,170	1,160	1,250	1,250	1,370	1,430	1,490	1,220	1,200	1,190	1,180	1,170
5	1,170	1,160	1,250	1,250	1,370	1,460	1,430	1,220	1,190	1,190	1,180	1,170
6	1,170	1,160	1,250	1,250	1,430	1,430	1,430	1,220	1,190	1,190	1,180	1,170
7	1,170	1,160	1,250	1,250	2,390	1,400	1,430	1,220	1,190	1,190	1,180	1,170
8	1,170	1,160	1,250	1,250	1,770	1,400	1,400	1,220	1,190	1,190	1,180	1,170
9	1,170	1,160	1,280	1,250	1,840	1,400	1,400	1,220	1,190	1,190	1,180	1,170
10	1,170	1,160	1,280	1,250	1,700	1,400	1,370	1,220	1,190	1,190	1,180	1,170
11	1,170	1,190	1,280	1,250	1,560	1,400	1,340	1,220	1,190	1,190	1,180	1,170
12	1,170	1,190	1,280	1,250	1,630	1,400	1,340	1,220	1,190	1,190	1,180	1,170
13	1,170	1,200	1,280	1,250	1,630	1,400	1,340	1,200	1,190	1,190	1,170	1,170
14	1,170	1,200	1,280	1,250	1,630	1,400	1,310	1,200	1,190	1,190	1,170	1,170
15	1,160	1,230	1,280	1,250	2,060	1,400	1,310	1,200	1,190	1,190	1,170	1,170
16	1,160	1,230	1,280	1,250	2,220	1,400	1,310	1,220	1,190	1,190	1,170	1,170
17	1,160	1,250	1,280	1,250	1,910	1,400	1,280	1,220	1,190	1,190	1,170	1,170
18	1,160	1,250	1,340	1,250	1,770	1,400	1,280	1,220	1,190	1,190	1,170	1,170
19	1,160	1,250	1,370	1,250	1,770	1,400	1,250	1,220	1,190	1,190	1,170	1,170
20	1,160	1,250	1,430	1,250	1,980	1,400	1,250	1,220	1,190	1,190	1,170	1,170
21	1,160	1,250	1,430	1,250	2,140	1,400	1,250	1,220	1,190	1,190	1,170	1,170
22	1,160	1,250	1,560	1,250	2,060	1,400	1,250	1,220	1,190	1,190	1,170	1,160
23	1,160	1,250	1,490	1,250	1,700	1,400	1,250	1,220	1,190	1,190	1,170	
24	1,160	1,250	1,430	1,250	1,630	1,400	1,250	1,220	1,190	1,190	1,170	
25	1,160	1,250	1,400	1,250	1,560	1,400	1,240	1,220	1,190	1,190	1,170	1,170
26	1,160	1,250	1,310	1,250	1,490	1,430	1,230	1,220	1,190	1,190	1,170	
27	1,160	1,250	1,310	1,250	1,430	1,490	1,220	1,220	1,190	1,190	1,170	
28	1,160	1,250	1,310	1,250	1,430	1,630	1,200	1,220	1,190	1,190	1,170	1,170
29	1,160	1,250	1,310	1,250	-------	1,630	1,180	1,220	1,190	1,190	1,170	1,170
30	1,160	1,250	1,280	1,250	-------	1,560	1,180	1,220	1,190	1,180	1,170	1,170
31	1,160	-------	1,280	1,250	-------	1,560	-------	1,220	-------	1,150	1,170	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,170	1,160	1,160	71,300
November	1,250	1,160	1,210	72,000
December	1,560	1,250	1,320	81,200
January	1,250	1,250	1,250	76,900
February	2,390	1,250	1,690	93,900
March	1,630	1,400	1,440	88,500
April	1,560	1,180	1,320	78,600
May	1,220	1,200	1,220	75,000
June	1,220	1,190	1,190	70,800
July	1,190	1,150	1,190	73,200
August	1,180	1,170	1,170	71,900
September	1,170	1,160	1,170	69,600
The year	2,390	1,150	1,280	923,000

METOLIUS RIVER NEAR GRANDVIEW, OREG.

LOCATION.—Staff gage in NE. ¼ sec. 19, T. 11 S., R. 11 E., at Montgomery ranch, 8 miles northwest of Grandview.

RECORDS AVAILABLE.—October, 1921, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,720 second-feet Dec. 19 (gage height, 0.70 foot); minimum, 1,230 second-feet Sept. 23–30 (gage height, 0.22 foot).

1921–1930: Maximum discharge, about 5,780 second-feet Jan. 7, 1923 (gage height, 3.32 feet); minimum, that of Sept. 23–30, 1930.

REMARKS.—Records excellent. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,300	1,260	1,250	1,320	1,460	1,480	1,400	1,400	1,360	1,360	1,280	1,260
2	1,300	1,260	1,250	1,320	1,460	1,460	1,400	1,400	1,360	1,340	1,280	1,250
3	1,300	1,260	1,250	1,300	1,380	1,460	1,400	1,400	1,360	1,340	1,280	1,250
4	1,300	1,260	1,250	1,300	1,420	1,460	1,400	1,380	1,360	1,340	1,280	1,250
5	1,300	1,260	1,250	1,300	1,590	1,460	1,400	1,380	1,360	1,340	1,280	1,250
6	1,300	1,260	1,250	1,300	1,460	1,460	1,400	1,380	1,360	1,340	1,280	1,250
7	1,300	1,260	1,250	1,280	1,480	1,460	1,400	1,380	1,360	1,340	1,280	1,250
8	1,300	1,260	1,250	1,280	1,480	1,460	1,400	1,380	1,360	1,320	1,300	1,250
9	1,300	1,260	1,360	1,280	1,460	1,420	1,400	1,380	1,380	1,320	1,300	1,250
10	1,300	1,260	1,400	1,260	1,460	1,380	1,400	1,360	1,380	1,320	1,300	1,280
11	1,300	1,260	1,300	1,260	1,540	1,380	1,400	1,380	1,360	1,320	1,300	1,260
12	1,300	1,260	1,300	1,260	1,500	1,380	1,400	1,380	1,360	1,320	1,280	1,250
13	1,300	1,260	1,380	1,260	1,540	1,380	1,400	1,380	1,360	1,320	1,280	1,250
14	1,300	1,260	1,340	1,260	1,680	1,380	1,400	1,380	1,360	1,320	1,280	1,250
15	1,300	1,260	1,400	1,260	1,650	1,380	1,400	1,380	1,360	1,300	1,280	1,250
16	1,300	1,260	1,380	1,260	1,610	1,380	1,400	1,400	1,360	1,300	1,280	1,250
17	1,280	1,260	1,320	1,260	1,590	1,380	1,400	1,400	1,360	1,300	1,260	1,250
18	1,280	1,260	1,480	1,260	1,590	1,380	1,400	1,400	1,360	1,300	1,260	1,250
19	1,280	1,250	1,720	1,260	1,650	1,380	1,400	1,400	1,360	1,300	1,260	1,250
20	1,280	1,250	1,500	1,250	1,700	1,380	1,400	1,400	1,360	1,300	1,260	1,250
21	1,280	1,250	1,460	1,250	1,610	1,380	1,400	1,400	1,360	1,300	1,260	1,250
22	1,280	1,250	1,400	1,250	1,590	1,380	1,400	1,400	1,360	1,300	1,260	1,250
23	1,280	1,250	1,380	1,280	1,570	1,380	1,400	1,400	1,360	1,300	1,280	1,230
24	1,280	1,250	1,380	1,280	1,540	1,380	1,420	1,380	1,360	1,300	1,280	1,230
25	1,280	1,250	1,380	1,280	1,520	1,380	1,420	1,380	1,360	1,300	1,280	1,230
26	1,280	1,250	1,360	1,280	1,500	1,400	1,420	1,380	1,360	1,300	1,280	1,230
27	1,280	1,250	1,360	1,280	1,500	1,400	1,400	1,380	1,360	1,280	1,260	1,230
28	1,280	1,250	1,360	1,280	1,480	1,400	1,400	1,380	1,360	1,280	1,260	1,230
29	1,280	1,250	1,360	1,280	-------	1,400	1,400	1,380	1,360	1,280	1,260	1,230
30	1,260	1,250	1,340	1,280	-------	1,400	1,400	1,380	1,360	1,280	1,260	1,230
31	1,260	-------	1,340	1,300	-------	1,400	-------	1,360	-------	1,280	1,260	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,300	1,260	1,290	79,300
November	1,260	1,250	1,260	75,000
December	1,720	1,250	1,350	83,000
January	1,320	1,250	1,280	78,700
February	1,700	1,380	1,540	85,500
March	1,480	1,380	1,410	86,700
April	1,420	1,400	1,400	83,300
May	1,400	1,360	1,390	85,500
June	1,380	1,360	1,360	80,900
July	1,360	1,280	1,310	80,600
August	1,300	1,260	1,280	78,700
September	1,280	1,230	1,250	74,400
The year	1,720	1,230	1,340	972,000

LAKE CREEK NEAR SISTERS, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 24, T. 13 S., R. 8 E., one-fourth mile below Suttle Lake and 13 miles northwest of Sisters.

DRAINAGE AREA.—20.5 square miles.

RECORDS AVAILABLE.—April, 1915, to September, 1930, incomplete; occasional readings during summer of 1911 to 1913.

EXTREMES.—Maximum discharge during year, 110 second-feet Feb. 22 (gage height, 1.65 feet); minimum, 21 second-feet Nov. 23 (gage height, 0.62 foot).

1911–1913, 1915–1930: Maximum discharge, 302 second-feet Jan. 10, 1923 (gage height, 2.58 feet); minimum, 20 second-feet Oct. 18, 1916 (gage height, 0.31 foot).

REMARKS.—Records good October to March; fair April to September. No diversions above station. No regulation except by natural storage in Suttle Lake. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	29	28	40	36	80	53	52	41	30	24	28
2	29	29	28	39	36	76	54	51	41	30	24	27
3	29	29	28	39	39	72	53	49	41	30	25	27
4	29	29	28	39	40	69	54	47	41	30	26	27
5	28	29	28	40	44	68	54	47	40	30	26	26
6	29	27	29	39	45	66	54	47	40	30	26	25
7	29	27	28	39	48	64	54	46	39	29		25
8	29	27	30	33	54	62	56	45	39	29		26
9	30	28	40	39	55	50	56	44	39	29		26
10	30	28	*45	38	62	46	57	45	39	29		32
11	29	29	*47	37	64	48	58	44	37	30		32
12	30	29	48	36	70	45	59	43	36	30		30
13	29	29	46	36	74	51	59		36	30		28
14	29	28	46	36	84	53	59		35	28		26
15	29	28	46	36	94	49	58		35	28		26
16	29	28	46	36	98	49	58		33	28	*26	25
17	27	27	44	36	102	48	57		33	27		26
18	27	27	53	36	105	47	57		32	27		27
19	28	28	54	36	107	45	56		32	27		28
20	29	28	49	36	108		55		32	27		27
21	29	28	47	36	108		55		32	27		26
22	29	26	46	36	108		56	*42	32	27		23
23	29	24	47	36	107	*48	55		30	27		22
24	29	24	47	36	103		55		28	26		24
25	29	26	47	36	100		55		28	26	25	26
26	29	27	47	36	95		55		39	26	26	26
27	30	27	47	36	90	52	54		29	26	27	26
28	29	27	45	36	84	52	54		29	26	29	26
29	29	28	43	36	------	52	54		30	25	28	26
30	29	28	43	36	------	52	54		30	24	28	26
31	29	------	41	36	------	52	------		------	24	27	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	30	27	28.9	1,780
November	29	24	27.6	1,640
December	54	28	41.6	2,560
January	40	33	36.8	2,260
February	108	36	77.1	4,280
March	80	----------	54.3	3,340
April	59	53	55.6	3,310
May	52	----------	43.8	2,690
June	41	28	34.6	2,060
July	30	24	27.8	1,710
August	29	24	26.1	1,600
September	32	22	26.5	1,580
The year	108	22	39.8	28,800

* Estimated.

WHITE RIVER BELOW TYGH VALLEY, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 8, T. 4 S., R. 14 E., just below Pacific Power & Light Co.'s plant at White River Falls, 4½ miles below Tygh Valley.

RECORDS AVAILABLE.—November, 1917, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,330 second-feet Feb. 20 (gage height, 3.79 feet); minimum, 95 second-feet July 27 (gage height, 0.47 foot).

1917–1930: Maximum discharge, 13,300 second-feet Jan. 6, 1923 (gage height, 12.9 feet); minimum (estimated), 10 second-feet Dec. 11–14, 1919.

REMARKS.—Records fair except those estimated, which are poor. Winter records based on staff-gage readings. Diversions for irrigation above station. Low-water flow regulated to some extent by power operation of power plant. Gage-height record furnished by Pacific Power & Light Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	a 114	a 118	230	a 200	470	702	355	295	144	117	108
2	110	117	a 117	240	820	a 450	680	355	295	143	117	106
3	109	116	a 115	235	400	a 430	658	355	280	139	115	105
4	110	113	a 114	235	256	a 410	635	355	280	140	114	105
5	112	113	113	235	960	a 390	612	340	259	139	113	103
6	111	113	118	225	930	370	590	325	248	138	111	103
7	108	113	118	190	820	370	635	310	235	140	111	104
8	110	a 112	142	140	820	370	635	295	230	139	110	103
9	111	112	248		820	a 362	612	280	222	136	110	105
10	108	115	250		510	355	590	268	222	134	110	106
11	107	117	245		550	355	550	262	225	135	110	111
12	108	115	171		550	370	550	256	222	139	108	106
13	110	113	178		550	370	550	253	218	139	107	105
14	109	a 114	265		960	370	550	325	208	136	106	109
15	110	a 116	325		930	355	550	310	200	134	105	108
16	110	117	310		900	340	a 550	310	195	128	106	109
17	108	117	310		870	340	550	295	188	128	108	110
18	113	117	280		820	340	510	280	173	126	108	112
19	111	a 117	340	a 130	1,020	340	435	295	169	124	116	112
20	112	a 117	310		1,260	355	435	310	169	120	a 115	107
21	110	117	274		1,020	400	470	325	171	119	a 114	105
22	110	a 121	250		930	510	490	355	175	116	a 112	105
23	110	125	340		820	510	470	340	169	115	111	104
24	111	125	435		702	530	470	340	163	115	111	105
25	112	125	370		658	658	452	325	157	113	110	105
26	111	125	470		590	702	452	325	157	110	108	106
27	122	a 123	340		570	702	435	325	155	110	108	105
28	127	a 122	310		530	702	435	310	155	110	108	105
29	114	a 120	310		------	748	400	295	148	113	108	105
30	112	119	230		------	770	370	280	148	114	108	105
31	110	------	235	159	------	748	------	295	------	115	109	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	127	107	111	6,820
November	125	112	117	6,960
December	470	113	250	15,400
January	240	------	153	9,410
February	1,260	200	742	41,200
March	770	340	467	28,700
April	702	370	534	31,800
May	355	253	311	19,100
June	295	148	204	12,100
July	144	110	127	7,810
August	117	105	110	6,760
September	112	103	106	6,310
The year	1,260	103	266	192,000

a Estimated.

KLICKITAT RIVER BASIN

KLICKITAT RIVER NEAR GLENWOOD, WASH.

LOCATION.—Water-stage recorder in SE. ¼ sec. 14, T. 7 N., R. 12 E., half a mile below Dairy Creek, 3 miles below Big Muddy Creek, and 5 miles north of Glenwood.

DRAINAGE AREA.—356 square miles.

RECORDS AVAILABLE.—December, 1910, to September, 1930; incomplete. October, 1909, to December, 1910, 1 mile above.

EXTREMES.—Maximum discharge during year, 1,520 second-feet Apr. 23 (gage height, 2.92 feet); minimum, 244 second-feet Jan. 7 (gage height, 0.83 foot). 1909–1930: Maximum discharge, 6,250 second-feet Nov. 24, 1909 (gage height, 5.20 feet on original gage); minimum, that of Jan. 7, 1930.

REMARKS.—Records fair October to April; good May to September. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	324	328	345	370	452	607	1,140	1,100	811	620	440	368
2	328	328	328	358	488	571	1,140	1,200	811	596	430	382
3	336	324	324	358	452	566	1,100	1,240	783	572	430	382
4	353	324	328	362	477	566	1,040	1,140	755	584	445	382
5	353	328	332	362	689	549	979	1,070	734	602	456	373
6	328	332	328	336	638	526	1,020	1,040	755	608	466	
7	324	328	328	264	663	521	1,140	975	855	590	461	
8	324	328	332		682	521	1,320	938	862	572	445	
9	324	328	366		607	521	1,240	915	840	578	445	
10	308	328	457		600	516	1,190	892	862	584	450	
11	304	320	398		600	516	1,140	908	885	584	461	
12	296	312	366		560	521	1,140	908	811	590	450	
13	304	316	375		560	521	1,280	968	748	620	440	
14	312	320	763		607	526	1,370	1,080	713	590	440	340
15	312	320	613		613	510	1,320	1,150	706	544	415	
16	320	328	504		670	521	1,240	1,240	734	522	400	
17	320	328	426		729	526	1,190	1,240	727	494	382	
18	308	328	426	340	783	532	1,190	1,100	699	478	382	
19	308	320	421		1,060	526	1,140	1,050	692	466	382	
20	308	293	412		1,460	554	1,140	1,150	685	478	378	
21	316	283	407		1,190	594	1,280		672	494	378	
22	316	308	407		1,040	631	1,460		646	510	373	
23	316	324	407		909	619	1,520		640	516	368	306
24	316	328	412		819	656	1,420	950	626	488	386	302
25	316	345	417		763	805	1,420		626	466	368	296
26	340	349	417		708	886	1,420		652	450	368	313
27	340	353	402		670	948	1,420		646	440	378	324
28	328	353	388		625	1,000	1,280	848	620	450	386	320
29	320	353	370		-------	1,190	1,150	848	590	466	405	306
30	316	349	370	379	-------	1,190	1,090	848	596	478	391	302
31	316	-------	370	375	-------	1,190	-------	832	-------	466	368	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	353	296	320	0.899	1.04	19,700
November	353	283	327	.919	1.03	19,500
December	763	324	404	1.13	1.30	24,800
January	----------	264	343	.963	1.11	21,100
February	1,460	452	718	2.02	2.10	39,900
March	1,190	510	659	1.85	2.13	40,500
April	1,520	979	1,230	3.46	3.86	73,200
May	1,240	832	1,010	2.84	3.27	62,100
June	885	590	726	2.04	2.28	43,200
July	620	440	532	1.49	1.72	32,700
August	466	368	412	1.16	1.34	25,300
September	----------	302	338	.949	1.06	20,100
The year	1,520	264	583	1.64	22.24	422,000

KLICKITAT RIVER AT PITT, WASH.

LOCATION.—Staff gage in NE. ¼ sec. 32, T. 4 N., R. 13 E., at Pitt, 3 miles southwest of Klickitat and 10½ miles above mouth.

DRAINAGE AREA.—1,160 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1930. Comparable records at former stations at Klickitat and near Lyle, May, 1907, to December, 1912.

EXTREMES.—Maximum discharge during year, 5,100 second-feet Feb. 20 (gage height, 5.15 feet); minimum, 505 second-feet Nov. 21 (gage height, 0.92 foot). 1907–1912, 1928–1930: Maximum discharge, 10,200 second-feet Mar. 2, 1910 (gage height at former gage at Klickitat, 8.4 feet); minimum, that of Nov. 21, 1929.

REMARKS.—Records good. Discharge estimated on account of ice, Jan. 14–31. Minor diversions for irrigation above station; no regulation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	594	584	550	692	870	1,500	1,910	1,500	1,120	870	692	618
2	594	606	540	692	2,130	1,400	1,800	1,600	1,120	870	692	624
3	594	589	540	654	2,350	1,300	1,800	1,700	1,120	832	692	618
4	624	584	535	692	1,600	1,260	1,600	1,600	1,080	870	692	624
5	636	594	550	660	2,020	1,300	1,600	1,500	1,030	870	692	612
6	612	584	545	636	2,350	1,210	1,500	1,400	1,080	870	692	624
7	594	578	556	578	2,350	1,080	1,600	1,400	1,120	832	692	567
8	606	584	624	562	2,130	1,080	1,910	1,300	1,210	832	692	578
9	624	584	660	584	1,600	1,030	1,800	1,300	1,160	832	692	594
10	594	572	760	572	1,910	1,030	1,700	1,300	1,160	832	692	600
11	589	550	725	572	2,020	1,030	1,700	1,260	1,210	832	692	594
12	589	545	642	567	1,700	1,120	1,700	1,300	1,160	832	692	589
13	594	545	660	584	1,910	1,080	1,800	1,400	1,120	910	692	584
14	594	550	1,080		2,020	1,030	1,910	1,400	1,030	910	692	594
15	594	562	1,080		1,800	1,030	1,910	1,500	1,030	832	692	612
16	600	556	910		1,910	990	1,800	1,600	1,030	795	692	612
17	600	567	760		2,020	950	1,700	1,700	1,030	795	630	612
18	594	550	760		2,020	950	1,700	1,500	990	760	630	618
19	584	550	725		2,240	950	1,600	1,400	990	725	630	636
20	584	530	725		4,820	990	1,600	1,500	950	725	630	606
21	584	510	692		2,900	1,080	1,700	1,500	1,030	760	630	612
22	589	540	692	625	3,010	1,400	1,910	1,400	950	760	630	589
23	584	556	950		2,790	1,300	2,130	1,260	950	760	624	612
24	589	556	950		2,360	1,400	2,020	1,210	910	760	630	562
25	594	572	910		2,350	1,600	2,020	1,160	910	692	630	535
26	594	584	990		2,130	1,700	2,020	1,120	870	692	624	562
27	606	550	870		1,910	1,800	2,020	1,120	950	692	618	578
28	594	550	760		1,700	1,800	1,910	1,160	910	692	618	567
29	594	550	725		-------	1,910	1,800	1,160	870	692	618	545
30	584	545	725		-------	2,130	1,500	1,120	832	725	618	540
31	594	-------	725		-------	2,020	-------	1,120	-------	692	618	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	636	584	597	0.515	0.59	36,700
November	606	510	563	.485	.54	33,500
December	1,080	535	739	.637	.73	45,400
January	-------	-------	622	.536	.62	38,200
February	4,820	870	2,180	1.88	1.96	121,000
March	2,130	950	1,300	1.12	1.29	79,900
April	2,130	1,500	1,790	1.54	1.72	107,000
May	1,700	1,120	1,370	1.18	1.36	84,200
June	1,210	832	1,030	.888	.99	61,300
July	910	692	792	.683	.79	48,700
August	692	618	660	.569	.66	40,600
September	636	535	594	.512	.57	35,300
The year	4,820	510	1,010	.871	11.82	732,000

HOOD RIVER BASIN

HOOD RIVER NEAR HOOD RIVER, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 36, T. 3 N., R. 10 E., at Powerdale, one-fourth mile above Pacific Power & Light Co.'s plant and three-fourths mile south of Hood River. Zero of gage 105.91 feet above mean sea level.

RECORDS AVAILABLE.—March, 1913, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,780 second-feet Feb. 14 (gage height, 5.78 feet); minimum, 11 second-feet Nov. 29 (gage height, 1.64 feet).

1913–1930: Maximum discharge, 34,000 second-feet Jan. 6, 1923 (gage height, 11.1 feet, datum used since 1924); minimum, 3 second-feet Aug. 9, 1926 (gage height, 1.45 feet).

REMARKS.—Records good except those estimated, Jan. 8 to Feb. 1. Diversions for irrigation above station. Pacific Power & Light Co.'s conduit diverts water around gage (see p. 55 for record of this diversion). Low-water flow regulated by pondage at Dee. Gage-height record furnished by Pacific Power & Light Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	44	44	522	3,120	522	662	317	149	63	34	19
2	32	44	21	522	2,120	360	578	322	232	44	32	19
3	34	50	23	410	1,350	410	578	304	168	35	35	18
4	65	57	20	370	1,200	360	570	254	157	40	32	19
5	67	41	21	326	2,470	410	536	225	107	38	21	23
6	98	41	19	254	1,670	410	592	322	96	36	28	21
7	52	38	19	182	2,260	385	585	686	126	34	32	34
8	71	36	116		2,470	360	678	630	121	40	29	38
9	116	40	446		1,560	360	548	600	77	34	48	26
10	50	92	572		1,760	350	536	562	67	40	38	24
11	41	54	322		2,200	270	474	536	114	27	32	34
12	44	52	168		1,670	395	410	555	101	35	24	44
13	44	52	182		2,360	365	468	522	44	52	24	40
14	44	50	1,920		3,350	350	496	592	38	42	22	75
15	46	48	1,250	60	2,470	322	468	585	73	50	24	32
16	46	48	942		1,970	258	440	355	55	55	27	27
17	77	54	615		1,780	262	380	138	42	30	28	25
18	48	52	516		1,670	239	326	133	27	24	29	27
19	42	50	604		2,470	236	355	266	34	23	23	27
20	36	54	670		2,290	250	503	440	36	50	21	28
21	40	59	462		1,670	835	490	678	50	26	25	52
22	32	57	622		1,500	1,560	548	468	41	35	19	41
23	38	50	1,050		1,450	1,100	457	355	48	34	22	27
24	41	90	951		1,040	1,250	400	317	40	29	20	44
25	38	24	1,020		915	1,300	365	322	46	27	21	41
26	46	22	933	220	750	1,100	390	250	41	27	19	34
27	160	19	638		830	969	490	168	54	29	20	73
28	67	15	490		630	906	522	165	28	34	16	40
29	42	16	405		-------	951	425	176	55	32	17	22
30	40	17	420		-------	942	350	131	44	41	20	46
31	41	-------	435		-------	790	-------	119	-------	26	25	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	160	32	54.2	3,330
November	92	15	45.5	2,710
December	1,920	19	516	31,700
January	522	-------	176	10,800
February	3,350	630	1,820	101,000
March	1,560	236	599	36,800
April	678	326	487	29,000
May	686	119	371	22,800
June	232	27	77.0	4,580
July	63	23	36.5	2,240
August	48	16	26.0	1,600
September	75	18	34.0	2,020
The year	3,350	15	344	249,000

Combined daily and monthly discharge, in second-feet, of Hood River and Pacific Power & Light Co.'s conduit near Hood River, Oreg., 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	374	369	320	982	3,250	973	1,110	777	594	401	280	223
2	378	365	311	982	2,430	723	1,030	782	692	373	264	234
3	380	358	309	870	1,710	853	1,030	764	628	357	246	238
4	417	355	305	829	1,650	810	1,020	714	617	363	312	250
5	405	351	311	756	2,920	878	986	685	567	372	276	253
6	390	356	319	714	2,100	880	961	619	556	369	280	253
7	391	347	312	637	2,700	840	982	686	586	368	271	242
8	415	351	476		2,870	810	1,130	630	581	354	301	224
9	441	349	911		1,940	810	998	600	534	345	333	232
10	399	347	1,040		2,160	782	986	562	522	352	327	251
11	390	352	789		2,650	720	924	536	561	342	304	278
12	387	342	638		2,120	845	860	555	541	362	297	299
13	388	356	652		2,810	815	909	522	462	434	281	297
14	389	350	2,360		3,790	800	909	592	443	413	269	282
15	391	348	1,690	453	2,920	772	938	585	427	350	270	313
16	391	348	1,390		2,430	708	910	624	464	330	252	332
17	433	358	1,040		2,210	720	850	573	446	303	199	343
18	397	346	919		2,120	699	796	570	406	297	208	357
19	386	332	1,130		2,920	696	825	726	401	285	224	326
20	378	331	1,120		2,750	710	852	881	399	269	216	309
21	373	335	912		2,130	1,280	894	1,140	427	291	229	305
22	369	343	974		1,960	2,010	998	928	399	298	234	331
23	366	353	1,490		1,770	1,550	874	815	375	309	244	286
24	374	352	1,400		1,420	1,700	860	777	375	298	263	299
25	359	360	1,450		1,360	1,750	825	724	383	291	245	291
26	373	343	1,370		1,200	1,550	850	710	399	263	249	298
27	530	335	1,090	461	1,280	1,420	930	628	421	247	238	324
28	432	333	947		1,080	1,360	970	625	400	270	241	352
29	383	315	865		-------	1,400	885	636	379	285	245	302
30	376	322	880		-------	1,290	810	560	367	299	236	320
31	361	-------	895		-------	1,180	-------	579	-------	288	239	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	530	359	394	24,200
November	369	315	347	20,600
December	2,360	305	923	56,800
January	982	----------	539	33,100
February	3,790	1,080	2,240	124,000
March	2,010	696	1,040	64,000
April	1,130	796	930	55,300
May	1,140	522	681	41,900
June	692	367	478	28,460
July	434	247	328	20,200
August	333	199	260	16,000
September	357	223	288	17,100
The year	3,790	199	694	502,000

PACIFIC POWER & LIGHT CO.'S CONDUIT NEAR HOOD RIVER, OREG.

LOCATION.—Venturi meter in NE. ¼ sec. 36, T. 3 N., R. 10 E., at Pacific Power & Light Co,'s plant on Hood River, half a mile southeast of Hood River.

RECORDS AVAILABLE.—May, 1923, to September, 1930. At station on tailrace of old plant October, 1913, to September 1914, and January, 1916, to July, 1922.

EXTREMES.—Maximum discharge during year, 470 second-feet Dec. 8–14, 17, 18, Feb. 10, Mar. 5–7, Apr. 14–20, May 17. No flow when power plant was shut down May 6–16.

1913–14, 1916–1930: Maximum discharge, 500 second-feet Sept. 10, 1927.

REMARKS.—Records good. This conduit diverts from Hood River in SE. ¼ sec. 11, T. 2 N., R. 10 E., immediately below mouth of Neal Creek. Water returned to river in NE. ¼ sec. 36, T. 3 N., R. 10 E., being diverted around gage on Hood River near Hood River. Meter readings furnished by Pacific Power & Light Co.

Daily and monthly discharge, in second-feet, 1929–30.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	333	325	276	460	128	451	450	460	445	338	246	204
2	346	321	290	460	307	363	450	460	460	329	232	215
3	346	308	286	460	359	443	450	460	460	322	211	220
4	352	298	285	459	450	450	450	460	460	323	280	231
5	338	310	290	430	445	468	450	460	460	334	255	230
6	292	315	300	460	434	470	369	297	460	333	252	232
7	339	309	293	455	435	455	397	0	460	334	239	208
8	344	315	360	420	401	450	450	0	460	314	272	186
9	325	309	465	432	380	450	450	0	457	311	285	206
10	349	255	470	433	410	432	450	0	455	312	289	227
11	349	298	467	398	450	450	450	0	447	315	272	244
12	343	290	470	401	448	450	450	0	440	327	273	255
13	344	304	470	390	447	450	441	0	418	382	257	257
14	345	300	436	401	443	450	413	0	405	371	247	207
15	345	300	439	421	454	450	470	0	354	300	246	281
16	345	300	445	412	460	450	470	269	409	275	225	305
17	356	304	426	353	428	458	470	435	404	273	171	318
18	349	294	403	360	450	460	470	437	379	273	179	330
19	344	282	440	398	445	460	470	460	367	262	201	299
20	342	277	450	363	460	460	349	441	363	219	195	281
21	333	276	450	347	460	447	404	460	377	265	204	253
22	337	286	352	361	460	450	450	460	358	263	215	290
23	328	303	444	205	319	450	417	460	327	275	222	259
24	333	262	447	74	382	450	460	460	335	269	243	255
25	321	336	432	159	450	450	460	402	337	264	224	250
26	327	321	441	255	450	450	460	460	358	236	230	264
27	370	316	450	284	450	450	440	460	367	218	218	251
28	365	318	457	313	450	450	448	460	372	236	225	312
29	341	299	460	286	-------	450	460	460	324	253	228	280
30	336	305	460	312	-------	346	460	429	323	258	216	274
31	320	-------	460	280	-------	388	-------	460	-------	262	214	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	370	292	340	20,900
November	336	255	301	17,900
December	470	276	407	25,000
January	460	74	363	22,300
February	460	128	416	23,100
March	470	346	444	27,300
April	470	349	443	26,400
May	460	0	310	19,100
June	460	323	401	23,900
July	382	218	292	18,000
August	289	171	234	14,400
September	330	186	254	15,100
The year	470	0	350	253,000

WHITE SALMON RIVER BASIN

WHITE SALMON RIVER NEAR TROUT LAKE, WASH.

LOCATION.—Staff gage in SE. ¼ sec. 24, T. 6 N., R. 10 E., one-fourth mile below mouth of Trout Creek and 2 miles southeast of Trout Lake.

RECORDS AVAILABLE.—July to September, 1918; October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,780 second-feet Feb. 20 (gage height, 3.8 feet); minimum, 43 second-feet Sept. 7 (gage height, 0.04 foot). 1918, 1928–1930: Extremes recorded, those of 1930.

REMARKS.—Records good except those estimated because of ice, Jan. 8 to Feb. 1. Diversions for irrigation above station; no regulation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	103	103	193	245	445	725	540	260	96	59	52
2	99	105	103	193	261	405	725	585	260	89	57	54
3	99	103	102	181	277	385	670	540	260	85	58	54
4	99	103	103	193	293	365	725	476	230	90	57	52
5	100	103	103	181	445	365	670	435	216	89	54	52
6	99	105	103	170	505	346	670	396	216	89	58	49
7	97	103	103	150	570	328	725	360	216	84	56	44
8	99	106	113		900	310	840	308	203	84	62	51
9	110	105	142		840	310	780	276	178	85	58	48
10	99	102	261		670	293	725	260	167	81	58	57
11	108	99	181		670	293	670	276	167	81	63	57
12	112	102	146		548	310	725	260	156	86	59	57
13	108	100	170		525	293	725	276	145	114	56	58
14	106	103	525		780	277	795	308	135	95	62	67
15	108	102	485		840	261	795	308	135	78	55	72
16	105	100	328		840	246	740	308	145	77	53	71
17	110	103	246		840	246	685	292	135	71	53	66
18	103	100	193		780	246	635	260	125	69	49	62
19	102	99	193		1,220	261	635	276	117	65	50	61
20	100	95	205	131	1,780	277	635	455	114	70	51	65
21	100	99	193		1,370	385	685	518	110	69	50	70
22	103	112	181		1,150	485	795	476	104	70	53	62
23	102	110	218		960	425	740	396	101	76	51	60
24	102	112	246		725	485	685	378	104	73	48	62
25	103	120	277		670	570	635	342	98	66	49	65
26	108	108	261		620	620	685	308	104	62	52	65
27	115	103	218		525	620	740	292	98	59	51	67
28	110	108	205		485	670	740	276	103	60	55	66
29	106	103	193		-------	725	635	260	100	66	54	65
30	105	103	193		-------	780	562	245	96	63	53	63
31	105	-------	181		-------	780	-------	245	-------	59	48	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	115	97	104	6,400
November	120	95	104	6,190
December	525	102	202	12,400
January			142	8,730
February	1,780	245	726	40,300
March	780	246	413	25,400
April	840	562	707	42,100
May	585	245	353	21,700
June	260	96	153	9,100
July	114	59	77.5	4,770
August	63	48	54.6	3,360
September	72	44	59.8	3,560
The year	1,780	44	254	184,000

WHITE SALMON RIVER AT HUSUM, WASH.

LOCATION.—Water-stage recorder in SW. ¼ sec. 30, T. 4 N., R. 11 E., 500 feet above mouth of Rattlesnake Creek at Husum.

RECORDS AVAILABLE.—September, 1909, to October, 1919; October, 1929, to September, 1930.

EXTREMES.—Maximum discharge during year, 2,410 second-feet Feb. 20 (gage height, 4.91 feet); minimum, 364 second-feet Nov. 21 (gage height, 0.81 foot). 1909–1919, 1929–30: Maximum discharge, 7,500 second-feet Dec. 29, 1917 (gage height, 10.0 feet at old gage); minimum, that of Nov. 21, 1929.

REMARKS.—Records good except those for December to April, which are fair. Numerous diversions for irrigation near Trout Lake. Springs increase flow by a large amount in a few miles above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		416	389	483	442	892	1,240	1,040	785	580	461	424
2		416	386	483	508	848	1,210	1,060	785	580	461	424
3		[a] 412	384	472	550	825	1,180	1,060	785	565	461	424
4		[a] 408	384	472	595	805	1,180	1,010	745	565	461	424
5		405	384	472	745	805	1,150	960	725	565	461	424
6		406	384	461	848	765	1,150	915	705	565	461	424
7		405	383	432	985	745	1,180	870	705	550	461	416
8		405	395	424	1,240	725	1,240	825	685	550	461	416
9	[a] 435	403	424	416	1,210	725	1,270	765	665	535	461	416
10		402	496	408	1,060	705	1,210	745	648	535	461	416
11		398	483	405	1,040	705	1,180	765	648	535	461	416
12		405	432	400	960	725	1,180	765	648	535	461	424
13		405	442	392	960	725	1,210	745	630	550	461	424
14		392	714	392	1,210	725	1,270	765	630	550	461	424
15		395	785	403	1,270	705	1,300	785	630	522	461	432
16		392	612	403	1,300	705	1,240	785	630	522	472	442
17	442	395	508	395	1,270	685	1,210	785	612	508	461	442
18	432	390	483	395	1,240	685	1,150	765	612	508	461	432
19	432	389	472	395	1,690	705	1,120	785	595	508	452	432
20	432	383	472	392	2,320	725	1,090	915	595	508	442	424
21	442	378	461	392	1,990	805	1,150	1,060	595	508	442	424
22	432	394	461	394	1,760	960	1,240	1,040	595	496	432	424
23	424	394	483	400	1,520	938	1,240	960	595	496	432	416
24	432	394	522	402	1,300	960	1,210	938	595	496	432	416
25	424	402	565	402	1,180	1,060	1,150	915	595	483	432	424
26	432	400	580	405	1,060	1,120	1,180	870	595	483	432	424
27	424	392	550	403	1,010	1,150	1,210	848	595	483	432	424
28	424	392	522	400	938	1,150	1,210	825	612	472	432	424
29	416	390	508	395	------	1,210	1,150	785	595	472	432	416
30	416	389	496	400	------	1,240	1,060	785	595	472	432	416
31	416	------	496	408	------	1,240	------	785	------	472	424	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	------	------	432	26,600
November	416	378	398	23,700
December	785	383	486	29,900
January	483	392	416	25,600
February	2,320	442	1,150	63,900
March	1,240	685	863	53,100
April	1,300	1,060	1,190	70,800
May	1,060	745	868	53,400
June	785	595	648	38,600
July	580	472	522	32,100
August	472	424	450	27,700
September	442	416	424	25,200
The year	2,320	378	650	471,000

[a] Estimated.

WHITE SALMON RIVER NEAR UNDERWOOD, WASH.

LOCATION.—Water-stage recorder in NW. ¼ sec. 14, T. 3 N., R. 10 E., 200 yards below Northwestern Electric Co.'s Condit power plant and 2 miles north of Underwood.

DRAINAGE AREA.—384 square miles.

RECORDS AVAILABLE.—March, 1915, to September, 1930, when station was discontinued. October, 1912, to February, 1913, at dam 1 mile above.

EXTREMES.—Maximum discharge during year, 3,220 second-feet Feb. 20 (gage height, 5.15 feet); minimum, 117 second-feet Oct. 9 (gage height, 0.22 foot).

1915–1930: Maximum discharge, about 9,700 second-feet Dec. 29, 1917 (gage height, 9.5 feet, old datum); practically no flow at times when power plant was shut down.

REMARKS.—Records good. Diversions for irrigation above station near Trout Lake. Flow regulated by operation of power plant. Gage-height record furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	463	417	369	543	500	1,080	1,400	1,120	797	595	481	419
2	449	412	375	552	611	1,040	1,340	1,120	834	598	[a] 447	443
3	463	416	366	529	672	1,010	1,310	1,080	820	604	[a] 457	447
4	454	411	375	547	708	954	1,300	1,040	814	604	[a] 437	449
5	470	413	403	535	984	954	1,310	1,020	779	596	[a] 440	439
6	458	408	384	503	1,000	920	1,280	959	753	593	[a] 439	440
7	450	398	391	465	1,290	861	1,280	952	749	584	[a] 433	437
8	457	399	410	454	1,630	876	1,340	897	714	555	[a] 455	467
9	476	397	466	444	1,460	829	1,380	812	708	587	[a] 444	457
10	450	384	537	435	1,290	828	1,340	813	702	[a] 542	470	428
11	442	384	505	427	1,300	834	1,260	804	708	[a] 542	466	427
12	456	415	463	434	1,210	864	1,260	821	672	[a] 540	467	440
13	435	392	466	401	1,300	885	1,260	807	653	549	462	435
14	440	375	776	405	1,640	846	1,340	812	657	583	478	444
15	445	394	781	427	1,600	837	1,380	837	671	538	478	438
16	[a] 487	403	732	419	1,640	831	1,350	825	666	531	472	461
17	[a] 466	381	573	408	1,600	803	1,310	854	654	537	475	455
18	443	409	539	406	1,520	784	1,230	796	648	532	452	446
19	459	387	522	423	2,100	843	1,190	812	613	523	461	429
20	451	379	515	407	2,990	801	1,150	942	630	512	440	422
21	434	376	534	408	2,560	933	1,210	1,130	633	520	455	427
22	450	413	499	418	2,250	1,230	1,290	1,060	612	503	435	422
23	455	401	556	423	1,960	1,170	1,370	1,010	624	527	454	410
24	449	408	597	426	1,690	1,220	1,300	994	635	490	447	418
25	446	401	648	443	1,560	1,310	1,260	932	615	473	455	424
26	437	397	664	428	1,390	1,360	1,240	886	614	489	433	[b] 423
27	435	381	603	428	1,280	1,340	1,270	900	611	470	437	[b] 425
28	433	375	588	428	1,180	1,340	1,260	842	652	504	421	[b] 423
29	430	379	552	411	-------	1,360	1,210	845	619	479	435	[b] 418
30	452	375	584	418	-------	1,380	1,130	795	614	501	444	[b] 418
31	421	-------	556	417	-------	1,430	-------	837	-------	480	425	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	487	421	450	27,700
November	417	375	396	23,600
December	781	366	527	32,400
January	552	401	446	27,400
February	2,990	500	1,460	81,100
March	1,430	784	1,020	62,700
April	1,400	1,130	1,280	76,200
May	1,130	795	915	56,300
June	834	611	682	40,600
July	604	470	538	33,100
August	481	421	451	27,700
September	467	410	434	25,800
The year	2,990	366	712	515,000

[a] Based on electrical output.
[b] Estimated.

NOTE.—Daily discharge corrected for storage at power plant.

SANDY RIVER BASIN

SANDY RIVER ABOVE SALMON RIVER, AT BRIGHTWOOD, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 24, T. 2 S., R. 6 E., at Brightwood, three-fourths mile above mouth of Salmon River.

DRAINAGE AREA.—117 square miles.

RECORDS AVAILABLE.—May, 1910, to September, 1914; March, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,160 second-feet Feb. 1 (gage height, 4.00 feet); minimum, 155 second-feet Nov. 13, 20, 21.

1910–1914, 1926–1930: Maximum discharge, 6,940 second-feet Jan. 13, 1912 (gage height, 6.8 feet); minimum, that of Nov. 13, 20, 21, 1929.

REMARKS.—Records fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	208	164	158	1,150	3,160	570	795	678	755	341	232	171
2	197	164	158	970	2,320	508	715	640	1,150	[a]319	232	174
3	197	158	158	795	1,750	508	678	640	1,020	297	239	174
4	183	160	158	678	1,550	508	640	570	1,020	314	246	174
5	188	160	158	539	2,080	570	605	570	880	323	260	178
6	174	160	158	508	1,650	539	605	605	795	314	246	171
7	192	158	164	450	1,450	508	640	570	755	290	246	167
8	197	158	232	424	1,650	479	755	570	678	297	246	167
9	197	160	350	397	1,350	479	640	605	570	297	246	167
10	197	158	350	350	1,250	479	570	605	570	305	246	174
11	197	158	374	350	1,860	508	570	605	570	305	246	208
12	185	158	341	350	1,650	539	570	605	508	314	226	174
13	174	155	314	341	1,650	508	570	640	479	350	220	174
14	174	158	1,860		1,970	508	605	755	450	314	214	174
15	174	158	1,250		1,750	479	715	755	450	290	220	178
16	174	160	1,060		1,550	450	640	715	479	275	220	174
17	192	160	755		1,450	424	570	640	450	260	208	171
18	202	158	970		1,450	424	539	640	424	239	197	171
19	169	158	1,860		1,650	424	508	640	397	246	188	160
20	162	155	1,550		1,650	450	570	1,100	397	246	183	160
21	165	155	1,150	[a]280	1,250	450	570	1,200	374	260	183	158
22	165	158	970		1,150	1,250	570	1,100	374	260	192	158
23	165	158	1,060		1,020	1,100	570	1,020	350	253	192	160
24	159	160	1,060		880	1,350	539	838	350	246	192	171
25	156	160	970		795	1,450	570	838	350	232	183	164
26	169	160	925		715	1,250	570	755	350	232	178	164
27	336	160	755		640	1,150	795	678	350	226	178	171
28	180	160	640		605	1,150	715	640	341	232	178	171
29	162	158	570		-------	1,100	795	605	314	239	178	167
30	162	158	640	424	-------	970	715	570	290	253	183	167
31	159	-------	570	880	-------	880	-------	715	-------	253	178	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	336	156	184	1.57	1.81	11,300
November	164	155	159	1.36	1.52	9,460
December	1,860	158	700	5.98	6.89	43,000
January	1,150	----------	422	3.61	4.16	25,900
February	3,160	605	1,500	12.8	13.33	83,300
March	1,450	424	708	6.05	6.98	43,500
April	795	508	630	5.38	6.00	37,500
May	1,200	570	713	6.09	7.02	43,800
June	1,150	290	541	4.62	5.16	32,200
July	350	226	278	2.38	2.74	17,100
August	260	178	212	1.81	2.09	13,000
September	208	158	170	1.45	1.62	10,100
The year	3,160	155	511	4.37	59.32	370,000

[a] Estimated.

SANDY RIVER NEAR MARMOT, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 24, T. 2 S., R. 5 E., three-fourths mile southwest of Marmot, 2 miles above Sandy River dam of Portland General Electric Co., and 5 miles below Salmon River.

DRAINAGE AREA.—262 square miles.

RECORDS AVAILABLE.—August, 1911, to December, 1915; July, 1919, to September, 1930. Combined discharge of Sandy River and canal gives comparable results for gap in record.

EXTREMES.—Maximum discharge during year occurred Feb. 1 (stage and discharge not determined); minimum, 220 second-feet Dec. 3–8 (gage height, 1.8 feet).

1911–1930: Maximum discharge, about 29,200 second-feet Jan. 6, 1923 (gage height, 17.5 feet); minimum, that of Dec. 3–8, 1929.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station. Gage-height record furnished by Portland General Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	247	223	1,680	e 7,500	1,030	1,450	1,330	1,580	e 580	365	270
2	247	254	223	1,860	e 5,000	960	1,330	1,210	2,340	e 560	357	280
3	250	244	220	1,470	3,310	925	1,250	1,210	2,140	e 540	353	290
4	260	244	220	1,230	2,880	890	1,290	1,170	1,990	524	361	301
5	271	244	220	1,080	3,890	1,060	1,170	1,060	1,720	520	365	294
6	257	244	220	915	2,980	1,060		1,210	1,540	520	365	294
7	260	244	220		3,200	960		1,250	1,410	502	365	273
8	274	241	578		3,310	925		1,210	1,250	492	385	280
9	305	238	945		2,480	925		1,210	1,100	497	381	280
10	271	247	1,390		3,030	925		1,250	1,060	492	377	298
11	260	247	1,010		4,170	960		1,210	995	492	365	357
12	260	241	747		3,140	1,030		1,100	925	506	357	312
13	260	241	1,120		3,680	960		1,060	860	551	345	301
14	260	241	3,680		4,310	890	e 1,050	1,370	830	515	338	294
15	257	238	e 2,900	e 560	3,450	830		1,490	800	470	341	301
16	260	238	2,180		3,040	800		1,410	800	448	341	298
17	313	238	1,590		2,640	770		1,290	740	434	326	294
18	289	235	2,570		2,640	770		1,170	700	425	326	290
19	268	235	3,770		3,450	740		1,250	690	417	315	280
20	254	229	2,780		3,240	860		1,850	670	417	312	276
21	241	232	2,040		2,640	1,920		2,940	670	425	312	273
22	241	232	1,810		2,440	3,040	1,210	2,840		430	315	266
23	238	235	2,230		2,140	2,490	1,060	2,240		425	315	253
24	238	232	2,130	333	1,800	2,840	995	1,940		405	312	253
25	235	232	1,990	329	1,580	2,840	960	1,720		401	301	253
26	555	232	1,810	325	1,410	2,540	995	1,490	e 580	377	308	253
27	694	229	1,470	369	1,250	2,190	1,250	1,330		369	308	263
28	397	229	1,270	e 420	1,140	1,990	1,490	1,250		373	304	276
29	321	226	1,080	e 880	-------	2,040	1,670	1,170		385	304	256
30	274	226	1,080	e 1,000	-------	e 1,810	1,490	1,170		389	294	253
31	260	-------	1,120	e 2,000	-------	1,580	-------	1,370	-------	377	284	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	694	235	291	1.11	1.28	17,900
November	254	226	238	.908	1.01	14,200
December	3,770	220	1,450	5.53	6.38	89,200
January	1,860	----------	755	2.88	3.32	46,400
February	7,500	1,140	3,060	11.7	12.18	170,000
March	3,040	740	1,400	5.34	6.16	86,100
April	1,670	----------	1,150	4.39	4.90	68,400
May	2,940	1,060	1,440	5.50	6.34	88,500
June	2,340	----------	1,000	3.82	4.26	59,500
July	580	369	460	1.76	2.03	28,300
August	385	284	335	1.28	1.48	20,600
September	357	253	282	1.08	1.20	16,800
The year	7,500	220	975	3.72	50.54	706,000

e Estimated.

SANDY RIVER BELOW BULL RUN RIVER, NEAR BULL RUN, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 30, T. 1 S., R. 5 E., 1 mile below Bull Run River and 2 miles northwest of Bull Run.

DRAINAGE AREA.—440 square miles.

RECORDS AVAILABLE.—April, 1910, to September, 1914 (three-fourths mile upstream from present site); October, 1929, to September, 1930.

EXTREMES.—Maximum discharge during year, 21,300 second-feet Feb. 1 (gage height, 12.05 feet); minimum, 60 second-feet Dec. 5 (gage height, 0.90 foot). 1910–1914, 1929–30: Extremes, those of 1929–30.

REMARKS.—Records good except those estimated, which are fair. No diversions for irrigation above station. Flow regulated by Bull Run power plant of Portland General Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	373	267	3,650	12,400	1,770	2,220	2,440	2,200	762	458	398
2	-------	394	344	3,990	11,300	1,640	2,040	2,080	3,430	640	416	377
3	-------	255	372	2,990	7,000	1,710	1,800	2,130	3,180	726	375	388
4	-------	428	328	2,490	5,250	1,500	1,930	1,970	3,060	458	432	399
5	-------	466	236	1,970	8,230	1,680	1,770	1,780	2,760	723	464	380
6	-------	395	247	2,040	5,700	1,720	1,700	2,040	2,300	565	346	379
7	-------	385	246	1,770	6,820	1,670	1,740	2,170	2,170	622	421	252
8	-------	420	644	1,330	7,690	1,610	2,130	2,080	1,870	613	388	418
9	-------	336		1,130	4,840	1,410	1,880	2,040	1,760	530	573	407
10	-------	232		1,090	5,870	1,670	1,700	2,040	1,680	532	359	445
11	-------	195	[a] 3,300	1,110	8,750	1,680	1,560	1,880	1,490	523	447	422
12	-------	486		875	6,020	1,660	1,520	1,480	1,360	531	464	367
13	-------	413		841	7,310	1,510	1,520	1,580	1,280	618	392	410
14	-------	303		936	9,610	1,550	1,740	2,000	1,170	526	370	302
15	-------	294	6,570	828	7,000	1,380	2,080	2,260	860	518	382	457
16	-------	238	5,440	824	5,630	1,180	2,130	1,980	1,130	504	394	305
17	-------	318	3,690	895	4,890	1,360	1,920	1,900	1,130	476	437	324
18	-------	342	4,750	624	4,400	1,280	1,840	1,920	910	410	424	328
19	-------	308	7,780	775	6,220	1,150	1,700	1,960	924	444	393	330
20	-------	330	5,870	678	6,020	1,290	1,320	3,230	898	483	366	336
21	-------	308	3,820	769	4,560	3,260	1,560	5,660	872	460	356	269
22	-------	348	3,300	780	4,100	6,020	1,940	5,250	784	450	306	364
23	-------	314	4,840	751	3,820	4,720	1,700	3,960	790	463	384	334
24	-------	252	4,400	691	3,300	5,370	1,500	3,180	800	420	346	323
25	-------	375	3,690	737	2,990	5,440	1,700	2,880	774	494	408	280
26	-------	400	3,560	704	2,550	4,250	1,600	2,380	812	472	379	262
27	-------	315	3,000	806	2,140	3,560	1,500	2,190	746	390	328	458
28	-------	354	2,360	672	1,950	3,180	2,760	1,920	825	409	314	424
29	-------	366	1,900	1,290	-------	3,000	2,880	1,840	704	464	390	184
30	-------	338	2,030	2,000	-------	2,690	2,940	1,690	693	410	381	219
31	390	-------	2,200	3,900	-------	2,590	-------	1,900	-------	418	346	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	-------	-------	[a] 380	0.864	1.00	23,400
November	486	195	343	.780	.87	20,400
December	7,780	236	2,960	6.73	7.76	182,000
January	3,990	624	1,420	3.23	3.72	87,300
February	12,400	1,950	5,940	13.5	14.06	330,000
March	6,020	1,150	2,400	5.45	6.28	148,000
April	2,940	1,320	1,880	4.27	4.76	112,000
May	5,660	1,480	2,380	5.41	6.24	146,000
June	3,430	693	1,450	3.30	3.68	86,300
July	762	390	518	1.18	1.36	31,900
August	573	306	395	.898	1.04	24,300
September	458	184	351	.798	.89	20,900
The year	12,400	-------	1,670	3.80	51.66	1,210,000

[a] Estimated.

ZIGZAG RIVER AT TWIN BRIDGES, NEAR RHODODENDRON, OREG.

LOCATION.—Water-stage recorder probably in sec. 15 of unsurveyed T. 3 S., R. 8 E., 200 feet above upper of the Twin Bridges on Mount Hood Loop Highway and 5½ miles east of Rhododendron.

DRAINAGE AREA.—5.2 square miles.

RECORDS AVAILABLE.—March, 1926, to September, 1930, when station was discontinued.

EXTREMES.—Maximum discharge during year, 122 second-feet while clock was not running, probably Feb. 1 (gage height, 1.32 feet); minimum, 14 second-feet Aug. 28.

1926–1930: Maximum discharge, 217 second-feet Nov. 25, 1927 (gage height, 1.85 feet); minimum, about 10 second-feet Aug. 10, 11, 1926.

REMARKS.—Records good. Mean discharge estimated for February and for periods included in braces. No diversions or regulation above station. Diurnal fluctuation in summer due to melting of snow and ice in glaciers.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	21	21	30		31	31	38	30	19	
2	18	22	21	27		31	31	40	29	19	
3	18	22	20	24		31	30	38	28	18	
4	18	22	19	23		30	30	36	28	18	
5	18	23	17	23		30	31	37	29	18	
6	17	23	17	22		30	31	38	28	19	
7	17	23	17	21		31	30	38	28	19	
8	18	23	22	21		31	30	38	28	19	
9	17	23	27	21		30	31	38	28	17	
10	18	23	28	21	[a] 35	30	31	38	27	18	[a] 23
11	19	23	23	21		30	33	40	28	19	
12	19	23	22	21		31	31		28	19	
13	18	23	27	21		33	33		27	19	
14	19	23	37	21		31	36		28	19	
15	18	23	31	21		31	33		27	18	
								[a] 40			
16	17	23	31	21		31	31		26	18	
17	19	23	28	22		30	33		26	18	
18	19	22	40	21		30	33		24	18	
19	19	21	45	21		30	34		24	18	22
20	19	20	34	21		30	36	40	24	18	
21	19	20	30	21	28	34	36	40	24	17	
22	19	20	30	21	27	34	36	37	24	17	
23	19	20	33	20	26	36	37	37	24	17	
24	18	20	29	21	33	33	38	36	23	18	
25	19	20	29	21	33	31	36	36	23	18	[a] 22
26	19	20	28	21	33	31	37	36	22	17	
27	23	20	26	21	30	34	37	37	22	16	
28	19	20	26	22	33	30	37	36	21	14	
29	19	20	26	20	33	28	37	34	20	16	
30	20	21	26	22	31	29	38	33	19	18	
31	20	------	26	26	30	------	37	------	19	18	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	23	17	18.6	3.58	4.13	1,140
November	23	20	21.7	4.17	4.65	1,290
December	45	17	27.0	5.19	5.98	1,660
January	30	20	21.9	4.21	4.85	1,350
February	------	------	[a] 60.00	11.5	11.98	3,330
March	------	------	33.5	6.44	7.42	2,060
April	36	28	31.1	5.98	6.67	1,850
May	38	30	33.7	6.48	7.47	2,070
June	------	33	38.0	7.31	8.16	2,260
July	30	19	25.4	4.88	5.63	1,560
August	19	14	17.9	3.44	3.97	1,100
September	------	------	22.6	4.35	4.85	1,340
The year	------	17	29.0	5.58	75.76	21,000

[a] Estimated.

ZIGZAG RIVER AT RHODODENDRON, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 11, T. 3 S., R. 7 E., just below bridge on Vine Maple road and one-fourth mile south of Rhododendron.

DRAINAGE AREA.—31 square miles.

RECORDS AVAILABLE.—February, 1920, to September, 1921; March, 1926, to December, 1930, (incomplete) when station was discontinued.

EXTREMES.—Maximum discharge recorded during year ending Sept. 30, 1930, 360 second-feet Dec. 14 (gage height, 2.54 feet); minimum, 62 second-feet Sept. 2, 3, 19.

1920–21, 1926–1930: Maximum discharge, 1,270 second-feet Nov. 25, 1927 (gage height, 4.20 feet); minimum, 55 second-feet Nov. 9, 11, 1930.

REMARKS.—Records fair. No diversions or regulation above station. Diurnal fluctuation in summer due to melting of snow and ice in glaciers.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1928-30														
1	70	68	64	------	------	------	------	a 270	100	74	64	64	a 63	92
2	70	68	------	------	------	------	------	a 290	99	74	63	64	60	135
3	69	68	------	153	------	------	149	270	97	74	63	63	58	111
4	68	68	------	------	------	------	------	235	94	74	64	62	59	103
5	68		------	------	------	183	------	222	93	74	66	62	59	99
6	68		64	113	------	------	------	208	92	74	66	105	58	89
7	69		66	110	------	183	------	183	92	74	66	359	57	86
8	70		116	106	------	------	------	158	92	74	68	288	56	84
9	70		------	------	------	------	------	151	89	72	66	129	a 55	81
10	70		------	------	------	------	170	146	89	72	71	97	a 60	a 80
11	70	a 66	------	------	------	------	------	140	86	72	76	92	a 55	a 100
12	69		89	------	------	183	------	135	86	72	76	92	a 120	a 100
13	68		------	------	------	183	------	126	92	70	67	93	85	a 116
14	68		340	------	------	------	------	124	89	70	67		a 89	100
15	67		------	------	------	------	------	122	86	68	64		a 93	96
16	66		196	------	------	------	------	120	86	70	64		97	97
17	68		------	------	------	------	------	116	85	68	64		a 90	100
18	68		------	------	------	------	------	116	84	68	64	a 74	84	a 97
19	68		------	------	------	------	------	114	82	68	63		a 86	a 94
20	68	64	360	------	------	------	------	113	81	68	67		89	a 92
21	68	a 64	------	------	------	------	------	113	79	66	65		a 89	a 89
22	68	a 64	------	------	------	------	------	110	78	67	65	56	a 89	86
23	67	64	------	------	------	------	------	110	76	64	65	61	a 89	a 85
24	66	a 64	------	------	------	------	------	106	76	64	70	82	89	84
25	66	64	------	------	------	------	------	106	78	64	70	82	89	a 82
26	68	a 64	------	------	252	170	------	106	76	65	68	73		81
27	106	a 64	153	------	------	------	------	106	76	64	66	92		79
28	74	a 64	140	------	------	------	------	103	74	64	65	a 78	a 90	a 75
29	70	64	------	108	252	------	------	100	74	64	64	64		a 75
30	69	a 64	------	------	252	------	------	100	74	64	64	a 65		a 75
31	68	------	------	------	252	------	------	------	74	64	------	66	------	a 80

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929-30						
October	106	66	69.7	2.25	2.59	4,290
November	------	64	65.5	2.11	2.35	3,900
June	290	100	147	4.74	5.29	8,750
July	100	74	84.8	2.74	3.16	5,210
August	74	64	69.0	2.23	2.57	4,240
September	76	63	66.4	2.14	2.39	3,950
1930						
October	359	56	92.9	3.00	3.46	5,710
November	120	55	78.9	2.55	2.84	4,690
December	135	75	91.7	2.96	3.41	5,640
The period	------	------	------	------	------	16,000

a Estimated.

NOTE.—Gage not read on days for which no discharge is given.

LITTLE ZIGZAG RIVER AT TWIN BRIDGES, NEAR RHODODENDRON, OREG.

LOCATION.—Water-stage recorder probably in sec. 15 of unsurveyed T. 3 S., R. 8 E., 500 feet above upper of Twin Bridges on Mount Hood Loop Highway and 5½ miles east of Rhododendron.

DRAINAGE AREA.—3.7 square miles.

RECORDS AVAILABLE.—March, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 42 second-feet Feb. 1 (gage height, 1.36 feet); minimum, 19 second-feet July 28–31, Aug. 2, 9, 10.

1926–1930: Maximum discharge, 90 second-feet Nov. 29, 1926 (gage height, 1.65 feet); minimum daily discharge, 18 second-feet several days in July and September, 1926.

REMARKS.—Records fair. Discharge estimated Mar. 3–20 and Sept. 20–30. No diversions or regulation above station. Diurnal fluctuation in summer due to melting of snow and ice in glaciers.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	24	21	25	32	27	27	28	26	22	20	21
2	23	24	21	24	27	27	27	28	27	22	19	21
3	23	24	21	24	26		27	28	26	22	20	21
4	24	24	21	23	26		28	28	26	22	20	22
5	23	24	21	23	29		28	28	26	22	20	22
6	23	24	22	23	26		27	28	24	22	20	22
7	23	24	22	23	28		29	28	24	22	20	24
8	23	24	24	23	26		28	28	24	22	20	24
9	23	25	24	24	26		28	28	24	22	19	24
10	23	25	25	23	29		27	28	25	21	19	24
11	22	24	22	23	26	28	26	28	25	21	20	26
12	23	24	22	23	25		26	27	25	21	20	25
13	24	24	24	23	31		26	28	25	21	21	25
14	24	23	27	23	34		27	28	25	21	20	25
15	24	23	25	23	32		28	28	25	21	21	26
16	22	22	24	23	32		26	27	24	21	21	24
17	24	22	22	23	30		26	26	24	21	21	25
18	22	22	26	23	30		26	26	24	21	21	24
19	22	22	27	23	35		26	26	24	21	21	23
20	22	22	25	24	32		26	28	24	21	21	
21	22	22	24	24	28	28	28	29	24	20	21	
22	23	22	24	24	29	26	28	28	24	20	21	
23	24	22	25	25	26	26	27	28	23	20	21	
24	24	22	24	25	26	30	28	28	23	20	21	
25	24	22	24	25	26	28	28	27	23	20	21	23
26	24	22	24	24	28	28	28	26	22	20	21	
27	26	22	24	23	28	28	28	26	22	20	21	
28	24	22	24	22	27	28	28	26	22	19	20	
29	24	22	24	24	------	28	29	26	22	19	20	
30	24	21	23	24	------	28	28	26	22	19	20	
31	24	------	24	24	------	28	------	26	------	19	20	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	26	22	23.3	6.30	7.26	1,430
November	25	21	23.0	6.22	6.94	1,370
December	27	21	23.5	6.35	7.32	1,440
January	25	22	23.5	6.35	7.32	1,440
February	35	25	28.6	7.73	8.05	1,590
March	----------	----------	27.9	7.54	8.69	1,720
April	29	26	27.3	7.38	8.23	1,620
May	29	26	27.4	7.41	8.54	1,680
June	27	22	24.1	6.51	7.26	1,430
July	22	19	20.8	5.62	6.48	1,280
August	21	19	20.4	5.51	6.35	1,250
September	26	21	23.4	6.32	7.05	1,390
The year	35	19	24.4	6.59	89.49	17,600

STILL CREEK NEAR GOVERNMENT CAMP, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 25, T. 3 S., R. 8½ E., 100 yards below mouth of Mineral Creek, half a mile northwest of Summit ranger station, and 2 miles southeast of Government Camp.

DRAINAGE AREA.—2.8 square miles.

RECORDS AVAILABLE.—May, 1910, to May, 1912; May, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 62 second-feet Feb. 1 (gage height, 1.34 feet); minimum, 9 second-feet several days in October, November, and December.

1910–1912, 1926–1930: Maximum discharge, that of Feb. 1, 1930; minimum, 5.0 second-feet Nov. 12, 1911.

REMARKS.—Records fair. Mean monthly discharge is mean of discharges on days when gage was read. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		10		18	62	17	20				12	11
2	10	10	9				18	18	21	15		
3				15	33	15		18				11
4	9	9	9	13			18		21	14	12	
5	9				21	18	18	18	21			11
6		10	10	13					21		12	
7	9		10		20	15	21	18		14		
8		9		12	20	15					12	12
9	10	9	17				20	20	19	14		
10					21	16		20				13
11	10	9	15	11			19		18	13	12	
12	10				20	18	21	18				14
13		9	16	11					18		12	
14	9		33		33	15	21	21	18	13		
15	10	9	39	11	26	14					12	11
16	9	9					20	18	18	14		
17	14				21	14		18				11
18		9	26	12			20		18	14	12	
19	10				26	16	18	21				11
20		9	18	13		16			18		12	11
21	10		20		20	18	20	24		14		
22		9		12	20	18					12	11
23	10	9	24				20	20	17	14		
24	10				18	26						11
25		10	18	11			18		16	13	11	
26	9				18	21	18	18				12
27	13	10		11					15	13	11	
28			13		17	23	20	18		12		
29	12	9				23			15		11	12
30	10	9	17	16			19	20		12		
31								20				

Month	Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet
October	10.2	3.64	4.20	627
November	9.3	3.32	3.70	553
December	18.4	6.57	7.57	1,130
January	12.8	4.57	5.27	787
February	24.8	8.86	9.23	1,380
March	17.8	6.36	7.33	1,090
April	19.4	6.93	7.73	1,150
May	19.3	6.89	7.94	1,190
June	18.3	6.54	7.30	1,090
July	13.5	4.82	5.56	830
August	11.8	4.21	4.85	726
September	11.6	4.14	4.62	690
The year	15.5	5.54	75.30	11,200

NOTE.—Gage not read on days for which discharge is not shown.

STILL CREEK AT RHODODENDRON, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 2, T. 3 S., R. 7 E., 300 yards above mouth, 100 feet below Still Creek Bridge on Mount Hood Loop Highway, and one-fourth mile west of Rhododendron.

DRAINAGE AREA.—23 square miles.

RECORDS AVAILABLE.—February, 1920, to September, 1921; March, 1926, to December, 1930 (incomplete), when station was discontinued.

EXTREMES.—Maximum discharge recorded during year ending Sept. 30, 1930, 425 second-feet Dec. 14 (gage height, 2.60 feet); minimum, 20 second-feet Sept. 19–23, 26, 30.

1920–21, 1926–1930: Maximum discharge, 1,600 second-feet Nov. 25, 1927; minimum, 16 second-feet Sept. 12, 14, 1926.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	26	23	22					e 200	41	28	23	20	24	e 80
2	26	23						e 200	40	28	23	20	24	105
3	26	23					98	205	39	28	23	20	24	98
4	26	23		118				237	38	28	23	20	24	e 87
5	26	e 23				98		177	36	28	22	20	24	e 75
6	26	e 23	22	81				148	36	27	22	23	24	64
7	26	e 22	23	72				131	36	26	22	48	24	e 60
8	26	e 22	50	69				122	35	26	22	33	24	55
9	27	22						116	35	26	22	31		e 55
10	26						126	94	34	26	24	27		e 55
11	25							91	32	26	28	26		e 70
12	25		50			87		76	32	26	28	24		e 75
13	24					87	105	74	33	26	23	24		e 91
14	23	e 22	425					67	33	25	23			e 83
15	23							64	33	25	23			75
16	23							62	32	25	22			
17	24						131	59	32	24	22		e 80	
18	23							57	31	24	22	e 22		
19	23							56	30	24	20			
20	23	22	305					55	30	24	20			
21	23	e 22			118			52	29	24	20			e 60
22	23	e 22						50	28	24	20	21		
23	22	e 22						49	29	24	21	22		
24	22	e 22						48	29	24	22			
25	22	22						48	29	24	22		81	
26	23	e 22				78		46	29	24	21	e 30		46
27	67	e 22	138					46	29	24	23			44
28	30	e 23	109					44	29	24	22		e 75	e 45
29	24	23		72	177			42	29	23	22	30		e 45
30	24	e 22			177			42	29	23	20	e 27		e 45
31	23				177				28	23		24		e 50

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929–30						
October	67	22	25.8	1.12	1.29	1,590
November			22.3	.970	1.08	1,330
June	237	42	91.9	4.00	4.46	5,470
July	41	28	32.4	1.41	1.63	1,990
August	28	23	25.2	1.10	1.27	1,550
September	28	20	22.3	.970	1.08	1,330
1930						
October	48		25.4	1.10	1.27	1,560
November		24	64.3	2.80	3.12	3,830
December	105	44	64.6	2.81	3.24	3,970

e Estimated.

NOTE.—Gage not read on days for which discharge is not given.

SALMON RIVER NEAR GOVERNMENT CAMP, OREG.

LOCATION.—Water-stage recorder in sec. 31, T. 3 S., R. 9 E., near lower end of Red Top Meadows and 4 miles southeast of Government Camp.

DRAINAGE AREA.—8.0 square miles.

RECORDS AVAILABLE.—May, 1910, to May, 1912; April, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 149 second-feet Feb. 1 (gage height, 1.82 feet); minimum, 12 second-feet Nov. 21.

1910–1912, 1926–1930: Maximum discharge, 350 second-feet Nov. 29, 1926 (gage height, 3.43 feet); minimum, that of Nov. 21, 1929.

REMARKS.—Records good except those estimated Nov. 29 to Dec. 1, Jan. 23–28, and those for month of November, which are fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	15	14	43	95	30	53	48	55	30	22	17
2	18	15	14	35	68	29	52	49	58	29	21	17
3	18	14	14	29	41	28	51	47	53	28	21	17
4	18	14	13	27	44	28	49	44	48	28	22	17
5	19	14	14	26	59	32	49	41	43	28	23	17
6	19	15	15	25	43	29	52	44	41	27	23	17
7	17	14	16	24	49	28	58	43	41	27	23	16
8	18	14	34	24	48	27	58	43	38	26	24	17
9	19	14	42	23	37	26	50	44	37	26	24	16
10	17	14	37	24	51	27	48	43	37	26	23	19
11	17	14	22	24	54	30	49	41	36	26	23	17
12	17	13	19	23	40	33	52	40	36	26	23	18
13	17	13	28	24	69	29	53	45	35	28	23	17
14	17	13	66	24	96	27	55	52	34	26	22	17
15	17	13	42	23	69	26	61	48	33	24	23	17
16	17	13	38	23	67	25	53	43	33	23	23	17
17	20	13	27	23	59	27	48	41	33	23	21	17
18	18	13	40	23	65	28	48	40	33	23	21	17
19	17	13	86	22	96	30	49	50	32	23	21	16
20	16	13	47	22	81	31	51	50	33	24	20	16
21	16	12	35	22	58	43	61	60	32	24	20	17
22	16	14	32	21	55	35	56	56	32	23	20	16
23	16	13	48		46	33	53	50	32	24	19	15
24	16	14	37		41	67	51	47	32	23	19	16
25	15	15	38		38	68	50	44	32	23	18	15
				22								
26	17	15	31		35	62	54	40	32	21	18	15
27	33	15	29		34	60	58	40	32	21	18	16
28	19	14	27		32	64	54	41	32	22	18	16
29	17	14	26	23	------	65	53	40	30	23	18	16
30	16	14	28	28	------	62	48	45	29	23	18	15
31	15	------	27	37	------	56	------	54	------	22	17	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	33	15	17.7	2.21	2.55	1,090
November	15	12	13.8	1.72	1.92	821
December	86	13	31.8	3.98	4.59	1,960
January	43	------	25.0	3.12	3.60	1,540
February	96	32	56.1	7.01	7.30	3,120
March	68	25	38.2	4.78	5.51	2,350
April	61	48	52.6	6.58	7.34	3,130
May	60	40	45.6	5.70	6.57	2,800
June	58	29	36.8	4.60	5.13	2,190
July	30	21	24.8	3.10	3.57	1,520
August	24	17	20.9	2.61	3.01	1,290
September	19	15	16.5	2.06	2.30	982
The year	96	12	31.5	3.94	53.39	22,800

SALMON RIVER BELOW LINNEY CREEK, OREG.

LOCATION.—Water-stage recorder 200 feet below Linney Creek, 9 miles southeast of Welches, and 11 miles downstream from gaging station on Salmon River near Government Camp.

DRAINAGE AREA.—54 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 702 second-feet Feb. 19 (gage height, 2.32 feet); minimum, 44 second-feet Nov. 21 (gage height, 0.23 foot). 1927–1930: Maximum discharge, 2,800 second-feet Nov. 25, 1927 (gage height, 4.30 feet); minimum, that of Nov. 21, 1929.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	59	49	250	401	218	325	197	238	105	67	57
2	60	59	48	244	410	202	311	197	268	103	66	56
3	60	56	48	205	318	192	297	200	250	100	66	56
4	60	59	48	183	304	186	297	189	247	98	66	56
5	60	56	48	168	383	213	281	173	221	96	64	56
6	60	57	48	150	335	200	281	186	205	93	63	56
7	59	56	49	135	335	181	291	186	197	92	63	53
8	60	54	93	131	350	173	297	183	189	90	63	54
9	64	56	156	122	291	168	272	186	178	90	63	54
10	61	57	192	117	357	166	256	178	171	88	63	63
11	60	57	103	117	434	176	247	168	161	87	59	63
12	60	59	84	112	342	192	250	161	156	84	60	57
13	59	56	112	[a] 111	434	176	247	166	154	85	59	56
14	59	56	325	[a] 109	555	164	253	221	148	87	57	
15	59	56	244	108	489	156	275	221	144	82	63	
16	60	56	238	106	455	152	247	194	137	79	68	
17	70	57	161		430	152	221	186	133	79	70	
18	66	54	216		442	156	221	176	131	78	68	
19	64	54	418	[a] 103	590	161	218	194	129	78	67	
20	61	53	325		610	181	213	227	128	76	66	
21	61	49	247		489	268	241	314	124	76	66	[a] 55
22	61	52	224	100	467	281	232	332	120	74	66	
23	61	52	294	[a] 98	410	250	213	278	120	73	64	
24	61	50	272	95	350	342	232	256	119	73	63	
25	57	54	278	90	314	379	197	250	115	72	61	
26	60	54	262	90	281	375	208	227	115	70	61	
27	110	53	216	88	256	368	227	210	113	68	60	
28	82	52	192	85	235	375	227	205	120	67	60	
29	67	50	176	112	-------	379	232	202	110	67	59	
30	63	50	178	124	-------	375	213	205	105	67	60	
31	60	-------	173	176	-------	346	-------	265	-------	67	59	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	110	57	63.4	1.17	1.35	3,900
November	59	49	54.8	1.01	1.13	3,260
December	418	48	178	3.30	3.80	10,900
January	250	85	127	2.35	2.71	7,810
February	610	235	395	7.31	7.61	21,900
March	379	152	236	4.37	5.04	14,500
April	325	197	251	4.65	5.19	14,900
May	332	161	211	3.91	4.51	13,000
June	268	105	158	2.93	3.27	9,400
July	105	67	82.1	1.52	1.75	5,050
August	70	57	63.2	1.17	1.35	3,890
September	63	----------	55.7	1.03	1.15	3,310
The year	610	48	155	2.87	38.86	112,000

[a] Estimated.

SALMON RIVER AT WELCHES, OREG.

LOCATION.—Staff gage in S. ½ sec. 9, T. 3 S., R. 7 E., just below Sheeny Creek and three-fourths mile southeast of Welches.

DRAINAGE AREA.—100 square miles.

RECORDS AVAILABLE.—August, 1913, to September, 1914; July, 1920, to September, 1921; April, 1925, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,840 second-feet Feb. 1 (gage height, 4.70 feet); minimum, 65 second-feet Dec. 3–6 (gage height, 0.32 foot). 1913–14, 1920–21, 1925–1930: Maximum discharge, 8,760 second-feet Nov. 25, 1927 (gage height, 7.3 feet, present datum); minimum, that of Dec. 3–6, 1929.

REMARKS.—Records good. Discharge estimated Jan. 14–21. No diversion or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	79	69	839	3,540	373	543	437	460	177	103	76
2	76	79	69	714	1,660	355	486	394	796	165	103	76
3	76	76	65	513	1,070	337	460	394	677	154	98	72
4	79	76	65	437	928	337	460	373	606	154	98	72
5	79	72	65	373	1,360	373	437	355	460	148	98	72
6	79	72	67	337	975	373	437	373	437	148	94	72
7	79	72	72	303	839	337	437	394	414	143	94	72
8	87	72	121	286	928	337	460	437	373	143	94	72
9	90	72	355	254	755	337	437	394	373	137	90	72
10	83	79	796	222	928	337	414	394	337	137	90	76
11	79	79	355	207	1,020	337	394	373	320	132	90	98
12	79	76	207	207	1,070	373	394	355	303	126	87	88
13	76	76	414	207	1,870	337	373	337	270	132	87	83
14	76	76	2,330		1,660	303	414	513	270	132	83	83
15	72	72	882		1,260	303	460	573	254	126	87	79
16	72	72	796		1,070	286	460	486	238	126	87	79
17	98	76	543	207	928	270	373	437	238	126	83	76
18	94	76	1,260		882	270	373	394	238	121	83	76
19	87	72	1,760		1,460	286	355	414	222	121	83	76
20	79	69	1,030		1,260	320	337	714	207	121	83	72
21	76	69	677		1,070	882	394	1,560	207	116	79	72
22	76	69	573	207	975	1,070	414	1,120	207	116	79	72
23	72	69	928	192	839	839	373	796	192	116	79	72
24	72	69	796	177	796	975	337	640	192	112	79	72
25	72	74	714	165	606	839	337	543	177	112	76	72
26	72	72	640	143	513	796	337	460	177	112	76	72
27	222	72	513	143	460	755	513	437	177	112	76	76
28	143	72	414	162	437	714	513	414	192	107	76	76
29	98	72	414	337	-------	677	513	373	192	107	76	76
30	90	69	394	394	-------	640	513	373	192	107	76	76
31	83	-------	373	796	-------	573	-------	486	-------	103	76	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	222	72	86.9	0.869	1.00	5,340
November	79	69	73.3	.733	.82	4,360
December	2,330	65	573	5.73	6.61	35,200
January	839	143	299	2.99	3.45	18,400
February	3,540	437	1,110	11.10	11.56	61,600
March	1,070	270	495	4.95	5.71	30,400
April	543	337	425	4.25	4.74	25,300
May	1,560	337	508	5.08	5.86	31,200
June	796	177	313	3.13	3.49	18,600
July	177	103	129	1.29	1.49	7,930
August	103	76	85.9	.859	.99	5,280
September	98	72	75.9	.759	.85	4,520
The year	3,540	65	343	3.43	46.57	248,000

BULL RUN RESERVOIR NEAR BULL RUN, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 16, T. 1 S., R. 6 E., at Bear Creek Dam of City of Portland, 8½ miles northeast of Bull Run. Gage readings are elevations above mean sea level.

RECORDS AVAILABLE.—October, 1928, to September, 1930.

EXTREMES.—1928–29: Maximum elevation during year, 1,038.00 feet June 20 (contents, 27,710 acre-feet); practically no storage at times.

1929–30: Maximum elevation during year, 1,041.50 feet Dec. 14 (contents, 29,100 acre-feet); minimum, 1,018.75 feet Dec. 7, 8 (contents, 20,760 acre-feet).

REMARKS.—Records fair to May 13, 1929; good thereafter. Bear Creek Dam on Bull Run River was completed in March, 1929. Gage-height record furnished by Portland Water Bureau.

Monthly stage and contents of Bull Run Reservoir near Bull Run, Oreg., 1928–1930

Date	Gage height in feet	Contents in acre-feet	Change in contents in acre-feet	Date	Gage height in feet	Contents in acre-feet	Change in contents in acre-feet
1928–29				1929–30			
Sept. 30	[a]	0		Oct. 31	1,027.55	23,800	−2,280
Nov. 30	886.8	157	[b] +157	Nov. 30	1,019.67	21,070	−2,730
Dec. 31	917.0	1,620	+1,463	Dec. 31	1,037.30	27,440	+6,370
Jan. 31	882.9	88	−1,532	Jan. 31	1,038.25	27,810	+370
Feb. 28	884.0	107	+19	Feb. 28	1,037.06	27,340	−470
Mar. 31	885.0	125	+18	Mar. 31	1,037.21	27,400	+60
Apr. 30	920.0	1,830	+1,705	Apr. 30	1,037.41	27,480	+80
May 31	1,037.31	27,440	+25,610	May 31	1,036.96	27,300	−180
June 30	1,036.84	27,260	−180	June 30	1,036.45	27,110	−190
July 31	1,035.82	26,860	−400	July 31	1,033.81	26,100	−1,010
Aug. 31	1,035.99	26,930	+70	Aug. 31	1,025.99	23,250	−2,850
Sept. 30	1,033.77	26,080	−850	Sept. 30	1,019.54	21,020	−2,230
The year			+26,080	The year			−5,060

[a] Gage not read; contents estimated.
[b] For October and November.

BULL RUN RIVER BELOW BULL RUN RESERVOIR, NEAR BULL RUN, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 17, T. 1 S., R. 6 E., half a mile below Bear Creek Dam on Bull Run River and 8 miles northeast of Bull Run.
DRAINAGE AREA.—77 square miles.
RECORDS AVAILABLE.—October, 1929, to September, 1930.
EXTREMES.—Maximum discharge during year, 6,240 second-feet Feb. 1 (gage height, 6.33 feet); minimum, 44 second-feet Dec. 11 (gage height, 0.00 foot).
REMARKS.—Records good except those above 3,000 second-feet, which are fair. Discharge estimated Sept. 30. No diversions above station. Flow regulated by storage in Bull Run Lake and Bull Run Reservoir. Gage-height record furnished by Portland Water Bureau.

Daily and monthly discharge, in second-feet, 1929

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	96	84	1,240	3,890	351	440	495	393	97	96	100
2	94	96	86	1,180	3,440	315	388	455	575	94	93	100
3	94	97	78	742	1,960	284	367	450	531	93	99	100
4	94	97	71	593	1,520	270	416	398	564	91	94	98
5	94	97	72	495	2,680	351	367	351	500	89	97	98
6	94	96	74	406	1,570	351	339	435	430	87	98	98
7	94	94	74	339	2,720	323	363	450	384	86	96	98
8	94	94	64	299	2,360	315	445	440	347	83	93	98
9	94	94	50	260	1,270	351	388	411	303	96	78	98
10	94	94	50	232	1,770	367	347	384	270	90	88	97
11	94	94	334	203	2,420	367	307	355	246	83	97	81
12	93	93	500	186	1,620	380	281	319	225	89	97	74
13	93	93	912	174	2,280	359	278	292	206	81	97	74
14	93	93	4,080	163	2,360	331	327	315	194	80	101	74
15	93	93	2,240	163	2,120	303	465	327	177	81	97	74
16	94	93	1,680	150	1,680	274	480	307	161	78	88	74
17	94	93	1,020	138	1,320	253	406	292	153	96	88	74
18	93	90	1,020	126	1,140	239	367	288	145	90	93	74
19	94	91	1,570	145	1,790	232	339	388	140	87	96	74
20	94	91	1,270	128	1,740	311	307	888	132	87	96	74
21	94	93	840	126	1,180	1,220	327	1,840	128	87	94	74
22	94	89	928	118	992	2,180	375	1,470	124	93	94	75
23	94	83	1,570	117	944	1,420	323	944	118	96	94	75
24	94	87	1,370	114	742	1,840	307	707	115	96	94	75
25	94	109	1,040	107	623	1,680	299	599	110	88	93	75
26	97	107	928	109	520	1,140	323	490	109	88	93	76
27	98	107	687	107	455	848	460	416	107	88	93	76
28	96	107	553	110	388	728	700	371	115	91	97	76
29	96	81	460	367	------	661	707	347	107	96	100	76
30	96	74	445	564	------	581	599	311	101	96	100	76
31	96	------	500	1,220	------	505	------	307	------	96	100	------

Month	Observed				Change in contents, Bull Run Reservoir (acre-feet)	Corrected for storage			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October	98	89	94.2	5,790	−2,280	3,510	57.1	0.742	0.86
November	109	74	93.9	5,590	−2,730	2,860	48.1	.625	.70
December	4,080	50	795	48,900	+6,370	55,500	903	11.7	13.49
January	1,240	107	336	20,700	+370	21,100	343	4.45	5.13
February	3,890	388	1,730	96,100	−470	95,600	1,720	22.3	23.22
March	2,180	232	617	37,900	+60	38,000	618	8.03	9.26
April	707	278	395	23,500	+80	23,600	397	5.16	5.76
May	1,840	288	511	31,400	−180	31,200	507	6.58	7.59
June	575	101	240	14,300	−190	14,100	237	3.08	3.44
July	97	80	89.5	5,500	−1,010	4,390	71.4	.927	1.07
August	101	78	94.3	5,800	−2,850	2,950	48.0	.623	.72
September	100	74	82.9	4,930	−2,230	2,700	45.4	.590	.66
The year	4,080	50	415	300,000	−5,060	296,000	408	5.30	71.90

BULL RUN RIVER NEAR BULL RUN, OREG.

LOCATION.—Water-stage recorder 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.

DRAINAGE AREA.—102 square miles.

RECORDS AVAILABLE.—January, 1895, to September, 1930.

EXTREMES.—Maximum discharge during year, 8,020 second-feet Feb. 1 (gage height, 7.84 feet); minimum, 74 second-feet Nov. 30 (gage height, 0.29 foot). 1895–1930: Maximum discharge, 20,300 second-feet Nov. 20, 1921; minimum, 63 second-feet Aug. 13–16, 1926.

REMARKS.—Records good. No diversions above station. Flow is regulated by storage in Bull Run Lake and Bull Run Reservoir. Gage-height record furnished by Portland Water Bureau.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	109	90	1,500	4,990	495	535	673	540	144	128	125
2	104	109	90	1,620	4,000	440	480	630	810	141	128	125
3	109	109	88	1,080	2,350	395	450	635	750	134		125
4	112	109	81	900	1,850	368	505	575	810	128		131
5	112	115	81	722	3,120	455	450	515	695	128	[b]125	131
6	112	117	83	625	2,000	485	413	600	605	125		131
7	107	115	85	[a]490	2,900	435	431	630	550	122	122	131
8	109	115	159	[a]440	3,100	426	550	605	490	120	125	125
9	112	115	225	[a]398	1,670	460	480	570	422	131	107	125
10	109	117	328	[a]339	2,860	490	431	540	377	128	117	128
11	107	117	593	297	3,000	480	382	500	341	115	125	120
12	109	117	690	[a]268	2,050	495	354	455	310		125	99
13	109	115	1,010	[a]252	2,800	480	350	408	281		125	99
14	109	115	4,550	[a]236	3,740	440	422	445	265		125	99
15	109	109	2,720	[a]241	2,500	395	595	460	249	[b]118	131	99
16	104	107	2,250	[a]225	2,050	359	620	440	233		117	99
17	115	104	1,450	[a]182	1,670	336	535	418	221		115	99
18	112	102	1,490	[a]168	1,450	318	475	404	211		117	99
19	112	99	2,200	[a]176	2,150	301	440	530	203	120	120	94
20	112	102	1,760	[a]171	1,950	354	413	1,120	193	120	120	94
21	107	102	1,260	[a]176	1,450	1,420	431	2,250	189	120	120	94
22	107	102	1,330	[a]176	1,300	2,550	495	1,850	186	122	120	94
23	102	94	2,000	[a]184	1,260	1,760	436	1,220	[b]180	128	120	94
24	99	88	1,760	[a]184	1,020	2,100	413	960	[b]175	128	120	97
25	97	117	1,370	[a]184	870	1,950	400	810	[b]170	122	120	97
26	102	117	1,220	[a]159	750	1,370	422	673	166	120	120	97
27	120	120	960	[a]147	640	1,080	620	565	163	120	117	97
28	117	122	780	[a]139	555	1,220	900	510	169	120	120	99
29	115	109	662	[a]497	-------	840	930	465	163	125	122	99
30	112	76	651	[a]679	-------	722	810	422	147	125	131	99
31	112	-------	722	1,720	-------	625	-------	418	-------	125	128	-------

Month	Observed				Change in contents, Bull Run Reservoir (acre-feet)	Corrected for storage			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October	120	97	109	6,700	−2,280	4,420	71.9	0.705	0.81
November	122	76	109	6,490	−2,730	3,760	63.2	.620	.69
December	4,550	81	1,060	65,200	+6,370	71,600	1,160	11.4	13.14
January	1,720	139	473	29,100	+370	29,500	480	4.71	5.43
February	4,990	555	2,140	119,000	−470	119,000	2,140	21.0	21.87
March	2,550	301	776	47,700	+60	47,800	777	7.62	8.78
April	930	350	506	30,100	+80	30,200	508	4.98	5.56
May	2,250	404	687	42,200	−180	42,000	683	6.70	7.72
June	810	147	342	20,400	−190	20,200	339	3.32	3.70
July	144	-------	124	7,620	−1,010	6,610	108	1.06	1.22
August	131	107	122	7,500	−2,850	4,650	75.6	.741	.85
September	131	94	108	6,430	−2,230	4,200	70.6	.692	.77
The year	4,990	76	536	388,000	−5,060	384,000	530	5.20	70.54

[a] From gage readings at diversion dam.
[b] Interpolated.

LITTLE SANDY RIVER NEAR BULL RUN, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 10, T. 2 S., R. 5 E., three-eighths mile above Portland General Electric Co.'s dam and tunnel from Sandy River and 3 miles east of Bull Run.

DRAINAGE AREA.—23 square miles.

RECORDS AVAILABLE.—May, 1911, to April, 1913, fragmentary; July, 1919, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,930 second-feet Feb. 1 (gage height, 6.45 feet); minimum, 11 second-feet Aug. 26–29, Sept. 2, 3, 23 (gage height, 1.80 feet).

1911–1913, 1919–1930: Maximum discharge, 3,950 second-feet Nov. 20, 1921 (gage height, 8.90 feet); minimum, 10 second-feet Sept. 17, 1924.

REMARKS.—Records good except those estimated and those above 150 second-feet, which are fair. No diversions or regulation above station. Gage-height record furnished by Portland General Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	14	13	440	1,010	91	101	116	190	31	15	12
2	12	14	13	265	675	85	91	118	315	30	14	11
3	13	13	12	180	399	81	91	125	249	30	14	11
4	12	13	12	149	364	77	102	113	238	29	14	12
5	13	13	12	127	544	113	87	102	182	28	13	12
6	13	14	13		361	107	82	127	149	27	13	12
7	12	14	16		523	94	98	127	129	26	13	12
8	13	13	110		467	92	122	129	112	26	13	12
9	21	14	195		300	102	96	127	98	24	13	12
10	15	19	268		433	104	85	125	87	24	13	16
11	13	19	162		455	104	77	115	81	24	13	30
12	13	16	107		347	107	73	99	74	23	12	18
13	13	15	182		417	96	75	91	68	23	12	15
14	13	14	730		548	88	101	118	62	23	12	15
15	12	13	432		388	81	175	127	58	22	12	13
16	13	13	341		371	74	142	113	54	21	12	13
17	27	17	222	50	291	70	112	112	52	21	12	12
18	24	16	341		271	68	99	112	49	21	12	12
19	18	14	553		371	66	94	146	48	21	12	12
20	19	13	350		300	92	84	220	47	21	12	12
21	14	13	244		222	285	95	426	44	20	12	12
22	13	13	244		212	357	102	331	43	20	12	11
23	13	13	312		188	277	85	238	41	18	12	11
24	12	13	257		157	428	82	195	39	18	12	12
25	12	14	225		144	334	78	164	38	17	12	13
26	13	16	188		123	238	91	131	38	16	12	12
27	41	15	149		110	190	142	112	38	15	11	13
28	30	14	122		99	168	162	102	38	15	11	16
29	19	13	104	131	-------	153	166	98	35	15	11	13
30	16	13	115	168	-------	132	140	95	33	15	11	12
31	14	-------	123	385	-------	115	-------	107	-------	15	12	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	41	12	16.1	0.700	0.81	990
November	19	13	14.3	.622	.69	851
December	730	12	199	8.65	9.97	12,200
January	440	----------	96.6	4.20	4.84	5,940
February	1,010	99	360	15.7	16.35	20,000
March	428	66	144	6.26	7.22	8,850
April	175	73	104	4.52	5.04	6,190
May	426	91	144	6.26	7.22	8,850
June	315	33	91.0	3.96	4.42	5,410
July	31	15	21.9	.952	1.10	1,350
August	15	11	12.4	.539	.62	762
September	30	11	13.3	.578	.64	791
The year	1,010	11	99.8	4.34	58.92	72,200

WILLAMETTE RIVER BASIN

MIDDLE FORK OF WILLAMETTE RIVER AT EULA, OREG.

LOCATION.—Staff gage in sec. 18, T. 20 S., R. 2 E., one-fourth mile southwest of Eula and 8 miles below mouth of North Fork.

DRAINAGE AREA.—943 square miles.

RECORDS AVAILABLE.—July, 1923, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 23,500 second-feet Dec. 19 (gage height, 11.3 feet); minimum discharge, 450 second-feet Nov. 24, 25, Dec. 5, 6; minimum gage height, 1.40 feet Sept. 5–7, 17–23.

1923–1930: Maximum discharge, 55,100 second-feet Feb. 21, 1927 (gage height, 17.0 feet); minimum, that of Nov. 24, 25, Dec. 5, 6, 1929.

REMARKS.—Records good. No diversions above station. Considerable diurnal fluctuation during low water, owing to logging operations. Gage-height record October to April furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	500	500	500	2,050	4,700	1,950	1,850	2,380	2,380	850	600	515
2	500	500	500	2,270	11,800	1,950	1,950	2,270	2,710	850	589	505
3	500	500	500	2,050	8,460	1,850	2,050	2,160	2,820	850	589	505
4	500	500	500	1,950	4,270	2,270	2,160	2,050	3,290	815	589	505
5	500	500	450	1,950	6,090	2,270	1,950	1,950	3,170	815	578	495
6	500	500	450	1,850	7,540	2,270	1,850	1,950	2,710	780	578	495
7	555	500	475	1,750	5,710	2,160	1,850	1,850	2,490	780	567	495
8	670	500	500	1,750	8,710	2,050	1,850	1,850	2,380	780	567	545
9	795	500	700	1,660	7,320	1,950	1,850	1,750	2,160	780	556	578
10	610	500	1,740	1,570	5,900	1,950	1,750	1,750	1,850	748	556	611
11	610	555	1,640	1,570	11,800	1,850	1,660	1,660	1,750	748	567	655
12	555	555	2,170	1,400	8,460	1,660	1,570	1,660	1,660	748	567	600
13	555	500	2,640	1,320	7,110	1,660	1,570	1,660	1,660	715	567	556
14	555	500	2,520	1,240	10,500	1,660	1,570	1,660	1,570	715	556	505
15	555	500	5,010	1,240	7,990	1,570	1,750	1,660	1,480	715	556	505
16	555	500	5,010	1,240	5,350	1,570	1,660	1,660	1,320	685	545	505
17	555	500	5,710	1,240	5,180	1,570	1,660	1,750	1,240	685	545	495
18	555	500	8,930	1,320	4,410	1,480	1,480	1,750	1,160	655	535	495
19	555	500	23,500	2,050	4,550	1,480	1,480	1,660	1,160	655	535	495
20	555	500	9,520	1,950	4,850	1,480	1,480	1,570	1,240	655	535	495
21	610	500	5,350	1,950	4,410	1,480	1,480	2,490	1,160	655	535	495
22	610	500	5,010	1,850	3,890	2,380	1,480	2,820	1,080	644	535	495
23	610	500	4,700	1,850	3,770	2,160	1,570	2,710	1,080	644	535	495
24	610	450	3,650	1,850	3,530	2,160	1,570	2,490	1,000	644	535	535
25	610	450	2,930	1,750	3,290	2,160	1,660	2,380	925	633	535	633
26	610	500	2,820	1,660	3,290	2,160	1,660	2,270	925	622	535	622
27	610	500	2,600	1,660	2,930	2,050	2,050	1,950	925	622	535	622
28	610	500	2,490	2,160	2,600	2,160	2,160	2,050	925	611	525	715
29	555	500	2,160	2,270	-------	2,160	2,490	2,050	850	600	525	685
30	555	500	1,950	3,290	-------	2,160	2,490	2,160	850	600	525	655
31	555	-------	1,950	4,010	-------	2,050	-------	2,050	-------	600	515	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	795	500	574	0.609	0.70	35,300
November	555	450	500	.530	.59	29,800
December	23,500	450	3,500	3.71	4.28	215,000
January	4,010	1,240	1,860	1.97	2.27	114,000
February	11,800	2,600	6,010	6.37	6.63	334,000
March	2,380	1,480	1,930	2.05	2.36	119,000
April	2,490	1,480	1,790	1.90	2.12	107,000
May	2,820	1,570	2,000	2.12	2.44	123,000
June	3,290	850	1,660	1.76	1.96	98,800
July	850	600	706	.749	.86	43,400
August	600	515	552	.585	.67	33,900
September	715	495	550	.583	.65	32,700
The year	23,500	450	1,780	1.89	25.53	1,290,000

WILLAMETTE RIVER AT SPRINGFIELD, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 34, T. 17 S., R. 3 W., at highway bridge at Springfield. Zero of gage 423.1 feet above mean sea level.

DRAINAGE AREA.—2,030 square miles.

RECORDS AVAILABLE.—November, 1911, to September, 1913; October, 1928, to September, 1930. At Eugene, 4 miles downstream, June, 1919, to September, 1928.

EXTREMES.—Maximum discharge during year, 55,400 second-feet Dec. 19 (gage height, about 16.5 feet); minimum, 530 second-feet Oct. 14 (gage height, 1.48 feet).

1911–1913, 1919–1930: Maximum discharge, 73,300 second-feet Feb. 21, 1927 (gage height at Eugene, 17.0 feet); minimum, 500 second-feet Aug. 11, 1926.

Maximum stage in recent years, 21.5 feet at Eugene, Nov. 23, 1909 (discharge, 96,000 second-feet).

REMARKS.—Records good except those for Dec. 10–19, Jan. 12–29, which are fair. No diversions above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	635	753	625	3,770	15,600	5,380	3,040	4,860	3,520	1,290	756	637
2	628	752	621	4,520	24,900	4,740	2,900	4,220	4,320	1,300	742	630
3	621	751	635	4,320	18,800	4,420	2,760	4,630	4,740	1,270	742	624
4	600	750	649	4,320	13,200	4,220	2,690	4,520	6,220	1,220	742	618
5	588	734	656	5,240	14,000	4,220	2,690	4,130	5,940	1,220	728	618
6	576	726	656	4,980	14,800	4,420	2,550	3,860	4,980	1,170	721	618
7	564	710	670	4,320	12,100	4,220	2,480	3,950	4,320	1,120	714	618
8	588	702	670	3,770	15,600	3,950	2,760	3,860	3,950	1,110	714	624
9	678	686	875	3,520	14,000	3,680	2,830	3,680	3,440	1,090	707	644
10	750	694	2,240	3,200	12,500	3,440	2,620	3,520	3,120	1,080	693	700
11	663	774	4,710	2,970	22,200	3,280	2,480	3,360	2,900	1,070	700	786
12	594	814	3,830	3,540	19,700	3,280	2,410	3,200	2,760	1,040	700	834
13	564	758	7,900	3,540	15,600	3,280	2,340	3,120	2,550	1,010	693	770
14	540	710	7,420	3,090	21,300	3,200	2,620	3,120	2,410	990	679	686
15	535	686	21,800	3,090	19,700	3,120	2,900	3,120	2,270	970	672	686
16	546	663	12,600	3,090	14,400	3,040	3,200	3,200	2,130	940	679	663
17	564	649	9,420	3,090	11,400	2,830	2,970	3,120	2,060	931	679	658
18	628	656	8,150		9,380	2,690	2,760	2,970	1,920	913	665	658
19	686	642	45,200		9,070	2,550	2,690	2,830	1,860	886	658	651
20	718	635	22,700		10,000	2,480	2,620	2,830	1,860	886	658	651
21	718	628	12,800		10,300	2,550	2,760	4,130	1,860	877	658	644
22	734	621	9,070		9,380	4,520	4,320	6,080	1,730	859	651	644
23	750	621	7,260	3,100	9,380	5,110	4,040	5,510	1,660	842	651	637
24	766	621	6,960		8,760	4,520	3,770	4,740	1,600	834	651	630
25	766	621	6,220		8,460	4,130	3,520	4,220	1,540	826	644	721
26	758	642	7,110		8,160	3,860	3,360	3,770	1,480	818	644	742
27		638	6,080		7,260	3,680	3,280	3,440	1,470	802	637	700
28		635	4,980	3,860	6,220	3,520	4,860	3,200	1,430	786	637	770
29	756	632	4,320	3,860	-------	3,440	5,510	3,520	1,360	786	630	877
30		628	3,950	8,460	-------	3,360	5,790	3,440	1,330	778	651	770
31		-------	3,950	13,600	-------	3,200	-------	3,520	-------	763	644	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	766	535	663	0.327	0.38	40,800
November	814	621	684	.337	.38	40,700
December	45,200	621	7,250	3.57	4.12	446,000
January	13,600	2,970	4,040	1.99	2.29	248,000
February	24,900	6,220	13,400	6.60	6.87	744,000
March	5,380	2,480	3,690	1.82	2.10	227,000
April	5,790	2,340	3,180	1.57	1.75	189,000
May	6,080	2,830	3,800	1.87	2.16	234,000
June	6,220	1,330	2,760	1.36	1.52	164,000
July	1,300	763	983	.484	.56	60,400
August	756	630	682	.336	.39	41,900
September	877	618	684	.337	.38	40,700
The year	45,200	535	3,420	1.68	22.90	2,480,000

WILLAMETTE RIVER AT ALBANY, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 6, T. 11 S., R. 3 W., at Albany, just below mouth of Calapooya River. Zero of gage, 171.4 feet above mean sea level.

DRAINAGE AREA.—4,840 square miles (revised).

RECORDS AVAILABLE.—November, 1878, to April, 1882; January, 1892, to September, 1930; some fragmentary records 1883 to 1888.

EXTREMES.—Maximum discharge during year, 91,500 second-feet Dec. 21 (gage height, 20.4 feet); minimum, 2,160 second-feet Sept. 1–11, 20–24 (gage height, 0.4 foot).

1878–1882, 1892–1930: Maximum discharge, 229,000 second-feet Jan. 14, 1881 (gage height, 32.8 feet); minimum, about 1,870 second-feet Sept. 21–27, 1879 (gage height, 0.2 foot). Minimum discharge in recent years, 2,020 second-feet Sept. 10–16, 1926.

Maximum stage known, 36.0 feet Dec. 8, 1861 (discharge, about 274,000 second-feet).

REMARKS.—Records good. Albany power canal diverts water from South Santiam River into Willamette River above station. No regulation. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,520	2,340	2,340	10,500	31,900	20,200	9,270	13,100	7,820	4,220	2,720	2,160
2	2,520	2,340	2,340	10,200	37,300	17,100	8,670	12,100	7,820	3,990	2,720	2,160
3	2,520	2,340	2,340	9,870	48,700	15,200	8,380	10,500	8,670	3,990	2,520	2,160
4	2,520	2,340	2,340	11,700	46,000	14,200	8,100	10,200	8,970	3,990	2,520	2,160
5	2,520	2,340	2,340	14,500	35,600	13,500	7,820	9,870	12,400	3,770	2,520	2,160
6	2,520	2,340	2,340	16,300	33,600	13,500	7,540	9,870	11,700	3,770	2,520	2,160
7	2,340	2,340	2,340	16,000	36,500	13,100	7,270	9,870	10,800	3,550	2,520	2,160
8	2,340	2,340	2,340	13,800	34,800	12,100	7,000	9,870	9,870	3,550	2,520	2,160
9	2,340	2,340	2,340	12,100	34,000	11,400	6,730	9,570	8,970	3,550	2,520	2,160
10	2,340	2,340	2,920	10,800	36,000	10,800	6,730	9,270	8,380	3,340	2,520	2,160
11	2,340	2,340	5,940	9,570	31,500	10,200	6,730	8,970	7,820	3,340	2,520	2,160
12	2,520	2,340	8,970	8,670	41,100	9,570	6,730	8,670	7,270	3,340	2,520	2,720
13	2,520	2,340	11,700	8,100	42,800	9,270	6,730	8,380	6,730	3,340	2,520	2,720
14	2,520	2,340	16,000	8,380	32,300	8,670	6,730	8,100	5,940	3,340	2,520	2,520
15	2,520	2,340	23,800	8,100	44,200	8,380	8,380	7,820	5,680	3,130	2,520	2,340
16	2,520	2,340	37,700	7,820	47,300	8,380	8,100	7,540	5,420	3,130	2,520	2,340
17	2,520	2,340	32,300	7,540	37,700	8,380	7,820	7,540	5,420	3,130	2,520	2,340
18	2,520	2,340	28,200	7,270	30,700	8,380	7,540	7,540	5,160	3,130	2,340	2,340
19	2,720	2,340	44,600	7,000	27,800	8,100	7,270	7,270	5,160	2,920	2,340	2,340
20	2,520	2,340	78,900	6,730	30,300	7,820	7,270	7,270	5,160	2,920	2,340	2,160
21	2,520	2,340	84,200	6,460	32,700	7,540	7,270	7,540	4,920	2,920	2,340	2,160
22	2,520	2,340	46,900	6,200	32,700	8,670	7,540	9,870	4,920	2,920	2,340	2,160
23	2,520	2,340	29,400	5,940	31,900	14,200	9,870	12,800	4,920	2,920	2,340	2,160
24	2,520	2,340	23,400	5,940	30,700	16,000	10,200	12,100	4,920	2,920	2,340	2,160
25	2,340	2,340	21,000	5,940	29,000	14,500	9,570	11,400	4,680	2,920	2,340	2,340
26	2,340	2,340	19,400	5,680	27,400	13,100	8,670	10,500	4,680	2,920	2,340	2,340
27	2,340	2,340	20,200	5,940	24,600	12,100	8,380	9,870	4,680	2,720	2,340	2,340
28	2,340	2,340	20,200	5,940	22,200	11,400	8,670	8,970	4,680	2,720	2,340	2,340
29	2,340	2,340	16,700	6,200	-------	11,100	11,400	8,100	4,680	2,720	2,340	2,340
30	2,340	2,340	13,100	8,100	-------	10,500	12,100	7,270	4,450	2,720	2,340	2,520
31	2,340	-------	11,100	19,800	-------	9,870	-------	7,820	-------	2,720	2,340	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	2,720	2,340	2,460	0.508	0.59	151,000
November	2,340	2,340	2,340	.483	.54	139,000
December	84,200	2,340	19,900	4.11	4.74	1,220,000
January	19,800	5,680	9,260	1.91	2.20	569,000
February	48,700	22,200	34,700	7.17	7.47	1,930,000
March	20,200	7,540	11,500	2.38	2.74	707,000
April	12,100	6,730	8,150	1.68	1.87	485,000
May	13,100	7,270	9,340	1.93	2.22	574,000
June	12,400	4,450	6,760	1.40	1.56	402,000
July	4,220	2,720	3,240	.669	.77	199,000
August	2,720	2,340	2,450	.506	.58	151,000
September	2,720	2,160	2,280	.471	.53	136,000
The year	84,200	2,160	9,210	1.90	25.81	6,660,000

WILLAMETTE RIVER AT SALEM, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 22, T. 7 S., R. 3 W., on pier of highway bridge at Salem. Zero of gage 113.4 feet above mean sea level.

DRAINAGE AREA.—7,280 square miles.

RECORDS AVAILABLE.—October, 1909, to December, 1916; October, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 115,000 second-feet Dec. 21 (gage height, 15.8 feet); minimum, 2,860 second-feet Aug. 22 to Sept. 10 (gage height, —3.1 feet).

1909–1916, 1927–1930: Maximum discharge, 315,000 second-feet Nov. 25, 1909 (gage height, 30.5 feet); minimum, that of Aug. 22 to Sept. 10, 1930.

Maximum known discharge (estimated), 500,000 second-feet Dec. 4, 1861 (gage height, about 39 feet). Flood of Jan. 16, 1881, reached a discharge of 428,000 second-feet (gage height, 36.3 feet).

REMARKS.—Records good; interpolated Jan. 21, 22. A few small irrigation diversions above station; part of flow of Salem Canal diverted from North Santiam River returns to Willamette River below gage. No regulation. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,300	3,200	3,200	18,700	47,300	29,000	16,500	20,000	12,900	5,920	3,320	2,860
2	3,300	3,200	3,200	18,700	72,600	26,000	15,500	18,500	13,900	5,920	3,320	2,860
3	3,300	3,300	3,200	19,700	76,800	23,300	14,800	17,800	14,800	5,670	3,320	2,860
4	3,200	3,300	3,200	19,700	75,100	21,600	14,500	16,500	15,800	5,670	3,320	2,860
5	3,200	3,300	3,200	23,600	61,000	20,000	14,500	16,500	19,200	5,420	3,180	2,860
6	3,200	3,300	3,100	25,700	61,000	20,000	13,200	15,800	19,200	5,420	3,180	2,860
7	3,200	3,300	3,200	24,600	59,500	20,000	13,200	15,500	17,100	5,420	3,180	2,860
8	3,200	3,300	3,300	20,600	59,500	18,900	12,600	15,500	15,800	4,940	3,180	2,860
9	3,200	3,300	3,300	18,700	64,000	18,200	13,200	15,200	14,500	4,700	3,180	2,860
10	3,300	3,300	3,750	16,600	58,100	17,800	13,600	14,800	13,200	4,700	3,180	2,860
11	3,520	3,300	13,200	14,700	55,900	16,500	12,600	14,500	12,600	4,470	3,180	3,180
12	3,520	3,300	15,400	13,200	67,800	15,800	12,000	14,200	11,600	4,470	3,180	3,320
13	3,410	3,300	15,000	11,800	67,800	15,800	11,600	13,200	10,700	4,250	3,180	3,480
14	3,300	3,300	29,500	11,800	68,600	15,500	12,000	13,200	10,100	4,250	3,060	3,480
15	3,300	3,300	59,300	11,800	82,000	15,200	13,200	13,200	10,100	4,250	3,060	3,320
16	3,300	3,300	55,200	11,100	78,500	14,500	14,500	13,900	9,500	4,250	3,060	3,320
17	3,300	3,300	51,200	10,800	64,000	13,900	14,500	14,200	8,900	4,040	3,060	3,060
18	3,300	3,300	46,700	10,400	49,700	13,200	13,900	13,200	8,600	4,040	2,950	2,950
19	3,300	3,300	85,600	10,400	45,700	12,600	13,200	12,600	8,020	4,040	2,950	2,950
20	3,300	3,300	113,000	10,400	55,200	12,300	12,600	12,600	7,740	4,040	2,950	2,950
21	3,300	3,200	114,000	10,900	58,100	11,600	12,600	15,800	7,200	4,040	2,950	2,950
22	3,300	3,200	94,200	11,300	53,800	14,800	13,200	20,000	7,470	3,840	2,860	2,950
23	3,300	3,200	51,200	11,800	52,400	24,200	14,800	23,700	7,470	3,840	2,860	2,950
24	3,300	3,200	43,400	11,400	51,100	28,000	15,800	21,600	7,200	3,650	2,860	2,950
25	3,300	3,200	37,800	11,100	45,700	27,000	15,200	19,600	6,940	3,650	2,860	2,950
26	3,300	3,200	35,400	10,800	40,400	24,200	14,500	18,200	6,680	3,650	2,860	2,950
27	3,300	3,200	34,800	10,400	37,300	22,500	14,500	16,500	6,680	3,650	2,860	3,060
28	3,200	3,200	30,100	9,800	33,200	20,800	15,200	14,800	6,420	3,650	2,860	3,180
29	3,200	3,200	24,600	10,800	-------	19,200	19,200	13,900	6,420	3,480	2,860	3,180
30	3,300	3,200	22,600	15,400	-------	18,900	20,000	13,200	6,170	3,480	2,860	3,180
31	3,300	-------	19,700	29,000	-------	17,800	-------	13,200	-------	3,320	2,860	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	3,520	3,200	3,290	0.452	0.52	202,000
November	3,300	3,200	3,260	.448	.50	194,000
December	114,000	3,100	33,000	4.53	5.22	2,030,000
January	29,000	9,800	15,000	2.06	2.38	922,000
February	82,000	33,200	58,600	8.05	8.38	3,250,000
March	29,000	11,600	19,000	2.61	3.01	1,170,000
April	20,000	11,600	14,200	1.95	2.18	845,000
May	23,700	12,600	15,900	2.18	2.51	978,000
June	19,200	6,170	10,800	1.48	1.65	643,000
July	5,920	3,320	4,390	.603	.70	270,000
August	3,320	2,860	3,050	.419	.48	188,000
September	3,480	2,860	3,030	.416	.46	180,000
The year	114,000	2,860	15,000	2.06	27.99	10,900,000

COAST FORK OF WILLAMETTE RIVER AT SAGINAW, OREG.

LOCATION.—Chain gage in NW. ¼ sec. 15, T. 20 S., R. 3 W., at Saginaw, 1 mile below mouth of Row River. Zero of gage about 595.1 feet above mean sea level.

DRAINAGE AREA.—529 square miles.

RECORDS AVAILABLE.—October, 1923, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 16,700 second-feet Dec. 18 (gage height, 10.0 feet); minimum discharge, 22 second-feet Nov. 8.

1923–1930: Maximum discharge, 28,600 second-feet Feb. 20, 1927 (gage height, 12.9 feet); minimum, 7 second-feet July 31, 1928.

REMARKS.—Records good except those for discharges less than 50 second-feet, which are fair. No diversions or regulation above station. Gage-height record for October to April furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	54	54	815	4,040	1,400	460	1,380	780	180	68	40
2		54	62	860	7,760	1,080	412	1,080	1,140	175	65	40
3		48	68	815	4,650	1,140	495	1,380	1,260	175	60	42
4		48	76	905	3,180	1,080	425	1,380	1,740	180	60	40
5		24	82	1,320	3,180	1,080	336	1,080	1,500	160	58	38
6	29	24	82	1,270	2,620	1,200	312	1,030	1,140	160	70	34
7	34	24	90	950	2,760	1,080	360	975	1,080	150	65	40
8	76	22	274	860	4,340	975	336	975	975	150	60	42
9	136	24	375	730	3,180	825	324	975	780	145	58	46
10	128	68	815	652	2,620	735	300	872	735	141	58	60
11	40	220	905	615	7,540	735	267	872	698	129	55	99
12	54	190	2,440	540	4,970	698	256	735	570	125	52	113
13	40	90	2,080	438	4,490	698	300	735	495	125	52	70
14	62	68	7,040		4,190	698	460	698	406	121	50	68
15	48	48	5,420		4,340	610	570	650	392	117	50	62
16	48	54	4,520		4,340	610	698	698	373	109	52	60
17	54	62	2,200		3,600	495	650	610	366	105	50	55
18	54	62	10,300		2,900	532	495	460	360	102	50	46
19	96	54	12,700	400	2,480	460	570	570	348	96	48	46
20	68	62	5,610		2,350	425	495	610	330	93	48	42
21	76	54	2,970		2,900	418	495	1,500	324	90	48	38
22	48	48	2,200		2,480	460	1,620	1,440	318	84	40	36
23	34	48	1,420		2,620	1,320	1,140	1,380	306	84	36	34
24	29	40	1,320		2,480	1,080	1,030	975	300	84	32	50
25	68	34	1,180	342	2,220	920	872	825	267	81	32	65
26	68	48	1,130	1,080	2,220	825	825	780	245	78	36	70
27	68	48	1,080	920	2,220	780	825	698	230	72	46	70
28	76	40	950	975	2,900	698	1,860	610	220	72	44	81
29	82	40	905	1,140	1,740	610	1,860	735	190	78	44	87
30	76	48	950	2,480	-------	570	1,860	735	190	72	42	75
31	68	-------	905	4,810	-------	532	-------	735	-------	68	42	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	136	----------	58.7	0.111	0.13	3,610
November	220	22	58.3	.110	.12	3,470
December	12,700	54	2,260	4.27	4.92	139,000
January	4,810	----------	868	1.64	1.89	53,400
February	7,760	1,740	3,620	6.84	7.12	201,000
March	1,440	418	800	1.51	1.74	49,200
April	1,860	256	697	1.32	1.47	41,500
May	1,500	460	909	1.72	1.98	55,900
June	1,740	190	602	1.14	1.27	35,800
July	180	68	116	.219	.25	7,130
August	70	32	50.7	.096	.11	3,120
September	113	34	56.3	.106	.12	3,350
The year	12,700	22	824	1.56	21.12	596,000

McKENZIE RIVER AT McKENZIE BRIDGE, OREG.

LOCATION.—Staff gage in sec. 14, T. 16 S., R. 5 E., at highway bridge at McKenzie Bridge.

DRAINAGE AREA.—353 square miles (at measuring section 2½ miles above gage).

RECORDS AVAILABLE.—August, 1910, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 4,580 second-feet Dec. 18 (gage height, 3.6 feet); minimum, 856 second-feet Sept. 26, 27 (gage height, 0.36 foot).

1910–1930: Maximum discharge, 18,000 second-feet Jan. 6, 1923 (gage height, 8.3 feet, from high-water marks); minimum, that of Sept. 26, 27, 1930.

REMARKS.—Records good except those estimated, Mar. 6–8, June 8–17, which are fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	990	920	1,580	1,780	1,780	1,400	1,230	1,310	1,120	940	880
2	990	990	920	1,580	2,210	1,680	1,400	1,230	1,310	1,120	940	874
3	990	990	920	1,490	2,210	1,580	1,400	1,230	1,310	1,120	940	874
4	990	990	920	1,490	2,100	1,580	1,400	1,230	1,310	1,120	940	874
5	990	990	920	1,400	1,990	1,580	1,400	1,230	1,310	1,120	940	874
6	990	990	920	1,400	1,880	1,600	1,400	1,230	1,230	1,080	940	868
7	990	990	920	1,400	1,880	1,500	1,400	1,230	1,230	1,080	934	868
8	990	990	920	1,310	1,880	1,450	1,400	1,230		1,080	934	874
9	990	990	920	1,310	1,990	1,400	1,400	1,230		1,070	934	880
10	990	990	1,100	1,230	2,100	1,400	1,400	1,230		1,070	934	886
11	990	990	1,060	1,230	2,580	1,400	1,400	1,230		1,050	934	892
12	990	990	1,350	1,230	2,710	1,400	1,400	1,230		1,050	928	880
13	990	955	1,750	1,230	2,450	1,400	1,310	1,230	1,150	1,050	928	880
14	990	955	1,510	1,230	2,840	1,400	1,310	1,230		1,040	928	880
15	990	955	1,350	1,150	3,850	1,400	1,310	1,310		1,040	922	880
16	990	955	1,350	1,150	3,690	1,310	1,310	1,310		1,030	916	880
17	990	955	1,270	1,150	3,390	1,310	1,310	1,310		1,020	910	880
18	990	955	3,540	1,150	3,110	1,310	1,310	1,310	1,120	1,020	904	880
19	990	955	3,110	1,150	2,710	1,310	1,310	1,310	1,120	1,010	898	874
20	990	955	2,210	1,150	2,450	1,310	1,230	1,310	1,120	1,000	892	874
21	990	955	1,990	1,150	2,450	1,310	1,230	1,310	1,120	996	892	868
22	990	955	1,780	1,150	2,330	1,400	1,230	1,310	1,120	989	886	868
23	990	955	1,780	1,150	2,210	1,490	1,230	1,310	1,120	982	880	868
24	990	920	1,880	1,150	2,210	1,490	1,230	1,310	1,120	975	880	868
25	990	920	1,990	1,150	2,100	1,400	1,310	1,310	1,120	968	880	862
26	990	920	1,880	1,150	1,990	1,400	1,310	1,310	1,120	961	880	856
27	990	920	1,780	1,150	1,880	1,400	1,310	1,310	1,120	947	880	856
28	990	920	1,780	1,150	1,880	1,400	1,310	1,310	1,120	940	880	868
29	990	920	1,680	1,230	-------	1,400	1,310	1,310	1,120	940	880	874
30	990	920	1,680	1,230	-------	1,400	1,230	1,310	1,120	940	880	874
31	990	-------	1,580	1,230	-------	1,400	-------	1,310	-------	940	880	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,060	990	992	2.81	3.24	61,000
November	990	920	961	2.72	3.04	57,200
December	3,540	920	1,540	4.36	5.03	94,700
January	1,580	1,150	1,250	3.54	4.08	76,900
February	3,850	1,780	2,390	6.77	7.05	133,000
March	1,780	1,310	1,440	4.08	4.70	88,500
April	1,400	1,230	1,330	3.77	4.21	79,100
May	1,310	1,230	1,270	3.60	4.15	78,100
June	1,310	1,120	1,170	3.31	3.69	69,600
July	1,120	940	1,030	2.92	3.37	63,300
August	940	880	911	2.58	2.97	56,000
September	892	856	874	2.48	2.77	52,000
The year	3,850	856	1,260	3.57	48.30	909,000

McKENZIE RIVER NEAR VIDA, OREG.

LOCATION.—Water-stage recorder 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 east of Vida. Zero of gage 855.33 feet above mean sea level.

DRAINAGE AREA.—930 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1930. At Martin Rapids, gage heights only June, 1910, to March, 1911.

EXTREMES.—Maximum discharge during year, 30,100 second-feet Dec. 18 (gage height, 9.97 feet); minimum, 1,280 second-feet Sept. 20, 21 (gage height, 0.38 foot).

1924–1930: Maximum discharge, 47,200 second-feet Feb. 20, 1927 (gage height, 14.2 feet); minimum, that of Sept. 20, 21, 1930.

Flood of Jan. 6, 1923, reached a stage of 17.25 feet (discharge, estimated, 60,000 second-feet).

REMARKS.—Records excellent. Discharge estimated Jan. 21–25. No diversion or regulation above station. Gage-height record furnished by Eugene Water Board.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,460	1,390	1,340	3,260	9,410	3,440	3,080	3,080	2,920	1,760	1,480	1,330
2	1,460	1,390	1,330	3,530	10,800	3,350	2,920	3,000	3,170	1,760	1,470	1,330
3	1,440	1,380	1,330	3,260	7,790	3,260	2,920	3,000	3,260	1,760	1,460	1,320
4	1,440	1,380	1,330	3,170	6,180	3,170	3,000	2,830	3,800	1,760	1,460	1,320
5	1,430	1,380	1,330	3,080	9,250	3,260	2,830	2,740	3,530	1,700	1,460	1,320
6	1,430	1,380	1,330	3,000	7,790	3,350	2,740	2,740	3,170	1,700	1,460	1,320
7	1,440	1,360	1,320	2,740	6,970	3,170	2,830	2,740	3,000	1,700	1,460	1,340
8	1,480	1,360	1,400	2,580	8,640	3,080	3,080	2,660	2,830	1,700	1,470	1,390
9	1,590	1,370	2,330	2,490	6,700	3,000	2,920	2,660	2,740	1,700	1,460	1,380
10	1,500	1,420	3,260	2,410	7,510	2,830	2,740	2,830	2,580	1,700	1,440	1,460
11	1,490	1,420	2,660	2,330	10,800	2,830	2,660	2,830	2,490	1,630	1,440	1,480
12	1,490	1,380	3,000	2,260	8,640	2,920	2,660	2,830	2,410	1,630	1,420	1,400
13	1,480	1,370	3,710	2,180	9,560	2,830	2,660	2,740	2,330	1,630	1,410	1,350
14	1,470	1,360	6,040	2,180	14,500	2,830	2,660	2,920	2,260	1,630	1,400	1,340
15	1,460	1,360	5,190	2,180	10,800	2,740	2,740	2,830	2,180	1,620	1,410	1,340
16	1,460	1,360	4,840	2,180	8,350	2,580	2,740	2,740	2,180	1,610	1,400	1,340
17	1,500	1,360	3,620	2,100	6,970	2,490	2,580	2,740	2,100	1,590	1,400	1,330
18	1,470	1,360	15,900	2,100	6,060	2,490	2,660	2,660	2,030	1,580	1,390	1,320
19	1,440	1,360	17,600	2,410	6,310	2,410	2,580	2,580	2,030	1,570	1,390	1,310
20	1,420	1,360	8,070	2,180	6,310	2,490	2,580	2,920	2,100	1,570	1,380	1,290
21	1,410	1,350	5,560		5,680	2,830	2,660	3,710	2,030	1,560	1,370	1,300
22	1,410	1,350	4,500		5,430	4,090	2,830	3,900	1,960	1,560	1,360	1,310
23	1,410	1,350	4,610	2,040	5,070	4,090	2,660	3,620	1,960	1,550	1,360	1,310
24	1,400	1,350	4,500		4,610	4,090	2,660	3,440	1,890	1,530	1,360	1,360
25	1,400	1,360	4,720		4,500	4,000	2,580	3,170	1,890	1,520	1,360	1,350
26	1,410	1,360	4,840	1,890	4,190	3,900	2,490	3,000	1,890	1,500	1,360	1,320
27	1,500	1,350	4,090	1,890	3,900	3,710	2,920	2,830	1,820	1,490	1,350	1,350
28	1,500	1,350	3,710	1,890	3,620	3,710	3,530	2,830	1,820	1,480	1,350	1,420
29	1,430	1,340	3,350	3,350	-------	3,620	3,530	3,000	1,820	1,480	1,350	1,350
30	1,420	1,340	3,260	4,290	-------	3,440	3,440	2,830	1,760	1,470	1,350	1,330
31	1,400	-------	3,170	5,680	-------	3,170	-------	2,830	-------	1,480	1,340	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,590	1,400	1,450	1.56	1.80	89,200
November	1,420	1,340	1,370	1.47	1.64	81,500
December	17,600	1,320	4,300	4.62	5.33	264,000
January	5,680	1,890	2,610	2.81	3.24	160,000
February	14,500	3,620	7,370	7.92	8.25	409,000
March	4,090	2,410	3,200	3.44	3.97	197,000
April	3,530	2,490	2,830	3.04	3.39	168,000
May	3,900	2,580	2,940	3.16	3.64	181,000
June	3,800	1,760	2,400	2.58	2.88	143,000
July	1,760	1,470	1,610	1.73	1.99	99,000
August	1,480	1,340	1,410	1.52	1.75	86,700
September	1,480	1,290	1,350	1.45	1.62	80,300
The year	17,600	1,290	2,710	2.91	39.50	1,960,000

EUGENE POWER CANAL NEAR WALTERVILLE, OREG.

LOCATION.—Staff gage in SE. ¼ sec. 23, T. 17 S., R. 1 W., 150 yards below intake and 2 miles east of Walterville. Zero of gage 597.0 feet above mean sea level.

RECORDS AVAILABLE.—July, 1926, to September, 1930. September, 1911, to March, 1915, at station 3 miles downstream.

EXTREMES.—Maximum discharge during year, 1,340 second-feet Oct. 29 (gage height, 4.00 feet); no flow July 14–22.

1911–1915, 1926–1930: Maximum discharge, 1,350 second-feet Mar. 20, 1929 (gage height, 4.00 feet); no flow at times.

REMARKS.—Records fair. Canal diverts from McKenzie River in SE. ¼ sec. 23, T. 17 S., R. 1 W. Water used for power purposes in NW. ¼ sec. 29 and discharged into Camp Creek 4 miles above its mouth. Gage-height record furnished by Eugene Water Board.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,050	1,060	995	1,100	1,100	1,060	1,060	1,060	785	785	855	890
2	1,050	1,060	995	1,100	1,060	995	1,060	1,060	785	785	855	890
3	1,050	1,060	995	1,100	1,100	1,060	1,060	1,060	820	785	855	890
4	1,050	1,060	995	1,100	1,100	1,140	1,060	995	855	785	855	890
5	1,050	1,030	995	1,030	1,100	1,100	1,060	1,060	820	785	855	890
6	1,050	1,030	995	1,100	1,060	1,100	995	1,060	820	785	1,100	890
7	1,050	1,030	995	1,060	1,140	1,060	1,060	1,060	785	785	1,100	890
8	1,050	1,030	995	1,030	1,100	1,060	1,060	1,060	785	785	1,100	890
9	1,050	1,030	1,140	1,060	995	995	1,060	1,060	785	785	1,100	890
10	1,050	1,030	1,100	1,030	1,220	1,060	1,060	1,060	785	785	1,100	890
11	1,050	1,030	1,060	1,030	1,060	1,060	1,030	1,030	785	785	1,100	890
12	1,050	1,030	1,030	1,030	1,060	1,060	1,030	1,060	785	785	1,100	890
13	1,050	1,030	1,060	1,030	1,180	1,060	1,030	1,060	785	392	1,100	890
14	1,050	1,030	1,060	1,030	1,030	1,060	1,030	1,060	785	0	1,100	890
15	1,050	1,030	1,060	1,030	1,060	1,060	1,060	1,060	785	0	1,100	890
16	1,050	1,030	1,100	1,030	995	995	1,060	1,060	785	0	1,100	890
17	1,050	1,030	1,100	1,030	1,060	1,060	1,030	1,060	785	0	890	890
18	1,050	995	1,100	1,030	1,060	1,060	1,030	995	785	0	890	890
19	1,050	995	1,100	1,060	1,100	1,030	1,030	1,030	785	0	890	890
20	1,050	995	1,100	1,060	1,100	1,030	1,030	1,100	785	0	890	890
21	1,000	995	1,100	1,060	1,100	1,030	1,060	1,100	785	0	890	890
22	1,000	995	1,060	1,030	1,100	1,030	1,060	1,100	785	0	890	890
23	1,000	995	1,100	1,030	1,030	995	1,030	1,060	785	378	890	890
24	1,000	995	1,100	995	1,100	1,060	1,030	1,060	785	785	890	890
25	1,000	995	1,100	995	1,060	1,060	1,030	995	785	785	890	890
26	1,000	995	1,100	995	1,060	1,060	1,030	1,060	785	785	890	890
27	1,000	995	1,100	995	1,060	1,060	1,100	785	785	785	890	445
28	1,000	995	1,100	995	1,060	1,060	1,060	785	785	855	890	440
29	1,340	995	1,060	995	------	1,060	1,100	785	785	855	890	855
30	1,100	995	1,100	1,140	------	995	1,060	785	785	855	890	855
31	1,100	------	1,100	1,100	------	1,060	------	785	------	855	890	------

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	1,340	1,000	1,050	64,600
November	1,060	995	1,020	60,700
December	1,140	995	1,060	65,200
January	1,140	995	1,050	64,600
February	1,220	995	1,080	60,000
March	1,140	995	1,050	64,600
April	1,100	995	1,050	62,500
May	1,100	785	1,010	62,100
June	855	785	791	47,100
July	855	0	540	33,200
August	1,100	855	959	59,000
September	890	440	858	51,100
The year	1,340	0	959	695,000

LONG TOM RIVER NEAR MONROE, OREG.

LOCATION.—Staff gage in sec. 21, T. 14 S., R. 5 W., 1½ miles north of Monroe. Zero of gage 259.08 feet above mean sea level.

DRAINAGE AREA.—394 square miles.

RECORDS AVAILABLE.—November, 1920, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 9,400 second-feet Dec. 20 (gage height, 12.55 feet); minimum, 15 second-feet Oct. 1–9, 30, Nov. 1 (gage height, 0.4 foot).

1920–1930: Maximum discharge, 18,600 second-feet Jan. 7, 1923 (gage height, 14.4 feet); minimum, 8 second-feet Sept. 5–19, 23, 1924 (gage height, 0.26 foot).

REMARKS.—Records fair; discharge estimated Jan. 20–25. No diversions above station. Some fluctuation at low stages, owing to pondage at mill dam at Monroe.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	15	21	664	3,420	1,770	265	330	140	69	29	17
2	15	16	19	580	3,920	1,410	265	308	150	66	29	17
3	15	16	19	498	3,510	1,200	244	352	160	66	28	18
4	15	16	21	525	3,250	1,060	244	398	150	63	28	18
5	15	16	21	932	2,780	996	265	398	140	60	27	18
6	15	17	21	1,730	2,090	932	254	352	150	57	27	18
7	15	16	21	1,940	2,090	840	244	330	136	54	27	19
8	15	16	24	1,810	2,290	693	234	330	124	57	25	18
9	15	16	31	1,310	2,340	608	223	308	120	57	25	18
10	16	17	41	996	2,190	552	202	286	112	54	25	25
11	16	24	106	870	1,990	498	202	254	108	51	25	38
12	18	27	286	636	1,940	447	192	223	112	57	24	41
13	20	27	498	580	1,730	447	181	212	108	48	25	43
14	20	27	1,270	447	1,650	375	212	202	100	46	24	43
15	18	29	2,780	422	1,650	352	308	202	93	44	24	34
16	18	27	4,680	422	1,490	330	398	181	89	48	24	27
17	18	25	4,820	330	1,340	330	375	181	82	46	24	24
18	18	25	4,410	330	1,170	286	286	170	89	41	21	22
19	18	22	6,160	330	1,450	286	286	170	100	48	22	22
20	18	22	8,890		2,090	265	286	170	86	43	22	22
21	20	21	5,450		2,780	286	352	202	89	41	22	19
22	20	21	4,040	300	3,250	447	422	223	79	48	21	19
23	18	21	2,640		3,250	840	552	265	76	42	21	22
24	18	21	1,940		3,250	901	498	254	79	36	21	19
25	17	22	1,730		3,090	693	447	234	76	36	21	19
26	17	22	1,410	286	2,930	552	422	202	79	36	19	19
27	17	21	1,410	286	2,570	472	422	170	82	31	19	21
28	16	21	1,200	286	2,190	422	447	160	76	34	19	22
29	16	21	964	422	-------	375	422	160	76	25	18	24
30	15	21	810	901	-------	330	398	160	72	29	18	22
31	16	-------	751	1,990	-------	308	-------	160	-------	29	18	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	20	15	16.9	0.043	0.05	1,040
November	29	15	20.9	.053	.06	1,240
December	8,890	19	1,820	4.62	5.33	112,000
January	1,990	286	688	1.75	2.02	42,300
February	3,920	1,170	2,420	6.14	6.39	134,000
March	1,770	265	623	1.58	1.82	38,300
April	552	181	318	.807	.90	18,900
May	398	160	243	.617	.71	14,900
June	160	72	104	.264	.29	6,190
July	69	25	47.2	.120	.14	2,900
August	29	18	23.3	.059	.07	1,430
September	43	17	23.6	.060	.07	1,400
The year	8,890	15	518	1.31	17.85	375,000

NORTH SANTIAM RIVER AT DETROIT, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 12, T. 10 S., R. 5 E., one-fourth mile east of Detroit. Discharge measurements made from bridge in NE. ¼ sec. 15, T. 10 S., R. 5 E.

DRAINAGE AREA.—231 square miles (above measuring section).

RECORDS AVAILABLE.—January, 1907, to October, 1909; October, 1928, to September, 1930. Comparable records at gage above Boulder Creek near Hoover, August, 1910, to October, 1913.

EXTREMES.—Maximum discharge during year, 8,550 second-feet Dec. 18 (gage height, 7.1 feet); minimum, 336 second-feet Sept. 21, 22 (gage height, 0.42 foot).

1907–1909, 1928–1930: Maximum discharge, 9,220 second-feet Feb. 5, 1907; minimum, that of Sept. 21, 22, 1930.

REMARKS.—Records good. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	374	360	342	860	1,550	980	1,100	860	860	484	388	348
2	374	360	342	890	1,720	920	1,010	860	860	480	388	342
3	374	360	342	860	1,550	860	950	830	890	475	384	342
4	374	360	342	860	1,400	830	950	812	890	471	388	342
5	374	360	342	812	2,520	830	950	748	890	467	381	348
6	374	360	342	775	1,920	830	920	748	860	467	381	342
7	381	360	342	695	2,030	812	950	748	860	459	381	345
8	392	354	399	670	2,390	812	980	720	830	459	381	357
9	410	360	775	645	2,270	812	980	695	830	455	381	357
10	435	367	965	620	1,720	775	950	695	812	443	381	435
11	381	364	595	620	2,520	775	920	670	775	439	381	443
12	374	354	555		2,150	775	890	670	748	443	378	399
13	378	354	812		2,790	775	890	670	720	447	378	360
14	374	354	1,820		3,520	748	890	812	670	435	378	357
15	378	354	1,550	[a] 575	2,930	748	950	812	645	423	378	351
16	370	354	1,550		2,390	720	[a] 910	830	595	423	367	342
17	388	351	1,260		2,150	695	[a] 870	812	620	419	364	348
18	381	348	4,160	530	1,720	670	830	775	595	415	360	348
19	374	348	5,480	530	2,390	670	830	775	595	411	360	345
20	374	348	2,520	520	2,930	670	830	980	595	415	360	342
21	374	348	1,720	506	2,390	775	950	1,130	570	415	354	339
22	367	348	1,470	[a] 500	1,920	1,130	920	1,130	565	411	360	339
23	360	348	1,400	[a] 494	1,550	1,130	890	1,070	550	411	357	342
24	360	348	1,400	488	1,400	1,190	890	1,040	545	407	357	351
25	360	351	1,550	459	1,400	1,190	890	980	530	403	357	348
26	364	351	1,550	[a] 455	1,190	1,130	830	890	520	392	357	345
27	415	348	1,260	[a] 451	1,130	1,190	920	890	525	395	357	351
28	395	348	1,070	447	1,040	1,190	980	830	516	392	357	357
29	388	348	950	695	-------	1,190	920	830	488	392	357	351
30	370	348	980	695	-------	1,190	890	830	488	392	354	345
31	364	-------	950	890	-------	1,130	-------	830	-------	392	348	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	435	360	379	1.64	1.89	23,300
November	367	348	354	1.53	1.71	21,100
December	5,480	342	1,260	5.45	6.28	77,500
January	890	447	626	2.71	3.12	38,500
February	3,520	1,040	2,020	8.74	9.10	112,000
March	1,190	670	908	3.93	4.53	55,800
April	1,100	830	921	3.99	4.45	54,800
May	1,130	670	838	3.63	4.18	51,500
June	890	488	681	2.95	3.29	40,500
July	484	392	430	1.86	2.14	26,400
August	388	348	369	1.60	1.84	22,700
September	443	339	355	1.54	1.72	21,100
The year	5,480	339	754	3.26	44.25	545,000

[a] Interpolated.

NORTH SANTIAM RIVER AT MEHAMA, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 18, T. 9 S., R. 2 E., at Mehama, half a mile below Little North Santiam River.

DRAINAGE AREA.—665 square miles.

RECORDS AVAILABLE.—July, 1905, to March, 1907; October, 1910, to September, 1914; September, 1921, to September, 1930.

EXTREMES.—Maximum discharge during year (estimated), 29,000 second-feet Dec. 18 (gage height, about 11.0 feet); minimum, 464 second-feet Dec. 4–7.

1905–1907, 1910–1914, 1921–1930: Maximum discharge, 62,000 second-feet Nov. 20, 1921, Jan. 6, 1923 (gage height, 17.5 feet); minimum, 420 second-feet Sept. 18, 1924 (gage height, 1.45 feet).

REMARKS.—Records good except those from March to July and those over 5,000 second-feet, which are fair. No diversions for irrigation or regulation above station. Gage-height record October to April furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	520	513	478	2,770	9,900	2,940	2,610	2,770	2,020	1,030	615	527
2	520	513	471	3,850	11,400	2,610	2,300	2,610	2,300	1,030	615	511
3	520	513	471	3,110	8,450	2,300	1,890	2,610	2,300	980	615	511
4	520	506	464	2,770	6,510	2,300	2,450	2,300	2,940	932	615	503
5	520	499	464	2,770	9,900	2,450	2,160	2,020	2,610	932	607	503
6	520	499	464	2,450	8,450	2,770	2,160	2,020	2,300	932	599	503
7	513	499	464	2,160	6,780	2,610	2,160	2,300	2,300	932	599	503
8	542	499	485	2,020	9,900	2,450	2,770	2,160	2,020	932	599	551
9	595	499	1,180	1,890	7,050	2,300	2,450	2,020	1,890	885	599	567
10	595	520	3,290	1,760	8,160	2,300	2,160	2,020	1,760	885	599	567
11	550	542	3,470	1,640	11,100	2,160	2,020	2,020	1,760	885	591	745
12	528	520	2,010	1,520	8,450	2,300	1,890	1,890	1,760	838	583	658
13	520	513	2,450	1,520	8,740	2,300	2,020	1,760	1,520	838	575	599
14	520	499	13,200	1,400	14,800	2,160	2,300	2,610	1,460	838	567	567
15	513	492	9,610	1,400	10,800	2,020	2,300	2,300	1,400	790	567	543
16	513	492	7,600	1,400	8,160	1,890	2,450	2,610	1,460	790	567	535
17	542	492	4,950	1,290	6,780	1,760	2,160	2,610		745	551	535
18	635	492	13,300	1,290	5,460	1,760	2,020	2,300		745	551	527
19	558	492	19,200	1,290	7,880	1,760	2,020	2,300		745	551	519
20	535	485	9,030	1,290	9,030	1,760	2,020	2,940	1,350	700	543	511
21	520	478	6,510	1,180	7,320	2,160	2,020	5,460		700	535	503
22	506	471	4,950	1,180	6,510	4,050	2,770	5,980		700	535	495
23	506	471	5,720	1,180	6,240	4,710	2,450	4,480	1,240	700	535	495
24	506	471	5,980	1,080	5,200	4,260	2,300	4,050	1,130	700	535	503
25	499	478	4,710	1,080	4,480	4,950	2,020	3,470	1,130	700	535	535
26	499	485	5,460	1,030	3,850	4,260	2,020	2,940	1,130	658	527	527
27	558	485	4,050	1,030	3,470	4,050	2,300	2,610	1,080	658	527	519
28	635	478	3,290	1,030	3,110	3,660	4,260	2,300	1,080	658	527	607
29	595	478	2,940	2,160	-------	3,850	3,660	2,300	1,030	658	527	567
30	542	478	2,610	2,610	-------	3,470	3,290	2,160	1,030	658	535	527
31	520	-------	2,610	4,710	-------	2,940	-------	2,160	-------	615	519	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	635	499	538	0.809	0.93	33,100
November	542	471	495	.744	.83	29,500
December	19,200	464	4,580	6.89	7.94	282,000
January	4,710	1,030	1,870	2.81	3.24	115,000
February	14,800	3,110	7,780	11.7	12.18	432,000
March	4,950	1,760	2,810	4.23	4.88	173,000
April	4,260	1,890	2,380	3.58	3.99	142,000
May	5,980	1,760	2,710	4.08	4.70	167,000
June	2,940	1,030	1,620	2.44	2.72	96,400
July	1,030	615	800	1.20	1.38	49,200
August	615	519	566	.851	.98	34,800
September	745	495	542	.815	.91	32,300
The year	19,200	464	2,190	3.29	44.68	1,590,000

SOUTH SANTIAM RIVER AT WATERLOO, OREG.

LOCATION.—Staff gage in NW. ¼ sec. 28, T. 12 S., R. 1 W., 200 yards below highway bridge at Waterloo and 4 miles above Hamilton Creek.

DRAINAGE AREA.—640 square miles.

RECORDS AVAILABLE.—July, 1905, to March, 1907; October, 1910, to December, 1911; July, 1923, to September, 1930.

EXTREMES.—Maximum discharge during year (estimated), 38,800 second-feet Dec. 18, 19 (gage height, about 15.0 feet); minimum, 106 second-feet Nov. 2–10, 20–30, Dec. 1–7 (gage height, 2.00 feet).

1905–1907, 1910–11, 1923–1930: Maximum discharge, 60,000 second-feet Feb. 21, 1927 (gage height, 19.4 feet); minimum, 100 second-feet several days in September, October, November, 1925.

REMARKS.—Records good. Discharge estimated Jan. 16–20. No diversions or regulation above station. Gage-height record October to April furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	156	106	2,190	2,360	2,530	2,030	2,880	1,660	522	240	138
2	126	106	106	2,030	2,880	2,360	1,880	3,450	2,360	480	240	138
3	126	106	106	2,030	3,260	2,190	1,590	2,030	2,360	480	210	138
4	126	106	106	2,030	3,850	2,030	1,730	1,880	3,650	480	210	115
5	126	106	106	2,030	4,260	2,030	1,450	1,730	3,070	480	210	115
6	126	106	106	1,880	5,340	2,530	1,450	1,660	2,530	442	210	115
7	126	106	106	1,880	4,470	2,190	1,450	1,730	2,030	442	210	115
8	126	106	114	1,800	3,850	2,030	1,800	1,800	1,880	405	210	115
9	138	106	126	1,590	4,260	1,880	1,590	1,800	1,730	405	210	115
10	138	106	2,510	1,450	5,120	1,730	1,450	1,880	1,590	405	210	210
11	146	114	2,510	1,320	14,200	1,590	1,320	1,730	1,450	405	185	405
12	146	126	2,170	1,260	8,200	1,730	1,320	1,590	1,200	405	185	335
13	146	126	4,940	1,140	7,680	1,730	1,140	1,450	1,090	370	185	270
14	146	114	11,700	1,090	18,600	1,660	1,520	2,030	1,040	335	185	133
15	146	114	8,240	1,090	11,000	1,590	1,520	1,730	980	335	160	210
16	156	114	6,300		7,430	1,590	1,520	1,880	925	335	160	210
17	170	114	6,300		5,780	1,590	1,590	1,730	870	335	160	160
18	170	114	15,900	1,040	4,680	1,590	1,450	1,590	815	322	160	160
19	170	114	21,100		5,340	1,590	1,320	1,450	815	322	160	115
20	156	106	7,430		6,460	2,030	1,200	2,530	815	302	160	115
21	156	106	6,940	980	5,780	3,070	1,200	4,260	760	302	160	115
22	194	106	6,000	1,040	5,120	4,680	1,730	4,050	760	302	160	115
23	222	106	4,680	1,090	5,340	4,680	1,450	3,850	760	270	160	115
24	222	106	4,260	1,140	4,680	4,680	1,320	3,650	710	270	160	138
25	222	106	4,260	1,200	4,260	4,470	1,260	3,070	660	270	160	210
26	222	106	3,850	1,260	3,850	4,260	1,200	2,530	612	270	138	185
27	222	106	3,450	1,260	3,260	3,650	1,730	1,880	565	240	138	160
28	222	106	3,260	1,320	2,880	3,450	3,450	1,660	565	240	138	210
29	222	106	2,880	1,380	-------	2,880	2,880	1,660	565	240	138	270
30	222	106	2,700	1,450	-------	2,700	2,880	1,730	565	240	138	210
31	205	-------	2,360	1,590	-------	2,190	-------	1,730	-------	240	138	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	222	126	167	0.261	0.30	10,300
November	156	106	111	.173	.19	6,600
December	21,100	106	4,350	6.80	7.84	267,000
January	2,190	980	1,410	2.20	2.54	86,700
February	18,600	2,360	5,860	9.16	9.54	325,000
March	4,680	1,590	2,550	3.98	4.59	157,000
April	3,450	1,140	1,650	2.58	2.88	98,200
May	4,260	1,450	2,210	3.45	3.98	136,000
June	3,650	565	1,310	2.05	2.29	78,000
July	522	240	351	.548	.63	21,600
August	240	138	177	.277	.32	10,900
September	405	115	172	.269	.30	10,200
The year	21,100	106	1,670	2.61	35.40	1,210,000

ALBANY POWER CANAL NEAR LEBANON, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 2, T. 12 S., R. 2 W., one-eighth mile below spillway and 1 mile north of Lebanon.

RECORDS AVAILABLE.—April, 1926, to September, 1930. February to December, 1919, at station near Albany.

EXTREMES.—Maximum discharge during year from weekly readings, 290 second-feet Jan. 13 (gage height, 3.50 feet); minimum (estimated), 10 second-feet Apr. 9, 10, May 8, 15.

1919, 1926–1930: Maximum discharge, 295 second-feet Mar. 2, May 29–31, 1919; probably almost dry at times.

REMARKS.—Records fair. Gage read about once a week; mean monthly discharge is mean of discharges on days gage was read, except in April and May, for which discharges were interpolated on days of no gage-height record. This canal diverts from South Santiam River at Lebanon and discharges into Calapooya River at mouth. Lebanon ditch discharges into canal just below canal intake. Water used for power and water supply at Albany. Gage height record furnished by Mountain States Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							a 249	a 194				
2			87				259	209	259	229		109
3					239	249	a 253	219				
4		164					a 247	a 219	259		171	101
5					249		a 241	219				
6			87	239			a 235	219			162	101
7							229	a 219		229		
8							a 209	123			162	109
9	122		132				70	a 219	249	219	162	144
10			213		219	249	83	227				
11				239			a 229	a 249		219	162	189
12		164					a 229	259				
13				290			a 229	259	259		162	
14	176				239	239	229	269		219		
15								197			153	144
16			213					a 254	259	219		
17					219	239	a 224	a 249				144
18		99						a 244		219	144	
19			164	239	199			239				126
20								a 249	259		126	
21	108				199		219	259		199		
22							a 229					126
23			200				239			180		
24					249	229	a 223					126
25		87					a 227	a 264		180	126	
26							a 221		249			135
27				219			a 215		259		109	
28	164						209	269		180		
29							a 194	a 266			109	126
30			213				180	a 262	229			
31						239		259				

Month	Mean	Run-off in acre-feet	Month	Mean	Run-off in acre-feet
October	142	8,730	May	240	14,800
November	128	7,620	June	253	15,100
December	164	10,100	July	208	12,800
January	245	15,100	August	146	8,980
February	226	12,600	September	129	7,680
March	241	14,800			
April	217	12,900	The year	195	141,000

a Interpolated.

YAMHILL RIVER AT LAFAYETTE, OREG.

LOCATION.—Staff gage in sec. 7, T. 4 S., R. 3 W., above Government locks 1 mile southeast of Lafayette. Zero of gage 67.80 feet above mean sea level.
DRAINAGE AREA.—728 square miles.
RECORDS AVAILABLE.—October, 1928, to September, 1930. Records of stage below locks, October, 1908, to September, 1914.
EXTREMES.—Maximum discharge during year, 10,600 second-feet Feb. 9 (gage height, 12.3 feet); minimum, 40 second-feet Sept. 2 (gage height, 3.5 feet).
1928–1930: Maximum discharge, 15,800 second-feet Dec. 31, 1928 (gage height, 16.7 feet); minimum, 35 second-feet Sept. 19–23, 26, 1929.
Maximum stage known, 40.7 feet Jan. 9, 1923.
REMARKS.—Records fair. No diversions or regulation above station. Gage-height record furnished by Engineer Corps, United States Army.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 45	68	112	1,360	5,370	3,090	1,090	840	500	165	68	53
2	a 44	68	112	2,090	8,170	2,700	1,000	760	500	165	60	40
3	a 43	68	112	1,980	9,100	2,200	920	690	500	165	60	46
4		68	112	1,560	8,950	1,870	1,090	690	560	165	53	46
5		68	95	3,360	7,650	1,980	1,090	620	620	165	53	53
6		68	95	3,640	7,830	1,980	840	500	500	135	53	53
7	a 55	68	95	2,960	8,000	1,760	840	560	445	135	53	53
8		68	112	2,090	10,400	1,560	840	560	445	135	53	60
9		68	285	1,560	10,600	1,460	840	560	390	135	53	68
10		68	920	1,270	8,170	1,460	760	500	335	112	53	80
11	68	80	1,870	1,000	6,900	1,270	760	500	335	112	53	80
12	60	80	1,180	760	6,300	1,180	620	445	335	112	53	68
13	68	135	920	690	5,910	1,180	620	445	335	112	53	60
14	68	112	1,760	620	5,550	1,000	690	445	285	112	53	60
15	68	112	6,100	560	5,370	1,000	840	445	285	112	53	60
16	68	112	3,780	690	5,030	920	690	445	240	112	53	60
17	68	112	3,220	500	3,640	840	620	390	240	112	53	60
18	80	112	3,500	560	2,960	760	620	390	240	112	53	53
19	80	112	5,910	760	3,640	760	620	390	240	95	53	53
20	165	112	7,830	500	6,700	690	620	390	240	95	53	53
21	112	95	8,950	500	7,830	390	620	1,180	240	80	53	53
22	112	95	8,800	445	7,470	2,090	760	2,080	200	80	53	53
23	95	95	a 6,080	500	7,470	1,760	620	1,760	200	80	53	46
24	80	95	3,360	500	7,470	1,270	690	1,270	200	80	53	53
25	80	95	2,440	445	6,700	1,000	690	1,000	200	80	53	53
26	80	112	2,440	390	5,910	840	620	840	200	80	53	60
27	68	112	2,090	445	5,030	690	690	690	240	80	53	80
28	68	112	2,090	390	3,930	620	1,000	620	200	80	53	80
29	68	112	1,760	500	-------	620	1,000	620	200	80	53	80
30	68	112	1,560	2,320	-------	620	920	620	200	68	53	80
31	68	-------	1,270	2,830	-------	560	-------	560	-------	68	53	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	165	----------	71.3	0.098	0.11	4,380
November	135	68	93.1	.128	.14	5,540
December	8,950	95	2,550	3.50	4.04	157,000
January	3,640	390	1,220	1.68	1.94	75,000
February	10,600	2,960	6,710	9.22	9.60	373,000
March	3,090	390	1,290	1.77	2.04	79,300
April	1,090	620	787	1.08	1.20	46,800
May	2,080	390	703	.966	1.11	43,200
June	620	200	322	.442	.49	19,200
July	165	68	110	.151	.17	6,760
August	68	53	53.9	.074	.09	3,310
September	80	40	59.9	.082	.09	3,560
The year	10,600	40	1,130	1.55	21.02	817,000

a Estimated.

HASKINS CREEK NEAR McMINNVILLE, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 13, T. 3 S., R. 6 W., 300 feet above flow line of water-supply reservoir of city of McMinnville and 11 miles northwest of McMinnville.

DRAINAGE AREA.—5.7 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 210 second-feet Feb. 7 (gage height, 2.40 feet); minimum, 1.2 second-feet Sept. 3 (gage height, 0.55 foot). 1928–1930: Extremes, those of 1930.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station. Gage-height record furnished by city of McMinnville.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 1.4	2.0	1.9	32	74	45	23	10	11	5.1	2.5	1.6
2	a 1.5	2.0	1.9	30	64	41	21	9.8	10	4.6	2.5	1.5
3	a 1.6	2.0	1.9	27	46	38	22	9.5	12	4.6	2.4	1.5
4	1.6	2.0	1.9	33	53	35	21	9.1	11	4.6	2.4	1.5
5	1.6	2.0	1.9	a 29	112	33	19	8.7	10	4.2	2.4	1.6
6	1.5	2.3	1.9	25	79	31	17	9.5	9.8	4.2	2.3	1.7
7	1.5	2.2	1.9	22	210	29	17	9.1	9.1	4.2	2.3	1.9
8	2.3	2.0	7.0	21	119	28	15	8.4	8.7	3.8	2.3	2.7
9	2.3	2.2	14	19	84	27	15	8.4	8.0	3.8	2.3	2.0
10	1.8	3.5	21	17	96	25	14	7.7	8.0	3.8	2.2	2.0
11	1.7	2.7	12	16	86	24	13	7.0	8.0	3.5	2.2	2.4
12	1.9	2.4	8.0	a 15	78	22	12	8.4	7.7	3.5	2.0	2.2
13	1.8	2.4	43	a 13	76	22	12	8.4	7.3	3.5	1.8	2.0
14	1.8	2.4	80	12	72	21	13	8.7	6.8	3.5	1.8	1.8
15	1.8	2.4	32	a 12	64	19	11	8.7	6.5	3.5	1.9	1.8
16	1.8	2.4	33	a 12	55	19	11	8.0	6.5	3.5	2.2	1.6
17	2.3	2.7	26	12	50	17	11	7.7	6.5	3.5	2.0	1.5
18	2.2	2.6	53	10	53	17	11	7.7	6.2	3.5	2.0	1.5
19	2.3	2.5	44	11	76	16	11	10	6.0	3.3	2.0	1.5
20	2.0	2.5	32	9.5	107	17	11	28	6.0	2.7	2.0	1.4
21	1.9	2.5	26	9.8	93	36	11	49	6.0	2.7	2.0	1.4
22	1.8	2.5	34	9.5	91	50	10	32	6.0	2.5	1.9	1.5
23	1.8	2.5	48	9.1	85	45	10	25	6.0	2.5	1.9	1.7
24	1.7	2.5	37	9.1	73	43	10	21	5.7	2.5	1.9	2.9
25	1.8	2.6	42	8.4	70	40	10	19	6.0	2.7	1.9	2.4
26	1.9	a 2.4	36	8.0	61	36	9.8	16	6.2	2.7	1.8	2.4
27	2.2	a 2.2	32	8.0	55	34	15	14	6.0	2.6	1.8	2.4
28	2.2	a 2.1	27	8.4	50	32	13	13	6.0	2.5	1.6	2.5
29	2.0	a 2.0	23	24	------	29	12	13	5.4	2.4	1.6	2.2
30	2.0	1.9	22	22	------	28	11	13	5.1	2.4	1.7	1.8
31	2.0	------	22	27	------	26	------	11	------	2.4	1.7	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	2.3	1.4	1.87	0.328	0.38	115
November	3.5	1.9	2.35	.412	.46	140
December	80	1.9	24.8	4.35	5.02	1,520
January	33	8.0	16.8	2.95	3.40	1,030
February	210	46	79.7	14.0	14.58	4,430
March	50	16	29.8	5.23	6.03	1,830
April	23	9.8	13.7	2.40	2.68	815
May	49	7.0	13.5	2.37	2.73	830
June	12	5.1	7.45	1.31	1.46	443
July	5.1	2.4	3.38	.593	.68	208
August	2.5	1.6	2.04	.358	.41	125
September	2.9	1.4	1.90	.333	.37	113
The year	210	1.4	16.0	2.81	38.20	11,600

a Estimated.

MOLALLA RIVER NEAR CANBY, OREG.

LOCATION.—Staff gage in NE. ¼ sec. 9, T. 4 S., R. 1 E., at bridge 1½ miles south of Canby. Zero of gage 104.27 feet above mean sea level.
DRAINAGE AREA.—323 square miles.
RECORDS AVAILABLE.—August, 1928, to September, 1930.
EXTREMES.—Maximum discharge during year, 8,520 second-feet Dec. 19 (gage height, 7.9 feet); minimum, 47 second-feet Oct. 6 (gage height, 0.80 foot). 1928–1930: Maximum discharge, that of Dec. 19, 1929; minimum, 41 second-feet Sept. 12, 1929.
REMARKS.—Records good except those estimated, which are fair. A few small irrigation diversions above gage.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	74	61	842	3,630	1,040	768	960	730			53
2	57	75	60	1,130	5,420	960	695	880	920			53
3	50	58	57	960	3,930	880	660	880	1,000			49
4	63	75	60	1,000	2,930	805	695	805	1,130			a 50
5	53	66	61	1,080	3,630	880	595	842	960			a 51
6	48	70	58	1,000	3,350	842	565	768	880			a 52
7	68	65	57	880	3,210	805	565	880	805		a 95	57
8	70	60	86	768	5,240	768	a 580	920	730			
9	77	72	582	730	3,350	695	595	880	628			
10	97	75	1,150	628	2,800	660	535	880	a 580			a 70
11	88	92	1,070		3,630	660	508	730	535			
12	75	108	950		3,490	695	480	695	480			
13	55	65	1,150		3,780	660	508	768	452			88
14	74	65	5,420		3,490	660	595	1,310	425			63
15	70	65	5,240		3,070	595	695	1,710	400		88	a 61
16	72	65	3,490		2,410	565	660	1,500	375	149	90	61
17	70	79	2,410	a 500	1,930	535	628	1,310	350		85	
18	97	75	3,070		1,710	508	595	1,220	350		95	
19	106	66	7,500		2,800	480	535	1,040	325		88	
20	79	65	4,240		4,080	508	508	2,050	325		81	
21	81	61	2,670		3,350	628	480	2,800	325			
22	75	58	2,050		2,800	1,820	660	2,540	302			
23	66	58	1,930	a 425	2,670	2,050	628	a 2,120	a 280			a 62
24	63	58	1,820	425	2,170	1,710	595	1,600	254			
25	53	58	1,600	400	1,820	1,710	535	1,310			a 65	
26	55	65	1,710	350	1,600	1,600	565	1,130				
27	72	61	1,400	325	1,400	1,400	730	960	a 241			
28	140	66	1,220	302	1,220	1,220	1,930	920				
29	104	70	1,000	920	------	1,130	1,040	842				
30	88	61	920	1,500	------	1,000	1,040	768				
31	72	------	842	2,050	------	880	------	730	------			------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	140	48	74.2	0.230	0.27	4,560
November	108	58	68.4	.212	.24	4,070
December	7,500	57	1,740	5.39	6.21	107,000
January	2,050	302	700	2.17	2.50	43,000
February	5,420	1,220	3,030	9.38	9.77	168,000
March	2,050	480	947	2.93	3.38	58,200
April	1,930	480	672	2.08	2.32	40,000
May	2,800	695	1,190	3.68	4.24	73,200
June	1,130	----------	500	1.55	1.73	29,800
July	----------	----------	149	.461	.53	9,160
August	----------	----------	83.0	.257	.30	5,100
September	----------	----------	61.9	.192	.21	3,680
The year	7,500	48	754	2.33	31.70	546,000

a Estimated.

PUDDING RIVER AT AURORA, OREG.

LOCATION.—Staff gage in SE. ¼ sec. 12, T. 4 S., R. 1 W., at highway bridge at Aurora, half a mile above mouth of Mill Creek. Zero of gage 77.44 feet above mean sea level.

DRAINAGE AREA.—493 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 5,080 second-feet Feb. 9 (gage height, 16.04 feet); minimum, 48 second-feet Oct. 2 (gage height, 0.39 foot). 1928–1930: Maximum discharge, that of Feb. 9, 1930; maximum gage height, 16.56 feet Dec. 31, 1928. Minimum discharge, that of Oct. 2, 1929. Maximum known stage, 25.0 feet Jan. 9, 1923 (discharge, about 14,500 second-feet).

REMARKS.—Records good. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	81	84	1,140	3,560	1,750	798	798	582	191	90	60
2	49	78	81	1,140	4,520	1,510	732	732	582	173	87	60
3	52	78	81	1,110	4,760	1,390	688	754	603	164	82	62
4	52	72	78	1,110	4,520	1,240	666	867	603	164	82	63
5	55	72	78	1,510	4,080	1,180	710	821	688	156	82	62
6	55	70	76	2,120	3,910	1,210	645	754	645	156	81	60
7	55	70	78	1,880	3,600	1,140	603	754	561	148	78	62
8	60	70	92	1,570	4,610	1,040	603	798	520	140	78	63
9	60	75	140	1,330	5,140	985	582	754	480	140	78	69
10	66	86	500	1,160	4,520	936	561	710	460	138	76	72
11	84	92	1,270	1,010	4,300	867	520	666	420	137	76	93
12	87	96	1,270	913	4,260	821	500	624	400	137	75	118
13	75	102	1,210	754	4,390	776	460	582	360	134	75	138
14	69	98	1,920	710	4,430	732	520	582	360	129	74	140
15	66	88	3,860	710	4,260	710	798	688	340	126	72	121
16	66	84	4,170	710	3,860	666	985	844	310	124	72	90
17	63	81	4,120	732	3,180	624	936	754	282	124	69	80
18	68	80	3,730	688	2,540	561	798	688	272	121	66	75
19	78	80	4,390	624	2,740	540	754	624	254	118	64	75
20	92	80	4,860	624	3,860	500	688	645	254	118	66	72
21	84	80	4,760	582	4,260	540	624	1,160	263	114	68	72
22	78	78	3,990	540	4,170	1,040	645	1,630	254	111	66	69
23	69	78	3,230	540	4,040	1,920	688	1,510	236	113	64	64
24	63	78	2,780	561	3,820	1,980	666	1,300	227	110	63	66
25	62	78	2,380	561	3,430	1,750	645	1,110	227	108	63	69
26	66	80	2,200	520	2,980	1,540	624	936	218	104	62	70
27	68	82	1,980	520	2,500	1,330	624	821	218	99	59	78
28	75	84	1,720	500	2,060	1,180	666	776	218	96	57	86
29	84	86	1,480	540	-------	1,060	890	688	209	93	57	84
30	87	87	1,300	960	-------	913	867	666	200	93	59	96
31	82	-------	1,210	2,460	-------	821	-------	645	-------	92	60	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	92	49	68.5	0.139	0.16	4,210
November	102	70	81.5	.165	.18	4,850
December	4,860	76	1,910	3.87	4.46	117,000
January	2,460	500	962	1.95	2.25	59,200
February	5,140	2,060	3,870	7.85	8.17	215,000
March	1,980	500	1,070	2.17	2.50	65,800
April	985	460	683	1.39	1.55	40,600
May	1,630	582	828	1.68	1.94	50,900
June	688	200	375	.761	.85	22,300
July	191	92	128	.260	.30	7,870
August	90	57	71.0	.144	.17	4,370
September	140	60	79.6	.161	.18	4,740
The year	5,140	49	825	1.67	22.71	597,000

TUALATIN RIVER NEAR WILLAMETTE, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 34, T. 2 S., R. 1 E., 300 feet above county bridge and 1 mile northwest of Willamette.

DRAINAGE AREA.—710 square miles.

RECORDS AVAILABLE.—July, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,760 second-feet Feb. 11, 12 (gage height, 7.84 feet); minimum, 5 second-feet Sept. 5–9 (gage height, 0.34 foot).

1928–1930: Maximum discharge, 5,750 second-feet Jan. 3, 1929 (gage height, 8.58 feet); minimum, 2 second-feet Aug. 14–21, 1928 (gage height, 0.25 foot).

REMARKS.—Records good October to April; poor May to September. Oswego Canal diverts from Tualatin River above station and returns water to Willamette River below station. Some regulation in low-water season by flashboards on crest of Oswego Canal diversion dam.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	37	63	815	1,410	3,830	815	710	396	168	24	8
2	18	39	63	760	2,470	3,610	760	660	378	157	22	7
3	16	39	63	815	3,000	3,290	710	560	361	157	20	7
4	20	46	63	870	3,090	2,470	660	560	361	146	19	6
5	35	50	63	930	3,190	2,640	710	515	378	136	18	5
6	35	53	61	1,170	3,290	2,310	710	495	378	136	23	5
7	31	53	59	1,410	3,500	1,830	660	475	361	131	26	5
8	29	50	74	1,350	4,170	1,550	610	475	314	117	24	5
9	29	50	146	1,230	4,400	1,410	610	455	284	115	22	5
10	32	42	242	1,050	4,520	1,290	560	435	270	78	22	8
11	35	52	345	930	4,760	1,170	515	416	256	18	20	15
12	37	63	495	710	4,760	1,050	515	396	229	14	21	28
13	39	64	560	610	4,760	990	495	378	229	46	37	29
14	42	66	660	560	4,640	930	495	378	216	63	30	35
15	45	63	1,110	515	4,290	870	610	435	216	45	26	31
16	46	64	1,550	560	4,060	815	660	495	214	39	20	24
17	46	63	1,620	610	3,610	760	660	475	191	38	20	19
18	39	61	1,620	475	3,290	710	560	435	180	39	19	18
19	37	66	1,620	475	3,190	710	515	416	180	43	18	14
20	38	66	1,690	455	3,290	660	495	396	180	46	18	12
21	46	66	1,620	416	3,290	660	495	435	168	50	19	13
22	52	66	1,350	378	3,390	815	495	660	168	47	20	10
23	49	63	1,230	361	3,720	1,050	495	1,170	168	45	20	7
24	43	63	1,290	361	3,940	1,350	515	1,110	168	40	21	7
25	39	63	1,410	361	4,060	1,410	515	930	168	39	21	7
26	37	59	1,410	361	4,170	1,410	515	710	168	31	22	10
27	38	59	1,410	345	4,170	1,290	515	610	168	27	24	17
28	39	59	1,350	345	4,170	1,170	560	560	168	34	23	28
29	39	59	1,170	361	-------	1,110	660	495	168	33	20	40
30	39	61	990	455	-------	990	710	455	168	28	14	52
31	37	-------	870	710	-------	870	-------	416	-------	27	10	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	52	16	36.4	2,240
November	66	37	56.8	3,380
December	1,690	59	847	52,100
January	1,410	345	669	41,100
February	4,760	1,410	3,740	208,000
March	3,830	660	1,450	89,200
April	815	495	593	35,300
May	1,170	378	552	33,900
June	396	168	242	14,400
July	168	14	68.8	4,230
August	39	10	21.7	1,330
September	52	5	15.9	946
The year	4,760	5	671	486,000

OSWEGO CANAL NEAR OSWEGO, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 17, T. 2 S., R. 1 E., 3 miles southwest of Oswego.

RECORDS AVAILABLE.—October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 171 second-feet Feb. 11–13; minimum, 23 second-feet Mar. 11.

1928–1930: Maximum discharge, that of Feb. 11–13, 1930; minimum (estimated), 12 second-feet Feb. 21–26, 1929.

REMARKS.—Records fair. Oswego canal diverts from Tualatin River in NW. ¼ sec. 20, three-fourths mile above gage; diversion dam on Tualatin River is in NE. ¼ sec. 33, 2¾ miles by river below canal.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	45	37	75	106	51	53	53	46	38	53	48
2	53	45	37	77	128	51	53	51	46	38	53	49
3	53	45	37	77	121	47	53	51	46	38	54	49
4	49	45	37	82	124	43	51	49	46	38	54	49
5	49	45	37	87	131	37	53	49	46	38	54	49
6	49	45	37	98	131	35	51	48	46	36	53	51
7	49	45	37	101	134	32	51	48	46	36	53	51
8	49	45	37	98	151	27	51	48	45	35	53	53
9	49	45	39	95	155	27	51	46	45	35	53	53
10	49	45	49	90	163	24	49	46	43	35	56	54
11	49	45	68	85	171	23	49	46	41	41	56	58
12	49	45	70	77	171	66	48	45	41	45	56	58
13	49	45	70	75	171	59	48	45	41	49	53	58
14	49	43	77	72	167	61	48	45	41	51	49	58
15	49	43	95	72	155	59	51	46	40	53	49	58
16	49	41	106	72	141	59	53	48	40	54	48	58
17	49	41	109	70	134	57	51	48	40	56	48	58
18	49	41	109	70	128	55	49	46	40	56	48	56
19	49	41	106	68	124	55	49	46	40	56	48	58
20	47	41	106	66	131	55	48	46	40	56	48	56
21	47	39	106	66	104	55	48	48	40	56	48	58
22	47	39	98	63	75	59	48	63	38	56	48	58
23	47	39	93	63	77	61	48	61	38	56	48	56
24	45	39	93	61	72	68	49	61	38	58	48	56
25	45	39	98	63	70	68	49	58	38	58	48	58
26	45	39	101	61	45	68	49	58	38	58	48	58
27	45	37	98	61	37	63	49	54	38	58	46	58
28	47	37	95	61	45	61	49	51	38	54	46	56
29	45	37	87	63	------	59	51	49	38	56	46	58
30	45	37	85	77	------	57	53	49	38	53	46	58
31	45	------	82	82	------	55	------	48	------	53	48	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	53	45	48.2	2,960
November	45	37	41.9	2,490
December	109	37	75.3	4,630
January	101	61	75.1	4,620
February	171	37	120	6,660
March	68	23	51.5	3,170
April	53	48	50.1	2,980
May	63	45	50.0	3,070
June	46	38	41.4	2,460
July	58	35	48.4	2,980
August	56	46	50.3	3,090
September	58	48	55.2	3,280
The year	171	23	58.6	42,400

CLACKAMAS RIVER AT BIG BOTTOM, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 26, T. 6 S., R. 7 E., half a mile above proposed dam site, just below Pot Creek, and 28 miles southeast of Estacada.

DRAINAGE AREA.—132 square miles.

RECORDS AVAILABLE.—April, 1920, to September, 1930.

EXTREMES.—Maximum discharge during year, 1,170 second-feet Dec. 19 (gage height, 3.80 feet); minimum, 199 second-feet Sept. 1–3, 19–23 (gage height, 1.45 feet).

1920–1930: Maximum discharge, 6,600 second-feet Jan. 7, 1923 (gage height, 8.15 feet); minimum, that of Sept. 1–3, 19–23, 1930.

REMARKS.—Records good. No regulation or diversions above station. Field data furnished by Portland General Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	210	208	205	358	445	409	399	324	317	234	214	201
2	208	205	205	361	555	392	389	319	314	234	210	201
3	208	205	205	340	515	379	386	327	314	232	208	201
4	208	208	205	334	480	366	409	317	314	230	208	201
5	210	208	205	325	685	376	389	307	302	228	208	201
6	210	208	205	316	640	360	382	307	295	228	208	203
7	210	208	205	301	662	349	392	304	288	228	206	203
8	210	208	241	295	810	340	417	302	284	226	206	206
9	218	210	368	286	640	332	392	295	277	228	206	208
10	210	215	462	268	685	327	376	290	273	226	208	218
11	210	212	316	256	918	324	366	286	267	224	208	214
12	210	212	268	262	710	330	366	282	263	222	206	208
13	208	210	403	241	785	327	369	286	258	222	204	206
14	208	208	785	259	1,000	319	379	340	256	222	204	204
15	205	208	618	262	835	314	363	386	254	220	204	203
16	205	208	575	256	760	307	354	360	252	220	204	203
17	212	208	445	241	710	302	340	335	250	220	206	203
18	210	208	640	250	710	300	335	319	248	220	206	201
19	208	208	1,080	250	956	297	346	319	248	220	206	201
20	208	205	735	238	983	302	340	372	248	218	206	199
21	205	205	555	241	797	354	369	446	244	218	204	199
22	202	202	498	247	722	446	382	443	244	218	204	201
23	202	205	535	256	650	420	357	406	242	218	204	201
24	202	205	535	256	582	413	346	386	240	216	204	203
25	202	208	555	247	542	424	335	369	238	216	203	203
26	205	208	535	250	492	420	332	352	238	216	203	203
27	223	208	462	250	461	420	366	337	238	214	203	204
28	215	205	428	250	428	424	379	330	238	214	203	206
29	210	205	396	316	------	443	354	327	236	214	203	203
30	208	208	382	316	------	439	340	324	234	214	203	201
31	208	------	368	331	------	420	------	319	------	214	203	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	223	202	209	1.58	1.82	12,900
November	215	202	208	1.58	1.76	12,400
December	1,080	205	439	3.33	3.84	27,000
January	361	238	279	2.11	2.43	17,200
February	1,000	428	684	5.18	5.39	38,000
March	446	297	367	2.78	3.20	22,600
April	417	332	368	2.79	3.11	21,900
May	446	282	336	2.55	2.94	20,700
June	317	234	264	2.00	2.23	15,700
July	234	214	222	1.68	1.94	13,600
August	214	203	206	1.56	1.80	12,700
September	218	199	204	1.55	1.73	12,100
The year	1,080	199	313	2.37	32.19	227,000

CLACKAMAS RIVER ABOVE THREE LYNX CREEK, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 21, T. 5 S., R. 6 E., one-fourth mile above Three Lynx Creek and 17 miles southeast of Estacada. Zero of gage 1,098 feet above mean sea level.

DRAINAGE AREA.—488 square miles.

RECORDS AVAILABLE.—October, 1911, to December, 1913; October, 1921, to September, 1930.

EXTREMES.—Maximum discharge during year, 9,450 second-feet Dec. 14 (gage height, 7.30 feet); minimum, 430 second-feet Nov. 21 (gage height, 0.76 foot). 1911–1913, 1921–1930: Maximum discharge, 33,700 second-feet Jan. 6, 1923 (gage height, 15.2 feet); minimum, 375 second-feet Aug. 10, 16, 1924.

REMARKS.—Records excellent. Discharge interpolated Jan. 17–19. Water diverted from Oak Grove Fork used in power plant on Clackamas River just above station. Field data furnished by Portland General Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	638	594	555	1,490	3,370	1,790	1,880	1,490	1,330	790	640	552
2	638	582	560	1,610	4,550	1,660	1,790	1,450	1,450	799	640	563
3	621	550	572	1,490	3,490	1,610	1,740	1,450	1,410	760	618	558
4	626	588	577	1,450	2,960	1,570	1,790	1,330	1,450	724	629	568
5	638	577	572	1,370	4,260	1,610	1,660	1,330	1,370	790	618	574
6	599	582	577	1,330	3,840	1,570	1,610	1,290	1,290	748	612	563
7	588	566	582	1,170	3,840	1,490	1,700	1,330	1,210	748	618	558
8	626	582	692	1,130	4,700	1,450	1,840	1,290	1,200	754	607	590
9	626	566	1,370	1,060	3,420	1,370	1,740	1,250	1,200	742	624	590
10	632	599	2,180	990	3,420	1,370	1,610	1,210	1,120	736	602	640
11	616	582	1,450	920	4,550	1,330	1,530	1,170	1,090	730	607	658
12	604	577	1,060	920	3,840	1,370	1,530	1,210	1,060	736	607	612
13	621	560	2,100	850	3,840	1,370	1,530	1,250	1,020	706	612	618
14	621	560	7,200	920	4,860	1,330	1,570	1,740	985	694	596	580
15	588	572	4,260	920	4,260	1,290	1,570	1,930	918	694	602	607
16	610	572	3,560	885	3,560	1,210	1,530	1,880	985	694	629	558
17	632	582	2,520	876	3,220	1,250	1,450	1,760	918	694	640	558
18	654	560	4,940	868	3,280	1,170	1,410	1,530	885	682	607	574
19	632	560	7,410	859	5,030	1,170	1,410	1,530	918	682	607	541
20	610	560	4,260	850	5,400	1,210	1,370	1,880	918	670	585	541
21	599	555	3,020	815	4,120	1,560	1,530	2,640	885	670	585	552
22	599	560	2,400	815	3,700	2,460	1,610	2,700	852	664	585	541
23	594	560	2,640	850	3,280	2,340	1,490	2,340	852	658	585	568
24	588	566	2,520	850	2,890	2,290	1,450	2,130	852	652	585	558
25	604	582	2,640	780	2,580	2,400	1,370	1,930	820	652	585	574
26	610	599	2,640	780	2,290	2,340	1,370	1,790	852	652	585	563
27	660	577	2,130	780	2,080	2,290	1,530	1,660	820	624	558	602
28	648	566	1,880	780	1,930	2,240	1,790	1,570	852	646	568	590
29	610	582	1,660	1,210	-------	2,240	1,660	1,490	820	634	585	580
30	594	582	1,610	1,370	-------	2,180	1,570	1,410	790	646	585	568
31	594	-------	1,530	1,660	-------	2,030	-------	1,410	-------	634	568	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	660	588	617	1.26	1.45	37,900
November	599	550	573	1.17	1.30	34,100
December	7,410	555	2,310	4.73	5.45	142,000
January	1,660	780	1,050	2.15	2.48	64,600
February	5,400	1,930	3,660	7.50	7.81	203,000
March	2,460	1,170	1,700	3.48	4.01	105,000
April	1,880	1,370	1,590	3.26	3.64	94,600
May	2,700	1,170	1,620	3.32	3.83	99,600
June	1,450	790	1,040	2.13	2.38	61,900
July	790	624	700	1.43	1.65	43,000
August	640	558	602	1.23	1.42	37,000
September	658	541	577	1.18	1.32	34,300
The year	7,410	541	1,320	2.70	36.74	957,000

CLACKAMAS RIVER NEAR CAZADERO, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 11, T. 4 S., R. 4 E., half a mile above backwater from Cazadero Dam of Portland General Electric Co. and 3 miles southeast of Cazadero. Zero of gage 532.0 feet above mean sea level; published gage readings reduced to mean sea level datum.

DRAINAGE AREA.—665 square miles.

RECORDS AVAILABLE.—January, 1909, to September, 1930.

EXTREMES.—Maximum discharge during year, 15,000 second-feet Dec. 14 (gage height, 542.60 feet); minimum, 410 second-feet Sept. 28 (gage height, 532.03 feet).

1909–1930: Maximum discharge, 60,000 second-feet Jan. 6, 1923 (gage height, 556.2 feet); minimum, 410 second-feet Oct. 20, 1925, Sept. 28, 1930, caused by shutdown of power plant at Three Lynx (gage height, 532.03 feet).

REMARKS.—Records good. Mean discharge estimated Jan. 17–27. Some diurnal fluctuation during low water. Field data furnished by Portland General Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	735	745	677	2,260	5,490	2,390	2,480	2,210	1,950	1,010	770	672
2	740	686	682	2,570	7,590	2,210	2,300	2,080	2,300	1,010	770	668
3	725	710	672	2,210	5,490	2,120	2,260	2,080	2,300	982	745	654
4	725	710	686	2,120	4,590	2,030	2,300	1,910	2,390	955	755	659
5	730	695	654	1,910	6,340	2,160	2,120	1,870	2,160	955	745	659
6	735	705	672	1,830	5,830	2,120	2,030	1,910	1,990	928	745	668
7	677	695	677	1,650	5,490	1,950	2,120	1,990	1,870	955	725	650
8	745	725	928	1,580	7,050	1,870	2,390	1,950	1,720	928	715	690
9	765	695	1,680	1,480	5,020	1,790	2,210	1,910	1,720	928	735	695
10	750	775	3,290	1,340	4,870	1,760	2,030	1,830	1,580	900	705	745
11	740	760	2,210	1,250	7,410	1,720	1,910	1,720	1,510	900	720	845
12	715	745	1,540	1,250	6,000	1,790	1,870	1,760	1,440	900	700	755
13	735	690	2,970	1,190	6,510	1,790	1,870	1,760	1,370	900	715	715
14	730	695	12,100	1,250	7,590	1,760	2,030	2,570	1,340	845	686	686
15	705	705	7,230	1,250	6,510	1,680	2,120	2,970	1,310	872	695	695
16	725	672	5,660	1,190	5,330	1,580	2,030	2,970	1,280	845	720	659
17	770	715	3,850		4,730	1,620	1,910	2,570	1,250	845	587	659
18	795	710	6,690		4,590	1,540	1,830	2,260	1,190	845	785	659
19	755	686	11,600		7,410	1,510	1,790	2,260	1,190	835	715	650
20	765	659	7,230		7,950	1,580	1,760	2,870	1,190	835	672	641
21	705	686	4,730		6,170	2,160	1,950	4,460	1,190	830	686	646
22	715	695	3,620	1,050	5,330	3,970	2,300	4,590	1,130	820	682	650
23	710	677	3,730		4,870	3,850	2,030	3,730	1,130	815	686	659
24	710	690	3,620		4,090	3,620	1,910	3,290	1,100	800	677	650
25	735	725	3,620		3,620	3,850	1,830	2,970	1,100	795	690	682
26	715	725	3,730		3,180	3,620	1,790	2,570	1,070	795	682	659
27	955	700	2,970		2,870	3,400	2,030	2,390	1,070	790	672	700
28	900	695	2,570	1,510	2,570	3,180	2,570	2,210	1,070	785	672	656
29	795	690	2,210	2,480		3,180	2,480	2,080	1,070	770	695	700
30	735	710	2,160	2,260		2,970	2,390	1,950	1,010	775	672	659
31	715		2,080	2,670		2,770		2,030		765	654	

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	955	677	747	1.12	1.29	45,900
November	775	659	706	1.06	1.18	42,000
December	12,100	654	3,440	5.17	5.96	212,000
January	2,670		1,510	2.27	2.62	92,800
February	7,950	2,570	5,520	8.30	8.64	307,000
March	3,970	1,510	2,370	3.56	4.10	146,000
April	2,570	1,760	2,090	3.14	3.50	124,000
May	4,590	1,720	2,440	3.67	4.23	150,000
June	2,390	1,010	1,470	2.21	2.47	87,500
July	1,010	765	868	1.31	1.51	53,400
August	785	587	706	1.06	1.22	43,400
September	845	641	679	1.02	1.14	40,400
The year	12,100	587	1,860	2.80	37.86	1,340,000

OAK GROVE FORK ABOVE POWER PLANT INTAKE, OREG.[1]

LOCATION.—Water-stage recorder in SE. ¼ sec. 4, T. 6 S., R. 7 E., three-fourths mile above intake of Oak Grove power development of Portland General Electric Co. and 24 miles southeast of Estacada.

DRAINAGE AREA.—126 square miles.

RECORDS AVAILABLE.—December, 1923, to September, 1930. At site below Kink Creek, half a mile downstream, May, 1909, to December, 1923; incomplete.

EXTREMES.—Maximum discharge during year, 948 second-feet Feb. 19 (gage height, 2.71 feet); minimum, 263 second-feet Sept. 9, 14, 19–21, 23, 29 (gage height, 1.47 feet).

1909–1930: Maximum discharge, 5,000 second-feet Jan. 7, 1923 (gage height, 5.45 feet); minimum, that of Sept. 9, 14, 19–21, 23, 29, 1930.

REMARKS.—Records good. No diversions above station. Field data furnished by Portland General Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	311	284	280	401	485	500	565	455	425	324	284	267
2	311	284	280	401	526	485	554	450	420	320	288	267
3	306	284	275	388	480	475	554	445	420	316	284	267
4	311	284	271	388	480	470	560	435	420	316	284	267
5	311	284	271	378	565	485	548	425	406	316	280	267
6	311	284	271	360	554	470	548	435	392	316	280	267
7	311	280	271	352	587	455	560	430	388	311	280	267
8	311	280	324	347	598	445	565	420	383	311	280	267
9	311	280	365	338	543	435	548	410	378	311	280	263
10	311	284	410	334	587	425	538	406	370	306	280	284
11	306	280	329	329	662	425	538	396	370	306	275	275
12	306	280	306	324	604	435	538	392	365	302	275	271
13	306	280	360	320	650	430	543	396	360	302	275	267
14	311	280	560	329	722	415	543	450	356	302	275	263
15	306	280	475	329	704	406	554	465	352	302	275	267
16	306	280	480	320	668	396	538	440	347	302	275	267
17	306	280	401	311	650	392	516	425	347	302	275	267
18	302	280	480	320	686	392	505	410	342	302	280	267
19	302	280	650	320	884	392	505	410	342	302	284	263
20	298	275	560	316	898	420	495	455	342	298	275	263
21	293	275	475	306	792	495	532	526	338	298	271	263
22	293	275	440	306	760	548	538	521	338	293	275	267
23	293	280	480	302	704	532	510	490	334	293	275	263
24	293	275	460	298	644	565	495	470	334	293	275	267
25	293	284	480	298	609	598	485	455	329	293	271	267
26	298	280	470	298	576	592	485	440	329	293	271	267
27	334	280	430	293	548	582	495	430	329	288	275	267
28	306	280	410	298	521	582	495	430	329	293	267	265
29	298	280	392	338	------	592	485	420	324	288	267	263
30	298	280	388	329	------	587	470	420	324	288	267	267
31	293	------	383	347	------	576	------	420	------	288	267	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	334	293	305	2.42	2.79	18,800
November	284	275	280	2.22	2.48	16,700
December	650	271	401	3.18	3.67	24,700
January	401	293	333	2.64	3.04	20,500
February	898	480	632	5.02	5.23	35,100
March	598	392	484	3.84	4.43	29,800
April	565	470	527	4.18	4.66	31,400
May	526	392	438	3.48	4.01	26,900
June	425	324	361	2.87	3.20	21,500
July	324	288	302	2.40	2.77	18,600
August	288	267	276	2.19	2.52	17,000
September	284	263	267	2.12	2.36	15,900
The year	898	263	382	3.03	41.16	277,000

[1] Formerly published as Oak Grove Fork at Portland Electric Power Co.'s intake, Oreg.

LEWIS RIVER BASIN

LEWIS RIVER ABOVE MUDDY RIVER, NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in SW. ¼ sec. 30, T. 7 N., R. 7 E., 2 miles above mouth of Muddy River and 15 miles east of Cougar.

DRAINAGE AREA.—227 square miles.

RECORDS AVAILABLE.—August to October, 1909; August, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 6,120 second-feet Feb. 20 (gage height, 5.72 feet); minimum, 175 second-feet Nov. 21 (gage height, 0.38 foot).

1927–1930: Maximum discharge, 14,500 second-feet Nov. 25, 1927 (gage height, 8.97 feet); minimum, that of Nov. 21, 1929.

REMARKS.—Records good except those estimated. No diversions or regulation above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	231	216	198	774	820	1,080	1,800	1,460	1,080	464	a 315	241
2	231	216	195	737	1,240	a 1,000	1,700	1,600	1,120	446	a 310	241
3	231	213	195	707		945	1,600	1,500	1,020	423	a 300	247
4	240	210	195	800		910	1,600	1,320	980	423	a 295	250
5	249	213	195	743	a 2,700	840	1,550	1,200	945	423	292	250
6	234	216	195	683		798	1,600	1,120	1,020	414	313	250
7	231	210	192	613		762	1,850	1,020	1,050	405	316	226
8	240	210	216	608		726	2,250	945	945	400	328	235
9	294	210	298	536	2,860	720	2,000	910	910	400	310	238
10	258	216	689	505	2,420	a 700	1,750	875	910	396	306	235
11	237	213	376	470	2,150	684	1,600	910	840	392	302	264
12	240	204	294	a 466	1,850	702	1,650	945	780	392	292	238
13	234	204	519	a 463	2,050	672	1,800	1,020	720	414	288	238
14	231	204	2,360	460	2,860	648	2,100	1,120	690	432	288	232
15	234	204	1,370	445	2,730	630	2,000	1,120	702	387	288	238
16	231	204	1,040	425	2,730	600	1,800	1,160	714	374	285	238
17	252	219	788	389	2,600	600	1,650	1,080	660	360	278	238
18	234	210	689	407	2,800	600	1,550	980	630	348	257	235
19	234	204	653	407	5,460	612	1,550	1,160	572	340	264	226
20	228	198	647	380	5,460	672	1,600	1,950	567	344	257	223
21	225	186	608	a 375	a 4,000	1,050	1,900	1,800	545	344	257	229
22	222	204	659	a 370	a 2,700	1,320	2,150	1,600	535	348	260	223
23	219	204	820	a 370	a 2,000	1,240	2,000	1,460	510	356	257	211
24	219	198	905	a 370	a 1,800	1,460	1,850	1,370	490	344	254	208
25	216	213	1,200	368	1,700	1,750	1,700	1,280	495	328	254	208
26	222	216	1,200	364	1,500	1,800	1,800	1,200	495		247	217
27	243	207	1,040	a 345	a 1,300	1,850	2,000	1,160	505		247	232
28	231	204	905	333	1,120	2,000	1,900	1,160	530	a 322	250	241
29	219	201	827	340	-------	2,250	1,650	1,160	472		254	211
30	216	201	814	376	-------	2,100	1,500	1,080	454		257	202
31	213	-------	755	455	-------	1,950	-------	1,050	-------		244	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	294	213	234	1.03	1.19	14,400
November	219	186	208	.916	1.02	12,400
December	2,360	192	679	2.99	3.45	41,800
January	800	333	487	2.15	2.48	29,900
February	5,460	820	2,510	11.1	11.56	139,000
March	2,250	600	1,090	4.80	5.53	67,000
April	2,250	1,500	1,780	7.84	8.75	106,000
May	1,950	875	1,220	5.37	6.19	75,000
June	1,120	454	730	3.22	3.59	32,400
July	464	----------	375	1.65	1.90	23,100
August	328	244	280	1.23	1.42	17,200
September	264	202	232	1.02	1.14	13,800
The year	5,460	186	805	3.54	48.22	583,000

a Estimated.

LEWIS RIVER NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in SE. ¼ sec. 29, T. 7 N., R. 5 E., 1 mile below Swift Creek and 4 miles east of Cougar.

DRAINAGE AREA.—483 square miles.

RECORDS AVAILABLE.—July, 1910, to March, 1912; June, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 11,100 second-feet Feb. 7 (gage height, 6.15 feet); minimum, 475 second-feet Nov. 20, 23, 24 (gage height, 0.03 foot).

1910–1912, 1924–1930: Maximum stage, 13.8 feet on old gage, Nov. 21, 1910 (discharge not determined); maximum discharge since 1924, 27,900 second-feet Nov. 25, 1927; minimum, that of Nov. 20, 23, 24, 1929.

Maximum stage known, 14 feet during flood of Dec. 17 or 18, 1917.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulations above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	578	540	510	2,350	2,860	2,780	3,780	2,780	2,160		768	
2	578	535	500	2,280	a 2,800	2,560	3,520	2,940	2,220		754	
3	578	530	500	2,100	a 2,800	2,420	3,360	2,860	2,100		740	
4	590	525	500	2,560	a 3,500	2,280	3,520	2,560	1,990			a 642
5	602	530	505	2,350	6,450	2,100	3,270	2,350	1,880			
6	590	540	510	2,100	5,340	1,990	3,270	2,220	1,880	a 925	a 747	644
7	560	530	490	1,940	7,450	1,940	3,700	2,100	1,990			a 625
8	590	530	530	1,820	9,460	1,880	4,340	1,990	1,880			614
9	716	530	859	1,660	7,200	1,820	4,150	1,880	1,770		754	614
10	656	555	1,940	a 1,500	6,450	1,770	3,700	1,820	1,770		734	614
11	590	545	1,240	1,460	5,980	a 1,650	3,360	1,820	1,720		734	656
12	578	530	922		4,930	a 1,650	3,270	1,820	1,660	936	716	626
13	572	510	1,410		5,550	a 1,600	3,440	1,880	1,660	a 943	716	620
14	560	510	7,450		7,450	a 1,510	4,060	2,040	1,560	950	722	620
15	560	505	4,060	a 1,370	6,450	1,460	3,890	2,040	a 1,510	894	728	626
16	566	515	3,360		6,450	1,460	3,520	2,100	a 1,470	880	734	620
17	620	560	2,560		5,980	1,460	3,270	2,040	1,420	852	722	614
18	608	525	2,220	1,280	a 5,000	1,460	3,020	1,940	a 1,380	831	698	608
19	590	520	2,100		a 7,500	1,510	2,940	2,160	a 1,350	824	698	584
20	572	505	2,040		a 9,400	1,610	2,860	3,960	a 1,310	824	680	566
21	560	495	1,880	a 1,120	a 8,400	3,100	3,180	4,240	1,280	824	680	572
22	560	495	2,280		7,450	4,340	3,610	3,780	a 1,240	831	674	572
23	555	495	3,700		6,210	3,890	3,520	3,360	1,190	845	668	550
24	550	500	3,360		5,130	4,340	3,270	3,020	1,190	831	644	560
25	545	530	3,780	950	4,440	4,530	3,100	2,780	1,150	810		572
26	555	540	3,700		3,890	4,340	3,180	2,630	1,150	803	a 645	590
27	602	525	3,180		3,440	4,240	3,700	2,490	1,150	796		596
28	590	515	2,780	a 995	3,020	4,340	3,610	2,420	1,190	796		620
29	560	510	2,420			4,730	3,270	2,350	a 1,150	810		572
30	550	510	2,350			4,440	2,940	2,220	a 1,110	810	668	566
31	540		2,220			4,150		2,160		796	a 660	

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	716	540	581	1.20	1.38	35,700
November	560	495	523	1.08	1.20	31,100
December	7,450	490	2,120	4.39	5.06	130,000
January	2,560		1,460	3.02	3.48	89,800
February	9,460	2,800	5,750	11.9	12.39	319,000
March	4,730	1,460	2,690	5.57	6.42	165,000
April	4,340	2,860	3,450	7.14	7.97	206,000
May	4,240	1,820	2,480	5.13	5.91	152,000
June	2,220	1,110	1,550	3.21	3.58	92,200
July		796	873	1.81	2.09	53,700
August	768		705	1.46	1.68	43,300
September		550	608	1.26	1.41	36,200
The year	9,460	490	1,870	3.87	52.57	1,350,000

a Estimated.

LEWIS RIVER NEAR AMBOY, WASH.

LOCATION.—Staff gage in sec. 36, T. 6 N., R. 3 E., at abandoned Cresap's Ferry, 5 miles northeast of Amboy.
DRAINAGE AREA.—665 square miles.
RECORDS AVAILABLE.—January, 1911, to September, 1930.
EXTREMES.—Maximum discharge during year, 17,500 second-feet Feb. 7 (gage height, 6.7 feet); minimum, 690 second-feet Sept. 8, 10, 12, 15, 22, 23, 25 (gage height, −0.1 foot).
1911–1930: Maximum discharge, about 60,000 second-feet Dec. 18, 1917 (gage height, 16.4 feet, from high-water mark); minimum, 660 second-feet Sept. 5–14, 19–22, 1924 (gage height, −0.20 foot).
REMARKS.—Records fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	June	July	Aug.	Sept.
1	740	800	849	4,750	7,120	3,890				948	740
2	740	794	856	4,520	7,980	3,600				940	740
3	740	800	870	3,890	6,840	3,330				926	740
4	740	807	870	4,750	6,560	3,160				912	740
5	740	814	870	4,300	10,500	3,000			*1,310	912	740
6	740	800	863	3,890	9,870	2,850				898	740
7	740	807	870	3,420	13,000	2,780				884	740
8	764	814	788	3,160	14,200	2,710				870	690
9	905	800	*1,200	2,640	10,200	2,640			1,210	870	740
10	776	782	*3,300	2,500	10,200	2,570			1,210	870	715
11	740	770	*2,900	2,360	10,200	2,570			1,110	870	740
12	740	788	*2,800	2,240	8,590	2,570			1,060	863	715
13	740	800	*4,600	2,170	8,900	2,500			1,190	856	740
14	740	821	14,200	2,100	14,600	2,430			1,160	856	740
15	740	814	7,120	2,040	10,500	2,300			1,150	856	715
16	752	800	5,240	2,040	9,870	2,300			1,130	856	740
17	800	788	4,520	2,040	8,900	2,240			1,130	856	740
18	752	788	4,300	1,790	9,870	2,170		1,710	1,080	842	740
19	740	800	3,890	1,730	13,800	2,100			1,060	842	740
20	752	800	3,690	1,670	15,000	4,520			1,040	835	740
21	758	814	*3,300	1,670	12,600	7,690			1,040	828	740
22	770	814	*4,000	1,610	9,870	8,590			1,020	828	690
23	788	828	8,280	1,610	8,590				1,020	814	715
24	794	835	7,120	1,550	7,400				1,010	800	740
25	794	814	6,560	1,430	6,560				1,000	788	690
26	788	800	6,020	1,430	5,760	*6,500			988	776	740
27	740	814	4,980	1,430	5,500				980	770	835
28	746	828	4,090	1,430	4,300				972	764	835
29	776	828	3,790	1,490			4,300		972	752	770
30	788	842	3,790	1,670					964	740	740
31	788		4,090	2,170					956	740	

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	905	740	763	1.15	1.33	46,900
November	842	770	807	1.21	1.35	48,000
December	14,200	849	3,899	5.85	6.74	239,000
January	4,750	1,430	2,440	3.67	4.23	150,000
February	15,000	4,300	9,550	14.4	15.00	530,000
March	8,590	2,100	4,230	6.36	7.33	260,000
April			*4,440	6.68	7.45	264,000
May			*3,660	5.50	6.34	225,000
June			*2,240	3.37	3.76	133,000
July		956	1,130	1.70	1.96	69,500
August	948	740	844	1.27	1.46	51,900
September	835	690	739	1.11	1.24	44,000
The year	15,000	690	2,850	4.29	58.19	2,060,000

* Estimated.

NOTE.—Gage not read on days for which discharge is not given.

LEWIS RIVER AT ARIEL, WASH.[1]

LOCATION.—Staff gage in SE. ¼ sec. 33, T. 6 N., R. 2 E., replaced Apr. 21 by water-stage recorder in NW. ¼ NE. ¼ sec. 4, T. 5 N., R. 2 E., at Ariel, half a mile below Ariel Dam and power plant. Zero of new gage 44.00 feet above mean sea level.

DRAINAGE AREA.—733 square miles.

RECORDS AVAILABLE.—July, 1922, to September, 1930. July to November, 1909, for station 3 miles upstream.

EXTREMES.—Maximum discharge during year, 20,600 second-feet Feb. 14 (gage height, 8.6 feet at old staff); minimum, 709 second-feet Sept. 23 (gage height, 2.14 feet at recorder).

1909, 1922–1930: Maximum discharge, 59,000 second-feet Nov. 25, 1927 (gage height, 19.5 feet); minimum, that of Sept. 23, 1930.

REMARKS.—Records excellent except those estimated Jan. 20–27. No diversions or regulation above station. Gage height record after Apr. 20 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	740	922	795	5,060	10,100	4,680	5,400	4,080	3,370	1,480	978	778
2	740	946	795	5,320	8,470	4,220	4,920	4,080	3,680	1,440	964	778
3	740	817	795	4,570	7,680	4,000	4,920	4,000	3,520	1,400	957	778
4	740	828	795	5,060	8,200	3,560	4,920	3,760	3,370	1,400	943	778
5	740	828	795	5,060	13,400	3,560	4,680	3,440	3,220	1,350	936	784
6	740	828	806	4,340	11,200	3,350	4,450	3,370	3,080	1,300	936	790
7	740	817	806	4,110	12,500	3,140	4,920	3,220	3,080	1,300	936	771
8	839	817	839	3,480	17,500	3,140	5,900	3,010	3,010	1,260	936	764
9	922	862	1,360	3,080	13,700	2,940	5,650	2,870	2,800	1,260	936	771
10	898	862	4,110	2,890	11,700	2,940	4,920	2,740	2,670	1,220	936	784
11	874	850	3,480	2,600	12,300	2,740	4,450	2,670	2,600	1,220	929	873
12	740	828	3,480	2,420	12,500	2,740	4,450	2,600	2,410	1,180	915	824
13	740	828	5,590	2,330	11,400	2,740	4,450	2,600	2,350	1,180	901	790
14	740	828	16,400	2,240	18,700	2,740	5,160	2,800	2,170	1,220	894	778
15	740	817	8,800	2,150	12,800	2,640	4,920	2,940	2,110	1,180	894	778
16	762	839	6,720	2,150	10,600	2,460	4,920	2,940	2,050	1,160	901	771
17	784	828	5,320	2,060	10,100	2,370	4,680	2,870	2,000	1,130	887	764
18	806	828	4,570	2,060	9,550	2,370	4,220	2,800	1,940	1,120	866	758
19	828	817	4,340	2,060	16,900	2,280	3,780	3,010	1,880	1,100	852	745
20	828	795	4,110		17,800	2,550	4,000	6,130	1,830	1,080	852	733
21	828	795	3,780		14,500	6,400	4,320	8,090	1,830	1,080	838	733
22	839	795	4,570		11,700	9,550	4,660	7,060	1,780	1,080	831	733
23	839	795	10,600		10,100	6,900	4,660	5,890	1,730	1,080	824	715
24	839	817	8,200	1,860	8,200	8,740	4,490	5,170	1,680	1,070	824	733
25	839	850	7,010		7,160	9,010	4,160	4,660	1,630	1,040	810	733
26	850	886	7,010		6,400	7,680	4,160	4,240	1,630	1,020	797	739
27	874	910	5,860		5,650	7,160	4,830	3,920	1,630	1,010	790	771
28	898	910	5,060	1,670	4,920	6,900	5,350	3,840	1,730	999	790	838
29	922	795	4,340	1,740	-------	6,900	4,830	3,680	1,630	999	797	778
30	922	795	4,110	1,960	-------	6,400	4,320	3,440	1,530	1,010	810	733
31	922	-------	4,340	2,370	-------	5,900	-------	3,300	-------	999	797	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	922	740	815	1.11	1.28	50,100
November	946	795	838	1.14	1.27	49,900
December	16,400	795	4,500	6.14	7.08	277,000
January	5,320	1,670	2,760	3.77	4.35	170,000
February	18,700	4,920	11,300	15.4	16.04	628,000
March	9,550	2,280	4,600	6.28	7.24	283,000
April	5,900	3,780	4,720	6.44	7.18	281,000
May	8,090	2,600	3,850	5.25	6.05	237,000
June	3,680	1,530	2,330	3.18	3.55	139,000
July	1,480	999	1,170	1.60	1.84	71,900
August	978	790	879	1.20	1.38	54,000
September	873	715	770	1.05	1.17	45,800
The year	18,700	715	3,150	4.30	58.43	2,290,000

[1] Previously described as "near" Ariel; post office moved in 1930 to Ariel Dam.

BIG CREEK BELOW SKOOKUM MEADOW, WASH.

LOCATION.—Water-stage recorder in NE. ¼ sec. 13, T. 7 N., R. 7 E., 3 miles above mouth and 17 miles northwest of Guler.

RECORDS AVAILABLE.—October, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 349 second-feet Feb. 19 (gage height, 3.6 feet); minimum, 4 second-feet Nov. 20, 21, Dec. 2, Sept. 2–4, 19–26, 29, 30.

1927–1930: Extremes recorded, those of 1929–30.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5	5	5	32	60	47	101	111	59	16	8	5
2	5	5	4	31	81	42	98	118	68	16	8	4
3	5	5	5	28	75	40	99	101	57	15	e 8	4
4	5	5	5	30	87	40	96	90	50	15	e 8	4
5	5	5	5	28	138	39	86	82	45	14	e 7	5
6	5	6	6	24	114	36	73	78	42	13	7	5
7	5	6	5	24	160	34		67	41	13	6	5
8	6	5	6	24	180	32		61	38	13	6	5
9	11	5	14	22	132	31	e 115	59	34	13	6	5
10	7	7	55		122	30		57	33	12	6	6
11	6	5	22		118	30	107	57	32	12	6	6
12	6	5	14	e 20	95	29		56	31	11	6	5
13	5	5	30		136	29		57	30	11	5	5
14	5	5	153		233	28		64	27	11	5	5
15	5	5	74	e 17	194	30		59	26	11	6	5
16	5	5	53	e 18	185	28	e 130	57	24	11	7	5
17	7	6	39	20	157	28		53	24	11	6	5
18	6	5	33	17	166	30		54	22	10	5	5
19	6	5	32	18	302	32		81	22	10	5	4
20	5	5	31	17	325	32		124	22	10	5	4
21	5	4	26	16	218	45		114	22	10	5	4
22	5	5	32	16	150	43	173	104	21	9	5	4
23	5	5	38	15	114	39	162	90	20	9	5	4
24	5	5	45	15	91	63	147	85	20	9	5	4
25	5	7	55	15	78	86	139	78	18	9	5	4
26	5	6	48	14	66	90	155	68	20	9	5	4
27	9	5	48	14	59	90	169	63	22	8	5	5
28	7	5	37	14	50	100	145	63	26	8	5	5
29	6	5	35	14	------	111	118	57	20	8	5	4
30	6	5	34	18	------	107	109	52	17	8	5	4
31	5	------	32	31	------	106	------	53	------	8	5	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	11	5	5.7	350
November	7	4	5.2	309
December	153	4	32.9	2,020
January	32	14	20.4	1,250
February	325	50	139	7,720
March	111	28	49.9	3,070
April	173	73	125	7,440
May	124	52	74.6	4,590
June	68	17	31.1	1,850
July	16	8	11.1	682
August	8	5	5.8	357
September	6	4	4.6	274
The year	325	4	41.3	29,900

e Estimated.

RUSH CREEK ABOVE MEADOW CREEK, NEAR GULER, WASH.

LOCATION.—Water-stage recorder on line between sec. 36, T. 7 N., R. 7 E., and sec. 1, T. 6 N., R. 7 E., one-eighth mile above mouth of Meadow Creek and 16 miles west of Guler.

RECORDS AVAILABLE.—June, 1929, to September, 1930, when station was discontinued.

EXTREMES.—Maximum discharge during year, 271 second-feet Feb. 20 (gage height, 2.73 feet); minimum, 0.1 second-foot Nov. 23, 24.

1929–30: Extremes, those of Nov. 23, 24, 1929, and Feb. 20, 1930.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.2	[a] 0.1	6.4	3.3	7.6	25	42	61	5.4	1.0	0.6
2	.3	.2	.1	4.2	[a] 10	6.4	22	63	67	4.2	1.0	.5
3	.3	.2	1	3.4	[a] 10	6.0	19	45	40	3.0	1.0	.5
4	.3	.2	.1	3.4	[a] 26	5.2	17	28	50	2.5	1.0	.5
5	.3	.2	.2	2.8	74	4.8	15	25	57	2.2	1.0	.5
6	.3	.2	.2	2.4	60	4.2	17	22	89	2.1	1.0	.5
7	.2		.2	8.0	98	3.8	28	17	95	2.0	1.0	.5
8	.2		.3	5.0	113	3.4	51	14	68	1.8	1.0	.5
9	.3		1.3	[a] 4.3	83	3.2	42	17	70	1.7	1.0	.5
10	.2	[a] .2	3.1	[a] 3.6	67	3.0	29	19	64	1.7	.9	.6
11	.2		1.7	[a] 3.0	54	3.0	23	37	54	1.7	.9	.6
12	.2		.9	[a] 2.4	40	3.2	27	45	33	1.6	.9	.5
13	.2	.2	1.8	1.7	43	3.4	40	60	32	1.5	.9	.5
14	.2	.2	97		83	3.2	60	80	38	1.5	.8	.5
15	.2	.2	71		88	3.0	48	77	47	1.5	.8	.5
16	.2	.2	23		84	2.5	33	74	37	1.4	.9	.5
17	.2	.2	13		74	2.4	26	52	27	1.4	.8	.5
18	.2	.2	8.0		71	2.3	26	36	25	1.4	.8	.5
19	.2	.2	6.4	[a] 1.2	190	2.2	35	70	22	1.4	.8	.5
20	.2	.7	8.0		204	2.5	45	164	19	1.3	.7	.5
21	.2	.2	8.0		108	4.6	68	67	15	1.3	.7	.5
22	.2	.2	5.7		71	4.2	91	37	13	1.3	.7	.5
23	.2	.1	6.0		48	4.2	83	36	10	1.3	.7	.5
24	.2	.2	8.3	.7	28	6.7	64	33	12	1.3	.7	.5
25	.2	.3	15	.6	19	17	54	27	11	1.2	.7	.5
26	.2	.2	16		14	26	67	34	8.6	1.2	.7	.5
27	.2	.2	12		11	29	68	48	11	1.2	.7	.6
28	.2	.2	9.0	[a] .7	9.5	33	48	57	25	1.1	.6	.5
29	.2	.2	7.3		------	38	32	71	11	1.1	.6	.5
30	.2	[a] .2	8.3		------	34	29	61	6.7	1.1	.6	.5
31	.2	------	8.6	.8	------	29	------	54	------	1.1	.5	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	0.4	0.2	0.23	14
November	.7	.1	.22	13
December	97	.1	11.0	676
January	8.0	.6	2.20	135
February	204	3.3	63.7	3,540
March	38	2.2	9.71	597
April	91	15	41.1	2,450
May	164	14	48.8	3,000
June	95	6.7	37.3	2,220
July	5.4	1.1	1.76	108
August	1.0	.6	.82	50
September	.6	.5	.51	30
The year	204	.1	17.7	12,800

[a] Estimated.

RUSH CREEK ABOVE FALLS, WASH.

LOCATION.—Water-stage recorder on line between secs. 27 and 34, T. 7 N., R. 7 E., 500 feet above falls, 2 miles above mouth, and 18 miles east of Cougar.

RECORDS AVAILABLE.—December, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 515 second-feet Feb. 20 (gage height, 2.40 feet); minimum, 79 second-feet Jan. 24–27, 29.

1927–1930: Maximum discharge, 555 second-feet June 15, 1929 (gage height, 2.66 feet); minimum, that of Jan. 24–27, 29, 1930.

REMARKS.—Records fair. Discharge estimated Jan. 14–23. No diversions or regulation above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	91	84	98	111	112	146	181	190	108	99	93
2	99	91	84	94	116	110	140	200	209	107	99	93
3	99	90	84	93	111	108	140	183	174	105	99	91
4	98	90	84	99	132	107	138	162	177	104	99	91
5	98	91	85	94	203	104	135	157	194	104	100	91
6	98	91	85	91	185	102	140	150	219	103	99	91
7	97	91	85	89	269	102	160	140	221	103	99	91
8	99	90	86	89	300	99	190	134	190	102	99	91
9	98	89	96	88	224	98	177	135	188	102	99	91
10	97	89	132	85	200	96	160	130	181	102	99	91
11	97	89	93	85	188	98	155	157	170	102	99	91
12	97	88	87	83	165	99	165	162	152	102	98	90
13	97	87	113	83	185	98	181	181	148	102	98	90
14	96	87	291		278	96	214	200	155	102	98	90
15	94	87	186		263	95	196	196	164	102	98	89
16	94	87	130		249	94	176	194	155	102	98	89
17	94	87	105		224	93	165	174	140	102	98	89
18	94	87	99		224	93	164	158	138	102	96	88
19	94	87	98	81	428	94	174	205	134	102	96	87
20	93	87	99		455	96	183	368	126	102	96	87
21	93	87	96		330	120	211	227	122	102	95	87
22	92	85	96		232	111	249	183	117	102	94	87
23	92	85	108		186	107	229	174	116	102	94	87
24	92	85	110	79	164	129	207	170	117	100	94	85
25	92	86	111	79	145	141	196	160	116	100	94	85
26	93	85	118	79	132	146	216	162	112	100	94	85
27	94	85	107	79	124	146	232	176	120	100	94	88
28	92	85	102	80	117	152	203	186	141	100	93	85
29	92	85	98	79	-------	160	177	198	117	99	93	85
30	92	84	99	82	-------	157	169	186	111	99	93	84
31	91	-------	99	85	-------	152	-------	181	-------	99	93	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	100	91	95.1	5,850
November	91	84	87.6	5,210
December	291	84	108	6,640
January	99	79	84.6	5,200
February	455	111	212	11,800
March	160	93	113	6,950
April	249	135	193	11,500
May	368	130	180	11,100
June	221	111	154	9,160
July	108	99	102	6,270
August	100	93	96.7	5,950
September	93	84	88.7	5,280
The year	455	79	125	90,900

MEADOW CREEK BELOW LONE BUTTE MEADOW, WASH.

LOCATION.—Water-stage recorder in sec. 36, T. 7 N., R. 7 E., half a mile above junction with Rush Creek and 16 miles northwest of Guler.

RECORDS AVAILABLE.—September, 1927, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 197 second-feet Feb. 20 (gage height, 1.78 feet); minimum, 53 second-feet Dec. 4, 5, Sept. 2–4, 30.
1927–1930: Extremes, same as given above.

REMARKS.—Records fair. Discharge estimated Oct. 10–19. No diversions or regulation above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	57	55	65	81	76	84	104	95	67	62	55
2	61	56	55	65	76	75	83	110	106	67	62	53
3	61	57	55	64	70	74	86	104	95	67	62	53
4	61	57	53	66	78	72	87	96	91	66	62	53
5	60	57	53	65	109	72	87	92	88	66	61	54
6	60	57	54	63	97	70	87	91	90	66	61	55
7	60	57	54	61	118	69	99	87	91	66	61	55
8	60	57	54	61	130	68	109	84	87	66	61	55
9	61	57	61	61	113	67	97	83	86	64	61	55
10		57	84	60	104	67	94	82	84	64	61	56
11		57	60	60	102	68	95	82	83	64	60	56
12		57	57	60	89	68	100	83	80	64	60	55
13		57	76	59	105	67	108	86	78	64	60	55
14	59	57	145	58	147	66	126	94	78	64	60	55
15		57	84	58	136	65	117	91	77	64	59	55
16		57	76	58	131	65	108	90	77	64	60	55
17		57	67	58	121	65	102	87	75	63	60	55
18		57	65	58	120	65	100	87	73	63	60	55
19		56	67	58	175	66	104	103	73	63	59	55
20	58	56	66	58	191	66	108	141	73	63	59	55
21	58	56	65	58	154	81	121	128	72	63	59	55
22	58	56	64	58	124	74	133	110	72	63	59	55
23	57	56	74	58	106	70	123	102	70	63	58	54
24	57	56	74	58	96	84	115	99	69	63	58	54
25	57	57	82	58	90	87	112	94	69	63	58	54
26	57	56	74	58	85	82	123	91	69	63	58	54
27	58	56	69	58	81	80	134	91	72	63	56	54
28	58	55	66	58	78	82	125	92	74	62	56	54
29	57	55	66	61	------	87	109	91	69	62	56	54
30	57	55	66	64	------	86	103	90	68	62	56	53
31	57	------	65	63	------	84	------	90	------	62	56	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	------	------	58.8	3,620
November	57	55	56.5	3,360
December	145	53	67.9	4,180
January	66	58	60.3	3,710
February	191	70	111	6,160
March	87	65	73.2	4,500
April	134	83	106	6,310
May	141	82	95.3	5,860
June	106	68	79.5	4,730
July	67	62	64.0	3,940
August	62	56	59.4	3,650
September	56	53	54.5	3,240
The year	191	53	73.6	53,300

MUDDY RIVER NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in SE. ¼ sec. 24, T. 7 N., R. 6 E., three-fourths mile above mouth and 14 miles east of Cougar.

DRAINAGE AREA.—136 square miles.

RECORDS AVAILABLE.—August to October, 1909; August, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,570 second-feet Feb. 20 (gage height, 6.08 feet); minimum, 94 second-feet Dec. 5–7 (gage height, 1.24 feet).

1909, 1927–1930: Maximum discharge, 7,240 second-feet Nov. 25, 1927 (gage height, 8.40 feet); minimum, that of Dec. 5–7, 1929.

REMARKS.—Records good. Discharge estimated Oct. 9–11, Jan. 11–13, 18–23, and June 18. No diversions or regulation above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	105	97	807	730	910	1,340	842	669	237	147	125
2	110	103	97	737	737	842	1,200	835	650	237	147	125
3	110	101	96	702	695	786	1,200	814	624	226	147	125
4	110	99	96	858	926	744	1,250	779	584	222	144	125
5	113	99	94	772	1,710	695	1,200	723	559	214	144	125
6	113	99	94	695	1,560	650	1,200	688	547	211	144	125
7	110	101	94	643	2,480	617	1,340	636	559	207	144	123
8	110	101	101	610	2,990	584	1,480	591	547	207	142	123
9	115	99	194	565	2,390	565	1,430	559	523	201	142	123
10	120	103	520	517	2,150	535	1,300	529	505	201	142	131
11	120	105	311	514	1,810	523	1,120	517	488	198	136	147
12	121	103	208	511	1,560	523	1,050	505	464	192	134	136
13	116	101	619	508	1,610	488	1,060	517	441	188	131	131
14	113	101	2,990	505	1,660	464	1,200	553	419	188	131	131
15	110	99	1,380	493	1,610	447	1,160	578	402	185	131	128
16	108	99	1,250	453	1,710	430	1,070	591	391	182	134	125
17	124	113	926	391	1,660	419	1,010	584	364	179	134	123
18	124	110	828		1,860	413	950	565	348	167	134	123
19	124	105	807		3,350	419	888	669	333	164	134	120
20	121	101	737		4,290	476	872	1,340	333	164	134	120
21	116	97	676	370	3,480	1,030	950	1,340	323	162	134	120
22	110	97	814		2,910	1,250	1,050	1,160	299	159	134	120
23	108	96	1,160		2,210	1,160	1,050	1,020	289	156	134	118
24	105	96	1,070		1,760	1,300	1,010	950	284	156	131	125
25	105	103	1,430	349	1,480	1,340	950	888	276	156	131	123
26	105	110	1,340	343	1,300	1,340	950	814	276	159	131	125
27	116	108	1,200	289	1,120	1,340	1,120	772	271	156	128	134
28	118	103	1,040	276	998	1,430	1,070	758	276	156	131	142
29	113	101	934	289	-------	1,560	998	751	258	153	128	125
30	108	99	888	318	-------	1,560	895	709	244	150	128	120
31	105	-------	807	359	-------	1,430	-------	682	-------	147	128	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	124	105	113	0.831	0.96	6,950
November	113	96	102	.750	.84	6,070
December	2,990	94	739	5.43	6.26	45,400
January	858	276	487	3.58	4.13	29,900
February	4,290	695	1,880	13.8	14.37	104,000
March	1,560	413	847	6.23	7.18	52,100
April	1,480	872	1,110	8.16	9.10	66,000
May	1,340	505	750	5.51	6.35	46,100
June	669	244	418	3.07	3.42	24,900
July	237	147	183	1.35	1.56	11,300
August	147	128	136	1.00	1.15	8,360
September	147	118	126	.926	1.03	7,500
The year	4,290	94	566	4.16	56.35	409,000

PINE CREEK NEAR COUGAR, WASH.

LOCATION.—Staff gage in sec. 23, T. 7 N., R. 6 E., half a mile above mouth and 12 miles east of Cougar. Discharge measurements from foot log about a mile upstream.

RECORDS AVAILABLE.—August to October, 1909; February, 1928, to September, 1930, when station was discontinued; fragmentary.

REMARKS.—Records poor. Daily discharge ascertained only for occasional days when gage was read; data not sufficient to warrant computation of monthly mean discharge. No diversions or regulation above station. Most of field data to June 30 furnished by Northwestern Electric Co.

Daily discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		114	106									
2	118				245		193	161				
3						168						
4									149		101	
5		114				172		151	146			
6			108						137			
7		111		166	534							
8		111					208					92
9			153	159	360		198				101	
10					369	141					102	
11						141	172					
12		111			296							91
13									119			
14			400				185	138		102		
15							180	141		101		
16		108		141								
17	124								108			
18			205		302		161					
19		108						180	110			
20				132	489							
21							193					
22				127		363	182	198	104			
23	116				285			189				
24		108				344						
25							161					
26		108	268						103			
27			240	124				165				
28	119	108					168					
29								158				
30						232						
31	114											

SWIFT CREEK NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in NW. ¼ sec. 28, T. 7 N., R. 5 E., one-eighth mile above mouth, 1½ miles east of Peterson ranch, and 5 miles east of Cougar.
DRAINAGE AREA.—26 square miles.
RECORDS AVAILABLE.—July to October, 1909; June, 1924, to September, 1930.
EXTREMES.—Maximum discharge during year, 620 second-feet Dec. 14 (gage height, 2.1 feet); minimum, 91 second-feet Dec. 4–7 (gage height, 0.42 foot).
1909, 1924–1930: Maximum discharge, 1,900 second-feet Nov. 24, 1927 (gage height, 3.7 feet); minimum, 80 second-feet Sept. 17, 21, Oct. 7, 1924.
REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	96	92	182	250	175	196	170	182	131	107	98
2	99	95	92	173	260	170	186	173	170	131	106	99
3	100	95	92	173	224	166	196	168	168	129	106	97
4	100	95	91	204	263	164	204	164	164	128	106	97
5	99	95	91	177	363	160	196	164	162	128	106	97
6	98	95	91	166	263	156	189	162	162	127	106	96
7	98	94	91	138	425	154	224	158	160	127	105	96
8	103	94	96	118	363	152	221	154	158	126	104	96
9	111	95	135		270	152	204	152	156	124	104	97
10	99	97	170		311	150	191	150	154	124	105	100
11	99	95	119		291	148	184	150	152	123	104	99
12	99	94	92		250	146	182	148	150	122	103	97
13	98	95	148	*116	351	145	184	146	148	122	102	97
14	97	95	464		425	143	213	152	145	119	102	97
15	97	94	194		339	142	196	146	143	118	101	96
16	100	98	196		307	140	184	146	142	117	103	95
17	108	99	*190		270	140	180	146	140	117	101	95
18	99	95	*183	115	295	140	175	148	138	116	100	95
19	100	94	*177		495	140	170	184	142	117	100	94
20	99	94	*170		420	150	170	276	140	116	99	94
21	*98	93	164	*110	323	295	175	283	138	116	99	94
22	*98	93	234		295	347	175	237	137	116	99	94
23	*97	93	363		263	270	170	213	137	115	99	94
24	96	93	291		228	311	166	196	135	115	99	95
25	*96	96	307	106	215	295	164	186	135	114	99	94
26	96	94	247		199	263	173	180	138	112	99	97
27	*96	93	218		191	240	204	175	138	112	99	101
28	96	92	186	*110	182	234	189	175	138	110	99	96
29	96	92	173		------	231	177	173	135	110	99	94
30	96	92	180		------	215	173	168	132	109	98	94
31	95	------	168		------	202	------	166	------	107	98	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	111	95	98.8	3.80	4.38	6,080
November	99	92	94.5	3.63	4.05	5,620
December	464	91	178	6.85	7.90	10,900
January	204	----------	126	4.85	5.59	7,750
February	495	182	298	11.5	11.98	16,600
March	347	140	191	7.35	8.47	11,700
April	224	164	187	7.19	8.02	11,100
May	283	146	174	6.69	7.71	10,700
June	182	132	148	5.69	6.35	8,810
July	131	107	119	4.58	5.28	7,320
August	107	98	102	3.92	4.52	6,270
September	101	94	96.1	3.70	4.13	5,720
The year	495	91	150	5.77	78.38	109,000

* Estimated.

CANYON CREEK NEAR AMBOY, WASH.

LOCATION.—Water-stage recorder in SW. ¼ sec. 4, T. 5 N., R. 4 E., 2 miles above mouth and 6 miles northeast of Amboy.

DRAINAGE AREA.—62 square miles.

RECORDS AVAILABLE.—July, 1922, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,660 second-feet Feb. 7 (gage height, 7.16 feet); minimum, 25 second-feet Sept. 22, 23.

1922–1930: Maximum discharge, 13,600 second-feet Nov. 25, 1927 (gage height, 11.6 feet); minimum, 15 second-feet Oct. 19–24, 1925 (gage height, 0.14 foot).

REMARKS.—Records fair. Discharge estimated Jan. 10–27, May 10, Sept. 1–6. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	28	26	710	2,330	300	275	264	257	76	38	
2	27	28	27	710	1,830	264	249	262	311	74	38	
3	27	28	26	546	1,310	244	241	246	311	72	37	
4	27	27	26	688	1,250	224	241	226	319	70	37	26
5	27	27	26	585	2,090	221	208	206	300	68	36	
6	27	28	26	470	1,190	204	198	216	272	66	36	
7	27	27	26	390	2,510	194	246	214	249	61	35	26
8	28	27	57	337	2,220	196	283	201	224	60	36	26
9	34	26	300	291	1,140	201	259	191	201	57	35	27
10	29	30	646		1,440	194	231	180	189	54	35	29
11	28	30	331		1,470	191	216	169	178	53	33	34
12	27	27	216		1,060	198	206	159	163	50	31	30
13	27	27	622		1,980	196	201	151	153	48	31	29
14	27	26	1,960		2,370	182	262	161	143	47	31	28
15	27	26	913		1,370	169	267	157	134	47	31	27
16	29	26	798		1,010	155	249	149	125	47	31	27
17	37	36	605		820	145	234	145	121	46	31	26
18	33	30	585		820	138	221	141	116	46	30	26
19	31	28	605	130	1,470	130	214	221	112	44	30	27
20	30	27	507		1,250	182	204	724	109	41	30	25
21	29	26	434		1,540	1,090	206	1,080	105	44	30	25
22	29	26	843		866	1,110	208	820	98	43	30	25
23	28	26	1,370		775	798	184	585	95	42	29	25
24	27	27	961		646	1,060	176	470	93	41	29	27
25	27	29	798		546	937	163	377	90	40	28	28
26	27	30	667		451	688	167	322	90	39	27	28
27	30	29	546		393	546	249	286	90	39	27	31
28	30	27	434	95	337	470	328	267	93	38	27	35
29	28	27	368	211	------	434	316	251	84	37	27	30
30	27	26	380	239	------	361	291	218	79	38	26	28
31	28	------	374	400	------	311	------	211	------	38	26	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	37	27	28.6	0.461	0.53	1,760
November	36	26	27.7	.447	.50	1,650
December	1,960	26	500	8.06	9.29	30,700
January	710	------	258	4.16	4.80	15,900
February	2,510	337	1,300	21.0	21.87	72,200
March	1,110	130	378	6.10	7.03	23,200
April	328	163	233	3.76	4.20	13,900
May	1,080	141	299	4.82	5.56	18,400
June	319	79	163	2.63	2.93	9,700
July	76	37	50.5	.815	.94	3,110
August	38	26	31.5	.508	.59	1,940
September	35	25	27.5	.444	.50	1,640
The year	2,510	25	268	4.32	58.74	194,000

EAST FORK OF LEWIS RIVER NEAR HEISSON, WASH.

LOCATION.—Water-stage recorder in N. ½ sec. 17, T. 4 N., R. 3 E., just below Basket Creek, 1½ miles northeast of Heisson.
DRAINAGE AREA.—124 square miles.
RECORDS AVAILABLE.—September, 1929, to September, 1930.
EXTREMES.—Maximum discharge during period, 6,000 second-feet Dec. 14 (gage height, 7.96 feet); minimum, 46 second-feet Sept. 19, Oct. 25, 1929.
REMARKS.—Records good. Discharge estimated Sept. 22, 29, 1929, Oct. 2, Jan. 11–27. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	47	50	50	1,400	3,620	660	540	468	485	160	77	57
2	------	48	52	49	1,380	2,950	600	485	468	580	153	77	54
3	------	50	50	48	1,000	2,230	540	485	450	580	149	75	52
4	------	50	47	47	1,410	2,180	502	468	400	680	146	74	53
5	------	51	51	48	1,240	3,190	520	415	376	640	139	73	55
6	------	51	55	49	975	2,000	485	400	415	580	134	72	58
7	------	48	50	50	770	3,320	468	502	415	520	132	71	58
8	------	51	50	307	680	3,310	468	520	385	468	126	72	57
9	------	76	60	1,210	600	2,050	468	468	376	415	124	73	58
10	------	59	76	2,140	540	2,320	450	415	358	385	121	74	65
11	------	52	59	975		2,470	468	385	337	358	116	69	92
12	------	51	55	580		1,870	485	367	320	334	112	66	66
13	------	50	52	1,480		2,420	450	400	307	315	109	64	61
14	------	49	51	4,540		3,710	415	580	325	289	112	64	60
15	------	47	50	1,960		2,420	385	620	312	272	108	64	58
16	------	50	62	1,590		1,870	355	540	294	260	105	68	56
17	------	88	74	1,090		1,550	337	485	282	248	103	67	54
18	------	70	60	1,060		1,410	322	450	284	234	102	65	53
19	46	59	55	1,210		2,370	315	415	400	229	101	64	52
20	52	54	53	1,090	400	2,280	385	385	1,270	227	98	64	50
21	52	52	50	870		1,790	1,290	385	2,100	214	95	62	50
22	66	50	50	1,210		1,710	1,870	373	1,550	204	91	60	51
23	81	49	50	2,100		1,590	1,340	349	1,060	202	90	59	52
24	59	47	50	1,630		1,270	1,870	340	845	194	89	59	63
25	56	46	58	1,380		1,120	1,750	320	680	188	87	59	61
26	53	47	63	1,120		948	1,340	322	580	190	86	58	60
27	52	62	57	895		845	1,060	502	502	188	83	56	65
28	52	69	53	725	296	725	920	640	485	196	82	55	95
29	51	55	52	620	620	------	820	580	450	176	79	55	67
30	50	51	50	640	520	------	702	520	400	163	79	59	59
31	------	50	------	640	845	------	620	------	379	------	78	59	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	88	46	54.2	0.437	0.50	3,330
November	76	47	54.8	.442	.49	3,260
December	4,540	47	1,010	8.15	9.40	62,100
January	1,410	------	615	4.96	5.72	37,800
February	3,710	725	2,130	17.2	17.91	118,000
March	1,870	315	731	5.90	6.80	44,900
April	640	320	455	3.67	4.10	27,100
May	2,100	282	557	4.49	5.18	34,200
June	680	163	334	2.69	3.00	19,900
July	160	78	109	.879	1.01	6.700
August	77	55	65.6	.529	.61	4,030
September	95	50	59.7	.481	.54	3,550
The year	4,540	46	505	4.07	55.26	365,000

KALAMA RIVER BASIN

KALAMA RIVER NEAR KALAMA, WASH.

LOCATION.—Staff gage in sec. 7, T. 6 N., R. 1 E., 150 feet below power plant of Puget Sound Power & Light Co. and 6 miles east of Kalama.

DRAINAGE AREA.—184 square miles.

RECORDS AVAILABLE.—July, 1911, to September, 1913, incomplete; August, 1916, to September, 1930.

EXTREMES.—Maximum discharge during year, 6,510 second-feet Dec. 14 (gage height, 7.50 feet); minimum, 156 second-feet Dec. 4 (gage height, 0.55 foot). 1911–1913, 1916–1930: Maximum discharge, 13,200 second-feet Nov. 25, 1927 (gage height, 11.0 feet); minimum, that of Dec. 4, 1929.

REMARKS.—Records good. Discharge estimated Jan. 21, 22. No diversions for irrigation. Slight fluctuations caused by operations at power plant above gage. Gage-height record furnished by Puget Sound Power & Light Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	187	173	163	1,620	2,750	1,090	960	780	698	342	231	180
2	185	175	161	1,700	2,290	1,020	900	780	698	325	231	180
3	185	173	159	1,300	2,020	960	900	670	725	325	225	178
4	185	168	156	1,700	2,200	960	960	645	670	325	219	175
5	197	170	159	1,540	3,280	900	900	620	620	325	219	175
6	187	185	159	1,230	2,200	840	840	645	595	308	213	180
7	185	170	161	1,020	3,630	840	1,090	595	570	308	213	175
8	197	173	218	900	3,510	780	960	570	525	308	225	180
9	215	182	515	780	2,650	760	840	548	525	308	219	178
10	192	205	1,610	725	2,650	725	780	525	502	308	213	185
11	187	185	775	670	2,750	725	725	525	480	308	207	213
12	185	175	515	595	2,290	725	698	502	460	290	201	185
13	185	170	725	525	3,630	725	698	480	460	290	201	182
14	182	168	4,930	480	4,400	725	900	525	440	290	195	185
15	180	168	2,020	525	2,850	698	960	502	440	290	201	182
16	180	166	1,780	502	2,560	698	840	480	420	272	201	178
17	218	200	1,300	480	2,110	645	780	480	400	272	201	172
18	192	178	1,300	480	2,020	620	725	480	400	272	201	170
19	205	170	1,380	480	3,390	595	698	570	400	272	195	170
20	187	166	1,160	460	3,390	698	670	1,700	400	272	198	168
21	185	163	1,020	440	2,470	2,290	670	2,110	380	272	195	168
22	182	163	1,780	420	2,380	2,560	670	1,700	380	255	195	165
23	180	163	2,850	400	2,290	1,940	670	1,380	360	255	192	165
24	175	166	2,200	400	2,020	2,380	620	1,160	360	249	190	195
25	173	200	2,290	380	1,780	2,110	620	900	360	249	188	180
26	173	185	1,780	380	1,620	1,780	620	840	400	243	188	188
27	208	175	1,460	380	1,460	1,540	960	780	380	243	185	213
28	190	170	1,160	380	1,230	1,460	1,020	780	380	237	185	213
29	178	168	1,020	440	-------	1,380	900	670	360	231	185	180
30	178	166	1,020	480	-------	1,230	840	645	360	231	188	175
31	173	-------	900	570	-------	1,090	-------	620	-------	231	188	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	218	173	187	1.02	1.18	11,500
November	205	163	175	.951	1.06	10,400
December	4,930	156	1,190	6.47	7.46	73,200
January	1,700	380	722	3.92	4.52	44,400
February	4,400	1,230	2,560	13.9	14.47	142,000
March	2,560	595	1,150	6.25	7.21	70,700
April	1,090	620	814	4.42	4.93	48,400
May	2,110	480	781	4.24	4.89	48,000
June	725	360	472	2.57	2.87	28,100
July	342	231	281	1.53	1.76	17,300
August	231	185	203	1.10	1.27	12,500
September	213	165	181	.984	1.10	10,800
The year	4,930	156	714	3.88	52.72	517,000

COWLITZ RIVER BASIN

COWLITZ RIVER AT PACKWOOD,[3] WASH.

LOCATION.—Water-stage recorder in SE. ¼ sec. 16, T. 13 N., R. 9 E., half a mile above Skate Creek and half a mile northwest of Packwood.

DRAINAGE AREA.—287 square miles.

RECORDS AVAILABLE.—September, 1929, to September, 1930. July, 1911, to December, 1919, for a station 1 mile above.

EXTREMES.—Maximum discharge Sept. 30, 1929, to Sept. 30, 1930, 5,070 second-feet Feb. 20 (gage height, 6.07 feet); minimum, 160 second-feet Nov. 21 (gage height, 2.10 feet).

1911–1919, 1929–30: Maximum discharge, 22,700 second-feet Dec. 29, 1917 (gage height, 10.1 feet, former datum); minimum discharge, that of Nov. 21, 1929.

REMARKS.—Records good. No diversions or regulation. Discharge for Sept. 30, 1929, was 258 second-feet.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	267	220	200	1,030	1,680	910	2,180	1,920	2,180	1,600	685	511
2	290	244	192	974	1,760	854	2,040	2,480	2,260	1,370	678	563
3	285	244	180	896	1,300	822	1,920	2,250	1,880	1,240	685	554
4	380	232	180	882	1,760	785	1,740	1,920	1,800	1,310	713	506
5	441	220	180	805	4,180	762	1,620	1,740	2,120	1,510	727	529
6	330	228	192	714	2,700	720	1,740	1,610	2,880	1,510	755	480
7	298	212	180	634	2,880	685	2,420	1,420	3,650	1,400	727	404
8	312	204	180	610	3,020	664	3,300	1,270	3,210	1,300	699	444
9	370	216	220	532	2,110	643	2,480	1,220	3,000	1,270	734	458
10	308	212	365	514	1,860	715	2,040	1,250	3,320	1,510	785	450
11	272	204	262	478	1,680	615	1,860	1,490	3,210	1,440	748	462
12	365	192	232	466	1,420	664	1,980	1,680	2,340	1,480	712	414
13	290	188	240	442	1,360	643	2,320	2,110	1,880	1,570	672	421
14	298	188	2,410	436	1,520	615	2,640	2,560	1,750	1,400	683	480
15	316	184	1,560	424	1,850	601	2,400	2,640	2,090	1,150	664	488
16	294	184	1,100	418	2,640	594	2,110	2,820	2,400	1,040	566	519
17	424	272	847	424	2,730	601	1,920	2,250	1,880	910	581	520
18	290	212	756	424	2,910	622	1,800	1,920	1,780	846	588	500
19	294	188	812	400	4,690	636	1,740	2,060	1,950	854	552	450
20	272	180	798	375	4,560	671	1,980	4,000	2,020	894	532	482
21	254	164	735	370	3,100	918	2,820	3,430	1,950	950	532	491
22	254	172	756	360	2,400	1,060	3,510	2,700	1,620	990	512	365
23	249	168	1,030	360	1,920	1,010	3,100	2,430	1,550	966	506	315
24	276	164	1,090	360	1,620	1,620	2,910	2,340	1,570	870	504	285
25	280	184	1,230	350	1,400	2,400	2,730	2,100	1,600	792	468	260
26	276	188	1,290	341	1,240	2,320	2,730	1,880	1,710	755	469	330
27	308	184	1,130	341	1,110	2,320	2,730	2,020	1,810	741	528	355
28	254	184	942	336	990	2,820	2,320	2,260	1,660	741	540	335
29	232	188	861	346	------	3,400	1,980	2,340	1,460	792	550	290
30	224	196	868	365	------	2,730	1,800	2,340	1,550	808	506	275
31	224	------	854	454	------	2,400	------	2,260	------	755	493	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	441	224	298	1.04	1.20	18,300
November	272	164	201	.700	.78	12,000
December	2,410	180	706	2.46	2.84	43,400
January	1,030	336	512	1.78	2.05	31,500
February	4,690	990	2,230	7.77	8.09	124,000
March	3,400	594	1,180	4.11	4.74	72,600
April	3,510	1,620	2,300	8.01	8.94	137,000
May	4,000	1,220	2,150	7.49	8.64	132,000
June	3,650	1,460	2,140	7.46	8.32	127,000
July	1,600	741	1,120	3.90	4.50	68,900
August	785	468	616	2.15	2.48	37,900
September	563	260	431	1.50	1.67	25,600
The year	4,690	164	1,150	4.01	54.25	830,000

[3] Formerly Lewis.

COWLITZ RIVER AT MOSSY ROCK, WASH.

LOCATION.—Staff gage in sec. 1, T. 12 N., R. 2 E., at Harmony Bridge, 1 mile north of Mossy Rock and 2½ miles above Tilton River.

DRAINAGE AREA.—1,170 square miles.

RECORDS AVAILABLE.—January, 1912, to September, 1917 (fragmentary); March, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 19,100 second-feet Feb. 20 (gage height, 11.8 feet); minimum, 630 second-feet Nov. 21–24, Dec. 3, 5–8 (gage height, 1.70 feet).

1912–1917, 1926–1930: Maximum discharge, 30,300 second-feet Jan. 7, 8, 1914 (gage height, 18.0 feet); minimum discharge, that of Nov. 21–24, Dec. 3, 5–8, 1929.

Flood of November, 1906, reached a stage corresponding to about 29.4 feet on present gage (discharge, about 51,000 second-feet).

REMARKS.—Records good except those for period of ice effect Jan. 12–29, which are poor. No diversions above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	870	750	670	4,330	2,640	4,660	7,860	5,340	5,170	3,380	1,700	1,130
2	870	750	670	4,170	5,520	4,330	7,140	5,700	5,520	3,080	1,590	1,130
3	870	750	630	4,010	5,340	4,170	6,780	6,240	5,340	2,930	1,490	1,210
4	915	750	670	4,010	5,000	4,010	6,420	5,700	4,830	2,780	1,590	1,210
5	960	790	630	3,850	10,200	3,690	5,880	5,000	4,830	2,930	1,590	1,130
6	1,140	790	630	3,530	10,200	3,690	5,700	5,000	5,340	2,780	1,700	1,050
7	960	790	630	3,230	8,980	3,380	6,240	4,830	6,420	2,930	1,700	1,130
8	960	750	630	3,080	13,800	3,380	8,220	4,330	6,420	2,640	1,590	970
9	1,000	750	960	2,780	11,000	3,230	8,220	4,010	5,700	2,780	1,490	930
10	960	790	1,940	2,640	8,600	3,080	7,140	3,850	5,700	2,780	1,490	970
11	915	750	1,680	2,360	8,600	2,930	6,420	3,850	6,060	2,930	1,700	1,130
12	870	710	1,230		7,500	2,930	6,060	4,170	5,340	2,780	1,700	1,050
13	1,000	710	1,140		7,500	2,930	6,420	4,660	4,660	3,080	1,590	930
14	915	670	6,060		9,980	2,780	7,500	5,170	4,170	2,930	1,590	930
15	915	670	8,040		10,200	2,930	7,860	5,700	4,010	2,640	1,700	1,130
16	915	670	5,000	1,900	11,400	2,640	7,320	6,240	4,330	2,360	1,490	1,010
17	960	710	4,330		12,300	2,640	8,410	5,700	4,170	2,220	1,300	1,130
18	1,140	710	3,380		12,100	2,640	6,060	5,170	4,010	2,080	1,390	1,130
19	960	710	3,530		14,000	2,500	5,700	4,830	4,010	1,950	1,390	1,090
20	870	670	3,690		19,100	2,780	5,700	7,140	3,850	1,950	1,300	1,050
21	870	630	3,380		15,600	3,690	7,150	9,380	4,010	1,950	1,300	1,050
22	830	630	3,380		12,500	4,660	8,600	8,220	3,690	2,080	1,300	1,050
23	830	630	4,170		10,600	4,490	8,410	7,140	3,380	2,220	1,130	890
24	790	630	4,330		8,410	5,340	7,860	6,780	3,380	2,080	1,130	890
25	830	710	4,490	1,600	7,140	7,140	7,500	6,420	3,380	1,950	1,210	810
26	790	710	5,000		6,420	8,790	7,140	5,700	3,330	1,820	1,130	775
27	915	710	4,660		5,700	8,600	7,320	5,520	3,690	1,760	1,130	890
28	960	670	4,170		5,170	9,180	6,960	5,700	3,530	1,700	1,130	890
29	830	670	3,690		-------	11,000	6,240	5,700	3,380	1,700	1,300	890
30	790	670	3,690	1,490	-------	10,600	5,700	5,700	3,080	1,820	1,210	810
31	790	-------	3,690	1,700	-------	8,790	-------	5,340	-------	1,820	1,130	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,140	790	909	0.777	0.90	55,900
November	790	630	710	.607	.68	42,200
December	8,040	630	2,930	2.50	2.88	180,000
January	4,330	-------	2,340	2.00	2.31	144,000
February	19,100	2,640	9,480	8.10	8.44	526,000
March	11,000	2,500	4,760	4.07	4.69	293,000
April	8,600	5,700	7,000	5.98	6.67	417,000
May	9,380	3,850	5,620	4.80	5.53	346,000
June	6,420	3,080	4,490	3.84	4.28	267,000
July	3,380	1,700	2,410	2.06	2.38	148,000
August	1,700	1,130	1,430	1.22	1.41	87,900
September	1,210	775	1,010	.863	.96	60,100
The year	19,100	330	3,550	3.03	41.13	2,570,000

COWLITZ RIVER NEAR CASTLE ROCK, WASH.

LOCATION.—Staff gage in sec. 34, T. 10 N., R. 2 W., 2,000 feet below mouth of Toutle River, 2 miles above Castle Rock, and 16 miles above mouth.

DRAINAGE AREA.—2,210 square miles.

RECORDS AVAILABLE.—December, 1926, to September, 1930.

EXTREMES.—Maximum discharge during year, 30,200 second-feet Feb. 8 (gage height, 8.72 feet); minimum, 1,230 second-feet Nov. 23 (gage height, 2.07 feet).

1926–1930: Maximum discharge, 74,000 second-feet Nov. 25, 1927 (gage height, 13.95 feet); minimum, that of Nov. 23, 1929.

REMARKS.—Records good. No diversions.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,390	1,390	1,390	10,800	10,400	8,150	11,700	8,150	7,750	4,110	2,260	1,510
2	1,390	1,390	1,390	10,800	15,700	7,350	10,400	7,750	8,550	4,110	2,180	1,510
3	1,450	1,390	1,390	9,450	14,200	7,000	9,900	9,000	8,550	3,870	2,010	1,510
4	1,510	1,390	1,390	9,450	13,700	6,650	9,450	8,550	8,150	3,650	2,010	1,510
5	1,580	1,390	1,340	9,900	18,600	6,300	9,000	7,750	7,350	3,650	2,010	1,580
6	1,640	1,450	1,390	8,150	19,800	5,950	8,550	7,000	7,350	3,650	2,010	1,580
7	1,640	1,450	1,390	7,000	21,100	5,950	8,550	7,000	7,750	3,870	2,090	1,580
8	1,640	1,390	1,390	6,300	29,500	5,600	10,400	6,650	8,550	3,650	2,090	1,450
9	1,780	1,450	2,440	5,950	21,100	5,250	11,200	5,950	7,750	3,650	2,180	1,450
10	1,860	1,450	5,950	5,250	18,600	4,950	10,400	5,600	7,350	3,430	2,090	1,450
11	1,780	1,580	5,660	4,650	19,800	4,950	9,000	5,600	7,750	3,430	2,090	1,510
12	1,640	1,510	3,870	4,370	16,800	4,650	8,150	5,600	7,350	3,430	2,090	1,580
13	1,510	1,390	3,430	4,370	15,200	4,650	8,150	5,600	6,650	3,430	2,010	1,510
14	1,580	1,340	18,600	3,870	23,900	4,370	11,200	6,300	5,950	3,650	1,930	1,510
15	1,580	1,340	16,200	3,650	20,400	4,370	11,700	7,350	5,250	3,430	2,010	1,510
16	1,510	1,340	11,200	3,430	19,200	4,110	11,200	7,350	5,250	3,220	2,010	1,510
17	1,640	1,340	9,900	3,430	19,200	4,110	9,900	7,750	5,600	3,020	1,860	1,510
18	1,780	1,390	7,750	3,430	18,000	3,870	8,550	7,350	5,250	2,820	1,780	1,510
19	1,780	1,390	7,750	3,650	23,900	3,870	8,150	7,000	4,950	2,630	1,780	1,510
20	1,640	1,340	7,750	3,430	29,500	4,370	7,750	12,200	4,950	2,630	1,780	1,450
21	1,580	1,280	7,350	3,220	26,700	7,000	8,150	18,000	4,950	2,630	1,710	1,390
22	1,510	1,280	7,750	3,020	21,100	15,200	9,900	16,200	4,950	2,630	1,640	1,390
23	1,510	1,230	15,200	3,020	18,000	13,700	10,800	13,200	4,650	2,630	1,640	1,390
24	1,450	1,280	12,700	3,430	15,200	15,700	10,400	12,200	4,370	2,630	1,640	1,340
25	1,450	1,390	11,200	3,220	13,200	16,200	9,900	10,400	4,110	2,630	1,580	1,280
26	1,450	1,580	12,200	3,430	11,700	16,200	9,450	9,450	4,370	2,440	1,580	1,280
27	1,510	1,580	10,400	3,020	10,400	15,200	9,900	8,550	4,370	2,260	1,510	1,340
28	1,580	1,510	9,000	3,220	9,000	14,200	11,200	8,150	4,950	2,260	1,510	1,390
29	1,580	1,450	7,750	3,020	-------	14,700	10,800	8,550	4,370	2,260	1,580	1,390
30	1,510	1,390	7,350	3,220	-------	14,700	9,450	8,150	4,110	2,260	1,580	1,340
31	1,450	-------	7,350	4,110	-------	12,700	-------	7,750	-------	2,260	1,580	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,860	1,390	1,580	0.715	0.82	97,200
November	1,580	1,230	1,400	.633	.71	83,300
December	18,600	1,340	7,090	3.21	3.70	436,000
January	10,800	3,020	5,070	2.29	2.64	312,000
February	29,500	9,000	18,400	8.33	8.67	1,020,000
March	16,200	3,870	8,450	3.82	4.40	520,000
April	11,700	7,750	9,780	4.43	4.94	582,000
May	18,000	5,600	8,580	3.88	4.47	528,000
June	8,550	4,110	6,110	2.76	3.08	364,000
July	4,110	2,260	3,100	1.40	1.61	191,000
August	2,260	1,510	1,870	.846	.98	115,000
September	1,580	1,280	1,460	.661	.74	86,900
The year	29,500	1,230	5,980	2.71	36.76	4,340,000

CISPUS RIVER NEAR RANDLE, WASH.

LOCATION.—Water-stage recorder in NW. ¼ sec. 18, T. 11 N., R. 8 E. (unsurveyed), 500 feet above suspension bridge at Tower Rock ranger station, 8 miles southeast of Randle.

DRAINAGE AREA.—323 square miles.

RECORDS AVAILABLE.—October, 1910, to February, 1912; September, 1929, to September, 1930.

EXTREMES.—Maximum discharge during period, 4,820 second-feet Feb. 20 (gage height, 5.75 feet); minimum, 242 second-feet Dec. 3–5 (gage height, 2.02 feet). 1910–1912, 1929–30: Maximum discharge, 6,400 second-feet Nov. 10, 1910 (gage height, 6.0 feet, former datum); minimum that of Dec. 3–5, 1929.

REMARKS.—Records excellent except those for September and October, 1929, which are good. No diversions or regulation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	306	272	258	928	770	1,200	2,010	1,500	1,400	785	459	337
2	306	276	248	857	993	1,110	1,880	1,680	1,450	753	430	345
3	*370	272	242	825	892	1,050	1,810	1,680	1,350	705	430	349
4	341	268	242	919	1,090	993	1,740	1,500	1,290	698	435	341
5	*370	272	242	849	2,600	955	1,620	1,400	1,270	713	430	341
6	314	279	245	785	2,080	892	1,680	1,350	1,350	729	441	333
7	310	272	245	690	2,640	849	1,880	1,250	1,500	698	441	310
8	314	261	252	675	3,100	809	2,370	1,160	1,450	660	453	322
9	341	265	326	616	2,370	793	2,150	1,120	1,400	675	447	322
10	314	268	614	581	2,010	761	1,880	1,090	1,400	690	441	333
11	302	265	422	540	1,810	753	1,740	1,140	1,350	682	435	361
12	298	258	345	528	1,560	785	1,740	1,190	1,260	682	425	326
13	*310	261	742	483	1,620	761	1,940	1,310	1,150	769	416	326
14	298	261	3,770	502	1,880	721	2,220	1,560	1,070	753	416	337
15	298	261	2,260	489	1,940	705	2,220	1,560	1,050	638	405	333
16	295	261	1,620	471	2,220	675	2,010	1,680	1,150	595	395	326
17	345	268	1,250	483	2,370	682	1,810	1,560	1,040	560	382	314
18	306	265	1,100	502	2,520	690	1,740	1,400	993	554	369	310
19	302	261	1,140	471	3,980	721	1,680	1,400	964	521	373	295
20	298	258	1,140	441	4,620	745	1,680	2,220	955	534	365	295
21	291	248	1,060	420	3,640	1,000	1,940	2,300	919	528	361	302
22	283	252	1,040	420	2,840	1,090	2,370	2,080	874	534	365	302
23	283	261	1,110	420	2,370	1,020	2,300	1,940	833	547	357	272
24	283	258	1,080	420	2,010	1,280	2,080	1,880	801	540	349	268
25		272	1,450	395	1,740	1,810	2,010	1,740	841	495	349	265
26	*310	276	1,450	400	1,560	2,010	2,010	1,620	825	471	333	279
27		268	1,260	385	1,450	2,150	2,010	1,560	841	459	337	283
28	302	265	1,120	373	1,280	2,370	1,880	1,560	833	459	341	291
29	*290	261	1,030	381	-------	2,680	1,680	1,500	753	483	345	265
30	283	261	974	395	-------	2,370	1,560	1,500	753	502	345	261
31	276	-------	919	430	-------	2,150	-------	1,400	-------	477	341	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	370	----------	308	0.954	1.10	18,900
November	279	248	265	.820	.91	15,800
December	3,770	242	942	2.92	3.37	57,900
January	928	373	551	1.71	1.97	33,900
February	4,620	770	2,140	6.63	6.90	119,000
March	2,680	675	1,180	3.65	4.21	72,600
April	2,370	1,560	1,920	5.94	6.63	114,000
May	2,300	1,090	1,540	4.77	5.50	94,700
June	1,500	753	1,100	3.41	3.80	65,500
July	785	459	609	1.89	2.18	37,400
August	459	333	394	1.22	1.41	24,200
September	361	261	311	.963	1.07	18,500
The year	4,620	242	930	2.88	39.05	672,000

* Estimated.

NOTE.—Discharge 306 second-feet Sept. 28, 29, and 30, 1929.

NORTH FORK OF TOUTLE RIVER AT ST. HELEN, WASH.

LOCATION.—Water-stage recorder in SE. ¼ sec. 15, T. 10 N., R. 2 E., at highway crossing three-fourths mile west of St. Helen and half a mile below Hoffstadt Creek. Zero of gage 878.03 feet above mean sea level.

DRAINAGE AREA.—120 square miles.

RECORDS AVAILABLE.—September to October, 1909; September, 1929, to September, 1930.

EXTREMES.—Maximum discharge during period, 3,830 second-feet Dec. 14 (gage height, 5.31 feet); minimum, 164 second-feet Sept. 7, 1930 (gage height, 1.62 feet).

1909, 1929–30: Maximum discharge, that of Dec. 14, 1929; minimum, that of Sept. 7, 1930.

REMARKS.—Records good. Discharge estimated Jan. 21, Aug. 13, 14. No diversions or regulation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	182	170	170	990	661	598	634	542	586	334	208	172
2	------	182	170	836	717	564	598	542	804	318	205	172	
3	------	182	170	170	804	661	530	574	552	717	314	205	172
4	------	182	170	170	836	868	520	586	542	703	302	205	172
5	------	195	170	170	661	1,420	505	586	520	647	302	205	170
6	------	182	182	170	610	1,080	480	552	520	634	294	202	170
7	------	182	182	170	530	1,300	450	564	510	634	283	202	166
8	------	182	182	170	500	1,640	440	610	490	598	280	205	166
9	------	225	182	320	470	1,150	440	586	470	574	276	205	166
10	------	195	182	1,070	440	1,130	430	552	455	552	269	202	170
11	------	182	182	435	400	1,150	425	530	440	542	266	202	188
12	------	182	182	320	390	949	415	500	430	500	266	202	174
13	------	182	182	320	375	1,060	405	500	420	490	262	197	172
14	------	182	170	3,830	352	1,750	390	717	420	470	258	191	180
15	------	170	170	1,240	344	1,420	380	675	460	450	252	186	174
16	------	182	170	1,070	339	1,320	366	598	470	460	243	186	170
17	------	195	182	755	330	1,160	352	574	465	430	237	184	168
18	------	182	170	685	326	1,090	344	542	465	420	234	184	168
19	------	182	170	830	326	1,750	334	525	490	410	231	184	168
20	------	182	170	830	322	2,120	370	525	1,480	400	231	182	170
21	------	182	170	720	312	1,530	675	530	1,480	390	228	180	170
22	------	170	170	755	302	1,320	1,040	586	1,480	380	228	180	170
23	------	170	170	1,330	286	1,220	773	552	1,110	370	228	178	170
24	------	170	170	1,030	280	1,080	1,130	542	916	362	225	178	170
25	------	170	195	1,150	272	916	1,020	530	804	357	225	178	172
26	195	170	195	990	266	804	949	542	717	348	222	176	176
27	195	210	182	870	266	717	884	586	661	344	218	176	180
28	192	182	182	755	262	647	836	610	622	390	215	176	182
29	188	182	170	685	334	------	804	647	610	357	212	176	176
30	185	182	170	685	302	------	773	586	586	344	215	174	172
31	------	170	------	685	370	------	675	------	586	------	212	174	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929						
September 26–30	195	185	191	1.59	0.30	1,890
1929–30						
October	225	170	183	1.52	1.75	11,300
November	195	170	176	1.47	1.64	10,500
December	3,830	170	733	6.11	7.04	45,100
January	990	262	433	3.61	4.16	26,600
February	2,120	647	1,170	9.75	10.15	65,000
March	1,130	334	590	4.92	5.67	36,300
April	717	500	575	4.79	5.34	34,200
May	1,480	420	653	5.44	6.27	40,200
June	804	344	489	4.08	4.55	29,100
July	334	212	254	2.12	2.44	15,600
August	208	174	190	1.58	1.82	11,700
September	188	166	172	1.43	1.60	10,200
The year	3,830	166	463	3.86	52.43	336,000

TOUTLE RIVER NEAR SILVER LAKE, WASH.

LOCATION.—Water-stage recorder in SE. ¼ sec. 19, T. 10 N., R. 1 E., under highway bridge half a mile below junction of North and South Forks, 5 miles northeast of Silver Lake, and 9 miles northeast of Castle Rock.

DRAINAGE AREA.—472 square miles.

RECORDS AVAILABLE.—October, 1919, to December, 1923; September, 1929, to September, 1930. September, 1909, to August, 1912, at a station 2 miles below, described as "near Castle Rock."

EXTREMES.—Maximum discharge during period, 13,400 second-feet Dec. 14 (gage height, 9.30 feet); minimum, 257 second-feet Nov. 21 (gage height, 1.67 feet). 1909–1912, 1919–1923, 1929–30: Maximum discharge, 35,600 second-feet Mar. 2, 1910 (gage height 11.0 feet, near Castle Rock); minimum, that of Nov. 21, 1929.

REMARKS.—Records good. No diversions.

Daily and monthly discharge, in second-feet, 1929–30

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	402	300	283	2,730	3,190	2,080	2,150	1,780	1,820	744	392	312
2	------	406	300	276	2,840	3,400	1,900	1,970	1,710	2,450	724	384	304
3	------	406	297	273	2,450	3,240	1,770	1,920	1,750	2,220	685	379	304
4	------	415	297	270	2,680	3,640	1,640	2,080	1,630	2,150	673	374	300
5	------	460	286	267	2,520	4,980	1,560	1,970	1,480	1,920	655	374	300
6	------	[a] 446	330	273	2,150	3,980	1,500	1,840	1,520	1,790	649	370	304
7	------	433	304	273	1,820	7,520	1,430	1,920	1,570	1,770	631	370	300
8	------	379	297	313	1,640	6,400	1,430	2,150	1,470	1,640	613	374	297
9	------	516	293	1,230	1,470	4,330	1,390	2,000	1,370	1,520	589	379	297
10	------	433	[a] 310	2,530	1,320	5,100	1,310	1,720	1,290	1,450	577	379	297
11	------	330	326	1,440	1,180	4,700	1,290	1,560	1,230	1,380	565	370	402
12	------	362	308	1,040	1,090	3,890	1,250	1,460	1,140	1,310	554	362	358
13	------	[a] 338	293	2,030	1,030	5,080	1,170	1,480	1,110	1,250	554	358	334
14	------	315	290	9,580	1,000	6,210	1,140	2,440	1,210	1,130	548	354	366
15	------	308	283	3,950	984	4,980	1,120	2,450	1,280	1,070	521	346	350
16	------	297	280	3,240	935	4,510	1,110	2,150	1,270	1,070	505	354	326
17	------	374	300	2,450	872	4,060	1,060	1,880	1,310	1,030	495	338	319
18	------	342	293	2,220	895	3,800	1,010	1,700	1,280	975	485	330	312
19	------	350	283	2,600	911	5,690	1,010	1,570	1,330	943	475	326	300
20	------	312	276	2,450	785	6,380	1,100	1,480	3,740	943	465	323	293
21	------	304	267	2,150	737	5,130	2,670	1,530	4,330	911	456	319	293
22	------	297	273	2,450	764	4,510	4,060	1,770	3,980	872	456	319	290
23	------	293	270	3,980	820	3,980	3,400	1,680	3,240	835	446	319	286
24	------	286	270	3,160	806	3,400	3,980	1,640	2,840	792	438	315	290
25	366	283	326	3,320	764	3,080	3,720	1,590	2,600	771	428	315	297
26	388	297	374	2,920	771	2,760	3,400	1,590	2,220	792	420	312	304
27	362	[a] 328	330	2,450	724	2,520	3,080	1,810	1,980	813	415	308	312
28	[a] 372	358	308	2,080	704	2,300	2,920	2,300	1,860	967	410	308	354
29	[a] 382	319	293	1,880	895	------	2,840	2,380	1,860	850	406	312	319
30	[a] 392	312	286	1,920	959	------	2,600	2,080	1,720	771	402	319	304
31	------	293	------	1,910	1,330	------	2,380	------	1,680	------	397	319	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
1929						
September 25–30	392	362	377	0.799	0.18	4,490
1929–30						
October	516	283	355	0.752	0.87	21,800
November	374	267	298	.631	.70	17,700
December	9,580	267	2,100	4.45	5.13	129,000
January	2,840	704	1,310	2.78	3.20	80,600
February	7,520	2,300	4,380	9.28	9.66	243,000
March	4,060	1,010	2,010	4.26	4.91	124,000
April	2,450	1,460	1,880	3.98	4.44	112,000
May	4,330	1,110	1,900	4.03	4.65	117,000
June	2,450	771	1,270	2.69	3.00	75,600
July	744	397	528	1.12	1.29	32,500
August	392	308	345	.731	.84	21,200
September	402	286	314	.665	.74	18,700
The year	9,580	267	1,370	2.90	39.43	993,000

[a] Interpolated.

YOUNGS RIVER BASIN

YOUNGS RIVER NEAR ASTORIA, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 27, T. 7 N., R. 9 W., 3 miles southwest of Olney and 9 miles south of Astoria.

DRAINAGE AREA.—30 square miles.

RECORDS AVAILABLE.—August, 1927, to September, 1930; at site 2 miles upstream March, 1916, to September, 1917 (stage only).

EXTREMES.—Maximum discharge during year, 1,280 second-feet Dec. 13 (gage height, 4.3 feet); minimum, 5 second-feet Sept. 20–23.

1927–1930: Maximum discharge, 1,920 second-feet Apr. 14, 1929 (gage height, 4.34 feet); minimum, 4.7 second-feet Sept. 16, 1929.

REMARKS.—Records fair except those estimated Jan. 9–20, 21–28, which are poor. No diversions or regulation above station. Gage-height record furnished by city engineer of Astoria.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	8	8	402	667	153	96	70	94	20	9	7
2	6	8	7	300	416	135	87	71	126	17	9	7
3	6	8	7	324	324	121	153	74	124	17	9	6
4	7	7	7	355	363	112	225	66	135	17	9	6
5	8	8	7	343	465	105	195	62	104	15	9	6
6	7	7	7	272	307	105	159	94	89	15	8	7
7	7	7	8	218	682	108	144	118	88	15	8	7
8	7	8	36	179	495	118	135	97	77	14	8	8
9	18	9	174		328	135	128	86	67	13	8	8
10	15	20	272		411	112	111	76	60	12	8	7
11	11	19	188		388	102	98	70	61	12	7	7
12	10	12	146		314	92	89	65	60	11	7	6
13	9	10	511		526	86	84	62	53	11	7	6
14	8	9	538		510	81	91	86	48	12	7	6
15	7	9	300	100	359	75	96	67	42	12	7	6
16	7	9	256		286	70	92	60	38	12	7	6
17	16	13	205		228	66	80	57	36	12	8	6
18	17	13	241		272	63	74	54	34	12	8	6
19	21	10	272		556	63	69	119	32	12	7	6
20	15	9	225		714	89	66	475	29	12	7	5
21	11	8	208	66	500	564	65	470	28	12	7	5
22	9	8	384		538	495	59	318	26	12	7	5
23	8	8	515		445	371	57	230	25	12	7	5
24	7	8	332		355	393	55	181	24	11	7	6
25	7	10	363	70	293	296	52	144	23	11	7	7
26	8	11	290		241	232	50	121	22	10	7	8
27	10	10	228		205	190	92	104	26	10	7	17
28	16	9	181		174	159	98	93	34	9	7	20
29	12	9	150	126	------	136	91	83	26	9	7	15
30	10	8	157	141	------	120	77	77	22	9	7	10
31	9	------	202	181	------	107	------	75	------	9	7	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	21	6	10.2	0.340	0.39	627
November	20	7	9.7	.323	.36	577
December	538	7	207	6.90	7.96	12,700
January	402	------	148	4.93	5.68	9,100
February	714	174	406	13.5	14.06	22,500
March	564	63	163	5.43	6.26	10,000
April	225	50	98.9	3.30	3.68	5,880
May	475	54	123	4.10	4.73	7,560
June	135	22	55.1	1.84	2.05	3,280
July	20	9	12.5	.417	.48	769
August	9	7	7.5	.250	.29	461
September	20	5	7.6	.253	.28	452
The year	714	5	102	3.40	46.22	73,900

STREAMS BETWEEN COLUMBIA RIVER AND KLAMATH RIVER

ROGUE RIVER BASIN

ROGUE RIVER ABOVE BYBEE CREEK, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 26, T. 30 S., R. 3 E., 500 feet above Bybee Creek and 2 miles northeast of Union Creek.

DRAINAGE AREA.—118 square miles.

RECORDS AVAILABLE.—January to September, 1930.

EXTREMES.—Maximum discharge during period, 1,480 second-feet Feb. 2 (gage height, 3.72 feet); minimum, 228 second-feet Aug. 29, Sept. 3, 6, 7 (gage height, 0.43 foot).

REMARKS.—Records good February to July; fair January, August, and September. Discharge estimated Jan. 9, 11–21, 23, 24, Sept. 19, 20. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1930

Day	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	359	675	488	505	470	387	278	250	232
2	347	1,150	455	505	455	380	278	248	230
3	347	770	440	488	470	380	275	248	228
4	353	630	440	470	440	410	275	245	230
5	341	830	440	470	425	380	275	242	230
6	347	810	440	488	440	374	275	238	228
7	338	730	425	505	425	371	275	238	228
8	308	870	425	522	410	359	275	238	230
9	310	730	410	488	410	347	270	240	252
10	312	690	410	470	410	341	272	240	250
11		1,040	425	455	410	335	270	240	255
12		870	440	455	410	329	268	240	250
13		830	440	455	410	320	268	242	242
14		1,020	425	455	410	315	262	248	240
15		930	410	455	410	315	262	248	232
16	350	830	410	440	410	312	260	242	232
17		750	395	425	395	310	260	240	232
18		730	395	425	395	305	260	238	230
19		810	410	425	395	305	258	238	230
20		975	410	425	425	318	258	238	230
21		810	410	455	440	308	258	235	230
22	395	730	440	488	440	298	255	232	230
23	375	670	425	455	425	295	252	232	230
24	360	592	425	470	410	292	252	232	265
25	341	575	440	455	395	288	252	235	270
26	335	540	470	455	395	288	252	235	240
27	326	505	488	505	380	285	252	232	235
28	323	488	522	488	380	282	250	232	280
29	338	------	558	470	395	280	250	228	245
30	380	------	540	455	380	280	248	230	235
31	455	------	522	------	380	------	248	230	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
January	----------	308	350	2.97	3.42	21,500
February	1,150	488	771	6.53	6.80	42,800
March	558	395	444	3.76	4.34	27,300
April	522	425	467	3.96	4.42	27,800
May	470	380	414	3.51	4.05	25,500
June	410	280	326	2.76	3.08	19,400
July	278	248	263	2.23	2.57	16,200
August	250	228	239	2.03	2.34	14,700
September	280	228	239	2.03	2.26	14,200
The period	----------	----------	----------	----------	----------	209,000

ROGUE RIVER ABOVE PROSPECT, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 19, T. 32 S., R. 3 E., 1½ miles above intake of diversion of The California Oregon Power Co., 3 miles above Mill Creek, and 2 miles northwest of Prospect.

DRAINAGE AREA.—332 square miles (revised).

RECORDS AVAILABLE.—July, 1907, to February, 1912, incomplete; October, 1923, to September, 1930.

EXTREMES.—Maximum discharge during year, 4,940 second-feet Dec. 19 (gage height, 5.41 feet); minimum, 283 second-feet Sept. 3, 4, 6, 7, 17 (gage height, 1.27 feet).

1907–1912, 1923–1930: Maximum discharge, about 9,300 second-feet Nov. 22, 1909 (gage height, about 7.0 feet); minimum, 268 second-feet Sept. 13, 14, 1926 (gage height, 1.28 feet).

REMARKS.—Records good below and poor above 2,000 second-feet. Discharge estimated Dec. 4, Jan. 9, 12–17. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	331	322	304	562	956	768	730	698	546	385	318	287
2	326	322	304	546	2,130	756	716	698	556	385	318	287
3	326	326	295	530	1,400	730	692	710	546	380	318	283
4	326	318	295	540	1,170	723	686	674	595	375	313	283
5	326	318	295	530	1,400	716	674	644	562	370	308	287
6	336	313	295	520	1,500	716	692	634	535	365	308	283
7	365	313	318	510	1,350	704	710	622	525	360	304	283
8	400	308	370	490	1,600	698	730	612	520	360	304	287
9	395	313	628	495	1,400	680	698	595	505	355	304	322
10	360	318	920	500	1,350	662	668	595	495	355	304	322
11	340	322	606	500	1,940	668	650	595	490	350	304	318
12	340	313	1,010		1,660	716	639	590	480	340	304	308
13	340	313	1,020		1,550	736	650	584	470	340	308	300
14	336	318	1,500		1,880	710	656	584	470	336	318	295
15	336	318	1,600	530	1,720	692	639	584	460	336	318	291
16	331	318	1,500		1,500	662	628	573	455	336	304	287
17	350	322	960		1,300	634	600	568	445	336	304	283
18	345	318	3,250	644	1,260	628	595	551	440	336	304	287
19	336	308	3,520	622	1,350	622	606	546	435	331	300	287
20	336	304	1,660	568	1,660	622	606	584	445	331	300	287
21	331	300	1,170	515	1,350	628	628	628	435	326	300	287
22	331	300	928	556	1,260	680	710	617	420	326	295	287
23	322	308	860	556	1,170	662	656	600	415	322	295	287
24	322	313	831	540	1,060	644	662	584	415	322	295	336
25	322	313	789	520	992	674	686	568	410	322	295	355
26	326	313	762	510	905	698	662	556	405	322	295	322
27	331	308	698	500	852	730	730	540	400	322	295	308
28	336	308	650	490	775	756	803	540	395	322	291	370
29	331	304	617	515	-------	810	749	578	390	322	287	326
30	326	304	595	556	-------	803	716	546	390	318	287	313
31	322	-------	584	710	-------	762	-------	551	-------	313	287	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	400	322	338	1.02	1.18	20,800
November	326	300	313	.943	1.05	18,600
December	3,520	295	940	2.83	3.26	57,800
January	710	490	539	1.62	1.87	33,100
February	2,130	775	1,370	4.13	4.30	76,100
March	810	622	700	2.11	2.43	43,000
April	803	595	676	2.04	2.28	40,200
May	710	540	598	1.80	2.08	36,800
June	595	390	468	1.41	1.57	27,800
July	385	313	342	1.03	1.19	21,000
August	318	287	303	.913	1.05	18,600
September	370	283	302	.910	1.02	18,000
The year	3,520	283	569	1.71	23.28	412,000

ROGUE RIVER BELOW PROSPECT POWER PLANT NO. 1, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 6, T. 33 S., R. 3 E., 300 feet below tailrace of Prospect power plant of The California Oregon Power Co., 1 mile below Mill Creek, and 2 miles southwest of Prospect.

RECORDS AVAILABLE.—October, 1927, to September, 1930 (discontinued). August, 1913, to September, 1927, at station on river above tailrace and at station on headrace.

EXTREMES.—Maximum discharge during year, 5,440 second-feet Dec. 19 (gage height, 4.97 feet); minimum, 236 second-feet Nov. 2.

1913–1930: Maximum combined discharge of river and tailrace, 10,500 second-feet Feb. 20, 1927; minimum, that of Nov. 2, 1929; minimum observed combined unregulated discharge, 455 second-feet Oct. 13, 19, 20, 23, 24, 25, 1924.

REMARKS.—Records good except those above 2,500 second-feet and those estimated, which are fair. No irrigation diversions above station. Flow regulated by pondage at diversion dam and forebay of power plant. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	500	488	480	775	1,260	1,100	1,070	1,000	805	590	522	488
2	522	492	500	745	2,630	1,070	1,070	1,070	835	590	500	488
3	522	456	500	745	1,760	1,040	1,000	1,040	805	590	500	472
4	500	522	488	775	1,460	1,000	965	965	865	590	496	468
5	522	[a]534	492	718	1,760	1,000	965	930	805	568	500	484
6	522	545	492	718	1,880	1,040	965	930	805	568	496	472
7	568	500	480	690	1,650	1,000	1,000	930	775	568	492	472
8	590	468	522	590	2,010	[a]980	1,040	898	745	568	496	484
9	568	500	745	718	1,700	965	1,000	865	745	568	492	522
10	545	492	1,220	615	1,700	965	965	865	718	568	492	500
11	522	500	930	545	2,300	965	930	865	690	568	496	522
12	545	488	1,220	665	2,010	1,040	930	865	718	545	500	492
13	522	488	1,300	[a]650	1,880	1,040	930	865	718	545	500	492
14	545	500	1,650	[a]650	2,300	1,040	965	865	665	522	500	480
15	522	545	1,940	[a]650	[a]2,050	1,000	930	865	690	522	522	484
16	522	500	1,880	[a]800	1,820	965	930	835	665	522	500	484
17	545	484	1,220	[a]1,000	1,650	930	898	835	665	568	492	484
18	522	492	3,380	930	1,550	930	865	805	640	545	496	484
19	522	480	3,820	898	1,700	930	898	805	640	522	488	480
20	522	500	[a]1,900	835	2,000	930	898	835	640	522	484	480
21	500	492	1,460	745	1,700	898	898	898	640	522	480	464
22	496	492	1,220	805	1,600	965	1,000	898	615	522	480	468
23	496	488	1,140	835	1,500	930	965	898	640	522	480	472
24	500	496	1,100	805	1,420	930	965	865	615	522	480	522
25	522	480	1,100	775	1,340	930	1,000	835	615	522	480	522
26	492	522	1,100	745	1,300	935	965	805	615	522	480	484
27	500	500	965	745	1,140	965	1,040	805	615	522	476	472
28	522	[a]511	865	745	1,070	965	1,140	805	590	522	472	545
29	[a]505	522	865	775	------	1,100	1,070	865	615	522	480	496
30	488	500	835	835	------	1,100	1,040	805	590	522	480	472
31	500	------	835	1,040	------	1,040	------	805	------	500	476	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	590	488	522	1.35	1.56	32,100
November	545	456	499	1.29	1.44	29,700
December	3,820	480	1,180	3.05	3.52	72,600
January	1,000	545	760	1.96	2.26	46,700
February	2,630	1,070	1,720	4.44	4.62	95,500
March	1,100	898	991	2.56	2.95	60,900
April	1,140	865	977	2.52	2.81	58,100
May	1,070	805	878	2.27	2.62	54,000
June	865	590	693	1.79	2.00	41,200
July	590	500	544	1.41	1.63	33,400
August	522	472	491	1.27	1.46	30,200
September	545	464	488	1.26	1.41	29,000
The year	3,820	456	806	2.08	28.28	583,000

[a] Estimated.

ROGUE RIVER BELOW SOUTH FORK OF ROGUE RIVER, NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in SW. ¼ sec. 16, T. 33 S., R. 2 E., at Peyton Bridge, 6 miles southwest of Prospect.

DRAINAGE AREA.—643 square miles.

RECORDS AVAILABLE.—April, 1929, to September, 1930.

EXTREMES.—Maximum discharge during year (estimated), 10,000 second-feet Dec. 19 (gage height not ascertained); minimum, 583 second-feet Nov. 28 (gage height, 0.16 foot).

1929–30: Maximum discharge, that of Dec. 19, 1929; minimum, 572 second-feet Aug. 24, 1929 (gage height, 0.14 foot).

REMARKS.—Records good except those above 3,000 second-feet and those estimated Dec. 12–20, which are fair. Minor irrigation diversions above station. Considerable diurnal fluctuation, owing to operation of power plant 4 miles upstream. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	764	725	677	1,200	1,720	1,640	1,480	1,440	1,130	888	758	683
2	758	744	719	1,130	4,130	1,600	1,440	1,440	1,160	855	751	689
3	764	713	713	1,100	2,890	1,600	1,400	1,480	1,130	855	744	677
4	751	777	713	1,130	2,320	1,560	1,400	1,400	1,240	855	738	671
5	758	744	732	1,100	2,670	1,520	1,360	1,360	1,160	855	738	683
6	744	713	719	1,060	2,890	1,520	1,360	1,320	1,160	842	738	671
7	796	732	713	1,020	2,620	1,480	1,400	1,320	1,130	836	738	665
8	842	713	770	920	3,130	1,440	1,440	1,280	1,130	836	732	671
9	816	732	1,240	1,020	2,670	1,400	1,360	1,280	1,100	829	725	719
10	764	719	1,720	888	2,620	1,400	1,320	1,280	1,060	829	713	719
11	751	732	1,320	848	3,500	1,400	1,280	1,280	1,020	829	713	738
12	770	719		990	3,130	1,440	1,280	1,280	1,020	810	719	719
13	738	725		955	2,890	1,480	1,320	1,280	1,020	803	725	701
14	738	732		955	3,620	1,440	1,320	1,280	960	796	725	689
15	732	744		955	3,250	1,400	1,280	1,280	990	770	738	701
16	732	725	3,500	1,120	2,880	1,360	1,240	1,240	955	764	725	701
17	796	707		1,300	2,620	1,360	1,240	1,200	955	816	713	695
18	777	713		1,280	2,450	1,320	1,240	1,200	955	796	713	695
19	764	701		1,320	2,670	1,320	1,240	1,200	955	777	707	701
20	770	707		1,240	3,000	1,320	1,240	1,240	955	770	701	695
21	758	701	2,180	1,130	2,560	1,320	1,280	1,320	955	770	701	689
22	744	707	1,800	1,160	2,400	1,400	1,480	1,320	920	770	707	701
23	764	695	1,680	1,160	2,280	1,360	1,400	1,280	920	758	707	707
24	758	695	1,640	1,160	2,070	1,360	1,480	1,240	920	751	701	777
25	751	683	1,560	1,130	1,980	1,400	1,440	1,200	920	764	695	816
26	732	713	1,560	1,100	1,880	1,400	1,360	1,160	920	764	695	738
27	744	701	1,400	1,100	1,760	1,440	1,480	1,160	888	764	695	725
28	744	689	1,320	1,000	1,640	1,440	1,640	1,160	888	770	695	836
29	738	695	1,240	1,130	-------	1,520	1,520	1,200	888	770	701	790
30	738	713	1,240	1,160	-------	1,520	1,480	1,160	888	764	695	770
31	764	-------	1,200	1,400	-------	1,480	-------	1,160	-------	744	683	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	842	732	760	1.18	1.36	46,700
November	777	683	717	1.12	1.25	42,700
December	-------	677	1,880	2.92	3.37	116,000
January	1,400	848	1,100	1.71	1.97	67,600
February	4,130	1,640	2,650	4.12	4.29	147,000
March	1,640	1,320	1,440	2.24	2.58	88,500
April	1,640	1,240	1,370	2.13	2.38	81,500
May	1,480	1,160	1,270	1.98	2.28	78,100
June	1,240	888	1,000	1.57	1.75	60,100
July	888	744	800	1.24	1.43	49,200
August	758	683	717	1.12	1.29	44,100
September	836	665	714	1.11	1.24	42,500
The year	-------	665	1,190	1.85	25.19	864,000

ROGUE RIVER AT RAYGOLD, NEAR CENTRAL POINT, OREG.

LOCATION.—Water-stage recorder in sec. 18, T. 36 S., R. 2 W., at Raygold, just below dam and power house of The California Oregon Power Co., half a mile below Bear Creek, and 6 miles northwest of Central Point.

DRAINAGE AREA.—2,020 square miles.

RECORDS AVAILABLE.—August, 1905, to September, 1930.

EXTREMES.—Maximum discharge during year, 14,800 second-feet Dec. 19 (gage height, 7.50 feet); minimum, 510 second-feet Sept. 24 (gage height, −0.08 foot). Discharge may have gone somewhat lower momentarily, owing to sudden decrease in power load.

1905–1930: Maximum discharge, 91,500 second-feet Feb. 21, 1927; minimum stage not determined, as water is below intake pipe of well at low stages, which are usually of short duration.

REMARKS.—Records good. Discharge estimated Jan. 13–15, May 16. Numerous diversions for irrigation above station. Diurnal fluctuation due to operation of power plant immediately above station. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	948	934	955	1,650	3,790	2,820	1,920	2,090	1,450	962	772	752
2	934	892	824	1,650	11,500	2,690	1,920	2,040	1,550	948	785	752
3	927	941	983	1,600	6,680	2,630	1,870	2,210	1,450	941	785	792
4	920	885	941	1,760	4,800	2,570	1,820	2,150	1,600	934	772	740
5	920	941	913	2,150	4,600	2,630	1,760	2,040	1,550	941	759	752
6	899	920	941	2,150	5,200	2,630	1,700	1,920	1,450	927	772	772
7	983	892	913	1,920	4,600	2,510	1,760	1,980	1,400	913	759	766
8	1,120	927	941	1,700	5,700	2,390	1,820	1,980	1,350	892	772	752
9	1,070	899	1,350	1,700	5,000	2,330	1,760	1,920	1,300	892	766	920
10	990	934	2,690	1,760	4,420	2,270	1,700	1,870	1,350	899	766	885
11	983	934	2,330	1,400	5,600	2,210	1,650	1,870	1,250	892	752	83 0
12	955	934	4,160	1,500	5,000	2,270	1,600	1,820	1,160	892	785	892
13	976	927	3,430	1,500	4,600	2,270	1,600	1,760	1,160	892	746	878
14	948	920	5,320	1,400	5,200	2,270	1,650	1,820	1,160	864	772	844
15	948	941	7,640	1,500	5,200	2,210	1,700	1,820	1,070	837	778	830
16	948	962	7,400	1,760	4,420	2,210	1,650	1,760	1,070	830	772	766
17	948	934	3,930	2,820	3,930	2,090	1,600	1,700	1,070	818	759	824
18	1,010	906	10,300	4,080	3,640	2,040	1,550	1,650	1,050	864	766	824
19	990	948	12,400	4,800	3,780	1,980	1,550	1,650	1,020	811	766	824
20	969	906	5,810	4,390	4,800	1,920	1,550	1,600	1,120	824	772	766
21	962	927	3,780	2,760	4,600	1,920	1,550	1,760	1,120	824	772	766
22	948	906	2,950	2,450	4,080	2,040	1,820	1,760	1,070	811	740	759
23	948	941	2,570	2,450	4,250	2,040	1,760	1,650	1,030	804	766	752
24	948	913	2,450	2,450	3,930	1,920	1,820	1,600	1,050	804	746	837
25	934	934	2,270	2,390	3,780	1,920	1,870	1,550	998	785	752	998
26	927	906	2,390	2,270	3,640	1,920	1,760	1,500	998	778	778	920
27	927	941	2,090	2,150	3,220	1,980	1,920	1,450	998	778	752	864
28	941	913	1,920	2,090	3,020	2,040	2,570	1,450	990	778	752	941
29	934	934	1,820	2,210	-------	2,040	2,330	1,500	976	785	752	969
30	934	913	1,760	2,820	-------	2,040	2,210	1,500	976	798	766	927
31	934	-------	1,700	3,640	-------	2,040	-------	1,450	-------	798	752	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,120	899	959	59,000
November	962	892	924	55,000
December	12,400	824	3,220	198,000
January	4,800	1,400	2,290	141,000
February	11,500	3,020	4,750	264,000
March	2,820	1,920	2,220	136,000
April	2,570	1,550	1,790	107,000
May	2,210	1,450	1,770	109,000
June	1,600	976	1,190	70,800
July	962	778	855	52,600
August	785	740	765	47,000
September	969	740	830	49,400
The year	12,400	740	1,780	1,290,000

MILL CREEK NEAR PROSPECT, OREG.

LOCATION.—Staff gage in SE. ¼ sec. 28, T. 32 S., R. 3 E., 1 mile northeast of Prospect and 2 miles above mouth.

DRAINAGE AREA.—32 square miles.

RECORDS AVAILABLE.—August to October, 1910; May, 1925, to September, 1930.

EXTREMES.—Maximum discharge recorded during year, 140 second-feet Feb. 20 (gage height, 2.88 feet); minimum, 33 second-feet Aug. 29, Sept. 5.

1910, 1925–1930: Maximum discharge, 200 second-feet Feb. 20, 1927; minimum, 32 second-feet Sept. 27, 1926.

REMARKS.—Records fair except estimate of December mean discharge, which is poor. Gage read once a week. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								72			34	
2				55								
3	34						68					
4										37		
5			36									33
6					92	102			50			
7		35										
8											34	
9				58				63				
10	35		56				68					
11								60		36		
12			80									34
13					88	92			46			
14		34										
15											34	
16								56				
17	37						56					
18										36		
19												34
20				54	140	61			42			
21		34										
22											34	34
23				52				55				
24	36						74					
25						61				35		
26			72									35
27					117	65			39			
28		36								35		
29											33	
30				52				52				
31	36											

Month	Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet
October	35.6	1.11	1.28	2,190
November	34.8	1.09	1.22	2,070
December	76.9	2.40	2.77	4,730
January	54.2	1.69	1.95	3,330
February	109	3.41	3.55	6,050
March	76.2	2.38	2.74	4,690
April	66.5	2.08	2.32	3,960
May	59.7	1.87	2.16	3,670
June	44.2	1.38	1.54	2,630
July	35.8	1.12	1.29	2,200
August	33.8	1.06	1.22	2,080
September	34.0	1.06	1.18	2,020
The year	54.7	1.71	23.22	39,600

NOTE.—Monthly mean discharge is mean of days when gage was read, except December, for which mean discharge was estimated by comparison with discharge of Rogue River above Prospect.

SOUTH FORK OF ROGUE RIVER NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in SW. ¼ sec. 7, T. 33 S., R. 4 E., one-fourth mile below mouth of Imnaha Creek and 6 miles southeast of Prospect.
DRAINAGE AREA.—79 square miles.
RECORDS AVAILABLE.—April, 1924, to September, 1930.
EXTREMES.—Maximum discharge during year, 1,980 second-feet Dec. 19 (gage height, 4.58 feet); minimum, 52 second-feet Sept. 7 (gage height, 0.48 foot).
1924–1930: Maximum discharge, that of Dec. 19, 1929; minimum, 41 second-feet Sept. 13–15, 1926 (gage height, 0.27 foot).
REMARKS.—Records fair. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	61	57	100	127	184	148	154	119	80	62	55
2	61	60	56	97	323	179	145	150	123	80	61	54
3	61	60	56	94	248	176	145	159	119	78	60	54
4	60	59	55	95	207	172	140	154	129	78	59	54
5	59	59	55	94	228	170	139	147	119	76	59	53
6	63	58	56	94	269	165	140	143	116	75	59	52
7	66	57	56	90	250	160	140	142	112	75	58	52
8	66	57	64	83	287	157	148	140	110	75	58	55
9	69	57	113	91	263	154	142	140	108	75	58	60
10	66	58	134	88	261	150	139	142	106	75	57	59
11	65	58	102	85	358	152	135	139	104	72	57	59
12	64	57	154	85	323	154	131	135	102	70	57	55
13	64	57	129	85	313	154	132	134	101	69	57	55
14	64	58	121	85	437	150	134	132	98	70	58	55
15	63	60	169	85	385	148	134	132	98	69	58	55
16	64	59	184	85	316	145	135	132	97	69	57	55
17	76	59	145	107	281	142	131	131	95	68	56	54
18	67	59	968	106	272	142	127	126	94	67	56	54
19	66	58	922	101	293	140	127	126	95	65	55	53
20	65	57	303	100	293	139	126	131	95	65	55	54
21	64	57	205	98	266	139	135	139	95	63	55	53
22	63	58	167	97	253	143	160	143	91	63	55	53
23	63	57	148	94	238	143	150	142	90	62	54	53
24	63	58	135	92	226	142	169	135	88	62	55	64
25	63	58	135	91	219	143	157	131	88	62	55	61
26	63	58	131	88	209	145	145	126	85	62	55	56
27	63	57	119	87	203	152	159	121	84	61	55	55
28	63	57	112	87	190	155	181	119	84	62	55	60
29	63	57	108	88	-------	162	165	124	83	62	55	58
30	61	57	106	92	-------	162	159	121	81	62	54	57
31	61	-------	102	104	-------	155	-------	119	-------	62	54	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	76	59	63.9	0.809	0.93	3,930
November	61	57	58.1	.735	.82	3,460
December	968	55	173	2.19	2.52	10,600
January	123	83	92.5	1.17	1.35	5,690
February	437	127	269	3.41	3.55	14,900
March	184	139	154	1.95	2.25	9,470
April	181	126	144	1.82	2.03	8,570
May	159	119	136	1.72	1.98	8,360
June	129	81	100	1.27	1.42	5,950
July	80	61	68.8	.871	1.00	4,230
August	62	54	56.7	.718	.83	3,490
September	64	52	55.6	.704	.79	3,310
The year	968	52	113	1.43	19.47	82,000

MIDDLE FORK OF ROGUE RIVER NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in NE. ¼ sec. 1, T. 33 S., R. 3 E., at intake of proposed diversion into Rogue River 5 miles southeast of Prospect.

DRAINAGE AREA.—57 square miles.

RECORDS AVAILABLE.—May, 1925, to September, 1930.

EXTREMES.—Maximum discharge during year (estimated), 1,200 second-feet Dec. 19 (gage height not ascertained); minimum, 93 second-feet Aug. 28, Sept. 20.

1925–1930: Maximum discharge, that of Dec. 19, 1929; minimum, 83 second-feet Sept. 6–9, 12, 13, 1926.

REMARKS.—Records good except those above 200 second-feet, which are poor. Discharge estimated Oct. 30, Dec. 18, 27–31, Jan. 1, 20. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	105	101	95	120	278	166	142	175	154	109	99	95
2	105	99	95	118	500	163	142	178	154	109	99	95
3	105	99	95	113	358	163	142	182	154	109	99	95
4	105	99	95	116	297	160	139	172	166	109	99	95
5	105	99	95	113	345	160	139	163	154	109	99	95
6	105	99	95	113	350	157	145	163	151	109	99	95
7	105	99	95	113	325	154	154	163	151	107	99	95
8	107	99	107	113	358	154	157	157	148	107	99	99
9	109	99	160	113	317	151	151	154	145	107	99	101
10	107	99	171	113	325	148	148	151	145	107	99	101
11	107	99	131	113	383	151	145	151	145	107	97	101
12	105	99	216	113	350	154	145	154	142	107	97	99
13	105	99	162	113	350	154	151	151	137	105	97	97
14	103	99	223	111	482	151	151	151	131	105	97	97
15	105	99	325	111	391	151	151	151	128	105	99	97
16	109	99	257	139	329	145	148	154	128	105	99	95
17	105	99	199	142	293	145	142	154	125	105	97	95
18	103	97	800	134	273	142	142	154	120	103	95	95
19	101	97	786	134	293	142	142	157	123	103	95	95
20	101	97	358	128	281	139	145	169	125	101	95	93
21	103	95	239	123	253	137	163	169	120	101	95	95
22	101	95	192	123	239	139	195	172	118	101	95	97
23	103	95	175	120	222	137	185	166	118	101	95	97
24	103	95	160	123	205	137	212	160	118	101	95	109
25	103	95	154	123	195	139	192	157	116	101	95	103
26	103	95	145	120	182	142	178	151	116	101	95	97
27	103	95		120	172	151	192	151	113	99	95	97
28	103	95		120	166	157	195	154	113	99	93	103
29	103	95	135	123	------	160	178	160	111	99	95	101
30	103	95		131	------	160	175	151	111	99	95	97
31	103	------		139	------	145	------	148	------	99	95	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	109	101	104	1.82	2.10	6,400
November	101	95	97.5	1.71	1.91	5,800
December	800	95	203	3.56	4.10	12,500
January	142	111	121	2.12	2.44	7,440
February	500	166	304	5.33	5.55	16,900
March	166	137	150	2.63	3.03	9,220
April	212	139	160	2.81	3.14	9,520
May	182	148	159	2.79	3.22	9,780
June	166	111	133	2.33	2.60	7,910
July	109	99	104	1.82	2.10	6,400
August	99	93	96.8	1.70	1.96	5,950
September	109	93	97.5	1.71	1.91	5,800
The year	800	93	143	2.51	34.06	104,000

RED BLANKET CREEK NEAR PROSPECT, OREG.

LOCATION.—Staff gage in NE. ¼ sec. 23, T. 32 S., R. 3 E., 3 miles northeast of Prospect.

DRAINAGE AREA.—40 square miles.

RECORDS AVAILABLE.—May, 1925, to September, 1930. Prior to October, 1928, in NE. ¼ sec. 34, T. 32 S., R. 3 E.

EXTREMES.—Maximum discharge during year occurred Dec. 19 (stage and discharge not determined); minimum, 40 second-feet Sept. 5.

1925–1930: Maximum discharge, 1,200 second-feet Mar. 11, 1928; minimum, that of Sept. 5, 1930.

REMARKS.—Records fair except estimate of December mean discharge, which is poor. One irrigation diversion above station. Gage read only once a week. Gage-height record furnished by the California Oregon Power Co.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								101			43	
2				48								
3	58						76					
4									71	53		
5			52									40
6					176	68						
7		53										
8											42	
9				51				85				
10	69						76					
11			79							50		
12			202					85				48
13					176	62			62			
14		53										
15											42	
16				64				78				
17	57						73					
18										46		
19												42
20					255	78			63			
21		53										
22											41	42
23				49				85				
24	54						110					
25						85				44		
26			78									49
27					101	85			56			
28		52								43		
29											41	
30				52				78				
31	53											

Month	Discharge in second-feet		Run-off	
	Mean	Per square mile	Inches	Acre-feet
October	58.2	1.46	1.68	3,580
November	52.8	1.32	1.47	3,140
December	145	3.62	4.17	8,920
January	52.8	1.32	1.52	3,250
February	177	4.42	4.60	9,830
March	75.6	1.89	2.18	4,650
April	83.8	2.10	2.34	4,990
May	85.3	2.13	2.46	5,240
June	63.0	1.58	1.76	3,750
July	47.2	1.18	1.36	2,900
August	41.8	1.04	1.20	2,570
September	44.2	1.10	1.23	2,630
The year	76.6	1.92	25.97	55,400

NOTE.—Monthly mean discharge is mean of days when gage was read, except December, for which mean discharge was estimated by comparison with discharge of Rogue River above Prospect.

SOUTH FORK OF BIG BUTTE CREEK NEAR BUTTE FALLS, OREG.

LOCATION.—Water-stage recorder in SW. ¼ sec. 11, T. 35 S., R. 2 E., just below Ginger Creek and 1 mile above Butte Falls.

RECORDS AVAILABLE.—September, 1910, to October, 1911; August to October, 1915; October, 1917, to September, 1922; March, 1925, to September, 1930. At station at Butte Falls, August, 1922, to March, 1925.

EXTREMES.—Maximum discharge during year, 468 second-feet Feb. 2 (gage height, 1.55 feet); minimum, 45 second-feet Sept. 3, 5 (gage height, 0.37 foot). 1910–11, 1915, 1917–1930: Maximum discharge, 2,470 second-feet Feb. 20, 1927; minimum, that of Sept. 3, 5, 1930.

REMARKS.—Records good except those below 65 second-feet and those estimated, Nov. 27 to Dec. 11, Mar. 14 to Apr. 5, June 1–5, which are poor. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	74		91	188	147		111		75	65	49
2	68	74		91	435	144		109		73	65	49
3	68	74		145	353	144		114	92	70	66	48
4	69	74	76	98	258	140	94	114		68	66	47
5	69	74		98	286	147		109		66	65	47
6	71	74		96	258	144		109	82	65	65	47
7	76	74		88	235	140		111	78	63	63	50
8	78	74		82	309	137	88	106	86	65	62	59
9	78	74	105	86	272	134	86	106	78	62	60	66
10	76	76	105	84	258	127	84	101	78	63	60	70
11	76	76	92	78	262	124	82	99	80	62	60	66
12	78	74	170	80	240	124	80	99	78	63	59	62
13	76	74	135	80	255	127	80	97	78	63	59	62
14	76	74	138	82	240		84	95	78	65	59	60
15	76	74	209	84	230		88	97	78	65	56	57
16	76	76	233	94	208		84	122	78	65	55	53
17	78	76	188	109	191		80	130	77	63	53	53
18	76	76	324	123	180		78	119	78	65	53	53
19	74	76	335	138	187		77	109	80	65	53	52
20	74	74	218	135	195		77	117	95	65	53	50
21	74	74	162	114	183		80	117	93	65	52	50
22	73	74	138	114	176	113	86	109	86	65	52	55
23	73	74	126	109	176		82	101	84	65	52	62
24	73	74	120	109	168		86	95	84	65	52	68
25	73	76	126	103	172		84	93	80	65	50	70
26	73	76	120	98	164		86	93	80	65	49	66
27	73		114	96	160		97	93	80	65	49	66
28	73	76	106	96	153		122	93	78	65	49	70
29	74		103	106	------		117	109	80	66	49	68
30	74		103	123	------		119	106	78	66	49	66
31	74	------	91	148	------		------	102	------	65	49	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	78	68	73.8	4,540
November	74	74	74.8	4,450
December	335	----------	134	8,240
January	148	78	103	6,330
February	435	153	228	12,700
March	147	----------	123	7,560
April	122	77	89.5	5,330
May	130	93	106	6,520
June	----------	77	82.8	4,930
July	75	62	65.3	4,020
August	66	49	56.4	3,470
September	70	47	58.0	3,450
The year	435	47	98.7	71,500

SOUTH FORK OF LITTLE BUTTE CREEK AT BIG ELK RANGER STATION, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 21, T. 37 S., R. 4 E., 1 mile south of Big Elk ranger station and 15 miles southeast of Lakecreek.

RECORDS AVAILABLE.—October, 1926, to September, 1930; incomplete.

EXTREMES.—Maximum discharge recorded during year, 18 second-feet Apr. 12; minimum, 6 second-feet in November, August, and September.

1926–1930: Maximum discharge, 111 second-feet during period Apr. 10 to June 10, 1927; minimum, 5.5 second-feet Oct. 26, 1926.

REMARKS.—Records poor. Stage not recorded on days when no discharge is given. Discharge estimated for periods included in braces. No diversions or regulations above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

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

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October			[a] 8.0	492
November			[a] 6.2	369
May 13–31			[a] 11.2	422
June			[a] 9.0	536
July			[a] 8.0	492
August	7	6	6.8	418
September	8	6	6.9	411

[a] Estimated.

SOUTH FORK OF LITTLE BUTTE CREEK NEAR LAKECREEK, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 29, T. 36 S., R. 2 E., one-fourth mile above intake of Rogue River Valley Canal and 1½ miles southeast of Lakecreek.

RECORDS AVAILABLE.—April, 1921, to September, 1930. At station in sec. 11, T. 37 S., R. 2 E., 5 miles above Lakecreek, November, 1910, to April, 1913.

EXTREMES.—Maximum discharge during year, 500 second-feet Feb. 8 (gage height, 2.80 feet); minimum, 7 second-feet Aug. 8, 9, 12, 15, 16.

1910–1913, 1921–1930: Maximum discharge, 3,000 second-feet Dec. 30, 1924 (gage height, 5.25 feet); minimum, 5 second-feet Dec. 8, 1911; both maximum and minimum very uncertain.

REMARKS.—Records good. Discharge estimated Jan. 19, 20, 27–30. Diversions for irrigation above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	15	14	37	118	111	66	64	46	12	9	8
2	18	15	14	37	296	108	62	60	45	11	9	8
3	18	15	14	35	183	103	62	97	44	11	9	8
4	18	15	17	38	155	99	64	86	46	12	9	9
5	17	14	22	37	183	103	62	75	41	11	10	9
6	18	14	26	36	296	103	58	75	36	11	9	9
7	20	14	26	35	236	94	60	92	36	10	8	9
8	21	14	22	32	390	92	60	94	35	10	8	11
9	19	14	33	35	264	81	56	86	35	11	8	15
10	18	14	56	35	232	75	54	88	26	11	8	18
11	17	15	41	40	240	75	50	83	21	11	8	15
12	16	15	62	40	209	73	51	77	20	11	8	14
13	16	17	46	41	194	77	50	77	18	11	8	12
14	16	15	90	40	236	77	56	75	18	11	8	12
15	16	16	152	41	205	77	62	73	18	12	7	12
16	18	16	147	68	183	75	57	71	18	11	8	12
17	18	16	101	108	168	73	50	70	16	10	8	11
18	18	16	269	133	158	70	46	64	15	11	8	11
19	16	15	296	110	183	66	44	58	17	10	8	10
20	16	15	141	87	220	62	42	60	25	11	9	10
21	16	16	97	64	183	60	42	73	22	10	10	10
22	16	14	73	56	171	68	52	64	19	10	10	11
23	15	15	64	54	164	64	45	56	18	10	10	11
24	15	15	56	51	144	62	45	46	19	10	10	15
25	15	14	54	50	141	60	48	45	20	9	10	15
26	15	14	54	45	130	62	48	42	18	10	10	15
27	15	14	44	52	125	64	57	37	17	10	10	15
28	15	14	41	60	111	66	86	41	15	9	9	18
29	15	14	40	68	------	66	81	52	13	9	8	18
30	15	14	40	76	------	68	81	50	12	9	8	17
31	15	------	40	83	------	68	------	50	------	8	8	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	21	15	16.7	1,030
November	17	14	14.8	881
December	296	14	70.7	4,350
January	133	32	55.6	3,420
February	296	111	197	10,900
March	111	60	77.5	4,770
April	86	42	56.6	3,370
May	97	37	67.1	4,130
June	46	12	25.0	1,490
July	12	8	10.4	640
August	10	7	8.7	535
September	18	8	12.3	732
The year	296	7	50.1	36,200

FISK LAKE RESERVOIR NEAR LAKECREEK, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 3, T. 37 S., R. 4 E., at reservoir outlet 18 miles east of Lakecreek. Gage reads elevation above sea level, irrigation company datum.

DRAINAGE AREA.—17 square miles.

RECORDS AVAILABLE.—December, 1915, to September, 1930.

EXTREMES.—Maximum elevation during year, 4,819.20 feet June 11 (contents, 4,938 acre-feet); minimum, 4,800.96 feet Sept. 13–25 (contents, 98 acre-feet). 1915–1930: Maximum elevation, 4,826.00 feet June 2–5, 1928 (contents, 7,527 acre-feet); minimum contents, practically zero.

REMARKS.—Water diverted during summer from Fourmile Lake in Klamath River Basin through Cascade Canal into Fish Lake. Records furnished by State engineer.

Monthly stage and contents of Fish Lake Reservoir near Lakecreek, Oreg., 1929–30

Date	Gage height in feet	Contents in acre-feet	Change in contents, acre-feet	Date	Gage height in feet	Contents in acre-feet	Change in contents, acre-feet
Sept. 30	4,804.61	612		May 31	4,818.38	4,651	+185
Oct. 31	4,808.68	1,616	+1,004	June 30	4,811.90	2,542	−2,109
Nov. 30	4,811.20	2,332	+716	July 31	4,801.14	114	−2,428
Dec. 31	4,813.80	3,126	+794	Aug. 31	4,801.04	105	−9
Jan. 31	4,815.20	3,575	+449	Sept. 30	4,802.54	261	+156
Feb. 28	4,816.69	4,070	+495				
Mar. 31	4,817.26	4,263	+193	The year			−351
Apr. 30	4,817.85	4,466	+203				

NORTH FORK OF LITTLE BUTTE CREEK AT FISH LAKE, NEAR LAKECREEK, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 4, T. 37 S., R. 4 E., at outlet of Fish Lake, 18 miles east of Lakecreek.

DRAINAGE AREA.—18 square miles.

RECORDS AVAILABLE.—October, 1914, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 158 second-feet July 10 (gage height, 3.50 feet); practically no flow Sept. 29, 30.

1914–1930: Maximum discharge, 153 second-feet Aug. 25, 1927; practically no flow at times.

REMARKS.—Records poor. Flow regulated by storage in Fish Lake Reservoir. Cascade Canal diverts water from Fourmile Lake in Klamath River Basin into Fish Lake Basin; no diversions from creek above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26		6	11	13	14	14			125	28	23
2	26		6	11	13	14	14			123	28	22
3	19		5	11	13	14	15			123	27	22
4	12		6	10	13	14	15			120	28	23
5			6	10	13	14	15			119	27	24
									a 17			
6			7	9	13	14	15			124	26	24
7			8	9	13	14	15			124	26	24
8			8		13	14	16			140	25	24
9			9		13	14	16			152	24	24
10			9		13	14	16			150	24	24
11			9		14	14	16		34	138	24	24
12			10		14	14	16		55	135	24	24
13		a 5	9	a 9	14	14	16		68	131	24	24
14			10		14	14	16		69	122	24	24
15	a 7		10		14	13	17		91	93	23	24
								a 16				
16			10		14	14	17		99	86	24	24
17			9		14	14	16		104	98	24	23
18			10		14	14	16		126	72	24	23
19			10	9	14	14	16		140	58	24	23
20			10	10	14	14	15		138	50	24	23
21			10	11	15	14	16		135	46	24	22
22			10	12	15	14	16		137	44	23	23
23			10	12	15	14	16		140	42	23	22
24			11	12	15	14	16		114	39	22	24
25			10	12	15	14	16		119	36	22	a 24
26	5	5	10	12	15	14			118	35	22	a 24
27		5	10	12	14	14			121	33	22	a 24
28		5	10	12	15	14	a 16		124	31	22	a 12
29	a 5	5	10	12	------	15			125	30	21	0
30		5	10	13	------	14			124	30	22	0
31		------	10	13	------	14	------	17	------	28	22	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	26	----------	8.4	516
November	----------	----------	5.0	298
December	11	5	9.0	553
January	13	----------	10.4	640
February	15	13	13.9	772
March	15	13	14.0	861
April	17	----------	15.7	934
May	----------	----------	16.0	984
June	140	----------	78.4	4,670
July	152	28	86.4	5,310
August	28	21	24.1	1,480
September	24	0	21.5	1,280
The year	152	0	25.3	18,300

a Estimated.

NORTH FORK OF LITTLE BUTTE CREEK ABOVE INTAKE OF ROGUE RIVER VALLEY CANAL, NEAR LAKECREEK, OREG.

LOCATION.—Water-stage recorder 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 Lakecreek.

RECORDS AVAILABLE.—April, 1916, to September, 1919, incomplete; April, 1921, to September, 1930.

EXTREMES.—Maximum discharge during year, 465 second-feet Feb. 1 (gage height, 2.91 feet); minimum, 11 second-feet Sept. 30 (gage height, 0.61 foot). 1916–1919, 1921–1930: Maximum discharge, 1,560 second-feet Dec. 30, 1924 (gage height, 5.42 feet); minimum, 7.3 second-feet Oct. 14, 1926.

REMARKS.—Records good except those estimated Jan. 8–15, which are fair. Flow regulated by storage in Fish Lake Reservoir. Diversions for irrigation above gage. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	19	20	28	109	46	33	28	16	125	22	18
2	39	19	20	28	126	46	33	32	17	125	22	17
3	27	19	19	28	65	46	32	64	19	119	21	15
4	17	17	20	37	53	44	32	43	21	119	19	15
5	13	16	20	33	54	44	28	40	16	119	19	15
6	14	17	20	32	62	43	28	44	19	121	18	15
7	19	17	20	30	59	42	28	52	17	123	19	18
8	18	18	23		107	42	27	50	16	130	19	28
9	21	18	34		67	40	26	43	15	144	19	29
10	19	17	34		68	40	26	39	14	140	18	23
11	18	17	27	25	65	39	24	38	30	128	20	22
12	18	17	50		58	39	18	21	58	127	20	19
13	17	16	27		54	39	15	25	72	123	18	18
14	16	17	33		47	39	15	22	72	121	18	18
15	15	17	68		58	42	18	26	87	100	18	19
16	16	17	42	60	53	40	18	21	100	89	19	19
17	16	17	50	78	48	39	19	17	103	103	17	18
18	16	18	103	109	47	38	20	24	119	83	17	19
19	15	18	96	78	44	38	18	17	144	65	16	19
20	14	18	43	52	52	38	18	18	140	53	16	19
21	14	18	34	40	48	38	23	18	132	44	16	17
22	14	18	31	37	46	39	20	15	136	40	16	16
23	14	18	29	38	50	37	20	18	138	37	17	19
24	15	18	28	38	47	37	17	18	123	32	18	35
25	15	18	29	37	48	37	16	18	127	29	20	25
26	15	19	28	35	47	35	17	17	128	31	21	15
27	15	20	28	35	50	35	26	15	121	31	21	17
28	16	20	28	37	48	35	50	23	123	30	16	25
29	17	20	27	38	------	33	44	20	125	27	15	15
30	17	20	27	46	------	33	32	18	125	27	16	12
31	18	------	27	44	------	34	------	16	------	25	17	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	39	13	17.5	1,080
November	20	16	17.9	1,070
December	103	19	35.0	2,150
January	109	------	39.3	2,420
February	126	44	60.0	3,330
March	46	33	39.3	2,420
April	50	15	24.7	1,470
May	64	15	27.7	1,700
June	144	14	79.1	4,710
July	144	25	84.2	5,180
August	22	15	18.3	1,130
September	35	12	19.3	1,150
The year	144	12	38.4	27,800

DIVERSIONS FROM LITTLE BUTTE CREEK NEAR LAKECREEK, OREG.

Hanley South and Hanley North Canals divert from North Fork of Little Butte Creek in SE. ¼ sec. 26, T. 36 S., R. 2 E.; water used to irrigate land on both sides of Little Butte Creek near Lakecreek. Rogue River Valley Canal diverts from South Fork of Little Butte Creek in SE. ¼ sec. 29, T. 36 S., R. 2 E., and from North Fork of Little Butte Creek in NE. ¼ sec. 20, T. 36 S., R. 2 E.; water used for irrigation of about 15,000 acres of land, chiefly in Bear Creek Basin, on both sides of creek below Phoenix. Eagle Point Canal diverts from Little Butte Creek in SE. ¼ sec. 31, T. 35 S., R. 1 E.; water used for irrigation of lands near Eagle Point. There are many other smaller diversions from Little Butte Creek and tributaries.

Records available from April, 1929, to September, 1930; records of some of the canals published separately prior to 1929.

Records furnished by State engineer.

Monthly diversions, in acre-feet, from Little Butte Creek near Lakecreek, Oreg., 1930

Month	Hanley South Canal	Hanley North Canal	Rogue River Valley Canal below junction of intakes	Eagle Point Canal
April	[a]171	[a]355	2,510	[b]445
May	375	701	3,690	842
June	577	780	5,660	791
July	480	689	5,060	793
August	406	652	603	719
September	330	556	910	738
The period	2,339	3,733	18,433	4,328

[a] Apr. 15–30; no record Apr. 1–14.

[b] Apr. 9–30; no record Apr. 1–8.

NOTE.—No record for months for which discharge is not given.

EMIGRANT GAP RESERVOIR NEAR ASHLAND, OREG.

LOCATION.—Staff gage in SE. ¼ sec. 20, T. 39 S., R. 2 E., at Emigrant Gap Dam of Talent Irrigation District, 6 miles southeast of Ashland. Gage readings are elevation above mean sea level.

RECORDS AVAILABLE.—December, 1924, to September, 1930.

EXTREMES.—Maximum elevation during year, 2,173.4 feet May 8–12 (contents, 8,318 acre-feet); no storage Aug. 18 to Sept. 30.

1924–1930: Maximum elevation, 2,175.2 feet Feb. 20, 1927 (contents, 8,748 acre-feet); no storage at times.

REMARKS.—This reservoir was completed in 1924 by the Talent Irrigation District to provide water for lands under East and Talent laterals in vicinity of Talent, Oreg. Natural flow into reservoir may be augmented by water stored in Hyatt Prairie Reservoir and released through Keene Creek Canal in Klamath River Basin, records of which are published in Water-Supply Paper 706. Records furnished by State engineer.

Monthly stage and contents of Emigrant Gap Reservoir, 1929–30

Date	Gage height in feet	Contents in acre-feet	Change in contents, acre-feet	Date	Gage height in feet	Contents in acre-feet	Change in contents, acre-feet
Sept. 30		[a]440		May 31	2,172.20	8,040	−172
Oct. 31		[a]453	+13	June 30	2,154.20	4,662	−3,378
Nov. 30		[a]465	+12	July 31		[a]500	−4,162
Dec. 31		[a]2,550	+2,085	Aug. 31		0	−500
Jan. 31		[a]4,372	+1,822	Sept. 30		0	0
Feb. 28	2,171.35	7,847	+3,475				
Mar. 31	2,173.10	8,248	+401	The year			−440
Apr. 30	2,172.95	8,212	−36				

[a] Estimated.

EMIGRANT CREEK NEAR ASHLAND, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 20, T. 39 S., R. 2 E., 500 feet below Emigrant Gap Reservoir Dam and 6 miles southeast of Ashland.

RECORDS AVAILABLE.—January, 1920, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 42 second-feet July 2 (gage height, 1.45 feet); practically no flow Oct. 1 to Apr. 19, Sept. 1–30.

1920–1930: Maximum discharge, 5,260 second-feet Feb. 20, 1927; no flow at times.

REMARKS.—Records good. Discharge estimated May 1, 2, July 31, Aug. 31. Diversions for irrigation above station; principal canals are Ashland lateral and East lateral. Keene Creek Canal diverts water into Emigrant Creek from Klamath River Basin. Flow regulated by storage in Emigrant Gap Reservoir. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1930

Day	May	June	July	Aug.	Day	May	June	July	Aug.
1	4	3	37	9	16	17	32	36	11
2	7	3	37	9	17	14	30	37	4
3	8	3	37	9	18	12	32	36	2
4	17	3	32	9	19	9	34	37	2
5	24	3	33	9	20	7	34	37	2
6	22	3	32	13	21	5	33	34	2
7	23	3	32	14	22	5	33	28	1
8	26	3	34	21	23	4	33	28	1
9	27	8	38	22	24	4	33	30	1
10	27	17	37	21	25	4	34	29	1
11	32	20	37	20	26	4	32	26	1
12	29	23	36	19	27	4	32	26	1
13	26	27	36	18	28	10	33	24	1
14	24	30	36	17	29	8	34	24	1
15	19	30	33	15	30	3	34	24	1
					31	2		16	1

Month	Maximum	Minimum	Mean	Run-off in acre-feet
April			[a] 1.0	60
May	32	2	13.8	848
June	34	3	22.4	1,330
July	38	16	32.2	1,980
August	22	1	8.3	510
The period	38	0	6.54	4,730

[a] Estimated.

NOTE.—No flow Oct. 1 to Apr. 19, Sept. 1–30.

BEAR CREEK AT MEDFORD, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 30, T. 37 S., R. 1 W., just above Main Street Bridge in Medford.

RECORDS AVAILABLE.—March, 1915, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 299 second-feet Feb. 8 (gage height, 2.20 feet); minimum, 1 second-foot Aug. 26–28, Sept. 3 (gage height, 0.10 foot).

1915–1930: Maximum discharge, 10,200 second-feet Feb. 20, 1927 (gage height, 10.15 feet); practically no flow at times.

REMARKS.—Records good except those below 10 second-feet and those estimated, which are fair. Diversions for irrigation above station. Flow partly regulated by storage in Emigrant Gap Reservoir. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	21	23	*57	100	67	57	67	21	6	2	2
2	13	24	22	*61	*109	65	49	65	29	7	2	2
3	13	24	23	*64	*118	72	42	89	27	7	2	1
4	13	23	25	67	126	81	36	94	25	7	2	2
5	16	22	24	66	131	86	36	94	22	8	2	2
6	16	22	21	61	176	86	34	92	20	8	2	2
7	16	25	21	55	138	85	32	105	13	8	2	2
8	20	23	21	48	277	82	22	110	11	8	2	2
9	22	24	34	52	162	*80	19	111	10	8	2	2
10	25	23	99	47	149	79	16	115	10	8	2	2
11	27	23	76	52	145	78	12	110	8	8	2	3
12	28	23	78		121	78	10	100	6	7	3	3
13	29	27	82		108	76	10	94	6	10	3	3
14	29	27	116		103	76	12	89	5	9	3	3
15	29	24	176		97	75	14	86	6	8	3	3
16	30	27	203		88	*72	12	78	5	8	3	3
17	57	26	115		83	*68	13	74	5	8	3	3
18	62	26	194		78	65	13	66	5	8	3	3
19	56	26	156	*56	79		14	62	6	9	2	3
20	52	26	108		113		12	56	8	8	2	3
21	40	26	85		99		14	52	6	6	3	3
22	36	25	71		94	*64	16	51	6	6	3	4
23	32	26	67		99		19	40	8	5	2	4
24	29	26	62		95		29	36	7	5	2	4
25	24	26	60		94		29	31	6	6	2	4
26	25	26	56		88	63	30	24	6	5	1	4
27	23	26	52	60	85	61	36	15	6	4	1	5
28	22	26	48	57	92	58	42	14	6	4	1	6
29	22	25	45	57	------	57	51	12	6	4	2	5
30	22	23	*49	79	------	56	63	13	7	3	2	5
31	21	------	*53	105	------	57	------	16	------	3	2	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	62	13	27.8	1,710
November	27	21	24.7	1,470
December	203	21	73.1	4,490
January	105	------	*59.0	3,630
February	277	78	116	6,440
March	86	56	*70.0	4,300
April	63	10	26.5	1,580
May	115	12	66.5	4,090
June	29	5	10.4	619
July	10	3	6.7	412
August	3	1	2.2	135
September	6	1	3.1	184
The year	277	1	40.1	29,100

* Estimated.

DIVERSIONS IN BEAR CREEK BASIN, OREG.

Ashland lateral of Talent Irrigation District diverts from Sampson Creek in SW. ¼ sec. 26, T. 39 S., R. 2 E., for irrigation of lands near Ashland; most of flow is contributed by Keene Creek Canal, which diverts from Keene Creek in Klamath River Basin. East lateral of Talent Irrigation District diverts from Emigrant Gap Reservoir in SE. ¼ sec. 20, T. 39 S., R. 2 E., for irrigation of lands chiefly on the east side of Bear Creek Valley above Medford. Talent lateral of Talent Irrigation District diverts from Bear Creek in SW. ¼ sec. 33, T. 38 S., R. 1 E., for irrigation of lands near Talent. Phoenix Canal diverts from Bear Creek in NW. ¼ sec. 23, T. 38 S., R. 1 W., to supplement flow of Medford Irrigation District Canal for irrigation of lands west of Bear Creek. Bear Creek Canal diverts from Bear Creek at Medford for irrigation of lands west of Bear Creek near Central Point. Numerous smaller diversions from Bear Creek and tributaries.

Records are available from April, 1929, to September, 1930; records for some of the canals published separately prior to 1929.

Records furnished by State engineer.

Monthly diversions in acre-feet, in Bear Creek Basin, Oreg., 1930

Month	Ashland lateral	East lateral	Talent lateral	Phoenix Canal	Bear Creek Canal
April	157	791	631	803	----------
May	271	1,030	664	590	148
June	869	2,270	1,820	530	547
July	996	2,810	2,180	344	473
August	368	443	682	123	191
September	42	0	54	226	179
The period	2,703	7,405	6,031	2,886	1,538

NOTE.—Little or no flow in months for which no record is given.

WEST FORK OF ASHLAND CREEK NEAR ASHLAND, OREG.

LOCATION.—Water-stage recorder in sec. 32, T. 39 S., R. 1 E., three-fourths mile above confluence with East Fork and 4 miles south of Ashland.

DRAINAGE AREA.—9.4 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 96 second-feet Dec. 14 (gage height, 2.10 feet); minimum, 2.0 second-feet Sept., 20, 21 (gage height, 0.46 foot).

1924–1930: Maximum discharge, 281 second-feet Feb. 20, 1927 (gage height, 3.15 feet); minimum, 1.4 second-feet Sept. 12, 1924, Aug. 1, 1926.

REMARKS.—Records good except those estimated, Jan. 8–17, Feb. 9–14, 16–21, which are fair. No diversions or regulation above station. Records furnished by State engineer.

Daily and monthly discharge, second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	2.4	2.4	5.1	8.9	8.9	6.5	9.2	10	4.6	2.9	2.3
2	2.6	2.4	2.4	4.8	21	8.9	6.5	9.8	10	4.6	2.7	2.2
3	2.6	2.3	2.4	4.8	14	8.9	6.2	10	9.8	4.4	2.7	2.2
4	2.4	2.3	2.4	5.0	14	8.9	6.2	9.8	9.5	4.4	2.9	2.2
5	2.3	2.3	2.4	4.8	16	8.6	6.5	9.8	8.9	4.1	2.7	2.2
6	2.6	2.3	2.4	4.6	16	8.3	6.5	10	8.6	4.1	2.7	2.2
7	3.6	2.4	2.3	5.1	16	7.8	6.7	9.8	8.6	3.9	2.7	2.3
8	3.6	2.4	2.7		17	7.8	6.7	9.8	8.3	3.9	2.6	2.9
9	3.1	2.4	12			7.6	6.5	9.8	8.0	3.9	2.6	3.6
10	2.7	2.6	13			7.6	6.2	9.8	7.8	3.9	2.6	3.4
11	2.6	2.6	5.8		[a]14	8.0	6.2	10	7.3	3.9	2.6	3.1
12	2.6	2.6	12			8.3	6.5	10	7.1	3.8	2.6	2.7
13	2.4	2.6	8.3	[a]5.3		8.3	7.3	10	6.7	3.8	2.6	2.7
14	2.4	2.6	53			7.6	7.8	11	6.7	3.6	2.6	2.4
15	2.4	2.4	30		10	7.6	7.3	11	6.2	3.6	2.6	2.3
16	2.6	2.4	22			7.3	6.9	10	6.0	3.6	2.6	2.3
17	2.9	2.4	18			7.3	6.9	9.8	5.8	3.6	2.6	2.2
18	2.7	2.4	20	5.5		7.3	6.7	9.8	5.6	3.6	2.6	2.2
19	2.7	2.4	22	5.3	[a]11	7.1	6.7	9.8	6.0	3.6	2.6	2.2
20	2.4	2.4	15	5.0		7.1	6.7	10	6.5	3.6	2.6	2.1
21	2.4	2.3	12	5.0		6.9	8.3	10	6.0	3.6	2.4	2.1
22	2.4	2.4	10	4.6	12	6.9	8.9	9.5	5.6	3.6	2.3	2.3
23	2.3	2.4	9.2	4.6	11	6.7	8.6	8.9	5.6	3.3	2.2	2.4
24	2.3	2.4	8.0	4.4	11	6.7	8.6	9.2	5.5	3.3	2.3	3.4
25	2.3	2.6	7.1	4.4	10	6.7	8.6	8.9	5.3	3.1	2.3	2.7
26	2.3	2.6	6.5	4.3	10	6.9	8.6	8.9	5.1	3.1	2.3	2.4
27	2.3	2.6	6.2	4.1	9.8	7.1	9.2	8.9	5.1	3.1	2.3	2.4
28	2.4	2.6	5.8	4.1	9.2	7.1	9.8	10	5.0	3.4	2.3	3.6
29	2.4	2.4	5.6	4.4	------	7.1	9.8	9.5	4.8	3.1	2.3	3.9
30	2.4	2.4	5.5	5.6	------	6.9	9.8	9.8	4.6	2.9	2.3	3.1
31	2.4	------	5.1	6.9	------	6.7	------	9.5	------	2.9	2.3	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3.6	2.3	2.57	158
November	2.6	2.3	2.44	145
December	53	2.3	10.7	658
January	6.9	------	5.01	308
February	------	------	12.7	705
March	8.9	6.7	7.58	466
April	9.8	6.2	7.46	444
May	11	8.9	9.75	600
June	10	4.6	6.87	409
July	4.6	2.9	3.67	226
August	2.9	2.2	2.53	156
September	3.9	2.1	2.60	155
The year	53	2.1	61.2	4,430

[a] Interpolated.

EAST FORK OF ASHLAND CREEK NEAR ASHLAND, OREG.

LOCATION.—Water-stage recorder in sec. 28, T. 39 S., R. 1 E., one-fourth mile above confluence with West Fork, 100 yards above diversion for power plant, and 3½ miles south of Ashland.

DRAINAGE AREA.—7.8 square miles.

RECORDS AVAILABLE.—September, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 91 second-feet Dec. 14 (gage height, 2.18 feet); minimum, 2 second-feet, frequently in October, November, December, August, and September.

1924–1930: Maximum discharge, 292 second-feet Feb. 20, 1927 (gage height, 3.5 feet); minimum, 1.3 second-feet Aug. 25, 1926.

REMARKS.—Records poor. Discharge interpolated Jan. 7–12. No regulation or diversions above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	3	2	6	8	9	7	9	11	6	3	2
2	2	3	2	6	16	9	7	10	12	6	3	2
3	2	3	2	6	12	9	7	10	11	5	3	2
4	2	3	2	6	12	9	6	10	11	5	3	2
5	2	3	2	6	14	9	7	10	10	5	3	2
6	2	3	2	6	14	8	7	11	10	5	3	2
7	4	3	2		15	8	7	10	9	5	3	2
8	4	3	3		16	8	7	10	9	5	2	3
9	3	3	20		15	8	7	11	9	4	2	3
10	3	3	20	6	15	8	7	11	9	4	2	3
11	3	3	7		15	8	7	10	9	4	2	3
12	3	3	20		14	9	7	10	9	4	2	3
13	3	3	16	5	13	8	7	10	9	4	2	3
14	3	3	48	5	14	8	8	11	9	4	2	3
15	3	3	32	5	13	8	8	10	9	4	2	3
16	3	3	24	6	12	8	8	10	9	4	2	2
17	3	3	20	5	12	8	8	10	8	4	2	2
18	3	3	22	5	11	7	7	10	8	4	3	2
19	3	3	21	5	15	7	7	10	9	4	2	2
20	3	3	17	5	15	7	7	11	8	3	2	2
21	3	2	14	5	14	7	8	10	8	3	2	2
22	3	2	13	5	13	7	9	10	7	3	2	2
23	3	2	11	5	13	7	9	9	7	3	2	2
24	2	2	10	5	12	7	9	9	7	3	2	3
25	2	2	9	5	12	7	9	10	7	3	2	3
26	2	2	8	5	12	8	9	10	7	3	2	2
27	3	2	7	5	11	8	9	10	6	3	2	2
28	3	2	7	5	10	8	10	11	6	3	2	3
29	3	2	7	5	------	8	9	11	6	3	2	4
30	3	2	7	7	------	8	9	10	6	3	2	3
31	3	------	6	6	------	7	------	10	------	3	2	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	4	2	2.8	172
November	3	2	2.7	161
December	48	2	12.4	762
January	7	----------	5.5	338
February	16	8	13.1	728
March	9	7	7.9	486
April	10	6	7.8	464
May	11	9	10.1	621
June	12	6	8.5	506
July	6	3	3.9	240
August	3	2	2.3	141
September	4	2	2.5	149
The year	48	2	6.6	4,770

APPLEGATE RIVER NEAR RUCH, OREG.

LOCATION.—Water-stage recorder in sec. 15, T. 39 S., R. 3 W., at Cameron Bridge, 1½ miles above mouth of Little Applegate River and 4½ miles south of Ruch.

RECORDS AVAILABLE.—June, 1911, to September, 1914; September, 1925, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 5,420 second-feet Dec. 14 (gage height, 6.58 feet); minimum, 14 second-feet Aug. 12, 13 (gage height, 0.36 foot).

1911–1914, 1925–1930: Maximum discharge (estimated), 20,000 second-feet Feb. 20, 1927 (gage height, 16.0 feet); minimum, 7 second-feet Sept. 2, 1929.

REMARKS.—Records good except those estimated, which are fair. Diversions for irrigation above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 19	32	a 33	183	610	512	380	329	152	53	28	25
2	a 19	30	33	174	1,450	482	352	329	160	50	32	22
3	a 19	33	32	166	940	464	324	370	157	46	32	19
4	a 19	35	30	186	805	470	295	347	149	45	28	18
5	19	35	30	189	1,140	464	257	338	146	45	27	16
6	19	33	30	183	1,180	454	242	329	142	42	25	15
7	25		29	169	1,100	432	268	312	132	40	22	15
8	43		28		1,020	420	a 274	304	122	39	22	17
9	42		253		842	400	a 280	295	115	37	19	25
10	40		655		741	385	a 286	272	108	37	17	27
11	37		334	a 152	769	405	291	264	106	35	16	27
12	37		762		668	464	291	257	101	35	15	25
13	36		940		616	500	320	257	99	33	15	23
14	36		2,590		622	476	329	257	95	33	15	22
15	33		2,370	166	572	448	304	235	93	32	15	22
16	32		1,750	a 210	536	415	304	215	88	33	17	21
17	35		918	a 310	500	390	291	199	88	35	17	21
18	36	a 33	1,320	334	494	370	300	183	88	39	17	19
19	30		1,270	320	776	360	304	189	88	39	17	18
20	29		812	304	1,320	365	312	196	103	40	17	18
21	25		610	279	1,020	375	405	183	84	37	17	18
22	22		482	260	932	405	442	180	80	29	17	18
23	23		400	249	895	395	365	171	76	25	18	a 20
24	25		352	246	783	395	352	166	76	27	18	a 23
25	24		334	242	734	405	338	163	74	29	19	a 26
26	23		304	239	668	437	329	157	66	29	25	28
27	27		268	232	616	518	352	149	62	25	28	32
28	30		246	228	554	542	400	157	64	28	29	36
29	35		225	291	------	584	352	166	60	32	29	35
30	36		211	454	------	542	342	166	57	33	27	36
31	35	------	196	629	------	448	------	157	------	29	27	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	43	19	29.3	1,800
November	36	29	33.0	1,960
December	2,590	28	576	35,400
January	629	------	236	14,500
February	1,450	494	818	45,400
March	584	360	443	27,200
April	442	242	323	19,200
May	370	149	235	14,400
June	160	57	101	6,010
July	53	25	35.8	2,200
August	32	15	21.5	1,320
September	36	15	22.9	1,360
The year	2,590	15	236	171,000

a Estimated.

ILLINOIS RIVER AT KERBY, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 4, T. 39 S., R. 8 W., at Kerby.
RECORDS AVAILABLE.—March, 1926, to September, 1930.
EXTREMES.—Maximum discharge during year, 17,100 second-feet Dec. 14 (gage height, 8.70 feet); minimum, 29 second-feet Aug. 25–28, Sept. 6, 7. 1926–1930: Maximum discharge (estimated), 50,000 second-feet Feb. 20, 1927 (gage height, 19.6 feet); minimum, 18 second-feet Aug. 12, 13, 1926.
REMARKS.—Records good except those for Dec. 10–20, which are fair. Diversions for irrigation above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	40	40	715	2,580	1,450	715	670	311	53	34	30
2	30	37	40	630	7,800	1,330	715	590	342	53	33	30
3	30	37	40	590	3,980	1,270	670	670	311	52	34	30
4	30	35	40	1,220	2,780	1,580	630	630	311	52	34	30
5	32	37	40	1,050	3,580	1,650	590	550	282	52	33	30
6	32	38	40	950	2,580	1,580	590	510	254	47	34	29
7	32	40	40	805	2,240	1,450	590	510	227	47	33	29
8	32	40	47	760	2,100	1,330	590	510	227	46	31	36
9	32	40	62	715	1,810	1,160	550	475	200	45	30	37
10	32	37	3,700	670	1,580	1,110	510	440	164	45	30	38
11	32	43	10,600	590	1,810	1,050	510	422	116	45	32	35
12	32	47	11,500	590	1,580	1,110	405	405	116	43	30	34
13	32	40	4,850	550	1,390	1,110	475	405	116	42	30	34
14	34	40	17,100	550	1,330	1,050	510	405	116	40	30	34
15	34	40	9,640	550	1,160	1,000	510	405	116	43	30	34
16	37	40	12,200	550	1,110	950	475	373	116	40	30	34
17	40	40	7,500	590	1,000	900	440	358	100	40	30	34
18	43	40	8,100	590	950	850	440	342	90	40	30	34
19	47	40	4,850	1,810	3,180	805	440	311	78	39	30	34
20	40	40	3,580	1,900	6,650	805	422	296	90	39	30	34
21	40	40	1,900	1,900	3,780	760	475	550	78	39	30	34
22	40	40	1,730	1,810	5,850	1,110	550	510	69	38	30	34
23	40	40	1,450	1,510	4,850	1,000	510	440	69	38	30	34
24	40	40	1,220	1,390	3,580	900	475	405	69	38	30	36
25	40	40	1,270	1,390	3,980	900	475	373	85	37	29	39
26	40	40	1,270	1,270	3,180	850	475	342	72	37	29	39
27	40	40	1,160	1,160	2,100	900	590	311	72	37	29	39
28	40	40	1,000	1,050	1,730	900	1,220	342	72	36	29	39
29	40	40	900	2,580	-------	900	950	373	68	34	30	42
30	40	40	805	3,180	-------	850	760	358	64	34	30	43
31	40	-------	715	3,780	-------	760	-------	342	-------	34	30	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	47	30	36.2	2,230
November	47	35	39.7	2,360
December	17,100	40	3,470	213,000
January	3,780	550	1,210	74,400
February	7,800	950	2,870	159,000
March	1,650	760	1,080	66,400
April	1,220	405	575	34,200
May	670	296	439	27,000
June	342	64	147	8,750
July	53	34	42.1	2,590
August	34	29	30.8	1,890
September	43	29	34.6	2,060
The year	17,100	29	820	594,000

COQUILLE RIVER BASIN

SOUTH FORK OF COQUILLE RIVER AT POWERS, OREG.

LOCATION.—Wire gage in sec. 13, T. 31 S., R. 12 W., at bridge at Powers.
DRAINAGE AREA.—169 square miles.
RECORDS AVAILABLE.—September, 1916, to September, 1926; October, 1928, to September, 1930. Prior to 1928 at station half a mile upstream.
EXTREMES.—Maximum discharge during year, 12,700 second-feet Dec. 14 (gage height, 12.10 feet); minimum, 13 second-feet Nov. 30 to Dec. 3 (gage height, 0.62 foot).

1916–1926, 1928–1930: Maximum discharge, 25,300 second-feet Oct. 31, 1924 (gage height, 17.5 feet at former gage); minimum, that of Nov. 30 to Dec. 3, 1929.

REMARKS.—Records fair. Discharge estimated Oct. 1, Feb. 6–8, Mar. 17. No diversions or regulation above gage.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	17	13	309	1,020	910	200	482	309	81	34	23
2	16	17	13	362	1,510	705	200	440	326	77	34	23
3	16	16	13	362	1,140	615	172	570	326	71	32	23
4	16	14	14	910	910	1,140	230	570	344	55	32	23
5	16	14	14	1,140	1,080	1,080	186	526	326	57	32	23
6	16	14	16	755	1,000	910	172	504	292	57	32	25
7	17	16	16	660	1,000	965	147	526	292	55	32	25
8	23	16	16	548	1,300	855	147	526	260	52	32	32
9	21	27	21	362	1,020	615	147	461	215	55	30	34
10	21	38	700	344	910	705	138	440	200	57	30	36
11	19	27	600	344	965	548	138	362	172	57	30	36
12	19	23	3,200	344	805	504	138	292	160	55	29	34
13	19	23	1,960	309	660	482	105	292	147	55	29	32
14	19	21	12,500	292	570	440	172	292	147	52	27	32
15	21	19	4,750	292	570	420	160	276	147	52	27	30
16	21	19	2,750	526	526	381	129	276	138	52	27	27
17	31	19	2,530	1,140	482	345	121	260	121	52	27	25
18	29	19	2,970	1,580	420	309	134	230	125	47	27	25
19	29	19	3,810	1,880	660	292	147	186	121	45	27	23
20	29	19	2,750	1,800	3,810	260	172	200	121	45	27	23
21	27	17	1,880	1,580	2,750	245	215	400	117	43	27	23
22	25	17	1,720	910	2,230	910	200	504	105	45	27	22
23	25	17	1,020	910	2,750	482	186	482	94	43	27	21
24	21	17	755	805	1,880	420	172	400	94	43	27	29
25	19	17	755	705	1,800	381	160	326	91	41	25	60
26	17	16	705	615	1,580	326	172	309	84	38	25	50
27	19	16	570	526	1,140	292	705	276	84	38	25	36
28	19	16	482	504	1,020	260	910	260	84	36	25	41
29	17	14	400	1,580	-------	245	705	326	84	36	25	50
30	16	13	344	1,260	-------	230	615	326	81	36	25	43
31	16	-------	276	1,140	-------	215	-------	292	-------	36	23	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	31	16	20.5	0.121	0.14	1,260
November	38	13	18.6	.110	.12	1,110
December	12,500	13	1,530	9.05	10.43	94,100
January	1,880	292	800	4.73	5.45	49,200
February	3,810	420	1,270	7.51	7.82	70,500
March	1,140	215	532	3.15	3.63	32,700
April	910	105	240	1.42	1.58	14,300
May	570	186	375	2.22	2.56	23,100
June	344	81	174	1.03	1.15	10,400
July	81	36	50.5	.299	.34	3,110
August	34	23	28.3	.167	.19	1,740
September	60	21	31.0	.183	.20	1,840
The year	12,500	13	419	2.48	33.61	303,000

MIDDLE FORK OF COQUILLE RIVER NEAR BRIDGE, OREG.

LOCATION.—Chain gage in or near sec. 36, T. 29 S., R. 11 W., at private road bridge 4 miles east of Bridge.

DRAINAGE AREA.—182 square miles.

RECORDS AVAILABLE.—October, 1928, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,350 second-feet Dec. 19 (gage height, 7.0 feet); minimum, 1 second-foot Sept. 19, 20.

1928–1930: Maximum discharge, 4,430 second-feet Apr. 14, 1929 (gage height, 8.2 feet); minimum, 1 second-foot Aug. 8, 23, 24, 1929, Sept. 19, 20, 1930.

REMARKS.—Records poor. No diversions above station. Flow regulated completely during low-water periods, and to some extent at all times, by logging ponds above gage.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	10	4	225	830	655	33	10	103	37	18	22
2	3	11	2	57	1,270	620	59	77	113	32	20	19
3	3	9	2	47	1,040	452	20	162	86	37	21	21
4	6	5	4	225	830	900	21	176	176	37	30	21
5	3	10	5	1,040	760	420	41	282	162	24	24	20
6	2	9	5	830	620	518	21	117	134	2	24	16
7	5	9	4	518	620	305	24	138	150	2	28	17
8	3	7	6	150	360	121	37	620	162	9	28	19
9	6	5	6	390	390	360	9	360	125	9	22	20
10	5	8	22	260	970	305	15	305	110	13	21	17
11	9	10	30	69	690	138	18	138	103	14	28	21
12	7	10	1,750	158	690	162	24	138	93	21	27	16
13	6	10	550	162	518	225	57	99	83	21	22	10
14	8	20	2,570	162	690	117	67	117	32	15	25	15
15	7	2	1,590	190	620	72	22	57	39	5	24	16
16	8	2	1,350	282	620	134	15	162	69	2	21	15
17	10	2	900	620	585	162	15	99	69	5	22	14
18	6	2	2,830	1,040	305	99	32	32	225	9	25	12
19	2	2	3,350	1,270	332	99	41	37	57	5	24	1
20	8	2	1,510	1,830	1,430	89	55	28	15	6	20	1
21	10	2	900	1,190	2,070	93	69	75	21	10	24	2
22	11	2	655	900	1,670	190	28	332	15	9	24	2
23	10	2	332	760	4,150	190	72	305	22	2	24	2
24	11	2	452	760	1,670	162	28	260	22	3	14	7
25	7	2	390	452	1,430	117	9	150	2	6	24	8
26	10	2	585	150	1,270	28	49	117	8	6	21	10
27	10	2	190	88	1,040	86	64	47	9	6	22	8
28	10	2	360	150	795	21	138	69	15	15	22	8
29	8	3	282	260	-------	64	83	117	27	12	21	10
30	5	2	125	795	-------	89	110	72	17	21	22	10
31	9	-------	138	970	-------	47	-------	30	-------	17	19	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	11	2	6.8	0.037	0.04	418
November	20	2	5.5	.030	.03	327
December	3,350	2	674	3.70	4.27	41,400
January	1,830	47	515	2.83	3.26	31,700
February	2,150	305	938	5.15	5.36	52,100
March	900	21	227	1.25	1.44	14,000
April	138	9	42.5	.234	.26	2,530
May	620	10	153	.841	.97	9,410
June	225	2	75.5	.415	.46	4,490
July	37	2	13.3	.073	.08	818
August	30	14	22.9	.126	.15	1,410
September	22	1	12.7	.070	.08	756
The year	3,350	1	220	1.21	16.40	159,000

NORTH FORK OF COQUILLE RIVER NEAR MYRTLE POINT, OREG.

LOCATION.—Wire gage in SE. ¼ sec. 10, T. 29 S., R. 12 W., at county bridge 2 miles east of Myrtle Point. Zero of gage, 4.3 feet above mean sea level.
DRAINAGE AREA.—284 square miles.
RECORDS AVAILABLE.—October, 1928, to September, 1930.
EXTREMES.—Maximum discharge during year, 5,700 second-feet Dec. 19 (gage height, 29.36 feet); minimum, 17 second-feet Nov. 9 (gage height, 0.70 foot). 1928–1930: Extremes, those of 1929–30.
REMARKS.—Records fair except those for February and March, which are poor. No diversions above gage. Flow regulated by operation of logging ponds above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	26	21	626	674	1,270	580	348	306	113	32	21
2	27	20	22	674	1,380	1,060	565	293	306	113	31	20
3	28	21	29	738	1,310	935	505	376	293	108	32	22
4	28	19	28	969	1,090	1,070	460	490	320	113	31	23
5	28	20	24	2,420	1,110	1,060	505	320	306	108	32	26
6	27	20	24	2,240	1,060	901	520	306	280	102	34	32
7	26	20	22	1,880	1,220	722	505	490	254	96	34	26
8	24	20	26	1,420	1,270	706	642	1,240	254	91	35	28
9	29	17	28	1,200	1,130	690	520	390	254	91	34	32
10	28	23	96	969	1,060	706	475	565	228	86	37	35
11	27	27	850	802	1,400	580	460	490	216	86	32	37
12	43	31	2,360	738	1,770	535	418	376	228	91	29	36
13	35	47	1,510	626	1,400	460	446	293	254	102	28	35
14	35	35	4,670	580	2,170	446	475	348	180	91	25	35
15	37	23	4,830	626	2,400	390	738	254	168	81	26	34
16	38	18	2,860	706	1,960	475	642	267	157	86	22	32
17	43	26	1,770	1,650	1,560	376	520	293	146	81	26	29
18	52	23	3,570	2,200	1,360	390	475	280	135	71	28	28
19	56	23	5,700	2,620	1,380	390	432	216	228	71	34	25
20	52	20	3,940	3,060	2,010	320	595	293	157	71	38	22
21	43	21	2,420	2,240	3,170	334	475	490	113	52	32	18
22	35	31	1,690	1,690	2,740	722	738	1,220	135	61	28	19
23	34	27	1,270	1,340	3,170	722	475	1,090	135	56	27	21
24	28	26	1,180	1,220	2,860	738	918	786	146	53	28	24
25	26	24	1,110	1,180	2,560	722	446	520	146	43	26	71
26	24	23	1,060	1,020	2,180	690	418	432	140	52	21	102
27	28	21	1,040	722	1,920	642	404	348	135	102	20	61
28	27	23	901	722	1,690	626	1,040	254	124	71	23	81
29	27	22	738	658	-------	626	505	306	113	61	29	102
30	28	23	595	770	-------	595	376	334	113	44	27	66
31	28	-------	690	738	-------	580	-------	320	-------	37	22	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	56	24	32.8	0.115	0.13	2,020
November	47	17	24.0	.085	.09	1,430
December	5,700	21	1,450	5.11	5.89	89,200
January	3,060	580	1,260	4.44	5.12	77,500
February	3,170	674	1,750	6.16	6.42	97,200
March	1,270	320	661	2.33	2.69	40,600
April	1,040	376	542	1.91	2.13	32,300
May	1,240	216	453	1.60	1.84	27,900
June	320	113	199	.701	.78	11,800
July	113	37	80.1	.282	.33	4,930
August	37	20	29.1	.102	.12	1,790
September	102	18	38.1	.134	.15	2,270
The year	5,700	17	537	1.89	25.69	389,000

UMPQUA RIVER BASIN

UMPQUA RIVER NEAR ELKTON, OREG.

LOCATION.—Staff gage in sec. 8, T. 23 S., R. 7 W., at ferry crossing 4 miles south of Elkton.

DRAINAGE AREA.—3,680 square miles.

RECORDS AVAILABLE.—October, 1905, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 62,000 second-feet Dec. 20 (gage height, 19.9 feet); minimum, 756 second-feet Sept. 6–8.

1905–1930: Maximum discharge, 172,000 second-feet Feb. 21, 1927 (gage height, 40.0 feet); minimum, 640 second-feet July 18, 1926.

REMARKS.—Records good except those above 20,000 second-feet, which are fair. Some diversions for irrigation in South Umpqua Basin, but low-water flow probably only slightly affected. No regulation.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	788	828	804	3,580	16,100	8,790	3,440	5,190	2,900	1,270	868	772
2	788	844	804	3,440	26,100	8,300	3,300	4,670	2,900	1,270	868	772
3	788	844	804	3,720	28,100	7,380	3,160	4,340	3,300	1,220	852	772
4	788	844	804	3,720	17,100	7,160	3,030	4,670	3,440	1,220	852	764
5	788	836	804	5,370	13,300	7,600	2,900	4,500	4,020	1,170	852	764
6	788	836	804	7,380	15,800	7,600	2,770	4,180	4,020	1,170	844	756
7	796	820	812	7,380	12,400	7,160	2,700	4,180	3,580	1,120	844	756
8	796	820	820	5,550	11,800	6,330	2,700	4,500	3,300	1,120	844	756
9	852	820	884	5,010	17,100	5,930	2,770	4,670	3,030	1,120	844	764
10	954	836	1,080	4,670	21,000	5,370	2,640	4,340	2,770	1,120	844	772
11	1,040	852	3,160	4,020	21,400	5,010	2,580	4,180	2,510	1,080	836	820
12	990	844	6,530	3,580	21,800	4,840	2,440	3,870	2,320	1,080	836	844
13	936	844	13,900	3,440	14,800	4,670	2,440	3,720	2,200	1,080	828	868
14	884	884	13,900	3,300	15,800	4,670	2,580	3,440	2,080	1,080	828	868
15	884	852	42,400	3,030	15,800	4,500	2,640	3,580	1,960	1,040	820	844
16	860	860	28,900	3,160	15,500	4,340	2,770	3,580	1,840	1,040	812	828
17	868	844	21,400	5,010	13,900	4,180	2,640	3,580	1,790	1,040	812	828
18	860	836	18,100	9,300	9,820	4,020	2,580	3,440	1,680	1,040	812	820
19	927	836	57,600	13,000	10,400	3,720	2,510	3,160	1,620	990	812	804
20	927	828	44,500	20,200	19,900	3,440	2,440	3,030	1,620	972	812	788
21	892	820	16,500	15,800	22,900	3,440	2,510	3,300	1,570	972	812	780
22	884	820	10,700	11,500	19,500	3,580	2,840	3,720	1,570	963	812	772
23	860	820	7,830	8,790	18,500	5,370	4,020	4,340	1,570	963	796	764
24	836	820	6,740	8,300	17,800	5,190	4,180	4,180	1,520	954	780	804
25	836	820	6,330	8,060	17,500	4,670	3,300	3,720	1,420	945	780	844
26	820	820	5,740	7,380	19,200	4,340	3,160	3,440	1,370	918	780	963
27	804	820	5,550	6,740	15,800	4,180	3,030	3,160	1,370	892	772	1,040
28	804	804	5,370	6,130	11,500	4,020	3,160	2,900	1,370	876	772	936
29	828	804	4,670	5,930	-------	3,870	5,930	2,770	1,370	860	772	968
30	852	804	4,180	9,560	-------	3,720	5,740	2,900	1,320	884	772	1,080
31	836	-------	3,720	15,200	-------	3,720	-------	2,900	-------	876	772	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1,040	788	857	0.233	0.27	52,700
November	884	804	832	.226	.25	49,500
December	57,600	804	10,800	2.93	3.38	664,000
January	20,200	3,030	7,140	1.94	2.24	439,000
February	28,100	9,820	17,200	4.67	4.86	955,000
March	8,790	3,440	5,200	1.41	1.63	320,000
April	5,930	2,440	3,100	.842	.94	184,000
May	5,190	2,770	3,810	1.04	1.20	234,000
June	4,020	1,320	2,240	.609	.68	133,000
July	1,270	860	1,040	.283	.33	64,000
August	868	772	817	.222	.26	50,200
September	1,080	756	830	.226	.25	49,400
The year	57,600	756	4,420	1.20	16.29	3,190,000

COW CREEK NEAR AZALEA, OREG.

LOCATION.—Staff gage in sec. 33, T. 31 S., R. 4 W., 4 miles northeast of Azalea.
RECORDS AVAILABLE.—April, 1926, to September, 1930; incomplete.
EXTREMES.—Maximum discharge during year (estimated), 2,800 second-feet Dec. 14 (gage height not determined); minimum, 5 second-feet Oct. 1–5, Sept. 4–6. 1926–1930: Maximum discharge, that of Dec. 14, 1929; minimum, 4 second-feet Sept. 9–19, 1929.
REMARKS.—Records good except those in May and August and those estimated, Oct. 1–5, Dec. 12, 14, and 15, which are poor. Minor diversions for irrigation above station. Records furnished by State engineer.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5	10	11	46	235	151	43	46	40	16	10	7
2		10	11	49	399	140	40	53	42	14	9	7
3		10	11	49	300	140	38	64	43	14	10	6
4		10	11	73	220	137	38	70	55	14	9	5
5		10	11	77	235	137	36	58	42	14	10	5
6	14	10	12	68	198	134	34	64	38	14	10	5
7	15	10	12	55	198	123	34	68	36	14	9	6
8	14	10	17	53	192	115	33	91	33	15	10	7
9	13	10	49	58	189	104	31	80	31	14	10	9
10	12	10	284	46	174	94	31	73	30	14	10	13
11	11	10	333	33	162	91	30	66	28	14	9	12
12	10	11	1,200	34	151	102	28	58	26	13	9	10
13	10	11	399	46	145	99	40	62	26	13	9	9
14	10	11	2,800	51	145	94	43	91	25	13	10	8
15	9	10	1,600	48	137	86	48	82	24	13	9	8
16	10	10	399	46	113	82	38	73	22	12	9	7
17	11	10	382	145	104	80	34	64	21	11	9	7
18	14	10	366	160	94	80	33	58	20	11	9	7
19	13	10	399	204	118	70	32	55	20	11	8	7
20	12	10	399	201	399	68	34	58	21	11	8	8
21	12	10	267	145	366	68	73	55	21	11	8	8
22	11	10	118	132	333	86	60	53	21	11	8	7
23	11	10	107	115	316	82	53	46	20	11	7	7
24	11	10	102	104	300	73	48	46	17	10	7	12
25	11	10	102	94	267	64	42	42	15	11	7	13
26	10	10	77	86	235	58	42	38	16	11	6	11
27	9	11	68	80	198	57	49	36	15	10	7	10
28	10	10	62	73	165	53	64	40	17	10	7	10
29	11	10	58	113	-------	51	64	37	17	10	7	11
30	11	10	49	145	-------	48	58	37	16	10	7	10
31	10	-------	48	220	-------	46	-------	36	-------	10	7	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	15	5	10.3	633
November	11	10	10.1	601
December	2,800	11	315	19,400
January	220	33	91.9	5,650
February	399	94	217	12,100
March	151	46	90.7	5,580
April	73	28	42.4	2,520
May	91	36	58.1	3,570
June	55	15	26.6	1,580
July	16	10	12.3	756
August	10	6	8.5	523
September	13	5	8.4	500
The year	2,800	5	73.7	53,400

NORTH UMPQUA RIVER BELOW LAKE CREEK, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 13, T. 26 S., R. 5 E., 200 yards below mouth of Lake Creek and 30 miles southwest of Crescent.

DRAINAGE AREA.—175 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1930.

EXTREMES.—Maximum discharge during year, 710 second-feet while clock was not running, probably Dec. 19 (gage height, 1.60 feet); minimum, 263 second-feet Sept 5 (gage height, 0.76 foot).

1927–1930: Extremes, those of 1929–30.

REMARKS.—Records good except those estimated, Dec. 18 to May 8, which are fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	May	June	July	Aug.	Sept.
1	283	287	283		382	316	291	275
2	283	287	283		382	316	291	275
3	283	287	283		382	312	291	275
4	283	283	283	389	377	312	291	271
5	283	283	283		363	312	287	271
6	287	283	281		354	308	287	271
7	291	283	281	386	354	308	287	275
8	300	283	291	382	354	304	287	279
9	295	283	359	377	350	304	287	279
10	295	287	386	377	346	300	291	279
11	291	287	333	372	342	300	291	279
12	291	287	304	372	337	295	291	275
13	291	291	320	368	337	300	291	275
14	291	291	415	368	333	304	291	275
15	287	287	426	372	333	304	291	271
16	291	291	415	377	333	304	291	271
17	291	287	396	382	329	304	291	271
18	291	287		382	329	304	291	271
19	287	287		382	329	304	287	271
20	291	287		391	329	300	283	271
21	287	279		396	324	295	283	275
22	287	287		391	320	295	283	275
23	283	287		386	316	295	283	275
24	283	287		382	316	295	283	287
25	287	287	395	382	312	295	283	283
26	287	287		377	312	295	283	275
27	291	287		377	312	295	283	279
28	291	287		382	312	295	279	283
29	291	283		386	316	291	279	279
30	291	283		386	316	291	279	275
31	287	-------		382	-------	291	279	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	300	283	289	1.65	1.90	17,800
November	291	279	286	1.63	1.82	17,000
December	-------	281	360	2.06	2.38	22,100
January	-------	-------	[a] 336	1.92	2.21	20,700
February	-------	-------	[a] 442	2.53	2.64	24,500
March	-------	-------	[a] 390	2.23	2.57	24,000
April	-------	-------	[a] 373	2.13	2.38	22,200
May	-------	368	382	2.18	2.51	23,500
June	382	312	338	1.93	2.15	20,100
July	316	291	301	1.72	1.98	18,500
August	291	279	287	1.64	1.89	17,600
September	287	271	276	1.58	1.76	16,400
The year	-------	271	338	1.93	26.19	244,000

[a] Estimated.

NORTH UMPQUA RIVER AT TOKETEE FALLS, OREG.

LOCATION.—Water-stage recorder 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. Zero of gage 2,373.0 feet above mean sea level.

DRAINAGE AREA.—337 square miles.

RECORDS AVAILABLE.—February, 1908, to July, 1909; December, 1914, to November, 1917, incomplete; July, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 3,480 second-feet Dec. 18 (gage height, 4.40 feet); minimum, 545 second-feet Sept. 21, 22.

1908–9, 1914–1917, 1924–1930: Maximum discharge, 4,000 second-feet Feb. 20, 1927 (gage height, 4.65 feet); minimum, 525 second-feet Oct. 21, 1924, Nov. 4, 1926.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	July	Sept.
1	575	570	565			850			
2	570	575	565			850			
3	570	575	565			850			
4	570	570	565	1,410		820			
5	570	570	560				864		
6	580	565	560						
7	586	565	560	1,230	921				
8	610	565	580						
9	598	565	760				850		
10	586	570	850						567
11	580	570	724						
12	580	570	760					630	
13	575	570	760						
14	575	565	1,010						
15	575	565	1,040		850				
16	580	565	978						
17	598	565	850			796			
18	575	565	2,430	1,210					
19	575	565	2,480						
20	570	570	1,430				834		
21	570	570	1,080		839				550
22	570	570	978						550
23	565	570							550
24	565	570							586
25	560	570						616	570
26	560	570	907						560
27	570	570							565
28	565	570			850			608	580
29	565	565			850				565
30	570	565			850				560
31	570				850				

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	610	560	575	1.71	1.97	35,400
November	575	565	568	1.69	1.89	33,800
December	2,480	560	929	2.76	3.18	57,100
January			*760	2.26	2.61	46,700
February			*1,250	3.71	3.86	69,400
March			*878	2.61	3.01	54,000
April			*802	2.38	2.66	47,700
May			*842	2.50	2.88	51,800
June			*737	2.19	2.44	43,900
July			*625	1.85	2.13	38,400
August			*590	1.75	2.02	36,300
September		550	566	1.68	1.87	33,700
The year	2,480	550	758	2.25	30.52	548,000

* Estimated.

NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OREG.

LOCATION.—Water-stage recorder in NW. ¼ sec. 12, T. 26 S., R. 3 W., half a mile above mouth of Rock Creek and 5 miles northeast of Glide.

DRAINAGE AREA.—886 square miles.

RECORDS AVAILABLE.—June, 1924, to September, 1930.

EXTREMES.—Maximum discharge during year, 26,400 second-feet Dec. 19 (gage height, 13.02 feet); minimum, 618 second-feet Aug. 26, 27, Sept. 23 (gage height, 2.08 feet).

1924–1930: Maximum discharge, 61,000 second-feet Feb. 20, 1927 (gage height, 20.18 feet); minimum, that of Aug. 26, 27, Sept. 23, 1930.

REMARKS.—Records good except those above 6,000 second-feet, which are fair. No irrigation diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	673	657	641	1,460	6,450	2,420	1,620	1,980	1,620	870	710	629
2	673	653	637	1,700	11,100	2,320	1,580	1,830	1,880	870	710	629
3	673	653	637	1,580	6,530	2,260	1,500	1,830	1,830	870	710	633
4	673	653	637	1,580	4,480	2,480	1,500	1,740	2,150	870	710	637
5	673	649	637	1,700	5,730	2,540	1,420	1,700	1,980	870	710	637
6	673	649	637	1,580	5,540	2,480	1,420	1,660	1,780	870	710	645
7	703	649	637	1,420	4,650	2,260	1,420	1,660	1,620	870	710	657
8	780	645	645	1,300	6,530	2,150	1,500	1,620	1,540	840	710	674
9	810	649	721	1,270	5,360	1,980	1,420	1,580	1,420	840	710	706
10	760	669	2,290	1,130	5,180	1,830	1,380	1,580	1,340	840	735	710
11	708	685	1,700	1,100	9,620	1,830	1,380	1,540	1,270	840	735	735
12	694	673	3,800	1,160	6,740	1,930	1,340	1,540	1,240	810	760	710
13	690	661	3,200	1,160	5,360	1,930	1,340	1,500	1,160	810	735	674
14	681	657	6,240	1,130	6,320	1,830	1,380	1,460	1,130	810	735	657
15	673	653	6,320	1,100	5,540	1,740	1,420	1,500	1,100	810	760	649
16	685	653	6,100	1,380	4,480	1,700	1,420	1,460	1,060	785	735	653
17	712	653	3,000	3,210	3,740	1,620	1,340	1,420	1,020	785	683	649
18	703	645	15,900	3,140	3,340	1,540	1,300	1,380	990	760	670	641
19	685	645	16,200	4,170	3,880	1,500	1,300	1,340	990	760	670	641
20	677	645	5,920	4,020	5,000	1,460	1,300	1,380	1,020	760	670	637
21	673	645	3,740	2,610	4,650	1,500	1,380	1,780	990	760	653	625
22	665	641	2,670	2,200	4,020	2,320	1,660	2,100	960	760	645	622
23	661	649	2,370	2,200	3,880	2,260	1,500	1,980	930	760	637	625
24	657	645	2,420	2,480	3,470	2,100	1,500	1,780	930	735	633	683
25	653	645	2,320	2,320	3,340	1,980	1,500	1,660	930	735	637	760
26	653	645	2,610	2,100	3,210	1,930	1,460	1,540	900	735	629	679
27	661	645	2,200	1,830	2,950	1,880	1,620	1,460	900	735	625	653
28	685	645	1,880	1,700	2,650	1,830	2,830	1,460	900	735	622	760
29	673	645	1,660	2,420	-------	1,830	2,370	1,580	900	735	625	710
30	661	641	1,580	3,880	-------	1,780	2,200	1,540	900	710	625	661
31	661	-------	1,500	5,540	-------	1,700	-------	1,620	-------	710	625	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	810	653	687	0.775	0.89	42,200
November	685	641	651	.735	.82	38,700
December	16,200	637	3,270	3.69	4.25	201,000
January	5,540	1,100	2,120	2.39	2.76	130,000
February	11,100	2,650	5,130	5.79	6.03	285,000
March	2,540	1,460	1,960	2.21	2.55	121,000
April	2,830	1,300	1,540	1.74	1.94	91,600
May	2,100	1,340	1,620	1.83	2.11	99,600
June	2,150	900	1,250	1.41	1.57	74,400
July	870	710	795	.897	1.03	48,900
August	760	622	685	.773	.89	42,100
September	760	622	666	.752	.84	39,600
The period	16,200	622	1,680	1.90	25.68	1,210,000

NORTH UMPQUA RIVER NEAR GLIDE, OREG.

LOCATION.—Staff gage in SW. ¼ sec. 13, T. 26 S., R. 4 W., 1 mile west of Glide.
DRAINAGE AREA.—1,210 square miles.
RECORDS AVAILABLE.—September, 1915, to May, 1920; October, 1921, to October, 1922; October, 1927, to September, 1930.
EXTREMES.—Maximum discharge during year, 26,100 second-feet Dec. 19 (gage height, 10.40 feet); minimum, 615 second-feet Nov. 27–29 (gage height, 0.90 foot).

1915–1920, 1921–22, 1927–1930: Maximum discharge, 50,000 second-feet Nov. 21, 1921 (gage height, 15.0 feet, present datum); minimum, that of Nov. 27–29, 1929.

Maximum stage known, 22.6 feet, present datum, Nov. 22, 1909 (discharge, estimated, 90,000 second-feet).

REMARKS.—Records good. No diversions or regulation above gage.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	692	683	632	1,950	12,000	3,660	2,090	2,830	1,950	985	727	666
2	692	700	632	2,230	15,600	3,320	2,090	2,520	1,810	985	736	666
3	700	700	649	2,090	8,760	3,320	1,950	2,520	1,810	985	745	666
4	718	700	649	2,090	6,650	3,320	1,810	2,370	2,230	985	736	658
5	736	709	649	1,950	8,760	3,150	1,740	2,370	2,520	935	718	649
6	736	683	666	1,950	9,320	2,830	1,680	2,520	2,230	885	718	649
7	754	683	674	1,950	9,320	2,670	1,810	2,370	2,090	885	718	632
8	754	700	683	1,810	7,860	2,670	1,810	2,370	1,950	876	718	658
9	754	700	1,620	1,740	6,880	2,670	1,740	2,230	1,810	866	718	692
10	772	658	2,990	1,620	7,600	2,370	1,680	2,090	1,740	876	709	745
11	772	658	3,490	1,550	14,300	2,370	1,620	2,090	1,550	866	700	790
12	781	666	5,980	1,740	9,040	2,230	1,550	2,090	1,490	866	700	781
13	781	666	4,380	1,740	7,350	2,090	1,490	2,090	1,430	866	727	718
14	718	674	9,320	1,430	6,880	2,090	1,680	1,950	1,370	885	745	700
15	683	683	7,350	1,430	7,860	2,090	1,740	2,090	1,310	885	790	700
16	700	683	7,350	2,230	6,200	2,090	1,740	1,950	1,260	885	781	683
17	700	683	7,350	5,150	5,980	2,090	1,680	1,810	1,260	876	772	683
18	709	674	23,900	5,560	6,880	1,950	1,620	1,740	1,200	856	754	674
19	727	666	20,300	5,980	7,350	1,950	1,550	1,680	1,200	818	754	666
20	745	649	6,420	6,420	9,320	1,810	1,550	1,950	1,200	800	736	666
21	745	649	4,380	5,350	6,880	1,950	1,680	2,370	1,200	790	718	649
22	754	632	3,660	4,380	6,200	3,320	1,810	2,370	1,140	790	709	666
23	754	632	3,660	3,490	6,420	2,990	1,950	2,370	1,140	790	700	666
24	727	632	3,490	3,320	6,420	2,670	1,810	2,230	1,090	781	700	736
25	692	632	3,320	3,490	5,560	2,670	1,950	2,090	1,090	772	700	935
26	658	632	2,990	2,830	4,950	2,520	1,950	1,950	1,040	772	700	935
27	674	624	2,670	2,520	4,200	2,370	2,670	1,810	1,040	772	683	985
28	692	615	2,370	2,670	3,840	2,370	4,020	1,810	985	754	683	876
29	700	615	2,090	3,660	-------	2,230	3,660	2,090	985	736	683	809
30	692	632	2,090	4,560	-------	2,230	3,150	2,090	985	727	683	736
31	683	-------	1,950	6,200	-------	2,230	-------	1,950	-------	718	674	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	781	658	722	0.597	0.69	44,400
November	709	615	664	.549	.61	39,500
December	23,900	632	4,460	3.69	4.25	274,000
January	6,420	1,430	3,070	2.54	2.93	189,000
February	15,600	3,840	7,800	6.45	6.72	433,000
March	3,660	1,810	2,530	2.09	2.41	156,000
April	4,020	1,490	1,980	1.64	1.83	118,000
May	2,830	1,680	2,150	1.78	2.05	132,000
June	2,520	985	1,470	1.21	1.35	87,500
July	985	718	847	.700	.81	52,100
August	790	674	720	.595	.69	44,300
September	985	632	724	.598	.67	43,100
The year	23,900	615	2,230	1.84	25.01	1,610,000

LAKE CREEK AT DIAMOND LAKE, NEAR FORT KLAMATH, OREG.

LOCATION.—Staff gage 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.

DRAINAGE AREA.—57 square miles.

RECORDS AVAILABLE.—May, 1922, to September, 1925; October, 1926, to September, 1930. Records incomplete.

EXTREMES.—Maximum discharge recorded during year, 46 second-feet Apr. 25 (gage height, 1.45 feet); minimum, 14 second-feet Sept. 20.

1922–1925, 1926–1930: Maximum discharge, 146 second-feet June 1, 1925 (gage height, 2.13 feet); minimum (estimated), 1.0 second-foot Oct. 22, 1926.

REMARKS.—Records poor. Gage not read on days when discharge is not given. Flow regulated by operation of fish racks at lake outlet and at times by collection of moss on racks. No diversions for irrigation above station.

Daily and monthly discharge, in second-feet, 1930

Day	Apr.	July	Aug.	Sept.	Day	Apr.	July	Aug.	Sept.
1	------	27	17	------	16	41	23	------	------
2	------	26	16	------	17	41	22	------	------
3	------	25	------	------	18	45	19	------	------
4	------	25	------	------	19	44	19	------	------
5	------	25	------	------	20	45	19	------	14
6	------	25	------	------	21	45	19	------	------
7	------	25	------	------	22	44	20	------	------
8	------	24	------	------	23	45	20	------	------
9	------	24	------	------	24	45	20	------	------
10	------	24	------	------	25	46	17	------	------
11	------	23	------	------	26	43	17	------	------
12	------	23	------	------	27	------	20	------	------
13	------	20	------	------	28	------	20	------	------
14	------	22	------	------	29	------	18	------	------
15	------	21	------	------	30	------	21	------	------
					31	------	19	------	------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
July	27	17	21.7	0.381	0.44	1,330

CLEARWATER RIVER ABOVE TRAP CREEK, OREG.

LOCATION.—Water-stage recorder in SE. ¼ sec. 1, T. 27 S., R. 4 E., 150 yards above mouth of Trap Creek and 40 miles east of Glide.

DRAINAGE AREA.—40 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 273 second-feet Dec. 19 (gage height, 1.30 feet); minimum, 113 second-feet Sept. 14–18, 20, 21 (gage height, 0.50 foot).

1927–1930: Extremes, those of 1929–30.

REMARKS.—Records fair. No diversions or regulation above station.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	127	116	128	136	157	153	151	149	130	120	
2	123	127	116	125	141	157	153	151	149	130	120	
3	122	125	116	125	134	157	151	151	149	130	120	
4	122	125	116	127	132	155	151	149	153	128	120	
5	122	125	116	127	170	155	151	147	149	128	120	116
6	122	123	116	125	147	151	153	147	151	128	120	
7	122	123	115	123	157	149	157	145	153	128	120	
8	123	123	118	123	168	149	157	143	149	127	120	
9	123	123	145	123	158	147	155	141	149	127	120	
10	122	123	147	122	168	145	153	141	151	127	118	
11	122	122	127	122	178	147	153	143	147	127	118	115
12	120	122	134	123	170	147	153	143	145	127	118	115
13	120	122	138	123	176	147	153	143	141	127	118	115
14	120	122	178	123	192	147	155	143	141	125	123	113
15	120	122	160	123	186	149	153	145	141	125	120	113
16	120	122	153	127	184	147	153	143	140	123		113
17	122	120	138	125	182	147	151	143	138	123		113
18	120	120	221	123	182	147	151	145	138	123		113
19	120	120	235	122	202	145	153	145	136	123		115
20	120	120	170	120	202	147	153	151	140	123		113
21	120	120	153	120	188	147	158	149	136	122		113
22	120	120	145	120	184	147	162	147	136	122		115
23	120	118	140	120	180	147	160	145	134	122		115
24	122	118	136	120	174	145	162	145	132	120	117	118
25	122	118	138	120	170	145	160	145	132	120		116
26	122	118	132	120	166	147	157	145	132	120		116
27	125	118	128	120	162	147	157	147	132	120		116
28	125	118	128	120	158	151	155	149	130	120		120
29	127	118	128	122	-------	153	153	149	130	120		116
30	128	118	128	122	-------	153	151	147	130	120		116
31	127	-------	127	122	-------	153	-------	147	-------	120		------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	128	120	122	3.05	3.52	7,500
November	127	118	121	3.02	3.37	7,200
December	235	115	141	3.52	4.06	8,670
January	128	120	123	3.08	3.55	7,560
February	202	132	170	4.25	4.43	9,440
March	157	145	149	3.72	4.29	9,160
April	162	151	155	3.88	4.33	9,220
May	151	141	146	3.65	4.21	8,980
June	153	130	141	3.52	3.93	8,390
July	130	120	124	3.10	3.57	7,620
August	123	----------	118	2.95	3.40	7,260
September	120	113	115	2.88	3.21	6,840
The year	235	113	135	3.38	45.87	97,800

SILETZ RIVER BASIN

SILETZ RIVER AT SILETZ, OREG.

LOCATION.—Staff gage 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; replaced Sept. 13 by wire gage in same section, three-eighths mile downstream.

DRAINAGE AREA.—204 square miles.

RECORDS AVAILABLE.—November, 1905, to May, 1912; January, 1924, to September, 1930; incomplete.

EXTREMES.—Maximum discharge during year, 11,500 second-feet Feb. 7 (gage height, 10.0 feet; minimum, 51 second-feet Dec. 6, 7.

1905–1912, 1924–1930: Maximum discharge, 34,600 second-feet Nov. 22, 1909 (gage height, 24.6 feet); minimum, that of Dec. 6, 7, 1929.

Maximum known flood, 40,800 second-feet Nov. 20, 1921 (gage height, 28.2 feet at present gage).

REMARKS.—Records poor except those in September, which are good. Discharge estimated Nov. 4–15, May 16, 17, June 4–6, Aug. 17–21, 23–27. No diversions above station. Flow regulated slightly at low and medium stages by operation of logging pond at Valsetz.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	113	68	1,800	4,660	4,000	1,160	1,160	750	222	136	100
2	97	97	63	1,720	5,900	3,780	1,020	1,090	685	195	136	97
3	103	70	59	1,640	5,780	3,340	950	1,240	625	189	130	92
4	113	68	59	2,150	5,320	2,900	1,320	1,240	690	189	130	92
5	113	67	55	2,150	5,780	2,510	1,480	1,160	780	192	125	87
6	113	66	51	1,970	6,500	2,240	1,480	1,160	670	186	125	87
7	119	65	51	1,880	9,550	1,970	1,480	1,090	625	173	130	92
8	173	65	77	1,800	11,000	1,480	1,480	1,020	595	173	125	97
9	205	64	2,240	1,720	6,740	1,320	1,400	950	595	161	125	92
10	239	64	3,560	1,640	5,320	1,240	1,400	950	565	161	113	97
11	222	64	3,120	1,560	4,880	1,160	1,320	880	565	164	113	92
12	205	63	2,060	1,560	4,660	1,160	1,320	848	510	158	103	87
13	186	63	2,510	1,480	4,220	1,090	1,320	815	455	151	103	84
14	186	63	9,160	1,400	5,430	1,020	1,240	782	430	151	103	84
15	192	63	6,140	1,320	4,770	1,020	1,240	750	405	145	103	82
16	205	63	5,320	1,240	3,560	950	1,240	620	382	154	103	79
17	205	68	4,220	1,090	3,120	950	1,160	490	360	154	102	74
18	192	73	4,440	1,020	5,320	915	1,090	360	360	142	101	70
19	186	73	4,220	880	4,660	880	1,090	1,020	316	142	100	67
20	186	87	3,120	815	5,430	880	1,160	2,060	296	142	99	63
21	192	82	2,060	815	6,500	950	1,320	2,800	296	151	98	65
22	205	77	2,240	782	5,540	3,340	1,240	2,510	276	151	97	66
23	222	77	2,510	782	4,770	3,560	1,160	1,970	258	139	96	67
24	205	73	2,700	750	4,880	3,120	1,160	1,480	239	139	95	90
25	222	77	2,700	782	4,660	2,900	1,160	1,400	239	133	94	117
26	205	82	2,240	782	4,220	2,600	1,090	1,320	239	142	93	110
27	205	77	2,150	815	4,110	2,240	1,160	1,240	258	161	92	108
28	205	73	2,060	1,020	4,000	2,150	1,320	1,090	258	148	92	375
29	173	68	1,970	1,640	-------	1,800	1,240	1,020	258	142	92	355
30	148	68	2,150	2,510	-------	1,480	1,160	950	258	142	92	190
31	136	-------	1,970	3,120	-------	1,320	-------	848	-------	142	87	-------

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	239	97	176	0.863	0.99	10,800
November	113	63	72.4	.355	.40	4,310
December	9,160	51	2,430	11.9	13.72	149,000
January	3,120	750	1,440	7.06	8.14	88,500
February	11,000	3,120	5,400	26.5	27.59	300,000
March	4,000	880	1,940	9.51	10.96	119,000
April	1,480	950	1,250	6.13	6.84	74,400
May	2,800	360	1,170	5.74	6.62	71,900
June	780	239	441	2.16	2.41	26,200
July	222	133	159	.779	.90	9,780
August	136	87	108	.529	.61	6,640
September	375	63	109	.534	.60	6,490
The year	11,000	51	1,200	5.88	79.78	867,000

NESTUCCA RIVER BASIN

NESTUCCA RIVER NEAR McMINNVILLE, OREG.

LOCATION.—Water-stage recorder in SW. ¼ sec. 8, T. 3 S., R. 6 W., half a mile below dam at outlet of Meadow Lake and 13 miles northwest of McMinnville.
DRAINAGE AREA.—12 square miles.
RECORDS AVAILABLE.—October, 1928, to September, 1930.
EXTREMES.—Maximum discharge during year, 273 second-feet Feb. 7 (gage height, 2.89 feet); minimum, 1.0 second-foot Oct. 11.
1928–1930: Maximum discharge, 320 second-feet Dec. 30 or 31, 1928 (gage height, 3.00 feet); minimum, that of Oct. 11, 1929.
REMARKS.—Records good except those estimated, which are poor. No diversions above gage. Flow regulated to a small extent by dam at outlet of Meadow Lake; low-water flow leaks under dam.

Daily and monthly discharge, in second-feet, 1929–30

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 1.2	1.7		a 40	96	60	30	22				1.7
2	a 1.2			a 50	144	53	28	21				1.7
3	a 1.2			a 45	122	48	28	20				1.7
4	1.2			52	106	45	32	19				1.7
5	1.1			50	170	44	30	17		a 5.5		1.7
6	1.1			43	139	43	27	17				1.7
7	1.1			36	179	42	25	17				1.8
8	1.1				215	41	24	16				2.0
9	1.1				139	40	22	15		4.8		2.1
10	1.1				138	39	22	14				2.1
11	1.0				155	36	20	14				2.2
12	1.1	a 2.0			138	34	19	13				2.2
13	1.1				126	33	19	12				2.2
14	1.1				138	31	20	13				2.2
15	1.1				119	30	20	13			a 2.2	2.2
16	1.1		a 45		99	23	19	12	a 11			2.2
17	1.1				82	26	18	12				2.1
18	1.1			a 18	76	24	17	12				2.0
19	1.1				115	23	18	13				2.0
20	1.1				179	24	17	22		a 3.6		1.9
21	1.1				166	37	18	61				1.8
22	1.1				149	76	18	72				1.8
23	1.3				131	76	17	55				1.7
24	1.4	2.0			109	73	17	43				1.9
25	1.5				100	64	17	37				2.0
26	1.5	a 2.0			90	57	17	31				2.1
27	1.5				78	50	22	27				2.3
28	1.5				68	44	27	24			1.7	2.4
29	1.5			23	------	39	27	23			1.7	2.5
30	1.6	2.1		39	------	36	24	22			1.7	2.5
31	1.7	------		48	------	33	------	20	------		1.7	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1.7	1.0	1.23	0.102	0.12	76
November	------	------	1.99	.166	.19	118
December	------	------	45	3.75	4.32	2,770
January	52	------	25.9	2 16	2.49	1,590
February	215	68	127	10.6	11.04	7,050
March	76	23	42.9	3.57	.12	2,640
April	32	17	22.0	1.83	2.04	1,310
May	72	12	23 5	1.96	2.26	1,440
June	------	------	11	.917	1.02	655
July	------	------	4.13	.344	.40	254
August	------	------	2.14	.178	.21	132
September	2.5	1.7	2.01	.168	.19	120
The year	215	1.0	25.1	2.09	28.40	18,200

a Estimated

Miscellaneous discharge measurements in Pacific slope basins in Oregon and in lower Columbia River Basin, 1929–30—Continued

Cowlitz River Basin, Wash.

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Second-feet*
Aug. 14	Ohanapecosh River	Cowlitz River	500 feet above mouth		113
13	Clear Fork of Cowlitz River.	do	Ford on White Pass Trail, 1,000 feet below Milridge Creek.		36.9
13	Lava Creek	Clear Fork of Cowlitz River.	White Pass Trail crossing		11.3
14	Cortright Creek	do	SW. ¼ sec. 24, T. 14 N., R. 10 E.		12.4
15	Johnson Creek	Cowlitz River	Former gaging station near Lewis.	0.62	42.7

Clatskanie River Basin, Oreg.

Oct. 9	Clatskanie River	Columbia River	NW. ¼ sec. 15, T. 7 N., R. 4 W.		20.2
May 19	do	do	do		61
June 30	do	do	do		28.3
Aug. 4	do	do	do		14.4
30	do	do	do		10.7
Oct. 9	Beaver Creek	Clatskanie River	SE. ¼ sec. 12, T. 7 N., R. 4 W.	0.43	1.4
May 19	do	do	do	.94	18.1
June 21	do	do	do		[a]2.5
Aug. 30	do	do	do		[a].5

Big Creek Basin, Oreg.

Oct. 9	Big Creek	Columbia River	NW. ¼ sec. 29, T. 8 N., R. 7 W.	0.50	31.1
May 19	do	do	do	.80	75
June 30	do	do	do	.64	47.7
Aug. 4	do	do	do	.49	27.4
30	do	do	do	.44	21.6

Rogue River Basin, Oreg.

Mar. 25	Red Blanket ditch	Red Blanket Creek	NE. ¼ sec. 23, T. 32 S., R. 3 E.		1.5
July 28	do	do	do		9.4

Umpqua River Basin, Oreg.

July 26	Short Creek	Diamond Lake	At mouth		6.8
26	Silent Creek	do	At road crossing 1 mile above mouth.		20.7
27	Lake Creek power flume.	Lake Creek	1,000 feet below outlet of Diamond Lake.		10.2
Oct. 25	Fish Creek	North Umpqua River	At road crossing, above Camas Creek.	0.67	30.5
Mar. 15	do	do	do	1.20	155
May 8	do	do	do	1.19	151
July 25	do	do	do	.80	44.4
Sept. 20	do	do	do	.66	28.3
July 14	Little River	do	At mouth, at Glide		41.1

[a] Estimated.

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