UNITED STATES DEPARTMENT OF THE INTERIOR
HAROLD L. ICKES, Secretary

GEOLOGICAL SURVEY
W. C. MENDENHALL, Director

Water-Supply Paper 739

SURFACE WATER SUPPLY of the UNITED STATES

1932

PART 12

NORTH PACIFIC SLOPE BASINS

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

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Prepared in cooperation with the States of OREGON and WASHINGTON

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SURFACE WATER SUPPLY OF PACIFIC SLOPE BASINS IN OREGON AND LOWER COLUMBIA RIVER BASIN, 1932

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1932.

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 the 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, 1895–1933

1895	$13,500.00	1911–17	$150,000.00	1928	$147,000.00
1896	24,500.00	1918	175,000.00	1929	270,500.00
1897–99	50,000.00	1919	148,244.10	1930	275,000.00
1900	70,000.00	1920	175,000.00	1931	565,000.00
1901–2	100,000.00	1921–23	180,000.00	1932	711,000.00
1903–6	200,000.00	1924–25	170,000.00	1933	600,000.00
1907	150,000.00	1926	165,000.00		
1908–10	100,000.00	1927	151,000.00		

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 6,590 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July 1931, 2,790 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, 1931, and ending September 30, 1932. At the beginning of January in most parts of the United States much of the precipitation in

the preceding 3 months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as underground 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.

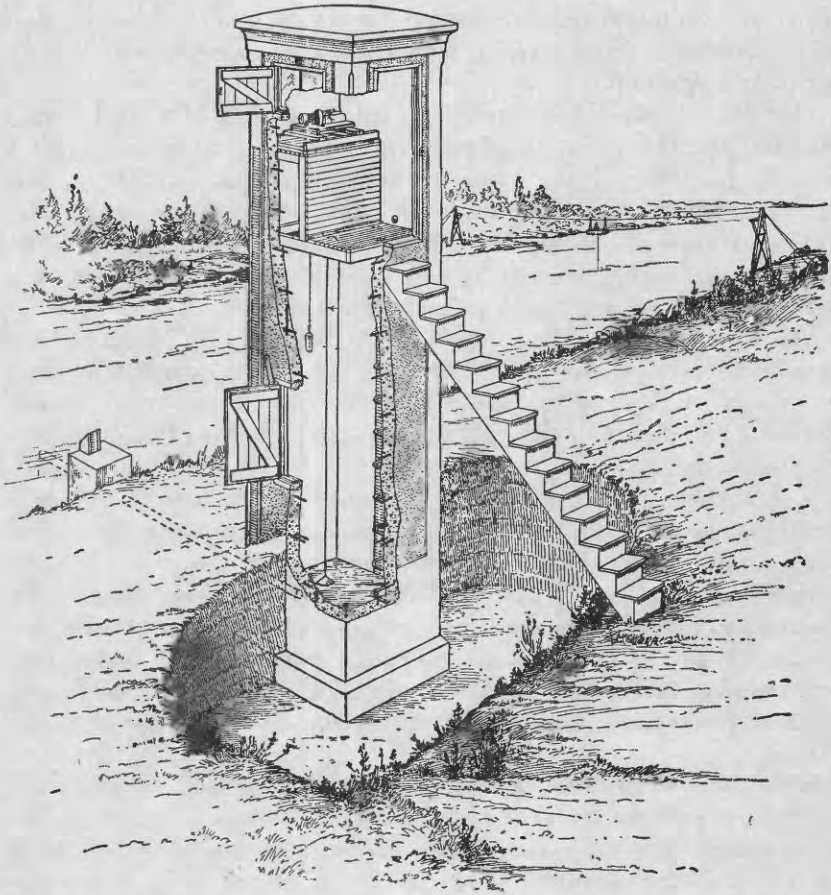

FIGURE 1.—Typical river-measurement station showing concrete well and house for water-stage recorder and staff gages, cable, and car.

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 determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter 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.

Rating tables, giving the discharge for any stage, are prepared from the discharge measurements. The application of the daily gage height to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is determined.

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 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 non-recording 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 observations 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 percent; "good", within 10 percent; "fair", within 15 percent; and "poor", 20 percent 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 depth 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 waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the bulletins, professional papers, 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 Mississippi River).
3. Ohio River Basin.
4. St. Lawrence River Basin.
5. Hudson Bay and upper Mississippi River Basins.
6. Missouri River Basin.

Part 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 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, Maine, Statehouse.
Boston, Mass., 2500 Customhouse.
Hartford Conn., 203 Federal Building.
Albany, N.Y., 603 State Public Works Building.
Trenton, N.J., 228 Federal Building.
Harrisburg, Pa., 492 Education Building.
Charlottesville, Va., Brooks Museum, University of Virginia.
South Charleston, W.Va., Naval Ordnance Plant.
Asheville, N.C., 210 Post Office Building.
Columbia, S.C., 801 National Loan & Exchange Bank Building.
Ocala, Fla., Post Office Buidling.
Montgomery, 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., 632 State Office Building.
Iowa City, Iowa, 402 Hydraulic Laboratory, University of Iowa.
Topeka, Kans., State House.
Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.
Fort Smith, Ark., Post Office Building.
Austin, Tex., State Highway Building.
Santa Fe, N.Mex., State Capitol.
Tucson, Ariz., 210 Post Office Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 303 Federal Building.
Idaho Falls, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Helena, Mont., 421 Federal Building.
Tacoma, Wash., 406 Federal Building.

Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 510 Eight and Figueroa Building.
Honolulu, Hawaii, 225 Federal Building.

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

Stream-flow records have been obtained at about 6,590 points in the United States, and the data obtained have been published in the reports tabulated as follows:

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

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

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	
11th A, pt. 2	Monthly discharge and descriptive information	1884 to Sept. 1890.
12th A, pt. 2	do	1884 to June 30, 1891.
13th A, pt. 3	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Descriptions, measurements, gage heights, and ratings	1893–94.
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).	1895–96.
W 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas River.	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.
W 711 to 724	do	1931.
W 726 to 739	do	1932.

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 1932. The data for any particular station will, as a rule, be found in the reports covering the years during which the station was maintained. For example, data for 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 those years.

Numbers of water-supply papers containing results of stream measurements, 1899–1932

[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	266	267	268	269	270, [r] 271	271	272	272	272
1910	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	453	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
1931	711	712	713	714	715	716	717	718	719	720	721	722	723	724
1932	726	727	728	729	730	731	732	733	734	735	736	737	738	739

[a] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39. 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 Gunnison River.
[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 River.
[k] Tributaries of Mississippi River 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] The Great Basin in California, except Truckee and Carson River Basins.
[s] Below junction with Gila River.
[t] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

The work was done under cooperative agreements as follows: In Oregon with Charles E. Stricklin, State engineer; and in Washington with the Department of Conservation and Development, Erle J. Barnes, director, and Charles J. Bartholet, supervisor of hydraulics.

Acknowledgment is due also to the Corps of Engineers, United States Army, for financial assistance in collecting records published herein.

Assistance in collecting records was also rendered by the following municipalities, organizations, corporations, and individuals: In Oregon by Deschutes, Jackson, Josephine, 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., Portland General Electric Co.; and in Washington by the city of Tacoma, Backus-Brooks Co., Inland Power & Light Co., and Puget Sound Power & Light Co.

DIVISION OF WORK

The data for stations in Oregon 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, A. B. Goodwin, C. A. Young, W. T. Miller, A. R. Peracca, and Miss Belle Irwin. Data for some stations in Oregon, noted in station descriptions, were collected by the State of Oregon under the supervision of Charles E. Stricklin, State engineer. Records for these stations, computed in the office of the Oregon State engineer, were reviewed and prepared for publication by G. H. Canfield, K. N. Phillips, and A. H. Williams.

The data for stations 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, G. M. Thayer, O. B. Johnson, H. C. Woster, J. P. Bonner, Frank Stermitz, L. I. Meyer, R. J. Swanson, and A. P. Martinsen.

The records were reviewed and the manuscript assembled by M. T. Thomson.

GAGING-STATION RECORDS

COLUMBIA RIVER

COLUMBIA RIVER AT THE DALLES, OREG.

LOCATION.—Staff gages at The Dalles and 13 miles upstream above Celilo Falls. Zero of gage at The Dalles is 46.86 feet and above Celilo Falls is 37.59 feet above mean sea level by 1929 general adjustment. Discharge measurements made from cable at The Dalles.

DRAINAGE AREA.—237,000 square miles (above measuring section).

RECORDS AVAILABLE.—June 1878 to September 1932; maximum stages 1858 to 1877.

EXTREMES.—Maximum discharge during year, 578,000 second-feet May 24; minimum, 40,000 second-feet Feb. 3, 4 (gage height, 88.8 feet on gage above Celilo Falls). Maximum gage height May 24, 33.9 feet on gage at The Dalles and 106.4 feet on gage above Celilo Falls.

1858–1932: Maximum discharge, 1,170,000 second-feet June 6, 1894 (gage height, 59.6 feet on gage at The Dalles and 122.5 feet on gage above Celilo Falls); minimum, 40,000 second-feet Jan. 18, 21, 1930, Feb. 3, 4, 1932 (gage height, 88.8 feet on gage above Celilo Falls).

REMARKS.—Records excellent. Storage and diversions for irrigation are only a small part of total run-off. Gage-height records furnished by United States Weather Bureau and Corps of Engineers, United States Army.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84,100	65,200	65,200	61,600	56,600	158,000	193,000	289,000	441,000	456,000	206,000	139,000
2	81,800	67,100	65,200	61,600	45,100	164,000	193,000	297,000	437,000	441,000	200,000	139,000
3	79,500	65,200	61,600	59,900	45,100	161,000	206,000	304,000	434,000	426,000	200,000	139,000
4	79,500	67,100	59,900	59,900	43,200	147,000	212,000	314,000	430,000	419,000	196,000	139,000
5	77,300	67,100	58,200	59,900	49,500	131,000	223,000	325,000	434,000	412,000	193,000	136,000
6	75,200	67,100	58,200	58,200	48,300	126,000	226,000	347,000	437,000	404,000	187,000	136,000
7	75,200	65,200	58,200	58,200	58,200	126,000	219,000	361,000	448,000	394,000	187,000	131,000
8	73,100	63,400	59,900	59,900	58,200	142,000	206,000	368,000	445,000	383,000	181,000	131,000
9	71,100	63,400	59,900	59,900	59,900	139,000	200,000	379,000	441,000	372,000	175,000	126,000
10	73,100	63,400	58,200	59,900	61,600	126,000	193,000	397,000	445,000	350,000	173,000	121,000
11	73,100	65,200	58,200	59,900	61,600	126,000	190,000	419,000	448,000	340,000	170,000	116,000
12	73,100	65,200	58,200	67,100	61,600	123,000	190,000	434,000	456,000	332,000	164,000	116,000
13	73,100	67,100	58,200	63,400	56,600	121,000	196,000	452,000	467,000	318,000	164,000	110,000
14	73,100	65,200	58,200	75,200	52,100	113,000	219,000	474,000	478,000	311,000	164,000	110,000
15	71,100	65,200	56,600	77,300	52,100	110,000	240,000	510,000	496,000	297,000	161,000	110,000
16	71,100	67,100	55,000	75,200	53,500	110,000	268,000	525,000	514,000	289,000	158,000	108,000
17	69,100	65,200	55,000	71,100	52,100	110,000	275,000	507,000	529,000	282,000	158,000	108,000
18	69,100	65,200	53,500	71,100	52,100	113,000	279,000	499,000	540,000	279,000	156,000	105,000
19	69,100	67,100	56,600	69,100	52,100	134,000	279,000	485,000	540,000	268,000	156,000	105,000
20	67,100	65,200	56,600	77,300	52,100	212,000	279,000	492,000	532,000	261,000	156,000	103,000
21	67,100	67,100	58,200	71,100	55,000	250,000	275,000	503,000	521,000	254,000	153,000	100,000
22	65,200	67,100	59,900	69,100	59,900	247,000	268,000	514,000	514,000	247,000	150,000	98,000
23	63,400	67,100	58,200	67,100	65,200	223,000	261,000	551,000	507,000	247,000	150,000	98,000
24	63,400	67,100	61,600	67,100	61,600	200,000	254,000	565,000	507,000	240,000	147,000	98,000
25	63,400	67,100	61,600	67,100	53,500	193,000	247,000	536,000	510,000	233,000	145,000	95,600
26	63,400	67,100	61,600	67,100	69,100	190,000	243,000	518,000	507,000	226,000	145,000	95,600
27	63,400	67,100	61,600	63,400	77,300	187,000	247,000	496,000	499,000	219,000	145,000	93,300
28	65,200	67,100	61,600	61,600	91,000	181,000	261,000	478,000	492,000	219,000	145,000	91,000
29	65,200	65,200	61,600	56,600	121,000	175,000	272,000	463,000	478,000	212,000	145,000	91,000
30	67,100	65,200	61,600	56,600	-------	190,000	286,000	448,000	470,000	212,000	142,000	91,000
31	65,200	-------	61,600	56,600	-------	193,000	-------	448,000	-------	206,000	139,000	-------

Discharge, in second-feet, of Columbia River at The Dalles, Oreg., 1931–32—Con.

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	84,100	63,400	70,700	0.298	0.34	4,350,000
November	67,100	63,400	66,000	.278	.31	3,930,000
December	65,200	53,500	59,300	.250	.29	3,650,000
January	77,300	56,600	64,800	.273	.31	3,980,000
February	121,000	43,200	59,500	.251	.27	3,420,000
March	250,000	110,000	159,000	.671	.77	9,780,000
April	286,000	190,000	237,000	1.00	1.12	14,100,000
May	565,000	289,000	442,000	1.86	2.14	27,200,000
June	540,000	430,000	480,000	2.03	2.26	28,600,000
July	456,000	206,000	308,000	1.30	1.50	18,900,000
August	206,000	139,000	165,000	.696	.80	10,100,000
September	139,000	91,000	113,000	.477	.53	6,720,000
The year	565,000	43,200	186,000	.785	10.64	135,000,000

TRIBUTARIES OF COLUMBIA RIVER BELOW MOUTH OF SNAKE RIVER

WALLA WALLA RIVER BASIN

SOUTH FORK OF WALLA WALLA RIVER NEAR MILTON, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 10, T. 4 N., R. 37 E., a quarter of a mile above Pacific Power & Light Co.'s penstock intake and 12 miles southeast of Milton. Prior to Oct. 18, 1931, staff gage at different datum 500 feet downstream.

RECORDS AVAILABLE.—February to October 1903 (gage heights only); August 1906 to November 1917 (incomplete); May 1931 to September 1932. At site 6 miles downstream November 1903 to May 1906.

EXTREMES.—Maximum discharge during year, 1,400 second-feet Mar. 18 (gage height, 4.00 feet); minimum, 72 second-feet Feb. 14 (gage height, 1.71 feet).

1903–17, 1931–32: Maximum discharge recorded, 1,650 second-feet Apr. 14, 1904; flood of May 30–31, 1906, which washed out gage, was probably much higher; minimum, that of Feb. 14, 1932.

Maximum stage known, about 9 feet, referred to present gage, Mar. 31, 1931.

REMARKS.—Records good except those for Feb. 26 to Mar. 16, and those above 300 second-feet, which are fair. Discharge estimated Feb. 1–4, July 12, 13, Sept. 20. No diversions or regulation above station. Records furnished by State engineer.

Discharge, in second-feet, 1931–32.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	81	83	108	85	248	402	448	294	152	110	99
2	76	78	83	102	85	216	402	457	290	149	108	99
3	76	78	83	97	85	183	386	461	302	168	105	96
4	76	76	83	99	85	183	361	509	309	152	105	96
5	87	78	83	99	85	344	306	500	282	143	105	94
6	80	76	83	113	85	519	275	522	271	137	105	94
7	80	78	85	113	83	320	267	544	271	134	105	96
8	80	81	85	111	85	238	259	526	275	134	99	94
9	80	87	85	168	85	203	256	517	282	134	102	94
10	80	87	85	190	87	180	282	548	298	134	102	94
11	80	85	85	263	85	164	361	526	302	131	102	94
12	80	83	83	308	81	155	452	558	306	130	102	94
13	80	85	83	206	78	155	495	571	313	129	99	94
14	80	89	83	164	74	158	535	513	321	128	96	94
15	80	87	83	143	76	161	427	440	313	125	96	94
16	80	91	83	131	76	168	427	431	278	122	94	94
17	80	102	94	116	74	274	406	461	256	122	94	94
18	81	102	196	171	74	890	377	470	241	122	94	96
19	81	111	168	155	76	770	394	474	230	113	94	102
20	81	128	155	131	81	457	373	482	219	105	94	130
21	81	108	216	119	83	361	333	478	223	108	94	99
22	94	99	171	111	83	298	302	410	234	113	94	96
23	85	94	143	105	87	267	286	373	230	113	94	96
24	81	89	134	99	116	306	294	337	216	116	94	96
25	91	89	125	97	187	317	337	309	202	116	94	96
26	85	89	119	97	340	271	398	286	195	110	96	96
27	85	87	131	94	399	252	435	282	188	113	96	96
28	177	85	137	91	412	365	419	294	178	108	96	96
29	131	85	131	89	320	410	423	302	168	110	96	94
30	97	85	119	89	------	386	414	309	162	113	99	94
31	87	------	113	85	------	377	------	306	------	116	99	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	177	76	86.7	5,330
November	128	76	89.1	5,300
December	216	83	113	6,950
January	308	85	131	8,060
February	412	74	126	7,250
March	890	155	310	19,100
April	535	256	369	22,000
May	571	282	440	27,100
June	321	162	255	15,200
July	168	105	126	7,750
August	110	94	98.8	6,080
September	130	94	96.7	5,750
The year	890	74	187	136,000

UMATILLA RIVER BASIN

UMATILLA RIVER ABOVE McKAY CREEK, NEAR PENDLETON, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 8, T. 2 N., R. 32 E., a quarter of a mile above mouth of McKay Creek and 2 miles west of Pendleton.

RECORDS AVAILABLE.—May 1921 to September 1932. Comparable records at Pendleton February 1891 to July 1892, May 1903 to March 1906.

EXTREMES.—Maximum discharge during year, 12,000 second-feet Mar. 19 (gage height, 11.1 feet); minimum, 22 second-feet Sept. 3 (gage height, 3.21 feet).

1891–92, 1903–6, 1921–32: Maximum discharge (estimated), 13,500 second-feet Apr. 1, 1931 (gage height, 10.7 feet, present datum); minimum, 7 second-feet Aug. 14, 1924 (gage height, 1.87 feet).

REMARKS.—Records good except those for Dec. 17 to May 30, which are poor. Small diversions for irrigation above station. Considerable regulation at low stages caused by operation of mills at Pendleton. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	93	133	a 349	176	1,740	2,850	1,620	570	108	41	31
2	31	88	133	a 311	167	1,300	3,180	1,850	536	101	38	30
3	30	88	129	a 273	154	1,040	2,960	1,850	510	98	36	27
4	34	85	129	235	148	840	2,750	2,200	510	112	35	26
5	37	80	129	227	156	1,070	1,900	2,250	490	98	34	26
6	40	78	126	250	181	4,790	1,440	2,000	450	87	33	26
7	41	76	126	281	187	3,040	1,310	1,950	420	81	31	28
8	42	81	136	305	450	1,970	1,220	1,950	400	76	27	27
9	44	81	141	415	305	1,920	1,220	1,800	395	69	29	27
10	44	95	146	855	544	1,220	1,220	1,850	390	65	29	26
11	44	97	148	888	360	1,140	2,050	1,760	395	65	32	26
12	44	95	148	1,300	265	1,010	3,290	1,620	405	62	33	26
13	42	93	143	1,060	220	950	3,400	1,670	410	61	33	26
14	41	101	141	754	190	950	3,760	1,620	430	62	30	25
15	41	103	131	582	164	980	2,750	a 1,380	390	61	29	25
16	41	115	131	480	176	1,010	2,550	1,140	370	57	29	26
17	41	164	841	415	167	1,970	2,250	a 1,130	330	55	27	28
18	42	207	2,800	1,310	161	6,800	2,000	a 1,120	311	52	26	28
19	44	231	855	784	238	9,300	1,850	a 1,110	260	51	25	33
20	46	385	652	658	535	5,460	1,620	1,100	246	51	26	39
21	47	341	748	555	855	3,040	1,400	1,060	221	50	28	49
22	50	269	790	480	640	2,170	1,310	1,040	213	47	29	50
23	58	224	634	400	538	2,070	1,260	988	209	42	28	47
24	58	193	511	341	475	2,270	1,220	916	194	a 40	28	43
25	50	184	465	310	712	3,150	1,180	837	187	37	26	42
26	61	176	410	293	2,040	2,540	1,580	747	174	39	25	41
27	65	164	375	273	3,380	2,220	1,950	665	159	36	26	40
28	73	151	430	250	3,380	2,760	1,720	575	144	38	27	37
29	126	a 145	465	227	2,380	2,850	1,800	570	130	34	29	37
30	124	a 139	425	193	------	2,500	1,670	575	122	36	29	35
31	105	------	a 387	181	------	2,500	------	599	------	41	33	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	126	30	52.2	3,210
November	385	76	147	8,750
December	2,800	126	418	25,700
January	1,310	181	491	30,200
February	3,380	148	667	38,400
March	9,300	840	2,470	152,000
April	3,760	1,180	2,020	120,000
May	2,250	570	1,340	82,400
June	570	122	332	19,800
July	108	34	61.7	3,790
August	41	25	30.0	1,840
September	50	25	32.6	1,940
The year	9,300	25	673	488,000

a Estimated.

UMATILLA RIVER ABOVE FURNISH RESERVOIR, NEAR YOAKUM, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 17, T. 2 N., R. 31 E., at Oregon-Washington Railroad & Navigation Co.'s bridge a quarter of a mile above Campbell and 5 miles above Yoakum.

RECORDS AVAILABLE.—June 1915 to September 1932.

EXTREMES.—Maximum discharge during year, 15,200 second-feet Mar. 19 (gage height, 12.2 feet); minimum, 33 second-feet Oct. 3 (gage height, −0.42 foot).

1915–32: Maximum discharge, that of Mar. 19, 1932; minimum, 14 second-feet Aug. 17, 1926 (gage height, 1.17 feet).

REMARKS.—Records good except those for Feb. 8 to May 30, which are poor. Diversions for irrigation above station. Flow regulated to some extent by operation of mills at Pendleton and since 1927 by storage in McKay Reservoir. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	91	148	384	223	2,210	3,810	2,410	645	309	271	163
2	34	87	143	344	219	1,600	4,320	2,520	600	304	267	165
3	33	85	143	308		1,280	4,320	2,580	580	298	262	165
4	35	83	142	287		1,100	4,190	2,740	560	293	260	165
5	39	80	142	273	a 200	1,220	a3,300	2,850	540	271	258	161
6	40	78	142	287		4,730	a2,800	2,740	496	267	258	157
7	41	77	145	328		3,450	2,680	2,520	449	286	258	153
8	42	80	151	344		2,360	2,460	2,460	423	281	255	133
9	43	84	156	463		2,210	2,410	2,310	406	274	255	133
10	43	91	161	930	a 425	1,420	2,410	2,210	390	269	253	133
11	43	101	164	930		1,190	2,740	2,210	390	269	258	133
12	43	95	161	1,340		1,030	3,810	2,110	380	267	258	133
13	43	93	158	1,100	248	955	4,320	2,060	380	264	258	133
14	43	99	153	805	a 222	930	4,590	2,020	413	269	251	131
15	43	102	160	622	197	1,000	4,320	1,880	390	264	248	128
16	44	111	160	520	206	1,060	3,690	1,600	374	262	246	131
17	44	154	600	446	197	1,900	3,330	1,450	332	260	244	129
18	44	188	2,910	a1,400	197	5,970	3,090	1,310	296	260	244	133
19	45	219	1,150	905	261	12,900	2,850	1,280	269	260	242	137
20	45	344	690	735	a 560	7,600	2,680	1,220	258	286	242	140
21	47	344	780	600	a 900	4,880	2,310	1,190	242	288	244	153
22	47	282	830	500	a 675	3,810	2,060	1,190	315	281	246	72
23	55	237	645	430	a 575	3,210	1,840	1,130	334	276	248	56
24	58	208	520	357	480	3,330	1,800	1,030	334	276	246	113
25	57	201	446	328	a 750	4,190	1,720	955	291	269	244	222
26	59	192	413	308	a2,200	3,810	2,020	855	276	269	233	231
27	62	178	398	292	3,690	3,210	2,520	758	271	264	233	231
28	64	166	520	277	4,060	3,330	2,630	690	293	262	194	231
29	98	159	500	261	3,090	4,060	2,630	668	298	262	157	239
30	116	154	430	250	-------	3,810	2,520	690	312	269	163	239
31	99	-------	413	237	-------	3,690	-------	690	-------	269	165	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	116	33	51.1	3,140
November	344	77	149	8,870
December	2,910	142	441	27,100
January	1,400	237	535	32,900
February	4,060	197	761	43,800
March	12,900	930	3,140	193,000
April	4,590	1,720	3,010	179,000
May	2,850	668	1,690	104,000
June	645	242	385	22,900
July	309	260	274	16,800
August	271	157	241	14,800
September	239	56	155	9,220
The year	12,900	33	903	656,000

a Estimated.

UMATILLA RIVER NEAR UMATILLA, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 21, T. 5 N., R. 28 E., 1½ miles below West Division Main Canal of Umatilla project and 2 miles above Umatilla and mouth of river.

DRAINAGE AREA.—2,130 square miles.

RECORDS AVAILABLE.—October 1903 to September 1932.

EXTREMES.—Maximum discharge during year, 12,500 second-feet Mar. 19 (gage height, 8.78 feet); minimum, 0.1 second-foot Oct. 23, 24.

1903–32: Maximum discharge, 19,600 second-feet May 31, 1906 (gage height, 11.0 feet); no flow at times.

REMARKS.—Records good except those estimated, which are fair. 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81	47	102	268	188	2,180	3,390	1,730	143	8	35	11
2	81	34	102	232	281	1,570	3,660	1,810	128	8	21	11
3	88	11	102	220	288	1,260	3,860	1,960	a110	8	19	11
4	29	8	102	155	255	1,030	3,810	1,900	93	9	21	12
5	9	6	99	183	288	980	3,390	2,290	a 86	12	27	12
6	9	6		117	294	1,900	2,680	a 2,100	80	10	13	18
7	10	4		132	320	4,350	2,220	1,900	a 82	14	14	13
8	10			146	334	2,590	2,030	1,750	83	17	13	12
9	11		a 99	169	432	1,750	1,900		15	13	12	12
10	12	a 4		274	460	1,410	1,900		12	13	13	12
11	10			476	492	1,200	1,960	a1,470		20	12	13
12	8		99	549	425	1,060	2,820			21	12	13
13	8		99	910	262	960	3,660			20	13	13
14	9	4	99	750	178	910	3,860	1,190	a 11	35	14	14
15	9		120	639	155	880	4,350	1,080		24	27	12
16	9		178	648	139	930	3,390	920		33	21	12
17	9	a 4	197	612	128	1,210	3,020	a 730	7	23	12	12
18	.3		1,520	492	124	3,020	2,700	540	8	18	11	12
19	.2		1,590	621	110	7,850	2,310	630	8	17	11	11
20	.2		1,040	657	107	10,200	a2,080	621	8	13	12	11
21	.2	26	910	585		5,830	a1,850	675	8	20	12	12
22	.2	146	810	558		4,020	a1,620		8	53	14	12
23	.1	135	730	516	a 250	3,390	1,390		8	33	15	14
24	.1	120	603	446		2,610	1,280		8	23	12	19
25		105	418	362		3,600	1,180	a 424	8	17	13	18
26		102	397	249	585	3,810	1,340		8	13	13	14
27	a .3	99	362	214	2,350	3,180	1,790		8	14	12	36
28		102	355	183	3,180	3,020	1,960	174	8	18	12	91
29		102	397	155	3,020	3,660	1,860	a 136	8	14	12	88
30		102	362	135	-------	3,660	1,860	99	8	18	12	83
31	19	-------	300	120	-------	3,390	-------	159	-------	36	12	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	88	0.1	13.7	842
November	146	----------	40.2	2,390
December	1,590	----------	377	23,200
January	910	117	38.0	23,400
February	3,180	107	539	31,000
March	10,200	880	2,820	173,000
April	4,350	1,180	2,500	149,000
May	2,290	99	1,040	64,000
June	143	7	33.6	2,000
July	53	8	19.2	1,180
August	35	11	15.2	935
September	91	11	21.1	1,260
The year	10,200	.1	651.	472,000

a Estimated.

McKAY CREEK NEAR PILOT ROCK, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 23, T. 1 N., R. 32 E., 1 mile above backwater from McKay Dam and 6 miles northeast of Pilot Rock.
RECORDS AVAILABLE.—May to August 1921; October 1926 to September 1932.
EXTREMES.—Maximum discharge during year, 4,210 second-feet Mar. 18 (gage height, 9.55 feet); no flow at times.
1921, 1926–32: Maximum discharge, 6,000 second-feet Apr. 1, 1931 (gage height, 10.4 feet); no flow at times during summer.
REMARKS.—Records good except those for November, December, April, May, which are fair. Numerous small diversions for irrigation above station; none between station and McKay Reservoir. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1		10	79		423	627	198	40
2		10	71		374	644	198	38
3		9	64		311	638	198	34
4		9	59		e 250	572	198	32
5	e 0.3	9	59		545	e 517	198	
6		9	97		1,850	e 461	198	
7		9	116	e 42	1,020	e 406	198	e 17
8	.7	9	113		704	e 350		
9		10	210		556	295		
10		10	283		441	324		
11	e 1.2	11	295		356	396	e 156	2.8
12		11	333		311	480		e 1.6
13		11	113	40	e 250	500		.5
14		11	e 108	39	e 265	540	115	
15	1.6	10	e 104	38	392	441	111	e .1
16	e 3	10	99	39	423	414	103	
17	e 10	22	82	39	1,020	369	95	
18	e 12	235	92	38	2,520	342	88	.2
19	14	234	138	36	3,170	e 319	81	
20	18	188	136	34	1,440	e 295	72	
21	26	219	126	39	890	e 272	68	
22	23	208	109	57	693	e 248	65	
23	21	160	95	94	566	225	60	
24	18	128	90	183	605	219	57	
25	16	107	81	460	622	210	54	e .1
26	15	92	72	890	505	208	52	
27	14	81	65	890	460	202	50	
28	13	92	59	800	644	202	48	
29	12	99	54	644	654	198	46	
30	11	92	49	-------	610	198	44	
31	-------	87	e 48	-------	600	-------	41	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
November	26	----------	7.92	471
December	235	9	71.0	4,370
January	333	48	113	6,950
February	890	34	168	9,660
March	3,170	250	757	46,500
April	644	198	370	22,000
May	198	41	115	7,070
June	40	----------	8.42	501
The year	3,170	0	134	97,500

e Estimated.

NOTE.—No flow during months omitted.

McKAY RESERVOIR NEAR PENDLETON, OREG.

LOCATION.—Staff gage at reservoir dam in SE¼ sec. 34, T. 2 N., R. 32 E., 4 miles south of Pendleton. Gage readings are elevations above mean sea level.

RECORDS AVAILABLE.—October 1930 to September 1932.

EXTREMES.—Maximum contents during year, 69,920 acre-feet Mar. 22 (elevation, 1,318.85 feet); minimum, about 13,920 acre-feet Oct. 1 (elevation, about 1,246.5 feet).

1930–32: Maximum contents, that of Mar. 22, 1932; minimum, 3,427 acre-feet Oct. 1, 1930 (gage height, 1,219.0 feet).

REMARKS.—Records good except those estimated, which are fair. Storage released June 21 to Sept. 30. Summer flow above reservoir entirely diverted for irrigation. McKay Reservoir, completed in 1927 by the United States Bureau of Reclamation, has a capacity of 67,700 acre-feet at elevation 1,317.0 feet and stores water for irrigation of lands along Umatilla River near Echo, Stanfield, and Hermiston. Records furnished by State engineer and United States Bureau of Reclamation.

Elevation and contents of McKay Reservoir near Pendleton, Oreg., 1931–32

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30		[a] 13,920		May 31		62,100	−800
Oct. 31		[a] 13,800	−120	June 30	1,309.20	59,000	−3,100
Nov. 30		[a] 14,300	+500	July 31	1,293.90	44,380	−14,620
Dec. 31		[a] 18,500	+4,200	Aug. 31	1,276.80	31,320	−13,060
Jan. 31		[a] 25,500	+7,000	Sept. 30	1,262.40	22,240	−9,080
Feb. 28		[a] 33,900	+8,400				
Mar. 31	1,317.20	67,940	+34,040	The year			+8,320
Apr. 30		62,900	−5,040				

[a] Estimated.

McKAY CREEK NEAR PENDLETON, OREG.

LOCATION.—Water-stage recorder in sec. 34, T. 2 N., R. 32 E., just above irrigation diversion dam, a quarter of a mile below McKay Dam, and 4 miles south of Pendleton.

RECORDS AVAILABLE.—November 1918 to September 1923; October 1924 to September 1932.

EXTREMES.—Maximum discharge during year, 818 second-feet Apr. 6 (gage height, 2.11 feet); no flow Oct. 1 to Mar. 18, Sept. 22, 23.

1918–32: Maximum discharge, 3,250 second-feet Feb. 10, 1921; no flow at times.

REMARKS.—Records good except those estimated June 5–10, 19, 20, which are fair, and Mar. 20–23, 27–31, which are poor. Discharge records include flow diverted by irrigation canal at gage. Diversions for irrigation above McKay Reservoir use total summer flow. Flow completely regulated by storage in McKay Reservoir. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	708	238	34	221	250	142
2	0	740	238	29	221	250	142
3	0	789	238	27	225	255	142
4	0	768	238	23	206	255	142
5	0	720	238		182	255	142
6	0	734	229		194	255	142
7	0	734	217	*16	221	255	126
8	0	727	206		221	250	111
9	0	701	198		221	250	111
10	0	545	190		221	250	111
11	0	443	175	9	221	246	111
12	0	485	163	10	221	246	111
13	0	527	139	9	221	246	111
14	0	584	119	8	221	246	111
15	0	552	60	8	221	246	111
16	0	558	16	8	221	242	111
17	0	497	24	8	221	242	111
18	0	437	29	7	221	242	111
19	3	392	32	*6	225	242	111
20		335	35	*6	263	242	111
21	*350	277	46	35	263	242	79
22		268	49	152	263	242	0
23		255	49	152	263	242	0
24	537	182	49	136	263	242	157
25	775	154	49	98	259	238	225
26	754	233	47	98	259	225	225
27		242	47	126	255	221	221
28		246	46	167	255	149	233
29	*731	246	40	198	250	129	238
30		242	40	221	250	142	246
31			37		250	142	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
March	775	0	230	14,100
April	789	154	477	28,400
May	238	16	114	7,010
June	221	6	55.7	3,310
July	263	182	233	14,300
August	255	129	232	14,300
September	246	0	135	8,030
The year	789	0	123	89,400

* Estimated.

NOTE.—No flow October to February.

BIRCH CREEK AT RIETH, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 13, T. 2 N., R. 31 E., a quarter of a mile above mouth and 1 mile southwest of Rieth. Prior to Dec. 17, 1931, staff gage 300 feet upstream.

RECORDS AVAILABLE.—May 1921 to September 1923; April 1927 to September 1932; incomplete.

EXTREMES.—Maximum discharge during year, 1,110 second-feet Mar. 19 (gage height, about 4.9 feet); no flow at times.

1921–23, 1927–32: Maximum discharge, 1,640 second-feet Jan. 29, 1928 (gage height, 6.00 feet at former gage); no flow at times.

REMARKS.—Records good except those estimated Feb. 2–4, May 17–19, June 15, which are fair, and those for Feb. 25 to Mar. 23, which are poor. Diversions for irrigation above station. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	0	15	17	157	206	165	18
2	0	14	17	126	238	174	9
3	0	14	18	102	260	174	11
4	0	14	19	84	247	174	19
5	0	14	21	81	210	168	22
6	0	13	21	165	177	161	22
7	0	13	20	159	156	142	18
8	0	14	20	126	137	134	18
9	0	16	20	114	127	118	15
10	0	20	20	103	127	105	12
11	0	24	18	94	154	102	9
12	0	31	17	84	220	86	7
13	0	32	17	86	262	75	4
14	0	28	14	86	299	68	12
15	0	28	14	112	245	63	1
16	0	23	14	124	224	56	0
17	138	21	14	183	210	48	0
18	50	22	15	415	185	40	0
19	20	27	15	1,060	174	32	0
20	17	28	16	647	183	23	0
21	16	28	26	380	167	24	0
22	15	28	20	302	152	36	0
23	15	27	20	236	131	31	0
24	14	26	23	210	118	30	0
25	13	23	40	218	115	28	0
26	12	23	98	194	119	24	0
27	13	23	173	172	144	20	0
28	17	21	216	183	156	22	0
29	16	20	187	186	163	25	0
30	14	20	-------	179	163	25	0
31	15	18	-------	181	-------	23	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
December	138	0	12.4	762
January	32	13	21.5	1,320
February	216	14	39.7	2,280
March	1,060	81	211	13,000
April	299	115	182	10,800
May	174	20	77.3	4,750
June	22	0	6.6	393
The year	1,060	0	45.9	33,300

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 and 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 SW¼ 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 NE¼ 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 SW¼ sec. 28, T. 4 N., R. 28 E. West Division Main Canal diverts from left bank of Umatilla River in SW¼ sec. 28, T. 5 N., R. 28 E. Brownell Canal diverts from right bank of Umatilla River 2 miles below West Division Main Canal diversion and 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 1932; records for some of the canals published separately prior to 1926. Records furnished by State engineer.

Diversions, in acre-feet, 1931–32

	Furnish Canal	Crayne-Lisle Canal	Slusher and Taylor Ditches [a]	Wilson and Ramos Ditches	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	400	375	------	0	0	1,290	------	1,200	4,850	141	------
November	1,480	------	------	------	5,350	0	387	------	922	3,920	0	------
December	0	------	------	------	9,040	0	------	------	------	0	0	------
January	0	------	------	------	15,960	0	------	------	------	0	0	------
February	0	------	------	------	10,100	391	------	------	------	0	0	------
March	154	------	------	------	10,600	892	------	------	------	2,990	0	------
April	4,360	0	107	227	9,040	9,220	875	0	1,610	7,970	744	34,200
May	5,780	713	166	558	12,300	12,500	935	415	4,390	10,000	904	48,700
June	5,660	540	286	258	5,660	10,700	1,020	502	3,310	9,100	875	37,900
July	4,960	------	92	17	49	10,800	1,050	370	1,960	10,200	1,180	30,700
August	4,220	------	98	2	0	9,220	1,060	204	2,040	10,400	965	28,200
September	0	------	101	0	1,980	4,920	1,110	236	1,740	9,280	1,030	20,400
The year or period	26,600	------	------	1,060	80,000	58,600	------	1,730	------	68,700	5,840	------

[a] Some water diverted in Slusher Ditch but no record.

NOTE.—Little or no flow in canals for months for which no record is given.

JOHN DAY RIVER BASIN

JOHN DAY RIVER AT PRAIRIE CITY, OREG.

LOCATION.—Staff gage in NE¼ sec. 10, T. 13 S., R. 33 E., above outlet of Prairie power canal at power plant three quarters of a mile southwest of Prairie City. Zero of gage is 3,492.55 feet above sea level by 1929 general adjustment.

RECORDS AVAILABLE.—October 1926 to September 1932. At station below outlet of Prairie power canal October 1916 to September 1917; March 1925 to September 1926.

EXTREMES.—Maximum discharge during year (estimated), 1,550 second-feet Mar. 19 (gage height, 4.7 feet); minimum, 3.8 second-feet Oct. 17 (gage height, 0.14 foot).

1926–32: Maximum discharge, that of Mar. 19, 1932; minimum, 2.6 second-feet in August and September 1931 (gage height, 0.08 foot).

REMARKS.—Records good except those for Mar. 18–20, April and May, which are fair. Discharge estimated Dec. 12, 13, 15–18, Feb. 2, 5–7, 14, 19–21. Diversions above station for irrigation and power. See page 27 for record of Prairie power canal.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	6.5	5.6	5.6	6.8	127	228	214	93	22	9	12
2	5.6	6.2	6.8	4.2	7.0	95	285	228	93	17	8	12
3	6.2	6.5	6.2	4.0	8	73	256	228	88	16	7	12
4	8	5.9	6.5	4.8	8	59	241	256	84	16	7	12
5	11	5.6	5.9	7.7	8	78	214	241	88	17	5	12
6	11	5.9	6.2	7.7	8	238	177	241	104	12	5	13
7	11	5.6	6.5	6.8	8	252	165	228	97	8	5	16
8	10	5.0	6.5	6.5	8	252	154	228	81	7	4	14
9	10	5.3	5.3	8	8	184	143	241	67	7	5	10
10	9	6.2	4.8	8	7.7	142	154	241	54	5	5	10
11	9	5.9	4.6	12	7.4	140	189	241	54	5	7	10
12	10	5.6	4.5	15	7.7	114	270	270	61	7	8	12
13	9	5.0	4.3	9	7.7	102	285	300	79	7	8	12
14	10	5.6	4.2	6.5	8	110	285	315	95	13	8	10
15	6.8	5.0	4.5	6.8	9	184	256	285	137	13	8	10
16	6.5	5.0	5.0	7.7	9	160	256	241	122	13	8	10
17	4.2	5.6	5.0	8	8	390	241	202	114	10	8	10
18	4.6	5.9	10	10	8	1,040	214	214	93	13	8	12
19	4.8	6.2	13	11	8	1,230	214	241	82	14	8	29
20	5.0	5.0	10	10	9	505	202	270	79	18	8	22
21	5.0	5.0	14	8	9	300	165	315	69	16	8	17
22	5.3	4.8	12	7.7	9	256	165	270	59	14	8	16
23	7.7	5.6	7.7	10	9	214	126	214	59	16	8	14
24	10	5.3	9	10	11	315	130	177	57	14	7	16
25	10	6.8	8	7.4	43	241	143	139	51	13	7	17
26	10	7.1	7.1	10	131	189	154	128	45	13	7	16
27	10	5.6	9	8	223	189	165	112	42	13	7	16
28	9	5.6	10	7.4	372	189	189	106	38	13	8	16
29	9	5.0	7.4	7.4	223	177	189	124	32	12	12	16
30	7.4	5.6	5.9	7.4	-------	165	189	104	25	13	13	16
31	6.5	-------	6.8	7.7	-------	189	-------	100	-------	10	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	11	4.2	7.95	489	61	34	47.2	2,900
November	7.1	4.8	5.66	337	62	34	54.2	3,230
December	14	4.2	7.17	441	72	26	57.7	3,550
January	15	4.0	8.07	496	72	22	56.2	3,460
February	372	6.8	41.0	2,360	434	16	84.4	4,860
March	1,230	59	255	15,700	1,280	116	310	19,100
April	285	126	201	12,000	347	183	262	15,600
May	315	100	217	13,300	377	162	279	17,100
June	137	25	74.7	4,440	199	69	135	8,030
July	22	5	12.5	769	58	29	46.0	2,830
August	13	4	7.6	467	49	16	24.4	1,500
September	29	10	14.0	833	45	24	31.9	1,900
The year	1,230	4	71.1	51,600	1,280	16	116	84,100

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 0.7 mile above Rock Creek Bridge and 7 miles northwest of Dayville. Zero of gage is 2,232.10 feet above mean sea level by 1929 general adjustment.

RECORDS AVAILABLE.—April 1926 to September 1932.

EXTREMES.—Maximum discharge during year, 4,800 second-feet Mar. 19 (gage height, 14.0 feet); minimum, 5 second-feet Aug. 16, 19–24, 26–29 (gage height, 0.3 foot).

1926–32: Maximum discharge, that of Mar. 19, 1932; minimum, 1 second-foot several days in August, September 1930.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	73	115	152		e1,000	1,560	1,400	595	100	9	6
2	12	74	126	130		e 800	1,820	1,520	538	76	7	6
3	9	77	131	122		638	1,860	1,520	538	62	7	7
4	10	79	133	131		570	1,730	1,560	512	56	7	7
5	12	79	130	136	e130	540	1,600	1,520	500	54	6	8
6	12	77	128	146		970	1,400	1,480	512	48	6	9
7	11	76	126	144		1,520	1,420	1,480	500	43	7	9
8	11	78	124	140		1,520	1,160	1,440	464	e 34	6	8
9	12	90	124	144		1,470	1,130	1,400	407	26	6	7
10	12	99	124	162	160	1,040	1,160	1,400	374	26	7	6
11	13	99	117	166	159	1,000	1,360	1,360	342	23	7	6
12	13	99	115	208	156	940	1,600	1,400	332	20	7	6
13	13	102	123	192	155	860	1,770	1,440	363	19	7	6
14	12	105	98	e160	136	880	1,820	1,520	418	18	6	8
15	8	108	115	e135		1,210	1,730	1,440	580	17	6	7
16	7	108	104	e145		1,150	1,650	1,280	550	15	5	8
17	9	115	129	160		1,790	1,600	1,130	500	15	6	9
18	11	117	157	178		2,800	1,520	1,050	452	13	6	10
19	15	115	174	224	e120	4,420	1,440	1,090	407	12	5	8
20	20	116	156	208		3,760	1,400	1,130	385	12	5	15
21	20	115	159	185		2,400	1,240	1,200	363	13	5	16
22	20	99	172	170		1,900	1,160	1,240	321	11	5	17
23	20	105	157	152	172	1,650	1,090	1,050	292	6	5	16
24	21	104	150	147	185	1,710	975	940	264	8	5	15
25	27	120	151	153	286	1,820		818	229	9	6	13
26	48	124	148	172	745	1,560	e1,100	730	206	7	5	12
27	62	122	150	167	1,250	1,480		685	184	7	5	12
28	68	120	169	156	e1,500	1,440		640	164	6	5	12
29	72	110	163	155	e1,200	1,440		655	146	6	5	13
30	74	106	147	156	-------	1,360	1,360	655	131	6	6	14
31	75	-------	153	151	-------	1,400	-------	610	-------	7	6	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	75	7	23.9	1,470
November	124	73	100	5,950
December	174	98	138	8,480
January	224	122	160	9,840
February	1,500	----------	284	16,300
March	4,420	540	1,520	93,500
April	1,860	975	1,400	83,300
May	1,560	610	1,190	73,200
June	595	131	386	23,000
July	100	6	25.0	1,540
August	9	5	6.0	369
September	17	6	9.9	589
The year	4,420	5	436	318,000

e Estimated.

JOHN DAY RIVER AT SERVICE CREEK, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 18, T. 9 S., R. 23 E., a quarter of a mile below Service Creek and three quarters of a mile southwest of Service Creek post office. Zero of gage is 1,635.83 feet above mean sea level by 1929 general adjustment.

RECORDS AVAILABLE.—October 1929 to September 1932.

EXTREMES.—Maximum discharge during year, 28,900 second-feet Mar. 19 (gage height, 16.75 feet); minimum discharge, 48 second-feet Oct. 2, 3; minimum gage height, 0.38 foot Sept. 17, 18.

1929–32: Maximum discharge, that of Mar. 19, 1932; minimum, 20 second-feet Sept. 6, 1931 (gage height, 0.28 foot).

REMARKS.—Records good except those estimated and those for July 18–26, which are fair. Many diversions for irrigation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	205	169	439	407	5,660	8,980	7,870		720	109	62
2	50	180	196	383		4,040	10,200	8,750	[a]2,600	640	107	61
3	51	169	266	308		3,180	11,000	8,980		560	107	64
4	51	167	266	363	[a]336	2,680	9,460	8,980		525	104	68
5	51	163	268	407		2,490	8,080	8,520	2,440	490	99	69
6	53	165	271	419		3,100	7,250	8,300		455	96	66
7	58	163	271	403	565	4,760	6,300	8,750		424	92	65
8	62	165	268	419		4,900	5,770	8,980		392	86	62
9	64	163	250	419		4,900	[a]5,400	8,980	[a]2,100	379	81	60
10	68	182	248	475		4,040	5,770	8,980		367	70	59
11	66	193	256	700	[a]592	3,600	7,050	8,750		349	72	58
12	65	193	233	1,120		3,380	9,220	8,520	1,950	334	74	58
13	63	189	202	995		3,180	11,000	9,460		304	76	59
14	63	180	191	815	498	3,280	12,000	10,200		283	80	59
15	60	157	140	655	359	4,380	11,200	8,980	[a]2,100	271	81	59
16	58	193	142	632	338	4,630	10,200	[a]7,000		277	78	58
17	63	221	233	610	439	6,860	9,460	6,300	2,120	258	73	57
18	65	228	308	678	423	16,300	8,520		1,950	240	71	57
19	64	240	371	995	423	26,800	7,450		1,790	218	67	58
20	62	240	367	1,080	475	24,400	7,870	[a]6,100	1,630	203	65	59
21	63	238	367	865	520	13,800	7,250		1,510	191	64	62
22	70	224	467	745	498	10,500	6,480	5,940	1,400	185	63	64
23	75	176	520	588	542	8,750	5,940		1,400	172	59	65
24	75	144	459	423	610	8,300	5,280		1,340	160	59	71
25	86	157	439	387	1,010	11,000	5,280		1,230	146	59	81
26	112	165	419	520	3,420	7,660	6,300	[a]3,500	1,100	140	59	75
27	131	184	439	632	7,250	6,120	7,050		1,010	135	60	74
28	159	196	455	588	8,050	7,050	7,450		920	126	62	72
29	171	193	475	588	8,260	7,660	7,660		845	120	58	72
30	167	191	375	542	-------	6,670	7,660		770	113	59	70
31	200	-------	459	520	-------	7,450	-------	-------	-------	110	61	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	200	50	80.6	4,960
November	240	144	187	11,100
December	520	140	316	19,400
January	1,120	308	604	37,100
February	8,260	-------	1,360	78,200
March	26,800	2,490	7,470	459,000
April	12,000	5,280	7,950	473,000
May	10,200	-------	6,710	413,000
June	-------	770	1,830	109,000
July	720	110	300	18,400
August	109	58	75.8	4,660
September	81	57	64.1	3,810
The year	26,800	50	2,250	1,630,000

[a] Estimated.

JOHN DAY RIVER AT McDONALD FERRY, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 11, T. 1 N., R. 19 E., at McDonald ferry, half a mile below mouth of Rock Creek. Zero of gage is 392.02 feet above mean sea level.

DRAINAGE AREA.—7,800 square miles.

RECORDS AVAILABLE.—December 1904 to September 1932.

EXTREMES.—Maximum discharge during year, 24,900 second-feet Mar. 20 (gage height, 10.6 feet); minimum discharge, 37 second-feet Sept. 8; minimum gage height, 1.01 feet Oct. 3.

1904–32: Maximum discharge, that of Mar. 20, 1932; minimum, 4 second-feet Aug. 31, 1931 (gage height, 0.68 foot).

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

REMARKS.—Records excellent except those estimated Nov. 19 to Dec. 22, Feb. 3–5, which are fair. Diversions for irrigation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	176		478	448	8,610	8,060	7,470	2,880	762	134	44
2	58	176		485	410	6,230	8,970	7,760	2,790	690	134	44
3	55	195		509	360	4,380	9,900	8,660	2,700	642	126	44
4	60	220		470	350	3,620	10,200	8,660	2,620	578	115	42
5	65	200		378	360	3,140	9,280	8,660	2,530	522	115	40
6	60	190		418	390	2,880	8,060	8,360	2,440	485	112	44
7	60	195		455	418	3,420	6,900	8,360	2,440	448	112	44
8	60	205		485	633	5,430	6,070	8,660	2,280	427	104	40
9	60	195		509	878	5,430	5,670	8,660	2,120	393	98	44
10	58	195		565	868	5,430	5,410	8,660	2,040	373	98	52
11	60	190		590	868	4,620	5,940	8,660	1,960	341	98	54
12	62	190	259	840	785	4,050	7,180	8,360	1,890	322	94	52
13	65	200		1,060	722	3,830	8,970	8,360	1,960	310	90	54
14	72	225		1,310	699	3,620	10,200	9,280	1,960	292	90	57
15	78	230		1,190	541	3,720	11,200	9,590	2,040	269	81	54
16	78	220		1,030	517	4,870	10,200	8,360	2,120	263	75	52
17	75	220		906	509	5,430	9,590	7,040	2,440	258	75	50
18	75	205		849	455	8,440	9,280	6,340	2,280	258	75	47
19	78			916	509	14,800	8,360	6,200	2,040	269	78	44
20	78			1,050	677	22,900	7,760	6,340	1,820	258	75	47
21	78			1,320	812	20,600	7,760	6,200	1,670	241	75	47
22	84			1,210	849	12,600	5,410	6,200	1,550	220	72	52
23	84		525	988	1,040	10,200	5,940	6,070	1,430	204	69	52
24	78		574	821	1,420	8,660	5,540	5,030	1,380	195	69	54
25	78	203	616	704	2,300	8,360	5,160	4,440	1,340	190	66	52
26	78		599	624	2,540	10,500	5,280	3,980	1,270	186	60	57
27	90		501	599	3,860	8,060	6,340	3,660	1,160	176	54	57
28	96		493	668	8,230	7,040	7,180	3,360	1,070	158	52	60
29	99		478	758	9,290	7,470	7,470	3,160	957	146	47	63
30	122		501	767	-------	8,060	7,470	3,070	850	142	42	78
31	148	-------	549	740	-------	7,180	-------	3,070	-------	138	42	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	148	55	75.9	4,670
November	----------	----------	202	12,000
December	616	----------	340	20,900
January	1,320	378	764	47,000
February	9,290	350	1,440	82,300
March	22,900	2,880	7,530	463,000
April	11,200	5,160	7,690	458,000
May	9,590	3,070	6,800	418,000
June	2,880	850	1,930	115,000
July	762	138	328	20,200
August	134	42	84.7	5,210
September	78	40	50.7	3,020
The year	22,900	40	2,270	1,650,000

STRAWBERRY CREEK ABOVE SOUTH FORK, NEAR PRAIRIE CITY, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 20, T. 14 S., R. 34 E., 100 feet above mouth of South Fork of Strawberry Creek and 8½ miles south of Prairie City.

RECORDS AVAILABLE.—October 1930 to September 1932.

EXTREMES.—Maximum discharge during year, 80 second-feet May 20 (gage-height, 2.33 feet); minimum, 1.4 second-feet Oct. 7–21, 23, 24, 26–28.

1930–32: Maximum discharge, that of May 20, 1932; minimum, 1.4 second-feet Jan. 8, 19, Oct. 7–21, 23, 24, 26–28, 1931.

REMARKS.—Records good. Discharge estimated Nov. 21–24, Dec. 15–17, Jan. 2–4, 13, 14, 22–25. No diversions above station. Some natural regulation by Strawberry Lake.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.6	1.7	1.7	1.7	1.9	5.1	18	35	37	9.1	4.6
2	1.5	1.6	1.7	1.7	1.7	1.9	6.3	20	36	37	8.8	4.4
3	1.5	1.6	1.7	1.7	1.7	1.8	6.8	20	36	33	8.4	4.4
4	1.5	1.7	1.7	1.7	1.7	1.8	6.8	20	37	31	8.4	4.4
5	1.5	1.7	1.7	1.7	1.7	1.8	6.3	20	39	29	8.1	4.4
6	1.5	1.7	1.7	1.7	1.7	1.8	5.8	22	42	26	8.1	4.4
7	1.4	1.7	1.6	1.6	1.6	1.8	5.8	26	41	25	7.9	4.2
8	1.4	1.7	1.6	1.7	1.6	1.7	5.5	31	39	22	7.9	4.2
9	1.4	1.7	1.6	1.7	1.6	1.7	5.3	36	39	21	7.9	4.0
10	1.4	1.7	1.6	1.6	1.6	1.7	5.5	42	40	19	7.6	3.8
11	1.4	1.7	1.6	1.7	1.6	1.7	6.5	46	44	17	7.3	3.8
12	1.4	1.7	1.6	1.7	1.6	1.7	8.6	50	49	16	7.3	3.8
13	1.4	1.7	1.6	1.7	1.6	1.7	11	63	52	15	7.0	3.8
14	1.4	1.7	1.6	1.7	1.6	1.7	13	72	55	14	7.0	3.4
15	1.4	1.7	1.6	1.7	1.6	1.7	13	71	56	14	6.8	3.4
16	1.4	1.7	1.6	1.7	1.6	1.7	13	65	57	13	6.8	3.2
17	1.4	1.7	1.6	1.7	1.6	1.8	13	65	55	12	6.5	3.2
18	1.4	1.7	1.6	1.7	1.6	3.4	12	70	52	12	6.5	3.2
19	1.4	1.7	1.6	1.7	1.6	5.8	12	75	52	11	6.2	3.2
20	1.4	1.7	1.6	1.7	1.6	4.8	12	77	52	11	6.0	3.2
21	1.4	1.7	1.6	1.7	1.6	4.6	11	75	53	11	5.7	3.1
22	1.7	1.7	1.6	1.7	1.6	4.6	11	71	54	10	5.7	3.1
23	1.4	1.7	1.6	1.7	1.5	4.4	10	51	58	10	5.5	3.1
24	1.4	1.7	1.6	1.7	1.5	4.6	9.9	47	57	10	5.5	3.1
25	1.5	1.8	1.6	1.7	1.5	4.4	11	45	56	9.8	5.3	2.9
26	1.4	1.8	1.6	1.7	1.6	4.4	13	44	52	9.8	5.3	2.9
27	1.4	1.8	1.6	1.7	1.7	4.4	14	43	44	9.5	5.1	2.9
28	1.4	1.7	1.6	1.7	1.9	4.4	14	40	42	9.1	5.1	2.8
29	1.5	1.7	1.6	1.7	2.0	4.4	15	38	39	9.1	4.9	2.8
30	1.5	1.7	1.6	1.7	------	4.4	16	37	38	9.5	4.9	2.8
31	1.5	------	1.7	1.7	------	4.4	------	36	------	9.1	4.6	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1.7	1.4	1.44	89
November	1.8	1.6	1.70	101
December	1.7	1.6	1.62	100
January	1.7	1.6	1.69	104
February	2.0	1.5	1.64	94
March	5.8	1.7	3.00	184
April	16	5.1	9.94	591
May	77	18	46.3	2,850
June	58	35	46.7	2,780
July	37	9.1	16.7	1,030
August	9.1	4.6	6.68	411
September	4.6	2.8	3.55	211
The year	77	1.4	11.8	8,540

PRAIRIE POWER CANAL AT PRAIRIE CITY, OREG.

LOCATION.—Staff gage in sec. 11, T. 13 S., R. 33 E., 240 feet above county road bridge over canal and 1 mile south of Prairie City.

RECORDS AVAILABLE.—May 1925 to September 1932.

EXTREMES.—Maximum discharge during year, 67 second-feet May 17, 19, 21. No flow from about 5 p.m. Mar. 18 to about 4 a.m. Mar. 19.

1925–32: Maximum discharge, 71 second-feet Dec. 10, 1929; no flow at times.

REMARKS.—Records fair. Discharge estimated Nov. 29, 30, Jan. 3. Canal diverts from John Day River in SE¼ 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	50	52	57	18	62	57	62	62	36	40	14
2	30	48	57	57	17	57	57	62	62	32	40	14
3	29	48	57	57	14	57	62	62	62	32	38	14
4	30	48	57	57	36	57	62	62	62	36	38	15
5	29	48	52	57	52	57	57	62	62	32	29	16
6	29	48	52	57	52	62	57	62	62	30	28	16
7	30	46	52	57	52	57	62	62	62	30	26	16
8	32	57	50	57	52	48	57	62	62	29	21	17
9	36	57	52	57	52	50	62	62	62	26	21	16
10	36	52	48	57	52	52	62	62	62	26	18	16
11	38	50	38	57	52	50	62	62	62	24	14	15
12	36	46	42	57	50	48	57	62	62	23	14	14
13	38	52	26	48	50	50	62	62	62	23	14	14
14	40	52	22	22	8	48	62	62	62	32	10	15
15	40	50	23	24	14	57	62	62	62	32	10	14
16	40	52	29	48	23	52	62	62	62	30	11	15
17	38	52	62	57	22	62	62	67	62	32	10	15
18	40	52	62	57	21	40	57	62	62	34	10	16
19	38	52	57	57	52	52	62	67	62	32	9	16
20	38	36	57	57	57	57	62	62	62	40	10	18
21	40	32	57	23	52	62	62	67	62	42	9	22
22	42	29	52	14	52	57	62	62	62	38	10	22
23	48	44	57	16	52	57	57	62	62	36	9	23
24	42	44	57	20	57	57	62	62	62	36	10	23
25	40	50	57	26	57	57	62	62	62	36	10	23
26	48	52	57	57	62	57	57	57	62	36	10	23
27	50	52	57	57	62	57	62	62	57	38	9	24
28	52	52	57	57	62	57	62	57	48	40	10	23
29	52	52	57	57	57	57	62	62	50	42	10	24
30	52	52	52	57	------	57	62	62	44	40	10	24
31	52	------	57	52	------	57	------	62	------	42	14	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	52	29	39.2	2,410
November	57	29	48.5	2,890
December	62	22	50.5	3,110
January	57	14	48.1	2,960
February	62	8	43.4	2,500
March	62	40	55.1	3,390
April	62	57	60.5	3,600
May	67	57	62.2	3,820
June	62	44	60.4	3,590
July	42	23	33.5	2,060
August	40	9	16.8	1,030
September	24	14	17.9	1,070
The year	67	8	44.6	32,400

NORTH FORK OF JOHN DAY RIVER NEAR DALE, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 35, T. 6 S., R. 31 E., three eighths of a mile below Desolation Creek and 1½ miles northeast of Dale.

RECORDS AVAILABLE.—October 1929 to September 1932.

EXTREMES.—Maximum discharge during year, 4,990 second-feet May 14 (gage height, 8.4 feet); minimum, 13 second-feet Nov. 13 (gage height, 1.59 feet).

1929–32: Maximum discharge, that of May 14, 1932; minimum, 11 second-feet Nov. 13, 1929.

REMARKS.—Records good except those estimated Nov. 22 to Jan. 9, Jan. 11 to Feb. 28, which are fair. Some small diversions for irrigation above station; no regulation.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	33	56			268	621	2,450	1,080	324	72	45
2	33	52			220	780	2,650	1,050	300	67	44
3	33	50			192	810	2,750	1,050	286	67	44
4	33	51			178	750	2,750	1,120	259	64	42
5	38	49	65		180	648	2,750	1,080	238	58	39
6	42	46			190	540	3,160	980	217	55	37
7	45	45			185	510	3,380	875	200	52	36
8	38	50			188	475	3,600	840	185	51	36
9	36	52	71		188	495	3,600	875	173	50	36
10	36	51			188	610	3,710	945	166	51	36
11	35	44			180	910	3,600	980	154	56	37
12	33	25			154	1,440	4,040	1,050	152	58	36
13	30	25			168	1,840	4,630	1,080	154	56	34
14	35	62			185	2,300	4,390	1,200	163	51	34
15	35	56		120	200	1,920	3,490	1,320	149	50	35
16	33	55			198	2,020	2,950	1,120	138	49	37
17	34	58			300	1,790	2,950	945	130	46	35
18	34	59			566	1,520	3,270	840	121	44	34
19	34	56			1,280	1,400	3,160	780	117	40	35
20	33	58	87		1,020	1,360	2,950	750	115	40	38
21	36	56			780	1,160	2,850	714	109	42	47
22	42				610	1,020	2,300	780	101	39	49
23	50				505	875	1,920	750	93	39	45
24	55				530	840	1,740	676	89	44	43
25	55				535	875	1,560	610	84	42	42
26	70	35			455	1,280	1,360	530	86	39	39
27	61				410	1,560	1,200	470	82	39	38
28	65				446	1,740	1,120	428	80	39	42
29	105			360	446	2,150	1,120	390	79	38	37
30	88			-------	442	2,200	1,120	356	75	38	37
31	65	-------		-------	500	-------	1,080	-------	79	45	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	105	30	45.0	2,770
November	62	----------	45.7	2,720
December	----------	----------	63.0	3,870
January	----------	----------	80.8	4,970
February	----------	----------	128	7,360
March	1,280	154	383	23,600
April	2,300	475	1,210	72,000
May	4,630	1,080	2,700	166,000
June	1,320	356	855	50,900
July	324	75	152	9,350
August	72	38	49.1	3,020
September	49	34	39.0	2,320
The year	4,630	----------	481	349,000

NORTH FORK OF JOHN DAY RIVER AT MONUMENT, OREG.

LOCATION.—Water-stage recorder in E½ sec. 1, T. 9 S., R. 27 E., just below entrance to canyon three quarters of a mile west of Monument.

RECORDS AVAILABLE.—March 1925 to September 1932.

EXTREMES.—Maximum discharge during year, 17,800 second-feet Mar. 18 (gage height, 14.8 feet); minimum, 7 second-feet Nov. 24 (gage height, 0.78 foot).

1925–32: Maximum discharge, that of Mar. 18, 1932; minimum, that of Nov. 24, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	a 160	a 145	a 260		3,220	6,650	6,370	2,110	a 500	a 109	57
2	65	150	140	a 240		2,420	7,520	6,510	2,050	a 450	a 107	67
3	62	140	143	a 240		1,810	7,230	6,370	1,990	a 400	a 104	65
4	62	133	156	a 250		1,600	6,230	6,510	1,930	a 350	101	a 62
5	68	133	166	272			6,510	6,370	1,760	303	a 94	60
6	75	128	163	263			5,250	6,370	1,650	a 295	88	57
7	75	126	158	263			4,160	6,090	1,600	287	77	54
8	85	133	150	256			4,020	6,800	1,540	a 283	a 76	56
9	81	133	145				3,020	7,080	1,600	279	a 75	56
10	77	143	145		a 290		4,700	6,940	1,650	a 271	74	57
11	74	135	145				6,800	a6,800	1,700	a 263	a 79	57
12	74	133				a4,500	7,520	a 7,200	a1,700	255	84	57
13		100					8,100	a 7,500	1,700	a 234	a 79	57
14		81					8,250	7,810	1,870	214	74	56
15		135	a 134				8,700	5,950	1,930	a 204	a 72	57
16		135					8,250	6,090	1,870	194	70	57
17		143					6,650	5,950	1,870	a 185	a 67	59
18		153					6,230	5,670	1,820	a 176	64	59
19		148	203		143		6,090	5,390	a1,640	167	a 59	59
20		150	214	a 420			5,810	5,250	a1,420	a 150	54	57
21	a 100	145	285			5,810	5,390	5,530	1,100	132	a 57	60
22		72	330			5,950	4,560	4,020	a1,100	a 125	60	70
23		35	296			5,810	5,250	4,020	1,100	118	a 58	79
24		20	292			6,230	5,250	3,350	a1,060	a 116	57	77
25		52	282			6,370	5,250	3,160	1,020	114	a 56	74
26		74	288			6,230	5,110	2,710	a 975	a 118	54	68
27		115	288		4,430	5,950	5,670	2,530	930	123	a 56	68
28		a 140	320		5,530	5,810	5,810	2,350	a 700	a 120	57	67
29		a 145	306		4,700	6,230	5,390	2,290	a 600	a 117	a 58	74
30		a 145	330			5,810	5,670	2,110	a 550	a 115	60	74
31			292			6,230		2,170		a 112	54	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October		62	89.1	5,480
November	160	20	121	7,200
December	330		204	12,500
January			378	23,200
February	5,530		855	48,000
March			4,760	293,000
April	8,700	3,020	6,030	359,000
May	7,810	2,110	5,270	324,000
June	2,110	550	1,480	88,100
July	500	112	218	13,400
August	109	54	72.1	4,430
September	79	54	62.6	3,720
The year		20	1,630	1,180,000

a Estimated.

MIDDLE FORK OF JOHN DAY RIVER AT RITTER, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 8, T. 8 S., R. 30 E., at bridge half a mile south of Ritter.

RECORDS AVAILABLE.—October 1929 to September 1932.

EXTREMES.—Maximum discharge during year ending Sept. 30, 1931, 1,960 second-feet Apr. 1 (gage height, 5.75 feet); minimum, 2.9 second-feet Aug. 20, 24, 25.

Maximum discharge during year ending Sept. 30, 1932, 4,000 second-feet Mar. 19 (gage height, 7.78 feet); minimum, 2.0 second-feet Nov. 22.

1929–32: Maximum discharge, that of Mar. 19, 1932; minimum, that of Nov. 22, 1931.

REMARKS.—Records good except those estimated because of ice and those above 1,500 second-feet, which are fair. A few small diversions for irrigation above station. Records for year ending Sept. 30, 1931, supersede those published in Water-Supply Paper 714 because of revision of records Mar. 17 to May 17, 1931.

Discharge, in second-feet, 1930-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1930-31												
1	34	33	34		57	68	1,830	496	96	46	9.5	4.6
2	32	32	36		64	94	1,290	545	89	40	9.5	5.6
3	29	32	45		60	103	822	580	84	38	9.0	4.6
4	28	32	43		60	121	678	565	79	34	8.5	6.0
5	27	32	37	50	62	108	638	530	72	32	8.5	4.3
6	27	32	32		64	94	838	540	67	31	8.0	4.6
7	45	32	30		72	87	942	520	62	29	7.5	6.3
8	96	32	8		60	84	854	440	60	28	6.7	8.5
9	58	33	18		59	92	720	405	58	26	6.3	11
10	47	35	30	62	57	90	684	383	67	24	6.0	14
11	37	35	41	62	62	103	649	336	64	20	6.0	14
12	36	36	45	64	72	166	595	366	57	20	6.0	14
13	35	38	48	64	63	208	690	359	53	18	6.0	13
14	34	38	45	64	66	236	684	383	55	17	6.0	12
15	33	21	46	63	60	263	495	432	63	16	4.6	12
16	33	28	39	59	72	343	555	387	110	14	3.9	11
17	32	46	39	57	63	323	580	349	146	13	4.6	12
18	32	43	42	55	72	409	565	299	142	14	4.6	15
19	32	28	42	54	87	530	515	263	148	13	4.6	17
20	32	37	39	45	74	448	469	239	113	13	3.2	23
21	32	45	34	45	64	487	440	214	97	13	3.4	22
22	31	37	27	52	62	638	444	198	92	13	3.4	18
23	31	34		112	70	482	413	186	96	12	3.2	18
24	32	30		103	63	413	373	175	82	10	3.2	18
25	34	30		73	63	390	349	164	72	10	3.2	19
26	38	11	22	70	54	333	339	152	64	10	3.4	18
27	36	20		76	60	296	376	140	57	10	3.6	18
28	36	29		78	62	269	420	128	57	9.5	3.2	18
29	34	40		90	-------	257	469	115	54	9.0	3.6	17
30	32	41		73	-------	311	482	106	52	8.5	3.6	21
31	32	-------		67	-------	966	-------	101	-------	9.5	4.3	-------

Discharge, in second-feet, of Middle Fork of John Day River at Ritter, Oreg., 1930–32—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1931–32												
1	16	36	25	35		420	1,380	1,150	405	87	32	20
2	14	34	38	38		323	1,880	1,200	402	80	31	19
3	14	32	44	43	41	260	1,780	1,240	398	78	29	17
4	14	32	44	44		219	1,520	1,240	405	78	27	16
5	20	31	41	45		219	1,290	1,150	402	76	24	16
6	21	30	40	43	43	369	1,010	1,160	376	68	20	16
7	22	30	38	42	55	356	934	1,200	349	60	19	15
8	21	32	38	43	54	439	926	1,200	343	58	19	15
9	22	34	38	43	55	432	966	1,200	339	54	16	15
10	21	35		50	54	359	1,140	1,240	343	53	15	15
11	21	34		59	53	349	1,470	1,200	356	52	18	14
12	21	28	38	79	48	327	1,780	1,290	359	51	20	14
13	22	17		70	50	305	1,960	1,420	387	54	19	16
14	22	37		60	51	308	2,010	1,420	373	64	18	17
15	22	35	38	51	53	394	1,780	1,200	416	60	16	18
16	21	29	35	47	50	400	1,700	1,030	376	55	16	18
17	21	41	45	47	51	929	1,560	966	323	51	16	18
18	23	39	47	51	59	2,120	1,380	990	287	48	14	15
19	23	38	44	53	66	3,230	1,290	974	260	45	14	15
20	28	39	44	51	64	2,110	1,240	942	239	45	12	19
21	24	28	46	50	60	2,160	1,060	902	222	45	13	23
22	23	4.3	41	46	57	886	934	790	211	42	13	25
23	33	7.0	39	39	54	762	822	672	198	39	14	24
24	40	13	39	41	59	822	755	605	182	36	14	23
25	37	20	38	43	94	974	862	560	162	37	13	22
26	37	26	38	46	398	798	1,040	515	148	38	13	22
27	41	31	38	50	611	672	1,100	464	136	36	15	22
28	38	34	38	50	612	790	1,110	432	121	33	16	25
29	50	33	39	50	633	878	1,150	440	103	32	16	24
30	43	27	42	48	------	822	1,110	432	94	31	16	20
31	37	------	39	47	------	1,170	------	424	------	32	16	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
1930–31				
October	96	27	36.4	2,240
November	46	11	33.1	1,970
December	48	8	32.2	1,980
January	112	----------	62.5	3,840
February	87	54	64.4	3,580
March	966	68	284	17,500
April	1,830	339	640	38,100
May	580	101	326	20,000
June	148	52	80.3	4,780
July	46	8.5	19.4	1,190
August	9.5	3.2	5.39	331
September	23	4.3	13.3	791
The year	1,830	3.2	133	96,300
1931–32				
October	50	14	26.2	1,610
November	41	4.3	29.5	1,760
December	47	25	39.5	2,430
January	79	35	48.5	2,980
February	633	----------	124	7,130
March	3,230	219	794	48,800
April	2,010	755	1,300	77,400
May	1,420	424	956	58,800
June	416	94	290	17,300
July	87	31	52.2	3,210
August	32	12	17.9	1,100
September	25	14	18.6	1,110
The year	3,230	4.3	308	224,000

FOX CREEK AT GORGE NEAR FOX, OREG.[1]

LOCATION.—Water-stage recorder in NW¼ sec. 17, T. 11 S., R. 29 E., at head of gorge 6 miles southwest of Fox.

RECORDS AVAILABLE.—October 1930 to September 1932.

EXTREMES.—Maximum discharge during year, 700 second-feet Mar. 18 (gage height, 4.55 feet); no flow at times.

1930–32: Maximum discharge, that of Mar. 18, 1932; no flow at times.

REMARKS.—Records good except those estimated and those above 150 second-feet, which are poor. Several diversions for irrigation in valley above station.

Discharge, in second-feet, 1931–32

Day	Feb.	Mar.	Apr.	May	June	Day	Feb.	Mar.	Apr.	May	June
1		93	176	150	22	16		178	136	48	4.8
2		43	182	170	18	17		290	134	41	4.0
3		39	152	162	16	18		530	121	36	2.8
4		39	139	194	12	19		588	120	32	2.3
5		22	121	172	10	20		252	116	30	1.9
6		34	96	154	9.8	21	e 0.2	172	95	44	1.6
7		29	88	145	8.6	22		158	100	44	1.2
8	e 0.2	58	77	132	6.7	23		137	95	34	.9
9		106	74	121	7.0	24		250	82	29	.6
10		101	82	113	6.4	25		184	134	23	.5
11		108	101	103	5.4	26	52	118	130	22	.4
12		111	123	88	4.6	27	137	130	139	20	.3
13		85	137	79	2.6	28	218	184	141	22	.2
14		101	158	70	4.2	29	143	145	134	36	.2
15		208	137	59	5.8	30		156	134	28	.2
						31		172		25	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
December			e.1	6
January			e.1	6
February	218		19.1	1,100
March	588	22	156	9,590
April	182	74	122	7,260
May	194	20	78.3	4,810
June	22	.2	5.37	320
July			e.1	6
September			e.1	6
The year	588	0	31.8	23,000

e Estimated.

NOTE.—Practically no flow during months omitted.

[1] The lower portion of this stream is named Cottonwood Creek.

DESCHUTES RIVER BASIN

CRANE PRAIRIE RESERVOIR NEAR LAPINE, OREG.

LOCATION.—Staff gage at reservoir dam in NW¼ sec. 16, T. 21 S., R. 8 E., 15 miles northwest of Lapine. Zero of gage is 4,400.0 feet above mean sea level.

RECORDS AVAILABLE.—November 1922 to September 1932.

EXTREMES.—Maximum contents during year, 27,860 acre-feet June 8 (gage height, 38.84 feet); no storage Oct. 1 to Jan. 1, when gates were open and natural flow was passing through reservoir (gage height, below 28.40 feet).

1922–32: Maximum contents, 50,830 acre-feet Jan. 10–13, 1924 (gage height, 44.10 feet); no storage at times.

REMARKS.—Records good. Reservoir was completed by North Canal Co. in 1922; gates were first closed Nov. 4, 1922. Capacity of reservoir is 55,200 acre-feet at spillway crest at gage height 45 feet. Stored water is used for irrigation of lands near Bend and Redmond. Records furnished by State engineer.

Stage and contents of Crane Prairie Reservoir, 1931–32

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	[a] 27.5	0	----------	May 31	38.40	26,140	+9,540
Oct. 31	[a] 27.6	0	0	June 30	38.16	25,220	−920
Nov. 30	28.00	0	0	July 31	35.60	15,980	−9,240
Dec. 31	27.80	0	0	Aug. 31	34.20	11,440	−4,540
Jan. 31	31.14	3,369	+3,369	Sept. 30	33.88	10,460	−980
Feb. 29	32.14	5,665	+2,296				
Mar. 31	34.46	12,250	+6,585	The year	----------	----------	+10,460
Apr. 30	35.78	16,600	+4,350				

[a] Water below gage; stage estimated.

DESCHUTES RIVER AT CRANE PRAIRIE, NEAR LAPINE, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 16, T. 21 S., R. 8 E., 200 yards below Crane Prairie Dam and 15 miles northwest of Lapine. Prior to May 10, 1932, staff gage at same location and datum.

RECORDS AVAILABLE.—January 1914 to June 1917; February 1922 to September 1932.

EXTREMES.—Maximum discharge during year, 431 second-feet Aug. 9–11 (gage height, 2.08 feet); minimum, 17 second-feet Mar. 2–13 (gage height, 0.40 foot).

1914–17, 1922–32: 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. Discharge interpolated because of ice effect Nov. 22–25, Dec. 12–19. Flow partly regulated since Nov. 4, 1922, by storage in Crane Prairie Reservoir. Records furnished by State engineer.

Discharge, in second-feet, of Deschutes River at Crane Prairie, near Lapine, Oreg., 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	136	136	92	56	47	21	126	164	367	404	327
2	126	131	136	47	56	38	21	126	164	367	404	331
3	126	128	136	47	56	17	21	126	166	370	407	331
4	126	128	136	47	56	17	21	126	166	370	411	331
5	126	126	136	47	56	17	21	126	166	370	421	331
6	128	126	136	47	56	17	21	136	166	370	424	334
7	128	126	136	47	56	17	21	136	166	370	428	334
8	128	131	136	44	56	17	21	136	209	370	424	327
9	128	131	136	44	56	17	23	136	247	370	428	324
10	128	131	136	47	56	17	23	141	250	367	431	321
11	126	131	136	47	56	17	82	141	250	367	428	321
12	126	131		47	56	17	111	141	250	363	428	315
13	126	126		47	56	17	111	144	250	363	428	315
14	126	126		56	56	18	121	144	250	363	428	311
15	126	131		56	56	18	121	146	250	363	428	311
16	128	131	136	56	56	20	121	146	250	367	424	311
17	128	131		56	56	20	121	146	286	367	360	308
18	128	131		56	56	21	126	148	315	367	318	305
19	128	136		56	56	21	126	151	311	367	318	305
20	128	136	136	56	56	21	126	154	311	363	321	305
21	128	136	136	56	56	21	126	154	308	363	321	302
22	146		126	56	56	21	126	151	308	380	318	299
23	146	136	126	56	56	21	126	154	308	394	318	296
24	146		126	56	56	21	126	154	308	401	321	296
25	156		126	56	56	21	126	154	308	401	321	296
26	156	136	126	56	56	21	126	156	305	401	321	296
27	156	136	136	56	56	21	126	158	331	404	324	296
28	146	136	136	56	56	21	126	161	363	404	324	293
29	146	136	136	56	47	21	126	161	367	404	327	283
30	141	136	136	56	------	21	126	161	367	404	327	277
31	141	------	136	56	------	21	------	164	------	404	327	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	156	126	134	8,240
November	136	126	132	7,860
December	136	126	134	8,240
January	92	44	53.5	3,290
February	56	47	55.7	3,200
March	47	17	20.7	1,270
April	126	21	88.0	5,240
May	164	126	145	8,920
June	367	164	262	15,600
July	404	363	377	23,200
August	431	318	375	23,100
September	334	277	311	18,500
The year	431	17	174	127,000

DESCHUTES RIVER ABOVE DAVIS CREEK, NEAR LAPINE, OREG.

LOCATION.—Staff gage in SE¼ 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 December 1932 (discontinued).

EXTREMES.—Maximum discharge during year, 742 second-feet Aug. 7–17; maximum gage height, 1.82 feet Aug. 14–16; minimum discharge, 264 second-feet Mar. 22 (gage height, 0.09 foot).

1925–32: Maximum discharge, 806 second-feet Aug. 13, 14, Aug. 16 to Sept. 16, 1925 (gage height, 2.0 feet); minimum, that of Mar. 22, 1932.

REMARKS.—Records good. Discharge interpolated Sept. 30. No diversions above station. Flow regulated to small extent by storage in Crane Prairie Reservoir. Records furnished by State engineer.

Discharge, in second-feet, of Deschutes River above Davis Creek, near Lapine, Oreg., 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1931–32												
1	395	382	356	356	304	291	266	382	421	648	710	648
2	395	382	356	317	291	291	266	382	421	664	710	648
3	395	382	369	317	291	266	266	382	421	648	710	648
4	395	382	369	317	291	266	266	382	421	648	710	648
5	395	382	369	317	291	266	266	382	421	648	726	648
6	395	382	330	317	291	266	266	382	421	648	726	648
7	395	382	369	304	291	266	266	382	434	648	742	648
8	395	382	369	291	291	266	266	382	500	648	742	632
9	382	382	343	291	291	266	266	382	500	648	742	632
10	382	382	369	291	291	266	266	382	514	648	742	632
11	395	369	369	317	291	266	343	382	514	648	742	632
12	395	369	343	291	278	266	343	382	514	648	742	632
13	395	382	369	278	291	266	343	395	514	648	742	632
14	395	382	356	291	291	266	343	395	514	648	742	632
15	395	382	330	291	304	266	369	395	527	648	742	632
16	395	369	343	304	304	266	369	395	514	648	742	632
17	395	369	356	317	317	266	369	395	527	648	742	632
18	395	369	356	317	291	266	369	395	586	648	632	632
19	395	343	369	317	291	278	369	395	586	648	632	632
20	395	343	369	304	304	266	382	408	586	648	632	632
21	395	369	369	304	304	266	382	408	586	648	632	632
22	408	369	369	304	291	264	382	408	586	664	632	632
23	395	395	356	291	291	278	369	408	586	694	648	632
24	395	369	369	304	291	266	382	408	586	694	648	617
25	408	369	343	304	291	266	382	408	586	694	648	617
26	395	369	356	304	291	266	395	408	586	694	648	617
27	395	369	343	304	291	266	382	421	586	694	648	617
28	395	369	356	317	291	266	382	421	648	710	648	617
29	395	369	343	317	291	266	382	434	648	710	648	617
30	382	343	369	291	-------	266	382	421	648	710	648	617
31	382	-------	369	304	-------	266	-------	421	-------	710	648	------

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1932											
1	617	527	514	11	571	527	486	21	556	514	473
2	602	527	514	12	571	527	486	22	556	514	473
3	602	527	514	13	556	527	486	23	542	514	473
4	586	514	514	14	556	527	486	24	542	514	473
5	586	527	514	15	571	527	486	25	542	514	473
6	586	527	500	16	571	527	473	26	542	514	473
7	571	527	500	17	556	527	473	27	556	514	473
8	571	527	500	18	556	514	473	28	542	527	473
9	571	527	500	19	556	514	473	29	542	527	473
10	556	527	486	20	556	514	473	30	527	514	473
								31	527	-------	473

Month	Maximum	Minimum	Mean	Run-off in acre-feet
1931–32				
October	408	382	394	24, 200
November	395	343	373	22, 200
December	369	330	358	22, 000
January	356	278	306	18, 800
February	317	278	294	16, 900
March	291	264	268	16, 500
April	395	266	336	20, 000
May	434	382	398	24, 500
June	648	421	530	31, 500
July	710	648	664	40, 800
August	742	632	692	42, 500
September	648	617	632	37, 600
The year	742	264	438	318, 000
1932				
October	617	527	563	34, 600
November	527	514	522	31, 100
December	514	473	486	29, 900
The period	-------	-------	-------	95, 600

DESCHUTES RIVER AT PRINGLE FALLS, NEAR LAPINE, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 23, T. 21 S., R. 9 E., half a mile above bridge at Pringle Falls and 7 miles northwest of Lapine.

RECORDS AVAILABLE.—December 1915 to June 1917; June 1922 to September 1932.

EXTREMES.—Maximum discharge during year, 960 second-feet Aug. 15 (gage height, 2.41 feet); minimum, 341 second-feet during period when recorder was stopped, Feb. 1–14 (gage height, 1.02 feet).

1915–17, 1922–32: Maximum discharge, 1,170 second-feet June 21–27, 29, 30, 1917; minimum, that of February 1932.

REMARKS.—Records good. No diversions. Flow regulated to small extent since 1922 by storage in Crane Prairie Reservoir. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	530	530	512	478		425	425	550	630	825	905	825
2	530	530	512	442		425	425	550	630	825	878	825
3	530	530	512	442		410	425	550	610	825	878	825
4	530	530	512	460		395	410	570	630	825	905	825
5	530	530	512	442		395	410	570	630	825	905	825
6	530	530	495	442		395	410	570	630	825	905	825
7	530	530	512	425	[a] 425	395	410	570	630	825	905	825
8	512	530	512	425		410	410	570	630	825	905	825
9	512	530	512	425		410	410	570	690	825	905	825
10	512	530	512	425		410	410	570	690	825	932	800
11	512	530	512	425		395	425	570	710	825	932	800
12	512	530	495	442		395	478	570	710	825	932	800
13	512	530	530	410		395	495	570	710	825	932	800
14	512	530	495	[a] 418		395	495	570	710	825	932	800
15	530	530	495	425	425	410	495	570	710	825	932	800
16	530	530	[a] 495	442	425	425	512	570	710	850	932	800
17	530	530	495	442	425	[a] 425	510	590	710	850	905	800
18	512	530	495	442	425	425	510	590	778	850	800	800
19	512	548	495	460	425	442	510	610	778	825	800	800
20	530	548	495	410	425	410	510	610	755	825	800	800
21	512	530	495	[a] 420	425	425	510	590	778	825	825	800
22	548	512	495	[a] 431	425		510	590	[a] 770	850	825	800
23	548	530	495	442	425		530	590	[a] 760	878	825	800
24	530	512	495	442	425		530	590	[a] 760	878	825	800
25	548	495	495	425	425		550	590	755	878	825	800
26	548	512	495	425	425	[a] 440	550	590	755	878	825	800
27	530	512	495	425	442		550	610	755	878	825	800
28	530	512	495	425	442		550	610	825	878	825	800
29	530	495	478	425	442		530	650	825	878	825	800
30	530	495	495	425	-------		550	630	825	905	825	778
31	530	-------	495	425	-------	425	-------	630	-------	905	825	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	548	512	527	32,400
November	548	495	525	31,200
December	530	478	501	30,800
January	478	410	433	26,600
February	442	----------	427	24,600
March	----------	395	419	25,800
April	550	410	482	28,700
May	650	550	585	36,000
June	825	610	716	42,600
July	905	825	845	52,000
August	932	800	871	53,600
September	825	778	807	48,000
The year	932	----------	595	432,000

[a] Estimated.

DESCHUTES RIVER AT BENHAM FALLS, NEAR BEND, OREG.

LOCATION.—Water-stage recorder in SE¼ 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 1932.

EXTREMES.—Maximum discharge during year, 1,350 second-feet June 1 (gage height, 1.54 feet); minimum, 721 second-feet Nov. 23 (gage height, —0.03 foot).

1909–13, 1920–21, 1924–32: Maximum discharge (estimated), 5,000 second-feet Nov. 27, 1909 (gage height not determined); minimum, that of Nov. 23, 1931.

REMARKS.—Records good except those estimated, which are fair. Minor diversions for irrigation above station. Some regulation since 1922 caused by storage in Crane Prairie and Crescent Lake Reservoirs. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	827	858	[a] 810	830		805	1,000	1,170	1,320	1,320	1,300	1,150
2	824	852	872	817		805	1,010	1,170	1,300	1,310	1,300	1,150
3	817	848	908	796		802	1,010	1,180	1,280	1,300	1,300	1,140
4	817	844	855	790		802	1,020	1,200	1,240	1,300	1,300	1,140
5	817	841	841	796		802	1,020	1,200	1,220	1,300	1,290	1,140
6	817	841	841	793	[a] 820	817	996	1,220	1,200	1,300	1,300	1,140
7	814	841	830	793		834	972	1,200	1,180	1,290	1,300	1,140
8	814	841	838	781		848	953	1,220	1,170	1,290	1,300	1,120
9	814	844	838	781		855	942	1,200	1,180	1,290	1,300	1,120
0	814	844	824	784		855	939	1,190	1,220	1,280	1,300	1,110
11	814	852		790		852	936	1,180	1,230	1,280	1,300	1,100
12	814	852		805	787	855	960	1,180	1,220	1,280	1,300	1,100
13	814	852		781		862	1,020	1,180	1,220	1,280	1,300	1,090
14	814	848	[a] 820	751		866	1,020	1,180	1,220	1,270	1,300	1,080
15	814	844		781		862	1,040	1,190	1,240	1,260	1,300	1,080
16	814	862		808		869	1,080	1,200	1,240	1,260	1,300	1,080
17	811	872	855	817		904	1,080	1,220	1,240	1,260	1,300	1,080
18	811	866	925	808		936	1,080	1,240	1,240	1,260	1,280	1,080
19	814	872	939	808		976	1,100	1,260		1,260	1,220	1,080
20	814	876	866	802	[a] 785	1,000	1,120	1,290		1,240	1,190	1,080
21	814	858	844			1,000	1,140	1,300	[a] 1,310	1,220	1,200	1,080
22	827	820	841			1,000	1,140	1,290		1,230	1,190	1,080
23	858	787	838			1,020	1,140	1,280		1,280	1,190	1,080
24	858	866	834			1,040	1,120	1,310		1,310	1,190	1,080
25	855	897	834			1,040	1,120	1,320	1,280	1,320	1,180	1,080
26	866	876	834	[a] 800		1,010	1,150	1,330	1,280	1,320	1,180	1,080
27	872	848	841			1,030	1,170	1,300	1,280	1,310	1,180	1,080
28	869	844	830		799	1,040	1,170	1,270	1,280	1,300	1,170	1,080
29	869	[a] 850	824		805	1,030	1,180	1,320	1,320	1,300	1,160	1,080
30	858	[a] 815	830		-------	1,020	1,180	1,330	1,320	1,300	1,160	1,080
31	855	-------	838		-------	1,010	-------	1,320	-------	1,300	1,160	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	872	811	829	51,000
November	897	787	850	50,600
December	939	810	844	51,900
January	830	751	797	49,000
February	-------	-------	800	46,000
March	1,040	802	918	56,400
April	1,180	936	1,060	63,100
May	1,330	1,170	1,240	76,200
June	1,320	1,170	1,260	75,000
July	1,320	1,220	1,280	78,700
August	1,300	1,160	1,250	76,900
September	1,150	1,080	1,100	65,500
The year	1,330	751	1,020	740,000

[a] Estimated.

DESCHUTES RIVER BELOW LAVA ISLAND, NEAR BEND, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 23, T. 18 S., R. 11 E., three quarters of a mile below Lava Island, 1 mile below intake of Arnold Canal, and 6 miles southwest of Bend.

RECORDS AVAILABLE.—March 1926 to September 1932.

EXTREMES.—Maximum discharge during year, 1,250 second-feet June 27 (gage height, 1.08 feet); minimum, 665 second-feet Nov. 23 (gage height, 0.27 foot).

1926–32: Maximum discharge, 1,780 second-feet Jan. 3, 1928 (gage height, 1.55 feet); minimum, that of Nov. 23, 1931.

REMARKS.—Records good. Arnold Canal diverts water for irrigation above station. Flow regulated by storage in Crescent Lake and Crane Prairie Reservoirs. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	718	774	724	742		768	918	1,070	1,170	1,170	1,140	992
2	718	768	768	730		761	934	1,080	1,150	1,170	1,140	983
3	718	780	815	708	a 750	761	978	1,070	1,110	1,160	1,140	983
4	718	794	761	696		718	987	1,100	1,060	1,160	1,140	983
5	718	787	754	696		696	987	1,110	1,030	1,150	1,130	983
6	718	787	768	696	754	702	969	1,120	992	1,150	1,140	974
7	718	787	761	696	742	730	943	1,120	974	1,150	1,140	974
8	718	787	774	686	724	774	909	1,120	964	1,150	1,140	974
9	724	787	774	675	708	780	875	1,080	964	1,140	1,140	964
10	718	780	761	670	724	774	852	1,050	1,050	1,120	1,140	964
11	724	787	774	686	724	774	845	1,030	1,130	1,110	1,150	954
12	718	787	735	713	713	780	860	1,030	1,030	1,110	1,150	954
13	724	787	708	691	713	787	909	1,020	1,020	1,110	1,150	954
14	724	780	735	675	702	787	926	1,030	1,030	1,110	1,150	945
15	724	774	a 735	a 696	691	787	943	1,030	1,040	1,080	1,160	945
16	724	780	a 710	718		794	969	1,040	1,030	1,070	1,160	945
17	724	794	735	730	a 700	822	987	1,050	1,030	1,060	1,160	945
18	724	787	845	718		860	978	1,060	1,040	1,060	1,150	945
19	730	787	852	718		909	996	1,100	1,110	1,050	1,140	945
20	724	794	794	713	742	943	1,010	1,130	1,150	1,040	1,070	945
21	718	780	748	713	735	952	1,030	1,160	1,150	1,020	1,040	945
22	730	730	748	708	708	960	1,040	1,140	1,150	1,020	1,030	945
23	754	702	724	a 700	708	978	1,030	1,140	1,140	1,080	1,030	945
24	754	761	730	a 700	713	1,010	1,010	1,150	1,120	1,130	1,030	945
25	754	808	713	670	724	1,000	1,000	1,160	1,110	1,150	1,020	945
26	761	780	713	724	735	969	1,040	1,170	1,110	1,150	1,020	945
27	780	735	724		754	987	1,070	1,150	1,160	1,150	1,020	937
28	774	742	754		748	1,010	1,080	1,110	1,130	1,150	1,020	937
29	774	742	735	a 740	761	996	1,080	1,150	1,160	1,150	1,000	937
30	761	730	742			952	1,090	1,190	1,170	1,140	992	937
31	761		742			934		1,170		1,140	992	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	780	718	734	45,100
November	808	702	773	46,000
December	852	708	753	46,300
January	742	670	709	43,600
February	761	691	727	41,800
March	1,010	696	853	52,400
April	1,090	845	975	58,000
May	1,190	1,020	1,100	67,600
June	1,170	964	1,080	64,300
July	1,170	1,020	1,120	68,900
August	1,160	992	1,100	67,600
September	992	937	956	56,900
The year	1,190	670	907	658,000

a Estimated.

DESCHUTES RIVER BELOW BEND, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 20, T. 17 S., R. 12 E., half a mile below North Canal Dam and 2 miles north of Bend. Gage datum lowered 1.00 foot Oct. 1, 1931.

RECORDS AVAILABLE.—November 1914 to September 1932.

EXTREMES.—Maximum discharge during year, 1,110 second-feet Dec. 15 (gage height, 2.94 feet); minimum, 27 second-feet June 26, Aug. 21 (gage height, 1.00 foot).

1914–32: Maximum discharge, 2,500 second-feet Dec. 7, 1921 (gage height, 3.9 feet, present datum); minimum, 1 second-foot Aug. 25, 1930.

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

REMARKS.—Records good except those for Oct. 1 to Mar. 20, Apr. 14, May 12–15, which are fair. Discharge estimated Nov. 27, Dec. 1, 2, Jan. 15–22, 29–31, Feb. 1, 2, Apr. 14. Six large canals divert above station. Flow regulated by hydroelectric plant at Bend and since 1922 by storage in Crescent Lake and Crane Prairie Reservoirs. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	133	176	620	682	740	658	796	213	377	143	105	134
2	133	375	600	638	740	628	814	204	377	137	100	124
3	133	363	528	630	736	620	850	231	314	143	100	124
4	130	375	381	608	744	605	931	264	280	134	98	121
5	139	363	417	585	736	530	895	275	240	137	107	121
6	127	352	521	578	535	545	832	280	196	401	93	124
7	130	358	549	630	435	545	760	286	165	568	100	115
8	127	358	563	705	423	612	728	286	147	467	95	118
9	116	363	705	542	387	605	570	255	128	364	95	112
10	110	358	760	461	454	605	250	208	147	131	98	112
11	110	363	712	454	768	582	291	179	196	115	100	112
12	116	363	712	645	705	598	255	161	105	102	102	110
13	116	369	652	720	660	605	245	134	86	121	110	107
14	113	405	776	675	698	612	160	110	72	112	105	115
15	113	600	760		630	605	112	118	76	134	100	98
16	116	736	698		600	620	121	137	74	124	95	112
17	116	744	608		698	642	154	143	78	124	100	107
18	116	736	600	710	705	688	140	150	78	124	93	128
19	119	736	585		682	665	187	183	112	100	100	147
20	124	736	585		690	552	231	213	143	102	84	137
21	119	736	585		668	568	245	255	157	76	98	140
22	139	728	585		645	590	250	255	147	93	121	137
23	165	712	585	668	645	552	235	240	134	102	121	143
24	158	698	698	712	468	590	208	226	128	99	121	154
25	176	736	675	698	334	575	208	235	118	93	131	157
26	161	736	728	768	312	552	221	255	100	107	121	172
27	169	590	675	760	346	582	240	250	161	121	121	175
28	133	549	668	768	352	778	231	208	107	112	128	175
29	122	563	675	750	552	886	217	286	128	105	154	183
30	110	682	800	750	-------	814	213	344	137	102	147	187
31	97	-------	768	750	-------	832	-------	370	-------	102	137	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	176	97	129	7,930
November	744	176	532	31,700
December	800	381	638	39,200
January	768	454	673	41,400
February	768	312	589	33,900
March	886	530	627	38,600
April	931	112	386	23,000
May	370	110	224	13,800
June	377	72	157	9,340
July	568	76	158	9,720
August	154	84	109	6,700
September	187	98	133	7,910
The year	931	72	362	263,000

DESCHUTES RIVER NEAR MADRAS, OREG.

LOCATION.—Water-stage recorder in NW¼ 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 1932.

EXTREMES.—Maximum discharge during year, 8,940 second-feet Mar. 20 (gage height, 5.22 feet); minimum, 3,050 second-feet Oct. 13 (gage height, 0.34 foot).

1923–32: Maximum discharge, 10,700 second-feet Feb. 6, 1925 (gage height, 6.54 feet); minimum, 2,960 second-feet Aug. 15, 1931.

REMARKS.—Records excellent. Diversions for irrigation in upper river basin. Gage-height record furnished by Columbia Valley Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,090	3,130	3,740	3,910	3,800	5,070	6,080	4,590	4,080	3,640	3,300	3,260
2	3,080	3,180	3,800	3,800	3,740	4,710	6,600	4,710	4,080	3,640	3,310	3,270
3	3,070	3,380	3,860	3,690	3,740	4,300	6,990	5,070	4,020	3,740	3,320	3,250
4	3,060	3,370	3,580	3,740	3,910	4,180	6,860	5,070	4,020	3,640	3,300	3,240
5	3,080	3,360	3,430	3,690	3,910	4,080	6,340	4,830	3,910	3,480	3,310	
6	3,080	3,360	3,480	3,690	3,910	4,080	5,950	4,590	3,800	3,480	3,310	
7	3,070	3,380	3,580	3,690	3,580	4,240	5,570	4,590	3,690	3,690	3,310	
8	3,070	3,430	3,580	3,800	3,530	4,590	5,320	4,590	3,690	3,910	3,310	
9	3,080	3,370	3,580	3,860	3,530	4,950	5,320	4,590	3,640	3,860	3,290	
10	3,080	3,370	3,800	3,580	3,530	4,950	5,070	4,470	3,690	3,740	3,270	
11	3,060	3,350	3,740	3,740	3,690	4,710	5,070	4,470	3,740	3,480	3,260	3,220
12	3,060	3,350	3,690	3,800	3,910	4,590	5,320	4,350	3,860	3,380	3,280	
13	3,060	3,380	3,690	3,960	3,800	4,590	5,570	4,350	3,740	3,430	3,280	
14	3,060	3,380	3,690	3,860	3,690	4,710	5,570	4,350	3,800	3,430	3,290	
15	3,060	3,430	3,690	3,910	3,740	4,710	5,320	4,240	3,740	3,430	3,290	
16	3,060	3,740	3,740	3,960	3,640	5,070	5,070	4,130	3,690	3,430	3,280	
17	3,060	3,860	3,910	3,960	3,690	5,200	4,950	4,080	3,640	3,480	3,280	
18	3,060	3,860	3,800	4,020	3,800	5,830	4,950	4,130	3,530	3,430	3,260	3,200
19	3,060	3,860	3,740	4,020	3,860	7,380	4,830	4,130	3,480	3,430	3,250	3,210
20	3,060	3,910	3,800	3,960	3,910	8,550	4,710	4,180	3,530	3,380	3,240	3,260
21	3,060	3,860	3,740	3,960	3,910	8,550	4,590	4,240	3,640	3,360	3,260	3,240
22	3,130	3,800	3,740	3,910	3,860	7,120	4,470	4,130	3,800	3,360	3,220	3,230
23	3,160	3,800	3,690	3,800	3,800	6,340	4,350	4,080	3,860	3,340	3,260	3,240
24	3,150	3,800	3,740	3,740	3,860	6,210	4,300	4,080	3,740	3,350	3,260	3,240
25	3,170	3,860	3,860	3,800	3,640	6,210	4,180	4,020	3,690	3,360	3,260	3,250
26	3,150	3,910	3,800	3,860	4,020	6,730	4,470	3,960	3,580	3,320	3,290	3,250
27	3,170	3,860	3,860	3,910	5,320	6,210	4,590	3,910	3,580	3,330	3,260	3,260
28	3,210	3,640	3,800	3,860	5,070	5,950	4,590	3,860	3,640	3,350	3,260	3,260
29	3,190	3,530	3,690	3,910	4,710	6,210	4,590	3,910	3,640	3,320	3,240	3,260
30	3,140	3,580	3,860	3,860	-------	6,210	4,710	4,020	3,640	3,290	3,260	3,260
31	3,140	-------	3,960	3,910	-------	6,080	-------	4,080	-------	3,280	3,260	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,210	3,060	3,100	191,000
November	3,910	3,130	3,570	212,000
December	3,960	3,430	3,730	229,000
January	4,020	3,580	3,840	236,000
February	5,320	3,530	3,900	224,000
March	8,550	4,080	5,560	342,000
April	6,990	4,180	5,210	310,000
May	5,070	3,860	4,320	266,000
June	4,080	3,480	3,740	223,000
July	3,910	3,280	3,480	214,000
August	3,320	3,220	3,280	202,000
September	3,270	3,200	3,230	192,000
The year	8,550	3,060	3,900	2,840,000

DESCHUTES RIVER AT SHERARS BRIDGE, OREG.

LOCATION.—Staff gage in NE¼ 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 1932; incomplete prior to 1926 (discontinued).

EXTREMES.—Maximum discharge, 11,200 second-feet Mar. 21, 22 (gage height, 4.0 feet); minimum, 3,510 second-feet Oct. 13, 16, 17 (gage height, 0.48 foot). 1923–32: Maximum discharge (estimated), 32,000 second-feet Feb. 21, 1927; minimum, 3,450 second-feet Sept. 11, 12, 1931.

REMARKS.—Records good. Diversions for irrigation in upper river basin. Gage-height record furnished by Deschutes Falls Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,570	3,650	4,200	4,380	4,450	6,070	7,900	6,600	5,810	4,320	3,810	3,730
2	3,560	3,620	4,450	4,320	4,320	5,810	8,050	6,600	5,570	4,320	3,810	3,770
3	3,540	3,900	4,260	4,380	4,260	5,810	8,350	6,880	5,570	4,320	3,810	3,730
4	3,520	3,900	4,200	4,320	4,380	5,810	8,960	6,880	5,340	4,450	3,810	3,730
5	3,520	3,900	3,900	4,320	4,450	5,570	8,350	6,600	5,340	4,260	3,730	3,730
6	3,520	3,860	3,770	4,450	4,450	5,810	7,750	6,600	5,130	4,140	3,730	3,730
7	3,540	3,940	4,090	4,380	4,520	5,810	7,170	6,600	4,930	4,090	3,810	3,730
8	3,530	4,040	4,090	4,450	4,200	5,810	6,600	6,600	4,840	4,450	3,770	3,730
9	3,530	3,940	4,140	4,590	4,200	6,070	6,600	6,600	4,840	4,750	3,770	3,690
10	3,520	3,940	4,200	4,930	4,200	6,070	6,600	6,600	4,840	4,450	3,730	3,690
11	3,520	3,900	4,320	4,590	4,260	6,070	6,330	6,600	4,750	4,320	3,770	3,690
12	3,520	3,860	4,200	7,170	4,520	5,570	6,600	6,330	4,930	4,040	3,770	3,650
13	3,510	3,900	4,320	5,340	4,260	6,070	6,880	6,330	5,130	3,990	3,770	3,690
14	3,520	3,860	4,200	5,030	4,260	5,810	7,170	[a]6,330	4,840	3,990	3,810	3,690
15	3,520	3,860	4,140	4,840	4,320	5,810	6,880	6,330	5,030	3,990	3,810	3,650
16	3,510	4,040	4,260	4,840	4,450	5,810	6,880	6,070	4,930	3,990	3,810	3,690
17	3,510	4,040	4,520	4,750	4,320	6,330	6,880	5,810	4,750	4,040	3,810	3,690
18	3,530	4,380	4,750	4,750	4,200	6,600	6,600	5,810	4,590	3,990	3,770	[a]3,690
19	3,520	4,450	4,450	5,130	4,320	9,270	6,600	5,810	4,520	3,990	3,770	[a]3,690
20	3,520	4,590	4,590	5,240	4,450	10,900	6,600	5,810	4,450	3,940	3,730	3,690
21	3,530	4,450	4,450	4,840	4,590	11,200	6,330	5,810	4,450	3,900	3,730	3,770
22	3,560	4,320	4,320	4,840	4,590	10,900	6,070	5,810	[a]4,600	3,900	3,730	3,690
23	3,570	4,260	4,380	4,450	4,670	8,960	5,810	5,810	4,750	3,900	3,690	3,730
24	3,650	4,200	4,380	4,450	4,750	8,350	5,810	5,810	4,750	3,900	3,730	3,690
25	3,690	4,260	4,450	4,320	6,600	8,960	5,810	5,570	4,590	3,900	3,730	3,730
26	3,690	4,200	4,450	4,380	6,600	8,960	5,810	5,340	4,520	3,900	3,730	3,730
27	3,650	4,260	4,450	4,450	8,960	8,650	6,330	5,340	4,380	3,860	3,730	3,730
28	3,810	4,260	4,450	4,590	8,350	8,050	6,330	5,130	4,450	3,810	3,730	3,730
29	3,730	[a]4,150	4,320	4,520	6,600	8,050	6,330	5,340	4,520	3,900	3,730	3,730
30	3,690	4,040	4,200	4,520	------	8,350	6,330	5,810	4,380	3,860	3,730	3,730
31	3,650	------	4,590	4,450	------	[a]7,900	------	5,570	------	3,860	3,770	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,810	3,510	3,570	220,000
November	4,590	3,620	4,070	242,000
December	4,750	3,770	4,310	265,000
January	7,170	4,320	4,710	290,000
February	8,960	4,200	4,910	282,000
March	11,200	5,570	7,260	446,000
April	8,960	5,810	6,820	406,000
May	6,880	5,130	6,100	375,000
June	5,810	4,380	4,850	289,000
July	4,750	3,810	4,080	251,000
August	3,810	3,690	3,760	231,000
September	3,770	3,650	3,710	221,000
The year	11,200	3,510	4,850	3,520,000

[a] Estimated.

DESCHUTES RIVER AT MOODY, NEAR BIGGS, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 26, T. 2 N., R. 15 E., at Moody, 1½ miles above mouth and 5 miles southwest of Biggs. Zero of gage is 167.43 feet above mean sea level by 1929 general adjustment.

DRAINAGE AREA.—10,200 square miles.

RECORDS AVAILABLE.—July 1906 to September 1932. October 1897 to December 1899 at station near Moro, 10 miles above mouth.

EXTREMES.—Maximum discharge during year, 12,400 second-feet Mar. 21, 22 (gage height, 4.61 feet); minimum, 3,460 second-feet Oct. 14, 16, 21, 22 (gage height, 2.10 feet).

1906–32: Maximum discharge, 43,600 second-feet Jan. 7, 1923 (gage height, 10.2 feet); minimum, 3,380 second-feet Sept. 16–19, 1931 (gage height, 2.06 feet).

REMARKS.—Records excellent. Discharge estimated Apr. 3–8, 10–20, 22–24, 29, May 1–3, 5–12. Diversions for irrigation in upper river basin. Gage-height record furnished by Eastern Oregon Land Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,480	3,640	3,980	4,300	4,430	6,490	8,400	6,670	5,640	4,300	3,820	3,730
2	3,480	3,640	4,040	4,300	4,160	6,490	8,600	6,670	5,480	4,300	3,820	3,700
3	3,480	3,610	4,160	4,160	4,160	5,970		6,860	5,480	4,300	3,820	3,700
4	3,480	3,730	4,300	4,080	4,300	5,480		6,860	5,480	4,300	3,820	3,680
5	3,480	3,750	4,040	4,160	4,430	5,320			5,480	4,300	3,800	3,700
							7,940					
6	3,480	3,750	3,860	4,300	4,430	5,480			5,320	4,300	3,770	3,700
7	3,480	3,770	3,940	4,300	4,430	5,640			5,160	4,160	3,770	3,680
8	3,480	3,840	4,060	4,300	4,140	5,640			5,010	4,160	3,770	3,680
9	3,480	3,890	4,040	4,430	4,140	5,970	6,860	6,630	4,860	4,300	3,750	3,680
10	3,480	3,890	4,010	4,710	4,160	6,140			4,860	4,300	3,750	3,680
11	3,480	3,860	4,160	4,430	4,160	5,970			4,860	4,300	3,750	3,680
12	3,480	3,860	4,140	6,670	4,430	5,640			4,860	4,300	3,750	3,680
13	3,480	3,840	4,080	5,160	4,570	5,480		6,670	5,010	4,160	3,730	3,680
14	3,460	3,840	4,060	5,010	4,430	5,480		6,490	5,160	4,140	3,750	3,680
15	3,460	3,820	4,040	4,710	4,160	5,640	6,800	6,490	5,160	4,080	3,770	3,680
16	3,460	3,820	3,980	4,570	4,300	5,640		6,310	5,010	4,060	3,770	3,680
17	3,480	3,980	4,140	4,710	4,300	6,140		6,140	4,860	4,060	3,750	3,660
18	3,480	4,160	4,710	4,710	4,300	7,230		5,970	4,710	4,040	3,730	3,660
19	3,480	4,300	4,570	5,010	4,300	10,400		5,970	4,570	4,040	3,730	3,640
20	3,480	4,300	4,300	5,010	4,430	12,000		5,970	4,430	4,010	3,700	3,660
21	3,460	4,300	4,430	4,710	4,570	12,400	6,310	5,970	4,430	4,010	3,700	3,730
22	3,460	4,300	4,300	4,710	4,710	11,500	6,130	6,140	4,570	3,980	3,700	3,700
23	3,500	4,300	4,300	4,570	4,710	9,400	5,870	5,970	4,570	3,960	3,680	3,680
24	3,550	4,300	4,160	4,430	5,160	8,800	5,870	5,970	4,710	3,940	3,730	3,700
25	3,590	4,300	4,160	4,300	6,670	9,400	5,800	5,800	4,710	3,940	3,730	3,700
26	3,590	4,300	4,300	4,430	6,490	9,400	5,640	5,640	4,570	3,940	3,730	3,730
27	3,610	4,300	4,300	4,430	8,200	9,400	5,970	5,480	4,430	3,860	3,730	3,700
28	3,610	4,300	4,300	4,430	8,000	8,600	6,140	5,480	4,430	3,840	3,700	3,730
29	3,660	4,160	4,300	4,430	7,040	8,600	6,220	5,320	4,300	3,860	3,700	3,730
30	3,700	4,010	4,140	4,430	-------	8,800	6,310	5,480	4,300	3,840	3,700	3,730
31	3,680	-------	4,300	4,430	-------	8,400	-------	5,640	-------	3,820	3,730	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,700	3,460	3,510	216,000
November	4,300	3,610	4,000	238,000
December	4,710	3,860	4,180	257,000
January	6,670	4,080	4,590	282,000
February	8,200	4,140	4,890	281,000
March	12,400	5,320	7,510	462,000
April	-------	5,640	6,890	410,000
May	6,860	5,320	6,230	383,000
June	5,640	4,300	4,880	290,000
July	4,300	3,820	4,090	251,000
August	3,820	3,680	3,750	231,000
September	3,730	3,640	3,690	220,000
The year	12,400	3,460	4,850	3,520,000

LITTLE DESCHUTES RIVER NEAR LAPINE, OREG.

LOCATION.—Water-stage recorder in sec. 2, T. 22 S., R. 10 E., at bridge at former town of Rosland, 1½ miles north of Lapine. Gage datum lowered 1.00 foot Oct. 1, 1931.

RECORDS AVAILABLE.—September 1910 to October 1913, incomplete; June to November 1918; August to October 1920; May 1924 to September 1932.

EXTREMES.—Maximum discharge during year, 556 second-feet May 23 (gage height, 5.08 feet); minimum discharge, 9 second-feet Oct. 14–19; minimum gage height, 0.73 foot Oct. 15.

1910–13, 1918, 1920, 1924–32: Maximum discharge, 760 second-feet about June 12, 1912; maximum gage height, 5.98 feet, present datum, May 21, 1927; minimum discharge, 8 second-feet Sept. 2, 3, 1931 (gage height, 0.71 foot, present datum).

REMARKS.—Records fair except those estimated, which are poor. Small diversions for irrigation above station. Flow regulated since August 1922 by storage in Crescent Lake Reservoir. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	36				268	327	398	247	167	64
2	10	29				282	350	539	240	161	62
3	10	27				290	390	342	233	161	60
4	10	26				275	398	320	226	161	57
5	10	26				254	422	297	219	161	
6	10	25			[a] 110	226	422	282	219	161	
7	10	25				206	406	275	219	161	
8	10	25				192	390	268	212	161	
9	10	[a] 25				186	390	261	199	161	
10	10	[a] 26				192	382	247	192	155	
11	10	[a] 26				206	382	233	186	155	
12	10	[a] 27			105	212	390	233	186	155	
13	10	27			104	226	398	247	173	144	
14	10	31		56	107	247	422	247	149	137	
15	9				107	268	438	261	147	143	[a] 50
16	9				132	261	438	261	144	143	
17	9				145	268	454	261	139	137	
18	9				173	290	471	282	133	129	
19	9				233	312	471	312	115	126	
20	10				268	320	471	312	104	122	
21	10				282	327	471	304	145	118	
22	12	[a] 27	40		297	304	505	282	192	116	
23	15				290	275	539	268	199	113	
24	20				254	261	522	261	199	112	
25	37				261	268	471	261	192	111	
26	41				297	320	422	268	180	108	
27	46				282	342	374	268	180	90	42
28	41				268	382	350	268	173	76	43
29	38				290	358	406	261	161	69	43
30	41				275	320	438	247	161	67	41
31	40				261		438		161	66	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	46	9	17.3	1,060
November			27.1	1,610
December			[a] 35	2,150
January			[a] 52	3,200
February			[a] 55	3,160
March	297	104	182	11,200
April	382	186	271	16,100
May	539	327	424	26,100
June	539	233	286	17,000
July	247	104	181	11,100
August	167	66	131	8,060
September	64	41	50.4	3,000
The year	539	9	143	104,000

[a] Estimated.

CRESCENT LAKE RESERVOIR NEAR CRESCENT, OREG.

LOCATION.—Staff gage at reservoir dam in sec. 11, T. 24 S., R. 6 E., 14 miles west of Crescent. Zero of gage is 4,826.0 feet above mean sea level.

RECORDS AVAILABLE.—August 1922 to September 1932.

EXTREMES.—Maximum contents recorded during year, 27,470 acre-feet July 2 (gage height, 7.71 feet); minimum, 9,640 acre-feet Oct. 21 (gage height, 2.75 feet).

1922–32: Maximum contents, 72,460 acre-feet (revised) July 15, 1923 (gage height, 19.55 feet); minimum, that of Oct. 21, 1931.

REMARKS.—Records good. Capacity table revised (increase about 7 percent), beginning with 1931–32 records. Contents given are those above zero of gage and elevation of gate sill. Water stored in Crescent Lake Reservoir, completed in 1922, is used by Deschutes County Municipal Improvement District through its canal, diverting from Deschutes River at Bend, for irrigation of lands near Tumalo. Capacity of reservoir is 86,050 acre-feet (revised) at spillway crest at gage height 23.0 feet. Records furnished by State engineer.

Stage and contents, 1931–32

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	3.02	[a] 10,600		May 31	6.86	24,360	+8,080
Oct. 31		[b] 10,140	−460	June 30	7.70	27,430	+3,070
Nov. 30		[b] 10,620	+480	July 31	6.12	21,690	−5,740
Dec. 31	2.96	10,390	−230	Aug. 31	4.80	16,930	−4,760
Jan. 31		[b] 11,960	+1,570	Sept. 30	4.53	15,960	−970
Feb. 28	3.57	12,530	+570				
Mar. 31	4.08	14,360	+1,830	The year			+5,360
Apr. 30	4.62	16,280	+1,920				

[a] Revised. [b] Interpolated.

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 1928, incomplete; October 1928 to September 1932.

EXTREMES.—Maximum discharge during year, 134 second-feet July 19–21 (gage height, 1.78 feet); no flow most of year.

1911–15, 1927–32: Maximum discharge, 313 second-feet July 9, 1929; no flow at times.

REMARKS.—Records excellent except those estimated June 17–20, July 3–5, Aug. 27–30, which are good. Flow regulated since 1922 by storage in Crescent Lake Reservoir, this storage being released June 16 to Aug. 26 for Deschutes County Municipal Improvement District Canal near Bend. Records furnished by State engineer.

Discharge, in second-feet, of Crescent Creek at Crescent Lake, near Crescent, Oreg., 1931–32

Day	June	July	Aug.	Day	June	July	Aug.	Day	June	July	Aug.
1	0	96	116	11	0	82	110	21	86	134	68
2	0	96	116	12	0	51	100	22	86	133	66
3	0	96	116	13	0	51	98	23	86	131	64
4	0	96	116	14	0	51	97	24	90	130	62
5	0	96	116	15	0	49	93	25	96	130	37
6	0	96	116	16	36	45	85	26	96	123	5
7	0	96	116	17	86	23	80	27	96	118	
8	0	94	116	18	86	6	77	28	96	116	.5
9	0	93	116	19	86	26	73	29	96	116	
10	0	92	114	20	86	134	71	30	96	116	
								31		116	0

Month	Maximum	Minimum	Mean	Run-off in acre-feet
June	96	0	43.5	2,590
July	134	6	91.4	5,620
August	116	0	75.7	4,650
The year	134	0	17.7	12,900

NOTE.—No flow during months omitted.

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 SW¼ 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 NE¼ sec. 13, T. 18 S., R. 11 E.; water used for irrigation of lands east of Bend. Pilot Butte Canal diverts in NE¼ 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 NE¼ 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 NE¼ 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 are available from October 1926 to September 1932; records for each of these canals published separately prior to 1926. Records furnished by State engineer.

Diversions, in acre-feet, 1931–32

Month	Arnold Canal	Central Oregon Canal	Pilot Butte Canal	Deschutes County Municipal Improvement District Canal	North Canal	Swalley Canal	Total
October	2,880	16,200	469	320	16,900	3,470	40,239
November	387	1,390	57	2,830	9,040	672	14,376
December	553	3,110	155	1,190	2,770	197	7,975
January	277	1,260	45	0	1,440	314	3,336
February	144	3,360	112	0	3,270	253	7,139
March	344	1,960	58	5,290	1,680	726	10,058
April	2,680	11,600	551	2,960	13,700	928	32,419
May	5,140	20,900	1,140	0	25,600	3,430	56,210
June	4,810	23,300	1,090	0	25,800	4,380	59,380
July	5,400	22,000	695	2,460	27,500	5,450	63,505
August	4,660	23,700	547	4,840	26,900	5,240	65,887
September	3,650	22,200	440	12	24,200	4,190	54,692
The year	30,925	150,980	5,359	19,902	178,800	29,250	415,216

TUMALO CREEK NEAR BEND, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 23, T. 17 S., R. 11 E., a quarter of a 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 1932; also during winters from October 1906 to April 1913 except 1909 and 1910.

EXTREMES.—Maximum discharge during year, 356 second-feet June 22 (gage height, 2.49 feet); minimum, 22 second-feet Nov. 28 (gage height, 1.04 feet).

1906–8, 1911–32: 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	50	a 34	46		47		170	120	244	73	60
2	38	51	a 43	39		45		173	137	255	78	65
3	39	52	50	a 41		49		154	152	235	80	63
4	40	51	50	a 43		43		147	170	184	78	60
5	43	51	a 46	45		40	a 60	144	162	170	78	60
6	43	50	50	45	a 38	40		160	147	165	76	62
7	43	56	49	45		40		176	162	168	76	59
8	42	63	46	45		42	33	181	176	105	82	60
9	42	55		46		42	29	187	196	70	75	58
10	40	49		49		42	28	187	228	73	70	58
11	40	45		59	40	40	31	196	262	125	65	58
12	40	46		52	a 40	39	39	210	251	127	65	56
13	40	49	a 41	a 47	40	39	46	228	255	130	65	56
14	40	44		a 44		40	47	235	251	127	72	52
15	40	49		a 46		42	46	204	244	123	73	52
16	40	44		a 47	a 35	42	70	198	235	134	69	51
17	40	43		47		49	94	216	198	127	69	51
18	42	44	52	50		90	94	232	201	111	69	52
19	42	44	49	45		137	98	222	207	105	69	51
20	42	44	45	46		107	94	258	228	114	65	60
21	42		45		45	98	92	219	255	123	65	58
22	52		45		43	85	90	179	292	137	63	58
23	55		45		43	59	87	170	273	134	65	58
24	46		45		46	62	83	173	241	130	62	58
25	49	a 38	44	a 42	50		90	165	235	120	65	54
26	46		45		55		120	160	228	103	67	52
27	47		45		56		118	140	238	100	67	52
28	59	31	47		55	a 67	130	132	244	101	66	54
29	56	30	a 48	44	51		140	147	244	92	63	56
30	50	30	49	a 42			150	120	235	82	59	56
31	49		47	a 35				114		72	56	

Month	Tumalo Creek				Columbia Southern Canal (run-off in acre-feet)	Combined run-off in acre-feet
	Discharge in second-feet			Run-off in acre-feet		
	Maximum	Minimum	Mean			
October	59	38	44.1	2,710	0	2,710
November	63	30	44.6	2,650	0	2,650
December		34	44.8	2,750	0	2,750
January	59	35	44.6	2,740	0	2,740
February	56		41.0	2,360	0	2,360
March	137	39	59.0	3,630	0	3,630
April	150	28	75.6	4,500	0	4,500
May	258	114	181	11,100	2,000	13,100
June	292	120	216	12,900	3,000	15,900
July	255	70	132	8,120	750	8,870
August	82	56	69.2	4,250	0	4,250
September	65	51	56.7	3,370	0	3,370
The year	292	28	84.0	61,080	5,750	66,830

a Estimated.

SQUAW CREEK NEAR SISTERS, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 32, T. 15 S., R. 10 E., immediately above intake of McCallister Ditch and 4 miles south of Sisters.

DRAINAGE AREA.—63 square miles.

RECORDS AVAILABLE.—Irrigation seasons, 1913, 1914, 1916–25; October 1925 to September 1932. July 1906 to May 1913 at station below intake of McCallister Ditch and 700 feet downstream.

EXTREMES.—Maximum discharge during year, 460 second-feet June 21 (gage height, 2.15 feet); minimum, 28 second-feet Nov. 28.

1906–14, 1916–32: Maximum discharge (estimated), 1,940 second-feet Nov. 22, 1909 (gage height, 7.5 feet at former station); minimum, 19 second-feet Dec. 6, 1922.

REMARKS.—Records good except those estimated, which are fair. Pole Creek, a tributary above station, has been entirely diverted from its natural channel near mouth through a canal for irrigation of lands near Sisters. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	45		32		45	101	118	163	281	142	97
2	56	54		31		43	104	120	172	281	148	93
3	46	56		a 31		40	97	116	184	299	151	91
4	43	50		a 31		40	95	116	187	210	145	93
5	41	46		a 31		40	93	116	175	190	a 143	91
6	38	46		31		40	88	126	157	183	a 141	95
7	37	68		30		40	84	133	175	190	a 139	97
8	34	57		30		40	82	141	184	193	137	91
9	33	45				39	78	155	196	183	132	80
10	32	44			a 35	39	78	184	215	179	116	86
11	31	40	a 35			37	80	184	238	179	116	87
12	31	46				37	86	190	241	179	121	a 80
13	30	45				38	93	212	264	170	129	a 83
14	36	42		a 35		40	93	209	257	167	132	a 86
15	a 37	38				40	88	190	234	160	134	89
16	38	40				40	90	190	234	160	145	89
17	39	42				57	93	209	228	173	121	86
18	39	42				173	88	228	234	170	129	71
19	40	43		38		173	88	224	257	162	123	73
20	38	42		37	33	145	82	251	308	154	111	104
21	36	42				106	80	215	373	160	111	74
22	50	34			a 32	95	80	190	354	167	111	74
23	40	32	37			89	76	190	314	167	111	a 74
24	39	a 31				121	78	184	299	164	a 113	
25	42	a 31			42	113	86	181	a 293	157	a 117	
26	39	a 31		a 35	65	101	104	178	288	145	a 121	a 77
27	44	31	a 35		66	99	104	169	292	145	125	
28	53	a 30			60	113	108	160	292	148	111	
29	46	a 30			52	101	108	169	299	134	89	
30	45	a 30			------	99	106	157	295	123	73	
31	45	------			------	97	------	157	------	123	65	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	57	30	40.5	2,490
November	68	30	41.8	2,490
December	----------	----------	35.1	2,160
January	----------	30	34.1	2,100
February	66	----------	38.3	2,200
March	173	37	74.8	4,600
April	108	76	90.4	5,380
May	251	116	173	10,600
June	373	157	247	14,700
July	299	123	177	10,900
August	151	65	123	7,560
September	104	----------	84.1	5,000
The year	373	----------	96.7	70,200

a Estimated.

CROOKED RIVER NEAR CULVER, OREG.

LOCATION.—Staff gage in SW¼ sec. 11, T. 12 S., R. 12 E., just below Cove power plant and 3 miles northwest of Culver.

RECORDS AVAILABLE.—October 1917 to September 1932.

EXTREMES.—Maximum discharge during year, 7,310 second-feet Mar. 21 (gage height, 5.50 feet); minimum, 1,140 second-feet Oct. 1–7 (gage height, 0.38 foot).

1917–32: 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 fair. 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,140	1,180	1,190	1,230	1,200	2,300	2,670	2,220	1,460	1,170	1,170	1,170
2	1,140	1,190	1,190	1,230	1,200	1,980	3,330	2,220	1,430	1,170	1,170	1,170
3	1,140	1,190	1,109	1,230	1,200	1,700	3,870	2,570	1,400	1,170	1,170	1,170
4	1,140	1,190	1,190	1,230	1,200	1,490	3,730	2,670	1,400	1,170	1,170	1,170
5	1,140	1,190	1,190	1,230	1,200	1,430	3,090	2,300	1,370	1,170	1,170	11,70
6	1,140	1,190	1,190	1,230	1,200	1,460	2,770	2,220	1,370	1,170	1,170	1,170
7	1,140	1,190	1,190	1,230	1,230	1,630	2,570	1,980	1,340	1,170	1,170	1,170
8	1,150	1,190	1,190	1,230	1,230	1,980	2,390	1,980	1,310	1,170	1,170	1,170
9	1,150	1,190	1,190	1,230	1,230	2,220	2,390	1,980	1,250	1,170	1,170	1,170
10	1,150	1,190	1,190	1,230	1,230	2,300	2,300	1,980	1,250	1,170	1,170	1,170
11	1,150	1,190	1,190	1,230	1,230	2,220	2,570	1,840	1,230	1,170	1,170	1,170
12	1,150	1,190	1,190	1,230	1,230	2,060	2,870	1,840	1,220	1,170	1,170	1,170
13	1,150	1,190	1,190	1,230	1,230	1,198	3,090	1,770	1,200	1,170	1,170	1,170
14	1,150	1,190	1,190	1,230	1,230	1,910	3,090	1,770	1,180	1,170	1,170	1,170
15	1,150	1,190	1,190	1,230	1,230	1,980	2,980	1,700	1,180	1,170	1,170	1,170
16	1,150	1,190	1,190	1,230	1,230	2,300	2,870	1,630	1,180	1,170	1,170	1,170
17	1,150	1,190	1,190	1,250	1,200	2,390	2,670	1,560	1,170	1,170	1,170	1,170
18	1,150	1,190	1,190	1,250	1,200	2,670	2,670	1,490	1,170	1,170	1,170	1,170
19	1,150	1,190	1,190	1,250	1,200	3,870	2,570	1,430	1,170	1,170	1,170	1,170
20	1,150	1,190	1,230	1,280	1,220	6,740	2,300	1,430	1,170	1,170	1,170	1,170
21	1,150	1,190	1,230	1,310	1,230	7,120	2,220	1,430	1,170	1,170	1,170	1,170
22	1,150	1,190	1,230	1,310	1,240	4,970	2,060	1,430	1,170	1,170	1,170	1,170
23	1,150	1,190	1,230	1,310	1,240	3,730	1,980	1,430	1,170	1,170	1,170	1,170
24	1,150	1,190	1,230	1,190	1,250	2,980	1,910	1,430	1,170	1,170	1,170	1,170
25	1,150	1,190	1,230	1,190	1,310	2,980	1,910	1,430	1,170	1,170	1,170	1,170
26	1,150	1,190	1,230	1,200	1,630	4,020	2,220	1,430	1,170	1,170	1,170	1,200
27	1,150	1,190	1,230	1,200	2,770	3,210	2,220	1,400	1,170	1,170	1,170	1,210
28	1,180	1,190	1,230	1,200	2,570	2,670	2,140	1,400	1,170	1,170	1,170	1,210
29	1,180	1,190	1,230	1,200	2,220	2,670	2,140	1,400	1,170	1,170	1,170	1,210
30	1,180	1,190	1,230	1,200	------	2,670	2,220	1,400	1,170	1,170	1,170	1,210
31	1,180	------	1,230	1,200	------	2,670	------	1,430	------	1,170	1,170	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,180	1,140	1,150	70,700
November	1,190	1,180	1,190	70,800
December	1,230	1,190	1,210	74,400
January	1,310	1,190	1,230	75,600
February	2,770	1,200	1,370	78,800
March	7,120	1,430	2,780	171,000
April	3,870	1,910	2,590	154,000
May	2,670	1,400	1,750	108,000
June	1,460	1,170	1,240	73,800
July	1,170	1,170	1,170	71,900
August	1,170	1,170	1,170	71,900
September	1,210	1,170	1,180	70,200
The year	7,120	1,140	1,500	1,090,000

METOLIUS RIVER NEAR GRANDVIEW, OREG.

LOCATION.—Staff gage in NE¼ sec. 19, T. 11 S., R. 11 E., at Montgomery ranch, 8 miles northwest of Grandview.

RECORDS AVAILABLE.—October 1921 to September 1932.

EXTREMES.—Maximum discharge during year, 1,930 second-feet Mar. 19 (gage height, 0.94 foot); minimum, 1,080 second-feet Feb. 17 (gage height, 0.14 foot).

1921–32: Maximum discharge, about 5,780 second-feet Jan. 7, 1923 (gage height, 3.32 feet); minimum, that of Feb. 17, 1932.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,140	1,140	1,120	1,140	1,140	1,260	1,680	1,560	1,560	1,560	1,340	1,280
2	1,140	1,140	1,120	1,120	1,140	1,260	1,680	1,560	1,560	1,560	1,340	1,260
3	1,140	1,140	1,120	1,120	1,140	1,240	1,680	1,560	1,560	1,560	1,340	1,260
4	1,140	1,140	1,120	1,120	1,140	1,240	1,620	1,560	1,560	1,560	1,340	1,260
5	1,140	1,140	1,120	1,120	1,140	1,260	1,560	1,560	1,560	1,500	1,340	1,260
6	1,140	1,140	1,120	1,120	1,140	1,260	1,560	1,560	1,500	1,500	1,340	1,260
7	1,140	1,220	1,120	1,120	1,140	1,260	1,500	1,560	1,500	1,450	1,340	1,260
8	1,140	1,200	1,120	1,140	1,140	1,260	1,500	1,560	1,500	1,450	1,340	1,260
9	1,120	1,180	1,120	1,200	1,140	1,260	1,450	1,560	1,500	1,450	1,340	1,260
10	1,120	1,160	1,120	1,160	1,140	1,260	1,450	1,560	1,560	1,450	1,320	1,260
11	1,120	1,160	1,120	1,160	1,140	1,240	1,450	1,620	1,560	1,450	1,300	1,260
12	1,120	1,140	1,120	1,180	1,140	1,240	1,450	1,620	1,620	1,450	1,300	1,260
13	1,120	1,140	1,120	1,200	1,140	1,220	1,450	1,680	1,620	1,450	1,300	1,260
14	1,120	1,140	1,120	1,200	1,140	1,220	1,450	1,680	1,680	1,450	1,300	1,260
15	1,120	1,140	1,120	1,180	1,140	1,240	1,450	1,620	1,680	1,450	1,300	1,260
16	1,120	1,140	1,120	1,180	1,120	1,280	1,450	1,620	1,620	1,450	1,300	1,260
17	1,120	1,180	1,200	1,180	1,080	1,340	1,500	1,620	1,620	1,450	1,300	1,240
18	1,120	1,160	1,180	1,220	1,100	1,680	1,450	1,620	1,560	1,450	1,300	1,240
19	1,120	1,220	1,160	1,200	1,120	1,930	1,450	1,620	1,560	1,400	1,300	1,240
20	1,120	1,180	1,160	1,180	1,120	1,680	1,450	1,680	1,560	1,400	1,300	1,300
21	1,120	1,140	1,140	1,160	1,120	1,620	1,450	1,680	1,680	1,400	1,300	1,240
22	1,200	1,140	1,140	1,160	1,120	1,560	1,450	1,680	1,680	1,400	1,300	1,240
23	1,200	1,140	1,140	1,140	1,120	1,560	1,450	1,620	1,680	1,400	1,300	1,240
24	1,200	1,140	1,140	1,140	1,120	1,860	1,450	1,620	1,620	1,400	1,300	1,240
25	1,180	1,140	1,120	1,140	1,140	1,800	1,450	1,560	1,620	1,400	1,300	1,240
26	1,160	1,140	1,120	1,140	1,160	1,680	1,450	1,560	1,560	1,400	1,300	1,240
27	1,180	1,140	1,120	1,140	1,340	1,680	1,450	1,560	1,560	1,400	1,300	1,240
28	1,200	1,140	1,120	1,140	1,340	1,800	1,450	1,560	1,560	1,400	1,300	1,240
29	1,180	1,120	1,120	1,140	1,320	1,800	1,450	1,680	1,560	1,400	1,300	1,240
30	1,160	1,120	1,120	1,140	-------	1,740	1,450	1,560	1,560	1,340	1,300	1,240
31	1,140	-------	1,120	1,140	-------	1,680	-------	1,560	-------	1,340	1,300	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,200	1,120	1,140	70,100
November	1,220	1,120	1,150	68,400
December	1,200	1,120	1,130	69,500
January	1,220	1,120	1,160	71,300
February	1,340	1,080	1,150	66,200
March	1,930	1,220	1,460	89,800
April	1,680	1,450	1,490	88,700
May	1,680	1,560	1,600	98,400
June	1,680	1,500	1,580	94,000
July	1,560	1,340	1,440	88,500
August	1,340	1,300	1,310	80,600
September	1,300	1,240	1,250	74,400
The year	1,930	1,080	1,320	960,000

LAKE CREEK NEAR SISTERS, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 24, T. 13 S., R. 8 E., a quarter of a mile below Suttle Lake, 6 miles from mouth of creek, and 13 miles northwest of Sisters.

DRAINAGE AREA.—20.5 square miles.

RECORDS AVAILABLE.—April 1915 to September 1932. Occasional readings during summers of 1911 to 1913.

EXTREMES.—Maximum discharge during year, 111 second-feet Mar. 28, May 16 (gage height, 2.17 feet); minimum, 15 second-feet (regulated) July 29, 30 (gage height, 0.64 foot).

1911–13, 1915–32: Maximum discharge, 302 second-feet Jan. 10, 1923 (gage height, 2.58 feet); minimum, that of July 29, 30, 1932.

REMARKS.—Records good except those estimated Oct. 1–7, Feb. 8, 9, Mar. 9, Aug. 13 to Sept. 3, which are fair. No diversions above station. Occasional regulation by storage in Suttle Lake. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		25	24	29	34	30	106	85	85	42	27	26
2		24	24	28	33	32	103	85	84	41	28	26
3		24	25	27	32	33	102	85	82	39	30	26
4		24	25	27	32	32	100	87	80	38	32	26
5	22	24	24	27	32	34	98	87	77	37	30	26
6		23	24	27	32	34	94	87	77	37	29	26
7		24	24	26	32	34	91	89	74	36	29	26
8	22	25	24	26	32	34	86	90	73	36	29	26
9	22	26	24	28	32	34	82	92	71	35	28	26
10	22	26	24	28	32	34	78	96	69	34	28	26
11	22	26	24	26	32	34	75	100	68	34	28	25
12	22	25	24	32	32	34	73	102	66	34	28	25
13	22	25	24	32	32	34	69	105	66	34		25
14	22	25	24	31	30	34	68	107	67	34		27
15	22	24	24	31	30	35	69	109	65	34		27
16	22	26	24	32	29	36	70	110	64	34		26
17	22	29	25	34	28	40	71	110	63	33		26
18	22	30	26	36	28	46	60	109	63	32		26
19	22	32	26	36	28	53	69	107	61	32		26
20	22	32	26	35	28	59	66	108	60	32		24
21	22	30	26	34	27	72	77	108	58	32	27	24
22	25	28	26	34	27	83	77	108	57	32		25
23	30	27	26	34	27	89	78	108	54	32		25
24	32	26	26	33	27	98	78	106	53	31		26
25	31	26	26	32	28	104	77	102	52	31		26
26	30	26	27	32	28	106	76	100	51	31		26
27	28	25	28	34	28	105	73	97	49	31		26
28	27	25	28	35	28	110	73	93	48	26		26
29	26	24	28	35	30	110	81	92	46	15		26
30	26	24	28	34	-------	109	88	89	44	21		27
31	25	-------	30	34	-------	108	-------	87	-------	27		-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	32	22	23.9	1,470
November	32	23	26.0	1,550
December	30	24	25.4	1,560
January	36	26	31.3	1,920
February	34	27	30.0	1,730
March	110	30	59.0	3,630
April	106	60	80.3	4,780
May	110	85	98.1	6,030
June	85	44	64.2	3,820
July	42	15	32.8	2,020
August	32	----------	27.7	1,700
September	27	24	25.8	1,540
The year	110	15	43.7	31,800

WHITE RIVER BELOW TYGH VALLEY, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 8, T. 4 S., R. 14 E., just below Pacific Power & Light Co.'s plant at White River Falls and 4½ miles below Tygh Valley.

RECORDS AVAILABLE.—November 1917 to September 1932.

EXTREMES.—Maximum discharge during year, 3,120 second-feet Mar. 19 (gage height, 6.0 feet); minimum, 40 second-feet Aug. 23 (gage height, 0.07 foot).

1917–32: Maximum discharge, 13,300 second-feet Jan. 6, 1923 (gage height, about 13.3 feet); minimum, 10 second-feet Dec. 11–14, 1919, Aug. 9, 1931.

REMARKS.—Records good except those estimated Nov. 22–27, June 7–10, 12–15, which are fair. Diversions for irrigation above station. Low-water flow regulated to some extent by operation of power plant. Gage-height record furnished by Pacific Power & Light Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	167	167	226	217	705	1,100	1,210	862	272	156	131
2	98	219	174	212	219	658	1,140	1,180	808	269	154	131
3	94	243	183	193	224	530	1,100	1,100	755	274	151	130
4	92	208	176	189	231	475	1,100	1,070	705	280	150	127
5	103	181	167	208	236	550	980	1,070	658	253	147	127
6	130	164	159	248	233	755	890	1,070	658	238	147	122
7	131	167	164	240	238	730	808	1,180	630	226	147	122
8	127	204	157	224	240	680	705	1,180	600	217	147	120
9	122	212	146	342	228	612	680	1,280	620	210	144	120
10	111	206	146	405	246	530	705	1,360	640	208	146	116
11	105	185	141	962	236	492	780	1,280	658	206	146	116
12	104	167	132	1,240	236	440	862	1,280	680	200	147	115
13	102	150	136	570	212	426	950	1,280	700	195	146	114
14	101	168	131	426	215	475	1,010	1,240	680	195	144	117
15	98	157	130	354	200	475	1,010	1,100	620	191	146	121
16	96	159	136	315	200	458	950	1,040	550	189	143	121
17	95	189	195	303	183	755	1,100	1,070	492	185	140	123
18	93	187	274	330	195	2,030	1,100	1,100	440	181	139	126
19	92	183	318	372	206	2,590	1,040	1,040	419	178	137	123
20	91	248	351	348	228	1,800	980	1,070	405	176	136	131
21	90	217	321	309	285	1,360	890	1,100	396	174	136	135
22	107		256	280	294	1,180	835	1,010	396	174	136	127
23	136		231	240	300	730	755	980	384	170	132	125
24	134		226	238	458	1,320	755	980	363	167	130	120
25	130	180	217	248	780	1,480	755	890	348	165	131	116
26	146		204	236	980	1,240	862	808	333	164	131	114
27	148		202	233	1,240	1,100	980	730	315	157	131	110
28	219	162	200	219	1,070	1,180	1,140	680	303	153	128	108
29	243	167	180	217	835	1,210	1,140	1,010	291	154	130	108
30	210	172	187	210	-------	1,100	1,100	950	282	156	139	110
31	187	-------	231	215	-------	1,100	-------	890	-------	159	135	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	243	90	124	7,620
November	248	150	185	11,000
December	351	130	195	12,000
January	1,240	189	334	20,500
February	1,240	183	368	21,200
March	2,590	426	941	57,900
April	1,140	680	940	55,900
May	1,360	680	1,070	65,800
June	862	282	533	31,700
July	280	153	198	12,200
August	156	128	141	8,670
September	135	108	121	7,200
The year	2,590	90	429	312,000

KLICKITAT RIVER BASIN

KLICKITAT RIVER NEAR GLENWOOD, WASH.

LOCATION.—Water-stage recorder in SE¼ 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 1932, incomplete. October 1909 to December 1910 at a point 1 mile upstream.
EXTREMES.—Maximum discharge during year, 2,700 second-feet sometime during May 9–14 (gage height, 4.09 feet); minimum, 204 second-feet Nov. 28 (gage height, 0.96 foot).

1909–32: Maximum discharge, 6,250 second-feet Nov. 24, 1909 (gage height, 5.20 feet on original gage); minimum, that of Nov. 28, 1931.
REMARKS.—Records good except those estimated Feb. 3–6 and May 9–14, which are fair. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	307	355	282	312	278	1,020	1,114	1,890	1,690	1,180	597	408
2	290	377	333	303	265	908	1,180	1,940	1,690	1,180	591	412
3	274	359	337	295		785	1,180	1,890	1,740	1,220	597	422
4	282	350	324	299		750	1,140	1,940	1,790	1,100	597	430
5	307	337	290	303	300	771	1,100	2,100	1,640	1,010	585	453
6	282	355	290	303		852	1,020	2,150	1,500	956	580	466
7	265	500	295	299	320	764	1,000	2,320	1,450	924	574	435
8	253	453	295	299	316	708	972	2,320	1,500	908	541	404
9	253	412	269	316	303	666	956	2,350	1,540	884	505	390
10	257	381	278	324	299	633	980	2,500	1,740	868	476	412
11	253	359	274	552	295	603	1,060	2,500	1,840	830	471	408
12	253	355	253	536	290	574	1,180	2,450	1,840	800	471	394
13	253	372	278	426	290	563	1,360	2,500	1,890	815	466	404
14	253	368	249	422	265	574	1,500	2,450	1,840	792	462	444
15	253	350	245	417	278	591	1,500	2,200	1,790	757	476	426
16	253	346	282	404	286	591	1,500	2,150	1,690	736	495	417
17	249	342	390	399	269	701	1,540	2,150	1,500	743	500	394
18	253	329	430	430	278	1,100	1,450	2,260	1,400	722	500	368
19	257	337	426	426	286	1,500	1,500	2,150	1,320	715	471	364
20	249	329	444	390	295	1,360	1,360	2,260	1,360	722	444	377
21	245	307	412	377	324	1,180	1,270	2,150	1,450	729	440	359
22	333	245	381	355	299	1,140	1,180	1,940	1,500	750	435	364
23	316	265	377	295	299	1,060	1,140	1,840	1,450	715	444	364
24	299	299	364	316	364	1,100	1,140	1,740	1,400	708	462	368
25	316	320	355	359	485	1,100	1,180	1,640	1,320	694	471	364
26	295	307	337	342	1,040	1,020	1,320	1,540	1,270	666	466	359
27	290	249	346	333	1,450	964	1,450	1,450	1,220	659	471	372
28	397	236	337	333	1,540	1,020	1,690	1,400	1,270	652	458	368
29	435	269	312	329	1,220	1,060	1,790	1,540	1,270	591	422	372
30	390	286	316	329	-------	1,010	1,790	1,590	1,220	563	417	368
31	364	-------	316	303	-------	1,060	-------	1,640	-------	563	412	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	435	245	290	0.815	0.94	17,800
November	500	236	338	.949	1.06	20,100
December	444	245	326	.916	1.06	20,000
January	552	295	359	1.01	1.16	22,100
February	1,540	265	443	1.24	1.34	25,500
March	1,500	563	894	2.51	2.89	55,000
April	1,790	956	1,290	3.62	4.04	76,800
May	2,500	1,400	2,030	5.70	6.57	125,000
June	1,890	1,220	1,540	4.33	4.83	91,600
July	1,220	563	811	2.28	2.63	49,900
August	597	412	493	1.38	1.59	30,300
September	466	359	396	1.11	1.24	23,600
The year	2,500	236	767	2.15	29.35	558,000

KLICKITAT RIVER AT PITT, WASH.

LOCATION.—Staff gage in NE¼ 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 1932. Comparable records at former stations at Klickitat and near Lyle, May 1907 to December 1912.

EXTREMES.—Maximum discharge during year, 7,390 second-feet Feb. 26 (gage height, 6.06 feet); minimum, 495 second-feet Nov. 28 (gage height, 0.92 foot).

1907–12, 1928–32: Maximum discharge, 13,600 second-feet Mar. 31, 1931 (gage height, 10.3 feet); minimum, 485 second-feet Dec. 28–31, 1930 (gage height, 0.88 foot).

REMARKS.—Records good except those above 4,000 second-feet, which are fair. Discharge estimated Dec. 21. Minor diversions for irrigation above station; no regulation.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	584	632	535	678	720	3,980	2,930	2,450	2,200	1,500	926	727
2	552	644	562	650	678	3,900	2,930	2,650	2,140	1,500	926	727
3	535	644	579	644	706	2,650	2,720	2,580	2,200	1,500	918	734
4	525	620	579	638	734	2,580	2,580	2,650	2,320	1,450	910	748
5	552	620	568	678	734	2,520	2,580	2,860	2,140	1,320	926	748
6	540	596	568	998	720	2,930	2,520	2,860	1,960	1,270	918	762
7	525	814	579	1,010	720	2,580	2,260	3,070	1,900	1,230	902	762
8	525	814	562	1,020	734	2,450	2,140	3,000	1,900	1,230	886	748
9	525	748	562	1,400	783	2,260	2,020	3,070	1,960	1,230	846	706
10	520	692	557	1,540	814	2,020	2,020	3,280	2,080	1,190	814	713
11	520	692	552	4,550	854	1,960	2,080	3,280	2,260	1,150	798	720
12	525	638	505	2,720	854	1,800	2,080	3,210	2,320	1,110	783	692
13	530	632	525	1,800	822	1,740	2,380	3,360	2,320	1,150	776	678
14	535	644	535	1,450	713	1,800	2,450	3,280	2,320	1,110	806	706
15	535	620	515	1,190	706	1,850	2,580	2,930	2,260	1,110	814	706
16	530	626	552	1,190	713	1,900	2,580	2,790	2,140	1,070	830	692
17	535	650	657	1,110	678	2,650	2,580	2,790	1,900	1,070	830	678
18	510	644	806	1,450	626	4,380	2,520	2,790	1,850	1,030	830	650
19	535	626	783	1,690	685	5,060	2,580	2,790	1,690	1,030	814	638
20	530	644	846	1,640	713	4,220	2,520	2,860	1,690	1,030	776	650
21	520	602	906	1,400	1,010	3,500	2,260	2,930	1,740	1,030	762	650
22	620	546	966	1,230	1,360	3,210	2,200	2,650	1,850	1,070	762	638
23	626	530	886	1,030	1,500	2,650	2,080	2,520	1,850	1,070	762	650
24	584	557	870	966	3,280	4,380	2,020	2,450	1,740	1,030	776	657
25	602	584	822	1,010	3,740	4,220	2,140	2,200	1,640	1,010	798	650
26	579	584	776	998	6,480	4,220	2,200	2,140	1,640	998	790	644
27	584	557	762	934	6,840	3,280	2,380	2,020	1,540	990	790	664
28	602	505	755	886	5,580	3,660	2,450	1,960	1,540	974	798	657
29	762	574	692	870	4,550	3,070	2,650	1,960	1,540	950	755	657
30	671	525	692	902	-------	3,070	2,720	2,140	1,540	902	734	657
31	657	-------	650	782	-------	3,070	-------	2,140	-------	878	727	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	762	510	564	0.486	0.56	34,700
November	814	505	627	.541	.60	37,300
December	966	505	668	.576	.66	41,100
January	4,550	638	1,260	1.09	1.26	77,500
February	6,840	626	1,690	1.46	1.58	97,200
March	5,060	1,740	3,020	2.60	3.00	186,000
April	2,930	2,020	2,400	2.07	2.31	143,000
May	3,360	1,960	2,700	2.33	2.69	166,000
June	2,320	1,540	1,940	1.67	1.86	115,000
July	1,500	878	1,130	.974	1.12	69,500
August	926	727	822	.709	.82	50,500
September	762	638	690	.595	.66	41,100
The year	6,840	505	1,460	1.26	17.12	1,060,000

HOOD RIVER BASIN

HOOD RIVER NEAR HOOD RIVER, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 36, T. 3 N., R. 10 E., at Powerdale, a quarter of a mile above Pacific Power & Light Co.'s plant and three quarters of a mile south of Hood River. Zero of gage is 106.23 feet above mean sea level by 1929 general adjustment.

RECORDS AVAILABLE.—March 1913 to September 1932.

EXTREMES.—Maximum discharge during year, 8,490 second-feet Mar. 18 (gage height, 7.7 feet); minimum, 16 second-feet Oct. 17, 20, 21 (gage height, 1.65 feet).

1913–32: Maximum discharge, 34,000 second-feet Jan. 6, 1923 (gage height, 11.1 feet); minimum, 3 second-feet Aug. 9, 1926 (gage height, 1.45 feet).

REMARKS.—Records fair. Diversions for irrigation above station. Pacific Power & Light Co.'s conduit diverts water around gage. Low-water flow regulated by pondage at sawmill at Dee. Gage-height record furnished by Pacific Power & Light Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	110	124	119	175	1,620	1,790	1,240	835	355	65	58
2	26	87	94	105	175	1,520	1,680	1,250	844	392	69	49
3	26	49	79	85	241	1,160	1,620	1,400	826	902	76	36
4	30	29	54	112	249	1,030	1,400	1,520	799	892	58	44
5	79	32	38	190	214	1,940	1,320	1,520	721	689	69	78
6	29	26	34	441	225	3,180	1,140	1,460	612	650	40	54
7	29	723	54	392	186	2,200	1,060	1,520	569	628	38	49
8	29	737	95	397	214	1,740	980	1,520	541	241	54	62
9	25	642	65	1,120	237	1,350	930	1,520	598	186	26	69
10	25	642	99	1,100	371	1,090	892	1,620	754	183	28	49
11	23	345	102	2,580	366	960	911	1,570	808	147	33	155
12	23	253	32	2,470	321	864	1,000	1,520	873	114	32	58
13	23	266	64	1,460	280	737	1,130	1,570	920	109	27	51
14	33	328	18	1,080	217	745	1,270	1,460	902	142	30	54
15	32	237	28	844	183	754	1,150	1,350	854	252	32	60
16	33	245	33	705	150	763	1,100	1,340	689	189	36	76
17	30	705	178	681	129	2,620	1,400	1,400	555	139	47	47
18	34	605	650	1,520	107	6,060	1,460	1,460	501	124	40	39
19	25	1,250	470	1,400	105	5,230	1,460	1,460	464	97	44	40
20	28	1,460	745	1,110	137	3,280	1,350	1,680	501	82	42	76
21	20	873	605	873	249	2,320	1,180	1,620	534	90	56	47
22	102	527	501	689	249	1,900	1,080	1,460	576	129	51	40
23	193	366	392	555	241	1,740	960	1,520	527	126	67	44
24	122	266	355	470	402	2,770	970	1,460	452	129	53	44
25	94	257	298	402	790	2,790	960	1,010	408	145	54	47
26	217	225	253	376	1,300	2,260	1,010	808	386	99	56	45
27	358	147	233	350	3,180	2,080	1,170	721	371	73	65	58
28	1,030	107	217	302	2,580	2,510	1,200	642	366	69	92	49
29	590	312	183	280	1,960	2,380	1,140	1,210	371	39	40	40
30	253	134	155	262	-------	2,020	1,120	1,110	366	58	54	45
31	166	-------	145	210	-------	1,790	-------	882	-------	54	44	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,030	20	121	7,440
November	1,460	26	400	23,800
December	745	18	206	12,700
January	2,580	85	732	45,000
February	3,180	105	525	30,200
March	6,060	737	2,050	126,000
April	1,790	892	1,190	70,800
May	1,680	642	1,350	83,000
June	920	366	617	36,700
July	902	39	243	14,900
August	92	26	49.0	3,010
September	155	36	55.4	3,300
The year	6,060	18	629	457,000

Combined discharge, in second-feet, of Hood River and Pacific Power & Light Co.'s conduit near Hood River, Oreg., 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	353	585	516	597	635	2,050	2,260	1,710	1,230	765	433	318
2	345	554	530	558	635	1,980	2,150	1,720	1,230	802	439	316
3	335	529	519	540	687	1,620	2,090	1,520	1,210	1,010	450	305
4	321	482	498	561	711	1,490	1,870	1,520	1,180	892	423	307
5	474	478	483	660	688	2,390	1,790	1,520	1,080	689	435	291
6	356	448	474	897	688	3,600	1,610	1,460	992	650	413	328
7	343	1,150	497	847	646	2,620	1,530	1,520	951	628	395	348
8	319	1,220	487	848	666	2,140	1,450	1,520	932	600	408	369
9	326	1,100	439	1,570	697	1,820	1,400	1,520	989	596	364	341
10	324	1,130	431	1,540	831	1,560	1,360	1,620	1,150	593	341	329
11	313	805	444	2,920	826	1,430	1,380	1,570	1,220	552	348	305
12	319	692	434	2,810	781	1,330	1,460	1,520	1,280	521	352	333
13	316	746	429	1,850	740	1,200	1,590	1,570	1,290	516	342	331
14	308	808	428	1,480	677	1,190	1,740	1,460	1,290	542	348	344
15	299	717	401	1,240	636	1,220	1,620	1,350	1,220	457	364	360
16	305	725	413	1,100	610	1,230	1,570	1,340	1,080	531	364	357
17	304	1,190	561	1,010	589	3,090	1,870	1,400	947	539	371	348
18	315	1,080	1,050	1,990	567	6,480	1,930	1,460	901	517	369	337
19	312	1,710	920	1,870	565	5,590	1,930	1,460	853	496	353	330
20	308	1,850	1,200	1,580	597	3,640	1,820	1,680	888	483	342	440
21	314	1,300	1,060	1,330	709	2,780	1,650	1,620	942	495	345	382
22	505	977	900	1,150	709	2,360	1,550	1,460	986	534	307	358
23	651	806	852	1,020	701	2,200	1,430	1,520	937	539	317	364
24	581	706	816	930	862	3,210	1,440	1,680	861	531	335	373
25	543	702	747	862	1,250	3,250	1,430	1,460	818	547	350	374
26	687	644	712	836	1,740	2,720	1,480	1,240	788	539	349	374
27	830	594	701	810	3,600	2,430	1,640	1,120	777	477	342	372
28	1,500	538	658	762	3,000	2,980	1,670	1,070	776	462	329	383
29	1,060	495	663	740	2,410	2,850	1,610	1,460	781	437	305	372
30	721	520	635	722	-------	2,490	1,590	1,520	776	440	331	395
31	636	-------	623	670	-------	2,260	-------	1,300	-------	384	280	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,500	299	472	29,000
November	1,850	448	843	50,200
December	1,200	401	630	38,700
January	2,920	540	1,170	71,900
February	3,600	565	981	56,400
March	6,480	1,190	2,490	153,000
April	2,260	1,360	1,660	98,800
May	1,720	1,070	1,480	91,000
June	1,290	776	1,010	60,100
July	1,010	384	573	35,200
August	450	280	363	22,300
September	440	291	350	20,800
The year	6,480	280	1,000	727,000

WEST FORK OF HOOD RIVER NEAR DEE, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 1, T. 1 N., R. 9 E., a quarter of a mile above Dead Point Creek, half a mile above junction with Hood River, and 1 mile northwest of Dee. Zero of gage is 864.11 feet above mean sea level.

RECORDS AVAILABLE.—August 1913 to September 1915 (incomplete) a quarter of a mile above present site; June to September 1932.

EXTREMES.—Maximum discharge during period, 721 second-feet June 13 (gage height, 3.48 feet); minimum, 123 second-feet Sept. 30 (gage height, 1.82 feet).

1913–15, 1932: Maximum stage recorded, 4.00 feet at old gage Jan. 5, 1914 (discharge not determined); minimum discharge, 100 second-feet Sept. 29, 30, 1915.

REMARKS.—Records excellent. Discharge interpolated June 5. Diversions for irrigation above station; no regulation.

Discharge, in second-feet, 1932

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	581	302	171	143	16	514	223	156	132
2	581	310	173	141	17	449	226	154	130
3	558	428	173	137	18	428	208	152	128
4	550	393	169	135	19	402	200	150	127
5	519	302	171	134	20	410	200	146	137
6	488	265	171	135	21	432	205	145	141
7	470	258	164	135	22	445	210	145	137
8	445	255	164	137	23	406	203	145	134
9	496	249	158	137	24	372	200	143	132
10	650	255	154	137	25	352	205	146	130
11	650	246	156	135	26	340	195	146	128
12	674	232	158	134	27	332	186	145	127
13	698	226	158	132	28	328	186	143	125
14	674	238	154	132	29	324	179	141	125
15	604	223	152	132	30	310	173	148	125
					31		171	148	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
June	698	310	483	28,700
July	428	171	237	14,600
August	173	141	155	9,530
September	143	125	133	7,910
The period				60,700

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

LOCATION.—Venturi meter in NE¼ 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 1932. At station on tailrace of old plant October 1913 to September 1914; January 1916 to July 1922.

EXTREMES.—Maximum discharge during year, 490 second-feet Nov. 9, 10, 17. No flow when power plant was occasionally shut down.

1913–14, 1916–32: Maximum discharge, 500 second-feet Sept. 10, 1927.

REMARKS.—Records good. Discharge determined from hourly readings of Venturi meter checked by occasional discharge measurements. Pacific Power & Light Co.'s conduit diverts from Hood River in SE¼ sec. 11, T. 2 N., R. 10 E., immediately below mouth of Neal Creek. Water is returned to river in NE¼ 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	327	475	392	478	460	431	470	470	399	410	368	260
2	319	467	436	453	460	460	470	470	388	410	370	267
3	309	480	440	455	446	460	470	118	381	104	374	269
4	291	453	444	449	462	460	470	0	381	0	365	263
5	395	446	445	470	474	450	470	0	364	0	366	213
6	327	422	440	456	463	425	470	0	380	0	373	274
7	314	328	443	455	460	420	470	0	382	0	357	299
8	290	480	392	451	452	404	470	0	391	359	354	307
9	301	460	374	453	460	470	470	0	391	410	338	272
10	299	490	332	438	460	470	470	0	394	410	313	280
11	290	460	342	343	460	470	470	0	410	405	315	150
12	296	439	402	343	460	470	456	0	410	407	320	281
13	293	480	365	390	460	468	458	0	369	407	315	280
14	275	480	410	400	460	446	470	0	384	400	318	290
15	267	480	373	400	453	470	470	0	366	205	332	300
16	272	480	380	400	460	470	470	0	387	342	328	281
17	274	487	383	326	460	466	470	0	392	400	324	301
18	281	480	398	470	460	416	470	0	400	393	329	298
19	287	461	450	470	460	360	470	0	389	399	309	290
20	280	394	456	465	460	360	470	0	387	401	300	364
21	294	429	450	460	460	460	470	0	408	405	289	335
22	403	450	399	460	460	460	470	0	410	405	256	318
23	458	440	460	460	460	460	470	0	410	413	250	320
24	459	440	461	460	460	438	470	215	409	402	282	329
25	449	445	449	460	460	460	470	448	410	402	296	327
26	470	419	459	460	439	460	470	432	402	440	293	329
27	472	447	468	460	420	347	470	398	406	404	277	314
28	475	431	441	460	416	470	470	424	410	393	237	334
29	472	183	480	460	450	470	470	248	410	398	265	332
30	468	386	480	460	------	470	470	410	410	382	277	350
31	470	------	478	460	------	470	------	420	------	330	236	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	475	267	351	21,600
November	490	183	444	26,400
December	480	332	423	26,000
January	478	326	440	27,100
February	474	416	456	26,200
March	470	347	446	27,400
April	470	456	469	27,900
May	470	0	131	8,060
June	410	364	394	23,400
July	440	0	330	20,300
August	374	236	314	19,300
September	364	150	294	17,500
The year	490	0	374	271,000

WHITE SALMON RIVER BASIN

WHITE SALMON RIVER AT HUSUM, WASH.

LOCATION.—Water-stage recorder in SW¼ 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 1932.

EXTREMES.—Maximum discharge during year, 2,330 second-feet Mar. 19 (gage height, 4.90 feet); minimum, 359 second-feet Dec. 15 (gage height, 0.79 foot).

1909–19, 1929–32: Maximum discharge, 7,500 second-feet Dec. 29, 1917 (gage height, 10.0 feet at old gage); minimum, 340 second-feet Dec. 30, 1930 (gage height, 0.64 foot).

REMARKS.—Records good except those estimated Aug. 1–5, 24–31, and Sept. 11, 12, which are fair. Numerous diversions for irrigation near Trout Lake. Springs increase flow by a large amount in a few miles above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	413	457	396	507	507	1,480	1,540	1,790	1,640	1,270	-	630
2	411	451	403	489	507	1,300	1,580	1,870	1,610	1,240		630
3	404	446	406	481	522	1,160	1,510	1,870	1,640	1,300	800	630
4	404	430	408	477	522	1,080	1,480	1,870	1,640	1,270		648
5	404	420	398	477	537	1,210	1,450	1,950	1,580	1,180		648
6	401	413	394	486	522	1,450	1,390	1,990	1,510	1,130	775	648
7	396	497	396	486	522	1,360	1,330	2,030	1,450	1,100	755	630
8	394	614	400	489	537	1,240	1,300	2,030	1,450	1,080	755	630
9	392	567	401	522	537	1,130	1,270	2,030	1,480	1,060	735	598
10	392	507	401	567	552	1,060	1,270	2,070	1,540	1,080	735	598
11	390	479	398	966	552	1,010	1,300	2,030	1,640	1,060	735	600
12	389	466	398	1,210	552	962	1,330	1,950	1,680	1,030	755	590
13	386	474	398	1,030	552	940	1,420	1,990	1,720	1,010	755	582
14	386	497	382	895	537	940	1,510	1,950	1,750	1,010	755	582
15	386	484	367	795	522	962	1,580	1,830	1,790	1,010	755	582
16	385	474	376	755	522	962	1,580	1,720	1,750	985	775	567
17	383	486	420	718	507	1,320	1,680	1,720	1,640	962	755	552
18	380	474	570	766	504	1,800	1,750	1,750	1,580	940	735	537
19	383	514	665	815	507	2,280	1,870	1,750	1,510	918	735	537
20	382	502	775	755	507	2,150	1,790	1,870	1,480	895	718	552
21	379	474	835	718	522	1,830	1,680	1,870	1,480	895	718	537
22	420	453	718	682	522	1,610	1,610	1,790	1,480	875	718	537
23	453	442	665	648	537	1,510	1,540	1,720	1,480	855	700	537
24	461	440	648	630	567	1,750	1,540	1,720	1,450	855		537
25	470	444	614	630	698	1,830	1,580	1,680	1,390	835	700	537
26	472	432	598	614	1,300	1,680	1,640	1,610	1,360	835		
27	466	416	582	598	1,680	1,580	1,680	1,540	1,330	815		552
28	520	406	567	582	1,750	1,720	1,790	1,510	1,330	815		552
29	552	403	537	582	1,720	1,720	1,790	1,540	1,300	815	650	552
30	504	400	522	567	-------	1,640	1,790	1,610	1,300	795		552
31	479	-------	507	552	-------	1,580	-------	1,610	-------	795		537

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	552	379	421	25,900
November	614	400	465	27,700
December	835	367	501	30,800
January	1,210	477	661	40,600
February	1,750	504	684	39,300
March	2,280	940	1,430	87,900
April	1,870	1,270	1,550	92,200
May	2,070	1,510	1,810	111,000
June	1,790	1,300	1,530	91,000
July	1,300	795	991	60,900
August	-------	-------	734	45,100
September	648	537	580	34,500
The year	2,280	367	948	687,000

SANDY RIVER BASIN

SANDY RIVER NEAR MARMOT, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 24, T. 2 S., R. 5 E., three quarters of a mile southwest of Marmot, 2 miles above Sandy River Dam of Portland General Electric Co., and 5 miles below mouth of Salmon River.

DRAINAGE AREA.—262 square miles.

RECORDS AVAILABLE.—August 1911 to December 1915; July 1919 to September 1932. Combined discharge of Sandy River below dam and canal gives same results January 1916 to June 1919.

EXTREMES.—Maximum discharge during year, 15,100 second-feet Mar. 18 (gage height, 12.0 feet); minimum, 210 second-feet Oct. 14, 15.

1911–32: Maximum discharge, about 29,200 second-feet Jan. 6, 1923 (gage height, 17.5 feet); minimum, that of Oct. 14, 15, 1931.

REMARKS.—Records good except those for Oct. 1–21 and those estimated Oct. 11, Jan. 31, Feb. 2–5, which are fair. No diversions or regulation above station. Gage-height record furnished by Portland General Electric Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	240	610	595	1,160	720	2,710	3,050	3,110	1,990	810	430	353
2	240	585	580	1,040	720	2,930	2,870	2,930	1,890	780	452	345
3	228	550	590	940	720	2,310	2,630	2,580	1,840	1,000	448	329
4	231	485	620	1,160	726	2,110	2,360	2,580	1,760	968	434	325
5	454	454	600	1,560	726	3,230	2,140	2,520	1,710	810	444	337
6	380	449	580	2,060	726	4,780	1,890	2,360	1,580	780	430	333
7	258	1,520	630	1,780	750	3,500	1,760	2,520	1,500	702	421	333
8	225	1,960	610	1,520	738	2,930	1,660	2,580	1,420	684	416	329
9	225	1,780	565	3,360	774	2,460	1,660	2,690	1,460	679	403	309
10	220	1,780	585	2,820	875	2,110	1,840	2,990	1,580	726	403	313
11	218	1,400	550	3,820	875	1,830	2,140	2,810	1,580	657	416	317
12	215	1,120	508	3,860	842	1,600	2,460	2,810	1,540	630	416	305
13	212	1,120	498	2,710	792	1,520	2,630	2,690	1,500	640	408	302
14	210	1,280	472	2,110	714	1,830	2,810	2,410	1,420	646	390	294
15	210	1,200	462	1,780	684	1,960	2,520	2,140	1,340	608	394	305
16	212	1,280	494	1,560	648	2,210	2,630	2,090	1,180	608	416	293
17	215	2,110	1,780	1,650	600	5,340	3,050	2,190	1,070	613	398	291
18	215	1,960	2,360	3,150	595	10,100	2,930	2,240	1,040	569	390	277
19	212	2,670	2,260	2,930	600	9,240	2,810	2,190	1,000	558	385	274
20	222	2,860	2,710	2,360	636	5,530	2,580	2,410	968	558	369	403
21	218	2,060	2,510	1,960	780	3,780	2,240	2,240	968	569	365	321
22	432	1,520	1,960	1,700	792	3,110	2,040	2,090	1,000	586	365	288
23	744	1,240	1,650	1,480	842	2,750	1,890	2,520	968	547	365	294
24	595	1,040	1,520	1,320	1,360	4,850	1,940	2,410	935	530	373	291
25	565	970	1,320	1,240	2,260	4,370	1,990	1,990	935	569	381	284
26	842	875	1,200	1,160	4,920	3,240	2,240	1,800	870	552	369	274
27	1,040	768	1,160	1,120	5,200	2,930	2,750	1,660	810	525	365	280
28	1,740	702	1,040	1,010	4,380	4,370	2,630	1,620	780	520	365	280
29	1,400	648	970	970	3,260	4,070	2,580	2,360	810	452	353	277
30	940	625	1,010	908	-------	3,370	2,630	2,460	780	434	430	277
31	726	-------	1,200	814	-------	3,050	-------	2,090	-------	426	369	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,740	210	454	1.73	1.99	27,900
November	2,860	449	1,250	4.77	5.32	74,400
December	2,710	462	1,080	4.12	4.75	66,400
January	3,860	814	1,840	7.02	8.09	113,000
February	5,200	595	1,320	5.04	5.44	75,900
March	10,100	1,520	3,550	13.5	15.56	218,000
April	3,050	1,660	2,380	9.08	10.13	142,000
May	3,110	1,620	2,390	9.12	10.51	147,000
June	1,990	780	1,270	4.85	5.41	75,600
July	1,000	426	637	2.43	2.80	39,200
August	452	353	399	1.52	1.75	24,500
September	403	274	308	1.18	1.32	18,300
The year	10,100	210	1,410	5.38	73.07	1,020,000

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

LOCATION.—Water-stage recorder in NW¼ 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 quarters of a mile upstream from present site); October 1929 to September 1932.

EXTREMES.—Maximum discharge during year, 32,000 second-feet Mar. 18 (gage height, 14.7 feet); minimum, 53 second-feet Oct. 4 (gage height, 0.53 foot).

1910–14, 1929–32: Maximum discharge, 58,000 second-feet Mar. 31, 1931 (gage height, 20.6 feet); minimum, that of Oct. 4, 1931.

REMARKS.—Records excellent. No diversions for irrigation above station. Flow regulated by Bull Run power plant of Portland General Electric Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	325	1,030	1,010	2,470	1,260	4,500	5,020	4,840	2,960	809	628	438
2	288	1,070	938	2,070	1,040	4,840	4,840	4,670	2,780	932	514	506
3	188	916	1,000	1,890	1,170	3,860	4,500	4,010	2,620	1,130	546	442
4	129	820	982	2,120	1,080	3,350	4,010	3,860	2,500	1,310	543	359
5	381	766	1,100	3,010	1,150	5,130	3,710	3,860	2,450	889	520	392
6	443	687	920	4,100	1,260	9,610	3,080	3,560	2,400	1,040	690	420
7	283	3,070	1,140	3,380	904	6,190	3,150	3,710	2,080	743	368	446
8	254	4,330	1,130	2,720	1,310	5,020	2,900	3,640	1,980	838	526	426
9	281	3,780	1,090	5,640	1,290	4,010	2,620	3,860	1,880	801	554	443
10	330	3,830	1,090	5,020	1,520	3,220	2,960	4,500	2,130	756	522	444
11	255	2,620	1,070	7,260	1,490	2,780	3,490	4,010	2,080	860	559	374
12	290	2,090	968	7,480	1,550	2,340	3,860	3,860	2,080	786	504	432
13	261	2,020	784	4,560	1,480	2,180	4,010	3,860	2,180	780	582	375
14	262	2,510	1,070	3,490	1,190	2,620	4,330	3,420	1,880	742	434	378
15	280	2,120	916	2,850	1,350	3,020	4,170	2,960	1,780	771	560	390
16	264	2,340	806	2,500	1,140	3,150	4,010	2,960	1,600	863	534	410
17	275	4,070	2,540	2,770	1,050	9,380	5,200	2,960	1,420	841	501	416
18	252	3,880	4,510	6,610	1,000	22,400	5,390	3,080	1,260	858	564	356
19	313	5,560	4,110	5,980	1,040	18,500	5,020	3,020	1,260	712	576	376
20	306	6,820	5,780	4,580	1,050	9,850	4,670	3,560	1,420	582	404	496
21	316	3,870	4,880	3,570	1,140	6,610	3,860	3,280	1,320	621	394	444
22	639	2,500	3,510	2,960	1,420	5,200	3,490	3,150	1,300	642	468	401
23	969	2,270	3,000	2,640	1,280	4,670	3,150	3,860	1,030	660	466	374
24	1,070	1,860	2,850	2,210	1,720	8,150	3,150	3,640	1,080	547	452	468
25	748	1,800	2,530	2,190	2,900	8,650	3,280	2,900	1,040	812	456	295
26	1,880	1,310	2,230	1,830	7,320	6,400	3,710	2,560	984	607	427	408
27	2,720	1,380	2,040	1,750	9,370	5,200	4,330	2,500	1,110	546	552	327
28	5,020	1,230	2,000	1,600	8,170	8,650	4,170	2,340	1,040	603	430	308
29	3,710	1,000	1,580	1,580	5,780	7,940	4,170	3,280	990	651	442	382
30	2,400	1,080	1,920	1,480	-------	6,400	4,010	3,710	942	594	522	371
31	1,720	-------	2,300	1,180	-------	5,390	-------	3,080	-------	326	480	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	5,020	129	866	1.97	2.27	53,200
November	6,820	687	2,420	5.50	6.14	144,000
December	5,780	784	1,990	4.52	5.21	122,000
January	7,480	1,180	3,340	7.59	8.75	205,000
February	9,370	904	2,190	4.98	5.37	126,000
March	22,400	2,180	6,430	14.6	16.83	395,000
April	5,390	2,620	3,940	8.95	9.99	234,000
May	4,840	2,340	3,500	7.95	9.16	215,000
June	2,960	942	1,720	3.91	4.36	102,000
July	1,310	326	763	1.73	1.99	46,900
August	690	368	507	1.15	1.33	31,200
September	506	295	403	.916	1.02	24,000
The year	22,400	129	2,340	5.32	72.42	1,700,000

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 1932.

EXTREMES.—Maximum discharge during year, 76 second-feet Mar. 18 (gage height, 2.01 feet); minimum, 15 second-feet Feb. 1–13, 16–18.

1926–32: Maximum discharge (estimated), 250 second-feet Mar. 31, 1931 (gage height, about 3.5 feet); minimum, that of Feb. 1–13, 16–18, 1932.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20		18	19	15	20	31	38	30	22	23	21
2	20		18	18	15	20	31	35	28	22	23	20
3	20		18	18	15	20	30	33	28	23	23	20
4	21		18	20	15	20	30	35	27	23	23	20
5	22		18	20	15	24	30	35	27	23	22	19
6	21		18	20	15	27	30	34	26	23	22	19
7	21		18	19	15	23	29	36	26	23	22	19
8	20		18	19	15	21	29	38	26	23	22	19
9	20		18	24	15	21	29	39	27	23	22	18
10	20		18	21	15	20	31	40	27	23	21	18
11	20		18	28	15	19	31	38	27	23	21	18
12	19		18	23	15	19	31	39	27	22	21	18
13	19		18	21	15	18	32	39	27	22	20	18
14	18	20	18	21	16	19	32	38	27	22	20	17
15	17		18	20	16	19	31	36	27	22	20	16
16	17		19	20	15	20	31	36	27	22	20	16
17	17		22	21	15	41	34	36	26	22	19	16
18	17		22	25	15	68	33	36	26	21	19	16
19	17		21	21	16	41	33	38	26	21	19	16
20	17		23	20	16	31	32	39	25	22	19	16
21	17		22	19	16	28	30	38	24	21	19	16
22	20		21	19	16	26	30	39	23	22	19	16
23	20		21	17	16	26	29	42	23	22	19	16
24	19		21	17	18	35	29	39	23	22	20	16
25	19		20	17	19	30	30	36	23	22	20	16
26	19	18	20	16	24	28	33	34	22	22	20	16
27	22	18	20	16	24	29	33	34	22	23	20	16
28	26	18	20	16	22	34	33	34	22	23	20	16
29	20	18	20	16	21	32	34	40	22	23	21	16
30	20	18	20	16	------	31	35	36	22	23	21	16
31	21	------	20	16	------	31	------	32	------	23	21	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	26	17	19.5	5.27	6.08	1,200
November	------	------	19.7	5.32	5.94	1,170
December	23	18	19.4	5.24	6.04	1,190
January	28	16	19.5	5.27	6.08	1,200
February	24	15	16.6	4.49	4.84	955
March	68	18	27.1	7.32	8.44	1,670
April	35	29	31.2	8.43	9.40	1,860
May	42	32	36.8	9.95	11.47	2,260
June	30	22	25.4	6.86	7.65	1,510
July	23	21	22.4	6.05	6.98	1,380
August	23	19	20.7	5.59	6.44	1,270
September	21	16	17.3	4.68	5.22	1,030
The year	68	15	23.0	6.22	84.58	16,700

STILL CREEK NEAR GOVERNMENT CAMP, OREG.

LOCATION.—Staff gage in NW¼ sec. 25, T. 3 S., R. 8½ E., 100 yards below mouth of Mineral Creek and 2 miles southeast of Government Camp.

DRAINAGE AREA.—2.8 square miles.

RECORDS AVAILABLE.—May 1910 to May 1912; May 1926 to September 1932 (discontinued).

EXTREMES.—Maximum discharge during year, 104 second-feet Mar. 18 (gage height, 1.40 feet); minimum, 9 second-feet Feb. 22, Mar. 11.

1910–12, 1926–32: Maximum discharge, that of Mar. 18, 1932; minimum, 5.0 second-feet Nov. 12, 1911.

REMARKS.—Records fair. Mean monthly discharge April to September is mean discharge for days gage was read. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		11	12	12	10	e 10	22	------	33	19	17	------
2		11	12	11	e 10	11	------	26	------	------	------	13
3		11	12	e 10	10	e 10	------	------	33	------	16	13
4		10	12	e 12	e 10	12	20	33	------	21	------	------
5		10	12	14	e 11	25	------	------	------	------	16	13
6		10	12	e 12	e 10	e 26	19	39	31	21	------	------
7	e 10	16	12	11	e 10	11	------	------	------	------	------	13
8		12	12	e 12	10	e 10	18	------	33	20	16	------
9		12	12	20		10	------	44	------	------	------	13
10		12	12	e 16		e 10	------	------	33	------	16	------
11		12	12	56		9	22	44	------	19	------	------
12		12	12	e 28	e 10	e 10	------	------	------	------	16	12
13	10	12	12	14		e 10	24	42	27	20	------	------
14	10	12	11	e 13		10	------	------	------	------	------	12
15	10	11	11	12		e 10	24	------	25	19	15	------
16	10	11	11	12	10	10	------	42	------	------	------	12
17	10	11	17	e 13		23	------	------	24	19	14	------
18	10	12	17	14		104	24	37	------	19	------	------
19	10	12	12	e 13		38	------	------	------	------	14	14
20	10	12	17	12	e 10	e 31	21	37	24	18	------	------
21	10	11	12	e 12		24	------	33	------	------	------	12
22	12	14	11	11	9	e 22	19	------	22	18	14	------
23	12	14	11	e 11	e 10	20	------	46	------	------	------	12
24	11	14	12	e 11	11	e 21	------	------	21	------	13	------
25	2	12	11	11	e 16	22	28	31	------	17	------	------
26	11	12	11	e 11	27	e 23	------	------	------	------	13	12
27	16	12	11	11	20	e 23	31	33	21	18	------	------
28	45	12	11	e 10	e 15	24	------	------	------	------	------	12
29	12	12	12	10	10	e 22	33	------	21	17	15	------
30	12	12	12	e 10	------	21	------	35	------	------	------	12
31	11	------	12	e 10	------	e 22	------	------	------	------	14	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	45	----------	11.7	4.18	4.82	719
November	16	10	11.9	4.25	4.74	708
December	17	11	12.2	4.36	5.03	750
January	56	10	14.0	5.00	5.76	861
February	27	9	11.3	4.04	4.36	650
March	104	9	20.5	7.32	8.44	1,260
April	----------	----------	23.5	8.39	9.36	1,400
May	----------	----------	37.3	13.3	15.33	2,290
June	33	----------	26.8	9.57	10.68	1,590
July	21	17	18.9	6.75	7.78	1,160
August	17	13	14.9	5.32	6.13	916
September	14	12	12.5	4.46	4.98	744
The year	104	9	18.0	6.43	87.41	13,000

e Estimated.

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, 4 miles southeast of Government Camp.
DRAINAGE AREA.—8.0 square miles.
RECORDS AVAILABLE.—May 1910 to May 1912; April 1926 to September 1932.
EXTREMES.—Maximum discharge during year, 259 second-feet Mar. 18 (gage height, 3.39 feet); minimum, 13 second-feet Oct. 11, 14–20.
1910–12, 1926–32: Maximum discharge, 424 second-feet Mar. 31, 1931 (gage height, 3.55 feet); minimum, 12 second-feet Nov. 21, 1929, Oct. 19, 1930.
REMARKS.—Records fair. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	22	18	19	a 20	20	67	100		56	34	26
2	16	20	18	19	20	20	66	84		54	34	25
3	16	20	18	18	20	20	61	79		69	34	24
4	19	20	17	24	19	23	56	93		62	33	24
5	19	20	16	27	19	38	54	88		56	32	25
6	a 18	23	16	26	19	40	53	93	a 113	53	32	24
7	a 18	34	16	22	19	31	53	102		52	32	24
8	17	29	16	23	19	22	49	102		52	32	24
9	17	27	16	39	19	21	54	107		52	32	23
10	15	26	16	32	19		60	111		52	32	23
11	13	25	16	57	18		66	104		50	31	23
12	14	25	16	40	16		67	106		49	30	23
13	14	27	16	36	15	a 20	70	104	106	49	29	23
14	13	25	16	34	15		73	96	104	49	29	
15		24	16	31	14		68	86	94	48	29	
16		23	17	29	16		68	88	82	48	29	
17	a 13	24	32	28	17	54	67	93	78	46	29	
18		24	29	34	16	194	64	91	72	46	29	
19		28	26	32	17	160	61	93	72	46	29	
20		27	29	31	18	89	56	96	72	45	28	a 23
21		22	28	31	18	67	50	84	74	45	28	
22		22	24	29	18	56	48		72	44	29	
23		20	23	28	18	53	47		69	44	28	
24	a 22	20	22	28	20	78	50		67	44	28	
25		20	21	28	24	67	60		64	43	28	
26		19	20	28	36	56	70	a 97	62	41	27	
27	29	19	20	23	36	54	76		62	38	27	22
28	52	19	20	21	34	70	82		60	37	26	22
29	26	18	19	20	24	63	79		59	37	29	22
30	a 24	18	19	20	------	60	88		57	36	30	22
31	21	------	19	a 20	------	63	------		------	35	26	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	52	13	18.9	2.36	2.72	1,160
November	34	18	23.0	2.88	3.21	1,370
December	32	16	19.8	2.48	2.86	1,220
January	57	18	28.3	3.54	4.08	1,740
February	36	14	20.1	2.51	2.71	1,160
March	194	----------	50.3	6.29	7.25	3,090
April	88	47	62.8	7.85	8.76	3,740
May	111	----------	95.8	12.0	13.83	5,890
June	----------	57	89.4	11.2	12.50	5,320
July	69	35	47.7	5.96	6.87	2,930
August	34	26	29.8	3.72	4.29	1,830
September	26	22	23.3	2.91	3.25	1,390
The year	194	13	42.5	5.31	72.33	30,800

a Estimated.

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 1932.
EXTREMES.—Maximum discharge during year, 1,820 second-feet Mar. 18 (gage height, 3.54 feet); minimum, 46 second-feet Oct. 14, 15 (gage height, 0.25 foot).
1927–32: Maximum discharge, 5,080 second-feet Mar. 31, 1931 (gage height, 5.81 feet); minimum, 44 second-feet Nov. 21, 1929 (gage height, 0.27 foot).
REMARKS.—Records good. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	73	85	112	110	294	498	757	410	164	95	79
2	54	70	84	105	117	272	489	690	394	161	95	76
3	53	66	82	103	117	238	463	636	379	183	95	73
4	54	64	82	120	113	227	438	654	364	186	93	72
5	78	64	79	150	110	372	414	625	364	161	92	72
6	61	63	79	178	108	590	375	636	335	154	92	72
7	53	113	79	152	106	414	353	666	314	148	90	72
8	50	135	78	139	105	357	339	666	304	141	90	70
9	50	117	73	311	103	308	357	696	304	139	92	68
10	49	112	80	275	101	275	398	732	311	144	93	67
11	49	100	78	398	101	244	450	696	311	141	93	67
12	50	93	74	530	101	221	516	696	304	135	95	67
13	49	100	74	383	100	210	570	672	297	131	92	66
14	48	106	64	308	95	218	610	615	284	135	88	66
15	48	96	68	259	95	235	595	565	278	131	88	66
16	48	100	79	235	95	253	615	550	259	126	87	66
17	49	113	148	210	92	560	642	550	250	124	87	66
18	49	105	173	235	92	1,260	605	540	241	122	85	64
19	48	179	156	229	92	1,480	580	530	229	120	85	66
20	48	213	200	202	92	939	521	570	224	117	84	84
21	50	141	205	181	93	678	463	535	221	113	82	68
22	96	120	168	166	92	560	422	507	216	113	82	64
23	112	113	154	154	92	489	391	555	210	112	80	64
24	87	105	150	148	112	660	410	502	202	110	79	63
25	84	103	139	148	146	610	450	442	194	108	78	61
26	92	96	133	137	325	502	530	414	186	105	79	60
27	120	90	131	135	394	455	615	391	181	103	78	60
28	202	87	126	131	398	530	636	391	178	101	78	59
29	124	87	120	129	353	516	654	565	176	100	84	59
30	93	87	115	128	------	498	684	493	166	98	166	59
31	79	------	115	119	------	493	------	430	------	96	85	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	202	48	70.5	1.31	1.51	4,330
November	213	63	104	1.93	2.15	6,190
December	205	64	112	2.07	2.39	6,890
January	530	103	200	3.70	4.27	12,300
February	398	92	140	2.59	2.79	8,050
March	1,480	210	483	8.94	10.31	29,700
April	684	339	503	9.31	10.39	29,900
May	757	391	580	10.7	12.34	35,700
June	410	166	270	5.00	5.58	16,100
July	186	96	130	2.41	2.78	7,990
August	103	78	87.7	1.62	1.87	5,390
September	84	59	67.2	1.24	1.38	4,000
The year	1,480	48	229	4.24	57.76	167,000

SALMON RIVER AT WELCHES, OREG.

LOCATION.—Staff gage in S½ sec. 9, T. 3 S., R. 7 E., just below Sheeny Creek and three quarters of a 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 1932.

EXTREMES.—Maximum discharge during year, 5,330 second-feet Mar. 18 (gage height, 6.1 feet); minimum, 69 second-feet Oct. 4, 13–21 (gage height, 0.28 foot).

1913–14, 1920–21, 1925–32: Maximum discharge (estimated), 13,000 second-feet Mar. 31, 1931 (gage height, 9.80 feet); minimum, 65 second-feet Dec. 3–6, 1929, Aug. 31 to Sept. 3, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	148	158	302	224	790	1,090	1,240	710	242	131	116
2	76	135	158	280	207	970	1,020	1,090	650	242	131	111
3	72	126	166	241	192	670	955	1,020	622	281	131	106
4	69	122	168	260	192	570	830	1,020	622	281	126	106
5	178	126	163	420	207	970	830	1,020	622	242	126	106
6	105	122	158	445	192	1,770	710	955	568	224	118	102
7	86	570	166	470	192	1,110	650	955	540	221	116	102
8	76	730	178	420	192	910	622	955	514	210	116	97
9	76	470	178	1,770	192	760	650	1,020	514	204	126	97
10	72	495	166	850	207	620	710	1,090	540	210	131	93
11	72	325	148	2,400	224	545	830	1,090	540	204	131	93
12	72	280	142	1,250	207	470	955	1,090	540	197	131	93
13	69	280	139	850	178	470	1,020	1,090	487	190	126	93
14	69	325	117	670	178	570	1,090	955	487	217	118	93
15	69	260	113	545	178	595	1,090	890	462	190	118	88
16	69	280	139	470	178	645	1,020	830	462	184	118	88
17	69	645	850	595	166	1,970	1,240	830	413	174	116	88
18	69	620	790	850	153	4,690	1,090	770	366	174	111	88
19	69	1,490	670	760	166	4,240	1,020	830	366	174	111	88
20	69	910	850	595	178	2,070	955	890	344	165	106	84
21	69	570	760	495	224	1,400	830	830	344	159	106	95
22	168	370	520	420	241	1,400	770	830	344	159	106	93
23	370	325	445	370	241	1,490	622	955	322	159	106	93
24	173	241	470	325	545	2,070	568	955	322	153	106	88
25	148	241	370	325	850	1,580	710	740	301	153	102	88
26	241	224	325	302	2,070	1,240	830	680	281	153	102	88
27	325	192	325	280	1,580	1,490	1,020	622	281	145	102	84
28	520	178	302	260	1,330	1,400	1,020	622	261	142	102	84
29	370	153	280	241	970	1,320	1,020	1,020	261	137	102	84
30	224	166	280	241	-------	1,090	1,020	890	261	137	165	84
31	166	-------	302	224	-------	1,090	-------	740	-------	131	142	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	520	69	140	1.40	1.61	8,610
November	1,490	122	371	3.71	4.14	22,100
December	850	113	322	3.22	3.71	19,800
January	2,400	224	578	5.78	6.66	35,500
February	2,070	153	409	4.09	4.41	23,500
March	4,690	470	1,320	13.2	15.22	81,200
April	1,240	568	893	8.93	9.96	53,100
May	1,240	622	920	9.20	10.61	56,600
June	710	261	445	4.45	4.96	26,500
July	281	131	189	1.89	2.18	11,600
August	131	102	119	1.19	1.37	7,320
September	116	84	93.8	.938	1.05	5,580
The year	4,690	69	484	4.84	65.88	351,000

BULL RUN RESERVOIR NEAR BULL RUN, OREG.

LOCATION.—Water-stage recorder in SW¼ 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 1932.

EXTREMES.—Maximum contents during year, 30,320 acre-feet Mar. 18 (gage height, 1,044.42 feet); minimum, 20,530 acre-feet Oct. 4 (gage height, 1,018.07 feet).

1928–32: Maximum contents, 31,600 acre-feet Mar. 31, 1931 (gage height, 1,047.40 feet); minimum, that of Oct. 4, 1931.

REMARKS.—Records excellent. Bear Creek Dam on Bull Run River was completed in March 1929 and stores water in Bull Run Reservoir for water supply of city of Portland. Capacity of reservoir at crest of spillway at gage height 1,036 feet is 26,930 acre-feet; at center line of outlet valves at gage height 890 feet is 213 acre-feet, which is dead storage. Gage-height record furnished by Portland Water Bureau.

Monthly stage and contents, 1931–32

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	1,018.72	20,750	----------	May 31	1,037.64	27,570	−50
Oct. 31	1,037.30	27,440	+6,690	June 30	1,036.61	27,170	−400
Nov. 30	1,036.70	27,200	−240	July 31	1,034.54	26,380	−790
Dec. 31	1,037.18	27,390	+190	Aug. 31	1,030.96	25,040	−1,340
Jan. 31	1,036.80	27,240	−150	Sept. 30	1,025.50	23,080	−1,960
Feb. 29	1,038.46	27,890	+650				
Mar. 31	1,038.34	27,840	−50	The year	----------	----------	+2,330
Apr. 30	1,037.76	27,620	−220				

BULL RUN RIVER BELOW BULL RUN RESERVOIR, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 17, T. 1 S., R. 6 E., half a mile below Bull Run Reservoir and 8 miles northeast of Bull Run.

DRAINAGE AREA.—77 square miles.

RECORDS AVAILABLE.—October 1929 to September 1932.

EXTREMES.—Maximum discharge during year, 9,870 second-feet Mar. 18 (gage height, 7.77 feet); minimum (estimated), 35 second-feet Oct. 24, 25 (gage height not determined).

1929–32: Maximum discharge, 15,700 second-feet Mar. 31, 1931 (gage height, 10.85 feet); minimum, 5 second-feet (estimated) Oct. 10, 11, 1930.

REMARKS.—Records good. Discharge estimated Oct. 23–25, July 27–31. No diversions above station. Flow regulated by storage in Bull Run Lake and Bull Run Reservoir. Gage-height record furnished by Portland Water Bureau.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	465	244	606	250	1,190	1,220	1,060	630	159	112	107
2	88	409	229	517	241	1,250	1,130	1,040	620	155	112	107
3	89	337	268	449	232	892	1,160	850	592	256	114	107
4	89	286	283	505	226	762	952	829	543	241	112	109
5	89	250	274	780	223	2,020	864	829	517	195	116	109
6	89	247	262	1,270	232	3,430	744	744	493	168	114	109
7	89	1,200	330	906	250	1,700	714	732	441	155	114	109
8	88	1,540	344	714	268	1,190	676	726	409	145	112	107
9	83	1,430	306	1,860	289	871	660	787	421	141	112	107
10	82	1,430	306	1,430	330	692	692	899	457	147	110	107
11	80	850	274	3,100	340	579	780	829	473	149	112	107
12	78	645	253	2,410	348	509	885	815	465	147	112	107
13	78	714	250	1,280	306	465	928	774	453	139	112	107
14	78	968	217	871	265	606	1,110	698	425	151	112	107
15	80	762	205	665	241	794	976	610	397	178	112	107
16	78	762	214	570	223	926	952	602	358	211	112	107
17	78	1,330	870	619	205	4,080	1,540	630	326	214	110	107
18	80	1,280	1,640	2,650	195	7,660	1,700	650	298	180	110	107
19	77	2,260	1,480	2,070	190	4,960	1,590	635	286	135	110	107
20	83	2,480	2,000	1,330	205	2,410	1,380	762	274	110	102	107
21	88	1,190	1,480	913	312	1,430	1,060	732	268	100	102	105
22	77	774	984	704	323	1,030	850	714	259	102	102	100
23	50	606	774	579	306	992	750	913	244	109	102	83
24	35	501	850	501	385	2,660	750	850	229	116	102	88
25	35	461	704	457	692	2,480	750	670	211	116	102	88
26	844	401	588	417	2,320	1,640	864	574	198	112	102	88
27	1,540	344	534	401	3,250	1,430	1,040	521	188		102	88
28	3,010	309	481	362	2,700	2,700	968	517	182		102	88
29	1,700	280	421	337	1,640	2,270	885	676	175	112	102	88
30	878	271	433	316	-------	1,760	885	843	166		100	91
31	606	-------	556	280	-------	1,380	-------	709	-------		107	-------

Month	Observed: Discharge in second-feet: Maximum	Observed: Discharge in second-feet: Minimum	Observed: Discharge in second-feet: Mean	Observed: Run-off in acre-feet	Change in contents, Bull Run Reservoir, in acre-feet	Corrected for storage: Run-off in acre-feet	Corrected for storage: Discharge in second-feet: Mean	Corrected for storage: Discharge in second-feet: Per square mile	Corrected for storage: Run-off in inches
October	3,010	35	340	20,900	+6,690	27,600	449	5.83	6.72
November	2,480	247	826	49,200	−240	49,000	823	10.7	11.94
December	2,000	205	582	35,800	+190	36,000	585	7.60	8.76
January	3,100	280	964	59,300	−150	59,200	963	12.5	14.41
February	3,250	190	586	33,700	+650	34,400	598	7.77	8.38
March	7,660	465	1,890	113,000	−50	113,000	1,830	23.8	27.44
April	1,700	660	982	58,400	−220	58,200	978	12.7	14.17
May	1,060	517	749	46,100	−50	46,000	748	9.71	11.20
June	630	166	367	21,800	−400	21,400	360	4.68	5.22
July	256	100	148	9,100	−790	8,310	135	1.75	2.02
August	116	100	108	6,640	−1,340	5,300	86.2	1.12	1.29
September	109	83	102	6,070	−1,960	4,110	69.1	.90	1.00
The year	7,660	35	633	460,010	+2,380	462,520	637	8.27	112.55

BULL RUN RIVER NEAR BULL RUN, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 25, T. 1 S., R. 5 E., 1½ miles above intake of Portland water-supply pipeline and 5 miles east of Bull Run.

DRAINAGE AREA.—102 square miles.

RECORDS AVAILABLE.—January 1895 to September 1932.

EXTREMES.—Maximum discharge during year, 12,300 second-feet Mar. 18 (gage height, 10.2 feet); minimum, 83 second-feet Oct. 15 (gage height, 0.84 foot): 1895–1932: Maximum discharge, 20,600 second-feet Mar. 31, 1931 (gage height, 13.8 feet); minimum, 63 second-feet Aug. 13–16, 1926.

REMARKS.—Records excellent except those above 1,500 second-feet, which are fair. Discharge interpolated Jan. 31 to Feb. 3, Aug. 21–25. No diversions above station. Flow regulated by storage in Bull Run Lake and Bull Run Reservoir. Gage-height record furnished by Portland Water Bureau.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	580	295	860	395	1,620	1,600	1,300	790	196	146	127
2	94	525	284	720	365	1,720	1,520	1,300	790	192	146	124
3	94	425	327	615	340	1,270	1,520	1,070	760	306	146	124
4	96	357	342	670	313	1,080	1,300	1,040	685	320	146	127
5	150	309	335	1,010	302	2,250	1,140	1,040	660	250	146	127
6	116	295	320	1,570	309	3,830	1,000	940	635	222	144	129
7	105	1,420	416	1,190	335	2,220	970	940	570	203	144	129
8	99	2,020	446	950	357	1,570	910	910	535	192	144	129
9	91	1,870	396	2,130	388	1,150	880	970	530	185	144	127
10	91	1,870	396	1,820	467	920	910	1,100	560	192	144	127
11	91	1,230	365	2,980	484	775	1,000	1,040	575	196	144	127
12	88	890	327	2,780	512	665	1,140	1,000	560	189	144	127
13	88	950	324	1,570	454	615	1,220	970	545	185	144	127
14	86	1,270	277	1,080	396	795	1,420	850	515	200	144	127
15	86	1,040	264	860	361	1,010	1,340	760	480	226	141	127
16	86	1,040	267	720	335	1,140	1,220	735	440	250	141	127
17	86	1,870	1,020	790	306	4,230	1,960	760	400	250	138	127
18	86	1,820	1,970	2,840	295	9,070	2,150	790	370	222	135	127
19	86	2,690	1,870	2,470	288	6,020	2,040	790	351	172	132	127
20	88	3,020	2,470	1,770	306	3,260	1,740	940	338	146	127	135
21	96	1,570	1,970	1,230	446	1,990	1,340	910	324	135	-------	129
22	171	1,040	1,310	950	458	1,470	1,100	910	315	135	-------	124
23	211	802	1,040	775	437	1,380	970	1,140	302	138	126	107
24	195	660	1,120	670	552	3,460	970	1,070	284	144	-------	110
25	224	605	920	605	914	3,260	970	850	262	144	-------	110
26	1,060	534	775	543	2,670	2,200	1,070	735	246	144	124	105
27	1,820	450	695	525	3,610	1,890	1,300	660	234	141	124	105
28	3,130	396	630	516	3,180	3,480	1,180	635	222	141	127	105
29	1,920	361	548	480	2,120	2,950	1,070	850	215	141	127	107
30	1,080	335	595	446	-------	2,370	1,070	1,100	203	146	129	110
31	748	-------	860	420	-------	1,840	-------	910	-------	146	129	-------

Month	Observed				Change in contents, Bull Run Reservoir, in 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	3,130	86	405	24,900	+6,690	31,600	514	5.04	5.81
November	3,020	295	1,070	63,700	−240	63,500	1,070	10.5	11.71
December	2,470	264	748	46,000	+190	46,200	751	7.36	8.48
January	2,980	420	1,180	72,600	−150	72,400	1,180	11.6	13.37
February	3,610	288	748	43,000	+650	43,600	758	7.43	8.01
March	9,070	615	2,310	142,000	−50	142,000	2,310	22.6	26.06
April	2,150	880	1,270	75,600	−220	75,400	1,270	12.5	13.95
May	1,300	635	936	57,600	−50	57,600	936	9.18	10.58
June	790	203	457	27,200	−400	26,800	450	4.41	4.92
July	320	135	189	11,600	−790	10,800	176	1.73	1.99
August	146	124	136	8,360	−1,340	7,020	114	1.12	1.29
September	135	105	122	7,260	−1,960	5,300	891	.874	.98
The year	9,070	86	798	580,000	+2,330	582,000	802	7.86	107.15

LITTLE SANDY RIVER NEAR BULL RUN, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 10, T. 2 S., R. 5 E., three eighths of a mile above Portland General Electric Co.'s dam and tunnel from Sandy River and 3 miles east of Bull Run. Datum lowered 0.28 foot Oct. 1, 1931. Zero of gage is 710.51 feet above mean sea level, by surveys of Portland General Electric Co. referred to 1924 adjustment.

DRAINAGE AREA.—23 square miles.

RECORDS AVAILABLE.—May 1911 to April 1913 fragmentary; July 1919 to September 1932.

EXTREMES.—Maximum discharge during year, 2,380 second-feet Mar. 18 (gage height, 6.90 feet); minimum, 10 second-feet Sept. 30.

1911–13, 1919–32: Maximum discharge, 3,950 second-feet Nov. 20, 1921 (gage height, 9.18 feet, present datum); minimum, 10 second-feet Sept. 17, 1924, Sept. 2–5, 1931, Sept. 30, 1932.

REMARKS.—Records good. No diversions or regulation above station. Gage-height record furnished by Portland General Electric Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	71	62	185	73	281	281	284	172	30	18	18
2	14	75	60	155	69	341	260	245	190	28	18	16
3	13	59	68	134	65	255	255	202	159	53	17	15
4	16	49	75	210	64	238	220	238	138	52	16	14
5	75	43	67	320	63	384	198	230	138	38	16	14
6	42	43	64	374	70	602	170	202	123	33	15	13
7	25	324	77	260	75	384	167	208	111	30	15	13
8	21	374	74	212	76	305	161	208	102	28	15	14
9	18	317	68	450	84	245	161	232	100	27	16	14
10	16	281	71	323	89	208	176	255	98	32	19	12
11	15	212	65	443	94	172	202	230	94	31	22	12
12	14	153	61	371	97	147	228	225	86	28	23	12
13	14	176	64	252	91	139	230	208	80	29	21	12
14	14	228	58	202	84	198	269	176	73	33	18	12
15	14	198	55	165	79	220	220	159	67	30	18	12
16	14	276	59	143	71	250	235	170	62	27	17	11
17	14	440	248	185	67	650	353	188	57	25	16	11
18	14	311	323	466	65	1,640	314	183	53	24	16	11
19	13	436	305	380	61	1,080	308	181	52	23	15	12
20	14	416	426	296	62	535	250	218	48	22	15	24
21	16	248	344	238	69	341	210	202	46	22	15	17
22	85	181	248	192	68	263	190	205	44	21	15	14
23	178	125	200	163	68	240	178	320	41	20	15	12
24	145	112	178	141	84	486	200	228	39	20	14	12
25	174	109	147	130	136	512	202	165	37	21	14	12
26	250	94	130	117	371	353	235	139	35	21	14	12
27	296	81	120	108	602	341	269	129	35	19	14	12
28	390	85	109	100	526	602	238	136	33	18	14	11
29	205	68	96	96	344	474	220	230	32	18	16	11
30	125	65	111	89	------	401	228	266	30	18	25	11
31	89	------	202	81	------	317	------	200	------	18	20	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	390	13	75.7	3.29	3.79	4,650
November	440	43	188	8.17	9.12	11,200
December	426	55	137	5.96	6.87	8,420
January	466	81	225	9.78	11.28	13,800
February	602	61	130	5.65	6.09	7,480
March	1,640	139	407	17.7	20.41	25,000
April	353	161	228	9.91	11.06	13,600
May	320	129	208	9.04	10.42	12,800
June	190	30	79.2	3.44	3.84	4,710
July	53	18	27.1	1.18	1.36	1,670
August	25	14	16.8	.730	.84	1,030
September	24	11	13.2	.574	.64	786
The year	1,640	11	145	6.30	85.72	105,000

WILLAMETTE RIVER BASIN

MIDDLE FORK OF WILLAMETTE RIVER AT EULA, OREG.

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

DRAINAGE AREA.—943 square miles.

RECORDS AVAILABLE.—July 1923 to September 1932.

EXTREMES.—Maximum discharge during year, 41,800 second-feet Mar. 19 (gage height, 14.7 feet); minimum, 455 second-feet Oct. 17 (gage height, 1.22 feet).

1923–32: Maximum discharge, 55,100 second-feet Feb. 21, 1927 (gage height, 17.0 feet); minimum, 450 second-feet Nov. 24, 25, Dec. 5, 6, 1929, Sept. 4–6, 16, 17, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	482	960	925	4,270	1,660	4,550	6,700	5,760	5,400	2,300	910	730
2	475	850	925	3,410	1,480	4,270	6,700	5,760	5,220	2,300	910	720
3	470	780	1,160	2,600	1,300	3,770	7,280	5,940	5,050	2,190	910	710
4	470	715	1,950	2,380	1,400	3,410	5,940	6,130	4,880	1,970	880	710
5	526	685	1,660	2,490	1,480	3,050	5,400	5,760	4,540	1,870	850	710
6	489	655	1,570	2,270	1,740	3,170	4,880	5,400	4,060	1,580	850	700
7	475	633	1,570	2,160	2,120	3,650	4,540	4,880	3,600	1,580	850	700
8	470	1,000	1,480	2,050	2,480	3,770	3,900	5,050	3,450	1,490	850	690
9	465	1,080	1,400	2,820	1,850	3,650	3,750	5,220	3,310	1,490	850	680
10	465	1,080	1,320	4,270	1,950	3,770	3,600	5,940	4,060	1,490	850	670
11	465	1,000	1,240	4,270	2,050	4,270	3,750	6,130	4,880	1,490	850	670
12	460	900	1,160	7,760	2,050	3,770	4,220	6,320	4,880	1,400	822	670
13	465	840	1,160	5,530	1,950	3,650	4,380	6,510	4,880	1,280	822	670
14	460	920	1,080	4,010	2,270	4,550	4,710	6,130	4,540	1,400	795	660
15	460	930	1,000	3,410	1,660	4,550	4,380	5,400	4,060	1,280	850	660
16	460	1,000	850	3,050	1,570	6,290	4,220	5,220	3,750	1,240	822	660
17	455	2,160	1,080	2,820	1,480	12,500	5,940	4,880	3,450	1,200	795	650
18	460	2,600	1,750	3,050	1,400	24,500	5,400	5,760	3,310	1,170	795	650
19	465	2,050	2,050	4,850	1,400	36,600	5,760	5,400	3,030	1,140	795	650
20	460	5,350	2,270	4,140	1,320	20,100	6,130	5,760	3,170	1,100	795	670
21	465	2,820	2,710	3,530	1,320	11,800	5,580	7,280	3,170	1,100	768	670
22	1,320	1,950	2,930	3,050	1,570	8,740	5,050	5,580	3,450	1,170	768	670
23	1,570	1,660	3,650	2,820	2,050	7,480	4,380	4,880	3,310	1,100	740	670
24	1,320	1,400	2,600	2,490	3,290	10,200	4,880	4,710	3,170	1,060	740	670
25	1,080	1,200	2,600	2,380	3,530	11,200	4,380	4,540	3,030	1,030	740	670
26	1,950	1,240	2,710	2,270	5,350	9,190	7,080	4,220	2,770	970	740	660
27	1,400	1,080	3,050	2,050	7,110	9,420	6,510	3,900	2,770	970	730	650
28	2,270	1,080	2,930	1,850	9,240	10,200	5,580	3,450	2,650	970	730	631
29	1,570	1,000	2,820	2,200	5,710	9,660	5,050	5,400	2,530	940	730	622
30	1,280	925	2,050	2,600	-------	8,300	4,710	7,080	2,410	940	768	631
31	1,100	-------	6,090	2,280	-------	7,080	-------	5,940	-------	940	768	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,270	455	797	0.845	0.97	49,000
November	5,350	633	1,350	1.43	1.60	80,300
December	6,090	850	1,990	2.11	2.43	122,000
January	7,760	1,850	3,200	3.39	3.91	197,000
February	9,240	1,300	2,540	2.69	2.90	146,000
March	36,600	3,050	8,420	8.93	10.30	518,000
April	7,280	3,600	5,160	5.47	6.10	307,000
May	7,280	3,450	5,490	5.82	6.71	338,000
June	5,400	2,410	3,760	3.99	4.45	224,000
July	2,300	940	1,360	1.44	1.66	83,600
August	910	730	809	.858	.99	49,700
September	730	622	672	.713	.80	40,000
The year	36,600	455	2,970	3.15	42.82	2,150,000

WILLAMETTE RIVER AT SPRINGFIELD, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 34, T. 17 S., R. 3 W., at highway bridge at Springfield. Zero of gage is 424.16 feet above mean sea level by 1929 general adjustment.

DRAINAGE AREA.—2,030 square miles.

RECORDS AVAILABLE.—November 1911 to September 1913; October 1928 to September 1932. At Eugene, 4 miles downstream, June 1919 to September 1928.

EXTREMES.—Maximum discharge during year, 64,000 second-feet Mar. 19 (gage height, 18.1 feet); minimum discharge, 574 second feet Oct. 13, 14, 18; minimum gage height, 1.51 feet Sept. 30.

1911–13, 1919–32: 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 below and fair above 10,000 second-feet. Slight diurnal fluctuation during low water, owing to logging operations in Middle Fork Basin. No diversions above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	586	1,580	2,140	18,000	5,380	10,000	12,000	9,780	9,160	2,880	1,150	859
2	586	1,360	2,200	11,700	4,440	9,690	14,900	10,700	8,250	2,700	1,130	850
3	592	1,250	2,690	8,450	3,950	9,690	11,400	10,100	7,960	2,620	1,110	814
4	592	1,160	4,440	6,950	4,340	7,850	10,400	9,780	7,390	2,620	1,090	805
5	580	1,080	4,040	6,220	5,380	6,800	10,400	8,850	6,840	2,290	1,050	805
6	598	1,020	3,440	5,940	6,080	6,660	9,780	8,250	6,440	2,130	1,040	778
7	610	1,070	3,520	5,660	7,850	7,400	9,160	7,670	6,050	2,060	1,030	796
8	610	1,880	3,860	5,120	7,100	7,400	7,960	7,390	5,430	1,980	1,020	760
9	610	2,620	3,680	6,950	6,370	7,550	7,390	7,390	5,190	1,840	1,030	760
10	598	3,130	3,600	10,000	7,250	8,150	6,840	7,960	5,310	1,840	1,040	743
11	586	2,900	3,680	9,690	7,100	8,450	6,700	7,960	5,920	1,840	1,040	752
12	580	2,200	3,360	20,500	7,400	7,550	7,110	7,960	6,310	1,840	1,020	734
13	574	1,820	3,440	14,400	7,250	6,800	7,110	8,250	6,310	1,700	994	726
14	574	2,410	3,360	10,000	5,940	7,550	7,390	7,960	6,050	1,700	976	743
15	580	2,410	2,980	8,150	5,000	9,070	7,110	7,110	5,800	1,710	967	743
16	580	2,550	2,760	7,400	4,340	13,200	6,840	6,440	5,310	1,630	967	743
17	580	7,100	3,130	7,250	3,860	28,400	7,110	6,180	4,720	1,560	958	734
18	574	10,000	5,000	10,000	3,600	38,800	9,160	6,700	4,390	1,500	940	734
19	580	8,450	5,520	16,400	3,360	60,700	9,780	6,840	4,060	1,420	931	734
20	580	19,200	6,370	12,500	3,200	45,800	11,700	7,110	3,860	1,390	922	726
21	586	10,000	9,690	9,690	3,200	27,400	11,400	8,550	3,960	1,380	904	760
22	1,020	6,080	9,070	7,850	3,200	18,800	10,100	7,960	4,170	1,360	895	760
23	2,830	4,340	7,250	6,520	3,680	14,900	9,160	6,700	4,170	1,350	877	752
24	2,980	3,440	7,850	5,520	5,660	19,500	10,700	6,180	3,960	1,270	868	734
25	2,200	3,060	6,950	4,880	9,070	23,700	11,700	5,800	3,750	1,270	859	726
26	3,770	3,130	6,370	4,660	12,100	20,000	16,100	5,310	3,550	1,260	850	718
27	3,060	2,900	12,100	4,770	15,200	19,200	14,500	4,960	3,450	1,240	841	709
28	4,140	2,620	11,000	4,340	14,400	21,200	12,000	4,840	3,260	1,220	841	700
29	3,130	2,340	8,450	4,880	11,700	20,800	10,100	8,860	3,160	1,210	841	692
30	2,270	2,200	7,850	7,100	-------	16,900	8,850	13,400	3,060	1,190	877	684
31	1,820	-------	23,200	6,800	-------	13,800	-------	10,700	-------	1,170	895	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,140	574	1,280	0.631	0.73	78,700
November	19,200	1,020	3,840	1.89	2.11	228,000
December	23,200	2,140	5,900	2.91	3.36	363,000
January	20,500	4,340	8,650	4.26	4.91	532,000
February	15,200	3,200	6,460	3.18	3.43	372,000
March	60,700	6,660	16,900	8.33	9.60	1,040,000
April	16,100	6,700	9,830	4.84	5.40	585,000
May	13,400	4,840	7,860	3.87	4.46	483,000
June	9,160	3,060	5,240	2.58	2.88	312,000
July	2,880	1,170	1,720	.847	.98	106,000
August	1,150	841	966	.476	.55	59,400
September	859	684	752	.370	.41	44,700
The year	60,700	574	5,790	2.85	38.82	4,200,000

WILLAMETTE RIVER AT ALBANY, OREG.

LOCATION.—Staff gage in SW¼ sec. 6, T. 11 S., R. 3 W., at Albany, just below mouth of Calapooya River. Zero of gage is 171.70 feet above mean sea level by 1929 general adjustment.

DRAINAGE AREA.—4,840 square miles.

RECORDS AVAILABLE.—November 1878 to April 1882; January 1892 to September 1932; some fragmentary records 1883 to 1888.

EXTREMES.—Maximum discharge during year, 137,000 second-feet Mar. 21 (gage height, 25.5 feet); minimum, 2,030 second-feet Oct. 19–22 (gage height, 0.3 foot).

1878–82, 1892–1932: 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, 1,890 second-feet Sept. 5, 1931 (gage height, 0.26 foot).

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

REMARKS.—Records good. Discharge estimated Feb. 9, June 11–13, Aug. 13–17. No regulation. Albany power canal diverts water from South Santiam River into Willamette River above station. Gage-height record furnished by United States Weather Bureau.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,210	5,850	7,210	45,500	20,600	27,400	37,700	20,600	22,600	7,210	3,680	3,020
2	2,210	4,600	6,930	50,200	17,800	24,600	32,700	22,600	19,400	7,210	3,460	3,020
3	2,210	4,370	7,210	40,200	15,600	23,800	29,800	24,200	17,100	6,930	3,460	3,020
4	2,210	4,140	9,800	30,700	14,200	23,800	28,600	22,600	17,100	6,930	3,460	3,020
5	2,210	3,910	11,600	24,600	15,200	21,400	27,400	21,400	16,000	6,660	3,460	3,020
6	2,210	3,680	13,200	21,800	16,700	19,000	27,400	20,200	14,900	6,660	3,460	3,020
7	2,210	3,680	12,500	19,800	18,200	19,400	25,800	18,200	14,200	6,390	3,240	3,020
8	2,210	4,140	12,500	18,200	20,600	21,800	24,200	16,700	13,200	6,120	3,240	3,020
9	2,210	5,590	12,800	17,100	18,000	21,400	21,800	16,700	12,200	5,850	3,240	3,020
10	2,210	8,050	12,500	19,400	21,000	21,000	19,400	17,500	11,900	5,590	3,240	3,020
11	2,210	12,500	12,500	27,000	23,800	22,600	18,200	17,800	13,000	5,330	3,240	3,020
12	2,210	9,500	12,200	27,800	23,000	22,200	16,300	17,800	13,500	5,330	3,240	2,810
13	2,210	7,490	12,200	41,500	23,400	21,400	17,500	17,800	13,800	5,080	3,240	2,810
14	2,210	7,490	11,900	39,400	23,000	19,000	17,800	17,800	13,200	5,080	3,240	2,810
15	2,210	7,490	11,600	29,800	19,800	19,800	18,200	17,500	12,200	5,080	3,240	2,810
16	2,210	7,770	10,100	25,800	17,800	23,800	17,500	16,700	11,300	4,840	3,240	2,810
17	2,210	10,100	11,000	27,400	15,200	29,000	17,100	14,900	11,300	4,840	3,240	2,600
18	2,210	20,600	11,900	31,900	13,200	49,700	17,800	14,500	11,000	4,600	3,240	2,600
19	2,030	27,000	16,700	38,500	11,900	66,600	22,200	14,900	11,000	4,600	3,020	2,600
20	2,030	26,200	21,000	46,400	11,300	104,000	23,000	15,200	11,000	4,600	3,020	2,600
21	2,030	40,200	26,600	42,800	10,700	126,000	26,600	15,600	10,400	4,370	3,020	2,400
22	2,030	32,700	31,900	34,800	10,400	89,200	25,400	17,800	9,800	4,370	3,020	2,400
23	2,600	21,800	30,700	28,600	10,100	55,200	22,600	17,100	9,210	4,140	3,020	2,400
24	5,330	17,100	28,200	23,400	10,100	42,400	21,400	16,700	9,210	4,140	3,020	2,400
25	7,210	13,200	31,100	19,800	12,500	46,000	23,400	14,500	8,920	4,140	3,020	2,400
26	8,050	11,300	28,200	18,200	17,800	55,700	21,400	12,800	8,630	3,910	3,020	2,400
27	8,340	10,700	27,400	17,800	23,000	52,600	28,600	12,800	8,340	3,910	3,020	2,400
28	9,800	9,800	36,000	19,400	29,800	46,400	28,600	12,200	8,050	3,910	3,020	2,400
29	11,000	8,920	36,900	17,800	30,700	47,800	25,400	12,200	7,770	3,910	3,020	2,400
30	8,050	8,630	32,300	17,800	------	52,100	22,200	16,700	7,490	3,680	3,020	2,600
31	6,930	------	33,600	21,000	------	45,100	------	24,200	------	3,680	3,020	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	11,000	2,030	3,720	0.769	0.89	229,000
November	40,200	3,680	12,000	2.48	2.77	714,000
December	36,900	6,930	18,700	3.86	4.45	1,150,000
January	50,200	17,100	28,500	5.89	6.79	1,750,000
February	30,700	10,100	17,800	3.68	3.97	1,020,000
March	126,000	19,000	40,700	8.41	9.70	2,500,000
April	37,700	16,300	23,500	4.86	5.42	1,400,000
May	24,200	12,200	17,400	3.60	4.15	1,070,000
June	22,600	7,490	12,300	2.54	2.83	732,000
July	7,210	3,680	5,130	1.06	1.22	315,000
August	3,680	3,020	3,200	.661	.76	197,000
September	3,020	2,400	2,730	.564	.63	162,000
The year	126,000	2,030	15,500	3.20	43.58	11,200,000

WILLAMETTE RIVER AT SALEM, OREG.

LOCATION.—Staff gage in SW¼ sec. 22, T. 7 S., R. 3 W., at highway bridge at Salem. Zero of gage is 113.59 feet above mean sea level, by 1929 general adjustment.

DRAINAGE AREA.—7,280 square miles.

RECORDS AVAILABLE.—October 1909 to December 1916; October 1927 to September 1932.

EXTREMES.—Maximum discharge during year, 172,000 second-feet Mar. 21 (gage height, 20.55 feet); minimum, 2,570 second-feet Oct. 15–21 (gage height, −3.4 feet).

1909–16, 1927–32: Maximum discharge, 315,000 second-feet Nov. 25, 1909 (gage height, 30.5 feet); minimum, 2,500 second-feet Sept. 5–8, 1931 (gage height, −3.5 feet).

Maximum known discharge (estimated), 500,000 second-feet Dec. 4, 1861 (gage height, about 39 feet). Flood of Feb. 5, 1890, reached a stage of 37.1 feet.

REMARKS.—Records good except those above 50,000 second-feet, which are fair. 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,650	9,500	12,300	67,000	23,300	45,700	61,500	30,500	31,600	10,600	5,080	3,750
2	2,650	9,500	11,300	76,600	24,200	40,400	53,200	36,100	27,500	10,600	5,080	3,750
3	2,650	6,680	13,200	65,500	21,600	40,400	48,100	38,400	25,600	10,100	4,860	3,750
4	2,650	6,170	18,500	48,400	20,000	37,900	46,600	36,100	23,900	10,100	4,860	3,750
5	2,650	5,670	21,600	39,200	20,000	33,200	43,200	33,800	23,900	10,100	4,860	3,750
6	2,650	4,700	20,800	34,300	21,600	29,000	42,000	30,500	21,400	9,520	4,650	3,600
7	2,650	4,700	19,200	32,100	24,200	43,000	39,600	28,500	20,600	8,420	4,650	3,600
8	2,650	8,310	20,000	29,000	28,000	45,700	37,200	26,600	19,100	8,420	4,450	3,450
9	2,650	15,200	21,600	27,000	25,100	40,400	33,800	27,500	18,400	8,150	4,450	3,450
10	2,650	17,100	20,000	39,200	30,000	35,500	30,500	27,500	17,700	7,880	4,450	3,450
11	2,650	20,000	20,000	44,300	34,300	36,700	28,500	28,500	18,400	7,880	4,450	3,310
12	2,650	17,800	19,200	51,100	35,500	35,500	28,500	28,500	19,900	7,880	4,450	3,170
13	2,650	14,200	18,500	64,000	34,300	32,100	29,500	27,500	20,600	7,880	4,450	3,170
14	2,650	13,200	18,500	62,500	33,200	30,000	29,500	28,500	21,400	7,610	4,450	3,170
15	2,570	15,200	17,100	49,700	29,000	32,100	30,500	27,500	20,600	7,610	4,450	3,170
16	2,570	15,800	15,800	39,200	25,100	36,700	29,500	24,700	19,900	7,610	4,450	3,170
17	2,570	19,200	15,800	40,400	22,500	49,000	29,500	23,000	17,700	7,340	4,450	3,170
18	2,570	36,700	25,100	64,700	20,000	85,900	34,900	22,600	17,000	6,810	4,080	3,170
19	2,570	43,000	33,200	79,800	17,800	125,000	37,200	23,900	15,000	6,810	4,080	3,170
20	2,570	53,800	40,400	82,300	17,100	161,000	42,000	24,700	14,300	6,550	4,080	3,170
21	2,570	65,500	53,800	73,400	16,500	167,000	43,200	25,600	14,300	6,290	4,080	3,170
22	2,650	56,600	56,600	58,800	15,800	149,000	40,800	27,500	14,300	6,290	4,080	3,170
23	2,950	37,900	53,800	47,000	15,800	103,000	37,200	26,600	14,300	6,030	4,080	3,170
24	8,020	28,000	48,400	36,700	15,800	75,700	33,800	25,600	14,300	5,780	3,910	3,170
25	11,300	21,600	52,400	31,000	17,800	83,800	33,800	23,900	13,600	5,780	3,910	3,170
26	9,500	19,200	48,400	28,000	25,100	89,600	36,100	22,200	13,000	5,780	3,910	3,170
27	12,000	17,800	45,700	27,000	39,200	82,900	36,100	20,600	12,400	5,540	3,910	3,170
28	13,200	15,800	53,800	29,000	49,700	74,900	40,800	19,100	11,800	5,310	3,750	3,170
29	16,500	14,500	55,200	28,000	52,400	81,300	37,200	18,400	11,800	5,310	3,750	3,170
30	15,500	13,200	55,200	27,000	-------	82,900	33,800	23,900	11,200	5,310	3,750	3,170
31	12,000	-------	53,800	28,500	-------	74,900	-------	32,700	-------	5,080	3,750	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	16,500	2,570	5,120	0.703	0.81	315,000
November	65,500	4,700	20,900	2.87	3.20	1,240,000
December	56,600	11,300	31,600	4.34	5.00	1,940,000
January	82,300	27,000	46,800	6.43	7.41	2,880,000
February	52,400	15,800	26,000	3.57	3.85	1,500,000
March	167,000	29,000	67,100	9.22	10.63	4,130,000
April	61,500	28,500	37,600	5.16	5.76	2,240,000
May	38,400	18,400	27,100	3.72	4.29	1,670,000
June	31,600	11,200	18,200	2.50	2.79	1,080,000
July	10,600	5,080	7,430	1.02	1.18	457,000
August	5,080	3,750	4,310	.592	.68	265,000
September	3,750	3,170	3,330	.457	.51	198,000
The year	167,000	2,570	24,700	3.39	46.11	17,900,000

COAST FORK OF WILLAMETTE RIVER AT SAGINAW, OREG.

LOCATION.—Chain gage in NW¼ sec. 15, T. 20 S., R. 3 W., at Saginaw, 1 mile below mouth of Row River. Zero of gage is 595.47 feet above mean sea level by 1929 general adjustment.

DRAINAGE AREA.—529 square miles.

RECORDS AVAILABLE.—October 1923 to September 1932.

EXTREMES.—Maximum discharge during year, 21,100 second-feet Mar. 19 (gage height, 11.8 feet); minimum, 30 second-feet Oct. 1–3, 21 (gage height, 0.80 foot).

1923–32: Maximum discharge, 28,600 second-feet Feb. 20, 1927 (gage height, 12.9 feet); minimum, 7 second-feet July 31, 1928.

REMARKS.—Records fair. Discharge estimated Aug. 1. No diversions or regulation above station. Gage-height record October to April furnished by United States Weather Bureau.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	169	595	6,300	1,890	2,110	2,400	2,280	1,580	195	88	57
2	30	216	675	3,690	1,340	2,220	1,810	2,410	1,360	187	82	61
3	30	196	895	2,460	1,290	2,220	2,040	2,280	1,260	179	82	57
4	34	178	2,340	2,000	1,670	1,890	1,920	1,690	1,160	171	82	57
5	34	169	2,110	1,780	1,780	1,670	2,160	1,580	1,110	171	82	48
6	48	152	1,040	1,140	2,220	1,670	2,040	1,580	1,060	171	82	48
7	64	424	1,140	1,240	5,000	1,670	1,920	1,470	880	171	82	48
8	58	760	1,240	1,670	2,340	1,670	1,920	1,470	925	163	77	48
9	52	850	1,190	2,000	2,460	1,670	1,380	1,470	795	148	77	48
10	39	1,340	1,190	2,460	2,700	1,890	1,380	1,360	715	148	77	43
11	43	850	1,240	2,220	1,890	1,780	1,380	1,260	755	148	77	43
12	39	1,340	1,140	7,540	2,110	1,560	1,380	1,210	795	141	71	43
13	34	805	1,040	3,540	2,460	1,340	1,380	1,160	715	133	71	43
14	39	1,140	1,040	2,220	2,000	1,670	1,380	1,060	635	133	71	43
15	39	805	940	1,890	1,670	1,890	1,090	970	555	141	71	43
16	39	675	940	1,890	1,450	6,110	1,180	880	448	148	71	43
17	34	3,240	940	1,780	1,240	8,060	1,090	880	480	141	71	43
18	39	4,660	1,780	3,100	1,140	13,200	1,280	880	379	133	66	43
19	39	2,340	1,890	6,900	1,040	18,200	1,480	925	295	133	66	43
20	34	7,760	1,890	5,920	1,040	10,600	2,660	925	273	126	66	43
21	30	3,390	4,010	2,700	1,040	5,920	2,530	1,020	262	126	66	48
22	424	1,890	3,100	2,220	1,090	4,140	2,040	880	284	119	61	48
23	760	1,290	3,540	1,780	1,560	2,660	2,040	880	295	113	61	48
24	895	1,040	3,240	1,560	3,100	4,290	3,440	795	284	113	57	48
25	1,140	895	2,340	1,290	3,690	5,220	3,310	795	284	106	57	48
26	1,450	940	1,890	1,340	4,830	4,900	4,740	755	262	106	52	43
27	805	805	7,110	1,240	5,360	4,140	3,770	715	240	106	52	43
28	1,400	805	7,110	1,290	4,010	4,590	3,070	715	273	93	52	43
29	805	675	2,830	1,290	2,110	4,440	2,410	1,060	222	93	57	39
30	675	635	4,330	4,170	-------	3,440	2,040	2,800	195	93	61	39
31	346	-------	12,100	3,540	-------	2,660	-------	1,690	-------	93	61	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,450	30	307	0.580	0.67	18,900
November	7,760	152	1,350	2.55	2.84	80,300
December	12,100	595	2,480	4.69	5.41	152,000
January	7,540	1,140	2,710	5.12	5.90	167,000
February	5,360	1,040	2,260	4.27	4.60	130,000
March	18,200	1,340	4,180	7.90	9.11	257,000
April	4,740	1,090	2,090	3.95	4.41	124,000
May	2,800	715	1,290	2.44	2.81	79,300
June	1,580	195	626	1.18	1.32	37,200
July	195	93	137	.259	.30	8,420
August	88	52	69.3	.131	.15	4,260
September	61	39	46.4	.088	.10	2,760
The year	18,200	30	1,460	2.76	37.62	1,060,000

McKENZIE RIVER AT McKENZIE BRIDGE, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 18, T. 16 S., R. 6 E., 1.7 miles east of McKenzie Bridge. Prior to June 3, 1932, staff gage at bridge at McKenzie Bridge.

DRAINAGE AREA.—353 square miles (at measuring section three quarters of a mile above gage).

RECORDS AVAILABLE.—August 1910 to September 1932.

EXTREMES.—Maximum discharge during year, 7,660 second-feet Mar. 19 (gage height, 5.25 feet, from high-water marks); minimum, 805 second-feet Oct. 20 (gate height, 0.27 foot).

1910–32: Maximum discharge, 18,000 second-feet Jan. 6, 1923 (gage height, 8.3 feet, from high-water marks at former gage at highway bridge); minimum, that of Oct. 20, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	862	*1,040			3,770	2,410	2,540	1,720	1,320	1,140
2	868	1,010			3,630	2,410	2,540	1,720	1,320	1,140
3	868	996			3,210	2,410	2,340	1,720	1,280	1,140
4	868	982				2,410	2,340	1,660	1,280	1,130
5	868	961				2,410	2,190	1,600	1,280	1,130
6	868	940	*1,100			2,410	2,190	1,600	1,280	1,120
7	868			*1,820		2,410	2,190	1,550	1,280	1,120
8	868					2,540	2,190	1,550	1,280	1,120
9	868					2,540	2,190	1,550	1,280	1,110
10	868	*1,080			*2,370	2,540	2,490	1,550	1,240	1,110
11	862		1,010			2,540	2,490	1,500	1,240	1,110
12	862		1,010			2,540	2,570	1,500	1,240	1,110
13	862	940	996			2,540	2,570	1,500	1,240	1,100
14	850	954	996	1,860		2,540	2,570	1,500	1,240	1,100
15	838	982	996	1,910		2,670	2,490	1,450	1,240	1,100
16	832	1,000	996	2,030		2,670	2,340	1,450	1,240	1,090
17	820	1,090	1,010	2,930	2,670	2,670	2,190	1,450	1,200	1,090
18	815	1,230	1,020	5,000	2,670	2,540	2,190	1,400	1,200	1,090
19	810	1,400	1,020	7,260	2,800	2,670	2,050	1,400	1,200	1,090
20	810		1,070	4,370	2,800	2,800	2,050	1,400	1,190	1,100
21	830		1,070	4,070	2,800	2,800	2,120	1,360	1,190	1,090
22			1,080	*3,700	2,670	2,800	2,120	1,360	1,190	1,080
23			1,080	*3,500	2,670	2,800	2,050	1,360	1,190	1,080
24			1,110	*4,500	2,340	2,800	1,980	1,360	1,180	1,080
25		*1,220	1,110	*4,340	2,280	2,800	1,980	1,360	1,180	1,080
26	*1,200		1,120	4,070	*2,600	2,800	1,910	1,360	1,170	1,080
27			1,150	4,070	*2,540	2,800	1,840	1,320	1,170	1,070
28			1,190	4,370	*2,380	2,670	1,840	1,320	1,160	1,070
29			*1,200	4,220	2,280	2,670	1,780	1,320	1,160	1,070
30			*1,280	4,070	2,280	2,670	1,780	1,320	1,150	1,060
31			*1,380	3,770		2,540		1,320	1,140	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October		810	963	2.73	3.15	59,200
November		940	1,110	3.14	3.50	66,000
December	1,380	996	1,090	3.09	3.56	67,000
January			*1,770	5.01	5.78	109,000
February			*1,320	3.74	4.03	75,900
March	7,260		3,020	8.56	9.87	186,000
April	3,770		2,570	7.28	8.12	153,000
May	2,800	2,410	2,610	7.39	8.52	160,000
June	2,570	1,780	2,200	6.23	6.95	131,000
July	1,720	1,320	1,470	4.16	4.80	90,400
August	1,320	1,140	1,220	3.46	3.99	75,000
September	1,140	1,060	1,100	3.12	3.48	65,500
The year	7,260	810	1,710	4.84	65.75	1,240,000

* Estimated.

McKENZIE RIVER NEAR VIDA, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 5, T. 17 S., R. 3 E., 1 mile above head of Martin Rapids and 5 miles east of Vida. Zero of gage is 855.56 feet above mean sea level by 1929 general adjustment.

DRAINAGE AREA.—930 square miles.

RECORDS AVAILABLE.—September 1924 to September 1932. At Martin Rapids (gage heights only) June 1910 to March 1911.

EXTREMES.—Maximum discharge during year, 37,400 second-feet Mar. 18 (gage height, 11.77 feet); minimum, 1,260 second-feet Oct. 4, 8, 9 (gage height, 0.36 foot).

1924–32: Maximum discharge, 47,200 second-feet Feb. 20, 1927 (gage height, 14.2 feet); minimum, 1,260 second-feet Nov. 7, 1930, Sept. 17, Oct. 4, 8, 9, 1931 (gage height, 0.36 foot).

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

REMARKS.—Records excellent. Discharge estimated May 15–19. No diversion or regulation above station. Gage-height record furnished by Eugene Water Board.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,290	1,900	1,980	5,700	2,590	5,580	8,320	6,980	5,950	3,180	2,050	1,700
2	1,280	1,760	1,980	4,510	2,510	5,950	8,050	6,720	5,820	3,100	2,050	1,700
3	1,270	1,700	2,590	3,820	2,430	5,200	7,780	6,460	5,580	3,100	2,050	1,700
4	1,260	1,630	3,180	3,540	2,430	4,510	7,240	6,200	5,580	3,010	1,980	1,700
5	1,300	1,580	2,840	3,540	2,350	4,300	6,980	5,820	5,200	2,840	1,980	1,700
6	1,300	1,550	2,510	3,720	2,510	5,580	6,200	5,580	4,960	2,760	1,980	1,700
7	1,270	1,630	2,840	3,540	2,760	6,460	5,700	5,950	4,620	2,760	1,980	1,700
8	1,260	2,350	2,840	3,450	2,670	6,080	5,200	6,080	4,510	2,670	1,980	1,700
9	1,260	2,350	2,590	5,990	2,670	5,700	4,940	6,460	4,620	2,670	1,980	1,630
10	1,270	3,100	2,510	6,080	2,840	5,700	4,960	6,980	5,080	2,670	1,980	1,630
11	1,270	2,350	2,430	7,880	2,840	5,700	5,320	6,980	5,580	2,670	1,900	1,630
12	1,270	2,050	2,280	9,770	2,920	5,200	5,950	6,980	5,820	2,590	1,900	1,630
13	1,280	1,980	2,200	6,460	2,760	4,940	5,950	7,240	5,700	2,510	1,900	1,620
14	1,280	2,280	2,050	5,200	2,510	6,200	6,460	6,720	5,580	2,590	1,900	1,610
15	1,280	2,120	1,980	4,400	2,430	6,720	5,950		5,320	2,510	1,900	1,610
16	1,280	2,590	1,980	4,000	2,280	7,780	6,080	6,000	4,730	2,430	1,900	1,610
17	1,290	4,960	2,760	3,820	2,200	15,000	7,240		4,400	2,430	1,830	1,610
18	1,290	4,400	4,200	5,580	2,200	25,900	8,050		4,100	2,350	1,830	1,590
19	1,290	4,920	4,200	6,720	2,200	29,500	7,780		4,000	2,350	1,830	1,580
20	1,290	6,460	4,300	5,580	2,200	18,000	7,510	6,720	3,910	2,280	1,830	1,630
21	1,300	4,000	4,960	4,730	2,200	11,900	6,720	6,980	4,000	2,280	1,830	1,620
22	1,980	3,180	4,300	4,100	2,200	9,170	5,950	6,330	4,100	2,280	1,760	1,590
23	2,760	2,760	3,720	3,720	2,350	8,050	5,320	6,080	4,000	2,280	1,760	1,580
24	2,280	2,510	3,820	3,540	3,180	14,300	5,700	6,080	3,820	2,280	1,760	1,570
25	2,940	2,430	3,450	3,360	4,400	13,600	5,820	5,580	3,630	2,200	1,760	1,560
26	2,920	2,350	3,360	3,180	6,720	11,000	7,240	5,200	3,540	2,200	1,760	1,550
27	3,100	2,200	3,820	3,100	8,320	10,400	6,980	4,960	3,450	2,120	1,760	1,530
28	3,450	2,050	3,630	2,920	7,510	12,900	6,330	4,940	3,450	2,120	1,760	1,530
29	2,670	1,980	3,270	2,920	6,460	12,300	5,950	6,980	3,360	2,120	1,760	1,530
30	2,280	1,980	3,630	2,840	-------	10,100	5,950	7,240	3,270	2,120	1,760	1,530
31	2,050	-------	6,720	2,760	-------	8,600	-------	6,460	-------	2,050	1,760	------

Month	Maximum	Minimum	Muea	Per square mile	Run-off	
					Inches	Acre-feet
October	3,450	1,260	1,720	1.85	2.13	106,000
November	6,460	1,550	2,640	2.84	3.17	157,000
December	6,720	1,980	3,190	3.43	3.95	196,000
January	9,770	2,760	4,530	4.87	5.62	279,000
February	8,320	2,200	3,230	3.47	3.74	186,000
March	29,500	4,300	9,750	10.05	12.11	600,000
April	8,320	4,940	6,450	6.94	7.74	384,000
May	7,240	4,940	6,280	6.75	7.78	386,000
June	5,950	3,270	4,590	4.94	5.51	273,000
July	3,180	2,050	2,500	2.69	3.10	154,000
August	2,050	1,760	1,880	2.02	2.33	116,000
September	1,700	1,530	1,620	1.74	1.94	96,400
The year	29,500	1,260	4,040	4.34	59.12	2,930,000

EUGENE POWER CANAL NEAR WALTERVILLE, OREG.

LOCATION.—Staff gage in SE¼ sec. 23, T. 17 S., R. 1 W., 150 yards below intake and 2 miles east of Walterville. Zero of gage is 597.18 feet above mean sea level by 1929 general adjustment.

RECORDS AVAILABLE.—July 1926 to September 1932 (discontinued). September 1911 to March 1915 at station 3 miles downstream.

EXTREMES.—Maximum discharge during year, 1,140 second-feet Nov. 24, 25 (gage height, 3.50 feet); minimum, 365 second-feet Sept. 24, 25 (gage height, 0.36 foot).

1911–15, 1926–32: Maximum discharge, 1,350 second-feet Mar. 20, Oct. 29, 1929; no flow at times.

REMARKS.—Records fair. Canal diverts from McKenzie River in SE¼ sec. 23, T. 17 S., R. 1 W. Water is used for power purposes in NW¼ sec. 29 and is discharged into Camp Creek 4 miles above its mouth. Gage-height record furnished by Eugene Water Board.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	730	730	730	700	670	700	700	670	700	670	670	700
2	730	730	730	700	700	700	700	670	670	670	670	700
3	730	730	730	700	1,060	700	700	700	670	670	670	700
4	730	700	730	700	1,060	700	700	700	700	670	670	700
5	730	730	730	700	616	730	700	700	700	670	700	700
6	730	730	730	700	700	670	700	670	700	670	700	700
7	730	730	730	700	670	670	700	700	670	700	700	700
8	730	730	730	700	670	730	700	700	700	719	700	700
9	730	730	730	700	700	670	670	700	700	784	700	700
10	730	730	730	670	700	670	670	700	700	670	722	700
11	730	730	730	700	700	670	700	1,020	700	670	768	733
12	730	730	730	700	700	1,100	730	1,060	700	670	700	800
13	730	730	730	700	700	670	700	1,060	700	670	700	771
14	730	730	730	670	700	670	700	1,060	670	700	700	730
15	730	730	730	670	700	670	700	700	670	700	700	730
16	730	730	730	670	700	670	700	700	670	670	700	730
17	730	730	730	670	1,060	670	700	700	670	670	700	730
18	730	730	730	700	1,060	641	700	700	670	670	700	730
19	730	730	730	700	1,060	641	670	700	670	670	700	575
20	730	730	700	700	700	571	700	700	670	670	700	465
21	730	730	700	700	641	730	700	700	670	670	700	465
22	835	730	700	670	700	700	700	700	700	700	700	465
23	835	730	700	700	700	700	700	700	700	700	700	496
24	730	1,140	700	700	700	700	700	670	670	700	700	402
25	730	1,140	700	670	700	700	700	670	670	785	700	387
26	730	730	700	670	670	700	700	670	700	742	700	394
27	730	730	700	670	670	700	670	670	700	700	700	394
28	730	730	670	670	670	700	700	670	670	670	700	384
29	730	730	670	670	1,060	700	700	670	670	670	700	384
30	730	730	641	670	-------	700	700	700	670	670	730	384
31	730	-------	616	670	-------	700	-------	700	-------	670	730	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	835	730	737	45,300
November	1,140	700	756	45,000
December	730	616	712	43,800
January	700	670	687	42,200
February	1,060	616	763	43,900
March	1,100	571	698	42,900
April	730	670	697	41,500
May	1,060	670	736	45,300
June	700	670	684	40,700
July	785	670	688	42,300
August	768	670	701	43,100
September	800	384	605	36,000
The year	1,140	384	705	512,000

LONG TOM RIVER AT MONROE, OREG.

LOCATION.—Staff gage in NE¼ sec. 33, T. 14 S., R. 5 W., at Monroe, a quarter of a mile below mouth of Shafer Creek. Zero of gage is 261.97 feet above mean sea level.

DRAINAGE AREA.—391 square miles.

RECORDS AVAILABLE.—November 1920 to September 1932; incomplete prior to 1928.

EXTREMES.—Maximum discharge during year, 5,740 second-feet Dec. 29 (gage height, 12.86 feet); minimum, 13 second-feet Oct. 1 (gage height, 0.30 foot).

1920–32: Maximum discharge, about 18,600 second-feet Jan. 7, 1923 (gage height, about 16.6 feet, present gage); minimum, 8 second-feet Sept. 5–19, 23, 1924.

Maximum stage known, about 19 feet in February 1890.

REMARKS.—Records good. No diversions above station. Some fluctuation at low stages, owing to pondage at mill dam at Monroe.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	98	300	4,770	1,990	525	1,610	625	650	66	34	23
2	14	77	281	4,910	1,990	525	1,340	750	400	66	33	23
3	15	61	425	4,260	1,640	550	1,130	875	320	62	33	23
4	16	50	775	3,490	1,430	550	1,040	925	281	61	33	22
5	17	44	900	2,550	1,490	500	1,160	775	262	60	32	22
6	16	39	950	1,910	1,670	475	1,250	650	211	59	30	22
7	15	46	950	1,520	1,670	450	1,310	550	196	57	29	20
8	16	52	980	1,250	1,750	425	1,160	475	181	55	28	19
9	16	127	1,040	1,010	1,710	400	1,010	425	167	53	26	19
10	15	227	1,070	1,130	1,950	450	875	400	153	52	26	19
11	15	360	1,160	1,130	2,200	575	775	340	153	53	27	19
12	15	380	1,040	1,400	2,450	650	675	320	140	53	29	19
13	15	425	980	1,830	2,450	550	600	300	127	55	30	18
14	14	340	980	2,070	2,250	525	575	262	127	55	30	18
15	14	300	1,070	1,790	1,950	525	550	244	114	55	30	17
16	16	360	950	1,640	1,610	600	525	244	114	57	28	18
17	16	775	900	2,500	1,400	1,250	500	227	108	57	28	18
18	16	1,220	1,070	3,410	1,220	2,500	525	211	102	55	28	18
19	16	1,870	1,190	4,040	1,040	3,570	550	211	102	53	28	16
20	16	2,970	1,580	4,910	925	4,380	675	211	102	52	27	16
21	16	3,330	2,400	4,770	850	4,500	775	211	102	49	25	16
22	27	3,490	3,250	3,940	775	3,490	800	227	90	44	25	16
23	50	2,600	3,330	2,970	709	2,300	775	211	90	44	25	17
24	55	1,490	3,330	2,150	650	2,350	725	211	84	43	25	18
25	96	1,040	3,490	1,710	650	2,720	700	196	84	40	25	18
26	114	750	3,750	1,490	625	2,970	825	181	79	40	25	18
27	127	675	4,150	1,580	575	2,720	900	167	77	39	23	18
28	120	525	5,220	1,830	525	2,400	980	167	75	39	22	16
29	127	425	5,560	1,910	525	2,400	800	181	72	37	22	16
30	140	360	4,910	1,670	-------	2,250	625	262	68	36	22	16
31	134	-------	4,630	1,830	-------	1,910	-------	575	-------	34	22	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	140	13	42.3	0.108	0.12	2,600
November	3,490	39	817	2.09	2.33	48,600
December	5,560	281	2,020	5.17	5.96	124,000
January	4,910	1,010	2,500	6.39	7.37	154,000
February	2,450	525	1,400	3.58	3.86	80,590
March	4,500	400	1,610	4.12	4.75	99,000
April	1,610	500	858	2.19	2.44	51,100
May	925	167	374	.957	1.10	23,000
June	650	68	161	.412	.46	9,580
July	66	34	51.0	.128	.15	3,140
August	34	22	27.4	.070	.08	1,680
September	23	16	18.6	.048	.05	1,110
The year	5,560	13	824	2.11	28.67	598,000

NORTH SANTIAM RIVER AT DETROIT, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 12, T. 10 S., R. 5 E., 1 mile east of Detroit. Zero of gage is 1,475.4 feet above mean sea level. Prior to July 1, 1932, staff gage in NW¼ sec. 12, T. 10 S., R. 5 E., a quarter of a mile east of Detroit, with discharge measurements made from bridge in NE¼ sec. 15, T. 10 S., R. 5 E.

DRAINAGE AREA.—226 square miles. Prior to July 1, 1932, 231 square miles above measuring section.

RECORDS AVAILABLE.—January 1907 to October 1909; October 1928 to September 1932. Comparable records at gage above Boulder Creek near Hoover, August 1910 to October 1913.

EXTREMES.—Maximum discharge during year, 8,740 second-feet Mar. 19 (gage height, 7.2 feet); minimum, 295 second-feet Oct. 9–12, 14–16, 20, 21 (gage height, 0.28 foot).

1907–9, 1928–32: Maximum discharge, 15,000 second-feet Mar. 31, 1931 (gage height, 10.0 feet at former gage and about 12.0 feet at present gage); minimum, that of Oct. 9–12, 14–16, 20, 21, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	312	431	407	980	570	1,190	2,150	2,150	1,720	965	521	429
2	309	427	407	890	570	1,130	2,030	2,150	1,630	965	521	426
3	306	419	467	812	560	1,010	1,920	1,920	1,720	1,050	517	422
4	306	403	484	775	565	950	1,920	1,920	1,720	935	517	422
5	324	378	463	812	560	950	1,720	1,720	1,470	848	509	422
6	321	374	451	830	570	1,260	1,550	1,720	1,400	792	505	422
7	306	516	502	775	595	1,470	1,400	1,920	1,330	765	501	422
8	300	695	480	775	570	1,400	1,330	2,030	1,260	765	501	422
9	295	620	467	1,130	560	1,260	1,260	2,150	1,400	740	485	409
10	295	620	471	1,190	570	1,190	1,260	2,390	1,720	740	493	409
11	295	545	447	1,550	570	1,100	1,400	2,390	1,920	715	489	406
12	298	484	431	2,030	545	1,040	1,550	2,390	1,920	690	482	403
13	300	530	427	1,550	535	1,010	1,630	2,520	2,150	690	478	400
14	295	530	411	1,330	506	1,130	1,820	2,270	2,150	665	478	406
15	295	516	399	1,130	498	1,260	1,720	2,030	1,820	655	478	406
16	295	530	419	1,070	480	1,400	1,820	1,920	1,550	660	474	403
17	300	670	670	1,010	467	2,930	2,150	2,030	1,400	660	471	400
18	300	645	920	1,400	467	5,480	2,270	2,270	1,330	630	471	391
19	300	748	950	1,400	459	7,620	2,150	2,150	1,260	615	468	394
20	295	860	1,130	1,260	459	4,800	1,920	2,390	1,260	606	457	426
21	298	695	1,190	1,100	459	3,220	1,720	2,390	1,330	610	454	403
22	484	595	1,040	1,010	455	2,520	1,550	2,030	1,330	610	450	397
23	570	520	950	920	451	2,030	1,400	1,920	1,260	592	450	397
24	484	493	1,010	830	493	3,520	1,400	1,920	1,260	592	450	394
25	480	525	920	830	620	3,370	1,400	1,720	1,130	584	450	391
26	502	475	860	775	890	2,650	1,400	1,550	1,070	566	446	385
27	520	447	860	748	1,330	2,270	1,630	1,470	1,040	556	443	385
28	645	423	812	720	1,470	3,220	1,630	1,550	1,070	556	440	385
29	555	427	720	695	1,330	2,930	1,630	2,150	1,040	538	443	388
30	493	415	812	670	-------	2,520	1,720	2,030	1,010	525	443	385
31	459	-------	1,070	620	-------	2,270	-------	1,820	-------	517	429	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	645	295	372	1.61	1.86	22,900
November	860	374	532	2.30	2.57	31,700
December	1,190	399	679	2.94	3.39	41,800
January	2,030	620	1,020	4.42	5.10	62,700
February	1,470	451	627	2.71	2.92	36,100
March	7,620	950	2,260	9.78	11.28	139,000
April	2,270	1,260	1,680	7.27	8.11	100,000
May	2,520	1,470	2,030	8.79	10.13	125,000
June	2,150	1,010	1,460	6.32	7.05	86,900
July	1,050	517	690	3.05	3.52	42,400
August	521	429	475	2.10	2.42	29,200
September	429	385	405	1.79	2.00	24,100
The year	7,620	295	1,020	* 4.43	60.35	742,000

* Weighted because of difference of drainage areas.

NORTH SANTIAM RIVER AT MEHAMA, OREG.

LOCATION.—Staff gage in NW¼ 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 1932.

EXTREMES.—Maximum discharge during year, 47,000 second-feet Mar. 18 (gage height, 14.5 feet); minimum, 454 second-feet Oct. 4, 15–21 (gage height, 1.26 feet).

1905–7, 1910–14, 1921–32: Maximum discharge, 62,900 second-feet (revised) 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. Discharge interpolated Jan. 15. No regulation nor diversions for irrigation above station. Gage-height record October to April furnished by United States Weather Bureau.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	487	1,530	1,530	5,610	1,900	6,100	8,070	7,230	4,700	2,050	890	710
2	480	1,360	1,530	4,460	1,770	6,600	7,230	7,230	4,480	2,050	890	702
3	467	1,310	1,900	3,620	1,770	5,610	6,960	6,420	4,270	2,190	890	702
4	454	1,200	2,760	3,430	1,770	4,460	6,420	5,650	4,480	2,190	890	694
5	550	1,090	2,460	3,620	1,770	4,240	6,420	5,400	4,060	1,790	845	694
6	710	990	2,310	4,030	1,770	8,740	5,650	4,930	3,670	1,660	845	686
7	550	1,900	2,460	3,820	1,770	8,740	4,930	5,400	3,310	1,540	800	678
8	508	4,680	2,610	3,430	1,770	7,630	4,270	5,650	3,310	1,540	845	670
9	480	3,250	2,310	6,100	1,770	6,350	4,270	5,900	3,490	1,420	845	662
10	480	4,460	2,170	6,600	2,760	5,370	4,060	6,960	4,480	1,540	890	654
11	480	2,920	2,030	7,110	2,460	4,680	4,700	6,690	5,160	1,540	890	646
12	467	2,310	1,770	9,900	2,760	4,240	5,900	6,690	5,160	1,360	845	638
13	467	2,030	1,770	7,110	2,610	3,820	5,900	6,690	6,420	1,310	800	630
14	460	3,080	1,650	5,370	2,310	4,460	6,420	6,420	5,650	1,360	800	630
15	454	2,460	1,530	4,700	2,030	6,100	5,900	5,400	4,930	1,310	800	630
16	454	2,610	1,420	4,030	1,900	7,900	5,900	4,930	3,860	1,310	800	630
17	454	5,370	2,760	3,430	1,770	14,800	6,960	5,160	3,310	1,310	782	630
18	454	5,610	6,100	7,110	1,770	28,700	8,350	5,900	2,970	1,360	764	630
19	454	4,030	6,100	7,630	1,650	30,700	7,230	5,900	2,800	1,200	764	630
20	454	8,170	7,630	6,350	1,650	15,700	7,510	6,160	2,800	1,140	755	654
21	454	4,910	7,630	5,140	1,770	9,800	6,420	6,160	3,140	1,090	746	702
22	755	3,430	6,100	4,240	1,770	8,070	5,400	5,400	3,310	1,090	737	646
23	1,900	2,920	4,680	3,620	1,770	6,960	4,930	4,930	3,140	1,090	728	630
24	2,030	2,460	5,610	3,250	2,170	12,300	4,930	5,400	2,800	1,090	719	622
25	1,650	2,170	4,680	2,920	2,310	13,000	4,930	4,700	2,640	1,090	710	614
26	2,760	2,170	4,030	2,610	7,630	10,100	4,930	4,060	2,480	1,090	710	606
27	2,460	1,900	4,460	2,610	9,900	8,070	5,400	3,670	2,480	990	710	598
28	4,680	1,770	4,030	2,460	9,610	10,700	5,400	3,490	2,330	990	710	598
29	3,620	1,650	3,430	2,310	7,630	11,900	5,400	4,700	2,330	990	694	598
30	2,460	1,530	3,080	2,170	-------	9,500	5,400	6,160	2,190	940	764	598
31	1,900	-------	5,850	2,170	-------	8,070	-------	5,160	-------	940	737	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,680	454	1,110	1.67	1.92	68,200
November	8,170	990	2,840	4.27	4.76	169,000
December	7,630	1,420	3,500	5.26	6.06	215,000
January	9,900	2,170	4,550	6.84	7.89	280,000
February	9,900	1,650	2,910	4.38	4.72	167,000
March	30,700	3,820	9,460	14.2	16.37	582,000
April	8,350	4,060	5,870	8.83	9.85	349,000
May	7,230	3,490	5,630	8.47	9.76	346,000
June	6,420	2,190	3,670	5.52	6.16	218,000
July	2,190	940	1,370	2.06	2.38	84,200
August	890	694	793	1.19	1.37	48,800
September	710	598	647	.973	1.09	38,500
The year	30,700	454	3,540	5.32	72.33	2,570,000

BREITENBUSH RIVER ABOVE FRENCH CREEK, NEAR DETROIT, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 36, T. 9 S., R. 5 E., a tenth of a mile below Canyon Creek, 1½ miles above French Creek, and 2 miles east of Detroit. Zero of gage is 1,599.4 feet above mean sea level.

RECORDS AVAILABLE.—June to September 1932. October 1910 to October 1913, fragmentary record below French Creek, comparable except for inflow from French Creek.

EXTREMES.—Maximum discharge during period, 790 second-feet June 22 (gage height, 2.49 feet); minimum, 119 second-feet Sept. 30 (gage height, 0.71 foot). Maximum stage known, about 6.2 feet Mar. 19 (discharge not determined).

REMARKS.—Records excellent except those estimated June 17, 19, 26, 27, Aug. 23, 24, which are good. No diversions or regulation above station.

Discharge, in second-feet, 1932

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1		495	196	149	16	702	303	166	126
2		510	194	144	17	658	294	161	124
3		636	192	142	18	615	274	161	124
4		470	189	140	19	623	265	159	126
5		393	187	138	20	631	253	159	145
6		361	181	136	21	702	256	157	134
7		353	178	134	22	730	259	155	129
8		353	178	132	23	675	250	151	127
9		345	181	131	24	595	247	147	126
10		365	185	131	25	575	242	147	126
11		317	183	129	26	545	228	149	124
12		303	178	129	27	515	218	149	122
13		303	174	129	28	485	218	149	122
14		307	170	127	29	525	210	153	122
15		294	170	126	30	466	206	157	120
					31		198	153	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
June 16–30	730	466	603	5.58	3.12	17,900
July	636	198	314	2.91	3.36	19,300
August	196	147	168	1.56	1.80	10,300
September	149	120	130	1.20	1 34	7,740
The period						55,000

LITTLE NORTH SANTIAM RIVER NEAR MEHAMA, OREG.

LOCATION.—Staff and wire-weight gages in NW¼ sec. 16, T. 9 S., R. 2 E., 2 miles east of Mehama and mouth of river.

DRAINAGE AREA.—110 square miles.

RECORDS AVAILABLE.—October 1931 to September 1932. Comparable records at station 4 miles upstream, July to September 1924; July to September 1931.

EXTREMES.—Maximum discharge during year, 14,000 second-feet Mar. 18 (gage height, 12.46 feet); minimum, 26 second-feet Sept. 29 (gage height, 2.25 feet).

1924, 1931–32: Maximum discharge, that of Mar. 18, 1932; minimum, 22 second-feet Sept. 16, 1924.

REMARKS.—Records fair. Discharge estimated Oct. 5, 26. No regulation or diversions above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	370	315	1,320	315	1,710	1,610	1,510	720	200	69	42
2	31	291	370	980	291	2,420	1,410	1,230	690	190	69	42
3	30	267	555	840	279	1,610	1,410	980	632	244	77	41
4	31	233	840	780	256	1,230	1,140	910	555	211	72	42
5	100	211	690	980	244	1,320	1,060	840	452	180	62	41
6	61	152	580	1,320	370	2,830	910	750	510	170	68	37
7	56	1,000	660	1,060	470	3,270	840	875	490	152	72	36
8	49	1,820	632	875	555	2,290	720	875	452	143	59	37
9	43	1,230	532	2,830	510	1,710	690	980	532	135	70	37
10	39	1,320	490	2,050	632	1,320	750	1,140	690	143	86	35
11	37	435	385	2,830	660	1,140	980	910	660	152	82	31
12	36	279	340	2,830	660	980	1,230	980	660	143	74	28
13	34	555	328	1,710	632	910	1,060	980	690	135	63	32
14	33	910	304	1,140	470	1,710	1,320	810	660	135	63	26
15	31	632	304	875	418	1,710	1,060	605	510	143	58	27
16	30	750	279	750	355	1,820	1,320	555	400	135	58	28
17	31	2,420	1,710	1,820	315	4,410	1,930	750	328	119	59	28
18	31	1,930	2,550	3,270	315	11,600	2,170	875	315	102	59	28
19	30	2,550	2,050	2,290	304	6,510	1,510	780	267	108	59	28
20	30	2,830	2,690	1,710	315	3,270	1,320	980	304	108	57	48
21	30	1,000	1,930	1,230	355	2,170	1,060	810	340	108	50	45
22	150	800	1,410	980	370	1,410	910	720	315	111	48	42
23	510	660	1,140	720	400	1,140	780	840	304	100	46	34
24	510	555	1,140	632	720	5,710	750	840	279	96	46	32
25	755	470	910	532	1,410	3,740	910	632	267	90	48	28
26	1,500	452	750	510	4,410	2,170	910	532	244	89	41	30
27	1,710	418	910	452	4,410	1,710	980	435	244	81	42	30
28	2,420	385	750	400	3,420	3,470	910	470	233	73	42	27
29	1,140	355	632	400	2,420	2,690	910	840	233	82	44	26
30	580	328	750	385	-------	2,050	1,060	1,140	190	74	55	27
31	452	-------	1,930	370	-------	1,610	-------	840	-------	72	52	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,420	30	340	3.09	3.56	20,900
November	2,830	152	854	7.76	8.66	50,800
December	2,690	279	931	8.46	9.75	57,200
January	3,270	370	1,250	11.4	13.14	76,900
February	4,410	244	906	8.24	8.89	52,100
March	11,600	910	2,630	23.9	27.55	162,000
April	2,170	690	1,120	10.2	11.38	66,600
May	1,510	435	852	7.75	8.94	52,400
June	720	190	439	3.99	4.45	26,100
July	244	72	130	1.18	1.36	7,990
August	86	41	59.7	.543	.63	3,670
September	48	26	33.8	.307	.34	2,010
The year	11,600	26	798	7.25	98.65	579,000

SOUTH SANTIAM RIVER AT WATERLOO, OREG.

LOCATION.—Staff gage in NW¼ sec. 28, T. 12 S., R. 1 W., 200 yards below highway bridge at Waterloo and 4 miles above Hamilton Creek. Zero of gage is 370.2 feet above mean sea level.

DRAINAGE AREA.—640 square miles.

RECORDS AVAILABLE.—July 1905 to March 1907; October 1910 to December 1911; July 1923 to September 1932.

EXTREMES.—Maximum discharge during year, 47,800 second-feet Mar. 18 (gage height, 17.4 feet); minimum, 126 second-feet Oct. 17 (gage height, 2.07 feet).

1905–7, 1910–11, 1923–32: Maximum discharge, 70,000 second-feet Mar. 31, 1931 (gage height, 22.0 feet); minimum, 100 second-feet several days in September, October, November 1925.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	152	730	1,320	8,330	1,950	6,000	6,740	5,520	3,570	825	277	238
2	152	730	1,390	6,240	1,800	6,490	6,000	5,520	3,180	825	277	223
3	152	682	1,880	4,830	1,660	6,240	6,240	5,060	2,990	730	277	212
4	135	682	3,970	4,180	1,660	5,060	6,240	4,180	2,800	730	277	204
5	135	682	3,180	4,390	1,800	4,390	6,240	3,970	2,620	730	265	191
6	135	635	2,620	4,390	2,110	8,900	6,000	3,770	2,440	682	265	191
7	135	682	2,620	4,180	3,370	10,700	5,520	3,770	2,270	635	265	178
8	135	4,180	2,990	3,770	2,990	8,050	4,830	3,370	2,270	635	265	178
9	135	3,180	2,620	5,520	2,800	6,740	4,180	2,800	2,110	635	265	170
10	135	5,290	2,270	7,250	3,180	6,240	3,770	2,440	2,270	635	277	170
11	135	2,620	2,110	6,000	2,800	6,000	3,770	2,270	2,440	635	277	163
12	135	1,880	1,880	12,800	3,570	5,290	3,770	2,110	2,620	635	277	152
13	135	1,800	2,110	7,510	3,180	4,610	4,830	2,110	2,440	592	265	152
14	135	2,800	2,270	5,760	2,620	5,060	5,060	2,270	2,270	550	254	152
15	135	2,270	2,270	4,830	2,110	6,740	4,830	2,620	1,950	510	254	152
16	135	2,800	2,440	4,180	1,950	7,780	4,610	2,800	1,660	470	238	152
17	126	6,990	2,440	3,570	1,730	19,500	5,290	2,990	1,660	555	238	142
18	135	7,250	6,000	8,610	1,800	29,900	6,000	3,370	1,590	432	223	142
19	135	5,290	6,000	10,400	1,800	35,600	6,240	3,570	1,520	410	223	142
20	135	12,200	7,780	7,510	1,800	18,500	6,740	3,770	1,390	395	212	142
21	135	6,490	9,800	6,000	1,520	11,900	5,760	4,180	1,320	381	212	142
22	212	4,180	6,990	4,830	1,520	8,330	4,830	3,970	1,260	360	212	170
23	1,730	3,370	4,610	3,970	1,660	6,740	4,830	3,770	1,200	339	204	178
24	1,260	2,620	6,490	3,370	2,270	16,100	4,830	3,570	1,140	339	204	170
25	1,030	2,270	5,060	2,990	4,180	14,800	4,830	3,370	1,080	339	204	170
26	1,260	2,270	4,180	2,620	6,240	11,300	5,060	2,990	1,030	325	191	170
27	1,520	1,800	4,610	2,620	8,900	8,610	4,610	2,620	978	325	191	170
28	3,770	1,730	5,060	2,440	9,500	11,000	4,390	3,570	925	325	191	152
29	2,270	1,460	4,390	2,440	7,250	12,800	4,180	4,610	925	325	191	135
30	1,520	1,320	3,770	2,440	------	9,500	3,970	4,180	875	313	212	135
31	1,030	------	11,000	2,440	------	7,510	------	3,970	------	295	265	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,770	126	596	0.931	1.07	36,600
November	12,200	635	3,030	4.73	5.28	180,000
December	11,000	1,320	4,070	6.36	7.33	250,000
January	12,800	2,440	5,170	8.08	9.32	318,000
February	9,500	1,520	3,090	4.83	5.21	178,000
March	35,600	4,390	10,500	16.4	18.91	646,000
April	6,740	3,770	5,140	8.03	8.96	306,000
May	5,520	2,110	3,520	5.50	6.34	216,000
June	3,570	875	1,890	2.95	3.29	112,000
July	825	295	510	.797	.92	31,400
August	277	191	240	.375	.43	14,800
September	238	135	168	.262	.29	10,000
The year	35,600	126	3,170	4.95	67.35	2,300,000

MIDDLE SANTIAM RIVER NEAR FOSTER, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 2, T. 13 S., R. 2 E., half a mile above mouth of Green Peter Creek and 8 miles northeast of Foster. Zero of gage is 733.44 feet above mean sea level.

DRAINAGE AREA.—271 square miles.

RECORDS AVAILABLE.—August 1931 to September 1932.

EXTREMES.—Maximum discharge during year, 29,500 second-feet Mar. 18 (gage height, 17.84 feet); minimum discharge, 66 second-feet Oct. 16; minimum gage height, 1.47 feet Sept. 30.

1931–32: Maximum discharge, that of Mar. 18, 1932; minimum, 66 second-feet Sept. 16, Oct. 16, 1931.

REMARKS.—Records excellent. Discharge interpolated June 2. No regulation or diversions above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	490	725	3,380	825	3,140	3,630	3,140	1,650	455	154	111
2	83	438	850	2,600	775	3,760	3,500	2,810	1,560	420	149	104
3	76	390	1,440	2,100	725	3,030	3,380	2,400	1,480	472	145	100
4	73	345	1,830	2,010	750	2,450	3,380	2,200	1,440	455	142	97
5	154	309	1,440	2,100	725	2,600	3,030	2,010	1,280	385	137	96
6	162	282	1,240	2,350	910	5,830	2,600	1,880	1,200	355	132	95
7	111	1,140	1,520	2,100	1,240	5,380	2,350	1,960	1,100	331	131	94
8	92	2,250	1,440	2,060	1,170	4,310	2,100	2,060	1,030	316	131	92
9	83	2,150	1,200	4,670	1,170	3,500	1,960	2,250	1,170	298	143	90
10	79	2,250	1,140	3,630	1,240	3,260	2,100	2,450	1,400	331	145	87
11	75	1,320	970	5,860	1,280	3,140	2,450	2,250	1,520	340	147	86
12	72	940	880	5,890	1,240	2,700	2,700	2,350	1,560	295	140	85
13	72	1,030	880	3,630	1,060	2,500	2,700	2,300	1,650	280	132	85
14	69	1,480	775	2,700	940	3,500	2,920	2,010	1,440	295	129	85
15	68	1,200	700	2,200	880	3,630	2,500	1,700	1,240	278	128	83
16	66	1,750	725	1,920	800	5,000	2,810	1,600	1,000	258	123	82
17	67	4,030	2,440	2,010	750	13,400	4,170	1,880	850	245	118	79
18	69	3,260	3,500	4,860	725	22,600	3,760	2,010	800	234	117	76
19	68	4,770	3,380	4,310	700	19,300	3,760	1,960	750	223	116	76
20	68	5,290	5,220	3,260	725	9,310	3,260	2,250	750	217	114	99
21	69	2,810	4,310	2,600	725	5,550	2,700	2,200	800	210	113	100
22	708	1,960	3,030	2,100	750	4,030	2,300	2,010	800	202	110	88
23	1,200	1,520	2,500	1,780	825	3,500	2,060	2,300	700	196	108	86
24	775	1,240	2,920	1,560	1,440	10,500	2,300	2,010	655	190	106	82
25	775	1,140	2,300	1,400	2,350	8,120	2,250	1,600	610	186	103	79
26	1,170	1,030	2,200	1,280	4,060	5,550	2,150	1,400	590	180	100	76
27	1,830	910	2,400	1,200	5,380	4,750	2,150	1,240	570	178	99	75
28	2,250	800	2,060	1,100	4,900	7,340	2,100	1,240	530	169	99	74
29	1,280	750	1,700	1,030	3,760	6,060	2,010	2,150	510	167	103	73
30	800	725	2,750	970	-------	4,450	2,150	2,250	472	163	140	72
31	610	-------	4,450	880	-------	3,760	-------	1,880	-------	159	126	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,250	66	425	1.57	1.81	26,100
November	5,290	282	1,600	5.90	6.58	95,200
December	5,220	700	2,030	7.49	8.64	125,000
January	5,890	880	2,570	9.48	10.93	158,000
February	5,380	700	1,480	5.46	5.89	85,100
March	22,600	2,450	6,000	22.1	25.48	369,000
April	4,170	1,960	2,710	10.0	11.16	161,000
May	3,140	1,240	2,060	7.60	8.76	127,000
June	1,650	472	1,040	3.84	4.28	61,900
July	472	159	274	1.01	1.16	16,800
August	154	99	125	.461	.53	7,690
September	111	72	86.9	.321	.36	5,170
The year	22,600	66	1,700	6.27	85.58	1,240,000

ALBANY POWER CANAL NEAR LEBANON, OREG.

LOCATION.—Staff gage in SW¼ sec. 2, T. 12 S., R. 2 W., one eighth of a mile below spillway and 1 mile north of Lebanon.

RECORDS AVAILABLE.—April 1926 to September 1932. Comparable records February to December 1919 at station near Albany.

EXTREMES.—Maximum discharge during year, 302 second-feet Jan. 10 (gage height, 3.52 feet); minimum, 99 second-feet Oct. 19.

1919, 1926–32: Maximum discharge, that of Jan. 10, 1932; probably almost dry at times.

REMARKS.—Records fair. Gage read about three times a week; mean monthly discharge is mean of discharges on days gage was read. 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 is used for power and water supply at Albany. Gage-height record furnished by Mountain States Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					256		245		267	267	179	
2	159	245	245	234				278				159
3					245				278		179	
4		201	267	234			245	278				
5	139				245					267	179	159
6		190		245			267	278	267			
7	139		267			256				267		139
8				245	245	267	278		267		179	
9	120	256	256					278		267		129
10				302	256				278		179	
11		245	245	245		278	278	278		245		
12	139				256						169	111
13		256		234			278	278	278	245		
14	120		256			245						120
15				256	245				278	245		
16	103	245	267			256	290	278		245		120
17	103				245				278			
18		245	267	256		245	290	278		223	159	
19	99				256							111
20		256		245			278	278	278	223		
21	103		223			290						103
22		223		245			278		278	212	129	
23	256	256	234			245		278				129
24	256						278		278		159	
25		245	245	234		245	267	278		190		
26	256										159	103
27		256		245			267	267	278	190		
28	245		223			278						103
29				245			267		267	190	129	
30	245	245	245			290		267				103
31											159	

Month	Mean	Run-off in acre-feet	Month	Mean	Run-off in acre-feet
October	165	10,100	May	276	17,000
November	240	14,300	June	275	16,400
December	249	15,300	July	234	14,400
January	248	15,200	August	163	10,000
February	250	14,400	September	122	7,260
March	263	16,200			
April	272	16,200	The year	230	167,000

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 is 67.80 feet above mean sea level.

DRAINAGE AREA.—728 square miles.

RECORDS AVAILABLE.—October 1928 to September 1932 (discontinued). Records of stage below locks October 1908 to September 1914.

EXTREMES.—Maximum discharge during year, about 22,700 second-feet Jan. 20 (gage height, 22.38 feet); minimum not determined.

1928–32: Maximum discharge (estimated), 27,000 second-feet Apr. 2, 1931 (gage height, 30.0 feet); minimum, 35 second-feet Sept. 19–23, 26, 1929, Sept. 3, 4, 1931.

Maximum stage known, 40.7 feet Jan. 9, 1923 (discharge not determined).

REMARKS.—Records fair except those estimated Oct. 16–22, Mar. 19–31, May 15, June 27 to Sept. 30, which are poor. No diversions or regulation above station. Gage-height record furnished by Engineer Corps, United States Army.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	620	1,000	9,380	2,830	3,500	4,540	1,360	418			
2	121	530	920	9,940	2,090	3,500	3,500	2,320	390			
3	112	445	1,460	8,000	1,980	3,500	3,090	2,090	445			
4	98	390	4,230	5,730	1,870	3,090	2,830	1,660	445			
5	98	335	3,220	4,080	1,870	3,090	3,930	1,460	390			
6	114	310	2,700	3,500	1,760	6,700	5,030	1,270	390			
7	165	390	2,570	3,220	2,570	8,490	4,380	1,180	362			
8	135	1,660	4,230	2,700	2,700	5,910	3,640	1,090	335			
9	117	1,980	3,220	3,220	4,380	4,540	3,090	920	325			
10	112	5,200	2,700	3,930	6,100	3,360	2,830	920	295			
11	109	4,540	2,700	5,370	7,470	3,360	2,320	840	276			
12	109	2,700	2,200	6,500	7,470	3,090	2,200	800	249			
13	98	1,760	2,090	7,470	7,100	2,960	1,980	760	232			
14	95	1,760	2,090	5,910	6,900	2,960	1,870	690	232			
15	117	2,440	1,760	4,700	4,700	2,440	1,760	620	193			
16		1,870	1,660	4,080	3,930	2,320	1,560	560	193	142	79	65
17		3,360	3,360	5,200	3,090	4,380	1,760	500	200			
18		5,730	6,300	13,800	2,700	7,470	3,500	500	193			
19	110	6,500	6,300	21,400	2,320		3,360	560	193			
20		8,800	7,470	22,700	2,090		4,700	560	200			
21		8,950	8,330	17,000	2,960		4,380	620	200			
22		7,290	7,830	11,300	2,570		3,500	560	200			
23	920	4,380	7,100	7,290	2,440		3,090	500	200			
24	1,000	2,960	7,470	5,200	2,320		2,700	500	165			
25	840	2,320	9,100	3,930	2,440	6,160	2,320	445	186			
26	1,560	2,090	8,330	3,220	2,960		2,090	445	182			
27	1,460	1,660	9,800	3,360	5,910		1,760	445	180			
28	1,870	1,270	9,800	3,640	5,030		1,560	390	178			
29	1,760	1,180	8,800	3,500	3,930		1,460	390	176			
30	1,180	1,090	7,650	3,500	-------		1,270	390	176			
31	840	-------	9,240	3,500	-------		-------	445	-------			-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,870	94	448	0.615	0.71	27,500
November	8,950	310	2,820	3.87	4.32	168,000
December	9,800	920	5,020	6.90	7.96	309,000
January	22,700	2,700	6,980	9.59	11.06	429,000
February	7,470	1,760	3,670	5.04	5.44	211,600
March	8,490	2,320	4,990	6.85	7.90	307,000
April	5,030	1,270	2,870	3.94	4.40	171,000
May	2,320	390	832	1.14	1.31	51,200
June	445	165	260	.357	.40	15,500
July	-------	-------	142	.195	.22	8,730
August	-------	-------	79.0	.109	.13	4,860
September	-------	-------	65.0	.089	.10	3,870
The year	22,700	-------	2,350	3.23	43.95	1,710,000

HASKINS CREEK NEAR McMINNVILLE, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 13, T. 3 S., R. 6 W., 300 feet upstream from flow line of McMinnville water-supply reservoir and 11 miles northwest of McMinnville.

DRAINAGE AREA.—5.7 square miles.

RECORDS AVAILABLE.—October 1928 to September 1932.

EXTREMES.—Maximum discharge during year, 227 second-feet Jan. 18 (gage height, 2.69 feet); minimum, 1.1 second-feet Sept. 16, 17 (gage height, 0.56 foot).

1928–32: Maximum discharge, 610 second-feet Mar. 31, 1931 (gage height, 4.00 feet); minimum, that of Sept. 16, 17, 1932.

REMARKS.—Records good. No diversions or regulation above station. Gage-height record furnished by city of McMinnville.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	9.2	16	95	31	98	67	32	8.6	3.6	2.4	1.8
2	1.5	8.0	17	83	27	91	61	33	9.4	3.6	2.2	1.7
3	1.4	7.0	30	70	26	82	56	31	8.9	4.5	2.1	1.4
4	2.2	6.4	25	61	24	75	71	29	8.0	4.3	2.0	1.3
5	4.3	5.7	22	56	23	128	86	28	7.8	3.8	1.8	1.4
6	2.4	8.3	22	52	24	151	75	23	7.5	3.6	1.7	1.4
7	1.8	28	38	47	27	119	67	20	7.5	3.8	1.7	1.4
8	1.5	41	36	44	32	95	60	19	7.2	3.6	2.0	1.3
9	1.4	84	31	56	46	80	52	18	6.7	3.6	2.2	1.2
10	1.5	66	29	53	55	72	50	17	6.4	4.1	2.5	1.2
11	1.4	41	26	93	61	64	48	16	6.0	4.1	2.7	1.2
12	1.7	29	24	96	58	56	45	15	6.0	3.8	2.5	1.4
13	1.8	29	23	76	51	50	43	15	5.7	4.1	2.4	1.3
14	1.8	29	20	64	45	45	41	15	5.7	4.3	2.1	1.2
15	1.7	27	18	53	40	42	39	14	5.4	4.3	2.1	1.2
16	1.5	41	21	52	36	52	38	13	5.4	4.1	1.8	1.2
17	2.1	60	64	135	32	91	46	13	5.4	3.8	2.0	1.2
18	2.4	61	84	218	30	114	46	13	5.4	3.6	2.0	1.2
19	2.1	160	102	196	28	106	72	14	5.7	3.4	2.0	1.5
20	2.0	116	106	151	38	86	64	13	5.2	3.4	2.1	2.2
21	4.9	74	89	124	48	71	55	13	5.0	3.0	2.2	1.7
22	18	54	75	102	46	62	47	12	4.7	2.8	2.1	1.3
23	14	41	95	86	45	66	43	12	4.5	2.8	1.8	1.3
24	14	32	109	75	50	132	40	12	4.5	2.7	1.7	1.3
25	24	29	112	66	67	132	37	11	4.3	2.8	1.5	1.3
26	21	25	117	60	149	114	34	10	4.3	2.7	1.5	1.3
27	33	22	122	50	138	98	34	9.4	4.1	2.7	1.5	1.2
28	31	20	109	43	116	103	33	8.9	4.1	2.5	1.4	1.2
29	20	18	82	40	107	95	31	9.4	3.9	2.7	1.4	1.2
30	14	16	92	36	-------	84	30	9.2	3.8	2.7	1.7	1.2
31	11	-------	103	33	-------	76	-------	8.9	-------	2.5	1.8	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	33	1.4	7.85	1.38	1.59	483
November	160	5.7	39.6	6.95	7.75	2,360
December	122	16	60.0	10.5	12.11	3,690
January	218	33	79.5	13.9	16.03	4,890
February	149	23	51.7	9.07	9.78	2,970
March	132	42	88.1	15.5	17.87	5,420
April	86	30	50.4	8.84	9.86	3,000
May	33	8.9	16.3	2.86	3.30	1,000
June	9.4	3.8	5.90	1.04	1.16	351
July	4.5	2.5	3.46	.607	.70	213
August	2.7	1.4	1.96	.344	.40	121
September	2.2	1.2	1.36	.239	.27	81
The year	218	1.2	33.9	5.95	80.82	24,600

MOLALLA RIVER NEAR CANBY, OREG.

LOCATION.—Staff gage in NE¼ sec. 9, T. 4 S., R. 1 E., at bridge 1½ miles south of Canby. Zero of gage is 104.56 feet above mean sea level by 1929 general adjustment.

DRAINAGE AREA.—323 square miles.

RECORDS AVAILABLE.—August 1928 to September 1932.

EXTREMES.—Maximum discharge during year, 11,000 second-feet Mar. 19 (gage height, 9.6 feet); minimum, 48 second-feet Sept. 28–30.

1928–32: Maximum discharge, 22,300 second-feet Mar. 31, 1931 (gage height, 14.7 feet); minimum, 41 second-feet Sept. 12, 1929.

REMARKS.—Records good. A few small irrigation diversions above gage.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr	May	June	July	Aug.	Sept.
1	79	331	595	3,400	980	2,420	2,420	1,760	1,160	205	88	82
2	77	310	630	2,550	900	2,420	2,180	1,860	1,060	193	88	85
3	71	295	940	2,070	740	2,180	1,960	1,560	940	285	85	79
4	66	270	1,380	1,860	740	1,960	1,860	1,560	860	252	82	79
5	82	221	1,200	2,180	780	1,960	1,760	1,380	860	209	74	82
6	170	193	1,060	2,070	980	4,800	1,560	1,290	860	193	71	77
7	119	780	1,200	1,860	1,660	4,970	1,560	1,290	780	177	68	77
8	94	1,960	1,200	1,660	1,380	3,850	1,470	1,200	700	162	71	74
9	82	1,760	1,110	2,180	1,760	2,820	1,380	1,110	700	147	71	74
10	77	2,300	1,060	2,300	1,860	2,300	1,380	1,290	780	147	82	71
11	68	1,560	980	2,420	1,760	1,960	1,470	1,290	820	155	94	60
12	63	1,110	860	4,800	1,760	1,660	1,560	1,200	820	162	94	58
13	66	940	900	3,100	1,760	1,110	1,560	1,160	740	155	85	60
14	66	1,470	860	2,180	1,380	1,060	1,760	1,060	700	133	82	58
15	60	1,200	740	1,860	1,200	2,070	1,660	940	630	162	79	58
16	60	1,290	740	1,660	1,060	1,960	1,560	860	560	140	79	60
17	55	2,820	1,160	1,960	940	5,650	2,300	860	490	133	79	60
18	58	3,100	2,300	4,970	860	7,250	2,550	940	430	133	79	60
19	71	2,550	2,420	5,310	780	9,750	2,420	940	370	126	74	60
20	66	4,320	5,650	3,400	740	4,970	2,550	1,200	375	119	74	55
21	71	2,550	4,800	2,550	740	3,850	2,180	1,200	353	116	74	63
22	358	1,860	3,400	2,070	740	2,820	2,070	1,060	375	112	74	66
23	490	1,470	2,550	1,660	740	2,300	1,860	1,020	364	100	77	58
24	630	1,200	3,250	1,290	1,110	3,700	1,960	1,110	320	100	74	53
25	595	1,060	2,550	1,290	1,760	4,000	2,070	940	295	100	71	53
26	320	1,060	2,300	1,200	3,250	3,250	1,860	820	275	100	68	53
27	700	860	2,550	1,200	4,160	2,960	1,860	700	252	100	68	53
28	1,060	780	2,300	1,110	4,000	4,160	1,760	665	252	97	68	48
29	940	700	1,860	1,110	2,820	4,320	1,470	630	234	97	71	48
30	630	630	1,860	1,200	-------	3,100	1,470	1,290	217	100	74	48
31	430	-------	3,850	1,160	-------	2,550	-------	1,200	-------	91	82	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,060	55	251	0.777	0.90	15,400
November	4,320	193	1,360	4.21	4.70	80,900
December	5,650	595	1,880	5.82	6.71	116,000
January	5,310	1,110	2,250	6.97	8.04	138,000
February	4,160	740	1,490	4.61	4.97	85,700
March	9,750	1,060	3,360	10.4	11.99	207,000
April	2,550	1,380	1,850	5.73	6.39	110,000
May	1,860	630	1,140	3.53	4.07	70,100
June	1,160	217	586	1.81	2.02	34,900
July	285	91	145	.449	.52	8,920
August	94	68	77.4	.240	.28	4,760
September	85	48	63.7	.197	.22	3,790
The year	9,750	48	1,210	3.75	50.81	875,000

PUDDING RIVER AT AURORA, OREG.

LOCATION.—Staff gage in SE¼ sec. 12, T. 4 S., R. 1 W., at highway bridge at Aurora, half a mile above mouth of Mill Creek. Zero of gage is 76.79 feet above mean sea level, 1929 general adjustment.

DRAINAGE AREA.—493 square miles.

RECORDS AVAILABLE.—October 1928 to September 1932.

EXTREMES.—Maximum discharge during year, 5,500 second-feet Jan. 20 (gage height, 16.5 feet); minimum, 54 second-feet Sept. 30 (gage height, 0.45 foot).

1928–32: Maximum discharge, 9,950 second-feet Apr. 1, 1931 (gage height, 21.4 feet); minimum, 48 second-feet Oct. 2, 1929.

Maximum known stage, 25.0 feet Jan. 9, 1923 (discharge, about 14,500 second-feet).

REMARKS.—Records good. Discharge estimated Nov. 26, July 22–27. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	400	913	5,320	2,120	2,540	2,960	1,190	658	135	84	64
2	69	310	844	5,140	1,880	2,200	2,590	1,410	616	135	81	65
3	72	282	821	4,570	1,600	2,260	2,230	1,300	554	143	81	65
4	72	282	1,240	4,170	1,720	2,230	1,960	1,170	514	151	76	67
5	78	272	1,750	3,690	1,390	1,980	1,900	1,070	494	151	72	61
6	87	236	1,600	2,940	1,510	2,540	2,030	980	494	151	72	62
7	108	254	1,390	2,380	1,840	3,910	2,030	914	474	143	72	62
8	137	960	1,630	2,060	2,700	4,040	2,100	870	474	128	69	61
9	104	1,540	1,720	1,950	2,700	3,560	2,060	826	436	120	69	60
10	93	1,880	1,600	2,090	2,860	3,060	1,830	784	417	120	67	58
11	87	2,160	1,510	2,580	3,180	2,420	1,580	742	379	118	71	60
12	78	1,810	1,480	3,350	3,270	2,230	1,380	721	360	120	84	58
13	76	1,390	1,450	3,430	3,100	1,980	1,300	700	379	143	96	60
14	78	1,210	1,420	3,230	2,780	1,750	1,300	637	322	151	98	61
15	75	1,420	1,360	2,580	2,300	1,980	1,330	595	304	151	90	61
16	76	1,480	1,240	2,230	2,020	2,160	1,280	574	295	151	81	62
17	78	2,020	1,140	2,300	1,720	2,860	1,330	534	277	143	80	61
18	78	3,230	2,090	4,040	1,480	4,040	1,500	494	259	135	75	61
19	75	3,650	2,980	5,320	1,390	5,080	1,670	494	250	126	71	58
20	78	4,080	3,910	5,440	1,270	5,330	1,900	534	233	120	74	58
21	78	4,300	4,660	5,200	1,180	5,150	2,200	595	224	118	76	58
22	93	4,210	4,960	4,860	1,160	4,830	2,000	637	216		82	57
23	209	3,780	4,710	4,430	1,110	4,600	1,770	658	199		74	58
24	420	3,100	4,390	3,600	1,060	4,130	1,770	658	191		72	58
25	440	2,160	4,300	2,540	1,270	4,000	1,770	637	175	100	68	60
26	500	1,850	4,260	2,120	1,540	4,000	1,640	554	167		67	60
27	540	1,540	4,260	1,980	2,380	3,720	1,470	514	159		65	58
28	624	1,420	4,390	2,230	2,860	3,440	1,360	474	159	92	62	58
29	688	1,140	4,260	2,230	2,900	3,520	1,250	474	151	94	61	55
30	603	1,040	3,820	2,230	-------	3,680	1,140	616	143	90	61	54
31	480	-------	4,300	2,200	-------	3,440	-------	700	-------	87	62	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	688	69	205	0.416	0.48	12,600
November	4,300	236	1,780	3.61	4.03	106,000
December	4,960	821	2,590	5.25	6.05	159,000
January	5,440	1,950	3,300	6.69	7.71	203,000
February	3,270	1,060	2,010	4.08	4.40	116,000
March	5,330	1,750	3,310	6.71	7.74	204,000
April	2,960	1,140	1,750	3.55	3.96	104,000
May	1,410	474	744	1.51	1.74	45,700
June	658	143	332	.673	.75	19,800
July	151	87	123	.249	.29	7,560
August	98	61	74.6	.151	.17	4,590
September	67	54	60.0	.122	.14	3,570
The year	5,440	54	1,360	2.76	37.46	986,000

TUALATIN RIVER NEAR WILLAMETTE, OREG.

LOCATION.—Staff gage in SW¼ 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 1932.

EXTREMES.—Maximum discharge during year, 8,200 second-feet Jan. 22, 23 (gage height, 10.45 feet); minimum, 4 second-feet July 25, 26, Sept. 4–8 (gage height, 0.34 foot).

1928–32: Maximum discharge, that of Jan. 22, 23, 1932; minimum, 2 second-feet Aug. 14–21, 1928 (gage height, 0.25 foot).

REMARKS.—Records good except those for Oct. 1–20 and those below 10 second-feet, which are fair. 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	340	815	7,470	2,730	3,180	3,790	1,170	380	183	16	1
2	22	225	760	7,330	2,550	3,380	3,580	1,230	400	183	22	7
3	26	180	760	7,190	2,390	3,380	3,280	1,230	380	183	20	5
4	31	132	990	6,490	1,990	3,380	3,090	1,230	400	183	26	4
5	34	122	1,230	5,070	1,550	3,480	2,910	1,110	380	186	28	4
6	39	122	1,230	4,830	1,410	4,010	2,730	1,050	360	189	26	4
7	40	128	1,230	4,710	1,290	4,230	2,730	990	340	183	24	4
8	40	270	1,410	4,470	1,830	4,230	2,640	930	340	172	21	4
9	40	760	1,760	4,120	2,230	4,230	2,640	870	322	168	21	5
10	38	1,410	1,830	3,480	2,550	4,230	2,470	815	305	160	21	7
11	32	1,620	1,830	3,480	2,820	4,120	2,310	760	288	150	24	8
12	30	1,690	1,760	3,480	3,280	3,900	2,150	705	270	150	30	8
13	31	1,620	1,690	3,280	3,480	3,580	1,910	705	255	150	50	7
14	32	1,230	1,690	3,380	3,480	3,280	1,690	655	240	155	71	7
15	31	870	1,550	3,280	3,380	3,000	1,550	630	240	155	54	6
16	29	815	1,290	3,280	3,280	2,820	1,480	580	225	155	42	7
17	31	1,170	1,550	3,380	3,180	2,820	1,480	580	210	148	34	8
18	32	1,620	2,470	5,320	3,000	3,180	1,620	532	207	140	32	10
19	32	2,150	3,380	5,970	2,730	3,680	1,830	510	210	135	32	10
20	34	2,820	3,790	6,630	2,470	3,680	2,070	510	210	115	30	9
21	37	2,910	4,230	7,330	2,230	3,480	2,150	532	207	101	26	9
22	43	3,000	4,350	8,200	2,070	3,280	2,150	532	207	105	26	9
23	117	3,000	4,470	8,200	2,070	3,180	2,150	532	201	66	71	11
24	192	3,000	4,590	7,910	2,070	3,380	2,070	488	195	8	142	15
25	305	2,640	4,950	7,190	2,070	3,380	1,910	465	186	4	84	16
26	340	2,390	5,190	6,230	2,150	3,480	1,690	442	178	7	60	14
27	465	1,480	5,580	5,710	2,310	3,580	1,550	420	178	25	51	13
28	532	1,350	6,100	4,950	2,550	3,790	1,410	400	178	32	46	12
29	555	1,110	6,490	4,350	2,820	4,010	1,290	400	178	24	40	11
30	555	930	6,770	3,790	------	4,010	1,170	400	178	15	29	10
31	340	------	7,330	3,280	------	3,900	------	400	------	14	14	------

Month	River only				River and Oswego Canal (combined)					
	Maximum	Minimum	Mean	Run-off in acre-feet	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	555	21	133	8,180	637	76	193	0.272	0.31	11,900
November	3,000	122	1,370	81,500	3,130	185	1,470	2.07	2.31	87,500
December	7,330	760	3,000	184,000	7,530	835	3,100	4.37	5.04	191,000
January	8,200	3,280	5,280	325,000	8,440	3,350	5,430	7.65	8.82	334,000
February	3,480	1,290	2,480	143,000	3,500	1,290	2,510	3.54	3.82	144,000
March	4,230	2,820	3,590	221,000	4,380	2,920	3,710	5.23	6.03	228,000
April	3,790	1,170	2,180	130,000	3,910	1,220	2,270	3.20	3.57	135,000
May	1,230	400	703	43,200	1,280	427	743	1.05	1.21	45,700
June	400	178	262	15,600	421	205	286	.403	.45	17,000
July	189	4	118	7,260	216	53	152	.214	.25	9,350
August	142	14	39.1	2,400	175	47	92.6	.130	.15	5,690
September	16	4	8.5	506	73	50	63.3	.089	.10	3,770
The year	8,200	4	1,600	1,160,000	8,440	47	1,670	2.35	32.06	1,210,000

OSWEGO CANAL NEAR OSWEGO, OREG.

LOCATION.—Staff gage in SW¼ sec. 17, T. 2 S., R. 1 E. 3 miles southwest of Oswego.

RECORDS AVAILABLE.—October 1928 to September 1932.

EXTREMES.—Maximum discharge during year, 238 second-feet Jan. 23, (gage height, 7.80 feet); minimum (estimated), 2 second-feet Feb. 3–8.

1928–32: Maximum discharge, 258 second-feet Apr. 4, 12, 1931 (gage height, 8.20 feet); minimum, that of Feb. 3–8, 1932.

REMARKS.—Records fair Nov. 18 to Apr. 11; others poor. Oswego Canal diverts from Tualatin River in NW¼ sec. 20, three quarters of a mile above gage; diversion dam on Tualatin River is in NE¼ sec. 33, 2¾ miles by river below canal.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	63	106	208	61	112	121	47	21	23	66	41
2	59	63	75	198	59	112	144	47	21	23	68	43
3	57	63	80	198		115	144	47	21	23	68	47
4	59	63	85	189		115	134	47	21	23	66	51
5	59	63	87	167	2	121	121	47	21	23	66	51
6	57	63	90	155		148	98	47	23	27	66	53
7	57	90	90	148		148	93	47	23	27	66	55
8	55	104	90	134		137	118	49	19	27	63	55
9	51	106	72	106	4	137	115	47	14	27	63	55
10	51	101	72	101	9	137	106	43	14	27	66	53
11	51	104	75	104	11	134	80	43	19	29	66	55
12	49	106	75	104	14	128	72	39	23	27	66	55
13	49	95	72	101	20	104	66	37	23	27	68	57
14	49	98	72	101	20	98	63	33	27	29	63	57
15	49	59	70	104	20	104	61	43	27	25	59	57
16	47	57	70	104	17	101	57	33	27	21	59	57
17	47	61	72	121	15	101	59	33	27	25	59	57
18	49	106	80	134	11	104	63	32	15	29	59	57
19	49	121	93	155	10	112	70	30	27	27	57	57
20	49	137	95	171	7	112	75	33	27	29	57	57
21	49	134	98	198	6	109	77	39	29	29	57	57
22	53	134	115	218	5	104	80	37	29	29	57	57
23	59	128	106	238	6	98	77	35	29	29	45	57
24	61	128	115	223	77	112	72	35	29	49	33	57
25	80	121	128	193	80	112	72	35	29	49	30	57
26	80	121	134	184	80	115	66	35	27	59	27	57
27	80	118	144	159	98	115	61	35	27	59	25	57
28	80	118	163	159	98	124	57	35	27	59	25	57
29	82	115	180	131	101	128	53	32	27	59	25	59
30	82	106	180	98	------	128	51	32	29	61	29	59
31	82	------	198	72	------	124	------	27	------	63	33	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	82	47	59.4	3,650
November	137	57	98.2	5,840
December	198	70	103	6,330
January	238	72	151	9,280
February	101	----------	29.0	1,670
March	148	98	118	7,260
April	144	51	84.2	5,010
May	49	27	38.7	2,380
June	29	14	24.1	1,430
July	63	21	34.3	2,110
August	68	25	53.5	3,290
September	59	41	54.8	3,260
The year	238	----------	70.9	51,500

CLACKAMAS RIVER AT BIG BOTTOM, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 26, T. 6 S., R. 7 E., just below Pot Creek at lower end of Big Bottom, half a mile above proposed dam site, and 28 miles southeast of Estacada.

DRAINAGE AREA.—132 square miles.

RECORDS AVAILABLE.—April 1920 to September 1932.

EXTREMES.—Maximum discharge during year, 2,150 second-feet Mar. 18 (gage height, 4.87 feet); minimum, 194 second-feet Oct. 1–3, 16–20 (gage height, 1.27 feet).

1920–32: Maximum discharge, 6,750 second-feet Mar. 31, 1931 (gage height, 8.28 feet); minimum, 190 second-feet on several days in August and September 1931 (gage height, 1.25 feet).

REMARKS.—Records fair. Discharge estimated Feb. 16 to Mar. 2, Mar. 24 to Apr. 4. No regulation or diversions above station. Field data furnished by Portland General Electric Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	194	236	228	359	291	460	910	770	695	330	236	231
2	194	230	230	335	294	440	880	795	670	323	239	229
3	194	225	236	322	285	420	820	745	670	326	239	226
4	197	220	236	325	285	402	770	720	670	320	236	226
5	208	218	233	332	277	410	720	695	622	305	236	224
6	203	215	228	342	279	521	670	720	600	300	236	222
7	199	266	244	338	282	560	622	745	560	297	234	220
8	197	352	238	332	279	521	580	770	540	291	234	220
9	197	322	233	467	274	484	560	795	560	285	236	217
10	197	322	233	483	274	448	540	905	622	294	241	217
11	197	287	230	620	268	430	560	878	645	291	241	217
12	197	266	225	770	265	410	600	905	670	285	239	217
13	197	264	228	600	260	396	645	960	670	285	236	217
14	197	234	220	502	252	406	720	905	670	285	236	217
15	197	269	218	466	252	424	695	822	622	282	236	217
16	194	278	225	427		441	720	770	560	277	234	217
17	194	319	328	424		850	850	795	521	247	234	217
18	194	309	431	580		1,600	878	878	484	271	231	217
19	194	359	427	600		1,920	850	878	466	271	231	220
20	194	394	495	521		1,430	795	990	448	268	231	222
21	199	322	515	466		1,050	695	932	448	265	231	222
22	293	290	455	430		878	645	822	448	260	231	220
23	345	272	415	406	323	770	600	770	438	257	231	220
24	303	264	431	385			600	770	420	257	229	220
25	275	261	401	368			600	695	402	254	229	220
26	287	252	384	355			600	645	388	249	226	220
27	293	244	380	348		1,080	622	622	368	247	226	217
28	322	238	359	336			645	600	358	347	226	217
29	290	236	338	326			645	822	348	244	231	217
30	258	233	338	317			670	822	339	244	236	217
31	244		356	308				720		241	231	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	345	194	227	1.72	1.98	14,000
November	394	215	275	2.08	2.32	16,400
December	515	218	314	2.38	2.74	19,300
January	770	308	425	3.22	3.71	26,100
February			298	2.26	2.44	17,100
March	1,920	396	784	5.94	6.85	48,200
April	910	540	690	5.23	5.84	41,100
May	990	600	796	6.03	6.95	48,900
June	695	339	531	4.02	4.48	31,600
July	330	241	278	2.11	2.43	17,100
August	241	226	234	1.77	2.04	14,400
September	231	217	220	1.67	1.86	13,100
The year	1,920	194	423	3.20	43.64	307,000

CLACKAMAS RIVER ABOVE THREE LYNX CREEK, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 21, T. 5 S., R. 6 E., a quarter of a mile above Three Lynx Creek and 17 miles southeast of Estacada. Zero of gage is 1,098 feet above mean sea level.

DRAINAGE AREA.—488 square miles.

RECORDS AVAILABLE.—October 1911 to December 1913; October 1921 to September 1932.

EXTREMES.—Maximum discharge during year, 16,400 second-feet Mar. 18 (gage height, 9.86 feet); minimum, 526 second-feet Oct. 15 (gage height, 0.63 foot). 1911–13, 1921–32: Maximum discharge, 34,800 second-feet Mar. 31, 1931 (gage height, 15.5 feet); minimum discharge, 375 second-feet Aug. 10, 16, 1924; minimum gage height, 0.63 foot Oct. 15, 1931.

REMARKS.—Records good except those estimated Oct. 1, Aug. 11 to Sept. 2, and those above 10,000 second-feet, which are fair. Water diverted from Oak Grove Fork is used in power plant on Clackamas River just above station. Field data furnished by Portland General Electric Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	590	830	830	1,680	1,100	2,850	3,960	3,810	2,790	1,240	780	725
2	594	780	830	1,590	1,100	2,620	3,960	3,810	2,749	1,210	770	720
3	594	740	890	1,390	1,070	2,310	3,670	3,530	2,680	1,280	780	705
4	598	720	950	1,470	1,070	2,110	3,530	3,400	2,680	1,240	770	705
5	630	740	920	1,550	1,040	2,160	3,270	3,270	2,520	1,180	780	680
6	594	695	890	1,590	1,070	3,400	2,970	3,150	2,410	1,140	760	700
7	582	1,040	1,010	1,590	1,100	3,530	2,740	3,270	2,210	1,100	755	705
8	574	1,510	1,010	1,550	1,100	3,150	2,520	3,400	2,160	1,040	765	690
9	562	1,640	950	2,480	1,100	2,740	2,410	3,530	2,260	1,070	770	680
10	558	1,550	950	2,620	1,140	2,410	2,410	3,960	2,570	1,010	780	690
11	550	1,280	890	4,230	1,140	2,160	2,620	3,810	2,790	1,070		680
12	554	1,100	860	3,630	1,180	1,910	3,030	3,960	2,850	980		695
13	550	1,180	830	3,400	1,100	1,770	3,270	4,110	2,910	1,010		670
14	550	1,320	805	2,740	1,010	1,960	3,400	3,810	2,850	950		685
15	550	1,140	770	2,310	1,010	2,110	3,270	3,400	2,680	950		680
16	546	1,350	755	2,060	980	2,210	3,400	3,270	2,260	920		670
17	550	1,100	1,540	1,910	950	5,140	4,110	3,400	2,010	890		680
18	554	1,770	2,620	3,460	950	10,800	4,430	3,670	1,910	950		670
19	558	2,190	2,570	3,670	950	13,000	4,270	3,670	1,770	860		690
20	574	2,570	3,150	2,850	950	7,860	3,810	3,960	1,820	890		700
21	586	1,820	3,030	2,410	920	5,280	3,270	3,810	1,860	860	746	695
22	950	1,470	2,410	2,110	980	4,110	2,970	3,400	1,860	830		680
23	1,180	1,350	2,110	1,820	950	3,530	2,680	3,270	1,770	830		690
24	1,140	1,140	2,260	1,680	1,070	6,050	2,740	3,270	1,680	830		685
25	1,010	1,100	1,960	1,590	1,430	6,400	2,680	2,910	1,550	860		670
26	1,140	1,010	1,860	1,510	2,960	4,930	2,790	2,620	1,510	805		670
27	1,240	950	1,960	1,470	4,430	4,110	3,030	2,520	1,470	805		670
28	1,680	920	1,770	1,350	4,430	5,460	3,030	2,410	1,430	805		680
29	1,430	860	1,550	1,320	3,530	5,460	3,150	3,400	1,390	780		680
30	1,100	860	1,550	1,280	-------	4,590	3,150	3,400	1,320	805		675
31	980	-------	1,680	1,180	-------	4,110	-------	2,970	-------	765		------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,680	546	769	1.58	1.82	47,300
November	2,570	695	1,220	2.50	2.79	72,600
December	3,150	755	1,490	3.05	3.52	91,600
January	4,230	1,180	2,110	4.32	4.98	130,000
February	4,430	920	1,440	2.95	3.18	82,800
March	13,000	1,770	4,200	8.61	9.93	258,000
April	4,430	2,410	3,220	6.60	7.36	192,000
May	4,110	2,410	3,420	7.01	8.08	210,000
June	2,910	1,320	2,160	4.43	4.94	129,000
July	1,280	765	966	1.98	2.28	59,400
August	-------	-------	754	1.55	1.79	46,400
September	725	670	687	1.41	1.57	40,900
The year	13,000	546	1,870	3.83	52.24	1,360,000

CLACKAMAS RIVER NEAR CAZADERO, OREG.

LOCATION.—Water-stage recorder in NE¼ 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 is 532.0 feet above mean sea level; published gage heights have been reduced to mean sea level datum.

DRAINAGE AREA.—665 square miles.

RECORDS AVAILABLE.—January 1909 to September 1932.

EXTREMES.—Maximum discharge during year, 25,100 second-feet Mar. 18 (gage height, 546.34 feet); minimum, 549 second-feet Oct. 16 (gage height, 532.34 feet).

1909–32: Maximum discharge, 60,800 second-feet Mar. 31, 1931 (gage height, 556.5 feet); minimum, 410 second-feet Oct. 20, 1925, Sept. 28, 1930, caused by shutdown in power plant at Three Lynx (gage height, 532.03 feet).

REMARKS.—Records excellent except those estimated Oct. 1-4 and those above 10,000 second-feet, which are fair. Some diurnal fluctuation during low water, owing to operation of Oak Grove power plant. Field data furnished by Portland General Electric Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1,130	1,160	2,840	1,480	4,350	5,400	4,930	3,480	1,420	910	805
2		1,040	1,130	2,490	1,480	4,230	5,240	4,930	3,370	1,420	910	785
3	650	922	1,250	2,170	1,440	3,670	4,780	4,350	3,260	1,520	882	805
4		868	1,400	2,300	1,400	3,240	4,490	4,210	3,260	1,490	882	775
5	695	868	1,310	2,640	1,370	3,560	4,080	4,080	3,160	1,420	882	755
6	708	840	1,250	2,740	1,480	6,000	3,710	3,830	3,160	1,350	855	765
7	642	1,790	1,440	2,640	1,540	6,170	3,370	3,950	2,870	1,280	855	765
8	618	2,640	1,480	2,440	1,580	5,170	3,160	4,080	2,780	1,210	855	755
9	618	2,640	1,370	4,000	1,660	4,230	3,060	4,350	2,870	1,240	910	755
10	610	2,640	1,340	4,110	1,820	3,670	3,060	4,930	3,160	1,210	910	765
11	598	1,990	1,280	6,030	1,780	3,240	3,370	4,780	3,370	1,280	910	755
12	614	1,620	1,190	8,130	1,820	2,840	3,830	4,780	3,370	1,210	910	724
13	606	1,580	1,160	5,330	1,660	2,640	4,080	4,930	3,480	1,180	910	710
14	590	1,900	1,130	4,000	1,440	2,940	4,490	4,490	3,370	1,210	855	732
15	610	1,620	1,070	3,340	1,440	3,140	4,210	3,950	3,160	1,180	855	728
16	610	1,960	1,040	2,940	1,340	3,340	4,350	3,710	2,690	1,110	830	728
17	614	3,450	2,260	2,840	1,280	7,820	5,240	3,830	2,430	1,050	855	732
18	630	3,140	3,890	4,840	1,250	15,800	5,720	4,210	2,270	1,140	805	724
19	634	3,760	3,890	5,660	1,250	19,000	5,560	4,210	2,190	1,050	830	737
20	630	4,660	5,170	4,230	1,250	10,500	5,080	4,780	2,190	1,050	830	780
21	650	3,040	4,870	3,560	1,310	7,510	4,350	4,490	2,190	1,020	805	750
22	1,320	2,350	3,780	3,040	1,340	5,720	3,950	3,950	2,190	1,020	830	728
23	1,700	1,990	3,240	2,640	1,340	4,780	3,480	3,950	2,110	992	805	724
24	1,540	1,660	3,560	2,440	1,780	7,800	3,590	3,950	1,990	992	805	728
25	1,340	1,620	3,140	2,260	2,640	8,700	3,590	3,480	1,870	992	780	724
26	1,580	1,510	2,840	2,120	5,520	6,940	3,590	3,060	1,750	965	785	710
27	1,700	1,370	3,040	2,040	7,770	5,720	3,830	2,960	1,750	938	805	702
28	2,440	1,280	2,740	1,860	7,410	7,510	3,950	2,870	1,670	965	780	690
29	2,040	1,220	2,350	1,820	5,490	7,900	3,950	4,080	1,630	938	805	698
30	1,510	1,190	2,350	1,700	-------	6,400	3,950	4,210	1,560	938	910	694
31	1,250	-------	2,840	1,620	-------	5,560	-------	3,590	-------	910	830	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,440	590	958	1.44	1.66	58,900
November	4,660	840	1,940	2.92	3.26	115,000
December	5,170	1,040	2,260	3.40	3.92	139,000
January	8,130	1,620	3,250	4.89	5.64	200,000
February	7,770	1,250	2,220	3.34	3.60	128,000
March	19,000	2,640	6,130	9.22	10.63	377,000
April	5,720	3,060	4,150	6.24	6.96	247,000
May	4,930	2,870	4,130	6.21	7.16	254,000
June	3,480	1,560	2,620	3.94	4.40	156,000
July	1,520	910	1,150	1.73	1.99	70,700
August	910	780	851	1.28	1.48	52,300
September	805	690	741	1.11	1.24	44,100
The year	19,000	590	2,540	3.82	51.94	1,840,000

OAK GROVE FORK ABOVE POWER PLANT INTAKE, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 3, T. 6 S., R. 7 E., two thirds of a mile above Kink Creek, 1 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 1932. At site 1 mile downstream, below Kink Creek, May 1909 to December 1923, incomplete.

EXTREMES.—Maximum discharge during year, 1,510 second-feet Mar. 18, 19 (gage height, 3.40 feet); minimum, 236 second-feet Oct. 15, 16, 18 (gage height, 1.42 feet).

1909–32: Maximum discharge, 5,000 second-feet Jan. 7, 1923 (gage height, 5.45 feet); minimum, that of Oct. 15, 16, 18, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	245	248	245	274	299	384	854	934	725	393	319	295
2	245	248	245	267	295	375	846	934	697	384	319	295
3	245	245	248	267	292	351	795	886	678	398	319	292
4	248	242	245	292	295	351	767	894	660	388	315	292
5	254	242	245	303	288	384	718	878	654	371	315	292
6	245	245	245	311	292	485	672	878	630	367	315	292
7	242	274	254	303	288	480	648	926	608	359	315	288
8	242	288	248	299	288	460	619	926	592	359	315	288
9	239	284	245	388	288	435	619	966	592	363	315	288
10	239	278	248	384	284	411	642	1,030	608	363	315	288
11	239	264	245	510	284	393	672	1,030	614	359	315	284
12	239	260	242	592	281	384	704	1,030	614	355	311	284
13	239	264	242	490	278	380	746	1,070	614	355	311	284
14	239	270	239	435	274	384	767	1,030	608	355	311	284
15	236	264	239	402	270	393	753	950	592	351	311	284
16	236	274	242	384	267	406	781	926	558	347	307	281
17	239	281	274	371	267	597	854	934	531	343	307	281
18	236	270	295	411	267	1,000	870	942	510	343	307	281
19	239	319	295	406	264	1,420	894	942	500	339	303	281
20	239	315	327	375	267	1,200	830	1,030	490	339	303	292
21	267	281	331	359	270	958	753	990	485	335	303	281
22	288	270	311	343	274	823	711	918	475	335	299	281
23	274	264	303	335	278	739	678	934	465	331	299	281
24	260	260	303	331	281	894	697	878	450	331	295	281
25	267	264	295	327	292	942	697	795	440	327	295	281
26	267	260	292	327	339	823	718	746	430	327	295	281
27	299	254	292	327	411	753	760	718	420	327	295	278
28	299	251	284	319	445	894	774	704	416	323	295	278
29	267	248	274	315	425	926	718	910	406	323	307	278
30	257	248	278	315	------	862	816	846	398	323	307	278
31	251	------	278	307	------	854	------	760	------	323	299	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	299	236	252	2.00	2.31	15,500
November	319	242	266	2.11	2.35	15,800
December	331	239	269	2.13	2.46	16,500
January	592	267	357	2.83	3.26	22,000
February	445	264	298	2.37	2.56	17,100
March	1,420	351	650	5.16	5.95	40,000
April	894	619	746	5.92	6.60	44,400
May	1,070	704	914	7.25	8.36	56,200
June	725	398	549	4.36	4.86	32,700
July	398	323	350	2.78	3.20	21,500
August	319	295	308	2.44	2.81	18,900
September	295	278	285	2.26	2.52	17,000
The year	1,420	236	437	3.47	47.24	318,000

LEWIS RIVER BASIN

LEWIS RIVER ABOVE MUDDY RIVER, NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in SW¼ sec. 30, T. 7 N., R. 7 E., 2 miles above mouth of Muddy River and 15 miles due east of Cougar.

DRAINAGE AREA.—227 square miles.

RECORDS AVAILABLE.—August to October 1909; August 1927 to September 1932.

EXTREMES.—Maximum discharge during year, 7,100 second-feet Feb. 26 (gage height, 6.10 feet); minimum, 178 second-feet Oct. 16, 17, 20, 21 (gage height, 0.31 foot).

1927–32: Maximum discharge, 14,500 second-feet Nov. 25, 1927 (gage height, 8.97 feet); minimum, 175 second-feet Nov. 21, 1929.

REMARKS.—Records good except those estimated Feb. 1–15, May 13–23, which are fair. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	209	828	447	750	570	2,570	2,460	2,570	2,400	1,730	560	369
2	198	967	456	698	540	2,130	2,400	2,870	2,400	1,590	555	369
3	188	757	442	661	520	1,780	2,290	2,750	2,460	2,130	545	365
4	195	649	424	637	510	1,590	2,240	2,690	2,510	1,780	535	361
5	242	586	420	643	500	2,440	2,080	2,570	2,180	1,410	530	365
6	212	652	411	673	500	2,810	1,880	2,630	1,930	1,230	520	365
7	198	1,830	447	637	500	2,290	1,780	2,810	1,880	1,230	505	365
8	190	1,460	420	625	500	1,880	1,640	2,750	1,930	1,180	500	361
9	190	1,280	402	842	500	1,640	1,590	2,940	2,290	1,180	490	341
10	188	1,100	406	865	480	1,460	1,640	3,340	2,870	1,360	482	337
11	185	943	393	2,380	470	1,280	1,830	3,200	3,130	1,280	477	345
12	185	842	380	2,690	450	1,180	2,080	3,200	3,340	1,060	472	333
13	182	1,030	380	2,030	440	1,100	2,290		3,410	1,030	454	333
14	180	1,100	339	1,680	430	1,230	2,750		3,340	1,050	446	333
15	180	992	339	1,410	420	1,280	2,690	2,900	3,130	996	446	333
16	182	935	371	1,280	411	1,230	2,630		2,570	972	450	329
17	180	911	973	1,180	398	2,730	2,870		2,130	942	446	321
18	180	820	2,130	2,080	402	5,060	3,340		1,980	884	436	305
19	180	880	2,290	1,930	398	5,770	3,560		1,880	828	428	313
20	180	835	2,460	1,640	416	4,120	3,130	2,900	1,980	807	405	345
21	188	730	2,030	1,410	429	3,130	2,570		2,290	814	405	309
22	393	667	1,680	1,230	416	2,570	2,240		2,400	814	401	293
23	475	625	1,500	1,100	406	2,240	1,980		2,180	772	397	293
24	510	598	1,410	1,010	485	2,810	1,830	2,570	2,030	729	397	293
25	586	586	1,230	935	1,100	2,870	1,880	2,290	1,930	711	397	293
26	548	548	1,140	880	5,520	2,460	2,130	2,080	1,880	678	393	289
27	572	505	1,100	820	5,990	2,180	2,400	1,980	1,930	644	397	293
28	1,270	485	1,000	764	4,840	3,270	2,400	1,980	1,930	639	389	289
29	1,180	480	911	711	3,410	3,130	2,340	2,340	1,930	600	377	289
30	1,060	465	865	679	-------	2,690	2,400	2,510	1,830	575	385	281
31	903	-------	813	620	-------	2,460	-------	2,510	-------	555	373	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,270	180	371	1.63	1.88	22,800
November	1,830	465	836	3.68	4.11	49,700
December	2,460	339	904	3.98	4.59	55,600
January	2,690	620	1,140	5.02	5.79	70,100
February	5,990	398	1,100	4.85	5.23	63,300
March	5,770	1,100	2,430	10.7	12.34	149,000
April	3,560	1,590	2,310	10.2	11.38	137,000
May	----------	1,980	2,730	12.0	13.83	168,000
June	3,410	1,830	2,340	10.3	11.49	139,000
July	2,130	555	1,040	4.58	5.28	64,000
August	560	373	451	1.99	2.29	27,700
September	369	281	327	1.44	1.61	19,500
The year	5,990	180	1,330	5.86	79.82	966,000

LEWIS RIVER NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in SE¼ 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 1932. July 1909 to June 1910 at site 1,000 feet above Swift Creek.

EXTREMES.—Maximum discharge during year, 15,000 second-feet Feb. 26 (gage height, 7.84 feet); minimum, 454 second-feet Oct. 21 (gage height, 0.01 foot).

1910–12, 1924–32: Maximum discharge, 27,900 second-feet Nov. 25, 1927 (gage height, 11.3 feet); minimum, that of Oct. 21, 1931.

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 regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	625	2,240		2,300		6,310			4,750	3,600	1,340	a 940
2	595	2,240		2,120		5,470			4,650	3,340	1,340	a 930
3	560	2,000		2,000	a1,550	4,560		a5,800	4,750	4,020	1,300	a 920
4	560	1,840	a1,400	1,950		4,110	a5,050		4,850	3,600	1,300	911
5	712	1,680		1,950		6,680			4,460	3,020	1,300	918
6	662	1,660		2,060		7,850		5,680	4,020	2,700	1,250	918
7	605	3,320		1,950		6,100		5,890	3,860	2,560	1,250	911
8	580	3,300		1,950	a1,350	5,050		5,680	3,860	2,480	1,200	918
9	565	3,380		2,570		4,370		5,890	4,280	2,400	1,250	897
10	555	3,120	a1,350	2,570		3,770	a4,600	6,730	5,260	2,860	1,250	883
11	545	2,800		6,180		3,430		6,520	5,890	2,630	1,200	890
12	535	2,500	1,200	6,730		3,100	4,950	6,520	6,310	2,330	1,200	869
13	520	3,020	1,200	5,050	a1,250	2,940	5,260	6,730	6,520	2,260	1,160	a 869
14	510	3,380	1,130	4,200		3,180	6,100	6,520	6,520	2,260	1,120	a 869
15	500	3,120	1,100	3,600		3,260	6,100	5,890	6,310	2,190	1,120	a 860
16	490	2,960	1,150	3,260		3,340	6,100	5,470	5,260	2,120	1,120	a 850
17	482	3,040	2,850	3,100	a1,150	6,940	6,940	5,470	4,460	2,060	1,120	a 830
18	472	3,040	5,690			11,600	7,850	5,680	4,200	1,940	1,080	a 810
19	464	3,650	6,380		1,120	12,700	8,600	5,890	3,860	1,880	1,060	a 860
20	464	3,210	6,840	a5,550	1,250	9,620	7,850	6,730	3,940	1,830	1,040	904
21	464	2,640	5,920		1,480	7,610	6,730	6,310	4,280	1,780	1,020	841
22		2,360	4,960		1,380	6,520	5,680	5,890	4,750	1,780	1,020	806
23	a1,500	2,120	4,270		1,340	5,890	4,950	5,470	4,560	1,730	1,010	799
24		2,000	4,180	a3,050	1,560	8,050	4,650	5,260	4,200	1,680	a1,010	799
25	2,120	1,950	3,730		3,420	8,350	4,560	4,750	3,940	1,630	a1,000	799
26	2,060	1,780	3,460		13,100	7,160	4,850	4,370	3,940	1,580	a 997	792
27	2,260		3,380		12,400	6,310		4,110	3,860	1,530	992	785
28	4,120	a1,600	3,040		10,200	8,100	a5,150	4,110	3,940	1,480	992	778
29	3,460		2,720	a2,100	7,850			4,460	3,860	1,430	970	771
30	2,880		2,570			a6,400		4,850	3,680	1,380	a 960	771
31	2,500		2,430					4,850		1,340	a 950	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,120	464	1,140	2.36	2.72	70,100
November	3,650		2,490	5.16	5.76	148,000
December	6,840	1,100	2,690	5.57	6.42	165,000
January	6,730		3,270	6.77	7.80	201,000
February	13,100		2,730	5.65	6.09	157,000
March	12,700	2,940	6,180	12.8	14.76	380,000
April	8,600		5,500	11.4	12.72	327,000
May	6,730	4,110	5,640	11.7	13.49	347,000
June	6,520	3,680	4,630	9.59	10.70	276,000
July	4,020	1,340	2,240	4.64	5.35	138,000
August	1,340	950	1,130	2.34	2.70	69,500
September	940	771	857	1.77	1.98	51,000
The year	13,100	464	3,210	6.65	90.49	2,330,000

a Estimated.

LEWIS RIVER AT ARIEL, WASH.

LOCATION.—Water-stage recorder in NW¼NE¼ sec. 4, T. 5 N., R. 2 E., at Ariel, half a mile below Ariel Dam and power plant. Zero of gage is 44.00 feet above mean sea level.

DRAINAGE AREA.—733 square miles.

RECORDS AVAILABLE.—July 1922 to September 1932. July to November 1909 for station 3 miles upstream.

EXTREMES.—Maximum discharge during year, 41,700 second-feet Feb. 26 (gage height, 16.92 feet); minimum, 165 second-feet Sept. 12 (gage height, 0.82 foot).

1909, 1922–32: Maximum discharge, 59,000 second-feet Nov. 25, 1927 (gage height, 19.5 feet); no flow at times June 30, July 1–3, 6–9, 1931 (caused by regulation during construction of Ariel Dam).

REMARKS.—Records excellent; discharge estimated Sept. 23. No diversions above station. Regulation caused by operation of power plant and storage in Lake Merwin Reservoir.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	891	1,420	3,190	5,470	2,050	11,200	10,300	7,630	6,030	4,070	1,690	2,310
2	1,550	1,910	3,340	3,130	2,150	9,770	11,300	8,440	5,990	3,220	2,010	2,120
3	1,380	2,080	3,330	3,950	2,220	7,670	10,400	8,090	5,860	5,260	2,130	1,550
4	1,090	2,120	3,280	3,860	3,140	7,460	9,490	7,600	6,060	3,970	2,130	798
5	2,150	2,420	2,680	4,180	2,960	18,900	9,550	7,300	6,640	3,510	1,950	597
6	2,430	2,740	1,940	4,650	2,050	21,400	8,570	7,500	4,780	3,280	1,420	1,630
7	1,680	2,090	3,100	4,540	3,210	11,600	7,980	7,340	4,930	2,380	759	2,140
8	2,220	1,020	3,480	4,060	2,610	9,540	5,590	7,660	4,010	2,820	1,710	2,170
9	2,440	8,760	3,440	5,990	3,060	8,290	5,340	7,350	4,900	1,820	2,070	2,290
10	2,340	6,830	4,140	7,540	3,030	6,000	5,110	8,860	6,620	3,270	2,080	2,300
11	1,270	4,540	3,460	15,400	3,070	5,980	5,510	8,510	7,070	1,770	2,000	1,010
12	2,400	4,340	3,310	16,900	2,520	4,880	6,950	7,250	8,610	2,500	2,050	1,870
13	2,330	7,380	2,450	8,050	3,020	5,040	7,190	8,760	7,260	2,100	1,690	1,970
14	2,180	12,100	3,000	7,480	2,200	5,560	9,270	8,660	8,040	1,440	783	2,370
15	2,420	11,900	3,630	7,920	2,260	6,590	10,000	7,980	8,840	2,640	1,560	2,470
16	2,360	4,900	3,620	6,720	2,120	5,920	7,970	6,660	5,350	2,320	1,740	2,450
17	2,300	9,390	3,180	4,810	2,100	17,000	11,100	6,630	5,440	2,350	1,810	2,290
18	1,220	12,300	2,810	12,800	2,200	30,600	13,100	7,500	4,910	2,190	1,870	924
19	2,190	10,000	5,970	16,000	2,020	25,400	14,100	7,340	4,920	2,060	1,920	2,090
20	2,300	7,560	16,800	8,060	2,320	17,600	13,200	8,800	4,260	2,050	1,830	2,430
21	2,550	4,510	9,880	6,370	5,790	11,900	10,200	8,340	5,130	2,130	922	2,360
22	2,070	4,230	8,920	7,440	3,430	10,600	9,000	7,340	5,280	1,900	1,630	2,400
23	2,140	7,250	8,400	6,660	3,420	9,640	7,300	7,920	5,250	1,960	1,900	2,360
24	2,140	7,970	9,170	2,390	3,900	17,000	7,120	7,460	4,920	2,020	1,920	2,320
25	806	3,140	8,050	5,280	9,320	16,900	6,480	5,380	4,140	2,390	1,960	925
26	2,090	3,430	7,340	3,990	36,400	11,900	7,580	5,800	4,900	3,200	2,050	1,980
27	2,010	3,160	6,510	4,430	26,500	12,500	7,180	4,680	4,330	3,060	1,840	2,320
28	1,940	2,550	5,660	3,930	20,000	15,500	8,100	5,210	4,000	3,050	1,020	2,370
29	1,810	1,890	4,620	3,330	13,500	15,700	7,390	5,710	4,490	2,120	1,890	2,140
30	1,930	2,730	3,010	3,320	-------	12,900	7,610	6,230	4,130	1,820	2,060	2,040
31	1,640	-------	3,780	2,570	-------	11,400	-------	5,740	-------	1,030	2,140	-------

Month	Observed				Change in contents of Lake Merwin Reservoir in acre-feet	Corrected for storage			
	Maximum	Minimum	Mean	Run-off in acre-feet		Run-off in acre-feet	Mean	Per square mile	Run-off in inches
October	2,550	806	1,940	119,000	+19,400	138,000	2,240	3.06	3.53
November	12,300	1,020	5,220	311,000	+10,400	321,000	5,390	7.35	8.20
December	16,800	1,940	5,020	309,000	+13,500	322,000	5,240	7.15	8.24
January	16,900	2,390	6,490	399,000	−200	399,000	6,490	8.85	10.20
February	36,400	2,020	5,950	342,000	−3,800	338,000	5,880	8.02	8.65
March	30,600	4,880	12,300	756,000	−400	756,000	12,300	16.8	19.37
April	14,100	5,110	8,670	516,000	+17,800	534,000	8,970	12.2	13.61
May	8,860	4,680	7,280	448,000	−150	448,000	7,290	9.95	11.47
June	8,840	4,000	5,570	331,000	0	331,000	5,570	7.60	8.48
July	5,260	1,030	2,570	158,000	−950	157,000	2,550	3.48	4.01
August	2,140	759	1,760	108,000	−24,300	83,700	1,360	1.86	2.14
September	2,470	597	1,970	117,000	−55,200	61,800	1,040	1.42	1.58
The year	36,400	597	5,390	3,910,000	−23,900	3,890,000	5,360	7.31	99.48

MUDDY RIVER NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in SE¼ sec. 24, T. 7 N., R. 6 E., three quarters of a mile above mouth and 14 miles east of Cougar.
DRAINAGE AREA.—136 square miles.
RECORDS AVAILABLE.—August to October 1909; August 1927 to September 1932.
EXTREMES.—Maximum discharge during year, 5,150 second-feet Feb. 26 (gage height, 6.51 feet); minimum, 115 second-feet Oct. 20–21 (gage height, 1.45 feet).
1909, 1927–32: Maximum discharge, 7,240 second-feet Nov. 25, 1927 (gage height, 8.40 feet); minimum, 94 second-feet Dec. 5–7, 1929.
REMARKS.—Records good. Discharge estimated for July 2–5. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	738	400	738	485	2,130	2,010	1,790	1,360	1,040	290	196
2	128	738	395	682	465	1,750	1,960	1,900	1,360	985	282	190
3	123	647	386	626	450	1,410	1,960	1,900	1,360	930	275	187
4	140	581	372	581	440	1,280	1,960	1,790	1,410	875	268	182
5	177	534	359	563	426	1,820	1,900	1,740	1,360	820	268	184
6	145	579	354	557	404	2,130	1,690	1,690	1,240	765	261	182
7	131	1,060	440	528	404	1,860	1,590	1,790	1,160	737	254	182
8	128	980	404	518	426	1,550	1,500	1,790	1,160	710	250	182
9	125	1,040	377	675	413	1,320	1,360	1,900	1,240	698	268	179
10	125	916	359	633	395	1,140	1,360	2,060	1,590	835	261	179
11	125	812	341	1,780	382	980	1,460	2,120	1,900	758	258	176
12	125	738	323	2,020	368	892	1,590	2,060	2,180	665	254	176
13	123	1,060	318	1,600	350	828	1,740	2,120	2,420	639	244	174
14	123	1,100	297	1,360	332	980	2,010	2,060	2,360	626	240	174
15	120	1,000	293	1,180	328	940	2,010	1,900	2,240	606	234	174
16	120	948	301	1,050	314	948	2,120	1,740	1,840	575	230	174
17	120	948	1,080	980	305	1,970	2,360	1,690	1,500	538	224	172
18	120	836	2,560	2,110	305	3,320	2,600	1,790	1,320	502	221	172
19	118	1,000	2,880	2,080	301	4,010	2,970	1,900	1,200	472	217	174
20	118	932	3,010	1,750	328	3,230	2,720	2,120	1,200	455	214	182
21	125	775	2,560	1,500	382	2,540	2,240	2,120	1,360	443	214	174
22	451	682	2,020	1,280	359	2,120	1,840	1,900	1,500	437	211	172
23	480	619	1,750	1,100	346	1,960	1,540	1,740	1,500	420	208	172
24	496	569	1,600	996	426	2,660	1,410	1,590	1,320	399	199	169
25	731	551	1,360	908	1,250	2,600	1,320	1,460	1,240	383	196	166
26	551	506	1,230	828	4,780	2,300	1,410	1,320	1,200	362	196	164
27	618	465	1,180	752	4,400	2,060	1,540	1,200	1,200	344	196	162
28	1,280	440	1,060	682	3,480	2,480	1,590	1,200	1,200	336	190	162
29	1,060	431	940	626	2,680	2,420	1,590	1,280	1,160	322	199	162
30	916	413	884	581	------	2,240	1,640	1,360	1,120	314	205	159
31	798	------	820	528	------	2,060	------	1,410	------	298	199	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,280	118	325	2.39	2.76	20,000
November	1,100	413	755	5.55	6.19	44,900
December	3,010	293	989	7.27	8.38	60,800
January	2,110	518	1,030	7.57	8.73	63,300
February	4,780	301	887	6.52	7.03	51,000
March	4,010	828	1,930	14.2	16.37	119,000
April	2,970	1,320	1,830	13.5	15.06	109,000
May	2,120	1,200	1,760	12.9	14.87	108,000
June	2,420	1,120	1,470	10.8	12.05	87,500
July	1,040	298	590	4.34	5.00	36,300
August	290	190	233	1.71	1.97	14,300
September	196	159	175	1.29	1.44	10,400
The year	4,780	118	998	7.34	99.85	724,000

SWIFT CREEK NEAR COUGAR, WASH.

LOCATION.—Water-stage recorder in NW¼ sec. 28, T. 7 N., R. 5 E., one eighth of a 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 1932.
EXTREMES.—Maximum discharge during year, 965 second-feet Feb. 26 (gage height, 2.54 feet); minimum, 80 second-feet Oct. 20 (gage height, 0.38 foot).
1909, 1924–32: Maximum discharge, 1,900 second-feet Nov. 24, 1927 (gage height, 3.7 feet); minimum, 80 second-feet Sept. 17, 21, Oct. 7, 1924, Oct. 20, 1931.
REMARKS.—Records good except those estimated June 11–17, which are fair. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	87	193	113	167	129	254	356	307	296	307	212	158
2	86	183	113	162	129	231	370	318	300	314	212	155
3	84	169	111	164	129	183	370	307	300	446	209	155
4	104	162	111	167	127	178	356	300	296	338	206	153
5	112	158	109	173	127	514	370	300	293	307	203	153
6	94	171	111	169	118	488	314	296	282	289	200	153
7	90	213	161	156	127	321	311	293	275	282	200	153
8	88	200	146	160	137	264	300	289	275	278	197	153
9	87	232	124	213	143	228	289	293	296	278	212	148
10	86	203	117	205	141	209	278	311	321	338	200	148
11	86	181	113	510	135	188	282	307		300	197	146
12	84	167	113	385	121	178	282	314		278	191	146
13	84	281	115	272	113	173	300	318		278	188	146
14	83	261	109	200	108	197	321	314	330	275	186	143
15	83	229	109	163	107	186	318	300		264	186	143
16	82	213	117	151	104	194	334	296		258	183	141
17	82	227	278	166	104	537	415	300		251	181	139
18	81	205	364	426	102	804	476	307	296	244	178	137
19	82	258	364	338	101	660	530	318	289	241	175	155
20	81	221	364	272	122	442	437	343	300	238	173	143
21	92	193	302	238	135	318	361	334	314	238	173	137
22	163	183	252	212	121	275	321	318	318	234	170	137
23	188	167	238	186	118	289	300	334	311	234	170	137
24	193	158	243	170	137	544	296	318	303	228	170	135
25	252	153	216	163	290	470	293	300	303	224	170	135
26	229	145	211	153	850	356	293	289	307	224	168	135
27	303	136	205	148	595	318	300	282	311	221	168	135
28	568	128	190	143	454	494	303	286	311	218	163	133
29	324	124	178	139	343	437	289	293	311	215	168	133
30	229	118	173	135	-------	432	286	300	303	209	165	133
31	200	-------	171	131	-------	379	-------	303	-------	209	160	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	568	81	145	5.58	6.43	8,920
November	281	118	188	7.23	8.07	11,200
December	364	109	182	7.00	8.07	11,200
January	510	131	208	8.00	9.22	12,800
February	850	101	189	7.27	7.84	10,900
March	804	173	346	13.3	15.33	21,300
April	530	278	335	12.9	14.39	19,900
May	343	282	306	11.8	13.60	18,800
June	-------	275	307	11.8	13.17	18,300
July	446	209	266	10.2	11.76	16,400
August	212	160	185	7.12	8.21	11,400
September	158	133	144	5.54	6.18	8,570
The year	850	81	234	9.00	122.27	170,000

CANYON CREEK NEAR AMBOY, WASH.

LOCATION.—Water-stage recorder in SW¼ sec. 4, T. 5 N., R. 4 E., at wagon bridge 2 miles above mouth and 6 miles northeast of Amboy.

DRAINAGE AREA.—62 square miles.

RECORDS AVAILABLE.—July 1922 to September 1932.

EXTREMES.—Maximum discharge during year, 6,540 second-feet Feb. 26 (gage height, 8.06 feet); minimum, 22 second-feet Sept. 27–30 (gage height, 0.17 foot).

1922–32: Maximum discharge, 13,800 second-feet Mar. 31, 1931 (gage height, 11.18 feet); minimum, 15 second-feet Oct. 19–24, 1925.

REMARKS.—Records good. Discharge estimated Mar. 4–14, Sept. 12–18. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	387	188	471	203	1,030	945	565	262	103	45	39
2	31	359	178	415	188	1,000	945	565	268	100	44	36
3	30	290	181	384	176	775	1,090	485	271	158	43	35
4	47	253	171	412	169		895	443	259	136	42	33
5	171	225	164	585	160		895	418	239	111	41	32
6	91	232	160	685	156	2,450	798	394	217	99	40	31
7	65	1,000	309	565	160		752	401	200	91	40	30
8	53	1,200	302	747	222		685	390	193	83	40	31
9	48	1,860	259	1,060	265		605	401	219	81	45	30
10	43	1,500	244	920	312		565	460	277	97	49	28
11	39	884	211	2,770	283		565	415	296	97	48	27
12	38	645	195	1,990	256	670	605	408	306	86	48	27
13	37	805	188	1,040	219		605	412	309	83	45	27
14	35	1,120	169	752	193		645	376	293	95	43	27
15	33	870	158	585	176	645	585	322	259	87	42	26
16	33	899	164	497	160	823	585	293	208	84	41	26
17	33	1,430	1,100	576	151	3,530	880	306	176	78	40	26
18	32	1,390	2,020	2,600	145	5,200	1,000	342	160	72	39	26
19	32	2,730	1,880	1,930	141	3,090	1,200	362	147	69	39	26
20	33	1,870	2,080	1,230	262	1,770	1,090	426	143	68	38	40
21	35	1,010	1,400	870	665	1,130	845	408	149	65	38	30
22	152	708	950	685	545	845	685	359	153	62	38	26
23	352	545	798	545	457	798	585	376	145	60	38	24
24	418	440	920	464	634	2,420	545	359	134	57	38	24
25	700	394	752	422	1,800	2,240	517	309	130	54	38	24
26	730	328	685	373	5,350	1,400	545	274	127	53	38	23
27	1,170	280	730	332	3,330	1,200	585	253	123	52	38	22
28	2,500	247	645	290	2,180	2,280	565	250	118	50	38	22
29	1,180	225	525	265	1,410	1,840	489	268	115	49	40	22
30	688	206	464	244	-------	1,410	482	286	111	48	42	22
31	482	-------	468	222	-------	1,060	-------	280	-------	45	40	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,500	30	302	4.87	5.62	18,600
November	2,730	206	811	13.1	14.62	48,300
December	2,080	158	602	9.71	11.20	37,000
January	2,770	222	804	13.0	14.99	49,400
February	5,350	141	702	11.3	12.19	40,400
March	5,200	----------	1,690	27.3	31.47	104,000
April	1,200	482	726	11.7	13.05	43,200
May	565	250	374	6.03	6.95	23,000
June	309	111	200	3.23	3.60	11,900
July	158	45	79.8	1.29	1.49	4,910
August	49	38	41.2	.665	.77	2,530
September	40	22	28.1	.453	.51	1,670
The year	5,350	22	531	8.56	116.46	385,000

EAST FORK OF LEWIS RIVER NEAR HEISSON, WASH.

LOCATION.—Water-stage recorder in N½ sec. 17, T. 4 N., R. 3 E., just above Basket Creek, 1½ miles northeast of Heisson.

DRAINAGE AREA.—124 square miles.

RECORDS AVAILABLE.—September 1929 to September 1932.

EXTREMES.—Maximum discharge during year, 8,740 second-feet Mar. 5, 18 (gage height, 9.3 feet); minimum, 43 second-feet Sept. 29 (gage height, 0.24 foot).

1929–32: Maximum discharge, 15,500 second-feet Mar. 31, 1931 (gage height, 12.2 feet); minimum, that of Sept. 29, 1932.

REMARKS.—Records good except those estimated Dec. 3–15, which are fair. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	67	565	393	1,160	410	1,920	1,840	1,100	318	100	67	56
2	61	539	381	980	390	1,920	1,840	950	325	97	66	53
3	59	426		840	381	1,560	1,840	790	315	169	62	52
4	94	375		890	351	1,500	1,640	740	308	141	59	51
5	387	339	400	1,040	339	5,080	1,720	690	295	110	58	51
6	188	342		1,420	348	5,200	1,500	625	278	103	56	51
7	140	1,630		1,220	381	2,820	1,460	645	262	96	56	51
8	114	1,880		1,030	517	2,010	1,250	605	252	89	57	56
9	101	2,480		2,140	691	1,560	1,130	625	268	87	69	53
10	93	2,240	500	1,880	890	1,220	1,130	690	298	122	80	48
11	85	1,480		4,580	980	1,010	1,190	605	290	128	85	48
12	81	1,100		3,020	840	840	1,250	585	285	102	81	51
13	79	1,340		1,800	690	765	1,190	565	278	100	71	50
14	74	1,640	350	1,320	585	1,110	1,220	528	260	148	63	48
15	68	1,460		1,010	528	1,160	1,010	454	240	109	61	48
16	66	1,800	328	840	458	1,380	1,070	426	209	103	60	46
17	67	2,490	1,480	1,130	423	4,590	1,600	437	189	94	59	46
18	68	2,510	2,790	4,470	393	7,350	1,680	440	181	89	57	48
19	67	3,740	2,700	3,240	378	4,560	2,100	448	177	85	57	50
20	67	3,050	3,000	2,300	606	2,790	1,880	510	169	83	57	77
21	69	1,970	2,440	1,760	1,250	2,010	1,460	476	169	79	56	55
22	653	1,460	1,760	1,360	1,040	1,640	1,190	430	171	74	57	50
23	911	1,100	1,580	1,100	890	1,530	1,010	476	156	72	55	48
24	865	890	1,880	920	1,240	2,740	980	454	144	71	53	48
25	1,320	815	1,500	840	2,540	2,690	980	393	139	75	53	50
26	1,340	668	1,460	740	5,620	2,100	1,100	357	132	73	53	48
27	1,640	565	1,560	668	4,430	1,840	1,130	336	125	69	55	46
28	3,500	510	1,390	585	3,170	3,210	980	330	120	66	53	44
29	1,850	458	1,100	546	2,340	2,890	890	354	115	67	56	44
30	1,040	426	1,120	510	-------	2,390	920	384	108	66	70	44
31	705	-------	1,280	451	-------	2,010	-------	342	-------	66	59	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,500	59	514	4.15	4.78	31,600
November	3,740	339	1,340	10.8	12.05	79,700
December	3,000	----------	1,080	8.71	10.04	66,400
January	4,580	451	1,480	11.9	13.72	91,000
February	5,620	339	1,140	9.19	9.91	65,600
March	7,350	765	2,430	19.6	22.60	149,000
April	2,100	890	1,340	10.8	12.05	79,700
May	1,100	330	542	4.37	5.04	33,300
June	325	108	219	1.77	1.98	13,000
July	169	66	94.6	.763	.88	5,820
August	85	53	61.3	.494	.57	3,770
September	77	44	50.4	.406	.45	3,000
The year	7,350	44	858	6.92	94.07	622,000

COWLITZ RIVER BASIN

COWLITZ RIVER AT PACKWOOD, WASH.

LOCATION.—Water-stage recorder in SE¼ 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 1932. July 1911 to December 1919, 1 mile upstream.

EXTREMES.—Maximum discharge during year, 16,100 second-feet Feb. 26 (gage height, 9.88 feet); minimum, 200 second-feet Oct. 21 (gage height, 2.16 feet). 1911–19, 1929–32: Maximum discharge, 22,700 second-feet Dec. 29, 1917 (gage height 10.1 feet, former datum); minimum discharge, 160 second-feet Nov. 21, 1929 (gage height, 2.10 feet).

REMARKS.—Records good October to January and July to September, fair February to June. No diversions or regulation.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	355	1,380	648	788	642	2,820	2,430	2,790	3,120	4,090	1,230	538
2	293	1,630	660	748	624	2,200	2,490	2,950	3,030	3,790	1,260	510
3	222	1,180	648	729	618	1,850	2,280	2,860	3,120	4,720	1,290	531
4	336	1,030	642	722	612	1,750	2,090	2,780	3,110	3,890	1,380	576
5	613	1,030	630	742	582	2,310	1,960	2,710	2,700	2,880	1,380	640
6	385	1,510	618	807	570	2,280	1,730	2,620	2,320	2,630	1,310	696
7	314	3,480	678	774	576	1,860	1,620	2,850	2,250	2,620	1,250	680
8	281	2,130	672	774	570	1,590	1,520	2,930	2,540	2,700	1,140	632
9	269	1,700	642	960	570	1,400	1,470	3,250	3,420	2,620	970	524
10	257	1,430	648	995	558	1,310	1,460	3,980	4,530	3,300	873	560
11	261	1,220	624	4,040	552	1,230	1,600	3,690	4,970	2,610	828	553
12	249	1,140	594	3,750	540	1,160	1,860	3,690	5,420	2,380	819	482
13	237	1,380	588	2,210	510	1,120	2,280	4,070	5,420	2,610	774	502
14	245	1,430	558	1,640	499	1,190	2,940	3,780	5,190	2,610	801	558
15	253	1,300	558	1,380	488	1,270	2,690	3,080	5,080	2,370	960	576
16	253	1,180	570	1,220	466	1,270	2,470	2,910	3,820	2,290	1,010	560
17	245	1,100	1,150	1,140	450	1,700	2,540	3,150	3,350	2,210	1,000	531
18	233	1,060	2,730	1,340	455	3,920	2,680	3,500	3,260	1,920	940	417
19	245	1,100	2,850	1,340	450	4,720	2,590	3,590	3,170	1,700	873	453
20	253	1,060	2,850	1,220	477	3,440	2,240	3,960	3,720	1,810	774	546
21	208	995	2,050	1,100	510	2,720	1,980	3,400	4,960	1,980	720	393
22	368	890	1,580	1,030	510	2,300	1,750	2,980	5,290	2,200	672	363
23	406	855	1,380	960	504	2,040	1,590	2,810	4,620	1,980	704	375
24	370	820	1,280	925	609	2,220	1,530	2,660	4,100	1,910	828	393
25	433	807	1,180	876	1,560	2,280	1,480	2,280	3,900	1,910	855	393
26	466	762	1,060	827	12,400	2,080	1,690	2,000	3,900	1,650	828	399
27	516	710	1,080	800	7,880	1,840	1,960	1,880	4,100	1,640	819	430
28	2,710	690	960	755	5,560	2,190	2,020	2,000	4,300	1,640	756	456
29	2,530	678	890	729	3,700	2,250	2,080	2,570	4,410	1,400	624	449
30	1,640	666	869	710	------	2,180	2,420	3,130	4,090	1,200	592	449
31	1,380	------	827	654	------	2,240	------	3,210	------	1,130	546	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,710	208	543	1.89	2.18	33,400
November	3,480	666	1,210	4.22	4.71	72,000
December	2,850	558	1,050	3.66	4.22	64,600
January	4,040	654	1,180	4.11	4.74	72,600
February	12,400	450	1,520	5.30	5.72	87,400
March	4,720	1,120	2,090	7.28	8.39	129,000
April	2,940	1,460	2,050	7.14	7.97	122,000
May	4,070	1,880	3,030	10.6	12.22	186,000
June	5,420	2,250	3,910	13.6	15.17	233,000
July	4,720	1,130	2,400	8.36	9.64	148,000
August	1,380	546	929	3.24	3.74	57,100
September	696	363	505	1.76	1.96	30,000
The year	12,400	208	1,700	5.92	80.66	1,240,000

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 (incomplete); March 1926 to July 1932 (discontinued).

EXTREMES.—Maximum discharge during year, 30,200 second-feet Feb. 27 (gage height, 17.2 feet); minimum, 760 second-feet Oct. 15–17, 19, 20 (gage height, 1.6 feet).

1912–17, 1926–32: Maximum discharge, 30,300 second-feet Jan. 7, 8, 1914 (gage height, 18.0 feet); minimum discharge, 630 second-feet 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 fair. No diversions above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	1,000	3,670	1,890	3,070	2,500	14,700	9,610	9,080	9,080	8,060
2	920	3,670	1,890	2,780	2,500	11,700	10,200	10,500	8,740	7,720
3	880	3,520	1,890	2,640	2,370	9,250	9,790	10,700	9,080	7,070
4	840	2,780	1,890	2,780	2,240	8,060	9,080	10,300	9,250	8,740
5	1,000	2,640	1,790	2,640	2,240	11,500	8,400	10,200	8,570	6,430
6	1,240	2,500	1,790	2,780	2,120	16,600	7,720	9,430	7,390	5,630
7	1,080	3,670	2,000	2,780	2,120	12,900	7,070	11,700	6,750	5,150
8	1,000	5,770	2,000	2,640	2,120	10,500	6,430	10,300	6,750	5,470
9	1,080	5,020	1,890	3,370	2,120	8,400	5,950	10,500	7,070	5,150
10	880	4,570	1,890	3,670	2,120	7,230	5,790	12,900	10,500	5,310
11	840	3,970	1,890	5,620	2,240	6,270	6,110	13,300	12,900	5,790
12	840	3,370	1,790	14,200	2,120	5,630	6,910	12,300	13,900	4,830
13	840	3,220	1,690	10,600	2,120	5,150	7,720	12,900	15,200	4,830
14	800	4,120	1,690	8,920	2,000	5,150	10,200	13,300	14,500	4,990
15	760	3,820	1,590	7,680	1,890	5,310	10,500	11,300	14,700	4,830
16	760	3,520	1,590	5,320	1,890	5,150	9,430	9,790	11,700	4,670
17	760	3,520	2,370	4,870	1,790	6,110	11,700	9,610	9,080	4,510
18	800	3,370	6,690	5,470	1,790	10,500	10,200	10,500	8,400	4,190
19	760	3,520	8,380	7,010	1,790	19,200	10,900	10,900	7,720	3,890
20	760	3,970	9,640	6,220	1,890	16,400	10,200	12,100	8,060	
21	800	3,370	8,380	5,470	2,120	13,900	8,910	11,700	9,080	
22	1,080	3,070	6,370	5,020	2,120	10,700	7,720	10,200	11,100	3,500
23	2,240	2,780	5,470	4,570	2,120	9,080	7,070	9,430	10,900	
24	2,000	2,640	5,170	4,270	2,240	9,080	6,430	8,910	9,610	
25	1,590	2,640	4,870	3,970	2,780	10,200	6,110	8,060	8,740	
26	1,690	2,370	4,270	3,670	13,000	9,430	6,430	7,230	8,060	
27	1,590	2,240	4,270	3,520	29,200	8,400	7,390	6,430	8,400	
28	3,370	2,120	3,970	3,220	27,800	9,080	8,060	6,430	8,400	2,900
29	7,010	2,000	3,520	3,070	20,300	12,100	7,890	7,070	8,740	
30	5,020	2,000	3,370	2,920	-------	9,610	8,400	8,060	8,400	
31	3,670	-------	3,370	2,780	-------	9,430	-------	9,080	-------	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	7,010	760	1,550	1.32	1.52	95,300
November	5,770	2,000	3,310	2.83	3.16	197,000
December	9,640	1,590	3,520	3.01	3.47	216,000
January	14,200	2,640	4,760	4.07	4.69	293,000
February	29,200	1,790	4,950	4.23	4.56	285,000
March	19,200	5,150	9,890	8.45	9.74	608,000
April	11,700	5,790	8,280	7.08	7.90	493,000
May	13,300	6,430	10,100	8.63	9.95	621,000
June	15,200	6,750	9,690	8.28	9.24	577,000
July	8,740	----------	4,700	4.02	4.64	289,000
The period	----------	----------	----------	----------	----------	3,670,000

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 1932.
EXTREMES.—Maximum discharge during year, 50,800 second-feet Mar. 6 (gage height, 11.52 feet); minimum, 1,270 second-feet Oct. 19–21.
1926–32: Maximum discharge, 74,000 second-feet Nov. 25, 1927 (gage height, 13.95 feet); minimum discharge, 1,230 second-feet Nov. 23, 1929.
REMARKS.—Records good. No diversions.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,400	7,200	4,120	8,400	5,660	26,500	17,600	13,800	11,900	9,650	3,210	1,900
2	1,470	7,200	3,870	7,600	4,990	22,000	18,200	15,900	11,900	9,650	3,210	1,830
3	1,400	6,800	4,120	6,800	4,990	18,200	18,800	15,400	11,900	9,200	3,010	1,760
4	1,400	5,660	4,120	6,800	4,680	15,400	17,600	14,300	11,900	11,000	3,010	1,680
5	1,980	4,990	4,120	6,800	4,680	28,600	18,800	14,300	11,900	9,200	3,010	1,680
6	2,300	4,680	3,870	7,600	4,680	47,000	15,900	13,300	10,600	7,600	3,010	1,680
7	2,060	8,800	6,400	7,600	4,680	30,700	14,800	13,300	9,200	6,800	3,010	1,760
8	1,680	13,800	7,600	6,800	5,320	22,000	13,300	13,800	8,800	6,400	3,010	1,760
9	1,610	14,300	6,800	8,800	6,020	17,000	12,400	13,800	9,200	6,400	3,010	1,680
10	1,470	14,300	5,660	9,650	9,650	14,300	11,400	15,400	11,900	6,800	2,820	1,610
11	1,470	10,600	5,660	15,900	8,800	12,800	10,100	16,400	14,300	8,000	2,640	1,540
12	1,340	8,800	4,990	28,600	7,600	11,400	11,400	15,900	16,400	6,400	2,640	1,540
13	1,340	8,400	4,680	22,000	7,200	10,100	12,800	15,900	18,200	6,020	2,640	1,470
14	1,340	11,000	4,390	16,400	6,020	10,100	14,800	16,400	18,200	6,800	2,470	1,470
15	1,340	10,100	3,870	13,300	5,320	11,000	17,000	14,800	17,600	6,800	2,300	1,470
16	1,340	9,650	3,870	11,400	4,680	10,600	15,400	13,300	15,400	6,020	2,300	1,470
17	1,340	11,000	14,300	10,600	4,390	14,300	16,400	12,400	12,400	5,660	2,470	1,470
18	1,340	12,400	26,500	24,600	4,120	23,200	18,800	12,800	11,000	5,320	2,470	1,470
19	1,270	16,400	23,900	23,900	3,870	33,500	21,300	13,800	10,600	4,990	2,300	1,400
20	1,270	15,900	22,600	18,800	4,390	29,300	20,600	14,800	9,650	4,680	2,300	1,610
21	1,340	11,900	20,600	14,800	9,650	23,200	17,000	15,900	11,000	4,390	2,300	1,760
22	2,140	9,200	15,900	12,800	8,800	18,800	14,300	14,300	12,800	4,680	2,140	1,540
23	4,680	8,000	13,300	11,000	7,600	17,000	12,800	12,800	13,300	4,680	2,140	1,400
24	4,680	7,200	13,800	10,100	8,000	20,600	11,900	12,400	11,900	4,390	2,060	1,340
25	6,400	6,800	13,800	8,800	8,800	25,200	11,900	11,900	11,000	4,390	2,060	1,400
26	7,200	6,400	12,400	8,400	37,200	22,000	11,000	10,600	10,100	4,390	2,060	1,400
27	6,400	5,660	12,800	8,000	49,200	18,200	11,900	9,200	10,100	3,870	2,060	1,400
28	11,400	4,990	11,900	7,600	47,000	21,300	12,400	8,800	10,100	3,870	2,060	1,470
29	15,400	4,680	10,100	6,800	35,800	23,200	12,400	8,800	10,600	3,870	1,980	1,470
30	11,400	4,390	8,800	6,400	------	21,300	12,400	10,600	10,600	3,640	2,060	1,540
31	8,800	------	8,800	6,020	------	19,400	------	11,400	------	3,210	1,980	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	15,400	1,270	3,550	1.61	1.86	218,000
November	16,400	4,390	9,040	4.09	4.56	538,000
December	26,500	3,870	9,920	4.49	5.18	610,000
January	28,600	6,020	11,700	5.29	6.10	719,000
February	49,200	3,870	11,200	5.07	5.47	644,000
March	47,000	10,100	20,600	9.32	10.74	1,270,000
April	21,300	10,100	14,800	6.70	7.48	881,000
May	16,400	8,800	13,400	6.06	6.99	824,000
June	18,200	8,800	12,100	5.48	6.11	720,000
July	11,000	3,210	6,090	2.76	3.18	374,000
August	3,210	1,980	2,510	1.14	1.31	154,000
September	1,900	1,340	1,570	.710	.79	93,400
The year	49,200	1,270	9,710	4.39	59.77	7,050,000

CLEAR FORK OF COWLITZ RIVER NEAR PACKWOOD, WASH.

LOCATION.—Water-stage recorder in NE¼ sec. 29, T. 14 N., R. 10 E., three quarters of a mile above mouth and 7 miles northeast of Packwood.

DRAINAGE AREA.—56 square miles.

RECORDS AVAILABLE.—August 1907 to September 1917; August 1930 to September 1932.

EXTREMES.—Maximum discharge during year, 2,270 second-feet Feb. 26 or 27 (gage height, 6.8 feet from recorded range of stage); minimum (estimated), 35 second-feet Oct. 20.

1907–17, 1930–32: Maximum discharge, 2,530 second-feet Nov. 23, 1909 (gage height, 7.3 feet, former datum); minimum, that of Oct. 20, 1931.

REMARKS.—Records excellent except those from October to March, which are good, and those estimated, which are poor. No regulation. A small diversion a few hundred feet above gage to accommodate fish hatchery.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	190	79		84		391	496	521	538	160	90
2	45	247	78		82		412	538	534	468	156	86
3	44	165	77	100			394	521	555	605	151	83
4	50	139	76				360	496	546	480	149	82
5	83	128	73			300	321	492	445	388	149	82
6	61	279	72		80		273	484	384	349	144	81
7	53	580	79				246	521	363	352	140	82
8	49	342	76	200			226	538	402	356	139	83
9	48	256	73			219	217	591	555	342	130	79
10	46	205	73			203	215	728	784	430	125	76
11	45	176	71			184	237	664	844	325	125	75
12	44	162	69	546		173	297	674	940	291	122	73
13		217	68			167	391	755	940	288	118	72
14		219	64		70	174	521	690	908	314	116	71
15		191	64	220		178	468	564	875	291	124	70
16	40	169	69			180	434	516	648	285	120	70
17		160	183			276	445	555	538	262	116	68
18		146	442		58	708	492	610	512	237	112	67
19		151	430	174		844	457	638	504	224	110	78
20		139	423	158		600	398	728	586	230	106	92
21	41	124	318	146	70	449	346	629	700	237	103	75
22	74	113	246	134		377	297	546	784	242	102	71
23	73	107	205	124		332	262	516	658	230	97	69
24	66	104	186	120		366	246	472	573	221	97	68
25	73	103		114		356	242	405	546	217	96	68
26	72	96		109	570	301	270	363	551	197	96	68
27	88	87		106		282	328	338	568	188	95	67
28	564	83	140	99		384	360	352	582	186	93	67
29	356	82		95		384	370	409	596	171	95	66
30	228	83		92	-------	366	416	500	551	158	93	64
31	195	-------	107	82	-------	360	-------	529	-------	153	90	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	564	----------	89.2	1.59	1.83	5,480
November	580	82	175	3.12	3.48	10,400
December	442	64	146	2.61	3.01	8,980
January	----------	----------	165	2.95	3.40	10,100
February	----------	----------	177	3.16	3.41	10,200
March	844	----------	331	5.91	6.81	20,400
April	521	215	344	6.14	6.85	20,500
May	755	338	544	9.71	11.20	33,400
June	940	363	616	11.0	12.27	36,700
July	605	153	299	5.34	6.16	18,400
August	160	90	118	2.11	2.43	7,260
September	92	64	74.8	1.34	1.50	4,450
The year	----------	----------	257	4.59	62.35	186,000

LAKE CREEK NEAR PACKWOOD,[1] WASH.

LOCATION.—In sec. 21, T. 13 N., R. 10 E., 500 feet below outlet of Packwood Lake and 6 miles east of Packwood.

DRAINAGE AREA.—18.8 square miles.

RECORDS AVAILABLE.—September 1911 to September 1924; September 1930 to September 1932.

EXTREMES.—Maximum discharge during period Sept. 1, 1930, to Sept. 30, 1931, 241 second-feet May 14 (gage height, 3.23 feet); minimum, 29 second-feet Nov. 8 (gage height, 1.50 feet).

Maximum discharge during year ending Sept. 30, 1932, 366 second-feet June 15 (gage height, 3.44 feet); minimum not determined.

1911–24, 1930–32: Maximum stage recorded, 6.0 feet (former datum) Dec. 18, 1917 (discharge not determined); minimum, that of Nov. 8, 1930.

REMARKS.—Records good except those represented by braced figures, which were estimated and are poor, and those for Sept. 10, 11, 29, Oct. 1, 4, 5, 12, 21, 1930, Oct. 22–24, 1931, Jan. 16–20, Aug. 19 to Sept. 5, 1932, which were estimated and are fair. No diversions; natural regulation in Packwood Lake. Some discharge measurements furnished by city of Tacoma.

Discharge, in second-feet, 1930–32

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1930-31													
1		39	33	36	33			180	186	182	89	54	40
2		37	32	36	33			163	210	175	84	55	41
3		37	32	36	34			137	228	156	82	55	41
4	40	36	31	36	34			114	228	143	83	54	41
5		35	31	36	35			103	223	138	84	52	41
6		46	31	36	35		50	96	233	139	84	50	42
7		64	31	35	35			100	228	149	82	49	42
8	42	66	30	35	34			98	198	156	81	48	42
9	43	52	31	35	34			95	166	162	83	47	42
10	43	46	31	35	35			90	147	162	81	47	42
11	43	43	31	36	40			86	143	152	78	46	40
12	42	42	36	37	42		54	84	162	136	74	45	42
13		40	40	38	42		52	78	203	129	73	44	44
14		37	38	38	43		52	76	238	138	71	44	44
15		36	40	38	43	50	50	74	236	149	68	43	44
16		34	40	38	42		50	72	228	160	65	42	43
17	40	35	41	40	42		50	69	218	171	66	42	42
18		36	40	38	40		54	67	191	164	65	42	44
19		35	38	38	38		59	65	169	149	65	42	44
20		34	38	38	38		62	62	143	134	66	42	44
21		34	37	37	37		78	62	125	120	67	42	44
22		33	37	36	40		87	50	109	115	66	42	43
23	38	33	37	36	48		85	39	105	108	65	42	42
24	38	33	36	36	55		79	46	106	114	63	41	42
25	38	35	35	35	59		77	58	119	114	61	41	40
26	37	35	36	34	68		72	68	130	125	58	41	40
27	41	40	36	34	74		66	80	134	129	57	41	40
28	44	38	36	34	99		63	105	138	117	55	41	39
29	42	37	36	33	108	-------	62	136	141	106	54	41	39
30	41	35	36	33	100	-------	66	169	154	98	54	41	39
31	-------	34	-------	33	90	-------	120	-------	173	-------	54	40	-------

[1] Formerly published as Lake Creek at outlet of Packwood Lake, near Lewis, Wash.

Discharge, in second-feet, of Lake Creek near Packwood, Wash., 1930–32—Contd.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1931–32												
1	38	61		50	46	154	100	116	163	278	99	64
2	38	60		49	44	139	101	136	170	273	100	63
3	38	58		47	44	117	103	150	182	267	100	62
4	38	55		46	44	107	101	155	188	275	95	61
5	40			46	43	120	99	155	188	244	96	60
6	40			47	43	127	94	152	177	216	98	59
7	40			46	43	114	88	157	163	191		59
8	39			46	43	103	85	163	150	179		60
9	39			49	43	92	79	168	152	170		60
10	38			50	44	85	76	186	179	191		58
11	38	55	35	72	46	77	75	203	226	191		57
12	37			94	45	73	77	210	278	175	90	55
13	37			92	43	69	82	218	314	166		54
14	37			81	42	67	100	221	340	170		54
15	37			72	40	66	113	216	354	168		52
16	37			70	40	66	119	203	319	166		52
17	36			67	39	74	125	191	278	166		52
18	36	34		65	38	93	135	191	252	152	79	50
19	35	34		63	38	143	135	196	228	140	78	51
20	35	34		60	38	156	128	216	221	130	77	56
21	35	34		58	40	146	119	221	236	132	76	56
22	36	33	57	55	39	132	110	213	265	144	75	54
23	38	33	57	53	38	120	101	200	281	148	74	52
24	38	33	54	50	40	122	96	184	273	148	73	51
25	37		52	50	43	122	92	168	262	148	72	51
26	38		51	49	63	113	92	155	252	146	71	50
27	37	30	49	49	107	103	95	144	247	138	70	48
28	50		49	48	151	101	100	132	249	132	68	48
29	78		52	47	169	101	104	132	252	126	67	48
30	76		51	47		101	100	142	254	116	66	47
31	68		51	47		99		157		104	65	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
1930						
September			40.4	2.15	2.40	2,400
1930–31						
October	66	33	39.3	2.09	2.41	2,420
November	41	30	35.2	1.87	2.09	2,090
December	40	33	36.0	1.91	2.20	2,210
January	108	33	49.4	2.63	3.03	3,040
February			50.0	2.66	2.77	2,780
March	120		60.9	3.24	3.74	3,740
April	180	39	90.7	4.82	5.38	5,400
May	238	105	175	9.31	10.73	10,800
June	182	98	140	7.45	8.31	8,330
July	89	54	70.3	3.74	4.31	4,320
August	55	40	45.0	2.39	2.76	2,770
September	44	39	41.8	2.22	2.48	2,490
The year	238	30	69.5	3.70	50.21	50,400
1931–32						
October	78	35	41.4	2.20	2.54	2,550
November			45.5	2.42	2.70	2,710
December			40.6	2.16	2.49	2,500
January	94	46	56.9	3.03	3.49	3,500
February	169	38	53.0	2.82	3.04	3,050
March	156	66	107	5.69	6.56	6,580
April	135	75	101	5.37	5.99	6,010
May	221	116	176	9.36	10.79	10,800
June	354	150	236	12.6	14.06	14,000
July	278	104	174	9.26	10.68	10,700
August		65	83.5	4.44	5.12	5,130
September	64	47	54.8	2.91	3.25	3,260
The year	354		97.5	5.19	70.71	70,800

NOTE.—Discharge Aug. 12, 1930, 66 second-feet, result of current-meter measurement.

CISPUS RIVER NEAR RANDLE, WASH.

LOCATION.—Water-stage recorder in NW¼ sec. 18, T. 11 N., R. 8 E. (unsurveyed), 500 feet above suspension bridge at Tower Rock ranger station and 8 miles southeast of Randle.

DRAINAGE AREA.—323 square miles.

RECORDS AVAILABLE.—October 1910 to February 1912; September 1929 to September 1932.

EXTREMES.—Maximum discharge during year, 5,260 second-feet Feb. 26 (gage height, 6.11 feet); minimum, 258 second-feet Oct. 21 (gage height, 2.07 feet). 1910–12, 1929–32: Maximum discharge, 6,610 second-feet Mar. 31, 1931 (gage height, 6.58 feet); minimum, 242 second-feet Dec. 3–5, 1929 (gage height, 2.02 feet).

REMARKS.—Records excellent. No diversions or regulation.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	310	1,120	567	825	589	2,400	2,100	3,040	2,790	1,900	705	423
2	302	1,160	560	777	582	1,960	2,170	3,310	2,790	1,840	698	418
3	287	1,030	534	729	568	1,670	2,100	3,220	2,880	2,030	675	406
4	298	901	521	721	562	1,570	2,030	3,310	2,960	1,720	668	418
5	345	825	508	721	536	1,920	1,840	3,220	2,550	1,520	682	428
6	314	825	508	745	523	1,960	1,670	3,130	2,240	1,370	660	428
7	295	1,560	581	713	510	1,720	1,620	3,400	2,100	1,320	645	418
8	283	1,400	540	713	510	1,570	1,520	3,490	2,170	1,320	638	423
9	279	1,260	521	825	497	1,420	1,470	3,760	2,630	1,270	582	381
10	276	1,150	508	865	497	1,320	1,520	4,430	3,400	1,420	575	390
11	272	1,030	495	1,690	484	1,190	1,720	4,140	3,850	1,260	575	390
12	268	937	477	1,960	471	1,110	2,030	4,140	4,040	1,160	568	373
13	268	984	471	1,570	452	1,070	2,400	4,330	4,140	1,170	542	373
14	268	1,000	447	1,370	428	1,150	2,880	4,140	3,940	1,230	549	386
15	265	928	435	1,210	428	1,210	2,710	3,490	3,760	1,150	562	381
16	261	883	453	1,100	418	1,170	2,630	3,040	3,040	1,150	575	377
17	261	883	870	1,020	406	1,680	2,630	3,040	2,550	1,140	568	364
18	261	833	1,740	1,590	406	3,260	2,630	3,220	2,320	1,050	542	339
19	261	919	2,220	1,570	401	4,530	2,790	3,220	2,100	952	523	343
20	261	892	2,440	1,370	412	3,400	2,550	3,670	2,170	925	490	360
21	265	817	1,940	1,240	428	2,630	2,170	3,220	2,470	934	471	335
22	528	753	1,560	1,120	428	2,170	1,960	2,790	2,630	970	471	327
23	574	721	1,400	1,030	428	1,900	1,720	2,630	2,550	934	478	323
24	521	705	1,400	952	504	2,030	1,720	2,470	2,240	907	484	335
25	588	698	1,260	898	992	2,030	1,720	2,170	2,100	880	484	335
26	581	668	1,190	840	4,280	1,840	2,030	1,960	2,030	824	484	327
27	560	616	1,150	792	4,940	1,670	2,320	1,840	2,030	784	484	335
28	1,250	595	1,070	744	4,140	2,240	2,470	1,840	2,030	784	471	335
29	1,560	581	974	712	3,040	2,240	2,470	2,170	2,030	736	445	327
30	1,340	574	910	690	-------	2,030	2,710	2,630	1,960	698	458	323
31	1,190	-------	874	645	-------	1,960	-------	2,790	-------	668	423	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,560	261	471	1.46	1.68	29,000
November	1,560	574	908	2.81	3.14	54,000
December	2,440	435	939	2.91	3.36	57,700
January	1,960	645	1,020	3.16	3.64	62,700
February	4,940	401	995	3.08	3.32	57,200
March	4,530	1,070	1,940	6.01	6.93	119,000
April	2,880	1,470	2,140	6.63	7.40	127,000
May	4,430	1,840	3,140	9.72	11.21	193,000
June	4,140	1,960	2,680	8.30	9.26	159,000
July	2,030	668	1,160	3.59	4.14	71,300
August	705	423	554	1.72	1.98	34,100
September	428	323	371	1.15	1.28	22,100
The year	4,940	261	1,360	4.21	57.34	986,000

NORTH FORK OF TOUTLE RIVER AT ST. HELEN, WASH.

LOCATION.—Water-stage recorder in SE¼ sec. 15, T. 10 N., R. 2 E., at highway crossing three quarters of a mile west of St. Helen. Zero of gage is 878.03 feet above mean sea level.

DRAINAGE AREA.—120 square miles.

RECORDS AVAILABLE.—September to October 1909; September 1929 to September 1932.

EXTREMES.—Maximum discharge during year, 4,080 second-feet Mar. 5 (gage height, 5.33 feet); minimum, 153 second-feet Oct. 19 (gage height, 1.39 feet). 1909, 1929–32: Maximum discharge, 6,450 second-feet Mar. 31, 1931 (gage height, 6.64 feet); minimum, that of Oct. 19, 1931.

REMARKS.—Records good. Discharge estimated Nov. 8, 9, July 24–29, Aug. 13–22. No diversions or regulation.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	610	364	637	440	1,190	1,310	1,020	833	749	369	266
2	170	546	364	578	428	1,080	1,310	1,050	861	735	364	262
3	166	464	364	532	422	945	1,270	980	903	805	358	252
4	179	410	352	552	416	945	1,230	945	910	805	352	248
5	210	380	352	584	404	2,410	1,230	910	896	707	347	244
6	184	427	352	644	398	2,780	1,080	896	833	651	342	252
7	176	847	586	604	404	1,590	1,050	910	791	617	330	248
8	170	830	482	598	422	1,190	980	896	763	598	325	239
9	168	940	434	728	422	1,020	910	910	819	584	325	234
10	164	819	416	721	434	903	882	1,020	945	700	330	234
11	163	721	380	1,520	422	812	896	980	1,020	651	320	239
12	161	644	358	1,500	416	749	945	980	1,160	584	325	239
13	161	774	352	1,080	392	714	1,020	1,020	1,230	598	310	234
14	159	812	336	896	374	784	1,120	980	1,270	644	290	234
15	157	721	320	784	364	777	1,050	945	1,190	584	290	230
16	157	686	345	700	352	770	1,050	889	1,050	552	290	230
17	157	819	1,040	742	342	1,230	1,190	889	945	532	290	226
18	155	777	1,630	1,980	336	2,030	1,350	945	868	513	280	218
19	155	1,110	1,530	1,680	330	2,360	1,580	1,020	826	494	280	234
20	157	1,030	1,440	1,240	374	1,660	1,350	1,080	819	476	280	280
21	159	805	1,160	1,050	452	1,310	1,160	1,050	875	476	280	244
22	311	679	945	889	410	1,160	1,050	1,020	910	470	290	226
23	412	598	861	812	392	1,080	945	980	889	470	275	222
24	340	539	1,020	700	482	1,530	910	903	840	440	270	222
25	554	532	910	658	712	1,630	882	854	805	430	266	218
26	512	488	919	610	2,990	1,400	896	826	798	420	266	214
27	506	446	1,050	578	2,680	1,230	980	777	805	400	262	214
28	1,390	410	896	539	2,000	1,680	945	756	798	390	257	214
29	1,110	392	756	513	1,480	1,630	910	805	798	380	266	210
30	784	374	707	488	-------	1,480	910	861	763	364	285	210
31	624	-------	686	470	-------	1,310	-------	861	-------	364	270	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,390	155	324	2.70	3.11	19,900
November	1,110	374	654	5.45	6.08	38,900
December	1,630	320	700	5.83	6.72	43,000
January	1,980	470	826	6.88	7.93	50,800
February	2,990	330	672	5.60	6.04	38,700
March	2,780	714	1,330	11.1	12.80	81,800
April	1,580	882	1,080	9.00	10.04	64,300
May	1,080	756	934	7.78	8.97	57,400
June	1,270	763	907	7.56	8.44	54,000
July	805	364	554	4.62	5.33	34,100
August	369	257	303	2.52	2.90	18,600
September	280	210	235	1.96	2.19	14,000
The year	2,990	155	710	5.92	80.55	516,000

TOUTLE RIVER NEAR SILVER LAKE, WASH.

LOCATION.—Water-stage recorder in SE¼ 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 1932. September 1909 to August 1912 at site 2 miles downstream.

EXTREMES.—Maximum discharge during year, 20,000 second-feet Mar. 5 (gage height, 12.12 feet); minimum, 297 second-feet Oct. 19 (gage height, 1.71 feet). 1910–12, 1920–23, 1929–32: Maximum discharge, 35,600 second-feet Mar. 2, 1910 (gage height, 11.0 feet at former site); minimum, 257 second-feet Nov. 21, 1929.

REMARKS.—Records fair. No diversions or regulation.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	338	1,650	1,230	2,230	1,370	4,610	4,340	2,820	1,890	1,430	.625	465
2	326	1,700	1,200	1,980	1,300	4,160	4,250	3,060	1,890	1,380	625	460
3	319	1,410	1,220	1,780	1,220	3,550	4,430	2,820	2,030	1,530	601	442
4	334	1,220	1,170	1,830	1,190	3,300	4,160	2,520	2,100	1,700	589	428
5	629	1,100	1,120	1,880	1,130	10,500	4,430	2,450	2,100	1,380	583	424
6	480	1,090	1,100	2,100	1,090	13,600	3,890	2,310	1,890	1,190	571	420
7	415	3,120	2,110	1,990	1,100	6,740	3,720	2,310	1,760	1,090	554	420
8	388	3,190	1,960	1,900	1,220	4,790	3,380	2,240	1,640	1,060	543	415
9	362	3,760	1,640	2,470	1,350	3,890	3,060	2,240	1,760	1,030	565	406
10	346	3,430	1,560	2,710	1,770	3,380	2,900	2,450	2,100	1,310	631	406
11	338	2,630	1,440	6,060	1,710	2,980	2,820	2,450	2,380	1,280	577	402
12	330	2,230	1,320	6,800	1,660	2,680	2,900	2,380	2,680	1,130	613	397
13	323	2,390	1,270	4,530	1,550	2,520	2,980	2,450	2,820	1,090	571	392
14	319	2,710	1,180	3,680	1,380	2,600	3,380	2,450	2,900	1,330	521	388
15	308	2,390	1,110	3,110	1,310	2,600	3,140	2,240	2,750	1,190	510	384
16	304	2,390	1,140	2,710	1,210	2,520	3,220	2,100	2,310	1,100	505	379
17	308	3,270	4,130	2,790	1,150	3,970	3,640	2,030	1,960	1,030	495	388
18	308	3,270	7,430	9,460	1,100	6,510	4,340	2,170	1,760	975	475	392
19	304	4,720	6,170	7,720	1,070	7,970	5,350	2,310	1,700	935	470	406
20	308	4,400	5,570	5,370	1,300	5,920	4,790	2,680	1,640	903	480	560
21	323	3,270	4,620	4,180	2,230	4,610	3,980	2,680	1,820	880	470	490
22	1,030	2,630	3,760	3,590	1,980	3,890	3,460	2,450	1,960	872	495	433
23	1,890	2,310	3,270	3,110	1,770	3,640	3,060	2,310	1,960	858	470	406
24	1,450	2,010	3,760	2,790	2,390	5,080	2,900	2,170	1,700	806	446	397
25	2,740	1,960	3,510	2,550	2,910	6,320	2,820	2,030	1,580	778	438	392
26	2,550	1,770	3,430	2,310	12,000	5,350	2,680	1,960	1,580	764	433	379
27	2,310	1,560	4,020	2,120	10,900	4,520	2,750	1,760	1,580	730	442	370
28	4,640	1,440	3,510	1,920	7,550	5,730	2,750	1,700	1,580	704	433	362
29	3,940	1,350	2,950	1,760	5,540	5,730	2,600	1,700	1,580	685	433	358
30	2,710	1,270	2,470	1,650	-------	5,350	2,600	1,890	1,480	661	490	350
31	2,040	-------	2,390	1,510	-------	4,610	-------	1,960	-------	637	490	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,640	304	1,060	2.25	2.59	65,200
November	4,720	1,090	2,390	5.06	5.64	142,000
December	7,430	1,100	2,670	5.66	6.52	164,000
January	9,460	1,510	3,240	6.86	7.91	199,000
February	12,000	1,070	2,530	5.36	5.78	146,000
March	13,600	2,520	4,960	10.5	12.11	305,000
April	5,350	2,600	3,490	7.39	8.24	208,000
May	3,060	1,700	2,300	4.87	5.62	141,000
June	2,900	1,480	1,960	4.15	4.63	117,000
July	1,700	637	1,050	2.22	2.56	64,600
August	631	433	521	1.10	1.27	32,000
September	560	350	410	.869	.97	24,400
The year	13,600	304	2,210	4.68	63.84	1,610,000

YOUNGS RIVER BASIN

YOUNGS RIVER NEAR ASTORIA, OREG.

LOCATION.—Water-stage recorder in SE¼ 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 1932; March 1916 to September 1917 (stage only) at site 2 miles upstream.

EXTREMES.—Maximum discharge during year, 4,330 second-feet Nov. 19 (gage height, 5.60 feet); minimum, 5 second-feet Sept. 16 (gage height, 0.93 foot). 1927–32: Maximum discharge, 5,840 second-feet Mar. 31, 1931 (gage height, 6.3 feet); minimum, 4 second-feet Aug. 31 to Sept. 2, 1931 (gage height, 0.92 foot).

REMARKS.—Records good. No diversions or regulation above station. Gage-height record furnished by city engineer of Astoria.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	144	92	397	146	458	284	116	27	11	9	8
2	17	127	102	307	133	500	289	94	29	12	9	7
3	15	104	124	242	119	365	298	84	29	24	8	6
4	32	91	104	253	112	340	542	78	30	28	8	6
5	104	78	95	246	107	2,050	901	74	43	20	7	6
6	51	109	102	253	102	1,020	500	70	38	16	7	6
7	37	360	546	208	157	526	380	66	30	15	6	6
8	29	479	355	190	424	360	312	61	28	13	7	6
9	26	1,400	257	265	901	269	246	58	26	12	10	6
10	24	689	269	250	836	216	208	55	23	13	20	6
11	23	360	205	964	714	179	183	51	20	17	23	6
12	21	239	185	606	551	157	159	49	20	15	20	6
13	20	352	192	365	424	141	144	47	18	14	17	6
14	20	397	160	272	312	143	148	45	18	18	14	6
15	18	370	143	210	239	132	126	43	18	18	12	6
16	18	424	152	202	192	156	126	40	18	18	11	5
17	20	646	645	782	166	355	232	38	18	18	10	6
18	20	616	606	2,620	148	386	316	37	19	15	10	6
19	18	2,270	762	1,250	136	345	982	39	22	15	9	8
20	19	798	479	680	408	335	585	42	19	13	9	19
21	35	408	375	424	738	257	380	37	17	12	9	13
22	588	276	375	312	437	220	276	35	16	12	9	10
23	600	205	501	239	316	265	220	37	15	12	8	8
24	444	166	888	195	302	914	181	36	14	12	8	7
25	810	179	762	195	459	774	164	32	14	12	7	7
26	638	150	774	198	1,430	479	143	31	13	12	7	6
27	616	127	762	195	669	370	126	29	12	11	7	6
28	726	113	493	181	419	500	112	28	12	10	7	6
29	408	104	355	181	430	458	101	26	12	10	8	6
30	261	98	370	177	-------	375	91	26	12	10	8	6
31	179	-------	414	159	-------	294	-------	26	-------	9	8	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	810	15	189	6.30	7.26	11,600
November	2,270	78	396	13.2	14.73	23,600
December	888	92	376	12.5	14.41	23,100
January	2,620	159	420	14.0	16.14	25,800
February	1,430	102	397	13.2	14.24	22,800
March	2,050	132	430	14.3	16.49	26,400
April	982	91	292	9.73	10.86	17,400
May	116	26	49.4	1.65	1.90	3,040
June	43	12	21.0	.700	.78	1,250
July	28	9	14.4	.480	.55	885
August	23	6	10.1	.337	.39	621
September	19	5	7.1	.237	.26	422
The year	2,620	5	216	7.20	98.01	157,000

STREAMS BETWEEN COLUMBIA RIVER AND KLAMATH RIVER

WILSON RIVER BASIN

WILSON RIVER NEAR TILLAMOOK, OREG.

LOCATION.—Staff gage in NW¼ sec. 18, T. 1 S., R. 8 W., 1 mile above North Fork and 7 miles east of Tillamook.

DRAINAGE AREA.—162 square miles.

RECORDS AVAILABLE.—July 1931 to September 1932. December 1914 to November 1916 at station three quarters of a mile downstream (incomplete).

EXTREMES.—Maximum discharge during year, 16,700 second-feet Jan. 18 (gage height, 13.84 feet); minimum, 65 second-feet Sept. 18, 30 (gage height, 0.40 foot).

1914–16, 1931–32: Maximum discharge recorded, that of Jan. 18, 1932; minimum, that of Sept. 18, 30, 1932.

Maximum stage known, about 20.8 feet at former gage in February 1916 (discharge not determined).

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169	978	630	3,310	695	3,070	2,070	802	245	125	92	88
2	140	818	662	2,620	630	2,950	1,970	840	245	125	92	88
3	125	675	802	2,070	600	2,510	1,870	765	245	186	88	77
4	196	608	695	1,770	600	2,290	2,180	695	245	150	84	76
5	365	545	630	1,870	570	6,190	2,620	630	262	125	84	74
6	248	608	600	1,970	570	7,150	2,620	570	245	120	84	71
7	199	2,140	2,510	1,670	730	4,270	2,180	542	238	120	80	71
8	175	2,440	1,970	1,470	1,370	2,950	2,070	515	231	120	80	77
9	157	4,380	1,570	2,180	1,770	2,180	1,770	515	224	115	100	74
10	145	4,270	1,370	2,070	2,730	1,770	1,670	488	210	125	189	71
11	135	2,340	1,140	4,630	2,510	1,470	1,470	460	204	150	174	74
12	130	1,740	1,010	4,390	2,290	1,280	1,370	435	198	130	150	74
13	125	2,040	920	2,840	1,870	1,140	1,190	410	192	130	135	74
14	120	2,040	840	2,180	1,570	1,140	1,280	388	186	145	120	71
15	116	2,040	765	1,670	1,280	1,140	1,010	365	180	135	120	68
16	118	2,340	695	1,470	1,100	1,370	1,670	365	180	150	105	68
17	140	3,830	4,270	2,510	965	4,270	2,290	342	174	135	100	68
18	125	3,940	5,410	13,400	840	5,150	2,840	320	168	125	96	65
19	116	8,130	5,540	8,550	765	4,150	3,910	320	174	120	92	68
20	112	6,450	4,630	5,410	1,280	3,190	3,430	365	168	120	92	130
21	145	3,550	3,190	3,550	2,840	2,400	2,510	342	156	115	88	88
22	1,470	2,400	2,620	2,620	2,400	1,970	1,970	320	156	110	88	84
23	1,380	1,770	2,510	1,970	1,870	2,510	1,670	365	150	105	86	84
24	1,380	1,470	3,670	1,670	2,290	7,710	1,370	320	145	105	84	86
25	2,240	1,370	3,430	1,470	4,510	6,870	1,190	280	140	105	80	71
26	2,340	1,140	3,190	1,280	10,600	4,510	1,010	280	140	100	80	71
27	3,390	965	3,430	1,190	6,870	3,310	1,010	262	135	96	80	68
28	3,940	840	2,840	1,010	4,630	4,510	920	245	132	100	80	66
29	2,640	765	2,290	920	3,430	4,030	802	245	130	100	82	66
30	1,650	695	2,400	840	------	3,070	765	245	125	100	88	65
31	1,200	------	3,070	765	------	2,510	------	245	------	96	86	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,940	112	804	4.96	5.72	49,400
November	8,130	545	2,250	13.9	15.51	134,000
December	5,540	600	2,240	13.8	15.91	138,000
January	13,400	765	2,750	17.0	19.60	169,000
February	10,600	570	2,210	13.6	14.67	127,000
March	7,710	1,140	3,320	20.5	23.63	204,000
April	3,910	765	1,820	11.2	12.50	108,000
May	840	245	428	2.64	3.04	26,300
June	262	125	187	1.15	1.28	11,100
July	186	96	122	.753	.87	7,500
August	189	80	99.3	.613	.71	6,110
September	130	65	75.9	.469	.52	4,520
The year	13,400	65	1,360	8.40	113.96	985,000

TRASK RIVER BASIN

TRASK RIVER NEAR TILLAMOOK, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 30, T. 1 S., R. 8 W., half a mile above Gold Creek and 6 miles east of Tillamook.

DRAINAGE AREA.—152 square miles.

RECORDS AVAILABLE.—July 1931 to September 1932.

EXTREMES.—Maximum discharge during period July 1931 to September 1932, 12,500 second-feet Jan. 18 (gage height, 9.6 feet); minimum, 68 second-feet Sept. 30, 1932 (gage height, 0.53 foot).

Maximum stage known, about 17 feet, probably occurred during floods of November 1921 or Mar. 31, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	112	800	630	2,590	698	2,780	1,780	830	265	128	95	92
2	99	680	642	2,110	652	2,980	1,630	800	285	126	95	88
3	93	603	800	1,730	630	2,410	1,480	728	281	202	93	83
4	124	535	728	1,580	630	2,110	1,730	680	269	188	92	81
5	375	485	664	1,480	598	4,940	2,720	636	277	147	90	80
6	194	550	658	1,530	603	5,710	2,290	608	261	136	90	80
7	144	1,390	1,390	1,390	800	3,600	1,940	576	245	128	88	80
8	121	1,890	1,300	1,260	1,180	2,530	1,730	560	241	124	92	81
9	112	3,860	1,100	1,780	1,630	1,940	1,530	525	225	116	116	78
10	106	3,600	1,020	1,630	2,410	1,630	1,340	515	217	141	150	77
11	99	2,110	925	3,250	2,350	1,340	1,220	485	209	144	164	77
12	95	1,480	860	3,600	2,170	1,180	1,100	470	202	128	141	78
13	95	1,530	830	2,410	1,780	1,060	1,020	445	194	128	118	75
14	92	1,680	740	1,840	1,440	1,020	990	425	188	144	110	75
15	88	1,580	686	1,480	1,220	990	892	411	184	144	110	72
16	88	1,940	686	1,300	1,060	1,260	892	393	180	144	101	72
17	97	3,040	2,210	2,190	925	2,920	1,530	375	174	131	95	71
18	97	3,110	3,180	10,200	860	3,740	1,840	366	177	124	93	72
19	92	6,280	3,250	6,930	800	3,460	2,920	366	180	118	90	85
20	90	4,900	3,180	4,710	1,100	2,530	2,660	375	170	116	88	153
21	118	2,920	2,530	3,180	1,780	2,000	2,060	362	167	114	86	103
22	958	2,000	2,170	2,350	1,580	1,680	1,680	339	161	110	86	85
23	770	1,530	2,110	1,780	1,340	1,780	1,390	366	156	108	85	81
24	770	1,220	2,920	1,480	1,530	4,790	1,220	326	153	108	85	80
25	1,680	1,140	2,660	1,300	2,440	5,030	1,060	312	150	110	85	78
26	1,580	990	2,590	1,140	6,210	3,670	958	294	147	108	83	75
27	2,110	860	2,850	1,060	4,560	2,850	892	281	144	101	81	74
28	2,850	800	2,470	958	3,250	3,320	830	273	138	99	81	71
29	1,940	722	2,060	892	2,920	3,390	770	277	134	99	83	70
30	1,300	669	2,060	860	-------	2,720	734	277	131	99	93	68
31	958	-------	2,530	770	-------	2,170	-------	269	-------	95	92	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,850	88	563	3.70	4.27	34,600
November	6,280	485	1,830	12.0	13.39	109,000
December	3,250	360	1,690	11.1	12.80	104,000
January	10,200	770	2,280	15.0	17.29	140,000
February	6,210	598	1,690	11.1	11.97	97,200
March	5,710	990	2,690	17.7	20.41	165,000
April	2,920	734	1,490	9.80	10.93	88,700
May	830	269	450	2.96	3.41	27,700
June	285	131	197	1.30	1.45	11,700
July	202	95	126	.829	.96	7,750
August	164	81	98.4	.647	.75	6,050
September	153	68	81.2	.534	.60	4,830
The year	10,200	68	1,100	7.24	98.23	797,000

NESTUCCA RIVER BASIN

NESTUCCA RIVER NEAR McMINNVILLE, OREG.

LOCATION.—Water-stage recorder in SW¼ 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 1932.

EXTREMES.—Maximum discharge during year, 732 second-feet Jan. 18 (gage height, 3.75 feet); minimum, 1.7 second-feet Sept. 17–19, 29, 30 (gage height, 0.42 foot).

1928–32: Maximum discharge, 1,600 second-feet Mar. 31, 1931 (gage height, 4.84 feet); minimum, 1.0 second-foot Oct. 11, 1929.

REMARKS.—Records good except those estimated Mar. 16 to Apr. 6, July 3–10, which are fair. No diversions above gage. Flow regulated to small extent by dam at outlet of Meadow Lake.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	30	29	204	41	145		44	13	3.7	3.0	2.1
2	2.5	23	30	149	38	136		50	13	3.4	2.9	2.1
3	2.4	19	55	115	36	115		47	13		2.8	2.1
4	2.6	17	65	96	36	104	104	42	12		2.8	2.1
5	3.6	15	57	86	34	180		39	11		2.7	2.0
6	3.8	15	51	84	34	370		36	11	3.6	2.5	2.0
7	3.6	27	70	77	39	229	102	34	10		2.4	2.0
8	3.0	62	77	72	49	150	91	32	10		2.4	2.0
9	2.7	147	70	96	58	116	81	30	9.5		2.3	2.0
10	2.8	194	65	100	89	102	72	29	9.0		2.5	2.0
11	2.7	114	57	136	90	90	65	26	8.5	3.7	2.8	1.9
12	2.4	75	50	184	88	78	59	24	8.0	3.7	2.8	1.9
13	2.4	66	47	132	80	71	55	23	7.5	3.8	2.8	1.8
14	2.5	69	41	105	68	68	53	22	7.0	3.9	2.8	1.8
15	2.7	64	36	88	61	67	50	21	6.8	4.2	2.7	1.8
16	2.5	76	35	78	54		48	20	6.8	4.3	2.6	1.8
17	2.6	118	68	83	49		73	19	6.6	4.2	2.4	1.7
18	2.6	129	136	533	45		90	19	6.4	3.9	2.4	1.7
19	2.6	262	160	480	42		120	18	6.6	3.8	2.4	1.8
20	2.6	250	197	286	50		116	19	6.4	3.9	2.4	1.9
21	3.0	138	164	178	80		99	19	6.2	4.2	2.4	2.0
22	9.5	94	132	127	80		83	18	6.1	3.9	2.4	2.0
23	19	73	127	102	73	143	72	18	5.9	3.8	2.4	2.0
24	23	61	190	86	77		64	17	5.7	3.6	2.4	2.0
25	39	56	171	76	92		58	16	5.5	3.5	2.4	2.0
26	53	50	160	70	238		52	15	5.3	3.5	2.3	1.9
27	70	43	182	66	279		47	14	5.0	3.4	2.2	1.8
28	85	37	149	58	202		43	13	4.9	3.3	2.1	1.8
29	70	34	114	53	167		39	13	4.7	3.2	2.1	1.7
30	51	31	121	50	------		38	13	4.5	3.1	2.1	1.7
31	39	------	200	46	------		------	13	------	3.1	2.1	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	85	2.4	16.7	1.39	1.60	1,030
November	262	15	79.6	6.63	7.40	4,740
December	200	29	100	8.33	9.60	6,150
January	533	46	132	11.0	12.68	8,120
February	279	34	81.7	6.81	7.34	4,709
March	370	67	139	11.6	13.37	8,580
April	------	38	76.5	6.38	7.12	4,550
May	50	13	24.6	2.05	2.36	1,510
June	13	4.5	7.86	.655	.73	468
July	4.3	3.1	3.67	.306	.35	226
August	3.0	2.1	2.49	.208	.24	153
September	2.1	1.7	1.91	.159	.18	114
The year	533	1.7	55.5	4.62	62.97	40,300

SILETZ RIVER BASIN

SILETZ RIVER AT SILETZ, OREG.

LOCATION.—Wire gage in SW¼ sec. 9, T. 10 S., R. 10 W., at highway bridge three quarters of a mile southwest of Siletz.

DRAINAGE AREA.—204 square miles.

RECORDS AVAILABLE.—November 1905 to May 1912; January 1924 to September 1932.

EXTREMES.—Maximum discharge during year, 21,800 second-feet Jan. 18 (gage height, 18.93 feet); minimum, 72 second-feet Sept. 30 (gage height, 0.88 foot).

1905–12, 1924–32: Maximum discharge, 34,600 second-feet Nov. 22, 1909; minimum, 51 second-feet Dec. 6, 7, 1929.

Maximum discharge known, 40,800 second-feet Nov. 20, 1921 (gage height, about 30.9 feet at present gage).

REMARKS.—Records good. No diversions for irrigation above station. Flow regulated slightly at low and medium stages by operation of logging pond at Valsetz.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	235	920	865	6,270	1,220	2,970	2,670	980	302	152	108	95
2	176	1,040	1,040	4,600	1,160	3,520	2,480	920	320	140	106	92
3	152	980	3,640	3,410	1,100	3,080	2,390	865	320	163	103	89
4	140	920	2,670	2,670	1,160	2,570	2,300	705	285	205	100	86
5	655	810	2,040	2,210	1,040	3,640	2,870	755	285	152	98	86
6	355	755	1,720	2,120	1,160	6,940	2,570	705	268	140	97	80
7	205	2,390	2,300	2,040	1,040	5,750	2,390	655	250	138	93	78
8	190	2,870	2,120	1,800	2,390	4,240	2,210	655	250	136	103	79
9	176	4,720	1,880	3,410	2,870	3,080	1,960	610	250	134	120	80
10	163	6,660	1,720	2,870	4,600	2,770	1,800	565	250	140	128	79
11	163	4,000	1,640	3,760	2,300	2,300	1,570	520	250	163	117	80
12	152	2,570	1,500	6,530	3,880	2,040	1,430	542	220	140	110	82
13	152	2,210	1,570	3,640	3,410	1,800	1,290	435	205	152	106	79
14	138	2,670	1,430	2,570	2,770	1,720	1,290	475	205	176	106	78
15	132	2,570	1,290	1,960	1,430	1,500	1,160	435	205	190	103	77
16	128	3,760	1,220	2,040	1,160	1,640	1,160	435	190	205	103	77
17	152	6,800	2,120	2,210	920	6,660	2,390	395	190	176	100	79
18	152	6,010	3,640	21,800	1,360	12,000	3,640	395	176	152	93	79
19	130	12,500	4,360	11,200	1,220	9,260	4,480	395	190	140	93	82
20	128	10,100	5,880	6,940	1,290	6,140	3,760	415	190	140	92	120
21	126	5,620	4,840	4,840	1,570	4,000	2,870	395	176	134	90	103
22	2,210	3,880	4,120	3,520	1,430	2,970	2,390	415	176	130	90	86
23	2,040	2,570	3,640	2,670	1,360	2,870	1,960	455	176	122	89	80
24	1,430	2,040	4,720	2,210	1,500	9,400	1,720	375	176	122	89	80
25	2,970	1,500	4,120	1,960	2,210	7,520	1,570	338	163	128	87	79
26	2,770	1,360	3,760	1,640	9,550	5,620	1,360	320	163	126	87	77
27	4,720	1,290	4,480	1,500	4,970	4,720	1,220	320	152	118	86	74
28	5,100	1,160	4,000	1,360	3,880	6,270	1,100	285	152	115	86	73
29	3,300	1,040	3,520	1,430	3,300	6,140	980	285	152	117	90	73
30	2,120	980	3,640	1,570	------	4,720	920	320	152	112	97	72
31	1,570	------	7,080	1,430	------	3,520	------	320	------	110	101	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	5,100	126	1,040	5.10	5.88	64,000
November	12,500	755	3,220	15.8	17.63	192,000
December	7,080	865	2,990	14.7	16.95	184,000
January	21,800	1,360	3,810	18.7	21.56	234,000
February	9,550	920	2,320	11.4	12.30	133,000
March	12,000	1,500	4,560	22.4	25.82	280,000
April	4,480	920	2,060	10.1	11.27	123,000
May	980	285	506	2.48	2.86	31,100
June	320	152	215	1.05	1.17	12,800
July	205	110	144	.706	.81	8,850
August	128	86	99.1	.486	.56	6,090
September	120	72	82.5	.404	.45	4,910
The year	21,800	72	1,750	8.58	117.26	1,270,000

SIUSLAW RIVER BASIN

SIUSLAW RIVER ABOVE WILDCAT CREEK, AT AUSTA, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 16, T. 18 S., R. 8 W., a quarter of a mile above Wildcat Creek and Austa.

DRAINAGE AREA.—267 square miles.

RECORDS AVAILABLE.—September 1931 to September 1932.

EXTREMES.—Maximum discharge during period, 5,880 second-feet Mar. 19 (gage height, 9.50 feet); minimum, 22 second-feet Sept. 4, 5, 1931 (gage height, 1.07 feet).

Flood of Mar. 31, 1931, reached a stage of about 14 feet; flood of February 1927 probably reached a higher stage.

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

Discharge, in second-feet, 1931–32

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	29	88	250	4,680	1,360	535	1,170	660	420	134	63	42
2	24	28	75	250	2,970	1,170	560	1,050	710	375	139	61	40
3	24	26	64	710	2,010	990	585	990	815	330	114	61	40
4	22	26	60	930	1,570	990	560	930	930	330	109	59	38
5	22	28	56	760	1,230	1,230	535	1,360	815	310	107	56	38
6	25	28	72	660	1,050	1,570	535	1,500	710	270	105	54	38
7	28	26	61	710	930	1,930	535	1,230	660	250	100	51	36
8	28	24	420	930	870	2,170	510	1,050	585	250	96	51	36
9	29	24	585	930	815	2,250	465	930	535	232	92	51	36
10	34	24	1,230	815	870	2,570	488	815	488	232	92	59	35
11	36	24	535	815	1,230	2,650	610	760	465	215	98	59	35
12	30	23	375	815	1,850	2,970	560	710	420	208	96	56	33
13	29	23	250	815	1,570	2,170	535	660	420	194	98	54	33
14	29	24	375	760	1,230	1,780	510	660	375	180	100	51	33
15	26	24	420	815	1,050	1,500	510	610	375	174	100	51	31
16	25	24	1,110	710	990	1,230	990	585	352	171	100	51	31
17	25	24	1,780	660	2,170	1,110	2,970	660	330	162	96	51	31
18	28	26	1,570	870	5,080	930	4,780	815	330	156	88	51	30
19	30	26	3,050	990	5,180	870	5,480	930	310	162	84	49	30
20	34	26	3,590	1,640	3,500	815	3,590	1,230	310	156	80	47	30
21	30	24	1,780	2,410	2,330	760	2,330	1,050	330	156	80	48	30
22	28	174	1,050	1,850	1,780	710	1,710	990	290	156	77	47	30
23	26	375	760	1,780	1,430	660	1,430	815	290	150	77	47	31
24	26	352	610	3,320	1,170	660	3,050	760	290	139	74	47	31
25	25	250	488	2,650	1,110	610	2,730	760	250	134	70	44	30
26	24	208	442	2,330	990	585	2,010	760	250	128	70	42	31
27	24	352	375	4,310	930	560	1,710	815	250	126	70	42	30
28	24	420	352	4,310	930	510	1,780	815	250	123	70	42	30
29	25	250	290	2,970	1,230	510	2,010	710	352	121	67	40	30
30	30	150	270	2,570	1,640	-------	1,640	660	420	118	64	43	30
31	-------	112	-------	4,580	1,570	-------	1,360	-------	535	-------	64	42	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
1931						
September	36	22	27.1	0.101	0.11	1,610
1931-32						
October	420	23	102	.382	.44	6,270
November	3,590	56	739	2.77	3.09	44,000
December	4,580	250	1,580	5.92	6.82	97,200
January	5,180	815	1,800	6.74	7.77	111,000
February	2,970	510	1,300	4.87	5.25	74,800
March	5,480	465	1,540	5.77	6.65	94,700
April	1,500	585	893	3.34	3.73	53,100
May	930	250	455	1.70	1.96	28,000
June	420	118	204	.764	.85	12,100
July	139	64	90.7	.340	.39	5,580
August	63	40	50.6	.190	.22	3,110
September	42	30	33.3	.125	.14	1,980
The year	5,480	23	732	2.74	37.31	532,000

LAKE CREEK AT TRIANGLE LAKE, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 29, T. 16 S., R. 7 W., 500 feet below outlet of Triangle Lake.
DRAINAGE AREA.—50 square miles.
RECORDS AVAILABLE.—August 1931 to September 1932.
EXTREMES.—Maximum discharge during year, 2,390 second-feet Jan. 19 (gage height, 5.8 feet); minimum, 9 second-feet Sept. 17–30 (gage height, 0.52 foot). 1931–32: Maximum discharge, that of Jan. 19, 1932; minimum, 8 second-feet Aug. 27 to Sept. 8, 1931 (gage height, 0.46 foot).
REMARKS.—Records good except those estimated Nov. 20 to Dec. 12, which are fair. No diversions above gage. Flow regulated by natural storage in Triangle Lake.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	62		1,340	299	327	465	169	74	27	18	12
2	12	51		1,160	268	330	408	169	70	27	17	12
3	12	44		870	241	327	366	167	67	27	17	11
4	11	40		658	239	311	348	157	65	26	17	11
5	12	37		525	241	284	408	147	62	26	16	11
6	11	35		437	254	282	437	140	60	25	16	11
7	11	38	236	376	311	293	414	132	57	25	15	11
8	11	61		324	445	287	369	125	55	24	15	11
9	11	136		308	545	276	320	117	54	24	15	10
10	11	270		302	658	279	287	112	52	23	15	10
11	10	287		308	680	284	257	107	49	23	15	10
12	10	208		411	658	279	236	100	48	23	15	10
13	10	163	257	457	635	257	222	97	46	23	15	10
14	11	165	241	414	568	244	217	92	44	23	15	10
15	10	212	222	366	497	229	205	89	42	24	15	10
16	11	376	205	334	422	262	199	86	40	24	15	10
17	11	658	214	376	362	457	214	83	40	24	15	9
18	11	755	284	911	311	730	259	80	39	23	14	9
19	12	870	369	2,210	279	1,020	296	79	38	22	14	9
20	12		449	1,800	252	990	330	77	38	22	14	9
21	13		545	1,200	236	755	327	76	37	21	14	9
22	24		612	870	229	590	296	75	36	21	14	9
23	46		612	658	224	485	265	74	35	20	14	9
24	55		705	505	224	590	246	71	34	20	13	9
25	57	316	870	429	231	780	229	67	33	20	13	9
26	65		930	383	254	810	214	65	32	20	13	9
27	75		960	352	299	705	201	63	32	19	13	9
28	88		1,020	317	320	658	190	65	30	19	13	9
29	94		930	299	327	658	177	71	30	19	12	9
30	88		780	308	-------	635	169	79	28	18	12	9
31	72	-------	990	320	-------	545	-------	77	-------	18	12	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	94	10	29.0	0.580	0.67	1,780
November	-------	35	265	5.30	5.91	15,800
December	1,020	-------	452	9.04	10.42	27,800
January	2,210	299	630	12.6	14.53	38,700
February	680	224	362	7.24	7.81	20,800
March	1,020	229	483	9.66	11.14	29,700
April	465	169	286	5.72	6.38	17,000
May	169	63	100	2.00	2.31	6,150
June	74	28	45.6	.912	1.02	2,710
July	27	18	22.6	.452	.52	1,390
August	18	12	14.5	.290	.33	892
September	12	9	9.9	.198	.22	589
The year	2,210	9	225	4.50	61.26	163,000

UMPQUA RIVER BASIN

UMPQUA RIVER NEAR ELKTON, OREG.

LOCATION.—Staff gage in sec. 8, T. 23 S., R. 7 W., 4 miles south of Elkton.
DRAINAGE AREA.—3,680 square miles.
RECORDS AVAILABLE.—October 1905 to September 1932; incomplete prior to November 1908.
EXTREMES.—Maximum discharge during year, 104,000 second-feet Mar. 19 (gage height, 28.7 feet); minimum, 706 second-feet Oct. 18–21 (gage height, 0.92 foot).

1905–32: Maximum discharge, 172,000 second-feet Feb. 21, 1927 (gage height, height, 40.0 feet); minimum, 640 second-feet July 18, 1926.

REMARKS.—Records good except those above 40,000 second-feet, which are poor. Some diversions for irrigation in South Umpqua River Basin, but low-water flow probably only slightly affected. No regulation.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	738	1,730	2,740	41,600	13,600	12,700	12,700	10,400	8,540	2,540	1,220	976
2	738	1,470	2,540	25,300	10,400	11,800	11,800	12,700	7,600	2,420	1,220	976
3	730	1,320	2,860	18,500	8,540	11,200	11,800	13,300	6,950	2,300	1,200	976
4	722	1,200	4,340	12,100	7,380	10,700	12,400	12,400	6,740	2,240	1,180	967
5	714	1,090	7,160	9,300	8,060	9,040	11,800	11,200	6,330	2,120	1,160	958
6	722	994	5,740	8,060	9,300	8,790	11,500	10,100	5,930	2,060	1,130	940
7	722	985	4,840	7,600	10,400	8,540	10,400	9,040	5,370	1,950	1,100	940
8	722	1,070	5,930	7,380	12,100	8,300	9,560	8,540	5,010	1,900	1,100	931
9	722	1,180	5,370	7,160	10,900	8,540	8,540	8,540	5,010	1,840	1,100	922
10	722	2,180	5,010	11,800	10,400	9,820	7,600	8,300	4,840	1,730	1,080	913
11	722	3,320	5,370	13,000	11,500	10,400	7,380	7,160	4,670	1,730	1,080	904
12	714	3,190	5,010	21,800	11,500	10,100	7,600	6,330	5,190	1,730	1,080	904
13	714	2,360	4,500	23,700	11,200	8,790	7,830	7,160	5,550	1,730	1,080	904
14	714	2,000	4,670	16,100	10,400	8,540	7,830	8,300	5,370	1,680	1,070	904
15	714	2,240	4,340	12,400	8,790	10,400	7,380	7,830	5,190	1,620	1,070	904
16	714	2,540	3,740	10,700	7,830	12,100	6,950	6,950	4,840	1,620	1,070	895
17	714	3,190	3,460	13,600	6,950	38,200	7,380	6,530	4,340	1,570	1,100	895
18	706	13,900	3,600	16,500	5,930	61,600	8,060	6,740	4,030	1,520	1,080	895
19	706	11,800	4,670	34,100	5,190	92,000	7,380	6,950	3,880	1,470	1,070	895
20	706	23,700	6,330	29,300	5,010	74,500	7,830	6,950	3,600	1,470	1,050	895
21	706	18,500	8,790	17,500	5,010	41,100	10,900	7,380	3,460	1,470	1,050	895
22	922	9,820	12,700	13,900	5,010	27,300	9,820	7,600	3,600	1,420	1,030	886
23	1,000	6,950	10,700	11,500	5,190	19,900	9,040	6,950	3,600	1,420	1,020	886
24	2,180	5,370	18,900	9,300	6,740	19,500	8,790	6,130	3,460	1,370	1,010	886
25	2,540	4,030	19,200	8,300	12,100	34,100	13,000	5,550	3,320	1,320	1,010	886
26	2,120	3,600	13,900	7,380	17,500	25,300	14,800	5,190	3,190	1,320	994	886
27	3,060	4,030	37,200	7,830	23,700	20,200	15,500	5,010	3,060	1,270	994	886
28	3,190	3,740	35,400	8,300	24,900	19,900	13,600	4,670	2,930	1,270	985	886
29	4,340	3,320	24,500	7,830	17,500	20,600	11,500	5,550	2,800	1,270	976	886
30	3,190	2,930	17,100	11,800	-------	17,800	9,820	9,040	2,670	1,220	976	886
31	2,240	-------	35,600	15,800	-------	14,500	-------	10,700	-------	1,220	976	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,340	706	1,290	0.351	0.40	79,300
November	23,700	985	4,790	1.30	1.45	285,000
December	37,200	2,540	10,400	2.83	3.26	640,000
January	41,600	7,160	14,800	4.02	4.64	910,000
February	24,900	5,010	10,400	2.83	3.05	598,000
March	92,000	8,300	22,100	6.01	6.93	1,360,000
April	15,500	6,950	10,000	2.72	3.04	595,000
May	13,300	4,670	8,040	2.18	2.51	494,000
June	8,540	2,670	4,700	1.28	1.43	280,000
July	2,540	1,220	1,670	.454	.52	103,000
August	1,220	976	1,070	.291	.34	65,800
September	976	886	912	.248	.28	54,300
The year	92,000	706	7,530	2.05	27.85	5,460,000

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 1932; incomplete.
EXTREMES.—Maximum discharge during year, 1,260 second-feet Dec. 31 (gage height, 5.1 feet); minimum, 6 second-feet Oct. 1–4.
1926–32: Maximum discharge (estimated), 2,800 second-feet Dec. 14, 1929 (gage height not determined); minimum, 4 second-feet Sept. 9–19, 1929, Aug. 26–28, 1931.
REMARKS.—Records good. Minor diversions for irrigation above station. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Apr.	May	June	July	Aug.	Sept.
1	6	11	24	201	136	59	16	10	9
2	6	10	24	216	139	59	16	10	9
3	6	10	69	195	136	56	15	10	9
4	6	11	63	216	151	52	15	9	9
5	7	10	41	181	136	50	15	8	9
6	8	10	39	156	118	50	16	8	8
7	8	11	40	141	113	44	16	8	8
8	8	27	39	132	100	44	16	9	8
9	8	29	36	120	92	43	15	9	8
10	8	27	36	115	86	42	15	10	8
11	8	26	31	118	82	44	15	10	9
12	8	22	28	115	71	46	14	10	9
13	8	19	26	113	67	39	14	10	9
14	8	27	22	111	64	35	14	10	9
15	8	27	20	107	64	34	14	11	9
16	9	29	22	100	59	33	14	10	8
17	10	138	24	94	56	32	14	10	8
18	10	101	35	90	54	30	14	10	8
19	10	123	42	118	53	30	14	9	8
20	11	358	62	109	53	27	14	9	9
21	11	190	99	96	52	25	13	9	9
22	110	108	108	92	50	25	12	9	9
23	63	40	133	100	46	24	12	9	9
24	27	40	680	162	43	23	12	9	9
25	23	39	142	189	40	23	12	9	9
26	38	36	1,200	265	38	21	12	9	9
27	31	29	790	201	38	21	12	9	8
28	22	27	320	172	62	18	11	9	8
29	17	23	147	146	96	19	12	10	8
30	13	23	167	136	113	17	12	10	8
31	12	-------	1,260	-------	71	-------	11	9	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	110	6	17.0	1,050
November	358	10	52.7	3,140
December	1,260	20	186	11,400
April	265	90	144	8,570
May	151	38	80.0	4,920
June	59	17	35.5	2,110
July	16	11	13.8	848
August	11	8	9.4	578
September	9	8	8.6	512

NORTH UMPQUA RIVER BELOW LAKE CREEK, OREG.

LOCATION.—Water-stage recorder in NW¼ 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 1932.

EXTREMES.—Maximum discharge during year, 724 second-feet May 20 (gage height, 1.72 feet); minimum, 206 second-feet Dec. 9; minimum gage height, 0.62 foot Nov. 11.

1927–32: Maximum discharge, that of May 20, 1932; minimum, that of Dec. 9, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	233	230	223	283	291	291	359	421	574	436	354	312
2	233	230	220	267	291	291	359	431	568	426	350	312
3	233	226	223	279	279	287	354	447	568	426	350	308
4	233	223	220	283	300	283	354	452	580	410	350	312
5	237	220	216	279	295	279	350	447	574	405	350	312
6	233	216	220	283	295	283	337	474	556	396	346	312
7	230	220	220	287	291	279	329	503	538	386	346	312
8	230	220	223	283	291	279	324	520	532	382	346	312
9	230	226	216	295	291	279	324	550	538	382	342	312
10	226	223	220	291	291	283	329	586	562	382	342	312
11	226	220	220	300	291	283	333	622	568	382	342	312
12	230	220	220	291	287	279	342	640	586	372	346	304
13	230	223	223	244	279	279	350	661	592	372	346	295
14	226	223	226	267	260	283	359	696	592	372	350	291
15	226	223	223	287	291	283	363	675	574	368	354	304
16	226	223	230	283	304	295	372	654	580	363	342	304
17	230	226	237	295	304	320	377	654	562	363	337	304
18	230	220	237	316	304	372	372	682	538	363	337	304
19	230	223	237	312	308	426	391	675	520	359	333	300
20	230	223	240	304	300	368	377	717	509	359	329	291
21	233	220	244	300	300	350	368	710	514	359	329	291
22	260	220	244	283	295	342	363	668	520	359	324	283
23	256	223	244	279	291	342	359	634	520	359	324	279
24	248	223	248	275	295	401	363	610	509	359	320	283
25	263	223	248	283	295	372	363	598	497	359	320	287
26	252	223	248	300	295	359	363	586	486	359	320	287
27	256	223	252	291	295	368	363	586	480	359	316	291
28	256	223	260	295	295	377	363	622	469	354	312	308
29	240	223	260	295	291	359	368	634	458	354	312	308
30	237	223	271	300	------	354	377	604	452	354	316	308
31	233	------	279	300	------	354	------	580	------	350	316	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	263	226	237	1.35	1.56	14,600
November	230	216	223	1.27	1.42	13,300
December	279	216	235	1.34	1.54	14,400
January	316	244	288	1.65	1.90	17,700
February	308	260	293	1.67	1.80	16,900
March	426	279	323	1.85	2.13	19,900
April	391	324	357	2.04	2.28	21,200
May	717	421	592	3.38	3.90	36,400
June	592	452	537	3.07	3.42	32,000
July	436	350	375	2.14	2.47	23,100
August	354	312	336	1.92	2.21	20,700
September	312	279	302	1.73	1.93	18,000
The year	717	216	341	1.95	26.56	248,000

NORTH UMPQUA RIVER AT TOKETEE FALLS, OREG.

LOCATION.—Water-stage recorder in T. 26 S., R. 3 E. (unsurveyed), one eighth of a mile below mouth of Clearwater River, half a mile above Toketee Falls, and 30 miles east of Hoaglin. Zero of gage is 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 1932.

EXTREMES.—Maximum discharge during year, 3,740 second-feet Mar. 19 (gage height, 4.40 feet); minimum, 475 second-feet Nov. 27–29, Dec. 12, 14 (gage height, 0.79 foot).

1908–9, 1914–17, 1924–32: Maximum discharge, 4,000 second-feet Feb. 20, 1927 (gage height, 4.65 feet); minimum recorded, that of Nov. 27–29, Dec. 12, 14, 1931.

REMARKS.—Records good except those above 1,800 second-feet, which are poor. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	500	505	480	622	570	820	1,410	1,490	1,370	1,120	807	670
2	495	500	485	580	575	790	1,450	1,570	1,570	1,080	800	664
3	495	495	500	570	555	742	1,450	1,570	1,570	1,040	794	664
4	495	495	500	575	580	718	1,370	1,570	1,570	1,040	787	664
5	500	490	495	565	580	700	1,290	1,530	1,570	1,010	787	658
6	500	485	490	565	580	706	1,220	1,490	1,490	975	780	658
7	495	495	495	570	575	730	1,180	1,570	1,410	975	780	652
8	495	510	490	586	570	754	1,120	1,610	1,410	975	774	652
9	495	505	485	676	565	790	1,120	1,730	1,410	940		652
10	495	505	490	706	570	850	1,150	1,860	1,490	940		646
11	495	490	485	820	570	850	1,180	1,900	1,570	940		646
12	495	485	475	850	565	850	1,290	1,950	1,610	905		646
13	495	490	480	688	560	850	1,330	2,040	1,610	905	740	634
14	490	495	475	640	535	880	1,330	2,000	1,570	905		634
15	490	490	480	646	555	912	1,290	1,900	1,530	905		646
16	490	505	490	640	570	1,080	1,370	1,820	1,490	905		646
17	490	510	510	628	570	1,600	1,410	1,860	1,410	905		640
18	490	500	520	670	570	2,630	1,450	1,900	1,370	870	709	640
19	490	520	525	694	575	3,260	1,450	1,900	1,330	870	709	634
20	490	525	530	664	586	2,220	1,410	2,080	1,330	870	702	640
21	495	495	555	640	575	1,770	1,330	2,080	1,370	863	702	640
22	575	485	540	616	570	1,530	1,260	1,900	1,370	856	696	628
23	560	485	540	598	575	1,370	1,220	1,770	1,370	856	690	622
24	525	485	550	592	598	1,860	1,260	1,690	1,330	849	690	622
25	570	490	540	592	646	1,690	1,260	1,610	1,290	849	690	628
26	535	485	555	604	760	1,530	1,290	1,570	1,260	842	690	628
27	570	475	570	598	912	1,530	1,290	1,570	1,220	835	676	628
28	586	475	565	592	945	1,650	1,260	1,610	1,220	828	676	646
29	540	475	550	604	880	1,570	1,290	1,650	1,180	821	676	646
30	520	480	565	598	------	1,450	1,330	1,610	1,150	821	383	646
31	515	------	634	598	------	1,410	------	1,570	------	814	676	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	586	490	512	1.52	1.75	31,500
November	525	475	494	1.47	1.64	29,400
December	634	475	518	1.54	1.78	31,900
January	850	565	632	1.88	2.17	38,900
February	945	535	615	1.82	1.96	35,400
March	3,260	700	1,290	3.83	4.42	79,300
April	1,450	1,120	1,300	3.86	4.31	77,400
May	2,080	1,490	1,740	5.16	5.95	107,000
June	1,610	1,150	1,420	4.21	4.70	84,500
July	1,120	814	913	2.71	3.12	56,100
August	807	676	730	2.17	2.50	44,900
September	670	622	644	1.91	2.13	38,300
The year	3,260	475	902	2.68	36.43	655,000

NORTH UMPQUA RIVER ABOVE ROCK CREEK, NEAR GLIDE, OREG.

LOCATION.—Water-stage recorder in NW¼ 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 1932.

EXTREMES.—Maximum discharge during year, 38,900 second-feet Mar. 18 (gage height, 15.84 feet); minimum, 521 second-feet Oct. 16 (gage height, 1.86 feet).

1924–32: Maximum discharge, 61,000 second-feet Feb. 20, 1927 (gage height, 20.18 feet); minimum, that of Oct. 16, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	574	745	970	4,650	1,680	4,480	5,000	4,320	3,540	1,600	910	795
2	570	700	1,060	3,200	1,520	4,160	5,000	4,650	3,400	1,520	910	770
3	563	678	1,810	2,410	1,440	3,920	5,180	4,480	3,400	1,480	910	770
4	560	678	2,320	2,000	1,440	3,130	4,650	4,160	3,330	1,400	880	770
5	563	655	1,950	1,950	1,560	2,760	4,480	3,840	3,130	1,360	880	770
6	574	637	1,560	2,000	1,810	2,880	4,000	3,620	2,940	1,320	880	770
7	570	646	1,720	2,050	2,250	3,330	3,620	3,760	2,700	1,240	850	770
8	560	1,000	1,720	2,050	2,150	3,540	3,200	3,840	2,520	1,240	850	745
9	556	1,140	1,560	3,260	1,950	3,840	2,940	4,000	2,520	1,200	850	745
10	552	1,810	1,440	4,160	2,150	4,160	2,940	4,320	2,760	1,240	850	745
11	542	1,200	1,320	4,960	2,050	4,160	3,200	4,320	3,130	1,240	850	745
12	538	940	1,170	8,470	2,100	3,620	3,620	4,480	3,260	1,170	850	722
13	535	850	1,140	4,480	2,050	3,470	3,540	4,650	3,130	1,170	850	722
14	535	1,060	1,060	3,200	1,810	4,650	3,540	4,480	3,000	1,170	850	722
15	532	1,000	1,060	2,580	1,680	5,000	3,260	3,920	2,880	1,140	880	722
16	528	1,360	1,000	2,360	1,600	8,950	3,330	3,620	2,640	1,140	850	722
17	524	3,620	1,100	2,200	1,520	17,200	3,920	3,690	2,460	1,100	850	722
18	535	2,880	1,900	3,910	1,440	26,800	5,180	3,920	2,300	1,100	822	722
19	535	3,760	2,410	6,120	1,440	32,200	4,820	3,840	2,150	1,060	822	722
20	535	5,140	2,520	4,320	1,520	15,400	5,180	4,320	2,150	1,060	822	722
21	546	2,520	3,840	3,260	1,520	8,540	4,650	4,650	2,150	1,060	822	722
22	970	1,680	2,820	2,700	1,560	6,120	4,000	3,920	2,250	1,030	822	722
23	1,440	1,360	2,150	2,360	1,900	5,000	3,540	3,470	2,200	1,030	822	722
24	1,100	1,170	2,640	2,150	3,200	10,900	4,480	3,260	2,100	1,030	795	700
25	1,200	1,140	2,300	1,950	5,180	9,060	4,650	3,060	2,000	1,000	795	700
26	1,560	1,170	2,360	1,860	7,160	6,950	5,000	2,880	1,900	1,000	795	722
27	1,600	1,060	4,160	1,860	8,790	6,740	4,820	2,760	1,860	970	795	722
28	2,050	1,000	3,330	1,720	7,380	7,380	4,320	2,820	1,810	970	795	722
29	1,280	940	2,360	1,860	5,920	7,160	3,920	3,690	1,720	970	770	745
30	970	940	2,100	2,050	-------	5,730	3,760	4,820	1,640	940	795	745
31	822	-------	5,920	1,900	-------	5,000	-------	3,920	-------	940	795	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,050	524	791	0.893	1.03	48,600
November	5,140	637	1,450	1.64	1.83	86,300
December	5,920	970	2,100	2.38	2.74	130,000
January	8,470	1,720	3,030	3.42	3.94	186,000
February	8,790	1,440	2,680	3.02	3.26	154,000
March	32,200	2,760	7,620	8.60	9.92	469,000
April	5,180	2,940	4,120	4.65	5.19	245,000
May	4,820	2,760	3,920	4.42	5.10	241,000
June	3,540	1,640	2,570	2.90	3.24	153,000
July	1,600	940	1,160	1.31	1.51	71,300
August	910	770	839	.947	1.09	51,600
September	795	700	737	.832	.93	43,900
The year	32,200	524	2,590	2.92	39.78	1,880,000

NORTH UMPQUA RIVER NEAR GLIDE, OREG.

LOCATION.—Staff gage in SW¼ 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 1932.
EXTREMES.—Maximum discharge during year, 59,500 second-feet Mar. 19 (gage height, 17.3 feet); minimum, 568 second-feet Oct. 8–16, 18 (gage height, 0.86 foot).

1915–20, 1921–22, 1927–32: Maximum discharge, that of Mar. 19, 1932; minimum, 552 second-feet Aug. 27–30, Sept. 27, 1931.

Maximum stage known, 22.6 feet Nov. 22, 1909 (estimated discharge, 90,000 second-feet).

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	584	855	1,580	7,920	2,590	6,910	6,430	5,750	4,700	1,900	1,000	855
2	a 585	810	1,520	5,750	2,440	6,430	6,430	6,670	4,120	1,770	1,000	
3	a 585	774	5,100	3,930	2,300	5,750	6,430	6,910	3,930	1,640	1,000	
4	a 590	740	4,310	3,060	2,160	4,500	6,200	6,200	3,930	1,520	1,000	
5	a 590	a 720	2,740	2,900	2,590	4,120	5,970	5,530	3,750	1,460	950	a 802
6	584	a 800	2,300	3,060	2,900	3,930	5,530	4,700	3,570	1,400	950	
7	584	902	2,590	3,060	2,900	3,750	4,700	4,700	3,230	1,340	950	
8	576	1,460	2,440	3,400	2,740	4,120	4,120	4,700	3,230	1,340	950	
9	568	1,770	2,300	4,900	3,060	4,900	3,930	4,900	3,230	1,340	902	
10	568	2,030	2,030	5,970	3,750	5,530	3,750	5,100	3,400	1,460	902	783
11	568		1,900	5,750	3,750	5,310	3,570	4,900	3,750	1,460	902	783
12	568		1,700	10,800	3,060	4,900	3,750	5,100	3,570	1,400	902	783
13	576		1,580	7,660	2,740	5,100	4,310	5,310	3,400	1,340	902	774
14	576		1,520	5,530	2,440	5,970	4,500	4,900	3,230	1,340	902	765
15	576	a3,000	1,400	4,500	2,300	6,910	4,310	4,700	3,230	1,280	902	765
16	568		1,340	3,930	2,030	13,900	4,500	4,700	2,900	1,220	902	
17	584		a1,500	3,570	1,900	24,300	5,530	4,500	2,740	1,220		
18	576		a 2,500	8,190	2,030	45,000	6,200	4,700	2,590	1,160		a 783
19	584		a 3,400	10,200	2,030	57,500	5,970	4,700	2,590	1,160		
20	584	9,900	a 4,500	6,200	2,030	34,700	6,670	a5,400	a 2,500	1,160		
21	624	4,900	5,970	4,500	2,160	14,300	6,200	a 5,600	a 2,550	1,100		783
22	1,640	3,400	5,750	3,400	2,440	9,020	5,750	a 5,200	2,590	1,100		774
23	1,900	2,590	3,570	a 2,900	2,740	7,660	5,970	4,700	2,440	1,100	a 855	
24	a 1,770	1,900	4,120	a 2,650	a 5,000	13,600	6,910	4,500	2,300	1,100		
25	a 1,700	2,440	3,230	a 2,450	8,190	13,000	6,670	4,120	2,160	1,100		
26	a 2,000	2,740	4,500	2,590	10,200	10,500	6,430	3,570	2,160	1,050		a 768
27	2,160	2,440	7,920	2,440	13,600	9,900	6,910	3,060	2,030	1,000		
28	3,570	1,770	5,530	2,440	9,020	9,310	6,430	4,120	1,900	1,000		
29	1,900	1,640	4,120	2,740	8,460	8,460	6,430	5,750	1,900	1,000	828	
30	1,400	1,640	4,700	2,740	-------	7,660	6,910	6,670	1,900	1,000	855	
31	1,000	-------	10,800	2,590	-------	6,670	-------	5,750	-----	1,000	855	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,570	568	1,010	0.835	0.96	62,100
November	9,900	720	2,440	2.02	2.25	145,000
December	10,800	1,340	3,500	2.89	3.33	215,000
January	10,800	2,440	4,570	3.78	4.36	281,000
February	13,600	1,900	3,920	3.24	3.49	225,000
March	57,500	3,750	11,700	9.67	11.15	719,000
April	6,910	3,570	5,580	4.61	5.14	332,000
May	6,910	3,060	5,070	4.19	4.83	312,000
June	4,700	1,900	2,980	2.46	2.74	177,000
July	1,900	1,000	1,270	1.05	1.21	78,100
August	1,000	828	897	.741	.85	55,200
September	855	----------	785	.649	.72	46,700
The year	57,500	568	3,650	3.02	41.03	2,650,000

a Estimated.

LAKE CREEK AT DIAMOND LAKE, NEAR FORT KLAMATH, OREG.

LOCATION.—Staff gage in SW¼ sec. 30, T. 27 S., R. 6 E., 50 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 1932; records incomplete.

EXTREMES.—Maximum discharge recorded during year, 92 second-feet June 30 (gage height, 1.55 feet); minimum discharge, 5 second-feet Oct. 18 to Nov. 29; minimum gage height, 0.48 foot Nov. 15–29.

1922–25, 1926–32: Maximum discharge, 146 second-feet June 1, 1925 (gage height, 2.13 feet at a former gage); no flow Aug. 25–27, 1931.

REMARKS.—Records fair. Gage not read on days when discharge is not given. Monthly mean discharge is mean of days when gage was read. 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		5						56				
2												
3				58			71			32	17	
4	6											16
5									55			
6			10			63				32		
7					71						15	17
8		5						61				
9												18
10				66			66			29	14	
11	6											17
12									55			
13			21			58				29		
14					68						22	17
15		5						37				
16												
17				77			63			28	22	
18	5											17
19									52			
20			23			.77				28		
21					82						21	18
22		5						49				
23	5											
24				71			58			28	19	
25	5											18
26									34			
27			31			79				28		
28					71						18	38
29		5						54				
30									34	21		
31				74							17	

Month	Mean	Per square mile	Run-off	
			Inches	Acre-feet
October	5.4	0.095	0.11	332
November	5.0	.088	.10	298
December	21.2	.372	.43	1,300
January	69.2	1.21	1.40	4,250
February	73.0	1.28	1.38	4,200
March	69.2	1.21	1.40	4,250
April	64.5	1.13	1.26	3,840
May	51.4	.902	1.04	3,160
June	46.0	.807	.90	2,740
July	28.3	.496	.57	1,740
August	18.3	.321	.37	1,130
September	19.6	.344	.38	1,170
The year	39.1	.686	9.34	28,400

CLEARWATER RIVER ABOVE TRAP CREEK, OREG.

LOCATION.—Water-stage recorder in SE¼ 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 1932.
EXTREMES.—Maximum discharge during year, 296 second-feet May 21 (gage height, 1.55 feet); minimum, 91 second-feet Nov. 4–6, 27, Dec. 12, 29, Jan. 3. 1927–32: Maximum discharge, that of May 21, 1932; minimum, that of Nov. 4–6, 27, Dec. 12, 29, 1931, Jan. 3, 1932.
REMARKS.—Records good. Discharge estimated Jan. 15 to Mar. 6, June 18–30, Aug. 28–31. No diversions or regulation above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	94	95	94		157	189	214	187	134	124
2	101	92	95	92		161	195	216	182	132	124
3	101	92	95	92		159	198	218	178	131	123
4	101	91	95	92	98	159	197	221	169	129	123
5	102	91	94	92		154	197	218	164	131	123
6	102	91	97	92		151	200	204	162	129	123
7	102	92	97	92	97	147	202	198	162	129	123
8	101	95	95	92	97	144	204	200	161	129	121
9	101	95	95	97	97	144	214	204	159	129	119
10	101	95	97	95	99	146	227	214	161	129	119
11	101	95	97	99	101	149	236	223	156	129	121
12	101	95	95	98	101	154	256	236	152	129	121
13	101	95	95	94	102	161	266	227	152	129	119
14	101	95	94	97	107	164	266	227	151	131	119
15	98	97	94		108	166	246	219	149	131	119
16	98	98	94		115	173	236	208	149	127	119
17	98	97	95		131	178	246	204	147	127	119
18	98	95	95		169	182	256		146	127	119
19	98	97	94		221	189	256		144	127	119
20	98	95	94		182	182	286		142	126	121
21	98	94	94		164	175	276		142	126	121
22	113	94	94	98	156	171	246		142	126	119
23	104	95	94		151	169	236		140	126	119
24	99	95	95		169	169	227	201	139	124	119
25	108	97	92		161	168	221		137	124	119
26	99	95	95		156	166	218		135	124	118
27	101	94	94		159	166	218		135	124	118
28	99	94	92		166	166	223		135	123	118
29	95	95	92		161	166	227		135	123	118
30	94	95	95		156	173	218		134	126	119
31	95	-------	95		156	-------	214	-------	134	125	-----

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	113	94	100	2.50	2.88	6,150
November	98	91	94.5	2.36	2.63	5,620
December	97	92	94.6	2.36	2.72	5,820
January	----------	92	96.3	2.41	2.78	5,920
February	----------	----------	98	2.45	2.64	5,640
March	221	97	131	3.28	3.78	8,060
April	189	144	164	4.10	4.57	9,760
May	286	189	229	5.72	6.60	14,100
June	236	----------	209	5,22	5,82	12,400
July	187	134	151	3.78	4.36	9,280
August	134	123	128	3.20	3.69	7,870
September	124	118	120	3.00	3.35	7,140
The year	286	91	135	3.38	45.82	97,800

COQUILLE RIVER BASIN

SOUTH FORK OF COQUILLE RIVER AT POWERS, OREG.

LOCATION.—Wire gage in NW¼ 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 1932. Prior to 1928 at station half a mile upstream.
EXTREMES.—Maximum discharge during year, 14,700 second-feet during night of Dec. 30–31 (gage height, 13.1 feet); minimum, 15 second-feet Sept. 25, 27–30 (gage height, 0.54 foot).

1916–26, 1928–32: Maximum discharge, 25,300 second-feet Oct. 31, 1924 (gage height, 17.5 feet at former gage); minimum, 13 second-feet Nov. 30 to Dec. 3, 1929.

REMARKS.—Records fair. Discharge estimated Aug. 23. No diversions or regulation above gage.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	153	308	4,470	990	1,040	825	990	152	56	29	19
2	18	130	405	2,760	990	1,040	670	1,100	152	56	29	19
3	18	110	1,320	2,080	825	1,040	825	1,040	165	56	29	18
4	18	98	1,140	1,440	1,150	935	880	935	152	56	27	18
5	20	83	960	1,210	1,920	770	1,320	825	147	53	25	18
6	20	77	740	1,100	1,770	720	1,210	770	142	50	25	16
7	20	74	1,020	990	1,920	720	1,150	674	133	48	23	16
8	19	365	900	1,040	1,770	770	1,040	620	124	45	23	16
9	18	290	900	1,040	1,260	880	880	545	120	45	23	16
10	17	740	840	1,040	1,440	1,210	825	430	120	45	23	16
11	17	740	790	1,040	1,260	990	770	430	115	45	23	16
12	17	495	690	2,360	1,260	935	720	385	111	45	25	16
13	17	325	900	1,560	1,100	825	620	345	107	45	25	16
14	17	790	690	1,210	1,040	825	720	305	103	48	25	16
15	17	590	590	990	1,100	770	620	305	99	48	25	16
16	17	1,200	518	1,040	825	1,560	595	288	92	48	23	16
17	17	3,060	495	2,000	720	4,080	1,320	270	88	45	23	16
18	17	2,660	740	7,300	670	5,730	1,040	238	88	45	23	16
19	17	3,720	900	5,730	595	6,320	1,920	238	85	42	23	16
20	17	5,450	2,170	3,500	545	3,720	1,630	238	81	42	23	16
21	18	1,910	3,280	1,770	545	2,460	1,320	238	74	42	23	18
22	1,320	1,200	2,460	1,500	545	1,770	1,150	238	71	42	23	18
23	1,260	960	2,260	1,100	545	1,260	1,100	238	68	39	23	16
24	1,080	640	5,030	935	620	2,260	1,100	222	68	39	23	16
25	900	565	2,860	825	1,040	1,920	1,150	207	62	37	21	15
26	740	640	4,890	770	1,500	1,380	1,150	178	62	37	21	16
27	472	450	3,960	825	1,840	1,260	1,150	178	59	34	21	15
28	495	405	3,170	825	1,660	1,040	1,040	178	59	34	21	15
29	345	365	2,170	990	1,280	1,150	880	178	59	32	21	15
30	240	325	5,030	1,440	-------	990	720	178	59	32	19	15
31	195	-------	10,200	1,260	-------	935	-------	165	-------	32	19	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,320	17	239	1.41	1.63	14,700
November	5,450	74	954	5.64	6.29	56,800
December	10,200	308	2,010	11.9	13.72	124,000
January	7,300	770	1,810	10.7	12.34	111,000
February	1,920	545	1,130	6.69	7.22	65,000
March	6,320	720	1,660	9.82	11.32	102,000
April	1,920	595	1,010	5.98	6.67	60,100
May	1,100	165	425	2.51	2.89	26,100
June	165	59	101	.598	.67	6,010
July	56	32	44.0	.260	.30	2,710
August	29	19	23.5	.139	.16	1,440
September	19	15	16.4	.097	.11	976
The year	10,200	15	786	4.65	63.32	571,000

MIDDLE FORK OF COQUILLE RIVER NEAR MYRTLE POINT, OREG.

LOCATION.—Water-stage recorder in S½ sec. 26, T. 29 S., R. 12 W., a third of a mile below mouth of Indian Creek and 3¾ miles southeast of Myrtle Point.
DRAINAGE AREA.—305 square miles.
RECORDS AVAILABLE.—October 1930 to September 1932.
EXTREMES.—Maximum discharge during year, 16,600 second-feet Dec. 31 (gage height, 19.2 feet); minimum, 5 second-feet Nov. 5 (gage height, 1.67 feet).
1930–32: Maximum discharge, that of Dec. 31, 1931; minimum, 1 second-foot July 16, 17, 1931.
Maximum stage known, 25.8 feet probably Oct. 31, 1924.
REMARKS.—Records good except those estimated, which are fair. Flow regulated completely during low-water periods and to some extent at all times by logging ponds above gage. No diversions above gage.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 12	134	289	6,060	2,120	1,080	860	1,450	213	54	16	24
2	a 12	68	384	3,060	1,550	1,450	780	1,600	168	53	7	22
3	a 12	7	515	1,940	1,260	1,260	762	1,760	176	53	10	21
4	12	8	675	1,450	1,600	985	840	1,450	270	54	12	20
5	a 12	5	657	1,160	2,670	840	1,660	1,260	136	54	16	18
6	a 12		535	1,010	2,600	745	1,550	940	119	52	38	17
7	a 12		570	920	2,900	675	1,400	940	110	48	22	16
8	a 12		732	820	2,260	622	1,160	710	106	47	16	15
9	12		852	860	1,820	640	985	570	104	46	16	13
10	12	a 321	1,010	920	2,260	675	820	477	31	45	17	13
11	12		1,160		2,600	640	675	492	48	43	15	13
12	a 12		967		2,740	552	622	400	23	43	14	12
13	a 12	309	1,100		2,460	492	520	90	189	42	15	12
14	a 12	658	1,030	a 1,310	1,940	492	492	614	48	32	16	12
15	a 12	535	868		1,550	468	433	329	50	29	15	12
16	12	951	710		1,260	2,390	456	339	49	34	14	12
17	11	3,420	622	2,060	1,030	4,260	359	226	63	36	15	12
18	11	2,900	622	4,790	860	5,920	422	216	72	37	a 15	11
19	12	4,660	628	6,930	745	9,120	820	320	74	36	a 14	11
20	12	7,800	1,080	4,730	675	6,200	1,300	126	74	34	14	11
21	12	2,700	2,670	2,740	605	3,330	1,260	231	74	34	a 14	11
22	212	1,500	2,600	1,880	570	2,060	632	203	73	32	a 14	10
23	411	962	2,780	1,400	605	1,550	1,280	86	82	30	a 15	10
24	289	782	6,480	1,100	745	1,940	1,060	406	70	27	a 15	10
25	261	552	3,620	920	940	2,000	1,450	168	67	27	15	10
26	400	657	5,230	800	1,210	1,660	1,660	152	64	27	15	10
27	400	505	8,320	920	1,300	1,450	1,500	150	62	29	14	10
28	692	489	5,780	1,210	1,120	1,300	921	90	60	29	14	10
29	369	349	3,420	3,290	1,010	1,350	1,230	103	57	28	22	10
30	233	438	4,160	5,920	-------	1,210	840	168	55	28	39	10
31	191	-------	13,200	3,240	-------	1,030	-------	261	-------	27	27	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	692	11	120	0.393	0.45	7,380
November	7,800	5	1,090	3.57	3.98	64,900
December	13,200	289	2,360	7.74	8.92	145,000
January	6,930	800	2,190	7.18	8.28	135,000
February	2,900	570	1,550	5.08	5.48	89,200
March	9,120	468	1,880	6.16	7.10	116,000
April	1,660	359	958	3.14	3.50	57,000
May	1,760	86	527	1.73	1.99	32,400
June	270	23	92.9	.305	.34	5,530
July	54	27	38.4	.126	.15	2,360
August	39	7	16.8	.055	.06	1,030
September	24	10	13.3	.044	.05	791
The year	13,200	5	904	2.96	40.30	657,000

a Estimated.

ROCK CREEK NEAR REMOTE, OREG.

LOCATION.—Staff gage in SE¼ sec. 35, T. 29 S., R. 10 W., just above backwater of logging pond, 1¾ miles above mouth, and 2¼ miles east of Remote.
DRAINAGE AREA.—23 square miles.
RECORDS AVAILABLE.—October 1930 to December 1932 (discontinued).
EXTREMES.—Maximum discharge during period October 1931 to December 1932, 560 second-feet Nov. 19, 1931 (gage height, 4.0 feet); minimum, 2 second-feet Oct. 8–13, 1932 (gage height, −0.02 foot).

1930–32: Maximum discharge, that of Nov. 19, 1931; minimum, that of Oct. 8–13, 1932.

Maximum stage known, 6.8 feet Jan. 2, 1933 (discharge not determined).
REMARKS.—Records fair. Staff gage read about 3 times a week; discharge on days when gage was not read estimated by comparison with South Fork of Coquille River at Powers. No diversions or regulation above station. Gage-height record furnished by A. L. Houghtaling.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1931–32												
1	4	26	50	350	135	207	128	150	28	11	6	4
2	4	24	50	259	130	200	105	160	27	15	6	4
3	4	22	63	190	125	277	113	150	26	19	6	4
4	4	21	60	158	120	220	130	135	26	15	6	4
5	4	21	58	150	160	182	150	113	26	11	6	4
6	4	21	58	143	140	160	145	105	25	10	5	3
7	4	28	100	160	143	143	128	95	24	10	5	3
8	4	80	86	224	165	125	120	86	24	10	6	3
9	4	70	84	230	220	136	120	75	23	10	6	3
10	4	120	80	224	270	160	110	68	22	10	6	3
11	4	120	74	220	241	128	92	63	21	10	6	3
12	4	50	66	400	230	105	84	57	20	10	6	3
13	4	40	58	316	224	92	80	53	20	10	5	3
14		70	56	210	180	92	84	50	20	10	5	3
15		54	54	140	190	92	68	46	19	10	5	3
16	4	378	54	143	175	336	80	44	19	10	5	3
17		336	54	200	155	378	86	43	18	9	5	3
18		277	54	378	145	430	63	41	18	9	5	3
19		378	58	336	135	467	150	39	18	9	5	3
20	4	444	100	300	128	360	128	37	17	8	5	3
21	4	259	190	241	110	277	105	36	16	8	5	3
22	128	180	160	190	93	210	99	33	16	8	5	3
23	99	120	182	150	86	190	98	32	15	7	4	3
24	58	92	296	130	86	270	143	31	14	7	4	3
25	106	74	210	113	241	240	180	29	14	7	4	3
26	90	80	296	105	250	224	190	28	14	7	4	3
27	74	70	280	99	259	200	165	28	14	7	4	3
28	78	64	260	100	230	190	143	29	13	7	4	3
29	63	58	259	110	220	180	120	30	12	7	4	3
30	45	54	330	296	------	190	106	29	12	7	4	3
31	30	------	467	150	------	155	------	28	------	7	4	------

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1932				1932				1932			
1	3	4	110	11	2	33	22	21	4	39	39
2	3	20	80	12	2	24	22	22	5	34	50
3	3	15	70	13	2	25	24	23	8	30	241
4	3	9	58	14	8	31	23	24	7	29	150
5	3	30	48	15	20	39	22	25	6	28	357
6	3	113	39	16	20	150	22	26	6	27	500
7	3	60	34	17	15	128	23	27	5	31	357
8	2	38	29	18	7	85	30	28	4	60	310
9	2	55	24	19	6	54	38	29	4	136	277
10	2	39	22	20	4	47	200	30	4	174	200
								31	4	------	200

Discharge, in second-feet, of Rock Creek near Remote, Oreg., 1931–32—Continued

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
1931-32						
October	128	4	27.6	1.20	1.38	1,700
November	444	21	121	5.26	5.87	7,200
December	467	50	137	5.96	6.87	8,420
January	400	99	207	9.00	10.38	12,700
February	270	86	172	7.48	8.07	9,890
March	467	92	213	9.26	10.68	13,100
April	190	63	117	5.09	5.68	6,960
May	160	28	62.7	2.73	3.15	3,860
June	28	12	19.4	.843	.94	1,150
July	19	7	9.5	.413	.48	584
August	6	4	5.0	.217	.25	307
September	4	3	3.2	.139	.16	190
The year	467	3	91.1	3.96	53.91	66,100
1932						
October	20	2	5.5	.239	.28	338
November	174	4	52.9	2.30	2.57	3,150
December	500	22	117	5.09	5.87	7,190
The period						10,700

NORTH FORK OF COQUILLE RIVER NEAR MYRTLE POINT, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 36, T. 28 S., R. 12 W., a quarter of a mile below junction with East Fork and 4¼ miles northeast of Myrtle Point. Zero of gage is 12.22 feet above mean sea level.

DRAINAGE AREA.—276 square miles.

RECORDS AVAILABLE.—October 1928 to September 1932. Prior to October 1930 at site 3½ miles downstream.

EXTREMES.—Maximum discharge during year, 9,320 second-feet Mar. 19 (gage height, 33.0 feet); minimum, 20 second-feet Sept. 29, 30 (gage height, 1.59 feet).

1928–32: Maximum discharge, that of Mar. 19, 1932; minimum, 17 second-feet Sept. 5, 1930.

Maximum stage known, 41.2 feet during winter of 1909–10.

REMARKS.—Records fair. No diversions above gage. Flow regulated by operation of logging ponds above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	256	a 540	a 6,000	2,630	a 1,300	a 1,100	1,260	311	a 100	51	30
2	29	216	a 700	a 4,200	2,000	a 1,600	a 940	1,260	290	a 105	50	29
3	28	186	a 1,100	a 2,800	1,670	a 1,500	a 900	1,240	290	110	48	27
4	27	168	1,500	a 2,100	1,870	a 1,250	1,140	1,120	256	a 105	48	26
5	27	151		1,700	2,750	1,020		1,000	236	a 100	47	25
6	30	132		a 1,400	2,510			912	230	a 90	44	24
7	30	148		a 1,200	2,810		a 1,500	806	216	86	42	23
8	31	695	a 1,460	a 1,100	2,480			727	204	83	41	24
9	28	653		1,170	2,260	a 750		653	198	80	42	24
10	27	1,830			2,690			600	186	82	42	24
11	27	1,150			3,100		1,000	549	180	88	42	24
12	27	673	1,600	a 1,580	3,300	671	a 910	515	174	87	42	24
13	27	574			2,900	a 620	a 820	483	168	83	42	23
14	26	1,410			2,340	a 580	a 760	452	168	91	40	22
15	26	1,220			1,950	583	a 720	437	162	100	40	23
16	26	1,740	a 1,480	2,510	1,620	a 2,500	689	407	151	89	40	22
17	26	3,980		a 3,500	1,360	a 4,200		392	146	79	42	22
18	26	3,700		a 5,900	1,170	a 6,000		377	140	74	40	22
19	28	4,060		a 6,900	1,020	8,920	a 350	139	70	40	22	
20	27	8,120		a 5,000	934		a 1,060	a 320	137	66	40	22
21	28	5,110	3,980	3,630				290	133	61	a 39	22
22	555	2,560		2,540			a 3,700	1,240	370	131	60	a 37	22
23	785	1,770		1,900	a 780			a 1,200	347	126	59	a 35	23
24	543	a 1,330		1,530				a 1,200	332	123	59	34	23
25	395	a 1,000		1,290				a 1,500	304	118	60	34	22
26	710	a 870	a 5,570	1,220	934	2,690	a 1,650	290	105	59	34	22
27	641	827		a 1,380	a 1,200		1,340	269	104	58	34	21
28	1,750	a 740		1,530	a 1,100		1,220	269	105	57	30	20
29	844	a 650		2,710	a 1,000	a 1,760	1,050	290	100	56	28	20
30	483	a 570		5,160			912	311	96	54	30	20
31	311			3,840				311		53	30	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,750	26	245	0.888	1.02	15,100
November	8,120	132	1,550	5.62	6.27	92,200
December		540	2,810	10.2	11.76	173,000
January		1,100	2,640	9.57	11.03	162,000
February	3,300		1,780	6.45	6.96	102,000
March	8,920	580	2,220	8.04	9.27	136,000
April			1,150	4.17	4.65	68,400
May	1,260	269	556	2.01	2.32	34,200
June	311	96	171	.620	.69	10,200
July	110	53	77.5	.281	.32	4,760
August	51	28	39.6	.143	.16	2,430
September	30	20	23.2	.084	.09	1,380
The year	8,920	20	1,110	4.02	54.54	802,000

a Estimated.

ROGUE RIVER BASIN

ROGUE RIVER ABOVE BYBEE CREEK, OREG.

LOCATION.—Water-stage recorder in NE¼ 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 1930 to September 1932.

EXTREMES.—Maximum discharge during year, 2,940 second-feet Mar. 19 (gage height, 5.95 feet); minimum, 186 second-feet Nov. 16 (gage height, 0.23 foot). 1930–32: Maximum discharge, that of Mar. 19, 1932; minimum, that of Nov. 16, 1931.

REMARKS.—Records good except those estimated, which are fair. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	194	250		252		356	650	998	1,020	575	302	275
2	194	242		[a] 220		329	710	1,040	1,040	558	305	272
3	194	238		[a] 215		305	750	952	1,060	522	305	272
4	194	235	[a] 287	[a] 235		290	710	930	1,110	488	308	270
5	194	232		228	[a] 254	285	670	890	1,060	470	308	265
6	198	228		228		288	630	930	952	440	310	262
7	198	228	310	230		302	592	1,020	910	425	312	262
8	198	255	288	232		310	575	1,110	890	425	312	260
9	194	242	255	262	255	329	558	1,240	975	425	310	260
10	196	240		288	240	368	575	1,330	1,060	440	310	258
11	196	225		312	238	380	592	1,380	1,110	440	310	258
12	194	222		425	238	380	710	1,480	1,200	410	308	258
13	196	225		315	235	380	790	1,580	1,150	395	308	255
14	198	232	[a] 244	305		371	810	1,530	1,110	395	305	258
15	196	222		326		395	770	1,330	1,060	380	305	255
16	194	210		292		425	790	1,240	975	374	298	255
17	192	230		292	[a] 216	440	810	1,380	890	365	290	255
18	190	265		312		998	810	1,480	850	362	282	255
19	192	240	285	326		2,110	790	1,430	810	350	278	258
20	190		238	295		2,170	750	1,750	810	344	280	262
21	188		250	258	225	1,240	690	1,690	850	335	280	265
22	321		238	248	218	890	650	1,380	870	329	280	265
23	305		228	242	216	750	610	1,200	830	323	280	262
24	258		235	[a] 240	225	670	592	1,150	790	312	278	260
25	323	[a] 232	220	[a] 260	238	998	592	1,110	750	[a] 308	278	258
26	278		218	[a] 280	260	810	592	1,110	730	[a] 304	278	262
27	295		[a] 225	[a] 290	320	710	575	1,060	710	300	278	258
28	353		232	302	368	730	575	1,150	690	300	272	258
29	290		235	320	380	790	610	1,200	670	298	275	255
30	272		245	312	-------	730	690	1,080	630	300	278	255
31	262	-------	275	302	-------	670	-------	1,020	-------	300	278	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	353	188	227	1.92	2.21	14,000
November	----------	----------	234	1.98	2.21	13,900
December	----------	----------	255	2.16	2.49	15,700
January	425	215	279	2.36	2.72	17,200
February	380	----------	248	2.10	2.26	14,300
March	2,170	285	652	5.53	6.38	40,100
April	810	558	674	5.71	6.37	40,100
May	1,750	890	1,230	10.4	11.99	75,600
June	1,200	630	919	7.79	8.69	54,700
July	575	298	387	3.28	3.78	23,800
August	312	272	294	2.49	2.87	18,100
September	275	255	261	2.21	2.47	15,500
The year	2,170	188	472	4.00	54.44	343,000

[a] Estimated.

ROGUE RIVER ABOVE PROSPECT, OREG.

LOCATION.—Water-stage recorder in NE¼ 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.

RECORDS AVAILABLE.—July 1907 to February 1912 incomplete; October 1923 to September 1932.

EXTREMES.—Maximum discharge during year, 7,530 second-feet Mar. 19 (gage height, 6.7 feet); minimum, 200 second-feet Nov. 20 (gage height, 1.07 feet). 1907–12, 1923–32: Maximum discharge, about 9,300 second-feet Nov. 22, 1909 (gage height, about 7.0 feet); minimum, that of Nov. 20, 1931.

REMARKS.—Records good except those estimated and those for February and March, which are fair. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	228	321	a320	397	a325	802	1,400	1,720	1,550	788	410	352
2	224	309	343	361	a315	695	1,600	1,880	1,550	751	406	352
3	224	297	334	338	321	612	1,550	1,720	1,550	716	402	352
4	224	289	343	366	338	564	1,400	1,450	1,600	682	397	348
5	228	281	330	343	330	537	1,260	1,550	1,550	643	392	352
6	231	269	317	334	338	532	1,120	1,550	1,400	a621	388	348
7	228	273	334	330	338	559	1,000	1,770	1,300	a598	388	348
8	228	309	321	330	338	612	928		1,260	576	388	348
9	224	305	301	388	325	695	928		1,350	559	384	343
10	224	309	289	470	321	896	1,000	a2,220	1,500	559	384	338
11	224	285	301	515	321	960	1,170		1,550	554	384	338
12	224	277	285	848	313	896	1,400		1,720	532	379	338
13	224	277		594	313	848	1,450	2,680	1,720	526	374	338
14	220	289		490		960	1,450	2,470	1,550	515	374	338
15	220	277		500		1,080	1,350	2,130	1,500	500	379	338
16	217	285	a296	465	a288	1,220	1,450	1,940	1,400	490	370	334
17	217	285		440		2,470	1,500	2,130	1,300	480	366	334
18	217	301		475		5,120	1,550	2,330	1,220	480	366	334
19	220	305	348	559		6,470	1,500	2,200	1,170	465	366	334
20	220		330	505	317	3,430	1,400	2,680	1,170	465	366	338
21	224	a272	374	460	317	2,130	1,220	2,540	1,170	455	361	343
22	406		366	435	309	1,600	1,080	2,060	1,220	450	361	338
23	435		348	348	309	1,350	1,000	1,770	1,170	445	361	334
24	338		370	a335	330	2,200	1,120	1,720	1,080	440	356	334
25	415	309	356	a360	379	2,000	1,120	1,600	1,040	435	356	334
26	415	317	361	a380	500	1,550	1,120	1,550	1,000	430	361	334
27	388	317	343	a380	765	1,450	1,040	1,500	968	425	361	334
28	548	321	361	388	960	1,660	1,080	1,720	920	420	352	330
29	425	a290	325	406	952	1,550	1,120	1,770	888	420	356	330
30	366	a300	338	361	------	1,350	1,260	1,720	825	415	356	330
31	343	------	392	370	------	1,300	------	1,550	------	415	356	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	548	217	283	0.852	0.98	17,400
November	321	----------	292	.880	.98	17,400
December	392	----------	329	.991	1.14	20,200
January	848	330	428	1.29	1.49	26,300
February	960	----------	383	1.15	1.24	22,000
March	6,470	532	1,550	4.67	5.38	95,300
April	1,600	928	1,250	3.77	4.21	74,400
May	2,680	1,450	1,960	5.90	6.80	121,000
June	1,720	825	1,310	3.95	4.41	78,000
July	788	415	524	1.58	1.82	32,200
August	410	352	374	1.13	1.30	23,000
September	352	330	340	1.02	1.14	20,200
The year	6,470	217	754	2.27	30.89	547,000

a Estimated.

ROGUE RIVER BELOW SOUTH FORK OF ROGUE RIVER, NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in NW¼ 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 1932.

EXTREMES.—Maximum discharge during year, about 12,600 second-feet Mar. 19 (gage height, about 8.7 feet); minimum not determined, as stage falls below intake pipe of well at times.

1929–32: Maximum discharge, that of Mar. 19, 1932; minimum not determined.

REMARKS.—Records 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.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				1,000		1,580	2,890	3,010	3,250	1,920	1,060	915
2						1,460	3,130	3,370	3,250	1,880	1,090	915
3						1,340	3,130	3,250	3,130	1,830	1,060	915
4					a802	1,260	2,890	3,250	3,250	1,830	1,060	880
5		a667		a817		1,180	2,670	3,130	3,250	1,780	1,020	880
6						1,140	2,400	3,010	2,890	1,700	1,020	880
7					830	1,220	2,230	3,250	2,720	1,600	1,020	848
8					a810	1,300	2,070	3,370	2,670	1,560	985	848
9			a721	895	a800	1,380	2,020	3,620	2,780	1,520	985	848
10		772		1,000	a780	1,660	2,070	4,130	3,010	1,480	985	848
11	a580	680		1,110	a740	1,750	2,230	4,130	3,130	1,480	985	848
12		670		1,500	830	1,700	2,560	4,410	3,500	1,440	985	848
13		680		1,260	798	1,620	2,720	4,700	3,500	1,400	985	848
14		700		1,080	a700	1,750	2,730	4,550	3,250	1,400	985	848
15		682		1,080	791	1,880	2,620	4,130	3,250	1,360	985	815
16		758		1,000		2,350	2,720	3,740	3,010	1,320	985	848
17		830		965		4,350	2,780	4,000	2,780	1,320	985	815
18		817	784	1,040		9,240	3,010	4,270	2,620	1,280	985	815
19		862	778	1,180		11,000	3,010	4,130	2,500	1,240	985	815
20		895	772	1,110	a760	a6,410	2,890	4,550	2,560	1,200	950	815
21		810	862	1,040		a4,410	2,560	4,550	2,620	1,200	950	815
22	965	a835	1,000			a3,620	2,340	3,870	2,670	1,200	950	815
23	1,040	a815	895			a3,250	2,230	3,370	2,620	1,160	950	815
24	830	862	862			a4,270	2,450	3,250	2,500	1,160	915	789
25	895	a830	895	965		4,130	2,450	3,130	2,340	1,120	915	789
26	895	a706	810	930	1,140	3,500	2,500	3,010	2,280	1,120	915	815
27	895		930	895	1,460	3,250	2,400	3,010	2,230	1,090	915	815
28	1,040		930	862	1,750	3,500	2,500	3,500	2,120	1,090	880	815
29	830		862	862	1,750	3,250	2,450	3,620	2,070	1,090	915	815
30	791		862	862	-------	3,010	2,620	3,500	1,970	1,090	950	815
31	a710	-------	1,040	a820	-------	2,780	-------	3,250	-------	1,090	950	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,040	----------	680	1.06	1.22	41,800
November	895	----------	717	1.12	1.25	42,700
December	1,040	----------	782	1.22	1.41	48,100
January	1,500	----------	963	1.50	1.73	59,200
February	1,750	700	890	1.38	1.49	51,200
March	11,000	1,140	3,050	4.74	5.46	188,000
April	3,130	2,020	2,580	4.01	4.47	154,000
May	4,700	3,010	3,680	5.72	6.60	226,000
June	3,500	1,970	2,790	4.34	4.84	166,000
July	1,920	1,090	1,390	2.16	2.49	85,500
August	1,090	880	978	1.52	1.75	60,100
September	915	789	840	1.31	1.46	50,000
The year	11,000	----------	1,610	2.50	34.17	1,170,000

a Estimated.

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 1932.

EXTREMES.—Maximum discharge during year, 31,900 second-feet Mar. 19 (gage height, 12.2 feet); minimum, 604 second-feet Aug. 5 (gage height, 0.07 foot).

1905–32: Maximum discharge, 91,500 second-feet Feb. 21, 1927 (gage height, 24.8 feet); minimum stage indeterminate, as water goes below intake pipe of well during low stages, which are usually of short duration.

REMARKS.—Records good. Numerous diversions for irrigation above station. Diurnal fluctuation, owing to operation of power plant immediately above station. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	728	905	998	3,640	2,240	3,640	4,810	5,000	5,000	2,240	1,240	1,030
2	792	805	1,070	2,600	1,900	3,160	5,000	5,600	4,620	2,240	1,200	1,110
3	772	898	1,200	2,060	1,680	2,840	5,200	6,450	4,620	2,060	1,160	1,070
4	716	805	1,430	1,840	1,840	2,600	4,810	7,130	4,620	2,010	1,160	1,010
5	716	875	1,430	1,740	2,060	2,360	4,440	6,020	4,440	1,960	1,160	982
6	716	847	1,290	1,630	2,420	2,300	4,100	5,400	4,100	1,840	1,160	1,030
7	716	798	1,160	1,630	2,360	2,420	3,790	5,400	3,790	1,790	1,110	1,020
8	716	958	1,290	1,630	2,240	2,480	3,500	5,400	3,640	1,680	1,110	998
9	710	920	1,240	1,840	2,060	2,780	3,430	5,600	3,570	1,680	1,110	990
10	704	912	1,110	2,480	2,060	3,160	3,360	5,810	3,790	1,630	1,110	966
11	704	974	1,160	2,360	1,960	3,430	3,500	6,020	4,270	1,630	1,160	990
12	698	905	1,070	5,200	1,960	3,300	3,790	6,020	4,440	1,630	1,110	998
13	704	861	1,030	3,640	2,010	3,100	3,940	6,230	4,270	1,580	1,110	982
14	704	1,030	1,030	2,600	1,790	3,300	4,100	6,230	4,100	1,540	1,160	982
15	710	998	920	2,300	1,580	3,640	3,790	5,810	3,940	1,530	1,110	982
16	704	990	898	2,300	1,680	5,000	3,940	5,000	3,790	1,530	1,160	966
17	710	1,960	950	2,720	1,480	8,620	3,940	5,000	3,500	1,480	1,070	1,010
18	716	2,180	1,160	3,790	1,430	17,800	4,270	5,400	3,300	1,340	1,160	1,010
19	710	1,980	1,240	4,620	1,430	28,400	4,270	5,400	3,100	1,430	1,010	1,010
20	704	3,890	1,290	3,430	1,430	18,500	4,440	5,810	3,040	1,380	1,070	958
21	704	2,100	1,530	2,780	1,480	10,300	4,270	6,230	3,040	1,380	1,070	966
22	914	1,480	1,740	2,420	1,530	7,610	3,720	5,400	3,040	1,340	1,070	982
23	1,290	1,240	1,480	2,060	1,740	6,020	3,720	4,620	2,970	1,340	1,070	974
24	1,160	1,160	2,010	1,840	2,420	8,360	4,810	4,270	2,840	1,340	1,070	935
25	1,030	1,110	1,840	1,790	3,360	7,130	5,000	4,100	2,780	1,290	1,070	942
26	1,290	1,160	1,950	1,790	3,940	6,900	6,230	3,940	2,660	1,290	1,070	982
27	1,070	1,160	8,360	1,790	4,810	5,810	5,810	3,790	2,600	1,290	1,030	950
28	1,240	1,010	4,180	1,740	5,000	6,020	5,200	4,620	2,540	1,290	982	974
29	1,200	958	2,480	2,010	4,440	5,810	4,810	5,600	2,420	1,240	1,070	950
30	990	1,010	2,060	3,230	-------	5,200	4,620	6,900	2,360	1,240	1,070	920
31	974	-------	5,810	2,540	-------	4,810	-------	5,400	-------	1,240	1,070	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,290	698	846	0.419	0.48	52,000
November	3,890	798	1,230	.609	.68	73,200
December	8,360	898	1,820	.901	1.04	112,000
January	5,200	1,630	2,520	1.25	1.44	155,000
February	5,000	1,430	2,290	1.13	1.22	132,000
March	28,400	2,300	6,350	3.14	3.62	390,000
April	6,230	3,360	4,350	2.15	2.40	259,000
May	7,130	3,790	5,470	2.71	3.12	336,000
June	5,000	2,360	3,570	1.77	1.98	212,000
July	2,240	1,240	1,560	.772	.89	95,900
August	1,240	982	1,110	.550	.63	68,200
September	1,110	920	989	.490	.55	58,800
The year	28,400	698	2,680	1.33	18.05	1,940,000

MILL CREEK NEAR PROSPECT, OREG.

LOCATION.—Staff gage in SE¼ sec. 29, T. 32 S., R. 3 E., at power canal crossing a third of a mile northeast of Prospect. Prior to Apr. 29, 1932, staff gage half a mile upstream above a small diversion.

DRAINAGE AREA.—32 square miles.

RECORDS AVAILABLE.—August to October 1910; May 1925 to September 1932.

EXTREMES.—Maximum discharge recorded during year, 158 second-feet Mar. 25 (gage height, 3.30 feet; undoubtedly higher Mar. 19 or 20); minimum, 24 second-feet Oct. 2–16.

1910, 1925–32: Maximum discharge, 200 second-feet Feb. 20, 1927; minimum, 24 second-feet Sept. 4–25, Oct. 2–16, 1931.

REMARKS.—Records fair April to September; poor October to March. Gage read once a week. A ditch above station diverts 1 or 2 second-feet for use at Prospect; no regulation. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				35						77		
2	24											30
3									129			
4			31									
5						34					33	
6		26						129				
7							102					
8				30						54		
9	24					54						30
10									121			
11			29			49						
12					32						33	
13		28						137				
14							123			45		
15				34						45		30
16	24		28									28
17									129			
18			30			152						
19					32						31	
20								137				
21							128					
22				34						38		
23	33											29
24									106			
25			32			158						
26					34						30	
27		29					107	129				
28												
29				33			106			36		
30	27											29
31						128						

Month	Mean	Per square mile	Run-off	
			Inches	Acre-feet
October	[a] 26.4	0.825	0.95	1,620
November	[a] 27.7	.866	.97	1,650
December	[a] 30.0	.938	1.08	1,840
January	[a] 33.2	1.04	1.20	2,040
February	[a] 32.7	1.02	1.10	1,880
March	[b] 83.9	2.62	3.02	5,160
April	[b] 121	3.78	4.22	7,200
May	[b] 124	3.88	4.47	7,620
June	[a] 121	3.78	4.22	7,200
July	[a] 49.2	1.54	1.78	3,030
August	[a] 31.8	.994	1.15	1,900
September	[a] 29.3	.916	1.02	1,740
The year	59.2	1.85	25.18	42,900

[a] Mean of days when gage was read.
[b] Estimated by comparison with Rogue River above Prospect.

SOUTH FORK OF ROGUE RIVER ABOVE IMNAHA CREEK, NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 18, T. 33 S., R. 4 E., 300 yards above Imnaha Creek, 400 yards above South Fork diversion dam, and 6 miles southeast of Prospect.

RECORDS AVAILABLE.—October 1931 to September 1932.

EXTREMES.—Maximum discharge during year, 1,100 second-feet Mar. 19 (gage height, 4.47 feet); minimum discharge, 27 second-feet Oct. 1–21; minimum gage height, 0.81 foot Oct. 4, 9–21.

REMARKS.—Records good except those estimated and those above 300 second-feet, which are fair. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	35	32	39	a 35	54	250	260	376	200	92	69
2	27	34	33	36	a 35	54	262	288	350	189	90	69
3	27	32	34	35	a 36	51	250	285	358	181	88	68
4	27	32	32	35	38	50	236	290	376	170	87	67
5	27	31	32	34	37	50	215	290	355	162	84	66
6	27	31	32	33	36	51	198	305	310	154	83	66
7	27	32	35	33	36	55	189	330	282	148	82	64
8	27	35	34	33	36	59	180	350	278	144	82	63
9	27	35	34	36	37	62	175	385	305	138	83	62
10	27	35	34	41	37	75	182	445	338	135	82	61
11	27	33	33	44	37	83	195	462	342	134	82	62
12	27	32	33	55	36	82	215	540	500	129	82	61
13	27	33	33	a 50	36	82	230	628	430	125	80	60
14	27	33	a 34	a 48		94	234	605	400	127	80	60
15	27	32	a 33	a 47		97	234	500	400	120	80	58
16	27	35	a 32	48		118	250	445	367	117	79	58
17	27	39	33	52	a 33	232	260	480	325	113	77	58
18	27	35	34	51		560	300	582	298	111	77	58
19	27	39	34	55		990	305	540	282	111	75	58
20	27		34	50	33	582	272	462	290	107	75	58
21	27		35	46	32	400	244	462	298	106	75	58
22	51	a 34	34	43	31	315	220	379	318	103	74	56
23	55		34	a 40	31	266	212	338	302	101	74	56
24	45		35	a 35	33	373	224	328	282	100	73	55
25	53	37	33	a 35	38	338	220	325	270	100	72	54
26	46	35	33	34	41	285	215	322	260	99	72	53
27	45	a 30	39	36	47	268	208	318	250	97	72	52
28	60	a 30	35	a 35	51	310	212	415	240	96	72	51
29	48	a 30	35	a 35	55	280	218	400	230	95	72	50
30	41	a 32	37	a 35	-------	252	236	382	213	94	72	50
31	38	-------	41	a 35	-------	244	-------	367	-------	94	70	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	60	27	33.8	0.650	0.75	2,080
November	39	30	33.6	.646	.72	2,000
December	41	32	34.1	.656	.76	2,100
January	55	33	40.8	.785	.90	2,510
February	55	----------	36.6	.704	.76	2,110
March	990	50	220	4.23	4.88	13,500
April	305	175	228	4.38	4.89	13,600
May	628	260	403	7.75	8.94	24,800
June	500	213	321	6.17	6.88	19,100
July	200	94	126	2.42	2.79	7,750
August	92	70	78.6	1.51	1.74	4,830
September	69	50	59.4	1.14	1.27	3,530
The year	990	27	135	2.60	35.28	97,900

a Estimated.

IMNAHA CREEK NEAR PROSPECT, OREG.

LOCATION.—Staff gage in NE¼ sec. 18, T. 33 S., R 4 E., 400 yards above mouth and 6 miles southeast of Prospect.
RECORDS AVAILABLE.—September 1931 to September 1932.
EXTREMES.—Maximum discharge recorded during period, 237 second-feet Mar. 19 (gage height, 2.10 feet); minimum, 11 second-feet Dec. 14 (gage height, 0.46 foot).
REMARKS.—Daily-discharge records good; monthly mean discharges fair. Staff gage read only once a week. No diversions or regulation above station. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											46		
2		13								84			17
3				13			16						
4	12					13							
5	12								104			21	
6			13										
7					14		16	81					
8	13										37		
9	14	13								69			16
10	13			13			20						
11						12							
12									125		33	20	
13			13										
14				11	14			84					17
15											32		
16		13								69		20	16
17				12			60						
18						12							
19							237		112			19	
20			14										
21					14			92					
22											27	18	
23		17											16
24				13			125			56			
25						12							
26			13						73			18	
27	12												
28	12				14			84					
29											23		
30		14										18	16
31				15			89						

Month	Mean	Per square mile	Run-off	
			Inches	Acre-feet
1931				
September	[a] 12.6	0.485	0.54	750
1931–32				
October	[a] 14.0	.538	.62	861
November	[a] 13.2	.508	.57	786
December	[a] 12.8	.492	.57	787
January	[a] 14.0	.538	.62	861
February	[a] 12.2	.469	.51	702
March	[b] 60.7	2.33	2.69	3,730
April	[a] 85.2	3.28	3.66	5,070
May	[a] 104	4.00	4.61	6,400
June	[a] 69.5	2.67	2.98	4,140
July	[a] 33.0	1.27	1.46	2,030
August	[a] 19.1	.735	.85	1,170
September	[a] 16.3	.627	.70	970
The year	37.9	1.46	19.84	27,500

[a] Mean of days when gage was read.
[b] Estimated by comparison with flow at other stations.

SOUTH FORK OF ROGUE RIVER POWER CANAL NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in E½ sec. 12, T. 33 S., R. 3 E., 1 mile below head gate at diversion dam and 5 miles southeast of Prospect. Zero of gage is 3,357.36 feet above mean sea level.

RECORDS AVAILABLE.—April to September 1932.

EXTREMES.—Maximum discharge during period, 165 second-feet Apr. 7 (gage height 3.12 feet); no flow at times.

REMARKS.—Records good. This canal, completed in March 1932, diverts water from South Fork of Rogue River 200 feet below mouth of Imnaha Creek for use at power plant located in W½ sec. 1, T. 33 S., R. 3 E., from which water may be wasted into Middle Fork of Rogue River or mingled with other diversions in Main Power Canal. (See p. 144.) Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1932

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	1.4	31	3.2	146	23	68	16	20	76	150	132	80	59
2	5.3	121	3.2	146	93	67	17	20	137	146	128	82	58
3	13	150	3.2	88	91	67	18	34	142	98	128	81	58
4	16	150	3.6	78	91	66	19	37	137	2.9	124	80	58
5	11	150	3.3	146	89	65	20	34	142	96	119	79	58
6	28	150	3.3	146	87	64	21	42	74	146	119	77	58
7	15	59	3.2	146	87	64	22	49	.7	146	38	76	58
8	25	0	10	142	89	64	23	88	107	146	3.3	77	57
9	28	106	69	142	87	63	24	22	114	146	3.3	77	55
10	3.0	146	146	142	88	61	25	91	146	73	3.2	77	55
11	1.1	146	93	142	88	19	26	137	78	3.0	1.0	74	54
12	17	146	2.9	137	87	25	27	137	2.0	90	0	74	17
13	21	146	4.2	137	87	61	28	112	1.5	146	0	73	0
14	20	51	84	104	82	60	29	146	3.3	146	0	70	0
15	20	0	146	41	76	60	30	130	3.3	146	2.4	70	21
							31	------	18	------	4.7	69	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
April	146	1.1	44.1	2,620
May	150	0	88.2	5,420
June	150	2.9	75.3	4,480
July	146	0	86.7	5,330
August	93	23	79.4	4,880
September	68	0	51.3	3,050
The period	------	------	------	25,800

NOTE.—Little or no flow prior to Mar. 31 1932. Discharge Mar. 31, 1932, 5.2 second-feet.

MIDDLE FORK OF ROGUE RIVER NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 1, T. 33 S., R. 3 E., 1,000 feet below diversion dam and intake of Middle Fork of Rogue River power canal and 4½ miles southeast of Prospect.

DRAINAGE AREA.—57 square miles.

RECORDS AVAILABLE.—May 1925 to September 1932.

EXTREMES.—Maximum combined discharge of river and canal during year, 1,300 second-feet Mar. 19 (gage height, 3.55 feet); minimum, 77 second-feet Oct. 17–21.

1925–32: Maximum discharge, that of Mar. 19, 1932; minimum, 72 second-feet Aug. 24 to Sept. 5, 1931.

REMARKS.—Records good April to September; fair October to March. Flow of river below canal estimated Nov. 21–30, Dec. 1–20, 25, Jan. 4–9, 14, 15, 17–31, Feb. 1–10, 12–25. Flow regulated since Nov. 19, 1931, by operation of head gates at diversion dam of power canal which diverts water around station; practically no storage above diversion dam. Gage-height record furnished by The California Oregon Power Co.

Combined discharge, in second-feet, of Middle Fork of Rogue River and Middle Fork of Rogue River power canal near Prospect, Oreg., 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	87	81	94	94	159	319	287	305	265	137	122
2	82	86	82	91	92	143	326	307	325	246	137	122
3	82	86	84	88	92	135	318	311	337	226	135	118
4	82	85	86	84	93	133	295	314	365	202	133	118
5	82	85	83	84	94	132	262	314	345	184	130	118
6	82	85	83	85	93	131	232	313	294	195	128	118
7	82	86	85	84	93	130	211	333	282	206	126	118
8	80	93	86	85	93	135	192	355	289	200	126	118
9	80	89	83	93	92	154	190	384	324	191	125	118
10	78	93	86	106	93	128	192	432	344	191	125	118
11	78	85	83	111	88	195	202	441	380	180	128	117
12	78	83	83	131	90	198	232	473	427	177	125	116
13	78	85	83	115	90	198	247	469	397	174	125	116
14	78	87	83	104	90	201	250	450	380	182	125	116
15	78	85	82	102	93	207	238	403	389	170	125	116
16	78	86	82	93	88	286	255	374	360	165	124	116
17	77	93	82	99	88	435	251	403	317	165	123	116
18	77	86	83	104	87	758	269	428	308	160	125	116
19	77	85	81	108	87	1,100	294	407	301	157	122	117
20	77	84	81	104	87	730	285	387	314	155	113	117
21	77	84	89	101	87	510	264	375	331	155	102	118
22	116	84	83	98	87	408	247	322	345	152	99	118
23	123	83	87	95	92	353	236	291	337	152	119	114
24	97	83	89	95	95	448	250	290	317	150	122	112
25	118	84	83	94	100	408	247	292	309	147	122	120
26	95	83	85	94	119	361	247	302	304	145	122	110
27	107	82	96	97	143	353	235	294	297	145	122	110
28	120	82	90	96	161	373	239	407	296	142	122	109
29	97	82	88	97	168	345	243	365	286	145	122	109
30	91	82	87	95	------	325	254	317	275	145	122	109
31	89	------	99	94	------	314	------	325	------	142	122	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	123	77	87.7	1.54	1.78	5,390
November	93	82	85.4	1.50	1.67	5,080
December	99	81	85.1	1.49	1.72	5,230
January	131	84	97.5	1.71	1.97	6,000
February	168	87	98.9	1.74	1.88	5,690
March	1,100	128	319	5.60	6.46	19,600
April	326	190	251	4.40	4.91	14,900
May	473	287	360	6.32	7.29	22,100
June	427	275	329	5.77	6.44	19,600
July	265	142	175	3.07	3.54	10,800
August	137	99	124	2.18	2.51	7,620
September	122	109	116	2.04	2.28	6,900
The year	1,100	77	178	3.12	42.45	129,000

MIDDLE FORK OF ROGUE RIVER POWER CANAL NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in NE¼ sec. 1, T. 33 S., R. 3 E., 1,000 feet below head gate at diversion dam and 4½ miles southeast of Prospect. Zero of gage is 2,631.67 feet above mean sea level.

RECORDS AVAILABLE.—November 1931 to September 1932.

EXTREMES.—Maximum discharge during year, 188 second-feet Mar. 10, 11 (gage height, 3.34 feet); no flow at times.

REMARKS.—Records excellent Mar. 30 to Sept. 30; fair prior to Mar. 30. This canal, completed in November 1931, diverts water from Middle Fork of Rogue River into Main Power Canal to supplement flow of Rogue River above Prospect diversion dam. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	80	86	92	155	154	85	0	53	0	114
2	0	81	83	90	140	163	85	0	94	0	114
3	0	83	82	90	132	158	86	0	154	0	110
4	0	85	82	91	130	158	86	0	150	0	110
5	0	82	82	92	128	158	86	0	150	0	110
6	0	82	83	92	109	154	85	0	36	0	110
7	0	84	82	91	127	145	85	56	1	1	110
8	0	85	83	91	132	136	85	110	1	1	110
9	0	82	91	90	150	136	86	106	1	0	110
10	0	85	54	91	173	136	71	106	1	0	110
11	0	82	102	24	63	132	104	106	1	0	110
12	0	82	106	0	0	132	79	106	1	0	110
13	0	82	106	0	0	122	39	106	1	0	110
14	0	82	102	0	0	122	42	100	0	0	110
15	0	81	100	23	0	136	54	112	0	0	110
16	0	81	85	86	0	136	69	158	0	1	110
17	0	81	97	86	0	136	70	99	0	2	110
18	0	82	102	85	1	136	71	73	0	2	110
19		80	106	85	1	46	70	73	0	1	110
20		80	102	85	0	1	70	89	0	49	110
21	64	82	99	85	0	1	70	70	0	82	110
22		60	96	85	0	1	70	47	0	81	110
23		37	93		0	1	66	53	0	106	106
24	82	73	93		0	1	68	54	0	114	36
25	83	82	92	103	0	1	40	49	0	114	26
26	82	81	92		0	1	0	44	0	114	102
27	81	86	95		0	7	0	17	0	114	102
28	81	82	94	154	0	1	22	12	0	114	101
29	81	80	95	160	0	1	85	16	0	114	101
30	81	80	93	------	20	42	85	53	0	114	101
31	------	87	92	------	81	------	59	------	0	114	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
November	83	0	29.7	1,770
December	87	37	79.7	4,900
January	106	54	91.9	5,650
February	160	0	82.2	4,730
March	173	0	49.7	3,060
April	163	1	88.5	5,270
May	104	0	66.9	4,110
June	158	0	60.5	3,600
July	154	0	20.8	1,280
August	114	0	39.9	2,450
September	114	26	103	6,130
The year	173	0	59.2	43,000

NOTE.—No flow prior to Nov. 19, 1931 when water was diverted for the first time by this canal.

RED BLANKET CREEK NEAR PROSPECT, OREG.

LOCATION.—Staff gage in NE¼ sec. 23, T. 32 S., R. 3 E., 3 miles northeast of Prospect. From October 1928 to March 1932 gage was 120 feet downstream.

DRAINAGE AREA.—40 square miles.

RECORDS AVAILABLE.—May 1925 to September 1932. Prior to October 1928 in NE¼ sec. 24, T. 32 S. R. 3 E.

EXTREMES.—Maximum discharge recorded during year, 700 second-feet Mar. 18 (gage height, 3.42 feet); minimum, 34 second-feet Oct. 9, 16 (gage height, 0.60 foot).

1925–32: Maximum discharge, 1,200 second-feet Mar. 11, 1928; minimum, 34 second-feet Sept. 3, 4, 25, Oct. 9, 16, 1931.

REMARKS.—Records fair. One irrigation diversion above station. Gage read only once a week. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				58			200			171		
2	35											64
3									196			
4			50									
5						81					73	
6		46						171				
7				50								
8						81	133			121		
9	34											61
10									210			
11			47			87						
12					49						68	
13		46						288		105		
14										104		
15				62			165			100		59
16	34		46									59
17									240			
18			51			700						
19					52						67	
20		55						255				
21												
22				60			154			87		
23	63											58
24									210			
25			53			285						
26					62						65	
27		46					148	196				
28												
29				55			148			76		
30	60											56
31												

Month	Mean	Per square mile	Run-off	
			Inches	Acre-feet
October	[a] 45.2	1.13	1.30	2,780
November	[b] 51.0	1.28	1.43	3,030
December	[a] 49.4	1.24	1.43	3,040
January	[a] 57.0	1.42	1.64	3,500
February	[a] 54.3	1.36	1.47	3,120
March	[b] 207	5.18	5.97	12,700
April	[b] 172	4.30	4.80	10,200
May	[b] 213	5.32	6.13	13,100
June	[a] 214	5.35	5.97	12,700
July	[a] 109	2.72	3.14	6,700
August	[a] 68.2	1.70	1.96	4,190
September	[a] 59.5	1.49	1.66	3,540
The year	108	2.70	36.90	78,600

[a] Mean of days when gage was read.
[b] Estimated by comparison with Rogue River above Prospect.

RED BLANKET CREEK POWER CANAL NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in SE¼ sec 27, T. 32 S., R. 3 E., 200 yards below head gate at diversion dam and 2 miles east of Prospect. Zero of gage is 2,612.00 feet above mean sea level.

RECORDS AVAILABLE.—November 1931 to September 1932.

EXTREMES.—Maximum discharge during period, 113 second-feet Mar. 29 (gage height, 3.30 feet); no flow part of Sept. 24, 25.

REMARKS.—Records good except those prior to Jan. 15, which are fair. Discharge estimated Nov. 1, 2, Feb. 13, Mar. 24, 25, Apr. 28. This canal, completed in October 1931, diverts water from Red Blanket Creek into Main Power Canal to supplement flow of Rogue River above Prospect diversion dam. Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	43	59	56	96	79	74	38	93	83	68
2	1.5	44	55	55	96	79	74	3.5	90	82	68
3	1.6	46	54	54	90	79	74	3.2	83	81	68
4	1.5	48	54	54	84	79	74	3.2	83	79	68
5	1.5	46	53	55	82	79	74	3.2	90	78	66
6	32	46	53	54	82	79	74	25	102	78	65
7	45	49	53	54	82	79	33	44	106	77	65
8	50	47	53	53	85	78	3.7	43	106	75	63
9	46	46	60	52	90	77	63	42	106	74	62
10	48	47	35	53	96	76	102	46	106	75	60
11	44	46	72	15	90	76	90	50	106	74	60
12	42	45	90	4.8	93	76	72	50	106	73	60
13	44	46	79	52	86	75	76	48	106	73	60
14	45	44	73	52	85	75	71	47	102	73	60
15	43	44	69	52	85	75	75	60	102	73	60
16	50	44	67	52	85	74	85	43	102	72	60
17	54	44	68	52	90	74	85	3.4	102	72	60
18	49	48	72	52	93	74	84	3.2	99	71	60
19	53	48	76	51	86	75	83	2.9	99	71	60
20	58	48	70	52	74	74	81	25	96	71	60
21	50	54	61	52	69	74	79	82	96	71	60
22	46	50	65	52	65	74	77	99	96	70	59
23	46	50	62	52	60	74	75	99	93	70	59
24	44	54	60	56	80	74	74	99	93	70	22
25	44	51	60	61	85	74	74	99	90	70	22
26	46	52	60	71	102	74	74	96	90	70	59
27	44	61	61	85	102	74	74	96	90	70	59
28	45	56	60	93	63	74	74	96	85	69	58
29	42	52	60	93	42	74	73	93	84	69	57
30	42	52	59	------	96	74	72	93	84	69	55
31	------	64	57	------	79	------	71	------	84	69	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
November	58	1.5	38.7	2,300
December	64	43	48.9	3,010
January	90	35	62.3	3,830
February	93	4.8	54.8	3,150
March	102	38	83.6	5,140
April	79	74	75.7	4,500
May	102	3.7	73.1	4,490
June	99	2.9	51.2	3,050
July	106	83	95.8	5,890
August	83	69	73.3	4,510
September	68	22	58.8	3,500
The period				43,400

NOTE.—Little or no flow prior to November 1931.

MAIN POWER CANAL BELOW ALL FEEDERS, NEAR PROSPECT, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 28, T. 32 S., R. 3 E., 0.8 mile below outlet of Red Blanket Creek power canal, 1 mile east of Prospect, and 1.6 miles above diversion dam on Rogue River. Zero of gage is 2,602.67 feet above mean sea level.

RECORDS AVAILABLE.—November 1931 to September 1932.

EXTREMES.—Maximum discharge during period, 370 second-feet May 11; maximum gage height, 4.03 feet Apr. 27; no flow at times.

REMARKS.—Records excellent June to September; fair November to March; poor April and May. Discharge estimated Mar. 3, 5–8, Apr. 10–18, Aug. 20, 21. This canal, completed in November 1931, carries water diverted from South and Middle Forks of Rogue River and Red Blanket Creek into Rogue River above Prospect diversion dam. Gage-height record and some discharge measurements furnished by The California Oregon Power Co.

Discharge, in second-feet, 1931–32

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	122	147	130	251	219	139	40	284	75	243
2	------	124	141	127	236	232	225	2	324	74	243
3	------	134	137	127	220	226	260	0	324	74	243
4	------	136	137	127	213	232	260	0	304	72	243
5	------	131	137	131	210	232	254	0	363	70	236
6	------	131	137	131	190	245	248	22	94	69	236
7	------	135	136	130	210	238	135	98	101	69	236
8	------	133	139	130	226	226	56	153	101	69	228
9	------	128	153	130	236	226	238	208	101	68	228
10	------	131	87	131	259		308	309	101	70	228
11	------	128	178	41	147		338	253	100	69	184
12	------	128	185	14	93		286	159	99	68	188
13	------	129	172	51	86		236	159	99	67	228
14	------	128	159	49	85	209	145	222	98	67	228
15	------	127	159	63	86		108	309	98	84	228
16	------	128	140	139	86		190	363	98	122	220
17	------	128	153	137	95		252	253	97	153	220
18	------	133	159	135	100		258	172	96	153	220
19	------	131	166	135	95	124	245	71	94	153	220
20	------	133	159	135	79	78	258	196	91	195	220
21	------	141	147	134	72	78	194	300	90	225	220
22	------	92	141	135	69	84	117	292	88	228	213
23	------	47	136	139	64	117	210	292	85	251	213
24	------	105	134	147	80	81	215	292	84	259	77
25	124	129	133	159	84	124	219	222	83	259	53
26	125	131	133	178	107	155	135	140	84	259	220
27	122	147	136	206	106	184	68	194	81	251	177
28	121	135	134	243	66	153	86	251	78	251	159
29	121	130	136	251	49	179	152	251	76	251	159
30	121	134	134	------	117	212	152	292	76	251	176
31	------	153	134	------	154	------	98	------	75	251	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
November 25–30	------	------	122	1,450
December	153	47	127	7,810
January	185	87	144	8,850
February	251	14	131	7,540
March	259	49	135	8,300
April	245	78	184	10,900
May	338	56	196	12,100
June	363	0	184	10,900
July	363	75	128	7,870
August	259	67	148	9,100
September	243	53	206	12,300
The period	------	------	------	97,100

SOUTH FORK OF BIG BUTTE CREEK NEAR BUTTE FALLS, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 11, T. 35 S., R. 2 E., just below Ginger Creek and 1 mile east of Butte Falls.

RECORDS AVAILABLE.—September 1910 to October 1911; August to October 1915; October 1917 to September 1922; March 1925 to September 1932. At station at Butte Falls August 1922 to March 1925.

EXTREMES.—Maximum discharge during year, 1,300 second-feet Mar. 19 (gage height, 2.85 feet); minimum, 39 second-feet Oct. 14 (gage height, 0.32 foot).

1910–11, 1915, 1917–32: Maximum discharge, 2,470 second-feet Feb. 20, 1927 (gage height, 4.05 feet); minimum, that of Oct. 14, 1931.

REMARKS.—Records fair. Diversions above station for irrigation and Medford municipal supply. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	60	52		91	308	314	314	258	107	87	
2	54	58	52		84	270	323	318	248	109	87	
3	55	56	56	a 115		239	318	355	234	112	85	a 66
4	50	55	58			204	305	355	218	112	83	
5	52	54	62			183	297	341	209	109	81	
6	52	54	64	93	a 90	175	273	328	197	107	79	65
7	50	54	72	93		175	258	310	189	105	79	67
8	48	58	70	98		175	240	297	180	102	79	
9	45	56	72	102		188	227	285	172	102	81	
10	44	56	70		96	221	221	281	172	102	81	a 72
11	43	50	68		98	239	221	273	183	102	79	
12	43	49	64		96	221	221	265	175	100	79	
13	43	48	62		98	217	227	265	169	100	79	72
14	42	54	60	a 175	91	230	227	262	167	100	79	72
15	43	58	58		89	239	221	251	175	97	79	72
16	44	74	60		84	327	234	237	169	100	77	70
17	45	154	62		82	448	230	230	164	97	77	72
18	47	134	68		82	652	230	234	158	97	75	72
19	50	141	68	141	80	1,190	262	234	153	97	75	a 72
20	55	204	68		80	935	277	234	142	95	73	a 72
21	54	120	76		80	654	265	234	132	93	75	72
22	66	91	82	113	80	528	254	218	a 130	93	73	70
23	61	78	82		93	460	258	200	129	93	73	72
24	60	74	134		123	528	297	189	124	91	72	68
25	70	70	118	100	179	499	310	193	124	91	72	72
26	70	68	126	98	234	428	350	178	119	91	70	72
27	68	60	204	93	303	390	360	178	a 118	91	70	70
28	68	55	154	91	351	400	355	221	117	89	68	68
29	66	54	118	96	346	380	341	251	117	87	68	68
30	64	52	126	115	------	341	318	297	a 112	87	66	68
31	61	------	188	102	------	323	------	273	------	87	66	------

Month	Maximum	Minimum	Mean	Run-off in acre feet
October	70	42	53.8	3,310
November	204	48	75.0	4,460
December	204	52	86.3	5,310
January	------	91	127	7,810
February	351	80	123	7,080
March	1,190	175	380	23,400
April	360	221	274	16,300
May	355	178	261	16,000
June	258	112	165	9,820
July	112	87	98.2	6,040
August	87	66	76.4	4,700
September	72	65	69.9	4,160
The year	1,190	42	149	108,000

a Estimated.

SOUTH FORK OF LITTLE BUTTE CREEK NEAR LAKECREEK, OREG.

LOCATION.—Water-stage recorder in SE¼ sec. 29, T. 36 S., R. 2 E., a quarter of a mile above intake of Rogue River Valley Canal and 1½ miles southeast of Lakecreek.

RECORDS AVAILABLE.—April 1921 to September 1932. 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, 1,560 second-feet Mar. 19 (gage height, 4.58 feet); minimum, 10 second-feet Oct. 1 (gage height, 1.18 feet).

1910–13, 1921–32: Maximum discharge (estimated), 3,000 second-feet Dec. 30, 1924 (gage height, 5.25 feet); minimum, 2 second-feet Aug. 10, 1931 (gage height, 0.97 foot).

REMARKS.—Records good except those estimated Oct. 4–19, Oct. 21 to Nov. 8, Apr. 29 to May 1, and those above 800 second-feet, which are fair. Diversions for irrigation above station. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11		19	74	65	144	344	386	327	41	17	13
2	12		19	47	54	125	362	376	310	36	17	13
3	11		19	37	48	108	340	507	289	36	15	13
4		15	19	37	52	99	318	534	268	36	15	13
5			19	34	63	92	301	477	253	34	14	13
6			19	34	72	92	261	452	234	32	13	13
7			20	32	83	92	238	443	206	32	14	12
8			20	31	76	94	217	414	193	30	15	12
9		17	20	47	61	108	203	409	177	30	15	12
10		23	19	68	76	141	206	423	171	30	14	12
11		26	19	141	61	190	224	423	171	30	15	13
12	11	26	19	224	59	171	246	428	165	30	14	13
13		25	18	128	59	158	261	433	142	29	14	13
14		22	17	90	48	187	265	433	132	29	15	13
15		21	17	76	43	202	253	400	124	26	17	13
16		24	17	72	39	248	289	367	109	24	16	13
17		72	17	85	36	365	268	362	100	24	15	13
18		55	18	155	35	665	272	400	93	26	15	13
19		80	19	161	34	1,350	305	414	91	26	15	15
20	11	141	20	111	36	810	280	395	83	23	15	14
21		67	24	85	36	576	253	386	79	23	15	14
22		42	24	72	40	457	231	349	73	23	15	14
23		34	25	61	52	376	249	301	69	23	15	14
24		28	50	55	111	462	344	276	64	22	15	15
25		26	36	50	155	428	280	257	59	22	15	15
26	19	25	120	48	187	349	443	242	57	21	15	14
27		23	264	45	202	340	423	234	55	19	15	13
28		22	108	42	198	371	414	322	49	19	15	12
29		21	57	80	194	353	404	400	47	18	16	12
30		19	52	149	------	331	395	467	42	19	14	13
31		------	101	90	------	327	------	381	------	18	13	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	------	------	13.9	855
November	141	------	32.0	1,900
December	264	17	39.8	2,450
January	224	31	79.4	4,880
February	202	34	78.4	4,510
March	1,350	92	316	19,400
April	443	203	296	17,600
May	534	234	390	24,000
June	327	42	141	8,390
July	41	18	26.8	1,650
August	17	13	14.9	916
September	15	12	13.2	786
The year	1,350	------	120	87,300

FISH 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 graduated to read elevation above sea level, irrigation company datum.

DRAINAGE AREA.—17 square miles.

RECORDS AVAILABLE.—December 1915 to September 1932.

EXTREMES.—Maximum contents during year, 6,924 acre-feet June 25 (elevation, 4,824.50 feet); minimum (estimated), 88 acre-feet Oct. 1–8.

1915–32: Maximum contents, 7,527 acre-feet June 2–5, 1928 (elevation, 4,826.00 feet); minimum contents practically zero.

REMARKS.—Records good. Water is diverted during summer from Fourmile Lake in Klamath River Basin through Cascade Canal into Fish Lake. Permanent dam at outlet of Fish Lake completed in fall of 1915; storage began in November 1915. Records furnished by State engineer.

Stage and contents of Fish Lake Reservoir near Lakecreek, Oreg., 1931–32

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30		[a] 88		May 31	4,821.76	5,869	+2,033
Oct. 31	4,805.00	696	+608	June 30	4,823.52	6,541	+672
Nov. 30	4,807.70	1,355	+659	July 31	4,816.19	3,902	−2,639
Dec. 31	4,809.58	1,864	+509	Aug. 31	4,810.62	2,163	−1,739
Jan. 31	4,811.40	2,392	+528	Sept. 30	4,808.89	1,672	−491
Feb. 29	4,812.06	2,590	+198				
Mar. 31	4,813.70	3,094	+504	The year			+1,584
Apr. 30	4,815.99	3,836	+742				

[a] Estimated.

NORTH FORK OF LITTLE BUTTE CREEK AT FISH LAKE, NEAR LAKECREEK, OREG.

LOCATION.—Water-stage recorder in SE¼ 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 1932; incomplete prior to 1917.

EXTREMES.—Maximum discharge during year, 131 second-feet July 1–3 (gage height, 4.23 feet); minimum (estimated), 1 second-foot Oct. 24–31.

1914–32: Maximum discharge, 158 second-feet July 10, 1930; practically no flow at times.

REMARKS.—Records fair except those estimated Oct. 24 to June 25, which are 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.

Discharge, in second-feet, 1931–32

Day	Oct.	June	July	Aug.	Sept.	Day	Oct.	June	July	Aug.	Sept.
1	19		126	95	54	16	10		108	59	31
2	20		130	95	51	17	10		106	59	30
3	19		130	98	48	18	10		105	59	30
4	19		121	104	46	19	9		103	59	30
5	19		109	103	45	20	8		94	63	31
6	19		114	101	42	21	8	[a]30	93	67	29
7	19		114	99	38	22	8		92	67	29
8	17	[a]30	114	96	38	23	3		92	66	29
9	10		116	96	37	24			89	66	30
10	10		116	94	36	25			89	66	30
11	8		114	90	35	26			92	89	66	29
12	8		117	86	33	27		1	93	93	66	29
13	8		116	77	32	28			101	100	65	29
14	9		116	76	32	29			114	99	64	29
15	10		112	65	31	30			124	98	59	29
						31			-------	95	56	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	20	1	9.3	572
November	----------	----------	[b]2	119
December	----------	----------	[b]4	246
January	----------	----------	[b]6	369
February	----------	----------	[b]8	460
March	----------	----------	[b]10	615
April	----------	----------	[b]15	893
May	----------	----------	[b]30	1,840
June	124	----------	42.5	2,530
July	130	89	107	6,580
August	104	56	76.8	4,720
September	54	29	34.7	2,060
The year	130	1	28.9	21,000

[a] Mean discharge, June 1–25.
[b] Estimated.

NORTH FORK OF LITTLE BUTTE CREEK ABOVE MEDFORD INTAKE, NEAR LAKECREEK, OREG.

LOCATION.—Water-stage recorder in SW¼ sec. 25, T. 36 S., R. 2 E., 300 yards above diversion to former city of Medford water-supply pipe line which has been used since 1927 for irrigation, and 4½ miles east of Lakecreek.

RECORDS AVAILABLE.—September 1911 to March 1913; May 1922 to September 1928; October 1931 to September 1932; incomplete prior to 1931.

EXTREMES.—Maximum discharge during year, 333 second-feet Mar. 19 (gage height, 2.88 feet); minimum (estimated), 11 second-feet Oct. 29 to Nov. 8.

REMARKS.—Records good June 26 to September 30; fair Oct. 1 to June 25. Discharge estimated Oct. 2, 4–31, Nov. 1–8, Apr. 30, May 1, June 8–24. Flow regulated by storage in Fish Lake Reservoir. Small irrigation diversions above station.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29		15	25	31	62	72	93	96	134	125	71
2	29		16	24	29	55	79	94	96	148	125	69
3	29		16	21	28	48	74	102	94	145	128	67
4			17	21	28	43	76	109	88	139	137	67
5		11	16	21	31	42	76	102	86	125	137	67
6			16	22	33	44	71	98	86	137	137	65
7			17	21	37	46	68	94	86	134	134	64
8			16	22	34	46	65	90		134	134	64
9		12	16	26	33	49	63	88		137	131	62
10		15	15	28	35	56	62	88		139	131	62
11		12	15	41	33	56	60	90		142	125	62
12		15	15	52	33	54	62	90		151	123	62
13		16	15	36	32	54	62	90		151	112	58
14		16	15	32	31	58	62	90		151	112	60
15		14	16	30	31	56	60	90		148	101	58
16		20	16	29	29	72	63	88	76	142	82	58
17	19	28	17	33	28	98	63	86		142	82	58
18		22	18	38	27	152	62	94		139	82	58
19		32	18	58	28	216	68	90		137	80	58
20		38	19	35	30	152	66	92		120	82	58
21		19	20	32	32	109	65	94		117	89	58
22		15	19	29	33	92	65	90		117	89	56
23		15	18	28	37	86	72	84		114	87	56
24		15	21	26	56	98	90	80		114	84	56
25		15	19	26	62	88	80	80	65	112	84	56
26		16	27	26	72	79	104	79	112	112	84	56
27		16	43	27	76	77	98	84	109	114	84	56
28		15	26	29	76	84	92	98	117	128	82	56
29		15	24	42	73	79	90	121	128	128	82	56
30		15	26	46	------	74	91	116	137	128	76	55
31		------	30	33	------	74	------	104	------	128	71	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	29	----------	20.0	1,230
November	38	----------	16.1	958
December	43	15	19.3	1,190
January	58	21	30.9	1,900
February	76	27	39.2	2,250
March	216	42	77.4	4,760
April	104	60	72.7	4,330
May	121	79	93.2	5,730
June	137	65	86.4	5,140
July	151	112	132	8,120
August	137	71	104	6,400
September	71	55	60.3	3,590
The year	216	----------	62.8	45,600

DIVERSIONS FROM LITTLE BUTTE CREEK NEAR LAKECREEK, OREG.

Hanley South and Hanley North Canals divert from North Fork of Little Butte Creek in SE¼ 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 SE¼ sec. 29, T. 36 S., R. 2 E., and from North Fork of Little Butte Creek in NE¼ 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 SE¼ 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 are available from April 1929 to September 1931; records of some of the canals published separately prior to 1929. Records furnished by State engineer.

Diversions, in acre-feet, from Little Butte Creek near Lakecreek, Oreg., June to September 1932

Month	Hanley South Canal	Hanley North Canal	Rogue River Valley Canal below junction of intakes	Eagle Point Canal
June			[a] 1,550	1,140
July	492	695	7,260	1,010
August	430	633	5,100	848
September	500	637	2,500	774
The period	1,420	1,960	16,400	3,772

[a] June 17–30; no record June 1–16 but probably some flow.

NOTE.—Probably some flow in canals for months for which no record is given.

EMIGRANT GAP RESERVOIR NEAR ASHLAND, OREG.

LOCATION.—Staff gage in SE¼ sec. 20, T. 39 S., R. 2 E., at Emigrant Gap Dam of Talent Irrigation District, 6 miles southeast of Ashland. Gage graduated to read sea-level elevation.

RECORDS AVAILABLE.—December 1924 to September 1932.

EXTREMES.—Maximum contents during year, 8,388 acre-feet Apr. 29 (elevation, 2,173.7 feet); no storage in October and part of November.

1924–32: Maximum contents, 8,748 acre-feet Feb. 20, 1927 (elevation, 2,175.2 feet); no storage at times.

REMARKS.—Records fair. Emigrant Gap Reservoir was completed in 1924 by the Talent Irrigation District to provide water for lands under East and Talent laterals in vicinity of Talent. 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 736. Records furnished by State engineer.

Stage and contents of Emigrant Gap Reservoir near Ashland, Oreg., 1931–32

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30		0		May 31		[a] 8,318	+24
Oct. 31		0	0	June 30	2,166.3	6,765	−1,553
Nov. 30		200	+200	July 31		[a] 2,766	−3,999
Dec. 31	2,124.5	1,500	+1,300	Aug. 31		[a] 750	−2,016
Jan. 31		[a] 3,985	+2,485	Sept. 30		[a] 250	−500
Feb. 29	2,167.8	7,073	+3,088				
Mar. 31	2,173.2	8,271	+1,198	The year			+250
Apr. 30	2,173.3	8,294	+23				

[a] Interpolated or estimated.

EMIGRANT CREEK NEAR ASHLAND, OREG.

LOCATION.—Water-stage recorder in SE¼ 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 May 1924 incomplete; October 1924 to September 1932.

EXTREMES.—Maximum discharge during year, 366 second-feet Mar. 19 (gage height, 3.09 feet); practically no flow Sept. 16–18.

1920–32: Maximum discharge, 5,260 second-feet Feb. 20, 1927; no flow at times.

REMARKS.—Records fair. Discharge estimated Feb. 20 to Mar. 2, Sept. 28–30. 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 since December 1924 by storage in Emigrant Gap Reservoir. Records furnished by State engineer.

Discharge, in second-feet, 1932

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1.4	46	39	9.2	24	11	7.2
2		1.4	48	39	17	28	12	4.1
3		1.4	55	124	16	32	15	4.5
4		1.4	49	176	12	31	16	7.0
5		1.4	46	113	9.0	32	19	8.0
6		1.4	12	85	6.3	31	22	8.8
7		1.4	12	68	3.5	31	22	9.0
8		1.4	15	75	2.1	34	24	9.0
9		1.4	37	36	1.7	34	26	9.0
10		15	2.0	67	1.6	31	31	11
11		80	13	42	1.4	33	26	12
12		70	33	35	1.4	33	19	12
13		61	23	34	1.5	36	15	5.4
14		76	17	26	1.6	40	12	.2
15		113	27	11	1.7	44	12	.1
16		97	12	6.5	1.7	43	6.8	.0
17		130	10	6.1	1.6	44	3.2	.0
18		202	7.0	5.4	1.5	44	3.0	.0
19		204	4.1	5.6	1.5	40	2.8	.2
20		216	3.0	6.8	1.5	34	2.6	.1
21		172	2.2	10	1.5	30	2.6	.1
22		54	1.8	12	1.7	30	3.0	.1
23		59	2.8	8.2	2.0	28	9.0	.1
24	1.0	97	7.2	4.5	1.9	27	11	.1
25		97	12	1.9	1.8	22	13	.1
26		43	30	1.3	7.0	19	13	.1
27		4.2	108	1.3	17	18	13	.1
28		24	125	1.7	16	16	14	.1
29		54	78	4.1	17	15	12	.1
30		46	31	4.1	19	12	8.8	.1
31		28		5.0		12	8.5	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
February 20–29			1.0	20
March	216	1.4	63.1	3,880
April	125	1.8	29.0	1,730
May	176	1.3	34.0	2,090
June	19	1.4	5.96	355
July	44	12	29.9	1,840
August	31	2.6	13.2	812
September	12	0	3.62	215
The period				10,900

NOTE: No record Oct. 1 to Feb. 19; probably little or no flow.

BEAR CREEK AT MEDFORD, OREG.

LOCATION.—Water-stage recorder in NW¼ sec. 30, T. 37 S., R. 1 W., just above Main Street Bridge in Medford.

RECORDS AVAILABLE.—March 1915 to April 1927 incomplete; May 1927 to September 1932.

EXTREMES.—Maximum discharge during year, 940 second-feet Mar. 19 (gage height, 3.79 feet); minimum, 1.8 second-feet Oct. 1 (gage height, 0.15 foot).

1915–32: Maximum discharge, 10,200 second-feet Feb. 20, 1927 (gage height, 10.15 feet); practically no flow at times.

REMARKS.—Records fair except those estimated and those for June to September, which are poor. Diversions for irrigation above station. Flow partly regulated since December 1924 by storage in Emigrant Gap Reservoir. Record furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8		8.2	106	57	152	179	226	229		11	12
2		e 3.0	8.0	65	45	116	223	231	207			7.4
3			8.0	47	39	96	e 235	e 500	202	e 14		6.8
4	e 2.0		8.2	38	44	80	194	540	184		e11	e 6.8
5		2.9	8.5	34	56	72	176	344	176			e 6.8
6		3.2	8.2	32	78	74	141	308	176	16		6.8
7		2.7	8.2	32	e 85	78	125	256	130	e 16		6.6
8	2.1	3.8	8.2	33	e 75	82	116	265	112	e 15	9.6	6.3
9		3.3	8.0	44	e 60	90	139	234	98	e 15	9.6	6.8
10		4.8	8.2	90	e 70	114	89	231	89	e 14	9.6	6.3
11		6.0	8.0	85	55	174	87	223	98	14	10	e 6.7
12	e 2.3	6.3	8.0	259	54	202	106	199	90	e 14	10	7.1
13		6.0	7.1	143	55	171	112	189	84	15	10	7.4
14			7.4	87	45	197	102	186	68	e 15	11	7.1
15			7.1	57	42	262	114	162	56	e 15	28	7.1
16	2.5	e11	6.8	84	38	273	98	125	44	e 15	31	6.8
17	2.5		6.8	84	35	329	106	108	32	e 15	29	6.6
18	2.4		6.6	123	33	580	94	98	28	15	27	6.0
19	2.5	27	7.1	174	32	790	80	102	22	17	23	5.5
20	2.5	35	8.5	114	36	690	80	127	15	e 16	20	e 5.5
21	2.4	36	9.6	68	e 36	502	72	148		16	16	e 5.5
22		25	11	64	e 40	344	65	150		14	14	5.5
23		19	11	51	e 75	231	72	143		e 14	9.6	5.5
24		16	17	47	150	305	e 126	e 126	e 13	e 15	8.5	5.5
25		16	23	44	231	e 285	130	e 110		16	8.2	5.2
26	e10	16	23	41	237	e 240	215	94			8.2	5.0
27		14	408	38	262	e 195	347	90			7.7	4.5
28		14	e200	37	254	184	371	127	11	e 13	7.1	4.2
29		10	e80	40	220	212	293	143	e 12		6.8	4.0
30		9.6	e70	68	------	197	207	240	e 12		7.7	5.2
31		------	152	69	------	191	------	231	------		9.2	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	----------	1.8	4.74	291
November	36	----------	11.5	684
December	408	6.6	37.4	2,300
January	259	32	74.1	4,560
February	262	32	87.5	5,030
March	790	72	242	14,900
April	371	65	149	8,870
May	540	90	202	12,400
June	229	11	75.5	4,490
July	17	----------	14.5	892
August	31	6.8	13.2	812
September	12	4.0	6.28	374
The year	790	1.8	76.6	55,600

e Estimated.

DIVERSIONS IN BEAR CREEK BASIN, OREG.

Ashland lateral of Talent Irrigation District diverts from Sampson Creek in SW¼ 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 SE¼ 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 SW¼ sec. 33, T. 38 S., R. 1 E., for irrigation of lands near Talent. Phoenix Canal diverts from Bear Creek in NW¼ 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 1932; records for some of the canals published separately prior to 1929. Records furnished by State engineer.

Diversions, in acre-feet, 1931–32

Month	Ashland lateral	East lateral	Talent lateral	Phoenix Canal	Month	Ashland lateral	East lateral	Talent lateral	Phoenix Canal
March	56	812	------	------	August	750	2,370	[a]1,440	473
April	177	1,370	------	------	September	[a] 395	708	[a] 690	[a] 309
May	112	1,610	[a] 689	------					
June	732	1,760	1,290	[b] 454	The period	3,218	11,620	6,479	2,054
July	996	2,990	2,370	[a] 818					

[a] Partly estimated. [b] June 18–30; no record June 1–17.

NOTE.—Probably little or no flow in months for which no record is given, except in Phoenix Canal. No record on Bear Creek Canal except one discharge measurement of 10.8 second-feet June 28.

WEST FORK OF ASHLAND CREEK NEAR ASHLAND, OREG.

LOCATION.—Water-stage recorder in sec. 32, T. 39 S., R. 1 E., about three quarters of a mile above confluence with East Fork and 4 miles south of Ashland.

DRAINAGE AREA.—9.4 square miles.

RECORDS AVAILABLE.—September 1924 to September 1932.

EXTREMES.—Maximum discharge during year, 38 second-feet Mar. 19 (gage height, 1.47 feet); minimum, 1.4 second-feet Oct. 13–21 (gage height, 0.40 foot).

1924–32: Maximum discharge, 281 second-feet Feb. 20, 1927 (gage height, 3.15 feet); minimum, 1.3 second-feet Aug. 29, 1931 (gage height, 0.38 foot).

REMARKS.—Records good except those estimated Dec. 14–16, 20–25, Dec. 27 to Jan. 1, Feb. 2, 3, which are poor. No diversions or regulation above station. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	2.1	2.4	3.7	3.8	14	17	18	26	14	5.4	3.4
2	1.9	2.1	2.4	3.7	3.5	12	17	17	26	13	5.4	3.4
3	2.0	2.0	2.3	3.7	3.5	9.8	17	19	26	13	5.3	3.2
4	1.9	2.0	2.3	3.7	4.4	8.7	15	19	26	12	5.1	3.2
5	1.9	2.0	2.2	3.8	3.8	7.8	14	18	24	12	4.9	3.1
6	2.0	2.0	2.3	3.8	3.4	7.8	13	19	23	11	4.7	3.1
7	1.8	2.0	2.4	4.0	3.4	7.8	12	20	23	11	4.5	3.1
8	1.8	2.6	2.3	4.0	3.2	8.5	11	22	23	10	4.5	3.1
9	1.7	2.1	2.2	4.7	3.2	10	11	24	23	10	4.7	2.9
10	1.7	3.2	2.2	5.6	3.0	12	12	25	24	10	4.7	2.9
11	1.5	2.6	2.2	8.3	3.0	12	13	27	25	10	4.7	2.9
12	1.6	2.4	2.6	13	3.0	11	14	30	26	9.5	4.5	2.9
13	1.5	2.4	3.0	9.5	3.0	12	14	32	26	9.5	4.3	2.9
14	1.5	2.3	3.5	7.6	4.0	14	13	30	28	9.3	5.4	2.8
15	1.4	2.3	3.8	6.7	3.7	15	12	28	27	8.7	5.4	2.8
16	1.4	3.0	4.0	5.4	3.8	17	13	29	26	8.2	4.7	2.7
17	1.4	4.4	3.4	5.1	4.4	24	13	30	24	8.2	4.3	2.8
18	1.4	3.2	2.9	5.1	3.4	32	13	31	23	8.2	4.3	2.8
19	1.4	4.9	2.6	5.3	3.0	36	14	32	22	7.8	4.3	2.8
20	1.4	5.8		4.7	3.0	30	12	35	22	7.6	4.0	2.8
21	1.4	4.5		4.7	3.0	25	11	32	21	7.3	4.0	2.9
22	12	3.8	2.8	4.4	3.4	22	11	30	20	7.1	4.0	2.8
23	3.7	3.5		4.7	3.7	19	12	29	19	6.6	4.0	2.8
24	2.4	3.4		4.7	5.6	21	13	28	19	6.4	3.9	2.8
25	5.8	3.2		4.7	7.8	19	12	28	18	6.2	3.9	2.8
26	3.4	2.9	3.7	4.5	13	17	12	26	18	6.0	3.9	2.8
27	2.9	2.7		4.2	19	17	13	26	17	5.8	3.5	2.8
28	3.0	3.2		4.0	21	18	14	28	16	5.8	3.5	2.7
29	2.4	2.4	3.7	3.8	18	17	14	28	15	5.6	3.5	2.7
30	2.2	2.4		3.7	------	15	17	28	14	5.6	3.7	2.5
31	2.2	------		3.7	------	16	------	26	------	5.6	3.5	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	12	1.4	2.40	148
November	5.8	2.0	2.91	173
December	4.0	2.2	2.90	178
January	13	3.7	5.11	314
February	21	3.0	5.66	326
March	36	7.8	16.4	1,010
April	17	11	13.3	791
May	35	17	26.3	1,620
June	28	14	22.3	1,330
July	14	5.6	8.74	537
August	5.4	3.5	4.40	271
September	3.4	2.5	2.91	173
The year	36	1.4	9.45	6,870

EAST FORK OF ASHLAND CREEK NEAR ASHLAND, OREG.

LOCATION.—Water-stage recorder in sec. 28, T. 39 S., R. 1 E., a quarter of a mile above confluence with West Fork, 100 yards above diversion for power plant, and 3½ miles south of Ashland.

DRAINAGE AREA.—7.8 square miles.

RECORDS AVAILABLE.—September 1924 to September 1932.

EXTREMES.—Maximum discharge during year, 35 second-feet June 14 (gage height, 1.47 feet); minimum, 1.0 second-foot Oct. 9–14.

1924–32: Maximum discharge, 292 second-feet Feb. 20, 1927 (gage height, 3.5 feet); minimum, 1.0 second-foot Aug. 29 to Sept. 4, Oct. 9–14, 1931.

REMARKS.—Records fair except those estimated Dec. 6–15, 20–25, Jan. 21, 22, Feb. 2, 3, which are poor. No regulation or diversions above station. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	3.0	2.5	4.0	4.0	9.5	14	16	24	15	5.0	3.0
2	1.5	3.0	2.5	4.0	4.0	7.5	14	16	24	14	4.5	3.0
3	2.0	2.5	3.0	4.0	4.0	7.0	13	17	24	14	4.5	3.0
4	1.5	2.5	3.0	3.5	4.0	6.0	12	17	24	13	4.0	2.5
5	1.5	2.5	2.5	3.5	3.5	5.5	11	17	23	12	4.0	2.5
6	1.5	2.5		3.5	3.5	5.5	9.5	17	22	12	4.0	2.5
7	1.5	2.5		4.0	3.5	5.5	9.5	18	22	12	4.0	2.5
8	1.5	3.0		3.5	3.5	6.0	9.0	19	23	11	4.0	2.5
9	1.0	3.0		5.0	3.5	7.0	9.0	20	23	10	4.0	2.5
10	1.0	3.0		5.5	3.5	7.5	9.5	21	24	9.5	4.0	2.5
11	1.0	3.0	2.0	7.0	3.5	7.5	11	23	26	9.0	4.0	2.5
12	1.0	2.5		9.0	3.5	7.5	12	25	27	9.0	4.0	2.5
13	1.0	2.5		7.0	3.5	8.0	12	27	27	8.5	3.5	2.5
14	1.0	3.0		6.0	4.0	9.5	11	26	29	8.0	4.0	2.5
15	1.5	3.0		5.5	3.5	10	10	26	29	7.5	4.5	2.5
16	1.5	3.5	3.0	5.0	4.0	11	11	26	28	7.5	4.0	2.5
17	1.5	4.5	3.0	5.0	3.5	19	11	27	26	7.5	4.0	2.5
18	1.5	3.0	3.0	5.0	3.0	27	11	29	25	7.5	3.5	2.5
19	1.5	4.5	3.0	5.5	3.0	29	11	30	23	7.5	3.5	2.5
20	1.5	7.0		5.0	3.0	23	10	33	23	7.0	4.0	2.5
21	1.5	4.5		4.5	3.0	19	9.0	31	22	7.0	3.5	2.5
22	11	4.0	2.8	4.0	3.0	16	9.0	30	21	6.5	3.5	2.5
23	4.5	3.5		4.0	3.5	14	9.0	29	20	6.5	3.5	2.5
24	3.0	3.0		4.0	4.5	16	10	28	19	6.5	3.5	2.0
25	7.5	2.5		4.0	6.5	14	9.5	26	18	5.5	3.0	2.0
26	4.0	2.5	2.5	4.0	9.0	12	9.5	25	18	5.5	3.0	2.0
27	3.5	3.0	3.5	4.0	12	12	10	24	17	5.0	3.0	2.0
28	3.5	3.0	4.5	4.0	13	13	11	25	17	5.0	3.0	2.0
29	3.0	2.5	4.0	4.0	12	12	12	24	16	5.0	3.0	2.0
30	3.0	2.5	4.0	4.0	------	12	14	24	15	5.0	3.0	2.0
31	3.0	------	4.0	4.0	------	12	------	24	------	5.0	3.0	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	11	1.0	2.44	150
November	7.0	2.5	3.17	189
December	4.0	----------	2.74	168
January	9.0	3.5	4.68	288
February	13	3.0	4.76	274
March	29	5.5	12.0	738
April	14	9.0	10.8	643
May	33	16	23.9	1,470
June	29	15	22.6	1,340
July	15	5.0	8.52	524
August	5.0	3.0	3.74	230
September	3.0	2.0	2.43	145
The year	33	1.0	8.48	6,160

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 1932 incomplete.

EXTREMES.—Maximum discharge during year, 4,020 second-feet Mar. 19 (gage height, 5.50 feet); minimum, 14 second-feet Oct. 1, 4, 6 (gage height, 0.29 foot).

1911–14, 1925–32: Maximum discharge (estimated), 20,000 second-feet Feb. 20, 1927 (gage height, 16.0 feet); minimum, 7 second-feet Sept. 2, 1929 (gage height, 0.26 foot).

REMARKS.—Records good except those estimated, which are poor. Diversions for irrigation above station. Records furnished by State engineer.

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	55	70	622		584	902	795	568	137	a 44	22
2	15	50	72	415		488	902	795	580	130	a 43	22
3	15	48	92	312		400	788	782	628	117	a 42	27
4	15	48	88	287		370	724	782	640	114	41	27
5	15	44	84		a 245	334	598	750	598	114		25
6	15	42	76			338	568	769	520	112		21
7	15	40	86	a 212		352	520	858	484	107	a 38	21
8	15	48	80			380	474	980	502	104		20
9	15	50	70		164	437	462	1,060	532	102		20
10	15	54	70		167	560	490	1,140	556	95		20
11	15	57	70	347	167	560	532	1,180	544	90	36	23
12	15	50	67	636	161	506	628	1,270	532	88	41	23
13	15	50	65	470	161	470	646	1,320	490	a 86	41	23
14	15	62	67	370	155	566	634	1,180	474	84	37	21
15	15	60	67	320	146	572	592	980	446	95	40	21
16	15	60	67	a 400	140	603	628	940	395	a 84	40	20
17	16	183	69	a 520	135	1,180	598	1,020	360	73	35	21
18	17	158	111	a 720	140	1,900	646	980	326	a 70	29	23
19	18	119	143	530	138	3,180	694	902	312	a 67	27	23
20	21	476	130	426	135	1,700	634	1,060	290	a 64	26	22
21	21	352	167	356	132	1,180	574	865	281	a 62	29	23
22	158	121	149	320	132	980	514	718	268	60	26	21
23	190	111	143	a 300	138	795	479	664	245		26	19
24	111	109	295	a 270	173	980	520	664	225		27	19
25	158	138	287	a 260	300	980	496	646	209		26	20
26	143	116	415	a 250	494	816	484	628	194	a 50	22	21
27	86	92	842	216	727	762	484	628	180		24	19
28	88	74	488	a 195	828	823	508	658	170		23	19
29	80	69	324	a 160	741	762	544	640	164		22	20
30	70	70	300	a 320	-------	712	658	610	155		22	20
31	60	-------	723	a 280	-------	718	-------	562	-------		23	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	190	15	47.6	2,930
November	476	40	100	5,950
December	842	65	186	11,400
January	720	160	341	21,000
February	828	132	256	14,700
March	3,180	334	806	49,600
April	902	462	597	35,500
May	1,320	562	865	53,200
June	640	155	396	23,600
July	137	----------	80.8	4,970
August	44	22	32.9	2,020
September	27	19	21.5	1,280
The year	3,180	15	312	226,000

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 1932.
EXTREMES.—Maximum discharge during year, 16,500 second-feet Mar. 19 (gage height, 11.2 feet); minimum, 17 second-feet Oct. 4–6, 8, 11–13 (gage height, 0.04 foot).

1926–32: Maximum discharge (estimated), 50,000 second-feet Feb. 20, 1927 (gage height, 19.6 feet); minimum, 15 second-feet Aug. 18 to Sept. 3, Sept. 7, 8, 1931.

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

Discharge, in second-feet, 1931–32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	222	390	5,200	1,020	1,790	1,610	1,400	725	165	40	24
2	19	212	390	3,210	1,700	1,130	1,540	1,540	725	165	39	24
3	19	202	739	2,320	870	1,070	1,170	1,540	725	142	39	24
4	17	170	965	1,530	1,130	1,020	2,020	1,840	725	142	39	24
5	17	160	915	1,380	1,250	915	1,930	1,680	655	142	38	24
6	17	149	1,020	1,130	1,530	915	1,680	1,400	655	154	38	24
7	18	149	870	1,130	1,610	825	2,360	1,400	620	142	38	24
8	17	160	825	1,130	1,380	915	1,400	1,400	585	132	37	24
9	18	180	702	1,130	1,380	1,020	1,400	1,340	550	122	35	24
10	18	390	668	1,250	3,750	1,700	1,340	1,400	550	142	35	24
11	17	441	668	1,130	1,130	1,530	1,280	1,340	550	142	36	24
12	17	149	580	1,890	1,020	1,380	1,280	1,400	515	122	36	44
13	17	160	390	1,890	915	1,380	1,280	1,280	515	122	36	24
14	18	524	609	1,530	915	1,530	1,280	1,220	515	113	34	24
15	18	441	468	1,530	915	1,700	1,170	1,170	515	104	33	24
16	19	1,890	441	1,890	825	2,890	1,220	1,070	445	88	33	24
17	24	5,660	468	1,890	415	2,090	1,400	1,070	445	74	33	24
18	22	5,200	1,890	8,250	390	7,540	1,680	1,070	415	68	33	24
19	22	4,760	1,450	5,200	638	11,600	2,120	1,020	385	68	33	24
20	22	6,400	1,530	3,560	609	5,980	1,840	1,020	355	63	33	25
21	22	2,890	2,590	2,090	638	3,460	1,540	970	355	59	31	24
22	609	1,250	2,200	1,700	638	4,010	1,340	970	325	58	31	25
23	609	1,890	1,130	1,530	638	2,230	1,280	970	325	63	31	25
24	415	609	7,970	1,250	609	4,400	1,400	840	295	59	31	24
25	825	609	2,890	1,190	668	3,120	1,400	800	295	61	31	25
26	915	580	2,890	1,130	1,890	3,820	1,340	800	252	54	31	25
27	441	524	9,650	1,020	2,320	2,020	1,280	760	252	52	27	24
28	524	441	5,200	915	1,310	2,020	1,340	760	240	49	27	24
29	415	441	2,590	825	1,790	2,020	1,220	800	215	48	25	24
30	441	390	2,890	1,700	-------	1,840	1,170	800	178	46	24	24
31	275	-------	8,250	1,190	-------	1,680	-------	725	-------	45	24	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	915	17	189	11,600
November	6,400	149	1,240	73,800
December	9,650	390	2,070	127,000
January	8,250	825	2,020	124,000
February	3,750	390	1,170	67,300
March	11,600	825	2,570	158,000
April	2,360	1,170	1,480	88,100
May	1,840	725	1,150	70,700
June	725	178	463	27,600
July	165	45	97.0	5,960
August	40	24	33.3	2,050
September	25	24	24.2	1,440
The year	11,600	17	1,040	758,000

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages, measurements of flow are made at a number of other points, as shown by the following table:

Miscellaneous discharge measurements in Pacific slope basins in Oregon and in lower Columbia River Basin during year ending Sept. 30, 1932

Walla Walla River Basin, Oreg.

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
9	South Fork of Walla Walla River.	Walla Walla River.	Sec. 30, T. 5 N., R. 39 E. (unsurveyed), 500 feet below Rough Creek.		32.2
9	do	do	1 mile below Rough Creek		46.6
9	do	do	50 feet above Skiphorton Creek		51
9	do	do	200 feet below Burnt Cabin Gulch		73

Willow Creek Basin, Oreg.

Feb. 26	Willow Creek	Columbia River	1 mile below former gaging station near Morgan.	2.30	421

John Day River Basin, Oreg.

Jan. 12	Strawberry Creek	John Day River	Former gaging station at Nelson ranch near Prairie City, S½ sec. 8, T. 14 S., R. 34 E.	0.28	2.3
Mar. 5	do	do	do	.30	3.0
30	do	do	do	.52	8.6

Deschutes River Basin, Oreg.

Sept. 26	White River	Deschutes River	Sec. 30, T. 4 S., R. 10 E., at Barlow Road Bridge.		42.0
Aug. 18	do	do	Sec. 11, T. 5 S., R. 10 E., above Clear Lake Creek.		61.9
Sept. 26	do	do	Sec. 11, T. 5 S., R. 10 E., below Clear Lake Creek.		73.7
Aug. 19	do	do	Sec. 25, T. 4 S., R. 12 E., below Rock Creek.		107
17	Clear Lake Creek	White River	SE¼ sec. 32, T. 4 S., R. 9 E., at outlet of Clear Lake.		3.8
18	do	do	Sec. 11, T. 5 S., R. 10 E., at mouth		29.2
Sept. 26	do	do	do		21.0
Aug. 18	Wapinitia Canal	Clear Lake Creek	Sec. 15, T. 5 S., R. 10 E., at road crossing.		4.6
19	Tygh Creek	White River	Sec. 11, T. 4 S., R. 13 E., at mouth		8.1

Willamette River Basin, Oreg.

July 7	Boulder Creek	North Santiam River.	SW¼ sec. 16, T. 10 S., R. 6 E., near highway bridge at mouth.		15.6
Aug. 24	do	do	do		4.6
July 7	Dry Creek	do	Sec. 17, T. 10 S., R. 6 E., at highway bridge at mouth.		.3
Aug. 24	do	do	do		0
July 7	Humbug Creek	Breitenbush River	NE¼ sec. 28, T. 9 S., R. 6 E., at highway bridge at mouth.		33.5
Aug. 25	Canyon Creek	do	NE¼ sec. 36, T. 9 S., R. 5 E., 150 feet above mouth.		.4
July 7	French Creek	do	SE¼ sec. 35, T. 9 S., R. 5 E., a quarter of a mile above mouth.		33.3
Aug. 25	do	do	do		8.7
16	Yamhill River	Willamette River	Above Willamina Creek, at Willamina		25.3
16	Willamina Creek	Yamhill River	Mouth, at Willamina		20.9

Miscellaneous discharge measurements in Pacific slope basins in Oregon and in lower Columbia River Basin during year ending Sept. 30, 1932—Continued

Willamette River Basin, Oreg.—Continued

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
July 28	Mill Creek	Pudding River	Mouth, at Aurora		7.0
Aug. 20	do	do	do		7.4
Sept. 29	do	do	do		6.5
16	Oak Grove Fork	Clackamas River	100 feet above head of backwater from power plant diversion dam and half a mile below gaging station.	1.57	302
17	do	do	do	1.57	295
Aug. 2	Spring Creek	Oak Grove Fork	Mouth, three quarters of a mile above power plant intake.	.35	2.6

Youngs River Basin, Oreg.

Aug. 20	South Fork of Klaskanine River.	Klaskanine River	E½ sec. 13, T. 7 N., R. 9 W., at Olney		5.6
20	North Fork of Klaskanine River.	do	do		7.7

Lewis and Clark River Basin, Oreg.

Aug. 20	Lewis and Clark River.	Columbia River	Sec. 30, T. 7 N., R. 9 W., above tidewater, at Melville.		19.0

Coastal streams between Columbia River and Umpqua River, Oreg.

Aug. 20	Necanicum River	Pacific Ocean	NW¼ sec. 23, T. 5 N., R. 9 W., 400 feet below highway bridge at Necanicum.		4.8
20	Bergsvik Creek	Necanicum River	Sec. 26 or 35, T. 5 N., R. 9 W., at highway bridge.		*.4
20	Joe Creek	Bergsvik Creek	Sec. 26, T. 5 N., R. 9 W., at highway bridge.		*.3
20	Little Humbug Creek.	Necanicum River	NE¼ sec. 22, T. 5 N., R. 9 W., at highway bridge.		*1.2
20	North Fork of Necanicum River.	do	NW¼ sec. 21, T. 5 N., R. 9 W., at highway bridge.		3.4
20	Mail Creek	do	W½ sec. 24, T. 5 N., R. 10 W., at highway bridge.		*1.0
21	Nehalem River	Pacific Ocean	SW¼ sec. 17, T. 6 N., R. 5 W., above highway bridge at Berkenfeld.		41.6
19	do	do	Three quarters of a mile above Salmonberry River, near Salmonberry.		83
19	Salmonberry River.	Nehalem River	SE¼ sec. 10, T. 3 N., R. 8 W., at mouth.		36.8
20	North Fork of Nehalem River.	do	NW¼ sec. 6, T. 3 N., R. 9 W., near Nehalem.		43.0
20	Soapstone Creek	North Fork of Nehalem River.	NW¼ sec. 22, T. 4 N., R. 9 W., at highway bridge.		4.4
20	Jack Horner Creek	Soapstone Creek	Sec. 15, T. 4 N., R. 9 W., at highway bridge.		*1.5
20	Big Rack Heap Creek.	North Fork of Nehalem River.	SW¼ sec. 7, T. 3 N., R. 9 W		*.8
18	North Fork of Wilson River.	Wilson River	Mouth, near Tillamook		21.1
17	Tillamook River	Pacific Ocean	SE¼ sec. 7, T. 2 S., R. 9 W., just above Beulah Creek.		23.5
17	Nestucca River	do	Above East Creek, at Blaine		39.2
17	East Creek	Nestucca River	Mouth, at Blaine		11.0
17	Beaver Creek	do	Mouth, at Beaver		16.9
16	Three Rivers	do	NW¼ sec. 13, T. 4 S., R. 10 W., below highway crossing at Hebo.		21.0
17	Little Nestucca River.	do	NW¼ sec. 15, T. 5 S., R. 10 W., near Dolph.		16.2
17	Salmon River	Pacific Ocean	Sec. 29, T. 6 S., R. 10 W., at Otis		39.1

* Estimated.

Miscellaneous discharge measurements in Pacific slope basins in Oregon and in lower Columbia River Basin during year ending Sept. 30, 1932—Continued

Coastal streams between Columbia River and Umpqua River, Oreg.—Continued

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Aug. 17	Outlet of Devils Lake.	Pacific Ocean	Sec. 15, T. 7 S., R. 11 W., at Delake		3.7
17	Schooner Creek	do	Sec. 26, T. 7 S., R. 11 W., near Taft		13.8
17	Rocky Creek	do	Sec. 8, T. 9 S., R. 11 W., at mouth		a 2.5
18	Yaquina River	do	NW¼ sec. 33, T. 10 S., R. 9 W., 2.3 miles above Chitwood.		6.0
18	Big Elk Creek	Yaquina River	Sec. 25, T. 11 S., R. 10 W., near Elk City.		12.5
19	Alsea River	Pacific Ocean	Sec. 31, T. 13 S., R. 9 W., above Tidewater.		98
19	Yachats River	do	Sec. 36, T. 14 S., R. 12 W., 1.7 miles above mouth.		20.2
20	Tenmile Creek	do	Sec. 27, T. 15 S., R. 12 W., near Heceta, at mouth.		11.3
20	Big Creek	do	Sec. 15, T. 16 S., R. 12 W., near Heceta, at mouth.		5.5
20	Sutton Creek	do	Outlet of Sutton Lake, near Florence		4.2
21	Siuslaw River	do	Sec. 31, T. 17 S., R. 9 W., 1½ miles below Swisshome.		121
21	Wildcat Creek	Siuslaw River	Sec. 15, T. 18 S., R. 8 W., 0.6 mile above mouth at Austa.		14.7
20	North Fork of Siuslaw River.	do	Sec. 19, T. 17 S., R. 10 W., at bridge near Minerva.		9.8
22	Outlet of Woahink Lake.	Siltcoos Lake	Sec. 27, T. 19 S., R. 12 W., at lake outlet.		6.9
23	Tahkenitch River	Pacific Ocean	Sec. 29, T. 20 S., R. 12 W., at Tahkenitch Lake outlet.		7.8

Umpqua River Basin, Oreg.

Oct. 7	South Umpqua River.	Umpqua River	Former gaging station near Brockway.	0.6	56
Aug. 23	Elk Creek	do	Sec. 20, T. 22 S., R. 7 W., at Elkton		7.9
22	Smith River	do	Sec. 31, T. 20 S., R. 9 W., below falls		15.2
Mar. 10	Fish Creek	North Umpqua River.	Above Camas Creek, near Hoaglin	1.48	269
July 1	do	do	do	1.46	259
Sept. 11	do	do	do	.86	54
Mar. 4	Steamboat Creek	do	Mouth, near Hoaglin		1,160
May 9	do	do	do		771
Oct. 8	Rock Creek	do	do		14.5

Coastal streams between Umpqua River and Rogue River, Oreg.

Aug. 24	Tenmile Creek	Pacific Ocean	Sec. 13, T. 23 S., R. 13 W., below Eel Creek.		7.2
24	Eel Creek	Tenmile Creek	Sec. 13, T. 23 S., R. 13 W., at mouth		3.5
24	South Fork of Coos River.	Coos River	Sec. 27, T. 25 S., R. 11 W., at lower fish hatchery.		22.3
24	East Fork of Millicoma River.	Millicoma River	Sec. 4, T. 25 S., R. 11 W., 1.8 miles above Allegany.		14.0
24	West Fork of Millicoma River.	do	Sec. 6, T. 25 S., R. 11 W., just above tidewater near Allegany.		a 3.0
26	Floras Creek	Pacific Ocean	Sec. 2, T. 31 S., R. 15 W., at Langlois		3.1
26	Sixes River	do	Above Crystal Creek, at Sixes		15.4
26	Crystal Creek	Sixes River	Mouth, at Sixes		a 1.0
26	Elk River	Pacific Ocean	Sec. 21, T. 32 S., R. 15 W., at Coast highway near Sixes.		43.7
27	Brush Creek	do	SE¼ sec. 25, T. 33 S., R. 15 W., near Port Orford.		9.0
27	Euchre Creek	do	Sec. 8, T. 35 S., R. 14 W., near Wedderburn.		9.0

a Estimated.

Miscellaneous discharge measurements in Pacific slope basins in Oregon and in lower Columbia River Basin during year ending Sept. 30, 1932—Continued

Rogue River Basin, Oreg.

Date	Stream	Tributary to or diverting from—	Locality	Gage height	Discharge
				Feet	*Sec.-ft.*
Aug. 27	Rogue River	Pacific Ocean	Above Illinois River, at Agness		1,060
Mar. 10	Power canal headrace.	Rogue River	600 feet above forebay of The California Oregon Power Co.'s power plant near Prospect.		942
Aug. 27	Illinois River	do	Mouth, at Agness		180

Coastal streams south of Rogue River, Oreg.

Aug. 28	Pistol River	Pacific Ocean	Mouth, near Gold Beach		7.0
3	Chetco River	do	Sec. 22, T. 38 S., R. 10 W. (unsurveyed), above Babyfoot Creek.		16.1
3	do	do	Sec. 15, T. 38 S., R. 10 W. (unsurveyed), half a mile below Slide Creek.		22.5
5	do	do	Sec. 7, T. 38 S., R. 10 W. (unsurveyed), below Box Canyon Creek.		35.6
July 30	do	do	Sec. 7, T. 38 S., R. 11 W. (unsurveyed), above Boulder Creek.		65.1
29	do	do	SE¼ sec. 8, T. 39 S., R. 12 W., above South Fork.		84.3
Aug. 12	do	do	NE¼ sec. 35, T. 40 S., R. 13 W., below North Fork.	1.03	102
29	do	do	do	.85	65
July 28	do	do	SE¼ sec. 34, T. 40 S., R. 13 W.		133
Aug. 4	Box Canyon Creek	Chetco River	Sec. 7, T. 38 S., R. 10 W. (unsurveyed), 2 miles above mouth.		6.6
July 30	Boulder Creek	do	Sec. 7, T. 38 S., R. 11 W. (unsurveyed), at mouth.		[a] 8
29	South Fork of Chetco River.	do	SE¼ sec. 8, T. 39 S., R. 12 W., at mouth.		14.4
Aug. 29	North Fork of Chetco River.	do	Mouth, near Harbor		0
29	Winchuck River	Pacific Ocean	Half a mile above South Fork, near Harbor.		9.0
29	South Fork of Winchuck River.	Winchuck River	Mouth, near Harbor		[a] .3

[a] Estimated.

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