UNITED STATES DEPARTMENT OF THE INTERIOR
HAROLD L. ICKES, Secretary
GEOLOGICAL SURVEY
W. C. MENDENHALL, Director

Water-Supply Paper 767

SURFACE WATER SUPPLY *of the* UNITED STATES

1934

PART 12

NORTH PACIFIC SLOPE BASINS

A. PACIFIC SLOPE BASINS IN WASHINGTON AND UPPER COLUMBIA RIVER BASINS

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Prepared in cooperation with the States of
IDAHO, MONTANA, AND WASHINGTON

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SURFACE WATER SUPPLY OF PACIFIC SLOPE BASINS IN WASHINGTON AND UPPER COLUMBIA RIVER BASIN, 1934

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, 1934.

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

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

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

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

Annual appropriations for the fiscal years ending June 30, 1895–1934

1895	$12,500.00	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	1934	[1] 540,000.00
1908–10	100,000.00	1927	151,000.00		

[1] Only $340,000 available for expenditure.

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 6,900 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July 1934, 2,940 gaging stations were being maintained by the Geological Survey and the cooperating organiza-

tions. 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 state-discharge relation at the gage.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1933, and ending September 30, 1934. 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.

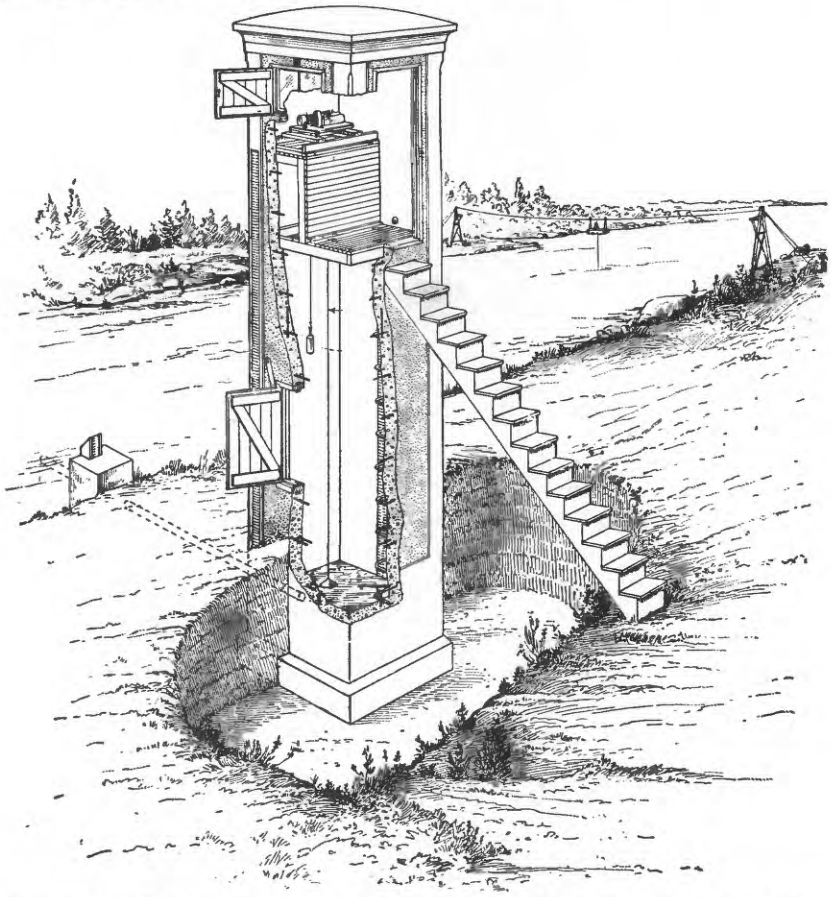

FIGURE 1.—Typical river-measurement station, showing concrete well and house for water-stage recorder and staff gages, cable, and car.

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 nonrecording 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 computed.

The data presented for each gaging station in the area covered by this report usually 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 information in regard to the location and type of gage, diversions that decrease the flow at the gage, artificial regulation from pondage or storage, and the accuracy of the records. Under "Average discharge" is given the average discharge for the number of years indicated. It is given only for stations for which there are 10 or more complete years of record. Information under "Extremes" gives the maximum discharge and gage height; the minimum discharge, if there is little or no regulation; the minimum daily discharge, if there is extensive regulation, and also the minimum discharge, if useful; and also the minimum gage height except when it is of no importance. Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder or a nonrecording gage read at the time of the crest. Likewise the minimum represents the lowest discharge unless otherwise qualified.

The table of daily discharge gives, for stations equipped with nonrecording gages, the discharge in second-feet corresponding to once-daily or the mean of twice-daily readings of the gage. For stations equipped with water-stage recorders the table gives the discharge corresponding to the mean daily gage height except for stations on streams subject to sudden or rapid fluctuation. For stations subject to such fluctuation the mean daily gage height may not indicate the true mean daily discharge, which must be obtained by averaging the discharge for intervals of the day or by using the discharge integrator, an instrument for obtaining the 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.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that, in general, the daily records are accurate within 5 percent; "good", within 10 percent; "fair", within 15 percent; and "poor", within 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 run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are, therefore, not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches.

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.

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, and that greater degrees of refinement in computations and records may be warranted with increased data and use of improved equipment.

In order to permit greater refinement in analysis and comparison of records for adjacent stations, the following changes have been made in the computation procedure: (a) Mean monthly discharge above 1,000 second-feet and monthly run-off above 10,000 acre-feet are expressed to four significant figures instead of three significant figures as formerly; (b) monthly run-off in acre-feet is computed from the total second-foot-days for the month and not from the mean discharge for the month; (c) drainage areas above 1,000 square miles, if measured on topographic maps, or if otherwise warranted, are expressed to four significant figures instead of three as formerly. Some of the records in the series of reports for 1934 have been computed in accordance with the modified procedure.

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow of streams and studies of the conditions affecting that flow, but it has comprised also investigation of such closely allied subjects as irrigation, water storage, water powers, underground waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the bulletins, professional papers, 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.
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, State House.
Boston, Mass., 495 Post Office Building.
Hartford, Conn., 203 Federal Building.
Albany, N. Y., 526 Federal Building.
Trenton, N. J., 228 Federal Building.
Harrisburg, Pa., 490 Education Building.
Charlottesville, Va., University of Virginia.

South Charleston, W. Va., Naval Ordnance Plant.
Asheville, N. C., 220 Post Office Building.
Columbia, S. C., 801 National Loan & Exchange Bank Building.
Ocala, Fla., Post Office Building.
Montgomery, Ala., Post Office Building.
Chattanooga, Tenn., 217 Post Office Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Indianapolis, Ind., 319 Federal Building.
Urbana, Ill., 14 Post Office Annex.
Madison, Wis., 337N State Capitol.
St. Paul, Minn., 808 New Post Office Building.
Iowa City, Iowa, 402 Hydraulic Laboratory, University of Iowa.
St. Louis, Mo., 906 Customhouse, 1114 Market Street.
Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.
Topeka, Kans., 305 Federal Building.
Fort Smith, Ark., Post Office Building.
Austin, Tex., State Highway Building.
Santa Fe, N. Mex., 3 United States Courthouse.
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, 429 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., 512 Eighth 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 6,900 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	do	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871–93)	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.

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

Report	Character of data	Year
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.
W 741 to 754	do	1933.
W 756 to 769	do	1934.

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 1934. 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 from 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

Numbers of water-supply papers containing results of stream measurements, 1899–1934

[For basins included see p. 6]

Year	1	2	3	4	5	6	7	8	9	10	11	12-A	12-B	12-C
1899 [1]	35	[2] 35, 36	36	36	36	[3] 36, 37	37	37	[4] 37, 38	38, [5] 39	38, [6] 39	38	38	38
1900 [7]	47, [8] 48	48	48, [9] 49	49	49	49, [10] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[11] 65, 66, 75	66, 75	[11] 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[2] 82, 83	83	[12] 82, 83	[11] 83, 85	84	[11] 83, 84	84	85	85	85	85	85	85
1903	97	[2] 97, 98	98	97	[11] 98, 99, [13] 100	99	[11] 98, 99	99	100	100	100	100	100	100
1904	[14]124, [15]125, [16]126	[16] 126, 127	128	129	[11] 128, 130	130, [17] 131	[11] 128, 131	132	133	133, [18] 134	134	135	135	135
1905	[14]165, [15]166, [16]167	[16] 167, 168	169	170	171	172	[11] 169, 173	174	175, [19] 177	176, [18] 177	177	178	178	[20] 177, 178
1906	[14]201, [15]202, [16]203	[16] 203, 204	205	206	207	208	[11] 205, 209	210	211, [19] 213	212, [18] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [18] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [18] 271	271	272	272	272
1910	284	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919–20	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930	696	697	698	699	700	701	702	703	704	705	706	707	708	709
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
1933	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1934	756	757	758	759	760	761	762	763	764	765	766	767	768	769

[1] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39. Monthly discharge for 1899 in 21st Annual Report, part 4.
[2] James River only.
[3] Gallatin River.
[4] Green and Gunnison Rivers and Colorado River above Gunnison River.
[5] Mojave River only.
[6] Kings and Kern Rivers and south Pacific slope basins.
[7] 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. Monthly discharge for 1900 in 22d Annual Report, part 4.
[8] Wissahickon and Schuylkill Rivers to James River.
[9] Scioto River.
[10] Loup, Platte, and Elkhorn Rivers and tributaries below Platte River.
[11] Tributaries of Mississippi River from east.
[12] Lake Ontario and tributaries to St. Lawrence River proper.
[13] Hudson Bay only.
[14] New England rivers only.
[15] Hudson River to Delaware River, inclusive.
[16] Susquehanna River to Yadkin River, inclusive.
[17] Platte and Kansas Rivers.
[18] The Great Basin in California, except Truckee and Carson River Basins.
[19] Below junction with Gila River.
[20] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

The work was done under cooperative agreements with the several States as follows: In Idaho with the Department of Reclamation, R. W. Faris, commissioner; in Montana with the office of the State engineer, J. S. James; in Washington with the Department of Conservation and Development, E. F. Banker, director, and C. J. Bartholet, supervisor of hydraulics, Division of Water Resources; with the cities of Aberdeen, Everett, Seattle, and Tacoma; with King and Pierce Counties, through the Intercounty River Improvement Commission; with Skagit and Whatcom Counties; and with Wenatchee Reclamation District.

Acknowledgment of financial assistance in collecting records published herein is due also to the United States Department of State, United States Bureau of Reclamation, United States Forest Service, and United States Indian Service.

Full cooperation exists between this organization and the Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada. On waters adjacent to the international boundary certain stations are maintained jointly by the United States and Canada under the terms of the Boundary Waters Treaty of 1909, and others are maintained under a subsequent agreement between the two governments. The records from all these stations are obtained in such a manner as to be equally acceptable and available in either country. These stations are herein designated "international gaging stations."

Assistance in collecting the records was also rendered by the following municipalities, corporations, and individuals: In Idaho by the Washington Water Power Co.; in Montana by the Rocky Mountain Power Co.; in Washington by the Chelan Copper Mining Co., Chelan Electric Co., Columbia Basin Commission, Grays Harbor Railway & Light Co., Hugh L. Cooper Co., The Northwestern Power & Light Co., Washington Electric Co., West Coast Power Co., The Puget Sound Power & Light Co., The Washington Water Power Co., and the Western Washington Electric Light & Power Co.

DIVISION OF WORK

The data for stations in the several States were collected and prepared for publication under supervision of district engineers as follows: In Idaho (except Clark Fork at Priest River) and for Clark Fork near Heron, Mont., Flathead River at Trail Creek, Mont., and Kootenai River stations at Newgate, British Columbia, and Rexford, Mont., T. R. Newell; in Montana, except those noted above, W. A. Lamb; in Washington and for Clark Fork at Priest River, Idaho, G. L. Parker.

BASINS BETWEEN COLUMBIA RIVER AND PUGET SOUND

NASELLE RIVER BASIN

Naselle River near Naselle, Wash.

Location.- Staff gage in SW¼ sec. 1, T. 10 N., R. 9 W., 1½ miles above Salmon Creek and 3½ miles east of Naselle.

Drainage area.- 66 square miles.

Records available.- May 1929 to September 1934.

Extremes.- Maximum discharge recorded during year, 6,270 second-feet Dec. 9 (gage height, 11.70 feet); minimum, 41 second-feet Aug. 15, Sept. 5 (gage height, 1.81 feet).
1929-34: Maximum discharge recorded, that of Dec. 9, 1933; minimum, 22 second-feet Oct. 6, 7, 1929; minimum gage height, 1.74 feet Sept. 13, 1933.

Remarks.- Records excellent except those of discharge above 3,000 second-feet, which are fair. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	324	905	235	955	463	1,120	905	128	110	58	56	44
2	263	2,280	249	1,180	426	2,280	705	149	107	56	70	42
3	235	2,200	390	1,660	390	1,120	580	196	104	56	71	42
4	209	1,180	408	1,420	356	805	482	444	97	56	65	42
5	196	905	2,000	1,120	324	905	390	705	96	56	65	41
6	160	805	5,100	905	308	1,360	340	580	92	56	70	44
7	149	705	2,280	705	373	1,060	293	373	92	57	67	44
8	138	444	1,600	620	540	805	263	324	92	62	62	42
9	128	373	4,600	540	482	620	249	263	89	59	58	44
10	119	340	5,280	580	444	501	235	235	80	56	56	53
11	114	293	3,800	501	390	426	209	209	80	53	56	66
12	109	278	4,280	705	340	390	184	184	76	53	45	92
13	105	249	2,140	1,120	308	324	172	172	72	49	44	117
14	105	235	1,360	1,300	263	293	160	160	70	44	42	102
15	97	222	1,010	1,060	249	278	149	149	68	56	41	78
16	117	209	1,010	1,360	235	249	160	149	67	263	42	65
17	138	196	3,560	1,360	209	209	149	149	67	172	44	58
18	160	184	4,760	1,120	196	196	138	149	67	117	42	56
19	390	184	4,600	2,280	196	184	128	249	67	94	49	53
20	660	235	3,960	3,320	184	172	128	209	66	83	49	51
21	408	293	4,760	4,920	172	160	119	160	75	78	47	50
22	540	373	5,010	3,320	160	149	114	149	83	71	46	59
23	1,420	444	3,160	2,860	149	149	128	149	78	70	45	72
24	1,120	308	1,720	1,660	149	138	138	138	67	67	45	66
25	1,240	293	1,480	1,240	138	128	128	128	66	66	45	57
26	955	278	1,480	955	149	149	116	119	65	65	45	53
27	905	278	1,180	805	263	324	110	114	65	62	45	53
28	1,120	293	1,240	705	390	463	109	110	70	61	45	51
29	1,860	249	2,280	580		620	117	109	66	60	45	51
30	1,360	249	2,140	501		540	128	119	61	58	44	50
31	905		1,360	501		580		128		56	44	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,860	97	508	7.70	8.88	31,240
November	2,280	184	516	7.82	8.72	30,700
December	5,280	235	2,530	38.3	44.16	155,600
January	4,920	501	1,350	20.5	23.63	83,020
February	540	138	294	4.45	4.63	16,360
March	2,280	128	539	8.17	9.42	33,120
April	905	109	241	3.65	4.07	14,330
May	705	109	213	3.23	3.72	13,090
June	110	61	78.5	1.19	1.33	4,670
July	263	44	73.2	1.11	1.28	4,500
August	71	41	51.3	.777	.90	3,150
September	117	41	57.9	.877	.98	3,460
The year	5,280	41	543	8.23	111.72	393,200

46790 O—36——2

North River near Raymond, Wash.

Location.- Water-stage recorder in sec. 6, T. 15 N., R. 9 W., 1¼ miles above Salmon Creek and 10 miles northwest of Raymond.

Records available.- August 1927 to September 1934.

Extremes.- Maximum discharge during year, 35,000 second-feet Dec. 10 (gage height, 15.8 feet, from high-water marks); minimum, 35 second-feet Aug. 25 (gage height, 1.42 feet).
1927-34: Maximum discharge, that of Dec. 10, 1933; minimum, 3 second-feet Sept. 25, 26, 1930 (gage height, -0.11 foot), caused by regulation.

Remarks.- Records excellent except those for Sept. 24-30, which were estimated. Splash dam 800 feet above gage operated at irregular intervals. Many discharge measurements furnished by Western Washington Electric Light & Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	575	1,650	546	3,490	1,440	1,920	1,380	305	245	107	76	45
2	471	4,140	618	3,160	1,300	4,120	1,840	316	227	102	93	42
3	397	6,590	746	3,010	1,230	4,020	1,600	366	212	98	93	40
4	341	6,080	819	3,160	1,090	2,460	1,270	743	204	98	119	38
5	307	3,480	2,200	3,080	1,020	2,400	1,060	1,310	196	96	114	36
6	281	1,940	6,080	2,660	943	3,320	907	1,150	193	84	114	36
7	257	1,480	7,530	2,140	934	3,160	799	853	193	80	100	38
8	237	1,190	6,200	1,780	1,240	2,400	714	714	196	89	93	38
9	216	980	9,780	1,540	1,380	1,840	654	612	193	91	82	51
10	203	828	19,900	1,490	1,180	1,490	688	527	187	102	73	61
11	195	730	25,500	1,660	1,050	1,240	628	465	185	93	67	98
12	185	648	22,400	1,660	952	1,070	534	421	176	89	65	324
13	179	595	16,800	2,140	871	943	492	387	166	84	63	270
14	177	550	11,600	2,940	799	844	458	351	160	78	59	282
15	172	522	6,580	2,520	748	782	440	334	153	98	57	236
16	203	514	3,750	2,460	688	705	414	321	150	380	55	166
17	205	494	6,550	2,660	637	646	397	321	146	299	53	131
18	255	471	21,200	2,460	604	588	371	321	138	239	51	112
19	696	456	18,400	3,410	565	541	346	392	128	163	51	98
20	1,000	498	14,200	5,550	541	499	329	471	124	138	49	91
21	983	624	14,500	8,160	513	471	312	421	131	126	47	84
22	1,270	746	18,600	9,310	478	433	305	334	136	116	45	87
23	2,720	786	18,600	10,500	458	414	302	305	143	107	44	98
24	3,020	762	8,940	9,310	433	403	312	286	140	98	42	
25	2,270	723	5,220	5,750	414	376	316	276	126	93	38	
26	1,940	695	4,900	3,580	408	366	299	270	116	91	38	90
27	1,820	648	5,440	2,800	557	440	289	257	114	91	42	
28	2,630	648	4,020	2,330	853	776	279	248	126	91	42	
29	3,650	636	3,660	1,900		1,030	289	236	131	89	44	
30	3,380	575	4,020	1,660		1,110	312	242	124	87	45	
31	2,200		3,660	1,540		1,060		245		80	47	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,650	172	1,046	64,330
November	6,590	456	1,356	80,690
December	25,500	546	9,450	581,100
January	10,500	1,490	3,542	217,800
February	1,440	408	833	46,270
March	4,120	366	1,351	83,040
April	1,840	279	611	36,370
May	1,310	236	445	27,370
June	245	114	162	9,640
July	380	78	119	7,290
August	119	38	64.5	3,970
September	324	36	104	6,210
The year	25,500	36	1,608	1,164,000

Chehalis River near Grand Mound, Wash.

Location.- Staff gage in NW¼ sec. 23, T. 15 N., R. 3 W., at Meadow, 1½ miles southwest of Grand Mound.

Drainage area.- 928 square miles.

Records available.- October 1928 to September 1934.

Extremes.- Maximum discharge recorded during year, 45,000 second-feet Dec. 21 (gage height, 14.90 feet); minimum daily discharge, 131 second-feet Sept. 7, 8 (gage height, -0.60 foot).
1928-34: Maximum discharge recorded, that of Dec. 21, 1933; minimum, that of Sept. 7, 8, 1934.

Remarks.- Records good. Cities of Chehalis and Centralia divert about 15 second-feet from Newaukum River, a tributary, for municipal use. No noticeable regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,010	3,350	1,320	7,260	3,500	3,350	5,420	785	460	284	206	153
2	825	5,760	1,380	5,760	3,060	12,800	5,760	710	460	264	206	146
3	740	14,000	2,370	9,030	2,780	10,800	4,290	1,160	435	245	222	146
4	660	10,800	2,640	11,400	2,500	6,310	3,350	1,010	435	229	264	146
5	620	6,310	3,060	9,450	2,370	5,420	2,640	2,920	410	245	245	146
6	585	4,610	16,800	7,640	2,370	9,450	2,240	2,110	410	237	245	146
7	550	3,350	26,800	5,940	2,110	8,220	1,980	1,610	410	245	237	131
8	550	2,640	19,900	4,930	3,200	6,120	1,730	1,440	410	264	222	131
9	515	2,240	18,600	4,130	3,350	4,610	1,490	1,160	410	264	198	138
10	480	1,980	23,500	4,450	2,920	3,650	1,380	1,010	388	245	191	153
11	480	1,850	38,800	5,590	2,640	3,060	1,270	915	365	245	191	222
12	515	1,730	24,900	5,940	2,370	2,640	1,160	870	344	229	183	222
13	480	1,490	19,300	8,220	2,110	2,240	1,060	785	324	229	176	608
14	480	1,320	15,200	12,600	1,980	1,980	1,010	710	324	214	183	515
15	450	1,320	12,100	9,450	1,730	1,850	960	675	324	222	183	365
16	450	1,270	9,240	8,020	1,610	1,730	960	640	324	245	183	304
17	550	1,270	9,660	9,450	1,550	1,550	870	640	324	365	176	245
18	585	1,160	26,800	7,640	1,440	1,440	785	640	304	324	168	229
19	870	1,110	42,900	8,220	1,380	1,270	785	640	324	284	183	206
20	3,060	1,440	36,100	15,000	1,270	1,220	710	1,110	324	245	176	206
21	1,730	1,380	45,000	16,500	1,220	1,160	710	748	304	245	176	198
22	1,380	1,730	44,300	19,300	1,160	1,060	710	675	324	237	168	198
23	3,500	1,610	38,800	24,900	1,060	1,010	675	575	344	229	168	229
24	3,650	1,550	23,900	20,900	1,060	960	748	545	324	222	153	324
25	3,200	1,490	14,500	15,000	1,010	915	748	545	304	222	146	284
26	3,060	1,440	17,600	10,300	960	870	710	545	284	214	153	237
27	2,500	1,380	17,100	7,450	1,490	1,060	675	515	284	214	183	222
28	3,060	1,550	13,000	5,760	2,370	1,850	675	515	324	214	183	214
29	8,020	1,490	10,500	4,770		2,640	710	460	304	206	168	206
30	6,310	1,440	11,400	3,970		2,920	748	460	284	214	161	198
31	4,610		9,240	3,810		3,200		488		206	153	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	8,020	450	1,790	1.93	2.22	110,000
November	14,000	1,110	2,792	3.01	3.36	166,100
December	45,000	1,320	19,280	20.8	23.98	1,186,000
January	24,900	3,810	9,445	10.2	11.76	580,700
February	3,500	960	2,020	2.18	2.27	112,200
March	12,800	870	3,453	3.72	4.29	212,300
April	5,760	675	1,565	1.69	1.89	93,140
May	2,920	460	891	.960	1.11	54,770
June	460	284	353	.380	.42	21,000
July	365	206	243	.262	.30	14,970
August	264	146	189	.204	.24	11,600
September	608	131	229	.247	.28	13,620
The year	45,000	131	3,558	3.83	52.12	2,576,000

Satsop River near Satsop, Wash.

Location.- Staff gage in sec. 36, T. 18 N., R. 7 W., 1 mile west of Satsop.

Drainage area.- 315 square miles.

Records available.- March 1929 to September 1934.

Extremes.- Maximum discharge recorded during year, 24,200 second-feet Dec. 21 (gage height, 14.3 feet); minimum daily discharge, 248 second-feet Sept. 3-6 (gage height, 0.76 foot).
1929-34: Maximum discharge recorded, about 27,000 second-feet Feb. 26, 1932 (gage height, 15.8 feet); minimum, 203 second-feet Sept. 21, 22, 1930.

Remarks.- Records good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,120	2,920	1,160	4,670	3,760	7,480	3,400	670	560	343	312	272
2	945	11,200	1,450	6,060	3,640	6,820	2,700	730	512	343	360	259
3	825	10,400	1,760	8,120	3,280	5,920	2,270	825	512	328	360	248
4	715	4,710	3,930	6,680	2,810	4,410	1,880	2,070	490	328	376	248
5	680	3,540	5,300	6,840	2,700	5,220	1,710	2,480	470	328	343	248
6	615	2,920	16,800	5,500	2,370	5,920	1,470	1,970	470	328	430	248
7	585	2,440	6,840	4,540	2,480	5,220	1,390	1,630	470	328	411	259
8	528	2,200	5,600	3,890	4,020	3,640	1,310	1,390	470	328	376	259
9	528	1,870	17,400	3,520	3,890	3,040	1,240	1,240	449	328	360	284
10	500	1,650	12,000	4,150	3,040	2,590	1,390	1,100	449	328	343	312
11	472	1,550	12,500	3,760	2,480	2,170	1,240	1,030	430	328	328	298
12	445	1,450	12,000	4,410	2,370	1,970	1,100	960	430	312	328	670
13	445	1,300	8,460	7,160	2,270	1,790	1,100	890	411	312	328	640
14	455	1,200	6,200	5,360	1,970	1,630	1,030	825	394	312	312	512
15	420	1,120	5,150	4,670	1,790	1,550	960	792	394	360	312	449
15	500	1,030	4,450	7,480	1,710	1,470	960	760	394	2,480	298	376
17	500	985	14,700	6,060	1,630	1,310	890	760	394	960	298	360
18	945	945	16,200	4,940	1,470	1,240	890	730	394	670	298	328
19	1,120	1,070	11,400	9,400	1,390	1,240	825	1,030	376	670	298	328
20	1,070	1,160	17,100	8,820	1,390	1,170	792	960	376	535	284	298
21	945	2,680	21,200	14,700	1,310	1,100	792	825	394	449	284	298
22	4,580	2,440	16,000	12,500	1,240	1,030	730	792	376	411	272	312
23	5,150	2,320	11,600	16,500	1,170	1,030	730	730	376	394	272	328
24	3,800	2,200	7,800	7,480	1,170	960	730	700	376	376	272	298
25	4,710	1,870	6,210	6,680	1,100	890	730	700	376	376	272	284
26	3,160	1,650	6,520	5,780	1,100	890	700	670	394	360	259	284
27	4,060	1,550	5,640	4,800	2,810	1,550	670	640	376	360	272	272
28	9,200	1,450	5,640	4,020	3,160	1,880	640	612	360	343	272	284
29	6,520	1,350	10,200	3,520		3,280	670	555	360	343	272	272
30	4,850	1,250	8,290	3,400		3,280	670	555	360	328	272	272
31	3,540		6,680	3,400		2,700		585		328	272	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	9,200	420	2,062	6.55	7.55	126,800
November	11,200	945	2,481	7.88	8.79	147,600
December	21,200	1,160	9,296	29.5	34.01	571,600
January	16,500	3,400	6,413	20.4	23.52	394,300
February	4,020	1,100	2,269	7.20	7.50	126,000
March	8,820	890	2,787	8.85	10.20	171,400
April	3,400	640	1,187	3.77	4.21	70,630
May	2,480	585	976	3.10	3.57	60,030
June	560	360	420	1.33	1.48	24,980
July	2,480	312	462	1.47	1.70	28,400
August	430	259	314	.997	1.15	19,330
September	670	248	327	1.04	1.16	19,440
The year	21,200	248	2,432	7.72	104.84	1,761,000

Wynoochee River at Oxbow, near Aberdeen, Wash.

Location.- Water-stage recorder in sec. 12, T. 21 N., R. 8 W., 1 mile below Oxbow and 24 miles northeast of Aberdeen.

Drainage area.- 65 square miles.

Records available.- May 1925 to September 1934.

Extremes.- Maximum discharge during year, 14,000 second-feet Dec. 21 (gage height, 26.3 feet); minimum, 105 second-feet Sept. 8, 9 (gage height, 2.61 feet).
1925-34: Maximum discharge, that of Dec. 21, 1933; minimum, 76 second-feet Sept. 23, 1930 (gage height, 2.09 feet).

Remarks.- Records excellent except those for Jan. 18 to Feb. 2, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	660	1,240	460	1,730	1,600	4,720	1,450	315	263	134	160	118
2	560	5,620	775	3,190	1,500	3,600	1,000	382	255	134	168	116
3	485	2,890	685	4,090	1,390	1,970	810	472	248	130	188	114
4	423	1,680	610	2,850	1,090	1,510	735	1,590	240	128	200	112
5	387	1,300	3,510	2,730	1,000	1,920	685	1,490	220	128	214	110
6	354	1,060	4,120	1,770	885	2,170	635	910	213	127	522	109
7	334	885	2,010	1,450	1,100	1,480	598	735	213	124	387	111
8	324	785	1,600	1,240	1,600	1,180	560	635	206	126	288	107
9	306	710	5,780	1,240	1,270	1,000	585	560	200	125	248	126
10	297	660	3,590	1,540	1,030	860	635	510	194	121	226	128
11	280	598	6,430	1,330	885	785	572	485	194	117	213	129
12	271	548	6,140	1,390	735	760	548	472	188	116	200	283
13	263	510	3,670	2,390	735	710	535	460	182	116	188	334
14	263	472	2,350	1,820	660	685	510	423	182	114	182	271
15	246	448	1,730	1,450	622	635	485	411	176	160	176	206
16	306	423	1,420	3,920	585	585	472	387	170	2,290	165	182
17	271	387	4,120	2,380	560	560	448	376	170	735	165	165
18	645	364	4,020	1,900	522	522	423	387	165	435	160	154
19	541	482	3,450	3,700	498	498	411	748	160	334	154	144
20	498	572	7,940	3,400	485	485	399	685	160	297	149	139
21	399	1,230	10,200	5,700	460	460	387	510	165	263	144	132
22	1,700	970	6,350	4,900	435	435	364	460	165	240	144	134
23	2,110	835	3,440	6,600	411	423	364	423	160	220	139	139
24	2,010	735	2,290	3,000	387	411	364	399	149	206	134	132
25	2,650	660	1,810	2,700	376	387	354	364	144	200	133	121
26	1,360	610	1,970	2,300	442	399	343	334	139	188	131	119
27	1,390	572	1,660	1,900	1,650	685	324	315	139	182	128	117
28	3,400	548	2,710	1,600	1,610	885	324	306	154	176	126	115
29	2,690	510	6,040	1,400		1,570	411	288	149	170	125	113
30	2,410	485	4,340	1,400		1,570	376	288	139	165	123	111
31	1,480		2,410	1,400		1,240		280		160	121	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,400	248	946	58,150
November	5,620	364	960	57,100
December	10,200	460	3,472	213,500
January	6,600	1,240	2,529	155,500
February	1,650	376	878	48,740
March	4,720	387	1,132	69,620
April	1,450	324	537	31,950
May	1,590	280	529	32,530
June	263	139	183	10,910
July	2,290	114	263	16,190
August	522	121	188	11,550
September	334	107	146	8,710
The year	10,200	107	987	714,400

Humptulips River near Humptulips, Wash.

Location.- Water-stage recorder in NE¼ sec. 17, T. 20 N., R. 10 W., at highway bridge 1 mile southeast of Humptulips.

Drainage area.- 125 square miles.

Records available.- May 1933 to September 1934.

Extremes.- Maximum discharge during year, 13,800 second-feet Dec. 9 (gage height, 9.7 feet); minimum, 147 second-feet July 12 (gage height, 1.31 feet).
1933-34: Maximum discharge, that of Dec. 9, 1933; minimum, that of July 12, 1934.

Remarks.- Records fair. Discharge estimated Oct. 14 to Nov. 13, Jan. 19-28. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	970	1,700	750	3,140	2,640	5,840	2,780	359	345	180	235	193
2	760	6,600	1,280	4,020	3,000	7,030	2,080	421	326	174	325	193
3	622	6,000	1,460	5,400	2,500	4,080	1,640	730	308	168	296	186
4	528	2,700	1,330	4,510	2,020	3,140	1,320	1,810	300	162	336	186
5	466	2,100	5,120	4,620	1,820	3,310	1,130	2,540	285	159	326	183
6	423	1,700	7,360	3,220	1,580	4,470	970	1,580	277	159	788	183
7	390	1,400	4,260	2,570	1,700	3,140	860	1,280	270	156	782	186
8	359	1,300	3,290	2,080	2,850	2,360	751	1,090	262	162	521	183
9	339	1,000	9,340	1,950	2,570	1,950	805	860	256	162	418	211
10	321	900	7,220	2,360	2,020	1,640	1,200	732	245	153	359	256
11	312	900	7,520	2,290	1,700	1,380	890	649	242	150	326	222
12	300	800	8,540	2,570	1,420	1,200	761	574	231	150	300	496
13	291	700	5,950	4,240	1,270	1,090	685	507	228	174	289	671
14	300	656	4,510	4,000	1,130	1,030	631	454	218	156	273	560
15	300	614	3,490	2,920	980	900	598	430	215	180	262	386
16	300	606	2,780	5,040	890	820	582	401	208	3,140	256	317
17	300	550	7,030	4,170	820	732	528	412	205	1,600	248	281
18	600	512	7,580	2,920	761	667	493	407	202	878	238	262
19	700	597	6,710	5,500	694	622	454	1,100	196	604	235	245
20	700	820	7,770	5,200	640	566	436	1,320	193	521	228	235
21	600	2,640	10,600	8,700	614	535	412	870	199	442	225	228
22	2,800	2,220	8,700	7,300	558	514	396	685	218	386	222	258
23	3,200	2,020	5,540	9,600	521	460	391	582	202	350	218	290
24	2,400	1,700	3,920	4,300	500	436	396	514	190	321	212	238
25	2,900	1,410	3,220	3,900	472	412	370	472	183	304	208	225
26	1,900	1,230	3,370	3,300	472	401	350	436	180	289	205	218
27	2,500	1,110	3,070	2,700	1,920	1,060	331	401	180	273	202	212
28	5,500	1,010	3,790	2,300	2,150	1,580	326	375	199	262	202	212
29	3,900	893	6,820	2,020		2,600	396	359	205	252	199	205
30	2,900	810	6,120	2,080		2,850	401	380	186	242	199	202
31	2,100		4,180	2,080		2,220		380		235	196	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	5,500	291	1,290	10.3	11.87	79,300
November	6,600	512	1,573	12.6	14.06	93,620
December	10,600	750	5,246	42.0	48.42	322,600
January	9,600	1,950	3,903	31.2	35.97	240,000
February	3,000	472	1,436	11.5	11.98	79,760
March	7,030	401	1,904	15.2	17.52	117,100
April	2,780	326	779	6.23	6.95	46,340
May	2,540	359	745	5.96	6.87	45,840
June	345	180	232	1.86	2.08	13,790
July	3,140	150	405	3.24	3.74	24,880
August	788	196	301	2.41	2.78	18,500
September	671	183	264	2.11	2.35	15,720
The year	10,600	150	1,516	12.1	164.59	1,097,000

Quinault River at Quinault Lake, Wash.

Location.- Water-stage recorder in sec. 25, T. 23 N., R. 10 W., at outlet of Quinault Lake, 4 miles southwest of Quinault.

Drainage area.- 264 square miles.

Records available.- October 1911 to December 1922, July to November 1924, September 1925 to November 1932, May 1933 to September 1934.

Average discharge.- 19 years (1911-22, 1925-32, 1933-34), 2,716 second-feet.

Extremes.- Maximum discharge during year, about 35,000 second-feet Dec. 21 (determined from flood marks); minimum, 498 second-feet Sept. 8 (gage height, 1.15 feet). 1911-22, 1924-32, 1933-34: Maximum discharge, 37,000 second-feet Dec. 12, 1921 (gage height, 16.3 feet); minimum, 285 second-feet Sept. 20, 1924 (gage height, 0.74 foot).

Remarks.- Records good except those for Oct. 1-10, Nov. 2-5, Dec. 9-30, Feb. 24-28, June 24-26, June 28 to July 19, which were estimated. No diversions above station. Slight regulation caused by natural storage in lake.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,600	5,440	1,620	7,830	4,590	6,040	5,270	1,680	1,620	840	820	569
2	1,570	28,000	1,850	7,210	5,440	11,600	4,590	1,620	1,510	820	832	558
3	1,520	14,000	2,280	11,100	5,440	8,750	3,790	1,850	1,410	760	868	542
4	1,490	8,200	2,280	10,600	4,590	6,460	3,180	3,100	1,310	760	929	536
5	1,450	5,800	3,830	10,000	3,950	5,440	2,760	5,610	1,260	760	974	530
6	1,400	4,760	10,000	7,620	3,560	6,640	2,480	5,100	1,220	740	1,360	520
7	1,380	3,870	8,050	6,120	3,630	5,950	2,350	4,110	1,210	720	1,510	514
8	1,350	3,260	6,290	4,930	4,930	4,760	2,280	3,400	1,210	700	1,410	504
9	1,310	2,830	24,000	4,430	4,930	3,870	2,280	2,900	1,220	680	1,290	520
10	1,280	2,550	14,000	4,590	4,270	3,260	2,480	2,480	1,220	640	1,160	542
11	1,260	2,280	28,000	4,760	3,630	2,970	2,350	2,220	1,230	600	1,060	604
12	1,200	2,090	23,000	4,430	3,180	2,690	2,280	2,030	1,230	660	966	760
13	1,140	1,970	13,000	5,100	2,830	2,550	2,280	1,910	1,220	890	915	1,140
14	1,110	1,790	9,400	5,610	2,550	2,480	2,280	1,910	1,210	760	868	1,310
15	1,040	1,680	6,850	4,760	2,350	2,350	2,280	1,910	1,180	1,000	832	1,210
16	1,100	1,560	5,600	6,320	2,160	2,220	2,220	1,850	1,140	14,000	814	1,080
17	1,140	1,510	26,000	7,830	2,030	2,090	2,090	1,850	1,110	4,800	814	958
18	1,750	1,410	18,000	6,290	1,910	1,910	1,970	1,850	1,060	2,700	808	868
19	2,220	1,410	13,000	6,460	1,790	1,790	1,910	2,420	1,030	2,000	802	808
20	2,220	1,680	24,000	8,510	1,730	1,680	2,030	2,900	998	1,850	790	742
21	1,970	2,480	33,000	10,800	1,680	1,620	2,090	2,620	950	1,560	778	694
22	3,190	3,110	22,000	11,900	1,620	1,560	2,160	2,350	950	1,410	760	670
23	6,320	3,480	14,000	18,000	1,510	1,510	2,220	2,160	958	1,220	742	658
24	7,210	3,180	8,400	12,000	1,420	1,410	2,220	2,030	840	1,110	718	616
25	8,750	2,900	7,400	8,280	1,350	1,360	2,090	2,030	800	1,040	688	580
26	6,830	2,550	9,200	6,460	1,300	1,310	1,970	1,910	800	982	652	552
27	5,610	2,280	7,500	5,440	3,650	1,730	1,790	1,850	826	943	622	542
28	6,800	2,030	12,500	4,760	4,000	2,690	1,730	1.850	900	905	610	530
29	9,000	1,850	25,000	4,270		4,200	1,790	1,850	1,000	880	598	514
30	8,510	1,730	17,000	4,110		5,440	1,760	1,850	860	838	592	509
31	6,640		11,100	4,110		5,440		1,790		826	580	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	9,000	1,040	3,205	12.1	13.95	197,100
November	28,000	1,410	4,056	15.4	17.18	241,300
December	33,000	1,620	13,170	49.9	57.53	809,600
January	18,000	4,110	7,246	27.4	31.59	445,500
February	5,440	1,300	3,072	11.6	12.08	170,600
March	11,600	1,310	3,670	13.9	16.03	225,700
April	5,270	1,730	2,432	9.21	10.28	144,700
May	5,610	1,620	2,419	9.16	10.56	148,700
June	1,620	800	1,116	4.23	4.72	66,410
July	14,000	600	1,561	5.91	6.81	95,990
August	1,510	580	876	3.32	3.83	53,880
September	1,310	504	689	2.61	2.91	41,020
The year	33,000	504	3,647	13.8	187.47	2,640,000

Queets River near Clearwater, Wash.

Location.- Water-stage recorder in SW¼ sec. 36, T. 24 N., R. 13 W., on Quinault Indian Reservation, 4 miles southwest of Clearwater. Zero of gage is 18.5 feet above mean sea level.

Drainage area.- 454 square miles.

Records available.- September 1930 to September 1934.

Extremes.- Maximum discharge during year, 52,100 second-feet Dec. 21 (gage height, 15.2 feet); minimum, 522 second-feet Sept. 8 (gage height, 0.99 foot).
1930-34: Maximum discharge, about 70,000 second-feet Feb. 26, 1932 (gage height, 18.3 feet); minimum, 420 second-feet Aug. 23, 24, 1931; minimum gage height, 0.42 foot Oct. 11, 1932.

Remarks.- Records excellent except those for Oct. 16 to Nov. 12, Apr. 23-29, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,640	6,000	2,120	7,820	8,300	22,400	9,130	1,540	1,580	781	860	590
2	3,220	29,000	6,230	12,900	9,890	20,300	6,140	2,330	1,400	772	1,660	581
3	2,820	15,000	5,280	16,600	7,340	10,500	4,700	2,890	1,290	724	1,390	590
4	2,500	8,900	4,440	14,600	5,660	7,580	3,880	9,680	1,250	714	1,690	572
5	2,200	6,200	24,100	14,400	5,300	10,400	3,420	8,620	1,200	724	2,370	564
6	1,980	5,100	20,600	8,550	4,700	13,800	3,000	5,180	1,200	724	4,700	547
7	1,840	4,100	10,900	6,620	5,960	8,300	2,710	4,100	1,200	705	2,710	538
8	1,700	3,500	7,820	5,420	9,330	6,140	2,530	3,420	1,200	687	2,010	538
9	1,560	3,000	29,300	5,540	6,860	4,940	3,490	2,710	1,210	687	1,650	615
10	1,460	2,700	17,400	10,300	5,540	4,100	4,820	2,440	1,200	651	1,430	840
11	1,380	2,400	33,800	7,820	4,580	3,640	3,100	2,280	1,210	606	1,290	1,290
12	1,300	2,200	27,700	8,300	3,990	3,200	2,710	2,110	1,180	678	1,170	2,030
13	1,310	2,050	15,600	15,700	3,530	2,900	2,620	1,980	1,130	900	1,090	2,710
14	1,410	1,910	10,800	9,980	3,100	2,620	2,360	1,900	1,070	790	1,010	1,960
15	1,260	1,840	7,820	7,140	2,800	2,440	2,280	1,870	1,010	1,100	977	1,230
16	1,300	1,770	6,390	17,400	2,530	2,360	2,360	1,710	944	13,900	955	1,010
17	1,400	1,640	28,800	11,600	2,360	2,110	2,030	1,770	900	5,180	900	880
18	2,100	1,510	18,400	7,340	2,280	1,920	1,850	2,090	890	2,900	870	810
19	2,600	2,130	14,600	14,300	2,110	1,760	1,840	5,180	850	2,190	830	752
20	2,600	3,240	25,900	18,000	2,010	1,680	1,920	4,290	820	2,030	790	687
21	2,300	9,960	35,300	25,000	1,920	1,600	1,930	2,900	850	1,740	790	669
22	3,700	9,100	22,600	26,300	1,790	1,520	1,920	2,360	1,070	1,440	772	714
23	7,300	9,330	13,400	28,900	1,690	1,430	2,000	2,190	977	1,290	762	790
24	8,300	5,380	9,060	12,800	1,600	1,360	2,000	2,030	840	1,170	734	651
25	10,000	4,340	7,580	12,400	1,520	1,290	1,900	2,000	762	1,120	705	590
26	7,800	3,660	9,340	9,610	1,500	1,270	1,800	1,820	752	1,080	696	564
27	6,400	3,220	7,580	7,580	7,590	3,840	1,600	1,810	743	1,030	696	547
28	7,600	2,900	11,800	6,620	7,710	4,820	1,600	1,710	820	999	687	547
29	10,000	2,500	25,200	5,780		7,100	1,700	1,740	922	944	569	538
30	9,500	2,280	17,600	6,020		8,550	1,650	1,900	600	890	642	530
31	7,400		10,700	6,140		6,670		2,010		640	615	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	10,000	1,260	3,874	8.53	9.83	238,200
November	29,000	1,510	5,229	11.5	12.83	311,100
December	35,300	2,120	15,750	34.7	40.01	968,300
January	28,900	5,420	11,920	26.3	30.32	732,900
February	9,890	1,500	4,411	9.72	10.12	245,000
March	22,400	1,270	5,572	12.3	14.18	342,600
April	9,130	1,600	2,833	6.24	6.96	168,600
May	9,680	1,540	2,921	6.43	7.41	179,600
June	1,580	743	1,042	2.30	2.57	62,020
July	13,900	606	1,612	3.55	4.09	99,150
August	4,700	615	1,230	2.71	3.12	75,610
September	2,710	530	649	1.87	2.09	50,530
The year	35,300	530	4,798	10.6	143.53	3,474,000

Hoh River near Spruce, Wash.

Location.- Water-stage recorder in sec. 34, T. 27 N., R. 11 W., 2¼ miles below Spruce and 5 miles below South Fork.

Drainage area.- 193 square miles.

Records available.- August 1926 to September 1934.

Extremes.- Maximum discharge during year, 26,600 second-feet Dec. 21 (gage height, 17.3 feet, from high-water marks); minimum, 502 second-feet Sept. 27 (gage height, 1.44 feet).
1926-34: Maximum discharge, that of Dec. 21, 1933; minimum, 247 second-feet Nov. 14, 15, 1929; minimum gage height, that of Sept. 27, 1934.

Remarks.- Records good except those for Dec. 7-30, which were estimated. No diversions or artificial regulation. Stream subject to large diurnal fluctuation caused by melting of glaciers.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,220	3,090	1,080	3,870	3,190	6,810	3,420	1,150	1,330	1,080	1,020	927
2	2,040	11,100	1,990	5,490	3,630	6,470	2,530	1,450	1,180	1,060	1,510	992
3	1,960	6,380	1,690	7,720	2,800	4,000	2,080	1,460	1,130	1,040	1,330	1,060
4	1,800	3,820	1,520	6,060	2,350	2,990	1,800	4,850	1,100	1,080	1,300	1,080
5	1,620	2,890	6,110	5,640	2,350	4,260	1,690	4,140	1,150	1,180	1,610	1,020
6	1,480	2,440	6,020	4,000	2,170	4,950	1,580	2,720	1,200	1,180	2,200	906
7	1,480	2,120	3,000	3,290	3,330	3,290	1,580	2,220	1,220	1,100	1,460	886
8	1,390	1,920	2,500	2,890	3,510	2,710	1,520	1,840	1,330	1,020	1,180	827
9	1,220	1,720	9,000	2,990	2,710	2,260	1,670	1,550	1,450	1,040	1,720	846
10	1,150	1,580	5,500	3,750	2,260	2,000	1,900	1,420	1,480	1,020	1,660	1,220
11	1,080	1,450	10,500	3,190	2,040	1,840	2,260	1,420	1,620	992	1,020	1,200
12	1,020	1,360	9,000	3,400	1,840	1,720	1,520	1,330	1,660	1,040	1,020	1,510
13	1,020	1,280	5,000	5,000	1,690	1,660	1,660	1,360	1,550	1,080	992	1,480
14	1,040	1,200	3,500	4,000	1,550	1,580	1,580	1,450	1,360	1,080	1,040	1,080
15	970	1,150	2,500	3,350	1,450	1,480	1,580	1,580	1,250	1,290	1,100	948
16	1,350	1,130	2,000	7,770	1,360	1,360	1,690	1,420	1,180	5,780	1,150	927
17	1,220	1,040	10,000	5,490	1,300	1,220	1,450	1,420	1,150	3,110	1,100	866
18	3,340	992	6,500	3,750	1,220	1,150	1,300	1,360	1,130	2,050	1,020	827
19	2,120	1,260	5,000	5,370	1,180	1,100	1,450	2,360	1,100	1,520	992	754
20	1,660	1,480	9,500	5,790	1,150	1,080	1,720	1,800	1,100	1,390	1,020	719
21	1,360	2,460	12,500	7,400	1,100	1,060	1,880	1,480	1,100	1,200	1,060	719
22	4,770	3,540	8,500	9,780	1,060	1,020	1,960	1,360	1,150	1,080	1,060	669
23	6,900	2,800	5,000	10,500	1,020	970	1,920	1,450	1,100	1,040	1,080	604
24	6,410	2,350	3,500	5,580	992	948	1,690	1,620	1,080	1,130	1,130	560
25	7,340	1,920	3,000	4,520	948	906	1,480	1,620	1,080	1,200	1,150	530
26	4,390	1,760	3,500	3,870	1,020	886	1,420	1,520	1,080	1,300	1,180	516
27	4,520	1,550	3,000	3,290	2,850	1,740	1,390	1,620	1,060	1,420	1,180	516
28	7,340	1,360	5,000	2,990	3,080	2,380	1,450	1,660	1,080	1,360	1,130	560
29	6,090	1,250	10,500	2,800		3,630	1,480	1,800	1,080	1,250	1,080	604
30	5,440	1,150	7,500	2,710		4,000	1,250	1,840	1,060	1,100	948	652
31	3,750		4,650	2,710		3,130		1,580		992	927	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	7,340	970	2,887	15.0	17.29	177,500
November	11,100	992	2,318	12.0	13.39	137,900
December	12,500	1,080	5,437	28.2	32.51	334,300
January	10,500	2,710	4,805	24.9	28.71	295,500
February	3,630	948	1,970	10.2	10.62	109,400
March	6,810	886	2,406	12.5	14.41	148,000
April	3,420	1,250	1,730	8.96	10.00	102,900
May	4,850	1,150	1,801	9.33	10.76	110,800
June	1,660	1,060	1,218	6.31	7.04	72,480
July	5,780	992	1,394	7.22	8.32	85,690
August	2,200	927	1,205	6.24	7.19	74,120
September	1,510	516	867	4.49	5.01	51,580
The year	12,500	516	2,348	12.2	165.25	1,700,000

Soleduck River near Fairholm, Wash.

Location.- Water-stage recorder in lot 4, sec. 35, T. 30 N., R. 10 W., 300 feet below South Fork and 7 miles southwest of Fairholm.

Drainage area.- 79 square miles.

Records available.- October 1917 to September 1921, October 1933 to September 1934.

Extremes.- Maximum discharge during year, 24,300 second-feet Dec. 21 (gage height, 14.9 feet); minimum, 74 second-feet Sept. 7 (gage height, 1.27 feet).
1917-21, 1933-34: Maximum discharge, that of Dec. 21, 1933; minimum, 58 second-feet Sept. 29, Oct. 2, 3, 1918 (gage height, 0.48 foot, previous datum).

Remarks.- Records good except those for Oct. 1-3, 5, 8, 9, 15, Nov. 2, 5, 6, 10-15, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aug.	Sept.
1	490	835	336	1,220	1,190	2,230	1,050	315	381	164	117	77
2	450	3,200	676	1,630	1,190	3,170	795	411	350	157	141	76
3	430	1,960	600	2,740	948	1,490	680	425	326	151	137	75
4	400	1,250	510	2,020	783	1,120	620	1,580	308	149	162	75
5	360	920	3,210	1,830	765	1,350	590	1,700	304	147	149	75
6	321	780	2,780	1,300	718	2,210	558	1,070	304	145	203	75
7	292	735	1,330	1,050	885	1,300	540	795	300	143	171	76
8	290	610	1,040	915	1,050	980	514	655	323	137	141	76
9	260	524	3,430	980	855	795	553	558	323	135	129	76
10	241	510	2,430	1,190	730	702	635	505	308	129	119	105
11	230	460	5,300	1,050	665	650	518	484	315	126	113	135
12	210	420	4,750	1,190	605	610	496	446	308	124	109	232
13	210	400	2,120	1,670	558	585	514	438	286	137	105	342
14	208	360	1,370	1,370	526	571	496	446	259	131	101	216
15	220	340	1,040	1,240	492	544	492	458	244	142	99	141
16	371	332	860	3,570	471	496	518	421	228	714	98	120
17	260	313	2,820	2,120	450	450	438	434	225	377	96	107
18	1,180	296	2,110	1,370	430	413	397	405	222	237	92	99
19	444	375	1,450	1,770	405	389	421	686	206	195	90	94
20	313	452	7,420	2,020	385	373	488	600	200	188	87	87
21	266	755	12,800	2,670	377	357	518	479	203	171	86	86
22	2,180	1,030	4,730	4,510	357	338	526	434	234	155	85	105
23	1,910	785	2,420	4,700	342	319	509	430	217	145	84	101
24	1,220	685	1,580	1,950	326	304	438	454	192	139	83	89
25	1,080	585	1,300	1,490	308	290	397	450	180	133	83	84
26	920	510	1,450	1,330	312	276	389	401	175	129	83	83
27	1,040	466	1,330	1,160	1,020	593	385	409	173	126	82	80
28	2,430	422	1,730	1,050	1,100	777	397	401	173	120	81	79
29	1,810	387	3,380	1,050		1,260	377	417	173	117	80	78
30	1,620	363	2,340	980		1,330	338	488	168	113	79	77
31	1,040		1,540	1,020		1,080		463		112	78	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,430	208	732	9.27	10.69	45,020
November	3,200	296	702	8.89	9.92	41,770
December	12,800	336	2,587	32.7	37.70	159,000
January	4,700	915	1,747	22.1	25.48	107,400
February	1,190	308	652	8.25	8.59	36,180
March	3,170	276	882	11.2	12.91	54,250
April	1,050	338	520	6.58	7.34	30,920
May	1,700	315	570	7.22	8.32	35,020
June	381	168	254	3.22	3.59	15,090
July	714	112	171	2.16	2.49	10,490
August	203	78	108	1.37	1.58	6,670
September	342	75	107	1.35	1.51	6,390
The year	12,800	75	757	9.58	130.12	548,200

Elwha River at McDonald Bridge, near Port Angeles, Wash.

Location.- Water-stage recorder in NE¼NW¼ sec. 33, T. 30 N., R. 7 W., at McDonald Bridge, 8 miles southwest of Port Angeles. Zero of gage is 206.29 feet above mean sea level.

Drainage area.- 262 square miles.

Records available.- October 1897 to December 1901, October 1918 to September 1934.

Average discharge.- 20 years (1897-1901, 1918-34), 1,481 second-feet.

Extremes.- Maximum discharge during year (computed from records of spillway and turbine discharge), 26,700 second-feet Dec. 21 (gage height, 10.5 feet, from high-water marks); minimum, 70 second-feet Sept. 16 (gage height, -0.20 foot), caused by regulation; minimum daily discharge, 75 second-feet Sept. 3.
1897-1901, 1918-34: Maximum discharge, that of Dec. 21, 1933; minimum, 8 second-feet Oct. 9, 1927, caused by regulation; minimum gage height, that of Sept. 16, 1934; minimum daily discharge, 11 second-feet Sept. 18, 25, 1932.

Remarks.- Records good. Discharge Dec. 21-23, 29-31, Jan. 1-11, 23-25 estimated from records of power-plant load and estimated inflow. Flow regulated by operation of Glines Canyon Reservoir for power. Flow that is diverted through power house is returned to river above gage. Many discharge measurements furnished by Northwestern Power & Light Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	987	1,780	828	3,700	3,060	4,080	2,500	1,540	1,420	751	828	696
2	1,090	7,360	906	4,800	3,180	5,030	1,980	1,570	1,390	798	842	388
3	1,140	4,870	803	5,600	2,840	3,270	1,900	1,660	1,200	1,180	816	75
4	1,140	3,290	522	4,200	2,330	1,550	1,690	3,680	1,260	245	788	421
5	1,140	2,810	1,750	4,100	2,300	3,020	1,690	3,860	1,350	836	688	721
6	1,070	2,040	3,840	3,200	2,440	3,260	1,670	2,450	1,420	1,150	530	518
7	1,000	2,000	2,440	2,600	2,870	2,890	1,670	2,240	1,580	1,310	768	556
8	422	1,780	2,000	2,600	3,870	2,330	1,740	1,950	1,630	974	826	603
9	803	1,520	4,930	2,600	2,530	2,130	1,890	1,760	1,710	826	820	320
10	1,120	1,310	4,620	2,600	1,830	2,140	1,720	1,550	1,610	936	838	483
11	1,430	1,340	7,020	2,200	922	1,830	1,590	1,640	1,810	926	904	751
12	1,420	1,070	8,500	2,540	1,440	1,990	1,750	1,500	1,940	897	655	734
13	1,350	1,120	5,300	2,670	1,770	1,880	2,120	1,580	1,690	952	424	880
14	1,360	1,570	4,080	2,410	1,620	2,010	2,130	1,730	1,500	913	690	878
15	377	1,590	3,390	2,440	1,630	1,970	2,090	1,980	1,510	433	632	677
16	798	1,680	2,740	3,990	1,460	1,770	2,170	1,840	1,440	1,860	760	328
17	994	1,700	4,530	3,730	1,560	1,600	1,990	1,780	1,210	1,250	652	426
18	1,380	1,120	3,960	2,830	1,390	1,520	1,680	1,530	1,230	1,330	658	558
19	1,150	899	3,470	3,490	1,400	1,290	2,090	1,820	1,250	1,300	334	464
20	747	664	6,940	3,880	1,350	1,520	2,490	1,530	1,370	1,160	427	488
21	624	1,090	16,000	4,280	1,710	1,480	2,780	1,330	1,600	1,120	620	480
22	590	1,100	12,000	5,330	1,690	1,430	2,960	1,370	1,310	658	546	500
23	894	1,160	7,300	5,800	1,460	1,650	2,920	1,510	1,160	586	528	224
24	1,820	1,560	4,710	3,700	1,300	1,590	2,560	1,860	935	888	448	376
25	3,190	1,150	4,260	3,600	1,160	653	2,270	1,860	802	868	394	489
26	1,900	930	4,020	3,560	928	949	2,210	1,710	1,160	901	203	461
27	2,090	698	3,590	3,400	1,470	1,980	2,090	1,980	1,080	860	362	465
28	3,730	1,070	4,450	2,630	2,340	2,490	2,090	2,040	1,080	772	568	364
29	3,220	987	7,300	2,750		3,570	1,840	2,210	1,090	525	648	474
30	2,960	872	5,400	2,790		3,530	1,690	2,160	1,120	479	760	306
31	2,220		4,500	2,770		2,840		1,640		743	718	

Month	Observed				Gain or loss in storage in Glines Canyon Reservoir (acre-feet)	Corrected for storage			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October	3,730	377	1,424	87,580	+110	87,690	1,426	5.44	6.27
November	7,360	664	1,738	103,400	-2,210	101,200	1,701	6.49	7.24
December	16,000	522	4,713	289,800	+1,800	291,600	4,742	18.1	20.87
January	5,800	2,200	3,445	211,800	+260	212,100	3,449	13.2	15.22
February	3,870	922	1,923	106,800	-130	106,700	1,921	7.33	7.63
March	5,030	653	2,234	137,300	+170	137,500	2,236	8.53	9.83
April	2,960	1,590	2,065	122,900	-40	122,900	2,065	7.88	8.79
May	3,860	1,330	1,898	116,700	+40	116,700	1,898	7.24	8.35
June	1,940	802	1,362	81,040	-1,970	79,070	1,329	5.07	5.66
July	1,860	245	917	56,380	+290	56,670	922	3.52	4.06
August	904	203	635	39,020	+250	39,270	639	2.44	2.81
September	880	75	503	29,960	-2,200	27,760	467	1.78	1.99
The year	16,000	75	1,910	1,383,000	-3,630	1,379,000	1,905	7.27	98.72

DOSEWALLIPS RIVER BASIN

Dosewallips River near Brinnon, Wash.

Location.- Water-stage recorder in SW¼ sec. 24, T. 26 N., R. 3 W., half a mile above Corrigenda ranger station and 5½ miles northwest of Brinnon.

Drainage area.- 109 square miles.

Records available.- October 1930 to September 1934.

Extremes.- Maximum discharge during year, 5,980 second-feet Dec. 21 (gage height, 7.42 feet); minimum, 104 second-feet Sept. 30 (gage height, 1.92 feet).
1930-34: Maximum discharge, that of Dec. 21, 1933; minimum, 88 second-feet Oct. 16, 1930 (gage height, 1.77 feet).

Remarks.- Records excellent. Discharge estimated Mar. 15, 16. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	329	476	219	925	721	839	610	494	472	377	216	141
2	337	2,660	267	918	734	1,300	517	494	429	377	260	141
3	349	1,500	238	1,180	635	806	463	476	417	337	238	144
4	329	851	224	1,000	565	620	429	1,430	433	341	216	148
5	291	647	528	946	535	615	417	1,230	481	357	227	148
6	260	550	915	780	512	689	433	825	517	365	273	133
7	253	486	565	677	743	570	494	659	585	353	214	133
8	241	445	458	620	806	508	555	570	647	295	196	124
9	224	413	1,280	620	647	466	517	512	630	287	193	130
10	214	389	1,350	610	575	445	486	481	625	284	191	124
11	203	365	2,000	550	530	463	472	504	695	273	191	126
12	193	341	2,530	535	490	499	555	504	677	280	189	175
13	193	321	1,690	575	458	526	683	550	610	280	186	191
14	191	302	1,060	535	441	555	714	641	555	280	193	156
15	180	291	799	504	421	518	695	734	508	302	196	144
16	211	284	641	887	401	462	620	671	454	814	201	150
17	201	267	807	825	381	445	575	590	463	454	201	135
18	354	253	939	659	373	421	560	508	468	345	182	133
19	267	280	890	825	361	409	665	508	413	302	171	122
20	236	277	1,820	884	361	421	864	450	393	280	167	119
21	206	329	3,700	918	349	429	974	425	393	253	164	121
22	501	413	3,050	1,380	337	417	1,070	429	393	241	162	119
23	684	369	1,660	1,890	325	401	1,050	526	345	233	162	126
24	564	333	1,090	1,070	317	393	918	641	317	244	164	117
25	722	295	890	832	310	385	812	635	329	260	167	114
26	472	273	618	740	306	377	760	625	349	273	167	111
27	570	256	773	653	409	516	714	721	329	291	169	107
28	875	244	1,110	647	409	754	659	780	349	287	162	109
29	658	233	2,040	671		1,020	610	858	365	273	154	107
30	651	224	1,740	647		1,020	545	740	369	244	148	106
31	575		1,190	635		747		535		221	143	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	875	180	385	3.53	4.07	23,670
November	2,660	224	479	4.39	4.90	28,500
December	3,700	219	1,203	11.0	12.66	73,950
January	1,890	504	811	7.44	8.58	49,860
February	806	306	480	4.40	4.58	26,680
March	1,300	377	583	5.35	6.17	35,820
April	1,070	417	648	5.94	6.63	38,550
May	1,430	425	637	5.84	6.73	39,170
June	695	317	467	4.28	4.78	27,790
July	814	221	316	2.90	3.34	19,440
August	273	143	189	1.73	1.99	11,630
September	191	106	132	1.21	1.35	7,840
The year	3,700	106	529	4.85	65.80	382,900

North Fork of Skokomish River below Staircase Rapids, near Hoodsport, Wash.

Location.- Water-stage recorder in SW¼ sec. 3, T. 23 N., R. 5 W., 2 miles above Dry Creek and 10½ miles northwest of Hoodsport.

Drainage area.- 60 square miles.

Records available.- July 1924 to September 1934.

Average discharge.- 10 years, 446 second-feet.

Extremes.- Maximum discharge during year, 10,900 second-feet Dec. 21 (gage height, 9.8 feet); minimum, 58 second-feet Sept. 30 (gage height, 1.54 feet).
1924-34: Maximum discharge, that of Dec. 21, 1933; minimum, 16 second-feet Sept. 23, 1930 (gage height, 1.12 feet).

Remarks.- Records good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	328	696	162	1,180	960	2,020	717	248	239	134	108	72
2	283	3,010	421	1,950	995	1,710	551	362	236	132	139	71
3	200	1,440	280	2,180	798	1,030	470	337	223	121	128	69
4	183	895	231	1,660	666	759	420	1,640	220	121	126	68
5	180	688	1,130	1,450	628	981	390	1,200	220	126	155	66
6	178	573	1,430	1,030	595	1,050	390	764	223	124	252	65
7	175	500	770	862	1,170	759	430	614	227	119	187	72
8	172	445	612	772	1,140	634	425	501	223	115	146	69
9	172	400	2,200	810	830	546	410	435	220	111	128	68
10	170	363	1,640	862	688	510	415	389	220	106	121	75
11	167	333	3,640	753	595	515	381	364	227	100	115	87
12	162	305	3,570	700	535	535	430	348	220	100	111	256
13	160	280	2,100	747	485	546	470	360	208	100	108	217
14	157	254	1,220	683	435	540	475	376	196	99	106	142
15	162	239	895	636	400	490	445	372	181	216	106	108
16	195	231	711	1,780	372	435	405	324	167	1,440	102	95
17	192	211	1,140	1,220	354	381	354	313	165	393	99	85
18	399	203	1,130	862	337	354	337	305	167	246	95	81
19	280	231	995	1,610	325	333	390	562	159	217	93	78
20	233	228	3,930	1,510	317	333	460	418	152	199	92	75
21	205	305	6,100	1,790	302	321	480	324	154	179	90	73
22	1,030	387	3,300	2,480	280	302	495	302	159	159	87	73
23	941	302	1,900	2,480	261	274	475	309	149	146	84	78
24	983	264	1,340	1,340	248	261	420	332	136	144	79	68
25	912	219	1,060	1,030	233	251	381	305	134	136	78	64
26	579	208	1,100	895	289	251	337	290	134	134	78	63
27	707	195	995	810	909	545	313	302	134	134	78	62
28	1,880	183	2,350	798	853	759	298	313	152	130	76	62
29	1,670	176	4,440	830		1,120	329	313	142	124	75	62
30	1,400	167	2,740	810		1,150	274	294	134	115	73	58
31	848		1,580	817		804		252		111	73	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,880	157	494	8.23	9.49	30,350
November	3,010	167	464	7.73	8.62	27,640
December	6,100	162	1,778	29.6	34.13	109,300
January	2,480	636	1,204	20.1	23.17	74,060
February	1,170	233	571	9.52	9.91	31,740
March	2,020	251	661	11.0	12.68	40,660
April	717	274	419	6.98	7.79	24,930
May	1,640	248	438	7.30	8.42	26,910
June	239	134	184	3.07	3.42	10,950
July	1,440	99	188	3.13	3.61	11,570
August	252	73	109	1.82	2.10	6,720
September	256	58	86.1	1.44	1.61	5,120
The year	6,100	58	552	9.20	124.95	400,000

South Fork of Skokomish River near Union, Wash.

Location.- Water-stage recorder in NE¼ sec. 2, T. 21 N., R. 5 W., 5 miles above Vance Creek and 8 miles west of Union.

Drainage area.- 81 square miles.

Records available.- August 1931 to September 1934.

Extremes.- Maximum discharge during year, 16,500 second-feet Dec. 21 (gage height, 10.9 feet); minimum, 89 second-feet Sept. 5, 6 (gage height, 4.54 feet).
1931-34: Maximum discharge, that of Dec. 21, 1933; minimum, 71 second-feet Oct. 11, 1932; minimum gage height not determined, occurred in October 1931.

Remarks.- Records good. No diversions or regulation. One discharge measurement furnished by city of Takoma.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	616	1,090	257	1,880	1,200	3,100	1,040	238	227	126	134	100
2	518	4,460	449	2,590	1,250	3,040	741	282	217	122	138	96
3	458	2,550	471	3,320	1,060	1,600	612	365	201	118	142	92
4	422	1,440	402	2,440	883	1,170	532	1,250	191	118	142	92
5	387	1,040	2,070	2,340	810	1,440	472	1,360	187	118	142	89
6	368	832	3,670	1,630	750	1,670	430	850	187	118	254	89
7	350	700	1,930	1,320	958	1,140	410	644	182	118	238	96
8	326	608	1,480	1,140	1,380	905	391	540	178	118	191	92
9	314	540	3,780	1,090	1,140	760	376	458	173	122	173	96
10	304	494	2,820	1,310	905	687	398	417	168	118	168	100
11	287	436	4,760	1,220	780	628	359	378	164	118	164	106
12	276	402	5,100	1,210	696	580	347	353	159	118	159	219
13	270	376	3,180	1,990	644	540	341	329	159	118	155	243
14	265	351	2,000	1,660	596	500	329	317	155	114	146	201
15	260	327	1,420	1,330	556	479	323	305	155	126	142	159
16	276	316	1,050	3,350	516	444	311	294	155	1,310	138	142
17	265	305	2,260	2,020	493	417	299	294	150	542	138	130
18	400	288	2,820	1,600	472	398	294	288	150	347	130	122
19	422	305	2,720	3,100	444	378	282	420	146	282	130	118
20	443	339	7,930	2,800	417	365	276	437	146	248	130	110
21	374	510	10,500	4,480	398	359	271	365	142	222	126	106
22	1,500	471	6,050	5,420	378	341	265	329	142	201	122	106
23	1,410	442	3,440	4,610	365	323	265	305	142	191	118	114
24	1,360	402	2,320	2,540	359	317	265	294	138	182	114	106
25	2,040	370	1,830	1,880	347	305	259	282	138	173	110	103
26	1,120	339	1,920	1,560	359	305	248	265	134	164	106	100
27	1,040	322	1,710	1,320	1,200	465	238	254	130	150	106	100
28	2,530	305	2,520	1,160	1,330	572	238	248	138	146	106	96
29	2,600	283	5,420	1,080		1,010	254	238	138	142	106	96
30	2,390	272	4,070	1,070		1,090	254	232	130	138	100	96
31	1,420		2,600	1,010		878		232		138	100	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,600	260	807	9.96	11.48	49,610
November	4,460	272	697	8.60	9.60	41,480
December	10,500	257	2,998	37.0	42.66	184,400
January	5,420	1,010	2,112	26.1	30.09	129,900
February	1,380	347	739	9.12	9.50	41,030
March	3,100	305	845	10.4	11.99	51,980
April	1,040	238	371	4.58	5.11	22,060
May	1,360	232	415	5.12	5.90	25,510
June	227	130	161	1.99	2.22	9,560
July	1,310	114	205	2.53	2.92	12,630
August	254	100	141	1.74	2.01	8,660
September	243	89	117	1.44	1.61	6,970
The year	10,500	89	806	9.95	135.09	583,800

Nisqually River near Alder, Wash.

Location.- Water-stage recorder in SW¼ sec. 23, T. 15 N., R. 4 E., 2⅜ miles southeast of Alder.

Drainage area.- 250 square miles.

Records available.- August 1931 to September 1934.

Extremes.- Maximum discharge during year, 25,000 second-feet Dec. 22 (gage height, 13.2 feet, from high-water marks); minimum, 195 second-feet Sept. 27 (gage height, 1.48 feet).
1931-34: Maximum discharge, that of Dec. 22, 1933; minimum, that of Sept. 27, 1934.

Remarks.- Records excellent except those estimated Feb. 8, 9, which are good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	939	2,070	675	2,790	1,960	1,260	2,580	788	682	544	468	501
2	841	4,630	796	2,610	1,800	3,710	2,070	769	610	628	574	553
3	778	6,840	897	4,630	1,660	2,440	1,700	860	556	622	574	571
4	724	4,000	814	4,520	1,530	1,850	1,530	981	556	592	435	602
5	685	2,790	1,840	3,830	1,410	2,380	1,410	1,800	640	670	400	596
6	670	2,130	8,980	3,080	1,300	3,490	1,300	1,570	700	706	479	522
7	665	1,750	6,010	2,440	1,270	2,580	1,270	1,380	712	670	425	484
8	660	1,460	3,920	2,070	1,250	2,020	1,270	1,200	724	598	415	390
9	610	1,280	11,400	1,850	1,220	1,660	1,160	1,060	769	526	479	358
10	590	1,160	17,800	2,020	1,200	1,450	1,130	958	776	544	508	390
11	575	1,030	8,600	1,800	1,130	1,340	1,060	958	840	526	496	320
12	550	939	6,680	1,900	1,060	1,270	1,100	892	892	556	490	445
13	535	876	4,890	2,330	1,020	1,240	1,130	892	840	574	508	658
14	500	814	3,660	2,440	958	1,200	1,100	925	788	592	538	566
15	450	772	2,860	1,900	925	1,130	1,060	958	730	598	568	395
16	724	862	2,250	2,460	860	1,130	1,100	925	652	693	640	380
17	841	778	4,610	3,010	821	990	958	840	658	808	622	358
18	1,120	718	10,100	2,440	802	925	925	756	688	628	520	395
19	1,630	712	8,100	3,930	776	892	958	762	592	604	538	372
20	2,260	760	9,590	5,650	762	847	1,020	782	550	568	562	344
21	1,420	1,170	16,700	5,270	724	834	1,060	664	580	452	592	376
22	2,310	1,420	22,200	7,120	712	802	1,200	658	534	380	616	340
23	3,640	1,280	12,600	10,400	682	776	1,200	762	544	376	616	299
24	2,800	1,120	6,170	5,660	646	730	1,100	847	479	440	640	259
25	2,190	1,010	4,890	4,000	616	700	1,020	814	474	556	652	223
26	1,750	904	5,270	3,580	610	688	925	840	479	743	676	203
27	1,800	876	4,520	2,940	870	962	990	925	452	892	706	200
28	3,730	796	3,740	2,440	892	1,990	990	958	484	854	712	212
29	4,580	736	4,000	2,250		3,320	892	1,020	452	724	628	217
30	3,400	700	3,920	2,130		3,080	828	990	484	604	541	266
31	2,580		3,400	2,020		2,650		802		496	503	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,580	450	1,502	6.01	6.93	92,320
November	6,840	700	1,546	6.18	6.90	92,000
December	22,200	675	6,512	26.0	29.98	400,400
January	10,400	1,800	3,404	13.6	15.68	209,300
February	1,960	610	1,052	4.21	4.38	58,440
March	3,710	688	1,624	6.50	7.49	99,840
April	2,580	828	1,201	4.80	5.36	71,480
May	1,800	658	946	3.78	4.36	58,190
June	892	452	634	2.54	2.83	37,720
July	892	376	605	2.42	2.79	37,220
August	712	400	552	2.21	2.55	33,960
September	658	200	393	1.57	1.75	23,400
The year	22,200	200	1,677	6.71	91.00	1,214,000

Little Nisqually River near Alder, Wash.

Location.- Water-stage recorder in NW¼ sec. 16, T. 15 N., R. 4 E., 1,500 feet above mouth, 3,000 feet from diversion dam of Tacoma municipal power plant, and 1½ miles southwest of Alder.

Drainage area.- 28.5 square miles.

Records available.- August 1920 to September 1934.

Average discharge.- 14 years, 123 second-feet.

Extremes.- Maximum discharge during year, 2,430 second-feet Dec. 20, 21 (gage height, 6.8 feet); minimum, 3.3 second-feet Sept. 1, 2 (gage height, 0.55 foot).
1920-34: Maximum discharge, that of Dec. 20, 21, 1933; minimum, 0.9 second-foot July 17, 1926; minimum gage height, that of Sept. 1, 2, 1934.

Remarks.- Records good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	194	35	282	186	323	342	44	33	14	7.6	3.3
2	68	582	78	304	152	680	259	52	32	13	9.6	3.3
3	59	739	99	803	137	345	201	67	30	12	12	3.6
4	50	364	83	690	122	238	161	181	28	11	9.6	3.6
5	45	229	543	491	108	352	139	387	27	11	8.2	3.6
6	42	168	1,620	345	95	514	116	284	26	11	8.9	3.6
7	36	128	815	282	103	349	101	195	26	11	7.6	4.0
8	33	101	510	208	163	249	86	146	25	13	6.4	4.0
9	31	87	1,720	179	161	194	76	116	23	13	5.4	4.9
10	30	69	1,420	203	141	159	68	93	22	11	5.9	5.9
11	28	64	1,050	191	122	131	63	79	21	10	5.9	7.6
12	27	57	1,100	246	108	112	58	72	20	9.6	5.4	38
13	25	54	670	438	95	95	54	63	19	9.6	4.9	40
14	25	48	459	476	86	83	52	57	19	9.6	5.4	32
15	25	46	318	316	78	78	49	54	19	10	4.9	20
16	26	47	234	533	72	73	49	52	18	26	5.4	18
17	27	44	1,040	650	66	67	44	52	18	24	5.4	14
18	32	39	1,720	429	63	62	42	49	17	16	5.9	12
19	117	42	1,420	904	59	57	40	65	16	14	7.0	10
20	188	43	1,720	1,050	56	54	39	68	15	15	7.0	9.6
21	107	48	1,950	1,000	53	52	38	57	16	14	5.9	8.2
22	175	53	1,770	1,020	52	50	36	51	20	12	5.4	12
23	326	49	1,140	1,200	49	48	36	49	19	11	4.9	12
24	237	46	630	650	48	44	38	45	18	10	4.4	9.6
25	180	46	514	415	45	43	44	45	16	10	4.4	8.2
26	141	43	650	307	48	41	36	42	15	10	4.0	7.0
27	137	42	495	256	115	59	46	40	17	9.6	4.4	7.0
28	582	39	398	218	131	134	39	38	17	9.6	4.4	8.4
29	615	37	552	203		282	46	37	15	9.6	4.9	5.9
30	377	36	469	196		286	44	37	14	8.9	4.9	5.9
31	253		366	182		279		36		8.2	4.4	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	615	25	133	4.67	5.38	8,200
November	739	36	120	4.21	4.70	7,110
December	1,950	35	825	28.9	33.32	50,750
January	1,200	179	473	16.6	19.14	29,060
February	166	45	96.2	3.38	3.52	5,340
March	680	41	178	6.25	7.21	10,940
April	342	36	81.4	2.86	3.19	4,840
May	307	36	85.6	3.00	3.46	5,260
June	33	14	20.7	.726	.81	1,230
July	26	8.2	12.2	.428	.49	747
August	12	4.0	6.14	.215	.25	378
September	40	3.3	10.8	.379	.42	641
The year	1,950	3.3	172	6.04	81.89	124,500

Puyallup River near Orting, Wash.

Location.- Water-stage recorder in SW¼ sec. 17, T. 18 N., R. 5 E., 4 miles south of Orting.

Drainage area.- 154 square miles.

Records available.- September 1931 to September 1934.

Extremes.- Maximum discharge during year not determined, occurred Dec. 9 or 10, when water-stage recorder was not operating; minimum, 109 second-feet Sept. 26; minimum gage height, 2.73 feet Dec. 17.
1931-34: Maximum discharge occurred Dec. 9 or 10, 1933; minimum, that of Sept. 26, 1934.

Remarks.- Records fair. Discharge estimated Nov. 28 to Dec. 15, Aug. 11-22. Water diverted for Electron plant of Puget Sound Power & Light Co. returned to river above gage. Slight regulation, owing to pondage in connection with Electron power plant.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	477	1,250	430	2,040	1,370	916	1,050	482	319	443	441	432
2	504	3,110	500	1,990	1,250	2,370	910	462	286	520	570	470
3	525	3,600	420	3,000	1,130	1,600	826	566	270	482	548	485
4	493	2,250	420	3,170	980	1,290	774	752	280	509	424	515
5	477	1,640	590	2,980	910	1,800	722	1,290	293	542	420	449
6	477	1,290	3,000	2,690	838	1,330	709	980	296	577	500	394
7	509	1,090	2,700	2,420	812	960	703	878	323	548	405	380
8	472	960	1,900	2,250	878	800	685	722	373	462	387	338
9	393	910	4,500	2,140	819	697	649	577	398	462	432	363
10	381	832	12,000	2,250	734	637	625	514	361	462	449	387
11	366	760	7,900	2,090	667	583	625	498	443	493	320	347
12	347	715	3,800	2,090	595	566	655	458	429	482	260	422
13	319	679	2,600	2,200	566	548	697	433	354	482	490	445
14	330	655	2,300	2,140	525	520	691	458	316	520	540	366
15	290	613	1,700	1,990	509	504	655	487	286	566	570	292
16	557	676	1,210	2,250	477	498	637	453	257	793	510	313
17	722	619	1,990	2,420	453	453	531	420	248	748	620	305
18	1,200	566	3,450	2,140	429	424	514	373	248	569	520	308
19	1,760	607	2,800	3,000	443	411	509	389	214	514	290	288
20	1,600	661	4,290	3,240	402	407	560	402	211	462	660	265
21	945	950	7,490	3,100	385	393	583	370	211	424	650	282
22	2,180	1,130	4,090	3,980	393	369	625	347	223	343	610	298
23	2,650	1,050	2,610	2,230	354	377	631	373	188	385	706	270
24	1,940	980	1,300	1,670	343	373	577	429	211	462	706	226
25	1,600	832	1,480	2,300	336	366	583	429	316	575	700	195
26	1,210	748	2,500	2,360	330	366	514	462	402	739	726	191
27	1,410	734	2,340	1,840	426	482	554	487	373	893	804	192
28	2,320	570	2,470	1,550	418	910	571	498	393	804	772	205
29	2,360	490	2,800	1,420		1,250	509	548	373	654	553	231
30	1,890	390	2,740	1,420		1,250	477	497	407	520	462	252
31	1,460		2,360	1,370		1,130		385		445	436	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,650	290	1,038	6.74	7.77	63,800
November	3,600	390	1,046	6.79	7.58	62,240
December	12,000	420	2,925	19.0	21.90	179,900
January	3,980	1,370	2,314	15.0	17.29	142,300
February	1,370	330	635	4.12	4.29	35,250
March	2,370	366	794	5.16	5.95	48,840
April	1,050	477	645	4.19	4.68	38,380
May	1,290	347	530	3.44	3.97	32,590
June	443	188	311	2.02	2.25	18,490
July	893	343	546	3.55	4.09	33,560
August	804	260	532	3.45	3.98	32,690
September	515	191	330	2.14	2.39	19,650
The year	12,000	188	977	6.34	86.14	707,700

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Puyallup River at Puyallup, Wash.

Location.- Water-stage recorder in NE¼ sec. 20, T. 20 N., R. 4 E., 1 mile northwest of Puyallup.

Drainage area.- 914 square miles.

Records available.- May 1914 to September 1934.

Average discharge.- 20 years, 3,288 second-feet.

Extremes.- Maximum discharge during year, about 57,000 second-feet Dec. 10 (gage height, 21.4 feet); minimum daily discharge (estimated), 700 second-feet Sept. 30.
1914-34: Maximum discharge, that of Dec. 10, 1933; minimum, probably below 350 second-feet Nov. 24, 28, Dec. 1, 3-5, 1929, caused by regulation.

Remarks.- Records good except those for estimated periods. All diversions returned to river above gage. Large part of flow of White River, a tributary, regulated by Lake Tapps Reservoir. Some pondage on upper Puyallup and other tributaries.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,660	4,720	*2,000	6,190	5,470	4,820	6,010	4,240	3,520	*1,700	2,010	*1,400
2	2,480	8,370	*2,400	6,170	5,290	10,300	5,290	3,920	3,000	3,000	2,080	*1,300
3	2,300	20,600	*2,100	8,440	4,930	7,120	4,320	4,160	*2,300	3,080	*1,900	*1,200
4	2,240	13,500	*2,000	8,310	4,410	5,290	4,080	4,160	*2,700	*1,800	*1,400	1,820
5	2,070	8,840	2,820	7,900	4,580	6,300	3,760	8,310	*2,700	2,280	*1,100	1,760
6	2,070	6,870	15,200	6,550	4,580	10,200	3,680	7,500	*2,800	2,210	*2,000	1,700
7	2,020	5,230	14,400	5,470	4,750	7,120	4,410	6,740	*3,000	2,140	1,880	1,580
8	1,800	3,810	8,960	5,110	4,930	5,290	4,160	6,370	3,380	1,940	1,880	*1,300
9	1,960	3,460	26,400	4,700	4,750	4,580	4,580	5,470	3,380	1,940	1,940	*1,100
10	1,960	3,020	53,400	4,940	4,750	4,240	4,410	4,930	3,150	2,210	1,820	*1,600
11	2,070	2,660	32,400	4,750	4,750	4,080	3,160	4,750	4,000	2,010	*1,300	*1,500
12	2,070	2,480	18,700	4,560	4,930	3,920	3,150	4,320	3,700	2,080	*950	1,580
13	1,960	2,660	13,600	5,110	4,760	3,840	3,450	4,080	3,520	2,140	1,820	1,700
14	1,800	2,470	10,900	5,110	3,920	3,920	3,300	4,320	*3,300	*1,700	1,940	1,820
15	1,740	2,420	8,250	4,930	3,680	4,080	3,150	4,580	*2,900	*1,600	1,940	*1,300
16	2,020	2,580	6,000	5,420	3,760	4,080	4,140	4,750	*2,900	2,140	1,940	*1,100
17	2,420	2,600	6,920	6,010	3,520	3,920	4,160	4,580	*2,400	2,280	2,010	*1,600
18	3,080	2,420	21,300	5,290	3,300	3,600	3,760	4,410	*2,400	*2,300	*1,600	1,580
19	4,090	2,300	16,800	8,120	3,680	3,600	3,920	4,000	*2,400	*2,200	*900	1,480
20	6,910	2,720	16,300	12,500	3,520	3,520	4,080	4,750	*2,100	*2,100	2,010	1,360
21	3,540	3,170	35,200	11,200	3,450	3,520	4,580	4,000	*2,300	*1,700	2,010	1,230
22	5,820	4,400	44,400	16,800	3,220	3,520	4,580	3,680	*2,200	*1,400	1,940	*1,000
23	14,500	4,720	35,500	25,700	4,080	3,520	5,290	3,600	*1,900	1,880	1,940	*800
24	10,400	4,400	17,900	14,500	3,380	3,520	4,930	3,920	*1,600	1,820	1,880	1,200
25	6,430	*3,800	13,400	10,500	3,150	3,450	4,750	4,160	*2,000	2,080	*1,700	1,060
26	4,880	*3,800	15,400	10,000	3,600	3,600	4,410	3,920	2,280	2,010	*1,500	1,080
27	5,050	*3,800	12,900	8,730	3,680	3,640	4,580	4,580	*2,100	2,140	2,140	1,070
28	7,580	*2,800	9,900	7,310	3,760	5,480	4,580	4,930	2,140	*2,200	2,280	1,070
29	11,400	*2,400	9,130	6,930		8,940	4,240	4,940	1,880	*1,800	2,140	*900
30	8,480	*2,000	7,900	6,190		7,120	4,160	4,460	1,940	*2,100	1,940	*700
31	6,000		7,120	5,290		6,740		4,750		2,080	1,820	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	14,500	1,740	4,316			265,400
November	20,600	2,000	4,634			275,700
December	53,400	2,000	15,790			971,100
January	25,700	4,560	8,024			493,300
February	5,470	3,150	4,163			231,200
March	10,300	3,450	5,060			311,100
April	6,010	3,150	4,236			252,000
May	8,310	3,600	4,751			292,100
June	4,000	1,600	2,663			158,500
July	3,080	1,400	2,066			127,100
August	2,280	900	1,797			110,500
September	1,820	700	1,330			79,120
The year	53,400	700	4,927	5.39	73.17	3,567,000

*Estimated.

Note.- Monthly discharge in second-feet per square mile and run-off in inches not computed, owing to regulation. Yearly figures closely represent natural flow.

Carbon River near Fairfax, Wash.

Location.- Water-stage recorder in SW¼ sec. 22, T. 18 N., R. 6 E., 1½ miles northwest of Fairfax.

Drainage area.- 82 square miles.

Records available.- March 1929 to September 1934, November 1910 to July 1912 at station 1½ miles upstream.

Extremes.- Maximum discharge during year, 8,030 second-feet Dec. 9 (gage height, 10.2 feet); minimum, 105 second-feet Sept. 28 (gage height, 1.50 feet).
1910-12, 1929-34: Maximum discharge, that of Dec. 9, 1933; minimum (estimated), 40 second-feet Jan. 20, 1930 (stage-discharge relation affected by ice).

Remarks.- Records good except those for Dec. 24-26, which were estimated. Water diverted for use in lumber industry but returned to river above gage.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	370	598	248	749	755	434	767	429	385	330	265	221
2	326	1,470	246	749	665	1,480	641	424	341	352	330	221
3	297	2,180	246	1,190	588	935	566	534	319	341	346	235
4	267	1,240	228	1,120	517	701	539	550	292	385	260	275
5	254	880	392	1,080	478	925	500	995	314	385	245	255
6	246	706	1,710	875	440	1,180	495	815	368	390	275	217
7	243	574	1,080	719	424	815	506	665	396	385	240	209
8	234	487	820	641	451	647	500	588	407	358	213	179
9	215	420	4,810	605	396	550	451	495	418	319	221	193
10	199	370	4,300	623	363	490	434	434	440	314	225	221
11	184	330	2,360	583	341	456	429	434	473	308	221	182
12	174	300	1,790	594	324	440	473	434	500	297	213	205
13	172	270	1,510	623	308	429	495	440	478	330	217	346
14	177	246	1,420	635	286	412	495	462	456	346	217	314
15	170	228	1,380	583	275	402	473	500	429	324	265	193
16	340	243	1,380	605	260	380	583	500	374	390	314	173
17	460	228	1,580	815	250	319	473	473	407	473	297	161
18	868	207	2,180	695	235	286	418	424	385	374	280	176
19	1,140	204	1,620	896	230	270	451	390	336	314	245	161
20	977	267	2,060	1,480	225	265	517	440	302	286	245	130
21	592	441	3,720	1,420	221	260	556	346	308	230	240	132
22	1,640	820	3,980	2,040	209	245	623	330	402	201	250	167
23	1,930	790	2,580	2,730	193	235	653	380	336	189	255	140
24	1,220	634	1,800	1,440	185	225	583	473	260	230	275	122
25	940	562	1,500	1,120	179	213	561	473	255	308	314	111
26	760	435	1,400	1,080	176	209	517	462	270	380	308	109
27	835	415	1,360	935	205	431	517	534	275	440	336	106
28	1,280	358	1,180	785	217	932	550	556	286	468	380	107
29	1,300	304	1,080	767		1,120	473	572	280	418	314	108
30	940	273	995	737		1,080	418	600	314	330	250	109
31	736		875	707		905		490		275	221	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,930	170	629	7.67	8.84	38,650
November	2,180	204	549	6.70	7.48	32,690
December	4,810	228	1,672	20.4	23.52	102,800
January	2,730	583	956	11.7	13.49	58,750
February	755	176	336	4.10	4.27	18,640
March	1,480	209	570	6.95	8.01	35,050
April	767	418	522	6.37	7.11	31,060
May	995	330	505	6.16	7.10	31,030
June	500	255	360	4.39	4.90	21,430
July	473	189	338	4.12	4.75	20,770
August	380	213	267	3.26	3.76	16,420
September	346	106	183	2.23	2.49	10,870
The year	4,810	106	578	7.05	95.72	481,200

White River at Greenwater, Wash.

Location.- Water-stage recorder in SE¼ sec. 10, T. 19 N., R. 9 E., three-quarters of a mile southeast of Greenwater and above mouth of Greenwater River.

Drainage area.- 216 square miles.

Records available.- March 1929 to September 1934. September 1911 to May 1912 fragmentary, for a station 2 miles above, published as White River near Enumclaw, Wash.

Extremes.- Maximum discharge during year, 12,100 second-feet Dec. 21 (gage height, 9.38 feet); minimum, 222 second-feet Sept. 27 (gage height, 2.11 feet).
1911-12, 1929-34: Maximum discharge, that of Dec. 21, 1933; minimum, probably less than 150 second-feet sometime during January 1930.

Remarks.- Records good except those above 4,000 second-feet, which are poor, and those for Apr. 2-13, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	515	1,170	536	1,740	1,390	823	1,500	1,090	942	799	653	614
2	522	2,630	529	1,610	1,330	2,040	1,300	1,050	846	815	745	630
3	522	3,470	515	2,220	1,240	1,670	1,100	1,050	815	792	730	645
4	507	2,160	488	2,060	1,150	1,390	1,100	1,310	838	807	636	691
5	488	1,660	772	1,800	1,090	1,340	1,000	1,610	902	854	630	661
6	500	1,370	2,920	1,550	1,050	2,080	1,000	1,340	966	838	676	599
7	536	1,180	1,820	1,390	1,040	1,670	1,200	1,210	1,030	784	630	576
8	507	1,060	1,360	1,290	1,080	1,390	1,300	1,110	1,080	722	638	514
9	458	970	5,980	1,210	1,010	1,230	1,200	1,050	1,070	730	645	607
10	452	880	8,830	1,210	966	1,130	1,000	998	1,060	730	645	499
11	430	830	5,070	1,090	926	1,050	1,100	1,020	1,130	730	630	430
12	415	750	3,860	1,070	894	1,020	1,200	1,030	1,140	714	614	476
13	410	690	3,100	1,140	854	1,030	1,400	1,050	1,110	730	607	491
14	415	643	2,460	1,130	830	1,050	1,440	1,130	1,050	738	630	430
15	390	599	2,140	1,050	807	1,060	1,440	1,220	990	730	676	391
16	458	608	1,840	1,180	799	1,050	1,390	1,200	910	950	722	422
17	482	551	2,970	1,270	776	1,010	1,240	1,090	910	926	730	391
18	754	515	4,340	1,160	761	966	1,200	998	910	776	676	430
19	1,020	515	3,320	1,510	745	926	1,280	982	830	730	638	376
20	1,030	515	4,090	1,800	738	910	1,500	926	815	691	645	353
21	670	781	7,900	2,150	730	902	1,610	870	822	614	653	376
22	2,090	930	9,220	3,500	707	894	1,740	878	815	568	653	360
23	2,480	930	6,460	4,250	691	886	1,800	990	745	607	661	314
24	1,700	870	3,930	2,580	668	854	1,670	1,130	722	661	661	268
25	1,350	790	2,810	2,010	653	838	1,550	1,140	753	730	684	245
26	2,380	740	2,360	1,870	653	822	1,500	1,190	745	807	722	237
27	1,320	710	2,150	1,800	661	838	1,440	1,270	738	894	761	229
28	1,750	634	2,080	1,500	661	1,010	1,390	1,300	745	894	815	237
29	1,880	582	2,220	1,440		1,390	1,270	1,390	730	830	730	260
30	1,580	551	2,150	1,440		1,550	1,160	1,340	768	738	653	276
31	1,300		1,940	1,440		1,670		1,080		661	607	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,480	390	946	4.38	5.05	58,140
November	3,470	515	1,009	4.67	5.21	60,070
December	9,220	488	3,232	15.0	17.29	198,700
January	4,250	1,050	1,693	7.84	9.04	104,100
February	1,390	653	889	4.12	4.29	49,390
March	2,080	822	1,177	5.45	6.28	72,370
April	1,800	1,000	1,334	6.18	6.90	79,380
May	1,610	870	1,130	5.23	6.03	69,500
June	1,140	722	898	4.16	4.64	53,410
July	950	568	761	3.52	4.06	46,790
August	815	607	671	3.11	3.58	41,250
September	691	229	431	2.00	2.23	25,640
The year	9,220	229	1,186	5.49	74.60	858,700

Greenwater River at Greenwater, Wash.

Location.- Water-stage recorder in NW¼NW¼ sec. 11, T. 19 N., R. 9 E., 1 mile above mouth and 1 mile east of Greenwater.

Drainage area.- 75 square miles.

Records available.- September 1911 to August 1912 (fragmentary), May 1929 to September 1934.

Extremes.- Maximum discharge during year, 4,140 second-feet Dec. 9 (gage height, 9.24 feet); minimum, 25 second-feet Sept. 30; minimum gage height, 1.15 feet Aug. 11. 1911-12, 1929-34: Maximum discharge, that of Dec. 9, 1933; minimum, probably less than 25 second-feet sometime Jan. 15-25, 1930.

Remarks.- Records good except those for Apr. 4-13, 15, 16, 18-25, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	274	152	548	565	265	495	305	164	65	44	27
2	68	622	148	512	548	556	478	291	157	63	44	27
3	64	1,160	150	645	512	530	425	282	145	61	46	26
4	62	705	143	745	460	436	410	273	140	61	44	26
5	60	524	190	665	419	427	360	325	137	59	46	26
6	59	421	768	565	386	645	350	311	130	59	44	26
7	58	346	586	512	363	565	410	305	121	58	44	28
8	57	299	443	446	349	495	430	299	116	58	41	37
9	57	267	2,170	398	334	425	400	276	108	59	41	34
10	55	237	3,720	369	317	380	330	262	103	58	38	36
11	55	214	2,020	357	302	349	350	254	99	56	36	32
12	54	200	1,310	349	294	337	370	243	92	54	40	34
13	53	180	1,040	357	282	337	410	232	97	52	38	52
14	53	170	845	366	271	352	395	229	95	51	38	58
15	53	158	705	343	262	354	420	232	93	51	36	41
16	63	161	585	346	257	352	430	238	95	51	35	35
17	69	148	691	389	248	331	395	232	90	51	35	32
18	101	139	1,350	375	246	317	380	224	90	49	36	30
19	161	137	1,060	428	243	302	400	221	88	47	35	29
20	208	135	1,150	548	243	294	450	224	86	47	35	27
21	137	247	2,270	705	240	288	470	219	84	47	34	27
22	498	267	3,090	1,190	235	285	490	211	86	47	33	31
23	609	247	2,880	1,780	229	279	490	206	84	46	32	33
24	438	237	1,610	1,060	224	271	450	201	78	44	31	30
25	314	221	1,140	765	224	265	400	195	76	44	30	28
26	240	202	885	725	224	257	392	188	74	44	30	27
27	243	197	785	685	224	268	386	177	76	44	30	26
28	299	178	725	605	224	296	369	172	78	44	30	26
29	363	168	705	565		414	354	170	74	44	29	26
30	350	158	665	565		460	331	172	69	42	28	26
31	299		625	548		495		170		44	27	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	609	53	170	2.27	2.62	10,450
November	1,160	135	287	3.83	4.27	17,100
December	3,720	143	1,116	14.9	17.18	68,640
January	1,780	343	597	7.96	9.18	36,730
February	565	224	312	4.16	4.33	17,310
March	645	257	376	5.01	5.78	23,100
April	495	330	407	5.43	6.06	24,240
May	325	170	237	3.16	3.64	14,560
June	164	69	101	1.35	1.51	6,010
July	65	42	51.6	.688	.79	3,170
August	46	27	36.5	.487	.56	2,240
September	58	26	31.4	.419	.47	1,870
The year	3,720	26	311	4.15	56.39	226,400

Green River near Palmer, Wash.

Location.- Water-stage recorder in SW¼NW¼ sec. 20, T. 21 N., R. 8 E., 1½ miles above intake of Tacoma water-supply system and 4 miles southeast of Palmer.

Drainage area.- 231 square miles.

Records available.- October 1931 to September 1934.

Extremes.- Maximum discharge during year, 33,600 second-feet Dec. 9 (gage height, 19.4 feet): minimum, 81 second-feet Sept. 4, 5; minimum gage height, 4.40 feet Oct. 15, 16.

1931-34: Maximum discharge, that of Dec. 9, 1933; minimum, that of Sept. 4, 5, 1934; minimum gage height, 4.00 feet Sept. 4, 1933.

Remarks.- Records excellent except those for Feb. 19, 20, Mar. 28 to Apr. 7, Aug. 20, 21, which were estimated and are good. No diversions or regulation above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	817	1,910	907	2,180	2,550	1,750	2,400	576	350	198	138	94
2	682	5,010	907	2,110	2,390	5,060	2,100	604	340	194	147	90
3	593	10,900	952	4,270	2,110	3,500	1,800	708	330	189	156	85
4	506	5,030	862	4,700	1,850	2,520	1,700	752	320	189	152	81
5	464	3,100	1,900	3,980	1,610	2,970	1,600	1,080	310	184	142	81
6	402	2,250	8,050	2,930	1,440	4,220	1,400	1,060	300	184	142	90
7	362	1,850	4,700	2,250	1,330	3,000	1,300	972	300	184	138	102
8	322	1,510	3,160	1,910	1,330	2,250	1,220	890	300	184	129	124
9	322	1,350	17,900	1,670	1,250	1,850	1,160	780	295	184	124	134
10	303	1,190	26,700	1,670	1,160	1,610	1,110	714	290	175	120	138
11	284	1,040	10,500	1,500	1,080	1,500	1,060	698	276	156	116	134
12	264	952	6,250	1,500	1,030	1,440	1,060	648	271	156	116	203
13	253	907	4,340	1,730	972	1,440	1,060	593	256	156	111	300
14	253	817	3,160	1,790	918	1,500	1,030	560	251	152	116	350
15	234	772	2,470	1,550	890	1,440	1,000	544	246	161	116	246
16	360	817	2,040	1,610	862	1,380	1,160	528	246	198	116	203
17	506	772	3,450	1,850	835	1,250	1,060	517	246	217	116	184
18	1,070	727	6,690	1,670	835	1,110	945	495	251	198	116	161
19	1,670	727	5,060	2,600	826	1,030	862	506	246	175	111	156
20	2,260	817	6,380	3,860	817	972	862	528	237	170	111	138
21	1,560	1,040	14,900	5,110	808	945	862	474	241	165	111	134
22	4,450	1,460	19,800	9,900	780	918	835	448	261	175	111	156
23	7,240	1,620	15,100	12,100	752	862	808	432	251	161	111	165
24	4,780	1,510	6,330	5,560	720	808	752	417	241	152	107	152
25	3,150	1,560	4,100	3,980	686	752	725	411	227	152	102	134
26	2,470	1,460	2,930	3,860	659	720	648	401	213	156	98	124
27	2,180	1,350	2,640	3,500	698	890	642	386	213	152	98	124
28	2,770	1,190	2,320	2,750	780	1,400	654	370	222	152	94	116
29	3,980	1,090	2,390	2,470		2,900	615	360	213	147	94	116
30	3,040	998	2,470	2,550		3,000	598	360	203	147	90	111
31	2,320		2,470	2,550		2,600		365		147	90	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	7,240	234	1,609	6.97	8.04	98,910
November	10,900	727	1,858	8.04	8.97	110,500
December	26,700	862	6,188	26.8	30.90	380,500
January	12,100	1,500	3,279	14.2	16.37	201,600
February	2,550	659	1,142	4.94	5.14	63,410
March	5,060	720	1,858	8.04	9.27	114,200
April	2,400	598	1,101	4.77	5.32	65,510
May	1,080	360	586	2.54	2.93	36,050
June	350	203	265	1.15	1.28	15,760
July	217	147	171	.740	.85	10,530
August	156	90	117	.506	.58	7,220
September	350	81	148	.641	.72	8,780
The year	26,700	81	1,537	6.65	90.37	1,113,000

Cedar River at Cedar Falls, Wash.

Location.- Water-stage recorder in sec. 4, T. 22 N., R. 8 E., three-quarters of a mile below Seattle municipal power plant at Cedar Falls.

Drainage area.- 83 square miles.

Records available.- April 1914 to September 1934.

Average discharge.- 20 years, 312 second-feet.

Extremes.- Maximum discharge during year, 6,120 second-feet Dec. 22 (gage height, 11.5 feet); minimum not determined.
1914-34: Maximum discharge, 6,290 second-feet Dec. 19, 1917; maximum gage height, that of Dec. 22, 1933; no flow Nov. 25, 1917, Aug. 18, 1923.

Remarks.- Records excellent October to December; good January to April; poor May to September. Discharge estimated May 15 to Sept. 30. All diversions returned to river above station. Flow partly regulated in Cedar Lake Reservoir for power-plant operation. Some discharge measurements furnished by city of Seattle.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	426	165	1,400	882	185	1,010	196				
2	100	860	161	1,140	804	272	1,070	202				
3	104	2,250	154	1,170	705	472	960	168				
4	106	2,280	186	1,340	634	634	842	295				
5	103	1,730	248	1,330	551	863	744	168				
6	112	1,390	559	1,280	479	1,110	662	174				
7	208	1,120	840	1,110	426	1,160	565	208				
8	108	855	883	986	396	1,100	502	198				
9	198	661	1,640	852	374	971	534	298				
10	105	546	3,080	756	359	773	454	198				
11	124	458	3,410	602	346	640	389	168				
12	241	354	3,450	551	313	666	352	143				
13	248	317	3,060	486	236	624	358	220				
14	198	270	2,570	464	156	592	292	169				
15	186	192	2,090	484	142	496	278					
16	120	187	1,790	434	136	506	329					
17	124	182	1,720	494	111	422	322					
18	126	182	2,430	501	165	388	278					
19	152	356	2,580	618	125	350	316					
20	134	289	2,690	754	118	299	411					
21	106	285	3,770	1,110	114	284	294					
22	154	289	4,910	1,920	105	229	165					
23	180	187	5,370	3,090	134	222	192	190				
24	158	218	4,520	2,920	132	176	182					
25	153	298	3,500	2,240	136	175	170					
26	146	221	2,940	1,940	142	188	248					
27	142	208	2,450	1,660	141	192	164					
28	153	197	2,030	1,420	161	246	148					
29	182	180	1,780	1,240		482	256					
30	348	159	1,600	1,090		780	182					
31	400		1,410	1,030		878						

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	400	100	162			9,990
November	2,280	159	572			34,010
December	5,370	154	2,193			134,800
January	3,090	434	1,175			72,220
February	882	105	304			16,910
March	1,160	175	528			32,480
April	1,070	148	422			25,130
May	298	143	195			11,970
June			180			10,710
July			90			5,530
August			45			2,770
September			45			2,680
The year	5,370		496	5.98	81.18	359,200

Note.- Monthly discharge in second-feet per square mile and run-off in inches not computed, owing to regulation. Yearly figures closely represent natural flow.

Cedar River near Landsberg, Wash.

Location.- Water-stage recorder in sec. 17, T. 22 N., R. 7 E., 1¼ miles above intake of Seattle water-supply system at Landsberg.

Drainage area.- 136 square miles.

Records available.- April 1914 to September 1934.

Average discharge.- 20 years, 680 second-feet.

Extremes.- Maximum discharge during year, 7,520 second-feet Dec. 22 (gage height, 7.7 feet); minimum, 203 second-feet Sept. 11, 17 (gage height, 0.91 foot).
1914-34: Maximum discharge, that of Dec. 22, 1933; minimum, 162 second-feet Oct. 15, 1914. Discharge may have been lower sometime during Oct. 15-26, 1925.

Remarks.- Records excellent except those for Dec. 24-31, which were estimated. All diversions, except Rock Creek, returned to river above station. Owing to danger of pollution, Rock Creek entering naturally just above gage has been diverted to a point below municipal water-supply intake. No correction made for amount of this diversion. Flow partly controlled by storage and release of water at Cedar Lake Reservoir.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	486	936	576	2,060	1,670	654	1,510	516	464	390	298	219
2	451	1,870	586	1,830	1,590	810	1,520	547	502	365	298	222
3	439	3,610	594	1,970	1,470	965	1,440	526	451	365	295	219
4	436	3,120	576	2,080	1,400	1,120	1,330	703	455	365	292	216
5	424	2,500	708	2,100	1,300	1,290	1,240	627	441	365	292	216
6	414	2,040	1,800	2,040	1,220	1,520	1,160	588	434	360	295	213
7	528	1,680	1,660	1,830	1,140	1,540	1,050	595	442	356	292	216
8	400	1,410	1,540	1,680	1,110	1,460	970	582	434	356	288	219
9	526	1,240	3,050	1,540	1,050	1,360	976	676	414	367	280	210
10	407	1,100	5,390	1,460	1,010	1,190	894	562	514	363	283	206
11	407	995	5,280	1,320	951	1,020	832	552	517	354	284	210
12	546	866	4,630	1,260	892	1,030	762	508	515	346	276	229
13	554	809	3,970	1,230	810	982	761	596	524	337	281	235
14	524	753	3,290	1,200	684	947	694	524	508	326	280	242
15	504	644	2,720	1,180	657	871	670	528	509	325	273	216
16	406	636	2,300	1,170	640	877	735	542	554	332	257	210
17	410	608	2,460	1,220	615	786	718	528	429	326	247	210
18	446	579	3,410	1,210	670	734	665	508	447	318	242	222
19	511	790	3,380	1,530	617	720	696	476	463	316	239	222
20	538	723	3,560	1,740	600	654	828	498	472	318	235	222
21	460	724	5,430	2,040	589	638	730	518	488	314	235	255
22	646	756	6,660	2,980	570	588	563	506	480	314	232	235
23	806	667	6,850	4,690	564	598	555	574	530	312	232	229
24	694	643	5,700	3,920	556	551	552	503	508	314	229	219
25	669	802	4,400	3,320	547	548	538	476	405	311	226	219
26	627	675	3,600	3,030	560	554	594	548	404	311	226	219
27	618	686	3,100	2,650	568	589	522	480	402	308	226	216
28	717	658	2,700	2,350	584	713	507	492	389	303	226	216
29	793	639	2,500	2,100		994	612	493	382	299	222	213
30	916	612	2,300	1,860		1,240	515	448	458	304	222	213
31	934		2,200	1,810		1,320		474		305	219	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	934	400	556			34,190
November	3,610	579	1,126			66,980
December	6,850	576	3,126			192,200
January	4,690	1,170	2,013			123,800
February	1,670	547	880			48,860
March	1,540	548	931			57,250
April	1,520	507	838			49,860
May	703	448	539			33,110
June	554	382	464			27,640
July	390	299	334			20,520
August	298	219	259			15,910
September	255	206	220			13,110
The year	6,850	206	944	6.94	94.21	683,400

Note.- Monthly discharge in second-feet per square mile and run-off in inches not computed, owing to regulation. Yearly figures closely represent natural flow.

South Fork of Skykomish River near Index, Wash.

Location.- Water-stage recorder in NE¼ sec. 29, T. 27 N., R. 10 E., 600 feet above Sunset Falls, 2 miles above North Fork, and 2 miles southeast of Index. Prior to Mar. 31, 1934, staff gage 300 feet downstream was used.

Drainage area.- 355 square miles.

Records available.- October 1902 to September 1905, April 1911 to September 1934.

Average discharge.- 26 years, 2,380 second-feet.

Extremes.- Maximum discharge recorded during year, 38,300 second-feet Dec. 21 (gage height, 19.00 feet); minimum, 447 second-feet Sept. 7 (gage height, 2.14 feet). 1902-5, 1911-34: Maximum discharge recorded, about 57,000 second-feet Dec. 18, 1917 (gage height, 22.6 feet); minimum, 214 second-feet Oct. 15-21, 23, 1925.

Remarks.- Records good. Discharge estimated Oct. 16, 18, 22, 23, 25, 27, 28, 31. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,830	3,670	1,420	4,820	4,460	5,730	6,780	2,920	2,300	1,140	560	485
2	2,530	20,400	1,490	5,060	4,700	10,700	4,950	2,850	1,980	1,110	600	481
3	2,160	17,300	1,560	11,800	4,110	6,010	3,920	3,780	1,810	1,080	640	489
4	1,910	9,030	1,560	8,050	3,670	4,940	3,370	4,520	1,850	1,050	640	481
5	1,700	5,180	1,560	9,240	3,030	6,310	2,980	7,670	2,080	1,050	700	481
6	1,560	4,220	15,900	5,450	2,630	4,940	3,040	5,270	2,120	1,050	700	472
7	1,420	3,450	5,450	4,220	2,530	4,580	3,500	4,350	2,160	1,020	675	464
8	1,290	2,930	4,220	5,560	2,730	3,890	3,920	3,640	1,980	990	650	476
9	1,230	2,530	14,100	3,230	2,530	3,130	3,570	3,040	1,980	932	628	468
10	1,050	2,250	22,000	3,560	2,540	2,730	3,440	2,730	2,080	905	605	569
11	1,050	1,990	16,200	3,230	2,160	2,630	3,370	2,980	2,120	878	605	700
12	940	1,770	13,600	3,030	1,990	2,830	4,060	2,920	2,160	856	600	908
13	885	1,700	8,630	3,450	1,840	3,340	4,950	3,040	2,080	825	596	1,460
14	940	1,560	6,010	4,110	1,770	3,560	4,950	3,570	1,900	825	587	1,400
15	1,110	1,420	4,700	3,450	1,770	3,780	4,950	3,780	1,770	825	578	960
16	3,230	1,350	3,670	3,450	1,700	2,930	7,230	3,500	1,570	1,260	582	800
17	3,450	1,290	9,450	4,340	1,700	2,730	5,110	2,920	1,490	1,380	582	725
18	6,470	1,230	14,300	3,230	1,700	2,430	4,200	2,500	1,490	1,170	574	650
19	5,590	1,230	9,030	6,470	1,700	2,340	4,800	2,500	1,380	1,020	569	605
20	4,700	1,490	21,400	6,800	1,700	2,340	5,920	2,610	1,320	960	560	582
21	3,450	2,340	27,200	10,500	1,700	2,430	6,600	2,210	1,290	905	556	592
22	8,240	5,450	24,900	9,870	1,630	2,340	6,960	2,210	1,490	878	556	800
23	21,700	3,030	13,600	8,830	1,490	2,160	6,780	2,670	1,380	850	546	905
24	9,030	4,110	8,240	6,630	1,490	2,070	5,920	3,180	1,260	800	551	725
25	9,660	3,130	5,590	4,940	1,350	1,910	5,270	3,040	1,200	800	546	650
26	6,160	2,340	4,580	4,460	1,290	1,840	4,650	3,180	1,170	825	546	596
27	5,590	2,160	4,460	4,000	1,560	4,580	4,650	3,440	1,140	850	556	564
28	7,500	1,840	4,340	3,780	2,070	7,860	4,500	3,500	1,170	850	556	542
29	6,800	1,630	8,240	3,560		11,200	4,060	3,640	1,200	800	546	520
30	5,590	1,560	9,240	4,110		8,050	3,370	3,500	1,140	775	524	511
31	4,340		6,010	4,110		6,310		2,980		750	502	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	21,700	885	4,326	12.2	14.07	266,000
November	20,400	1,230	3,786	10.7	11.94	225,300
December	27,200	1,420	9,440	26.6	30.67	580,500
January	11,800	3,030	5,334	15.0	17.29	327,900
February	4,700	1,290	2,262	6.37	6.63	125,600
March	11,200	1,840	4,278	12.1	13.95	263,000
April	7,230	2,980	4,726	13.3	14.84	281,200
May	7,670	2,210	3,375	9.51	10.96	207,600
June	2,300	1,140	1,669	4.70	5.24	99,290
July	1,380	750	948	2.67	3.08	58,320
August	700	502	585	1.66	1.91	36,130
September	1,460	464	669	1.88	2.10	39,790
The year	27,200	464	3,468	9.77	132.68	2,511,000

Skykomish River near Gold Bar, Wash.

Location.- Water-stage recorder in SW¼ sec. 9, T. 27 N., R. 9 E., 2 miles southeast of Gold Bar. Zero of gage is 210.01 feet above mean sea level.

Drainage area.- 535 square miles.

Records available.- September 1928 to September 1934.

Extremes.- Maximum discharge during year, 79,000 second-feet Dec. 21 (gage height, 21.3 feet); minimum, 632 second-feet Sept. 7 (gage height, 2.87 feet).
1928-34: Maximum discharge, that of Dec. 21, 1933; minimum, 392 second-feet Oct. 2, 3, 1929.

Remarks.- Records excellent. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,660	5,220	2,360	7,460	7,200	8,680	9,620	4,750	3,670	1,620	902	650
2	4,070	34,200	2,430	8,620	7,200	18,400	7,200	4,840	3,140	1,610	934	640
3	3,640	27,600	2,590	16,300	6,700	9,900	5,860	6,100	2,840	1,510	995	650
4	3,230	11,400	2,510	12,900	5,320	7,460	5,120	7,560	2,920	1,480	950	645
5	2,750	7,990	4,760	14,200	4,750	9,500	4,660	11,700	3,300	1,530	886	650
6	2,510	5,980	19,700	9,340	4,320	10,800	4,750	7,990	3,370	1,520	863	640
7	2,210	4,930	8,800	7,200	4,070	7,200	5,320	6,220	3,600	1,470	835	640
8	2,070	4,320	6,460	5,750	4,660	5,530	5,860	5,420	3,300	1,400	794	658
9	1,870	3,820	18,800	5,120	4,410	4,660	5,420	4,660	3,220	1,320	782	658
10	1,750	3,480	29,700	5,530	3,980	4,410	5,120	4,240	3,300	1,280	764	838
11	1,640	3,230	26,700	5,220	3,640	4,320	5,120	4,620	3,440	1,230	746	1,210
12	1,530	2,990	21,900	4,840	3,310	3,580	5,860	4,620	3,440	1,180	740	1,580
13	1,420	2,750	14,400	5,220	3,150	5,120	7,200	4,820	3,300	1,160	735	2,630
14	1,480	2,510	9,900	5,220	2,990	5,530	7,200	5,520	3,000	1,130	725	2,540
15	1,420	2,360	7,460	4,320	2,910	5,420	6,950	5,720	2,770	1,130	725	1,460
16	5,590	2,210	5,750	5,510	2,830	5,120	9,900	5,320	2,470	2,560	725	1,140
17	6,160	2,140	12,500	7,720	2,830	4,500	7,200	4,620	2,320	2,540	725	977
18	11,900	2,000	19,800	5,420	2,830	3,980	6,100	4,060	2,240	1,850	710	870
19	8,530	2,000	13,600	8,760	2,830	3,820	6,700	3,980	2,020	1,520	700	807
20	7,720	2,510	21,500	11,800	2,750	3,820	8,530	4,330	1,870	1,470	686	758
21	5,320	3,730	49,400	14,400	2,750	3,980	9,070	3,670	1,880	1,360	681	776
22	10,700	7,220	41,900	18,000	2,670	3,900	9,620	3,670	2,320	1,240	681	1,140
23	27,600	6,210	24,700	27,600	2,510	3,640	9,620	4,240	2,170	1,160	676	1,250
24	14,900	5,180	12,500	11,800	2,430	3,390	8,260	4,920	1,870	1,110	672	977
25	15,200	4,750	8,800	8,260	2,280	3,230	7,720	4,720	1,740	1,110	676	856
26	9,620	3,900	7,200	7,200	2,210	3,070	6,950	4,820	1,710	1,170	676	788
27	8,530	3,640	6,950	6,460	2,750	5,600	6,950	5,320	1,620	1,210	681	746
28	11,800	3,150	6,950	5,640	3,560	11,400	6,950	4,320	1,740	1,160	686	720
29	11,600	2,830	13,200	5,530		16,300	6,220	5,320	1,770	1,090	686	695
30	8,530	2,590	15,500	6,100		14,000	5,320	5,320	1,650	1,020	676	681
31	6,460		10,500	6,460		10,800		4,620		968	654	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	27,600	1,420	6,658	12.4	14.30	409,400
November	34,200	2,000	5,895	11.0	12.27	350,800
December	49,400	2,360	14,490	27.1	31.24	891,000
January	27,600	4,320	8,835	16.5	19.02	543,300
February	7,200	2,210	3,709	6.93	7.22	206,000
March	18,400	3,070	6,841	12.8	14.76	420,600
April	9,900	4,660	6,879	12.9	14.39	409,300
May	11,700	3,670	5,259	9.83	11.33	323,400
June	3,670	1,620	2,600	4.86	5.42	154,700
July	2,560	968	1,391	2.60	3.00	85,500
August	995	654	754	1.41	1.63	46,350
September	2,630	640	976	1.82	2.03	58,060
The year	49,400	640	5,385	10.1	136.61	3,898,000

North Fork of Skykomish River at Index, Wash.

Location.- Chain gage in SE¼ sec. 17, T. 27 N., R. 10 E., on highway bridge at Index, 1¾ miles above mouth.

Drainage area.- 149 square miles.

Records available.- August 1910 to September 1922, February 1929 to September 1934.

Average discharge.- 17 years, 1,224 second-feet.

Extremes.- Maximum discharge recorded during year, 20,400 second-feet Dec. 21 (gage height, 10.30 feet); unofficial reports indicate maximum stage possibly as much as 2 feet higher (possible discharge, 26,500 second-feet); minimum, 84 second-feet Sept. 3, 7 (gage height, 2.21 feet).
1910-22, 1929-34: Maximum discharge recorded, about 21,000 second-feet Feb. 26, 1932 (gage height, 10.5 feet); possibly as much as 26,500 second-feet Dec. 21, 1933; minimum, 78 second-feet Sept. 25, 1930.

Remarks.- Records fair. Discharge estimated Oct. 8, 16, 18, 21, 22, 25, 27, 28, Dec. 17, 20, 25, Apr. 10, 12, 13, 16, 18. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,600	1,800	618	2,550	2,280	1,610	3,120	1,610	1,290	394	210	118
2	1,500	16,200	630	3,530	2,280	6,490	2,190	1,370	915	370	282	100
3	1,400	6,780	582	6,490	1,940	2,920	1,690	1,770	788	271	230	84
4	1,130	3,450	570	4,460	1,530	2,020	1,530	2,280	844	170	220	118
5	922	2,130	907	5,200	1,370	1,940	1,450	3,530	990	315	126	109
6	849	1,700	5,680	2,920	1,210	3,320	1,450	2,730	1,050	394	134	100
7	755	1,220	2,790	2,370	1,290	2,370	1,690	2,020	1,290	370	170	84
8	692	1,030	2,130	1,770	1,450	1,940	1,850	1,690	1,050	337	170	134
9	630	878	8,760	1,530	1,290	1,370	1,690	1,450	975	315	152	100
10	548	755	9,340	1,770	1,130	1,370	1,610	1,450	1,130	293	152	293
11	493	666	9,340	1,530	990	1,530	1,610	1,690	1,050	260	143	430
12	460	570	7,040	1,610	930	1,450	2,190	1,450	1,040	260	100	830
13	440	515	5,160	1,530	900	1,690	2,280	1,610	990	260	152	1,210
14	440	482	3,230	1,530	774	1,770	2,100	1,770	816	260	152	746
15	430	440	2,460	1,210	704	1,770	2,100	1,850	760	260	152	430
16	2,130	410	1,910	1,690	676	1,690	2,550	1,690	676	1,940	170	271
17	1,600	380	2,600	2,280	704	1,450	2,190	1,530	662	788	152	282
18	4,400	333	4,650	1,690	704	1,210	2,100	1,210	620	529	134	240
19	3,010	333	4,150	2,730	704	1,130	2,100	1,210	594	359	134	220
20	2,460	570	9,280	3,530	704	1,130	2,550	1,370	555	516	143	180
21	1,600	1,400	14,400	5,200	732	1,130	2,730	1,130	555	382	143	143
22	4,150	5,950	10,500	3,980	676	1,050	2,920	1,050	690	326	134	271
23	11,700	2,680	6,220	7,600	620	1,050	2,920	1,370	648	293	143	220
24	4,650	2,460	3,980	3,530	581	960	2,730	1,530	516	293	118	220
25	4,400	1,700	2,600	2,280	568	886	2,280	1,530	490	293	134	210
26	2,790	1,130	1,940	2,020	516	858	2,020	1,530	490	315	134	190
27	3,010	965	1,850	1,770	788	2,730	2,280	1,690	430	326	143	160
28	4,150	742	2,020	1,610	915	4,950	2,100	1,690	555	326	143	143
29	3,450	582	6,220	1,610		7,890	1,940	1,530	503	315	134	134
30	2,790	515	6,490	1,850		5,200	1,850	1,530	382	260	134	126
31	2,020		3,750	1,940		3,320		1,530		230	118	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	11,700	430	2,277	15.3	17.64	140,000
November	16,200	333	1,958	13.1	14.62	116,500
December	14,400	570	4,574	30.7	35.39	281,300
January	7,600	1,210	2,752	18.5	21.33	169,200
February	2,280	516	1,034	6.94	7.23	57,430
March	7,890	858	2,264	15.2	17.52	139,200
April	3,120	1,450	2,127	14.3	15.95	126,600
May	3,530	1,050	1,658	11.1	12.80	101,900
June	1,290	382	778	5.22	5.82	46,300
July	1,940	170	388	2.60	3.00	23,840
August	282	100	153	1.03	1.19	9,430
September	1,210	84	263	1.77	1.98	15,660
The year	16,200	84	1,695	11.4	154.47	1,227,000

Troublesome Creek near Index, Wash.

Location.- Water-stage recorder in NE¼ sec. 21, T. 28 N., R. 11 E. (unsurveyed), a quarter of a mile above mouth and 9 miles northeast of Index.

Drainage area.- 10.4 square miles.

Records available.- July 1929 to September 1934.

Extremes.- Maximum discharge during year, 2,300 second-feet Dec. 21 (gage height, 7.0 feet); minimum, 18 second-feet Sept. 30 (gage height, 0.59 foot).
1929-34: Maximum discharge, that of Dec. 21, 1933; maximum gage height, 7.54 feet Feb. 26, 1932; minimum discharge, 11 second-feet Jan. 30, 1930; minimum gage height, that of Sept. 30, 1934.

Remarks.- Records good except those for Oct. 2 to Nov. 3, Mar. 20-30, Apr. 3-5, Apr. 17 to May 4, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	130	52	278	179	253	321	160	127	62	60	42
2	160	1,200	45	286	156	546	238	140	101	83	58	40
3	150	600	50	512	177	367	170	180	86	76	60	38
4	120	358	49	482	144	226	140	230	83	78	57	38
5	100	200	174	479	118	229	120	338	93	83	52	38
6	95	133	513	350	107	392	101	252	107	87	52	37
7	85	102	386	225	104	316	116	186	125	83	49	35
8	70	85	323	174	110	180	139	141	128	72	46	38
9	65	71	453	155	113	128	134	118	128	65	45	36
10	55	62	640	157	106	116	128	104	134	61	46	49
11	50	57	680	165	100	110	119	110	146	60	46	71
12	45	51	565	155	96	118	150	119	153	58	48	86
13	45	48	406	176	93	137	186	130	141	57	49	131
14	45	44	280	184	89	158	191	165	130	60	51	119
15	45	42	180	150	86	148	166	169	118	61	52	95
16	210	40	120	180	80	130	213	155	103	148	54	84
17	150	38	263	274	78	111	180	132	96	174	54	68
18	480	37	430	210	80	100	170	113	94	128	51	55
19	360	36	393	295	80	93	170	110	89	104	48	50
20	300	42	584	414	78	90	200	119	81	96	47	43
21	200	77	1,270	504	80	90	220	104	82	88	49	43
22	500	340	837	529	78	85	230	100	99	77	51	48
23	800	272	557	579	76	85	230	121	98	69	50	50
24	560	210	465	417	72	85	230	150	86	65	49	46
25	510	150	250	252	69	80	210	153	76	74	50	41
26	280	109	201	177	65	75	160	165	76	86	51	34
27	300	98	179	148	75	270	210	186	74	94	52	29
28	370	82	201	128	94	500	190	196	75	95	53	25
29	310	69	412	141		660	170	203	80	87	55	22
30	220	59	523	155		520	170	198	78	78	53	20
31	140		416	157		330		172		66	47	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	800	45	226	21.7	25.02	13,880
November	1,200	36	161	15.5	17.29	9,600
December	1,270	48	381	36.6	42.20	23,400
January	579	128	274	26.3	30.32	16,840
February	186	65	100	9.62	10.02	5,580
March	660	75	217	20.9	24.10	13,350
April	321	101	180	17.3	19.30	10,740
May	338	100	159	15.3	17.64	9,760
June	153	74	103	9.90	11.04	6,120
July	174	57	83.7	8.05	9.28	5,150
August	60	45	51.1	4.91	5.66	3,140
September	131	20	51.7	4.97	5.54	3,080
The year	1,270	20	167	16.1	217.41	120,600

May Creek near Gold Bar, Wash.

Location.- Staff gage in sec. 2, T. 27 N., R. 9 E., three-quarters of a mile below Lake Isabel and 3½ miles east of Gold Bar.

Drainage area.- 4.3 square miles.

Records available.- September 1928 to December 1934 (discharge).

Extremes.- Maximum discharge recorded during period Oct. 1, 1933, to Dec. 31, 1934, 270 second-feet Dec. 10, 1933 (gage height, 3.50 feet); minimum, 1.0 second-foot Sept. 4-6; minimum gage height, 0.88 foot Sept. 5, 6.
1928-34: Maximum discharge recorded, 475 second-feet Dec. 2, 1932 (gage height, 4.92 feet); minimum, that of Sept. 4-6, 1934.

Remarks.- Records good below 100 second-feet, fair above. No diversions or regulation. Gage-height record and many discharge measurements furnished by Washington Electric Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	55	26	110	55	25	77	56	24	5.7	3.3	1.2
2	53	67	22	90	61	60	70	34	22	5.1	2.9	*1.1
3	41	186	25	87	67	63	63	40	20	4.8	*2.8	1.1
4	34	151	24	103	*58	59	49	47	*18	4.3	2.7	1.0
5	28	110	33	103	50	63	*44	84	17	4.0	3.1	1.0
6	25	*78	110	87	44	77	38	90	16	3.7	3.3	1.0
7	*22	47	90	65	40	70	34	70	16	3.5	3.5	1.1
8	19	39	71	57	40	57	34	52	16	3.5	3.1	*1.2
9	17	34	123	53	43	49	32	49	15	3.3	*3.0	1.2
10	16	28	270	50	*38	43	28	38	*14	*3.2	2.9	2.7
11	14	23	242	*49	34	38	*29	*45	14	2.9	2.9	7.0
12	12	*20	179	48	29	*36	30	36	10	2.9	2.7	20
13	*11	18	130	49	27	34	30	34	9.7	2.5	2.4	24
14	11	16	110	42	24	34	34	32	8.8	2.3	2.5	34
15	10	15	71	40	21	31	34	30	8.8	2.2	*2.4	30
16	9.9	14	61	41	*20	30	59	30	*7.8	*8.0	2.3	25
17	27	12	71	57	19	34	*56	*30	6.7	4.3	2.3	24
18	41	*12	103	49	18	*30	57	29	6.3	3.7	2.2	19
19	56	11	144	57	16	27	50	27	5.7	4.3	2.1	16
20	84	12	172	77	16	24	47	29	5.7	7.7	2.0	*14
21	63	11	242	84	16	22	49	27	5.4	7.0	*1.9	14
22	76	18	151	110	*16	20	49	25	*5.5	*7.0	1.9	18
23	123	96	130	158	15	20	48	*24	6.0	6.3	1.7	16
24	137	70	110	123	14	*19	46	24	5.7	6.0	1.6	14
25	116	55	96	90	13	18	42	21	5.4	5.7	1.6	14
26	90	43	84	76	12	16	40	20	5.4	5.4	1.5	*12
27	67	41	65	70	17	20	38	20	5.4	5.1	*1.4	10
28	72	39	60	59	*15	59	34	18	7.0	4.5	1.4	8.8
29	81	33	55	*57		103	37	*17	6.3	4.0	1.4	8.1
30	78	30	103	55		110	39	17	6.0	3.7	1.3	7.0
31	*66		90	53		96		19		3.7	1.2	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	137	9.9	50.3	11.7	13.49	3,090
November	186	11	46.1	10.7	11.94	2,750
December	270	22	105	24.4	28.13	6,470
January	158	40	72.5	16.9	19.48	4,460
February	67	12	29.9	6.95	7.24	1,660
March	110	16	44.7	10.4	11.99	2,750
April	77	28	44.0	10.2	11.38	2,620
May	90	17	35.3	8.21	9.46	2,170
June	24	5.4	10.7	2.49	2.78	634
July	8.0	2.2	4.53	1.05	1.21	278
August	3.3	1.2	2.29	.533	.61	141
September	34	1.0	11.6	2.70	3.01	669
The year	270	1.0	38.3	8.91	120.72	27,710

*Estimated.

May Creek near Gold Bar, Wash.

(Continued)

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.3	45	34									
2	*6.2	71	34									
3	6.0	90	34									
4	5.4	65	36									
5	5.1	130	32									
6	4.5	186	30									
7	4.3	186	*32									
8	*4.3	179	33									
9	4.5	116	32									
10	4.3	71	31									
11	4.0	60	30									
12	3.7	47	37									
13	3.7	*45	42									
14	*3.7	44	47									
15	3.7	48	44									
16	3.5	41	38									
17	3.5	36	34									
18	3.3	35	35									
19	3.7	*30	40									
20	14	24	71									
21	24	36	123									
22	24	43	110									
23	33	55	77									
24	55	57	60									
25	116	58	55									
26	137	54	51									
27	123	59	42									
28	90	47	36									
29	55	43	33									
30	45	38	30									
31	36		*40									

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	137	3.3	27.0	6.28	7.24	1,660
November	186	24	68.0	15.8	17.63	4,040
December	123	30	45.3	10.5	12.11	2,780
January						
February						
March						
April						
May						
June						
July						
August						
September						
The period						8,480

*Estimated.

Sultan River near Startup, Wash.

Location.- Water-stage recorder in NE¼ sec. 28, T. 29 N., R. 8 E., 1⅛ miles above intake of Everett water-supply system and 7½ miles north of Startup.

Drainage area.- 75 square miles.

Records available.- May to September 1934.

Extremes.- Maximum discharge during period not determined, occurred during period May 1-9; minimum, 66 second-feet Sept. 7 (gage height, 3.52 feet).

Remarks.- Records good except those for May 1-9, 13, 20, 27, June 3, 7, 10, 17, 19, 24, July 2, 4, which were estimated. No regulation or diversions above station.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								400	484	190	127	71
2								750	381	172	132	70
3								1,100	342	153	154	69
4								2,100	303	151	148	68
5								2,500	311	149	136	67
6								1,200	305	144	148	67
7								750	330	139	138	74
8								650	297	141	124	82
9								500	286	132	116	86
10								432	290	124	109	270
11								558	289	118	105	449
12								539	278	113	101	870
13								520	267	110	97	1,620
14								520	234	109	95	933
15								502	212	123	93	449
16								449	198	1,460	91	319
17								466	190	769	91	249
18								432	181	448	92	208
19								416	168	311	87	181
20								700	154	388	85	162
21								520	154	328	85	207
22								449	273	273	84	375
23								449	366	229	82	331
24								466	220	201	80	239
25								416	190	186	77	194
26								397	179	175	76	167
27								400	166	169	75	154
28								397	292	162	75	141
29								403	254	156	74	132
30								520	205	148	74	123
31								666		138	72	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February						
March						
April						
May	2,500	397	663	8.84	10.19	40,790
June	484	154	260	3.47	3.87	15,470
July	1,460	109	245	3.27	3.77	15,090
August	154	72	101	1.35	1.56	6,190
September	1,620	67	281	3.75	4.18	16,710
The period						94,250

Snoqualmie River near Tolt, Wash.

Location.- Water-stage recorder in sec. 9, T. 25 N., R. 7 E., at highway bridge 1 mile northwest of Tolt. Prior to Dec. 20, 1933, cable gage 100 feet upstream was used.

Drainage area.- 605 square miles.

Records available.- February 1929 to September 1934.

Extremes.- Maximum discharge recorded during year, 41,000 second-feet Dec. 10 (gage height, 15.83 feet); minimum, 542 second-feet Sept. 6; minimum gage height, 3.64 feet Oct. 13.
1929-34: Maximum discharge, about 51,000 second-feet Feb. 26, 1932; minimum, 357 second-feet Sept. 11, 1930 (gage height, 0.34 foot).

Remarks.- Records good. Discharge estimated Aug. 16. Low-water flow diverted for power purposes at Snoqualmie Falls but returned to river above gage. Some regulation of flow caused by operation of power plant.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,740	4,800	2,720	8,280	7,760	5,580	8,020	2,840	2,480	1,180	880	650
2	2,830	25,000	2,830	7,500	7,250	12,500	6,750	2,750	2,070	1,160	870	618
3	2,230	30,900	4,250	12,500	6,750	8,020	5,520	4,240	1,850	1,150	975	628
4	1,960	16,700	3,050	11,500	5,640	6,120	4,920	4,180	1,780	1,080	1,070	642
5	1,720	11,800	3,990	12,200	5,040	5,940	4,460	8,280	1,780	1,100	997	642
6	1,640	7,580	17,300	8,800	4,680	9,640	4,240	6,000	1,850	1,080	870	626
7	1,430	6,310	13,200	7,000	4,460	6,750	4,140	4,570	1,850	1,140	890	626
8	1,360	5,090	7,250	6,120	5,280	5,280	4,140	4,040	1,850	997	880	666
9	1,170	4,520	19,300	5,520	5,280	4,570	3,840	3,540	1,780	1,050	840	706
10	1,170	3,990	38,800	5,880	4,570	4,040	3,640	3,140	1,720	1,020	802	784
11	995	3,740	27,500	5,760	4,140	3,840	3,640	3,040	1,720	975	811	997
12	890	3,270	22,600	5,400	3,840	3,840	3,740	3,240	1,720	986	811	1,470
13	890	3,050	14,800	6,000	3,640	3,940	4,140	2,940	1,720	953	766	2,480
14	940	2,830	11,200	6,750	3,440	4,040	3,940	2,940	1,650	964	793	3,340
15	940	2,830	8,280	5,520	3,340	3,940	3,740	3,040	1,560	931	775	1,920
16	1,170	2,720	6,750	6,000	3,140	3,940	5,680	2,840	1,490	1,140	748	1,480
17	3,740	2,520	8,020	8,280	3,040	3,540	5,160	2,750	1,310	1,640	722	1,280
18	6,940	2,480	22,600	6,380	3,040	3,240	3,840	2,480	1,460	1,430	714	1,080
19	7,260	2,520	21,000	8,730	2,940	3,040	3,740	2,400	1,420	1,200	714	997
20	9,590	2,820	15,800	14,500	2,840	2,840	4,140	2,840	1,290	1,060	690	920
21	5,390	5,090	28,400	13,500	2,940	2,840	4,240	2,480	1,260	1,070	682	870
22	12,100	9,940	31,200	16,200	2,840	2,840	4,140	2,320	1,420	1,060	690	1,430
23	25,900	8,900	27,000	26,100	2,750	2,750	4,140	2,320	1,400	1,030	658	1,560
24	15,500	6,000	16,900	18,500	2,570	2,570	3,740	2,480	1,310	975	682	1,190
25	11,400	6,310	11,500	10,900	2,480	2,480	3,440	2,400	1,190	953	666	1,080
26	8,230	4,800	9,640	11,500	2,400	2,400	3,040	2,320	1,190	964	674	1,010
27	6,940	4,800	10,200	9,940	2,660	3,020	3,140	2,400	1,190	975	658	964
28	10,700	3,990	9,070	8,020	3,340	7,520	3,540	2,400	1,190	975	674	900
29	13,600	3,270	10,900	7,500		10,600	3,440	2,320	1,300	975	682	840
30	9,590	3,050	13,500	7,500		9,350	3,040	2,320	1,210	953	658	870
31	6,620		10,900	7,760		7,760		2,660		931	634	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	25,900	890	5,760	9.52	10.98	354,200
November	30,900	2,420	6,712	11.1	12.38	399,400
December	38,800	2,720	14,530	24.0	27.67	893,500
January	26,100	5,400	9,550	15.8	18.28	587,200
February	7,760	2,400	4,003	6.62	6.89	222,300
March	12,500	2,400	5,122	8.47	9.76	314,900
April	8,020	3,040	4,244	7.01	7.82	252,600
May	8,280	2,320	3,178	5.25	6.05	195,400
June	2,480	1,190	1,567	2.59	2.89	93,240
July	1,640	931	1,067	1.76	2.03	65,610
August	1,070	834	773	1.28	1.48	47,560
September	3,340	618	1,106	1.83	2.04	65,820
The year	38,800	618	4,823	7.97	108.21	3,492,000

North Fork of Snoqualmie River near Snoqualmie Falls, Wash.

Location.- Water-stage recorder in SW¼ sec. 30, T. 25 N., R. 9 E., 1 mile above Calligan Creek and 8 miles northeast of Snoqualmie Falls.

Drainage area.- 85 square miles.

Records available.- August 1929 to September 1934.

Extremes.- Maximum discharge during year, 6,780 second-feet Nov. 2 (gage height, 14.7 feet); minimum not determined, occurred during period Aug. 11 to Sept. 1, when water-stage recorder was not operating.
1929-34: Maximum discharge, 8,020 second-feet Feb. 26, 1932 (gage height, 17.5 feet); minimum, 30 second-feet Sept. 17-19, 1929 (gage height, 1.91 feet).

Remarks.- Records good except those for May 12 to June 2, Aug. 11 to Sept. 1, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	512	564	257	855	1,200	1,680	1,200	340	260	104	78	50
2	398	4,200	272	1,270	1,030	2,410	810	431	210	101	81	58
3	340	2,950	363	2,380	890	1,100	615	837	188	98	92	58
4	293	1,320	298	1,740	615	752	575	1,200	151	96	103	57
5	263	830	1,110	1,900	518	1,280	499	1,610	193	93	93	57
6	238	556	3,010	1,030	499	1,540	464	836	189	93	91	58
7	215	431	1,160	718	515	830	464	695	189	90	90	62
8	199	375	830	575	855	595	448	499	177	90	85	63
9	188	352	4,420	536	615	464	396	396	169	91	82	67
10	177	315	4,440	675	464	409	378	334	160	88	80	87
11	168	288	3,100	556	393	393	381	384	156	85	75	125
12	160	272	2,500	482	354	412	431	390	154	83	70	294
13	153	277	1,780	665	323	431	482	360	143	81	65	562
14	165	257	1,180	672	296	448	428	350	133	79	63	427
15	151	222	808	464	277	409	402	340	126	78	62	198
16	1,100	196	615	909	267	402	1,200	310	120	154	60	147
17	1,010	154	1,540	1,200	264	329	626	290	116	178	60	124
18	2,070	151	2,620	645	257	277	448	270	115	125	60	115
19	1,410	166	2,080	2,160	249	257	482	280	114	108	59	107
20	1,280	312	2,860	2,320	242	249	536	370	109	105	58	101
21	737	705	4,590	2,420	254	259	518	280	108	104	57	103
22	2,200	1,660	3,940	3,110	249	252	499	260	132	105	56	190
23	3,030	1,130	2,390	3,770	224	233	482	260	116	102	55	184
24	1,500	548	1,280	1,560	207	216	387	260	109	94	54	134
25	1,870	393	905	1,200	194	203	346	240	115	92	53	120
26	1,060	326	1,080	1,600	182	194	315	230	105	89	52	112
27	963	304	1,360	1,180	266	738	354	240	101	87	51	106
28	1,720	272	1,160	880	418	1,780	556	220	114	84	50	101
29	1,500	247	2,200	680		1,780	464	220	125	83	50	97
30	1,060	257	2,050	1,070		1,430	384	220	110	82	50	93
31	720		1,330	1,200		1,280		290		81	50	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,030	151	866	13.3	15.33	53,260
November	4,200	151	668	10.3	11.49	39,730
December	4,590	257	1,856	28.6	32.97	114,100
January	3,770	464	1,310	20.2	23.29	80,570
February	1,200	182	432	6.65	6.92	24,010
March	2,410	194	743	11.4	13.14	45,680
April	1,200	315	519	7.98	8.90	30,880
May	1,610	220	424	6.52	7.52	26,070
June	260	101	145	2.23	2.49	8,610
July	178	78	97.5	1.50	1.73	6,000
August	103	50	67.3	1.04	1.20	4,140
September	562	50	135	2.08	2.32	8,050
The year	4,590	50	609	9.37	127.30	441,100

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North Fork of Snoqualmie River near North Bend, Wash.

Location.- Water-stage recorder in NE¼ sec. 26, T. 24 N., R. 8 E., 2 miles above mouth and 3½ miles northeast of North Bend.

Drainage area.- 105 square miles.

Records available.- July 1907 to September 1926, February 1929 to September 1934.

Average discharge.- 24 years, 685 second-feet.

Extremes.- Maximum discharge recorded during year, 8,930 second-feet Dec. 9 (gage height, 10.0 feet), possibly exceeded slightly by that of Nov. 2; minimum, 54 second-feet Sept. 1 (gage height, 1.53 feet).
1907-26, 1929-34: Maximum discharge, 11,100 second-feet Nov. 18, 1911 (gage height, 14.5 feet, from high-water mark); water above gage Nov. 18, 19, 23, 24, 29, 30, 1909; stage and discharge may have exceeded those of 1911. Minimum discharge, 54 second-feet Aug. 31, Sept. 1, 1930, Sept. 1, 1934.

Remarks.- Records good except those for Oct. 26 to Nov. 14, Sept. 2-30, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	773	800	516	1,380	1,540	1,850	1,440	602	434	134	84	54
2	650	6,000	537	1,530	1,300	2,730	1,060	621	354	127	89	60
3	553	4,000	644	2,980	1,170	1,250	915	1,040	311	120	110	60
4	484	2,000	574	2,200	950	985	848	1,230	283	118	131	60
5	421	1,200	1,020	2,530	815	1,550	796	2,080	302	115	115	60
6	370	800	4,060	1,540	796	1,840	770	1,170	302	108	110	60
7	331	700	1,840	1,130	808	1,090	756	915	274	108	106	65
8	298	600	1,310	954	1,060	850	726	815	266	106	101	75
9	272	550	5,480	905	915	744	646	702	251	108	93	80
10	249	500	6,090	1,020	750	674	630	613	236	105	89	100
11	232	450	4,180	885	674	640	630	635	229	100	82	150
12	219	400	3,280	853	624	662	684	652	220	97	78	370
13	211	400	2,500	986	575	679	714	602	202	90	75	700
14	219	380	1,760	1,030	527	684	662	586	192	86	72	530
15	197	370	1,310	815	501	646	635	559	177	84	70	250
16	1,190	385	1,020	1,190	475	652	1,390	511	170	156	68	180
17	1,270	370	2,110	1,580	470	564	900	491	157	279	67	160
18	2,490	340	3,300	993	450	496	732	444	155	182	68	140
19	1,950	360	2,800	2,570	434	465	738	470	157	144	67	130
20	1,740	540	3,750	2,680	419	444	770	613	146	133	65	130
21	1,060	881	6,000	2,980	434	450	756	475	148	136	62	130
22	2,800	1,880	5,220	3,560	414	429	750	434	190	133	61	240
23	3,740	1,540	3,550	6,370	374	399	726	439	166	129	60	230
24	2,040	1,210	2,040	3,400	354	369	635	439	153	113	59	170
25	2,460	1,080	1,540	2,200	325	345	596	394	142	106	58	150
26	1,400	846	1,640	2,190	311	320	554	384	138	100	57	140
27	1,300	833	1,920	1,710	446	756	608	399	134	98	57	130
28	2,400	699	1,700	1,300	624	1,890	807	369	157	97	56	125
29	2,100	612	2,740	1,250		2,010	726	374	177	93	56	120
30	1,500	559	2,800	1,390		1,650	640	369	146	90	55	120
31	1,000		1,980	1,540		1,440		473		87	55	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,740	197	1,159	11.0	12.68	71,240
November	6,000	340	1,043	9.93	11.08	62,050
December	6,090	516	2,555	24.3	28.02	157,100
January	6,370	815	1,859	17.7	20.41	114,300
February	1,540	311	662	6.30	6.56	36,760
March	2,730	320	954	9.09	10.48	58,680
April	1,440	554	775	7.38	8.23	46,100
May	2,080	369	642	6.11	7.04	39,480
June	434	134	212	2.02	2.25	12,630
July	279	84	119	1.13	1.30	7,300
August	131	55	76.6	.730	.84	4,710
September	700	54	166	1.58	1.76	9,860
The year	6,370	54	857	8.16	110.65	620,200

South Fork of Snoqualmie River at North Bend, Wash.

Location.- Water-stage recorder in SE¼ sec. 9, T. 23 N., R. 8 E., half a mile south of North Bend and 3½ miles above mouth.

Drainage area.- 84 square miles.

Records available.- July 1907 to September 1926, February 1929 to September 1934.

Average discharge.- 24 years, 539 second-feet.

Extremes.- Maximum discharge during year, 7,430 second-feet Dec. 22 (gage height, 11.1 feet); minimum, not determined, occurred in August or September, during period when water-stage recorder was not operating.
1907-26, 1929-34: Water over gage Nov. 3, 4, 19, 23, 29, 1909 (gage height and discharge not determined); minimum discharge, 63 second-feet Oct. 22, 1925 (gage height, 1.14 feet).

Remarks.- Records good except those for July 19 to Aug. 2, Aug. 30 to Sept. 30, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	593	815	552	1,450	1,300	822	1,420	592	470	186	120	
2	492	3,180	572	1,420	1,270	1,980	1,210	592	446	178	150	
3	427	4,380	572	2,320	1,180	1,360	1,020	662	428	173	216	
4	383	1,880	552	2,020	1,040	1,070	945	662	410	171	211	
5	347	1,340	720	2,020	945	1,070	898	1,040	400	166	202	
6	317	1,090	2,640	1,600	875	1,600	875	875	393	162	194	
7	298	940	1,580	1,330	852	1,240	898	770	386	159	191	
8	283	865	1,230	1,180	875	1,020	898	698	376	159	189	
9	271	792	3,230	1,070	852	898	810	662	368	157	183	
10	259	725	5,810	1,100	810	830	770	628	354	150	181	
11	248	702	3,780	1,020	770	790	770	610	337	144	178	
12	240	658	2,720	970	732	790	810	610	326	140	176	
13	234	635	2,060	1,070	715	1,020	852	592	309	135	178	
14	234	614	1,700	1,120	680	852	830	592	295	133	176	
15	229	593	1,400	945	680	852	790	592	284	133	173	
16	437	593	1,200	995	645	810	920	575	267	152	171	
17	628	572	1,570	1,180	645	750	830	558	250	173	168	
18	1,050	552	3,340	1,040	645	715	732	522	241	157	168	
19	1,090	552	2,370	1,400	628	698	750	522	241	140	166	
20	1,180	593	2,530	1,900	628	680	852	540	231	138	162	
21	770	658	5,280	2,290	628	680	852	505	234	135	159	
22	1,660	890	5,990	2,830	610	680	852	488	241	132	157	
23	3,100	965	4,360	4,210	610	645	852	488	234	130	155	
24	1,840	840	2,500	2,170	592	628	750	505	222	129	155	
25	1,760	840	2,020	1,720	575	610	698	488	211	128	150	
26	1,280	748	1,780	1,720	575	592	662	488	208	127	152	
27	1,020	725	1,660	1,600	592	699	680	488	205	126	150	
28	1,370	658	1,510	1,390	628	1,190	662	488	205	124	150	
29	1,760	614	1,600	1,270		2,080	645	522	199	123	152	
30	1,510	572	1,780	1,300		1,780	610	505	191	122	150	
31	1,020		1,660	1,300		1,480		505		121	150	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,100	229	843	10.0	11.53	51,830
November	4,380	552	986	11.7	13.05	58,670
December	5,990	552	2,267	27.0	31.13	139,400
January	4,210	945	1,579	18.8	21.67	97,090
February	1,300	575	771	9.18	9.56	42,800
March	2,080	592	997	11.9	13.72	61,310
April	1,420	610	838	9.98	11.14	49,870
May	1,040	448	592	7.05	8.13	36,420
June	470	191	299	3.56	3.97	17,780
July	186	121	145	1.73	1.99	8,930
August	216	120	169	2.01	2.32	10,380
September			170	2.02	2.25	10,120
The year	5,990		807	9.61	130.46	584,600

South Fork of Stillaguamish River near Granite Falls, Wash.

Location.- Water-stage recorder in SW¼NW¼ sec. 8, T. 30 N., R. 7 E., 2 miles northeast of Granite Falls.

Drainage area.- 119 square miles.

Records available.- July 1928 to September 1934.

Extremes.- Maximum discharge during year, 17,300 second-feet Dec. 21 (gage height, 15.1 feet); minimum, 89 second-feet Sept. 4 (gage height, 3.19 feet).
1928-34: Maximum discharge, about 26,700 second-feet Feb. 26, 1932 (gage height, 19.7 feet, from graph based on gage readings); minimum, 66 second-feet Sept. 4, 1930 (gage height, 3.05 feet).

Remarks.- Records good except those for July 19 to Aug. 3, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	908	1,070	503	1,830	2,010	5,020	3,090	612	818	297	200	100
2	730	7,860	794	2,950	2,210	6,260	1,700	1,170	606	273	180	98
3	647	4,560	1,070	5,090	1,620	2,130	1,240	1,730	520	256	310	93
4	570	1,820	840	3,720	1,160	1,380	1,080	3,380	472	250	256	89
5	483	1,230	2,780	4,420	1,080	2,800	909	4,000	472	250	230	93
6	440	930	6,070	2,040	1,000	3,670	811	1,900	472	246	259	93
7	398	751	2,440	1,490	1,000	1,810	839	1,200	495	234	243	104
8	353	635	1,720	1,230	2,030	1,240	860	1,040	446	227	240	133
9	327	564	6,550	1,110	1,750	1,000	764	618	423	218	165	134
10	298	503	7,460	1,560	1,200	861	930	686	428	197	171	539
11	271	454	8,320	1,490	965	846	770	916	423	191	162	1,240
12	248	425	6,220	1,400	846	853	790	846	423	177	160	1,470
13	234	389	3,800	1,850	770	902	902	725	397	174	152	4,020
14	306	353	2,480	1,660	666	923	839	718	361	168	146	1,590
15	294	340	1,680	1,110	618	860	825	712	325	174	141	764
16	1,560	323	1,270	3,320	584	965	1,370	648	290	2,210	141	525
17	1,540	306	4,640	2,670	550	764	930	680	283	1,030	143	405
18	3,770	282	4,960	1,540	540	630	738	600	276	660	143	345
19	1,820	466	4,370	5,130	520	562	784	985	266	410	138	297
20	1,780	1,680	6,080	4,130	495	535	916	1,370	240	360	128	253
21	1,110	2,060	10,100	4,970	540	530	930	832	243	620	126	253
22	3,260	4,010	7,140	5,460	510	505	930	654	604	440	120	405
23	5,540	2,120	3,870	7,360	459	472	916	642	747	350	118	365
24	2,660	1,540	2,070	2,620	432	436	811	648	432	290	118	290
25	3,200	1,240	1,490	2,000	410	405	764	618	337	260	116	250
26	1,560	1,000	1,630	2,120	397	389	666	562	311	260	113	218
27	2,520	960	1,760	1,600	1,550	2,170	699	589	280	250	113	200
28	5,350	744	2,480	1,330	2,260	4,660	751	578	376	230	113	188
29	3,790	618	7,510	1,280		6,220	832	594	428	230	113	177
30	2,120	559	6,250	1,620		3,580	673	1,230	874	220	109	162
31	1,400		3,090	1,750		2,980		1,400		210	106	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	5,540	234	1,596	13.4	15.45	98,160
November	7,860	282	1,326	11.1	12.38	78,930
December	10,100	503	3,917	32.9	37.93	240,900
January	7,360	1,110	2,841	22.2	25.59	162,400
February	2,260	397	1,006	8.45	8.80	55,880
March	6,260	389	1,819	15.3	17.64	111,800
April	3,090	666	969	8.14	9.08	57,640
May	4,000	562	1,067	8.97	10.34	65,620
June	874	240	456	3.86	4.08	25,920
July	2,210	168	367	3.08	3.55	22,540
August	310	106	161	1.35	1.56	9,900
September	4,020	89	496	4.17	4.65	29,540
The year	10,100	89	1,325	11.1	151.05	959,200

South Fork of Stillaguamish River near Arlington, Wash.

Location.- Staff gage in NW¼ sec. 7, T. 31 N., R. 6 E., 1⅛ miles east of Arlington.

Drainage area.- 254 square miles.

Records available.- December 1928 to September 1934.

Extremes.- Maximum discharge recorded during year, 25,100 second-feet Nov. 2 (gage height, 12.30 feet); minimum, 146 second-feet Sept. 3-6 (gage height, 1.82 feet).
1928-34: Maximum discharge recorded, about 35,000 second-feet Feb. 26, 1932 (gage height, 14.40 feet); minimum, 108 second-feet Sept. 6, 1930; minimum gage height, that of Sept. 3-6, 1934.

Remarks.- Records good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,280	1,920	1,020	3,260	3,650	3,850	5,760	1,020	1,550	373	240	154
2	1,020	13,500	875	2,540	3,070	12,000	3,450	830	1,170	330	225	154
3	920	9,060	1,790	6,480	3,070	3,850	2,540	3,650	920	352	373	146
4	790	3,850	1,550	5,540	2,060	2,370	2,060	1,790	875	290	373	146
5	710	2,370	1,440	6,980	2,060	1,920	1,670	5,540	750	290	290	146
6	600	1,790	11,500	3,650	1,790	6,480	1,550	3,260	710	290	255	146
7	565	1,550	4,890	2,370	1,670	3,450	1,550	1,790	710	272	310	154
8	530	1,330	3,070	2,060	4,050	2,370	1,440	1,670	670	290	255	171
9	470	1,220	6,480	1,790	3,850	1,790	1,280	1,330	600	272	225	180
10	445	1,070	13,500	2,060	2,370	1,670	1,330	1,120	600	255	212	352
11	420	920	13,200	2,710	1,790	1,440	1,280	1,440	670	240	212	2,370
12	373	790	13,200	2,060	1,670	1,440	1,280	1,330	600	225	200	1,170
13	373	875	7,240	2,210	1,550	1,440	1,440	1,120	530	225	200	5,100
14	396	750	5,100	3,070	1,440	1,550	1,330	1,120	470	225	190	2,710
15	445	670	3,650	1,920	1,220	1,550	1,220	1,070	420	225	190	1,220
16	420	670	2,540	4,890	1,120	1,550	2,710	920	373	2,540	190	750
17	2,060	635	2,540	4,680	1,120	1,440	1,550	920	373	1,550	190	565
18	9.060	600	8,280	2,710	1,020	1,120	1,220	970	373	875	190	445
192	2,540	565	10,100	8,020	1,020	1,220	1,220	790	352	530	180	373
20	3,450	3,070	5,320	7,240	1,020	970	1,330	2,540	330	470	180	310
21	1,920	4,260	10,400	6,480	920	920	1,330	1,440	290	790	180	290
22	1,790	6,480	7,500	4,890	970	875	1,440	1,120	396	565	171	470
23	11,500	4,260	6,980	12,900	930	830	1,440	1,020	1,260	445	171	445
24	4,470	2,370	3,650	5,320	750	750	1,170	1,020	635	373	171	352
25	3,260	2,370	2,710	3,650	670	670	1,170	920	530	330	171	290
26	2,540	1,670	2,370	5,100	670	670	970	830	396	330	162	255
27	3,850	1,790	3,070	3,850	1,120	875	970	875	373	310	162	240
28	5,100	1,440	2,890	2,890	2,210	8,800	1,070	875	352	290	162	225
29	7,760	1,220	5,540	2,890		8,020	1,220	875	635	290	162	225
30	3,850	1,070	10,100	2,710		5,100	1,070	1,120	420	272	162	212
31	2,710		5,100	3,070		4,260		2,710		255	162	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	11,500	373	2,439	9.60	11.07	150,000
November	13,500	565	2,471	9.73	10.86	147,000
December	13,500	875	5,729	22.6	26.06	352,300
January	12,900	1,790	4,193	16.5	19.02	257,800
February	4,050	670	1,741	6.85	7.13	96,690
March	12,000	670	2,750	10.8	12.45	169,100
April	5,760	970	1,635	6.44	7.18	97,310
May	5,540	790	1,517	5.97	6.88	93,270
June	1,550	290	612	2.41	2.69	36,400
July	2,540	225	464	1.83	2.11	28,500
August	373	162	210	.827	.95	12,920
September	5,100	146	659	2.59	2.89	39,210
The year	13,500	146	2,045	8.05	109.29	1,480,000

North Fork of Stillaguamish River near Arlington, Wash.

Location.- Water-stage recorder in SE¼NW¼ sec. 16, T. 32 N., R. 6 E., 6 miles above mouth and 6 miles northeast of Arlington.

Drainage area.- 282 square miles.

Records available.- July 1928 to September 1934.

Extremes.- Maximum discharge during year, 21,100 second-feet Dec. 21 (gage height, 11.4 feet); minimum, 250 second-feet Sept. 7 (gage height, 1.33 feet).
1928-34: Maximum discharge, 27,700 second-feet Feb. 26, 1932 (gage height, 12.7 feet); minimum, 156 second-feet Sept. 1, 1931; minimum gage height, that of Sept. 7, 1934.

Remarks.- Records good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,510	2,170	910	3,710	3,820	4,400	4,520	1,010	1,360	419	373	265
2	1,200	9,020	1,130	4,850	3,520	9,460	3,230	1,300	1,070	403	376	261
3	1,020	6,590	1,580	9,310	2,970	3,880	2,740	2,510	930	393	470	258
4	910	3,360	1,510	6,130	2,430	2,780	2,380	3,260	848	387	524	256
5	798	2,410	2,640	7,010	2,300	3,010	2,080	4,300	795	384	406	252
6	730	1,900	6,870	3,900	2,120	5,490	1,920	2,720	770	381	425	252
7	662	1,540	3,870	3,020	2,070	3,120	1,840	2,080	770	378	406	250
8	620	1,320	2,880	2,610	3,550	2,430	1,720	1,840	720	373	370	267
9	580	1,180	7,200	2,480	3,140	2,030	1,600	1,500	720	364	353	270
10	540	1,050	7,430	2,760	2,430	1,790	2,060	1,290	670	350	367	517
11	501	955	8,540	2,940	2,070	1,710	1,570	1,430	670	342	337	1,070
12	478	888	10,800	2,560	1,910	1,670	1,540	1,320	646	334	330	1,980
13	457	842	6,230	2,950	1,750	1,670	1,600	1,190	623	348	317	2,660
14	580	775	4,430	2,930	1,590	1,670	1,500	1,160	578	361	312	1,680
15	482	730	3,200	2,250	1,470	1,550	1,460	1,130	536	345	310	930
16	982	708	2,400	3,940	1,430	1,750	2,130	1,070	516	3,220	307	695
17	1,020	685	4,960	4,090	1,360	1,430	1,600	1,220	497	1,900	305	557
18	4,590	620	6,710	2,800	1,290	1,220	1,360	1,130	497	1,040	302	478
19	2,280	666	6,910	5,980	1,220	1,130	1,360	1,510	478	770	300	432
20	2,400	1,500	7,490	6,550	1,160	1,070	1,460	2,230	446	908	295	396
21	1,740	3,220	14,300	6,920	1,160	1,010	1,460	1,360	439	784	290	381
22	3,570	5,430	13,100	5,630	1,100	950	1,460	1,100	638	670	286	396
23	11,000	3,250	7,100	13,900	1,010	892	1,430	1,040	745	578	283	361
24	5,000	2,460	4,200	5,200	950	838	1,290	1,010	578	516	281	337
25	5,060	2,050	3,260	3,810	892	782	1,220	985	478	478	276	320
26	2,920	1,620	3,200	4,040	838	755	1,100	902	450	460	272	305
27	3,920	1,480	3,140	3,390	1,750	2,200	1,130	875	432	456	272	295
28	9,260	1,230	3,810	2,860	2,690	5,220	1,100	848	449	446	272	290
29	9,770	1,700	11,400	2,750		8,520	1,160	848	507	428	272	288
30	4,200	978	11,100	3,120		4,990	1,070	1,460	439	409	270	286
31	2,890		5,550	3,200		4,040		1,920		384	267	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	11,000	457	2,635	9.34	10.77	162,000
November	9,020	620	2,088	7.40	8.26	124,200
December	14,300	910	5,734	20.3	23.40	352,600
January	13,800	2,250	4,435	15.7	18.10	272,700
February	3,820	838	1,928	6.84	7.12	107,100
March	9,460	755	2,692	9.55	11.01	165,500
April	4,520	1,070	1,736	6.16	6.87	103,300
May	4,300	848	1,534	5.44	6.27	94,310
June	1,360	432	643	2.28	2.54	38,270
July	3,220	334	613	2.17	2.50	37,700
August	524	267	330	1.17	1.35	20,280
September	2,660	250	566	2.01	2.24	33,690
The year	14,300	250	2,088	7.40	100.43	1,512,000

Skagit River near Newhalem, Wash.

Location.- Water-stage recorder in sec. 30, T. 38 N., R. 14 E., 1¼ miles above Ruby Creek and 11 miles northeast of Newhalem.

Drainage area.- 765 square miles, of which 390 square miles is in Canada.

Records available.- March 1930 to September 1934.

Extremes.- Maximum discharge during year, 14,300 second-feet Apr. 24 (gage height, 12.0 feet); minimum, 665 second-feet Sept. 30 (gage height, 4.10 feet).
1930-34: Maximum discharge, 25,700 second-feet Feb. 27, 1932 (gage height, 15.9 feet); minimum, 366 second-feet Dec. 5, 1929 (result of discharge measurement).

Remarks.- Records excellent. No regulation or diversions above station. Results of many discharge measurements furnished by city of Seattle.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,430	4,470	2,610	4,800	2,550	2,440	6,670	6,870	5,880	3,270	1,820	1,240
2	2,320	5,190	2,550	4,310	2,940	4,310	5,500	6,270	5,140	3,200	1,980	1,240
3	2,430	6,070	2,430	5,320	3,060	4,150	4,800	5,880	4,800	2,940	2,150	1,330
4	2,320	4,970	2,320	5,500	2,940	3,690	4,310	6,880	4,800	3,000	1,820	1,380
5	2,150	4,310	2,430	5,320	2,800	3,340	4,150	10,800	5,140	3,270	1,720	1,380
6	1,980	3,840	3,200	4,970	2,680	3,130	4,150	9,240	5,500	3,410	1,980	1,280
7	1,930	3,480	2,940	4,470	2,610	2,870	4,970	7,700	6,070	3,270	1,770	1,240
8	1,820	3,270	2,740	3,990	2,800	2,680	6,070	6,670	6,670	2,740	1,620	1,160
9	1,670	3,130	2,680	3,550	2,870	2,550	6,270	5,880	6,870	2,550	1,570	1,080
10	1,520	3,130	2,800	3,410	2,740	2,490	5,880	5,320	6,870	2,430	1,570	1,330
11	1,420	3,130	3,270	3,270	2,610	2,610	5,320	5,880	7,070	2,320	1,520	1,160
12	1,330	3,060	3,480	3,060	2,610	2,870	5,500	5,880	7,070	2,320	1,470	1,200
13	1,280	2,940	3,060	3,000	2,550	3,410	7,270	6,270	6,470	2,430	1,470	1,280
14	1,280	2,870	2,740	2,870	2,490	3,990	8,140	7,070	5,880	2,370	1,520	1,160
15	1,200	2,740	2,550	2,680	2,490	4,470	7,480	8,360	5,320	2,260	1,620	1,120
16	1,200	2,610	2,320	2,800	2,490	4,470	6,670	6,670	4,630	4,810	1,720	1,280
17	1,240	2,430	2,370	3,060	2,430	4,150	6,270	7,700	4,470	4,310	1,720	1,120
18	3,180	2,320	2,370	2,840	2,430	3,840	6,070	6,470	4,310	3,200	1,570	1,040
19	2,940	2,260	2,370	2,740	2,370	3,690	6,670	5,880	3,990	2,740	1,470	975
20	2,370	2,260	2,680	3,060	2,370	3,690	8,580	5,500	3,840	2,550	1,520	898
21	2,100	2,320	4,360	3,130	2,320	3,550	10,400	6,870	3,920	2,260	1,520	877
22	2,110	3,380	6,670	3,000	2,260	3,550	12,000	4,970	4,310	2,040	1,470	884
23	5,090	4,150	6,070	3,480	2,200	3,410	13,300	5,690	3,690	1,930	1,470	807
24	6,070	4,150	4,970	3,130	2,150	3,270	14,000	7,070	3,200	1,930	1,420	765
25	8,800	4,150	4,150	2,800	2,040	3,130	12,800	8,140	3,060	2,100	1,470	730
26	7,920	3,840	3,690	2,610	1,980	3,000	12,300	8,140	3,200	2,430	1,520	710
27	7,920	3,550	3,340	2,550	2,040	3,060	11,800	8,800	3,200	2,680	1,570	710
28	8,360	3,270	3,270	2,550	2,100	3,900	10,800	8,240	3,340	2,740	1,620	704
29	7,920	3,000	4,400	2,370		6,270	9,470	9,700	3,340	2,550	1,570	684
30	6,470	2,800	5,690	2,320		7,700	8,140	9,700	3,270	2,260	1,420	678
31	5,320		5,500	2,320		7,480		7,480		2,040	1,330	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	8,800	1,200	3,422	4.47	5.15	210,400
November	6,070	2,260	3,436	4.49	5.01	204,500
December	6,870	2,320	3,420	4.47	5.15	210,300
January	5,500	2,320	3,396	4.44	5.12	208,800
February	3,060	1,980	2,497	3.26	3.40	138,700
March	7,700	2,440	3,779	4.94	5.70	232,400
April	14,000	4,150	7,858	10.3	11.49	467,600
May	10,800	4,970	7,193	9.40	10.84	442,300
June	7,070	3,060	4,844	6.33	7.06	288,200
July	4,810	1,930	2,721	3.56	4.10	167,300
August	2,150	1,330	1,612	2.11	2.43	99,130
September	1,380	678	1,048	1.37	1.53	62,360
The year	14,000	678	3,774	4.93	66.98	2,732,000

Skagit River at Newhalem, Wash.

Location.- Water-stage recorder in SE¼ sec. 21, T. 37 N., R. 12 E., at city of Seattle power plant a quarter of a mile above Newhalem Creek, at Newhalem. Zero of gage is 400 feet above mean sea level.

Drainage area.- 1,160 square miles, of which 390 square miles is in Canada.

Records available.- December 1908 to May 1914, October 1920 to September 1934.

Average discharge.- 19 years (1908-13, 1920-34), 4,473 second-feet.

Extremes.- Maximum discharge during year, 25,000 second-feet Apr. 23 (gage height, 89.64 feet); minimum, 234 second-feet Oct. 12 (gage height, 79.03 feet), caused by regulation; minimum daily discharge, 1,450 second-feet Sept. 23.
1908-14, 1920-34: Maximum discharge, 60,000 second-feet Dec. 12, 1921 (gage height, 94.2 feet); minimum, less than 90 second-feet Jan. 27, Aug. 25, 1930, caused by regulation; minimum daily discharge, 136 second-feet Aug. 24, 1930.

Remarks.- Records excellent. Water diverted 3 miles above station returns to river at Seattle power plant, just above station. Entire low-water flow may be carried through plant. Flow partly controlled by storage and release of water at tunnel intake and above Diablo Dam. Results of several discharge measurements furnished by city of Seattle.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,560	7,060	3,820	6,440	3,920	4,120	10,100	9,960	9,040	5,390	3,480	2,860
2	4,090	11,000	3,850	5,430	4,600	7,950	8,470	9,420	7,770	5,890	3,550	2,460
3	4,450	10,800	3,630	8,580	5,020	7,230	6,780	8,950	7,530	5,500	4,240	2,030
4	4,550	8,400	3,630	8,140	4,650	5,960	6,400	9,830	7,820	5,590	3,580	2,240
5	4,210	6,600	3,820	7,650	4,420	5,410	6,160	16,700	8,640	6,410	3,190	3,100
6	3,400	6,040	5,550	6,470	4,060	4,980	6,300	14,300	9,750	6,940	3,770	2,930
7	3,120	5,460	4,780	5,770	3,920	4,600	7,610	11,500	11,100	6,300	3,820	2,710
8	2,960	5,140	4,240	5,380	4,300	4,400	9,600	9,770	11,900	5,330	3,270	2,450
9	3,210	4,830	4,250	5,020	4,450	4,030	9,760	8,550	12,200	4,690	3,210	1,980
10	3,150	5,110	5,330	4,930	4,190	3,800	8,540	7,790	12,000	4,630	3,190	2,660
11	2,800	5,030	7,390	4,570	3,800	3,750	8,190	8,870	12,600	4,370	2,960	2,300
12	2,100	4,620	7,360	4,470	4,100	4,080	8,160	9,290	12,700	4,410	2,780	2,400
13	2,030	4,780	5,740	4,600	3,770	4,950	11,400	10,000	11,700	4,630	3,230	2,390
14	1,800	4,340	5,130	3,750	4,010	6,240	12,800	12,000	10,100	5,090	3,180	2,170
15	1,560	4,300	4,210	3,950	4,290	7,300	11,700	14,000	8,940	4,740	3,280	2,120
16	2,280	4,040	4,440	3,910	4,360	6,970	10,100	14,500	7,760	9,520	3,420	1,930
17	2,360	3,980	3,130	4,470	4,120	6,280	9,360	11,600	7,360	9,420	3,670	2,240
18	6,240	3,720	3,950	4,180	2,250	5,790	9,080	10,000	7,380	5,560	3,590	2,220
19	5,340	2,580	3,800	4,430	3,200	5,520	10,100	8,970	7,000	5,170	3,260	2,190
20	3,950	3,330	4,350	4,840	3,490	5,470	13,600	8,510	6,590	5,140	3,190	2,120
21	3,510	3,730	8,760	4,900	3,460	5,470	16,700	7,420	6,850	4,110	3,190	2,100
22	3,680	8,370	15,800	4,970	3,300	5,380	19,800	7,390	7,460	3,170	3,180	2,020
23	11,600	8,440	10,200	5,830	3,180	5,090	21,900	9,010	6,900	3,630	3,360	1,450
24	11,500	7,460	7,310	4,950	3,160	4,810	22,600	11,900	4,920	3,710	3,240	2,130
25	16,600	6,770	5,650	4,500	2,840	4,250	20,900	14,000	4,710	4,030	3,060	2,080
26	12,500	5,830	5,630	4,170	3,230	4,440	20,000	14,100	5,710	4,830	3,050	2,090
27	14,300	5,540	4,270	4,100	3,290	4,880	19,200	15,700	5,660	5,970	3,470	2,050
28	14,700	5,170	5,110	3,300	3,550	7,020	17,000	16,300	5,890	6,130	3,620	2,070
29	13,100	4,420	7,540	4,040		11,000	14,600	17,200	6,110	5,840	3,770	1,920
30	10,200	4,080	9,760	3,940		13,000	12,000	16,600	6,460	5,400	3,500	1,700
31	7,980		8,240	3,870		11,700		12,300		3,530	3,270	

Month	Observed				Gain or loss in storage in Diablo Reservoir (acre-feet)	Corrected for storage			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October	16,600	1,560	6,027	370,600	+470	371,100	6,035	5.20	6.00
November	11,000	2,580	5,706	339,600	-560	339,000	5,697	4.91	5.48
December	15,800	3,130	5,829	358,400	-850	357,600	5,816	5.01	5.78
January	8,580	3,300	5,050	310,500	+100	310,600	5,051	4.35	5.02
February	5,020	2,260	3,819	212,100	-380	211,700	3,812	3.29	3.43
March	13,000	3,750	5,995	368,600	+100	368,700	5,996	5.17	5.95
April	22,600	6,160	12,300	732,100	-2,820	729,300	12,260	10.6	11.83
May	17,200	7,390	11,500	707,000	+1,030	708,000	11,510	9.92	11.44
June	12,700	4,710	8,352	497,000	+850	497,800	8,366	7.21	8.04
July	9,520	3,170	5,325	327,400	-660	326,700	5,313	4.58	5.28
August	4,240	2,780	3,373	207,400	-470	206,900	3,365	2.90	3.34
September	3,100	1,450	2,237	133,100	-14,850	118,200	1,986	1.71	1.91
The year	22,600	1,450	6,304	4,564,000	-18,040	4,546,000	6,279	5.41	73.51

Skagit River near Concrete, Wash.

Location.- Water-stage recorder in sec. 16, T. 35 N., R. 8 E., at dalles 2 miles below Baker River and 2½ miles southwest of Concrete. Zero of gage is 163 feet above mean sea level.

Drainage area.- 2,700 square miles, of which 390 square miles is in Canada.

Records available.- September 1924 to September 1934.

Average discharge.- 10 years, 14,580 second-feet.

Extremes.- Maximum discharge during year, 101,000 second-feet Dec. 22 (gage height, 20.9 feet); minimum, 5,360 second-feet Sept. 30 (gage height, 2.24 feet).

1924-34: Maximum discharge, 147,000 second-feet Feb. 27, 1932 (gage height, 27.30 feet); minimum, probably less than 2,160 second-feet during period Oct. 1-24, 1925, when recorder was not operating and when gates in Baker River Dam were closed for first time.

High-water marks at gage height 56.6 feet indicate a flood of 500,000 second-feet about 1815. Records of other floods prior to establishment of station are given in Water-Supply Paper 612.

Remarks.- Records excellent. Water diverted for operation of power plants upstream is returned to river above station. At low stages flow partly controlled by storage and release of water at power plants on Baker River and on upper Skagit River.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,800	20,500	10,800	30,200	19,200	18,100	32,300	23,000	22,000	15,500	9,940	7,900
2	14,100	60,400	10,700	28,800	21,400	39,100	25,900	21,100	17,700	15,700	9,920	7,200
3	15,300	41,700	11,400	42,100	20,100	28,300	20,900	23,100	17,000	14,400	11,900	6,720
4	14,400	28,800	10,700	37,500	17,500	21,200	19,000	28,800	17,400	14,600	11,200	7,200
5	12,800	22,500	12,000	38,200	16,000	18,900	17,400	50,300	19,400	16,400	9,390	7,740
6	12,000	19,400	26,400	28,100	15,400	23,500	17,600	36,200	23,000	17,600	10,100	8,140
7	10,400	16,600	19,900	23,000	15,300	18,800	20,000	28,900	27,000	16,700	10,200	7,440
8	9,900	15,800	16,900	20,100	18,500	15,900	23,200	25,200	26,400	14,100	9,060	7,800
9	9,500	14,300	22,400	19,200	17,500	14,200	23,800	21,300	25,000	12,300	8,700	6,780
10	9,100	14,000	32,400	19,700	15,700	13,100	22,000	19,700	23,100	12,200	8,670	7,860
11	8,540	13,200	43,300	18,800	14,100	13,300	20,200	21,700	29,400	11,700	8,500	9,020
12	7,880	13,400	58,200	17,200	13,800	15,000	21,300	23,800	30,300	11,600	8,100	10,300
13	7,120	12,600	40,600	18,500	13,000	16,200	27,500	22,900	28,500	12,100	8,220	13,600
14	7,070	11,800	30,500	17,400	12,700	19,000	30,700	27,800	25,300	12,600	8,540	10,300
15	6,720	11,300	23,100	14,900	12,600	20,100	28,500	30,700	22,400	12,300	8,760	7,780
16	8,060	10,900	17,700	18,900	12,700	20,000	28,200	31,600	19,300	29,600	9,200	8,020
17	10,300	10,400	21,000	22,700	13,000	16,800	24,900	27,800	18,000	29,200	9,490	7,470
18	28,700	9,870	23,900	18,200	11,900	14,900	23,000	23,500	18,600	18,000	8,950	6,980
19	22,700	8,840	26,200	22,300	11,000	14,400	24,800	22,100	17,700	14,000	8,480	6,650
20	16,700	10,100	29,600	29,400	11,200	14,100	32,600	22,200	15,800	14,100	8,020	6,560
21	12,900	12,000	61,600	28,200	11,100	14,000	38,400	18,600	16,100	12,400	8,260	6,480
22	15,300	28,300	85,000	26,700	10,500	13,800	43,000	18,100	20,000	10,100	8,400	6,520
23	45,100	31,500	73,700	42,200	10,200	12,900	47,800	21,400	17,500	9,440	8,420	6,280
24	46,400	22,900	36,200	28,800	9,710	12,300	47,200	27,800	14,500	10,000	8,640	6,000
25	52,700	21,000	26,400	22,800	8,970	11,600	41,900	31,600	12,500	11,100	8,620	6,000
26	37,400	17,300	24,000	20,200	9,240	11,500	39,900	31,200	13,900	13,200	8,760	5,880
27	37,300	16,200	21,600	19,200	11,100	15,100	39,200	34,500	13,500	15,600	9,080	5,780
28	53,200	13,900	25,000	17,300	13,800	26,200	36,600	36,500	14,800	16,200	9,590	5,690
29	40,300	12,400	47,000	17,400		42,200	32,400	38,300	16,100	14,800	9,700	5,620
30	30,900	11,400	54,400	17,900		43,300	27,700	38,800	15,700	13,100	8,930	5,510
31	22,700		41,100	18,500		36,800		30,700		10,700	8,160	

Month	Observed				Gain or loss in storage in Diablo and Lake Shannon Reservoirs (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	53,200	6,720	20,690	1,272,000	-2,070	1,270,000	20,650	7.65	8.82
November	60,400	8,840	18,440	1,097,000	+2,610	1,100,000	18,490	6.85	7.64
December	85,000	10,700	31,150	1,915,000	-4,150	1,911,000	31,080	11.5	13.26
January	42,200	14,900	24,010	1,476,000	+410	1,476,000	24,000	8.89	10.25
February	21,400	8,970	13,830	768,000	+180	768,200	13,830	5.12	5.33
March	43,300	11,500	19,830	1,219,000	+1,430	1,220,000	19,840	7.35	8.47
April	47,800	17,400	29,270	1,742,000	-6,980	1,735,000	29,160	10.8	12.05
May	50,300	18,100	27,720	1,704,000	+5,910	1,710,000	27,810	10.3	11.87
June	30,300	12,500	20,200	1,202,000	+1,930	1,204,000	20,230	7.49	8.36
July	29,600	9,440	14,560	895,200	-640	894,600	14,550	5.39	6.21
August	11,900	8,020	9,094	559,200	-470	558,700	9,086	3.37	3.88
September	13,600	5,510	7,374	438,800	-32,940	405,900	6,821	2.53	2.82
The year	85,000	5,510	19,740	14,290,000	-34,780	14,250,000	19,690	7.29	98.96

Ruby Creek near Newhalem, Wash.

Location.- Water-stage recorder in sec. 31, T. 38 N., R. 14 E., 1 mile above mouth and 10½ miles northeast of Newhalem.

Drainage area.- 210 square miles.

Records available.- June 1919 to March 1920, April 1930 to September 1934.

Extremes.- Maximum discharge during year, 4,920 second-feet Apr. 23 (gage height, 13.74 feet); minimum, 116 second-feet Sept. 30 (gage height, 7.19 feet).
1919-20, 1930-34: Maximum discharge, 6,730 second-feet Feb. 27, 1932 (gage height, 14.15 feet); minimum, not determined, occurred during period Dec. 24, 1930, to Jan. 1, 1931, when stage-discharge relation was affected by ice.

Remarks.- Records good except those estimated Oct. 2-10, 16, Nov. 22 to Dec. 14, which are fair. No diversions or regulation. Results of many discharge measurements furnished by city of Seattle.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	514	1,080	630	805	460	481	1,400	1,880	1,740	1,140	443	257
2	500	1,580	600	765	512	1,010	1,190	1,740	1,580	1,080	477	255
3	530	1,630	580	870	512	825	1,060	1,610	1,580	960	512	272
4	500	1,310	550	848	460	685	1,010	1,830	1,710	1,070	426	289
5	500	1,110	570	825	443	625	1,010	2,260	1,880	1,220	394	294
6	450	985	780	745	426	567	1,160	1,880	2,080	1,250	443	274
7	450	848	700	665	426	512	1,520	1,710	2,360	1,080	394	264
8	450	805	650	606	460	494	1,740	1,550	2,520	825	354	240
9	430	785	650	567	460	477	1,640	1,460	2,460	765	345	213
10	400	805	660	548	426	477	1,460	1,430	2,410	765	351	231
11	367	825	780	512	426	548	1,400	1,710	2,520	705	354	213
12	367	785	830	494	426	685	1,660	1,780	2,410	705	345	215
13	352	745	730	477	426	870	2,170	1,990	2,220	745	351	243
14	343	725	650	443	426	1,040	2,220	2,460	1,960	765	366	215
15	308	705	606	410	443	1,140	1,960	2,800	1,780	765	394	204
16	300	665	548	443	443	1,060	1,780	2,740	1,580	1,220	410	240
17	331	625	522	426	443	915	1,710	2,220	1,550	1,040	394	204
18	1,040	586	548	410	443	848	1,740	1,880	1,520	765	357	187
19	582	567	530	426	443	825	2,080	1,710	1,340	685	331	175
20	514	548	594	443	443	848	2,620	1,580	1,280	665	328	162
21	465	567	1,180	477	443	848	3,120	1,520	1,280	548	337	164
22	495	1,100	1,920	460	426	825	3,750	1,670	1,280	494	323	175
23	1,200	920	1,500	548	426	765	4,300	2,080	1,060	460	315	156
24	1,360	900	1,140	460	410	765	4,300	2,620	938	512	315	142
25	2,080	860	915	426	394	745	3,820	2,980	938	625	320	136
26	1,740	830	805	394	372	705	3,750	2,980	1,060	785	340	130
27	2,000	790	725	394	372	745	3,320	3,120	1,080	848	354	128
28	2,170	750	705	378	378	1,110	2,860	3,320	1,140	825	363	124
29	1,880	710	848	378		1,740	2,570	3,460	1,080	705	340	122
30	1,550	670	1,010	394		1,780	2,170	2,980	1,110	586	310	118
31	1,280		938	410		1,580		2,120		512	276	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,170	300	821	3.91	4.51	50,480
November	1,630	548	860	4.10	4.57	51,200
December	1,920	522	787	3.75	4.32	48,380
January	870	378	531	2.53	2.92	32,620
February	512	372	435	2.07	2.16	24,130
March	1,780	477	857	4.08	4.70	52,680
April	4,300	1,010	2,216	10.6	11.83	131,900
May	3,460	1,430	2,164	10.3	11.87	133,000
June	2,520	938	1,648	7.85	8.76	98,070
July	1,250	460	810	3.86	4.45	49,810
August	512	276	367	1.75	2.02	22,540
September	294	118	201	.957	1.07	11,980
The year	4,300	118	976	4.65	63.18	706,800

Thunder Creek near Newhalem, Wash.

Location.- Water-stage recorder in SE¼ sec. 23, T. 37 N., R. 13 E. (unsurveyed), half a mile above backwater from Diablo Reservoir and 8 miles east of Newhalem.

Drainage area.- 98 square miles.

Records available.- October 1930 to September 1934.

Extremes.- Maximum discharge during year, 4,440 second-feet July 16 (gage height, 8.82 feet); minimum, 188 second-feet Sept. 27 (gage height, 2.73 feet).
1930-34: Maximum discharge, 8,780 second-feet Feb. 26, 1932 (gage height, 11.3 feet); minimum, not determined, occurred during December 1930 or January 1931.

Remarks.- Records good. No diversions or regulation. Results of many discharge measurements furnished by city of Seattle.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	577	712	388	780	397	384	824	802	965	1,160	988	965
2	692	2,140	373	736	473	846	671	758	846	1,120	1,220	988
3	822	1,510	350	846	473	671	586	671	802	1,090	1,190	1,160
4	800	970	324	824	422	525	525	1,220	940	1,310	965	1,280
5	652	800	387	802	390	453	497	1,480	1,140	1,640	988	1,250
6	671	671	507	692	364	419	545	990	1,370	1,680	1,140	1,060
7	755	577	425	607	364	364	714	802	1,640	1,400	920	1,010
8	671	542	388	525	401	333	824	692	1,710	1,090	875	831
9	507	542	425	493	397	313	758	607	1,750	1,060	920	724
10	457	577	652	473	377	307	671	586	1,790	1,060	920	875
11	410	559	1,030	430	357	327	628	916	2,030	990	920	604
12	358	499	1,100	390	345	380	758	869	2,080	1,040	942	534
13	410	457	800	374	336	473	1,040	965	1,830	1,370	988	534
14	391	425	632	351	327	566	1,040	1,190	1,540	1,250	1,060	423
15	304	391	524	319	321	628	916	1,430	1,340	1,220	1,310	523
16	410	367	457	377	316	586	846	1,340	1,220	3,550	1,340	831
17	385	338	457	422	313	525	780	1,040	1,220	2,370	1,220	622
18	1,420	313	507	370	307	477	758	824	1,220	1,480	1,080	550
19	671	329	524	397	305	461	940	758	1,090	1,220	1,010	454
20	490	335	595	446	299	461	1,250	692	1,060	1,110	1,080	393
21	410	457	1,600	453	325	442	1,540	650	1,120	875	1,110	423
22	506	2,310	2,400	453	274	422	1,870	714	1,120	766	1,080	334
23	2,070	1,420	1,460	607	267	401	2,080	1,020	869	810	1,110	266
24	1,700	1,080	1,040	525	255	380	2,120	1,400	758	965	1,140	233
25	2,850	822	824	446	245	364	1,830	1,600	824	1,280	1,250	211
26	1,530	712	714	401	234	354	1,710	1,570	916	1,810	1,410	199
27	2,190	595	607	374	248	453	1,540	1,750	916	2,140	1,550	202
28	1,880	507	628	354	257	866	1,370	1,950	1,060	2,060	1,550	240
29	1,460	457	916	339		1,430	1,140	2,260	1,060	1,580	1,410	250
30	1,100	425	1,140	336		1,280	940	2,080	1,120	1,280	1,160	274
31	870		940	342		1,020		1,250		1,080	1,040	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,850	304	917	9.36	10.79	56,370
November	2,310	313	728	7.43	8.29	43,320
December	2,400	324	746	7.61	8.77	45,850
January	846	319	493	5.03	5.80	30,320
February	473	234	335	3.42	3.56	18,620
March	1,430	307	546	5.57	6.42	33,540
April	2,120	497	1,057	10.8	12.05	62,900
May	2,260	586	1,125	11.5	13.26	69,180
June	2,080	758	1,245	12.7	14.17	74,070
July	3,550	766	1,382	14.1	16.26	85,000
August	1,550	875	1,125	11.5	13.26	69,200
September	1,280	199	608	6.20	6.92	36,180
The year	3,550	199	863	8.81	119.55	624,600

Stetattle Creek near Newhalem, Wash.

(Formerly "Stetattle Creek near Marblemount, Wash.")

Location.- Water-stage recorder in NE¼ sec. 6, T. 37 N., R. 13 E., 4,000 feet above mouth and 5½ miles northeast of Newhalem.

Drainage area.- 21.4 square miles.

Records available.- September 1933 to September 1934. December 1913 to March 1914 and December 1914 to April 1915, comparable records at a point 2,700 feet downstream.

Extremes.- Maximum discharge during period Sept. 1, 1933 to Sept. 30, 1934, 2,020 second-feet Oct. 23 (gage height, 7.17 feet); minimum, 27 second-feet Sept. 29, 1934 (gage height, 2.04 feet).
1913-15, 1933-34: Maximum discharge, that of Oct. 23, 1933; minimum recorded, 23 second-feet Feb. 9-13, 1914 (gage height, 1.0 foot on former gage).

Remarks.- Records fair. Discharge estimated Sept. 1-6, 10, 16, 17, 21, 23, 24, 27-29, Oct. 3, 18, 1933. No diversions or regulation. Results of some discharge measurements furnished by city of Seattle.

Discharge, in second-feet, 1933-34

1933												
Sept. 1	60	Sept. 6	160	Sept. 11	67	Sept. 16	300	Sept. 21	264	Sept. 26	92
2	65	7	76	12	60	17	180	22	256	27	170
3	75	8	61	13	52	18	222	23	190	28	550
4	75	9	73	14	387	19	120	24	120	29	510
5	70	10	80	15	378	20	271	25	95	30	256

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	206	196	89	265	258	405	298	192	176	215	109	74
2	186	722	92	317	309	654	221	204	165	186	174	76
3	190	448	93	555	246	373	179	166	194	170	174	83
4	128	268	85	442	176	246	163	669	252	202	118	87
5	93	204	164	430	154	189	174	498	287	223	114	88
6	88	161	249	265	140	172	238	332	335	226	148	74
7	85	130	174	192	152	136	335	258	354	192	111	83
8	82	122	176	146	226	118	335	212	362	140	98	65
9	76	140	196	156	192	111	271	189	362	134	98	93
10	67	163	297	172	150	117	232	202	392	129	101	138
11	56	154	904	148	136	150	223	313	404	118	100	136
12	39	125	618	127	134	212	330	294	370	164	98	177
13	68	112	362	127	129	258	396	345	313	189	100	175
14	49	102	243	115	120	277	339	381	271	156	107	112
15	40	88	172	100	115	249	268	419	235	181	115	131
16	49	76	130	179	114	210	261	358	215	747	122	128
17	61	66	127	221	111	167	249	277	218	332	115	85
18	370	61	118	159	111	148	268	212	221	212	101	67
19	319	73	122	224	105	148	366	240	192	179	97	57
20	310	98	219	287	101	148	453	218	174	202	100	48
21	122	174	666	246	94	146	484	192	335	129	100	50
22	393	709	696	221	87	132	526	250	300	107	96	46
23	1,430	352	430	277	80	120	535	343	194	107	96	40
24	817	382	265	196	73	114	449	392	156	125	94	36
25	962	249	182	146	67	108	408	396	172	159	98	32
26	492	218	142	136	64	102	400	411	174	196	102	30
27	598	170	124	146	113	240	392	432	176	218	107	29
28	629	130	250	134	199	552	370	457	240	204	108	28
29	476	109	576	138		638	298	472	212	167	104	28
30	351	100	617	146		535	221	402	204	138	96	28
31	258		411	163		373		236		118	83	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
1933						
September	550	52	178	8.32	9.28	10,580
1933-34						
October	1,430	39	293	13.7	15.79	18,030
November	722	61	203	9.49	10.59	12,100
December	904	85	290	13.6	15.68	17,830
January	555	100	212	9.91	11.42	13,040
February	309	64	141	6.59	6.86	7,850
March	654	102	243	11.4	13.14	14,970
April	535	163	323	15.1	16.85	19,200
May	689	186	323	15.1	17.41	19,830
June	404	156	255	11.9	13.28	15,180
July	747	107	192	8.97	10.34	11,830
August	174	83	109	5.09	5.87	6,710
September	177	25	77.5	3.62	4.04	4,610
The year	1,430	28	22.3	10.4	141.27	181,200

Cascade River at Marblemount, Wash.

Location.- Water-stage recorder in SW¼ sec. 9, T. 35 N., R. 11 E., 2 miles east of Marblemount.

Drainage area.- 180 square miles.

Records available.- September 1928 to September 1934.

Extremes.- Maximum discharge during year, 8,050 second-feet Nov. 2 (gage height, 8.06 feet); minimum, 276 second-feet Sept. 29 (gage height, 1.74 feet).
1928-34: Maximum discharge, 12,900 second-feet Feb. 26, 1932 (gage height, 9.88 feet); minimum, 149 second-feet Nov. 15, 1929; minimum gage height, 1.37 feet Oct. 14, 1932; stage and discharge may have been lower during January or February 1929, when stage-discharge relation was affected by ice.

Remarks.- Records good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,280	1,390	720	1,840	1,280	1,050	1,660	930	1,320	1,360	855	655
2	1,390	4,390	720	1,700	1,280	2,210	1,360	855	1,080	1,320	1,020	670
3	1,390	3,440	720	2,240	1,120	1,460	1,180	990	990	1,180	1,120	720
4	1,180	2,080	650	2,080	1,080	1,110	1,050	1,910	1,140	1,340	900	770
5	1,020	1,620	826	2,080	1,020	1,050	990	2,690	1,420	1,620	820	770
6	960	1,360	1,420	1,620	960	1,280	1,080	1,740	1,830	1,540	1,020	695
7	930	1,180	1,110	1,390	990	1,050	1,320	1,420	2,080	1,420	820	745
8	855	1,050	990	1,250	1,110	930	1,500	1,280	1,880	1,140	745	670
9	720	990	1,420	1,180	1,050	855	1,360	1,110	2,030	1,080	745	560
10	640	990	2,350	1,140	930	820	1,250	1,050	2,180	1,110	770	890
11	584	930	2,980	1,080	900	870	1,110	1,650	2,350	1,020	745	720
12	540	870	3,580	1,020	930	990	1,380	1,540	2,320	1,020	745	695
13	548	820	2,660	1,020	900	1,140	1,850	1,620	2,080	1,280	770	870
14	564	770	1,930	960	855	1,250	1,880	1,980	1,880	1,180	820	650
15	496	720	1,540	855	820	1,180	1,700	2,080	1,620	1,110	900	642
16	739	670	1,250	1,020	820	1,080	1,790	1,880	1,390	2,690	960	770
17	785	625	1,250	1,120	795	960	1,460	1,580	1,460	1,680	900	564
18	2,950	588	1,250	1,020	770	870	1,360	1,280	1,500	1,390	770	508
19	1,500	612	1,280	1,250	745	855	1,700	1,120	1,280	1,180	745	456
20	1,110	665	1,940	1,540	745	820	2,350	1,180	1,140	1,120	745	413
21	900	870	4,370	1,420	695	820	2,660	1,050	1,250	960	820	416
22	1,100	3,830	5,160	1,500	660	795	3,140	1,140	1,420	855	795	416
23	4,060	2,370	3,230	2,240	616	770	3,210	1,590	1,140	820	795	347
24	3,050	1,860	2,180	1,620	580	745	3,070	2,080	990	930	820	323
25	3,810	1,460	1,700	1,360	548	720	2,530	2,180	1,020	1,180	855	303
26	2,180	1,250	1,460	1,250	520	695	2,410	2,140	1,080	1,460	900	289
27	3,070	1,110	1,360	1,120	604	908	2,290	2,360	990	1,580	930	287
28	3,780	960	1,630	1,140	695	1,750	1,840	2,500	1,250	1,500	930	292
29	3,270	855	2,980	1,120		2,930	1,500	2,720	1,280	1,280	870	287
30	2,240	795	3,280	1,250		2,410	1,180	2,600	1,280	1,080	795	295
31	1,700		2,390	1,120		1,980		1,710		930	695	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,060	496	1,592	8.84	10.19	97,870
November	4,390	588	1,371	7.62	8.50	81,560
December	5,160	650	1,946	10.8	12.45	119,700
January	2,240	855	1,372	7.62	8.78	84,390
February	1,280	520	858	4.77	4.97	47,640
March	2,930	695	1,173	6.52	7.52	72,110
April	3,210	990	1,773	9.85	10.99	105,500
May	2,720	855	1,676	9.31	10.73	103,100
June	2,350	990	1,489	8.27	9.23	88,600
July	2,690	820	1,270	7.06	8.14	78,060
August	1,120	695	843	4.68	5.40	51,810
September	890	287	556	3.09	3.45	33,100
The year	5,160	287	1,351	7.39	100.35	963,400

Sauk River above Whitechuck River, near Darrington, Wash.

Location.- Water-stage recorder in NW¼ sec. 24, T. 31 N., R. 10 E., half a mile above Whitechuck River and 9½ miles southeast of Darrington.

Drainage area.- 152 square miles.

Records available.- August to November 1910 (fragmentary gage heights), October 1917 to September 1922, August 1928 to September 1934.

Average discharge.- 11 years (1917-22, 1928-34), 1,160 second-feet.

Extremes.- Maximum discharge during year, 17,300 second-feet Dec. 21 (gage height, 12.05 feet); minimum, 220 second-feet Sept. 30 (gage height, 2.75 feet).
1917-22, 1928-34: Maximum discharge, 23,000 second-feet Dec. 12, 1921 (gage height, 14.85 feet); minimum, 146 second-feet Sept. 25, 1930; minimum gage height, 2.01 feet Oct. 2, 3, 1929.

Remarks.- Records good. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,370	1,530	652	2,250	1,470	1,830	2,620	1,470	1,440	914	446	304
2	1,280	6,000	700	2,320	1,580	4,390	1,970	1,400	1,180	896	457	290
3	1,280	4,690	764	3,420	1,490	2,620	1,580	1,600	1,050	843	508	290
4	1,170	2,780	692	2,920	1,300	1,780	1,380	2,310	1,040	852	484	299
5	1,030	2,010	1,240	3,000	1,200	1,740	1,240	4,030	1,260	941	430	309
6	959	1,640	2,940	2,180	1,110	2,460	1,230	2,620	1,480	950	430	299
7	905	1,370	1,820	1,720	1,100	1,720	1,360	1,970	1,840	905	419	290
8	820	1,210	1,420	1,480	1,350	1,400	1,540	1,720	1,660	775	393	319
9	732	1,100	2,790	1,400	1,270	1,190	1,520	1,480	1,600	680	378	295
10	644	1,000	4,290	1,480	1,110	1,100	1,440	1,340	1,660	642	383	343
11	572	932	4,980	1,360	1,000	1,070	1,350	1,460	1,840	613	388	550
12	512	852	5,160	1,230	932	1,160	1,490	1,550	1,840	599	393	650
13	463	788	3,620	1,320	869	1,290	1,970	1,580	1,720	571	393	1,150
14	491	732	2,560	1,270	818	1,410	2,040	1,840	1,540	571	399	952
15	449	676	1,880	1,070	767	1,420	2,040	2,110	1,350	564	404	606
16	1,340	620	1,480	1,450	743	1,350	2,110	2,040	1,160	1,700	419	526
17	1,260	588	2,030	1,840	719	1,180	1,840	1,780	1,110	1,490	419	435
18	3,000	526	2,700	1,380	703	1,070	1,660	1,490	1,110	970	399	373
19	1,880	564	2,700	1,950	695	1,010	1,780	1,360	1,020	784	373	338
20	1,580	748	3,560	2,620	680	970	2,320	1,480	923	775	358	309
21	1,270	932	9,720	2,840	665	960	2,760	1,290	914	711	368	290
22	1,850	2,160	9,690	2,870	642	923	3,080	1,220	1,070	592	373	358
23	4,800	1,770	5,320	4,570	628	896	3,160	1,470	1,110	538	363	378
24	3,460	1,480	3,240	2,690	613	860	2,840	1,900	905	538	358	338
25	3,950	1,300	2,390	1,900	599	818	2,620	2,040	818	606	358	304
26	2,490	1,100	1,970	1,660	585	775	2,390	1,970	852	695	363	276
27	2,560	1,010	1,780	1,460	809	1,230	2,320	2,180	809	743	368	258
28	3,380	878	2,040	1,340	1,100	2,690	2,320	2,320	860	719	373	240
29	3,150	780	3,960	1,300		4,300	2,040	2,460	905	642	373	228
30	2,350	716	4,300	1,360		3,940	1,720	2,320	869	557	353	224
31	1,820		3,000	1,370		3,080		1,840		484	323	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,800	449	1,704	11.2	12.91	104,800
November	6,000	526	1,416	9.32	10.40	84,260
December	9,720	652	3,077	20.2	23.29	189,200
January	4,570	1,070	1,968	12.9	14.87	121,000
February	1,580	585	948	6.24	6.50	52,660
March	4,390	775	1,698	11.2	12.91	104,400
April	3,160	1,230	1,991	13.1	14.62	118,500
May	4,030	1,220	1,859	12.2	14.07	114,300
June	1,840	809	1,231	8.10	9.04	73,260
July	1,700	484	770	5.07	5.84	47,330
August	508	325	395	2.60	3.00	24,290
September	1,150	224	394	2.59	2.89	23,450
The year.	9,720	224	1,461	9.61	130.34	1,057,000

Sauk River near Sauk, Wash.

Location.- Water-stage recorder in NW¼ sec. 19, T. 34 N., R. 10 E., 5 miles above mouth and 5 miles southeast of Sauk.

Drainage area.- 714 square miles.

Records available.- July 1928 to September 1934. August 1910 to August 1912, various gages between a point 1 mile below and a point 5 miles above present site. Discharge measurements made at point 5 miles above.

Extremes.- Maximum discharge during year, 56,600 second-feet Dec. 22 (gage height, 14.40 feet); minimum, 1,070 second-feet Sept. 30 (gage height, 2.96 feet).
1910-12, 1928-34: Maximum discharge, 68,500 second-feet Feb. 26, 1932 (gage height, 15.83 feet); minimum, 572 second-feet Dec. 5, 1929 (gage height, 2.62 feet); discharge may have been less sometime Jan. 10-27, 1930, when stage-discharge relation was affected by ice.

Remarks.- Records excellent. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,630	6,200	3,040	9,300	6,480	6,440	9,640	5,650	5,780	4,500	2,650	1,920
2	4,380	17,300	2,940	8,960	6,480	14,300	7,360	5,520	4,880	4,500	2,840	1,940
3	4,500	19,900	3,250	12,600	6,060	8,960	6,340	6,480	4,500	4,140	3,140	2,000
4	4,140	11,000	3,140	11,000	5,390	6,620	5,520	7,850	4,630	4,260	2,650	2,070
5	3,680	8,300	3,410	11,400	5,130	6,340	5,130	14,300	5,520	4,880	2,380	2,100
6	3,460	6,770	9,400	8,630	4,880	8,960	5,000	9,640	6,200	4,880	2,650	2,020
7	3,250	5,920	7,670	7,210	4,760	6,770	5,520	7,520	7,980	4,630	2,470	1,910
8	3,140	5,260	6,290	6,340	5,650	5,650	6,060	6,620	6,920	3,800	2,220	2,080
9	2,740	4,760	8,670	5,920	5,390	4,880	5,780	5,780	7,060	3,460	2,220	1,680
10	2,560	4,380	13,800	6,200	4,880	4,630	5,520	5,260	7,360	3,570	2,300	2,050
11	2,380	4,020	16,600	5,920	4,500	4,500	5,130	6,340	7,980	3,460	2,300	2,650
12	2,220	3,800	20,500	5,390	4,380	4,760	5,650	6,340	8,140	3,250	2,300	2,740
13	2,080	3,460	14,300	5,780	4,140	5,260	7,210	6,340	7,520	3,250	2,300	4,260
14	2,110	3,360	10,300	5,780	3,910	5,520	7,360	7,360	6,920	3,460	2,300	3,110
15	2,000	3,140	7,980	4,880	3,800	5,520	7,060	7,980	6,060	3,360	2,470	2,300
16	3,420	3,040	6,480	6,670	3,680	5,260	7,670	7,820	5,260	6,570	2,650	2,300
17	3,910	2,840	7,660	7,610	3,570	4,760	6,620	6,920	5,390	6,200	2,650	2,000
18	8,800	2,740	11,000	5,920	3,570	4,380	6,060	5,920	5,390	4,380	2,380	1,800
19	6,200	2,740	11,400	8,380	3,460	4,140	6,620	5,650	4,760	3,800	2,300	1,640
20	5,390	3,460	13,100	10,300	3,460	4,020	8,300	5,780	4,500	3,800	2,220	1,470
21	4,380	4,020	32,900	11,000	3,360	3,910	9,640	5,130	4,500	3,360	2,300	1,470
22	6,160	7,920	35,900	10,600	3,250	3,800	10,700	5,000	5,000	2,940	2,300	1,620
23	15,200	8,110	20,000	18,800	3,140	3,680	11,000	6,200	4,760	2,740	2,220	1,520
24	12,600	6,200	12,400	11,100	2,940	3,460	10,700	7,670	3,910	2,840	2,300	1,340
25	14,200	5,920	9,300	8,300	2,840	3,360	9,300	8,140	3,800	3,250	2,380	1,240
26	9,300	4,880	7,820	7,360	2,740	3,250	8,630	7,980	4,020	4,020	2,380	1,180
27	10,200	4,500	7,210	6,820	3,570	4,740	8,960	8,960	3,800	4,380	2,470	1,140
28	14,200	3,910	7,670	6,060	4,630	8,830	8,630	9,300	4,260	4,380	2,560	1,130
29	13,900	3,460	15,000	5,920		15,000	7,670	9,990	4,380	3,800	2,470	1,120
30	9,640	3,250	17,500	6,200		13,000	6,480	9,640	4,380	3,250	2,300	1,120
31	7,520		12,200	6,060		10,700		7,360		2,840	2,000	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	15,200	2,000	6,203	8.69	10.02	381,400
November	19,900	2,740	5,819	8.15	9.09	346,200
December	35,900	2,940	11,580	16.2	18.68	711,700
January	18,800	4,880	8,136	11.4	13.14	500,300
February	6,480	2,740	4,287	6.00	6.25	238,100
March	15,000	3,250	6,303	8.83	10.18	387,600
April	11,000	5,000	7,375	10.3	11.49	438,900
May	14,300	5,000	7,305	10.2	11.76	449,100
June	8,140	3,800	5,519	7.73	8.62	328,400
July	6,570	2,740	3,934	5.51	6.35	241,900
August	3,140	2,000	2,422	3.39	3.91	148,900
September	4,260	1,120	1,897	2.66	2.97	112,900
The year	35,900	1,120	5,919	8.29	112.46	4,285,000

Nooksack River near Glacier, Wash.

(Formerly "North Fork of Nooksack River near Glacier, Wash.")

Location.- Water-stage recorder in NE¼ sec. 2, T. 39 N., R. 6 E., 600 feet below mouth of Canyon Creek and 2½ miles northwest of Glacier.

Drainage area.- 195 square miles.

Records available.- February to September 1934. September 1910 to September 1911, fragmentary, from staff gage at practically same site.

Extremes.- Maximum discharge during period Feb. 1, to Sept. 30, 1934, 6,560 second-feet May 4 (gage height, 5.75 feet); minimum, 259 second-feet Sept. 26 (gage height, 1.27 feet).
1910-11, 1934: Maximum discharge recorded, that of May 4, 1934; minimum, that of Sept. 26, 1934.

Remarks.- Records fair. Discharge estimated Feb. 1-25, Mar. 4, 8-11, 18, 24, 26, 29, Apr. 1, 3-5, Aug. 6, 11. Water diverted for Excelsior power plant of Puget Sound Power & Light Co. returned to river above gage. Regulation due to operation of plant produces only slight effect at gage.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						649	2,250	1,300	1,300	1,200	892	854
2						2,200	1,560	1,360	1,080	1,100	1,230	959
3					1,300	1,450	1,300	1,210	1,020	954	1,500	1,030
4						850	1,200	4,100	1,190	1,150	1,140	1,040
5						938	1,100	4,740	1,450	1,200	1,100	988
6						1,150	1,180	2,760	1,720	1,300	1,300	789
7						954	1,350	1,960	1,840	1,090	1,180	821
8					1,100	750	1,500	1,670	1,840	803	1,020	662
9						650	1,450	1,400	1,840	818	1,010	764
10						650	1,500	1,300	1,900	761	979	1,220
11						700	1,250	1,620	2,020	700	980	1,300
12						714	1,520	1,500	2,020	949	997	1,590
13					610	1,050	1,960	1,720	1,840	1,200	997	1,800
14						1,210	1,960	2,080	1,720	914	1,090	1,010
15						1,150	1,760	2,260	1,450	1,160	1,230	1,120
16						954	2,080	2,140	1,210	3,900	1,300	1,420
17						874	1,620	1,770	1,300	2,820	1,200	979
18					520	800	1,500	1,350	1,300	1,750	1,040	818
19						740	2,020	1,680	1,060	1,300	962	681
20						700	2,620	1,560	1,020	1,300	1,050	554
21						624	2,890	1,300	1,220	1,010	1,150	566
22						554	3,200	1,350	1,350	842	1,080	484
23					380	522	3,230	1,780	988	818	1,110	385
24						500	2,960	2,080	842	938	1,170	340
25						479	2,500	2,080	882	1,120	1,250	310
26					302	450	2,440	2,080	970	1,350	1,350	294
27					624	842	2,440	2,140	930	1,500	1,450	282
28					637	2,890	2,440	2,260	1,300	1,400	1,350	319
29						2,950	1,960	2,320	1,350	1,100	1,150	314
30						3,230	1,500	2,260	1,170	898	922	344
31						2,260		1,670		789	850	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February			754	3.87	4.03	41,880
March	3,230	450	1,111	5.70	6.57	68,300
April	3,230	1,100	1,941	9.95	11.10	115,500
May	4,740	1,210	1,961	10.1	11.64	120,600
June	2,020	842	1,371	7.03	7.84	81,560
July	3,900	700	1,230	6.31	7.28	75,640
August	1,500	850	1,130	5.79	6.68	69,480
September	1,800	282	801	4.11	4.59	47,680
The period						620,600

Middle Fork of Nooksack River near Deming, Wash.

Location.- Water-stage recorder in SW¼ sec. 13, T. 38 N., R. 5 E., half a mile above Heislers Creek and 6 miles southeast of Deming.

Drainage area.- 70 square miles.

Records available.- February to September 1934. Comparable records October 1910 to March 1911 (fragmentary gage heights), August 1920 to September 1921, at site below Heislers Creek.

Extremes.- Maximum discharge during period Feb. 1 to Sept. 30, 1934, 4,420 second-feet May 4 (gage height, 6.45 feet); minimum, 191 second-feet Mar. 26; minimum gage height, 1.43 feet Sept. 9.
1920-21, 1934: Maximum mean daily discharge (estimated), 7,500 second-feet Oct. 4, 1920; minimum discharge, that of Mar. 26, 1934.

Remarks.- Records fair. Discharge estimated Feb. 1-17, 25, Mar. 1-9, 11, 25, Apr. 1, 5, 6, 20, Sept. 14-30. No diversions or regulation.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						1,200	800	317	482	355	281	317
2						1,800	506	472	375	336	376	317
3					940	800	416	401	355	317	395	336
4						540	375	2,760	375	375	355	336
5						720	360	1,640	416	416	332	355
6						840	400	850	502	416	402	299
7						520	460	655	554	355	355	335
8						420	437	554	554	317	317	248
9					720	360	454	482	554	336	299	304
10						355	605	460	580	299	299	511
11						396	437	554	630	281	281	700
12						437	550	529	604	386	281	1,170
13						482	604	567	529	548	281	1,140
14						554	529	630	506	375	299	
15					410	529	515	604	416	510	336	
16						437	822	554	375	1,480	336	400
17						336	506	482	375	748	317	
18					375	299	437	416	375	482	299	
19					336	264	529	796	336	416	281	
20					317	264	740	703	317	516	317	
21					317	233	790	506	395	375	317	
22					248	233	850	490	375	317	317	300
23					233	218	790	614	299	317	317	
24					233	204	681	629	281	355	355	
25					220	200	578	578	299	416	375	
26					218	204	554	612	299	482	395	
27					437	850	554	648	281	529	416	
28					460	1,720	529	723	375	506	395	270
29						1,290	437	681	375	416	355	
30						1,130	355	790	336	355	317	
31						850		629		299	299	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February		218	531	7.59	7.90	29,500
March	1,800	200	603	8.61	9.93	37,060
April	850	355	553	7.90	8.81	32,930
May	2,760	317	688	9.83	11.33	42,300
June	630	281	418	5.97	6.66	24,840
July	1,480	281	440	6.29	7.25	27,040
August	416	281	332	4.74	5.46	20,420
September	1,170	248	397	5.67	6.33	23,640
The period						237,700

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South Fork of Nooksack River near Wickersham, Wash.

Location.- Water-stage recorder in lot 2, sec. 26, T. 37 N., R. 5 E., three-quarters of a mile above Skookum Creek, 2¼ miles above Saxon Bridge, and 4 miles east of Wickersham.

Drainage area.- 103 square miles.

Records available.- May to September 1934.

Extremes.- Maximum discharge during period of record, 3,340 second-feet July 16 (gage height, 6.19 feet); minimum, 111 second-feet Sept. 1, 3-6 (gage height, 2.28 feet).

Remarks.- Records good except those for May 1-6, 13, 20, 27, June 3, 10, 17, 24, July 1, which were estimated. No diversions or regulation.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								430	537	217	146	111
2								910	435	202	171	112
3								680	408	182	206	111
4								1,900	381	182	213	111
5								1,600	381	188	163	111
6								900	405	188	188	111
7								690	415	182	177	119
8								662	376	188	155	125
9								655	376	192	144	130
10								620	370	163	138	390
11								620	363	153	135	945
12								562	372	156	133	1,640
13								560	340	287	132	1,490
14								568	292	196	130	608
15								574	260	199	128	372
16								614	228	2,070	128	383
17								500	230	681	128	284
18								435	248	381	126	236
19								1,010	216	284	123	202
20								900	206	352	121	182
21								588	236	280	120	168
22								519	332	240	119	163
23								525	248	202	118	151
24								574	220	182	117	142
25								549	216	174	116	136
26								543	216	174	116	133
27								540	206	174	116	132
28								543	220	171	116	133
29								600	280	163	115	130
30								950	232	153	114	128
31								818		146	113	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February						
March						
April						
May	1,900	430	714	6.93	7.99	43,910
June	537	206	308	2.99	3.34	18,340
July	2,070	146	281	2.73	3.15	17,260
August	213	113	138	1.34	1.54	8,460
September	1,640	111	306	2.97	3.31	18,230
The period						106,200

South Fork of Nooksack River at Saxon Bridge, Wash.

Location.- Staff gage in SE¼ sec. 21, T. 37 N., R. 5 E., at Saxon Bridge, 1 mile below Skookum Creek and 2½ miles northeast of Wickersham.

Drainage area.- 129 square miles.

Records available.- August 1920 to September 1921, July 1933 to September 1934 (discontinued).

Extremes.- Maximum discharge recorded during year, 7,100 second-feet Dec. 21 (gage height, 8.34 feet); minimum, 111 second-feet Sept. 4 (gage height, 1.22 feet).
1920-21, 1933-34: Maximum discharge recorded, 13,100 second-feet Feb. 11, 1921 (gage height, 9.0 feet, former datum); minimum, that of Sept. 4, 1934.

Remarks.- Records fair. No diversions or regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,120	1,190	505	1,970	2,410	2,360	1,920	540	580	268	212	123
2	915	4,880	850	3,040	2,300	2,860	1,260	1,140	488	254	247	117
3	755	2,590	980	4,370	1,680	1,680	1,020	855	448	247	317	117
4	638	1,590	755	3,220	1,260	1,140	885	2,410	436	250	300	114
5	582	1,120	2,060	2,980	1,220	1,540	825	2,020	444	254	226	117
6	505	915	2,160	1,970	1,100	1,770	855	1,180	464	250	275	117
7	457	785	1,340	1,500	1,220	1,140	920	920	476	250	261	149
8	412	665	1,190	1,300	2,300	920	885	798	444	222	233	142
9	391	610	2,590	1,300	1,500	798	855	670	432	233	216	149
10	370	555	2,820	1,420	1,140	798	1,060	625	436	219	202	560
11	350	505	4,190	1,420	990	855	825	695	444	205	198	1,220
12	331	481	4,320	1,300	920	885	955	648	428	240	191	1,640
13	350	434	2,940	1,680	855	990	1,100	648	400	356	188	1,540
14	350	391	2,060	1,300	770	1,020	920	670	376	261	177	670
15	314	370	1,420	1,020	745	885	885	670	352	320	177	444
16	610	370	1,120	2,630	770	885	1,260	625	314	2,190	170	496
17	530	331	1,960	1,970	720	695	825	625	310	695	174	373
18	3,420	314	2,060	1,340	695	625	720	540	328	460	174	317
19	1,260	530	2,370	3,340	670	625	955	1,300	303	366	163	278
20	1,050	555	3,670	3,220	670	625	1,100	1,100	278	444	160	254
21	818	1,860	5,200	2,920	625	560	1,100	695	324	362	156	240
22	1,500	4,600	3,850	2,360	580	540	1,180	602	384	317	156	222
23	4,460	1,770	2,630	3,980	560	520	1,020	670	324	286	142	208
24	2,370	1,420	1,870	2,190	520	488	885	648	275	268	142	191
25	2,940	1,050	1,420	1,720	484	468	745	625	268	258	135	184
26	1,770	980	1,420	2,020	484	456	720	602	268	261	135	177
27	2,370	882	1,500	1,770	695	1,460	745	602	254	258	132	170
28	3,800	695	2,460	1,460	1,260	2,520	695	625	282	254	132	177
29	3,180	582	5,620	1,460		2,240	720	602	334	240	129	166
30	2,160	530	4,780	1,770		2,190	580	885	282	219	129	163
31	1,500		2,860	1,920		1,920		825		212	129	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,460	314	1,341	10.4	11.99	82,470
November	4,880	314	1,118	8.67	9.67	66,550
December	5,620	505	2,418	18.7	21.56	148,700
January	4,370	1,020	2,125	16.5	19.02	130,600
February	2,410	484	1,041	8.07	8.40	57,800
March	2,860	456	1,176	9.12	10.51	72,310
April	1,920	560	947	7.34	8.19	56,370
May	2,410	540	841	6.52	7.52	51,690
June	580	254	373	2.89	3.22	22,170
July	2,190	205	352	2.73	3.15	21,660
August	317	129	186	1.44	1.66	11,460
September	1,640	114	361	2.80	3.12	21,490
The year	5,620	114	1,027	7.96	108.01	743,300

COLUMBIA RIVER

Columbia River at Trail, British Columbia

(International gaging station)

Location.- Cable gage on highway bridge at Trail 12 miles (revised) above international boundary and mouth of Clark Fork.

Drainage area.- 34,000 square miles.

Records available.- April 1913 to September 1934.

Average discharge.- 21 years (1913-34), 71,990 second-feet.

Extremes.- Maximum discharge recorded during year ending Sept. 30, 1933, 288,000 second-feet June 23, 24 (gage height, 39.2 feet); minimum recorded, 14,800 second-feet Feb. 18-22, 24, 25 (gage height, 8.1 feet).

Maximum discharge recorded during year ending Sept. 30, 1934, 274,000 second-feet June 2 (gage height, 37.98 feet); minimum recorded, 23,300 second-feet Mar. 6, 7 (gage height, 10.2 feet).

1913-34: Maximum discharge recorded, 312,000 second-feet June 14, 15, 1913 (gage height, 41.6 feet); minimum recorded, 9,600 second-feet Mar. 28, 1917.

Remarks.- Records good. Small amount of water diverted above station. Slight fluctuation caused by operation of power plant on Kootenai River. Natural storage in numerous lakes affects flow at this station. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41,700	31,300	30,200	22,800	18,000	15,200	16,900	56,700	170,000	279,000	174,000	99,800
2	40,500	31,300	30,700	22,800	18,000	15,200	17,300	60,300	176,000	279,000	167,000	98,000
3	39,900	31,300	33,000	22,800	18,000	15,200	17,600	64,000	182,000	280,000	162,000	95,400
4	38,700	30,700	33,600	22,800	18,000	15,200	18,400	67,700	188,000	278,000	155,000	93,800
5	38,700	30,700	34,100	22,300	17,300	15,200	18,800	70,700	195,000	274,000	151,000	91,200
6	38,700	30,700	34,100	22,300	17,300	15,200	19,200	72,900	199,000	267,000	147,000	87,900
7	38,100	30,700	34,700	22,300	17,300	15,200	19,600	76,800	204,000	264,000	143,000	87,100
8	37,600	30,700	34,700	22,300	16,900	15,200	20,100	78,300	210,000	261,000	141,000	84,700
9	37,600	30,200	34,100	22,300	16,900	15,200	20,500	79,900	212,000	260,000	139,000	82,300
10	36,400	30,200	33,000	22,300	16,500	15,200	20,500	82,300	212,000	258,000	137,000	80,700
11	36,400	29,600	32,400	22,300	16,500	15,200	20,900	83,900	212,000	260,000	136,000	79,100
12	35,800	29,600	31,900	21,800	16,200	15,200	20,900	85,500	210,000	260,000	135,000	77,500
13	35,300	29,600	30,700	21,800	15,800	15,200	21,400	88,700	209,000	255,000	134,000	76,000
14	34,700	30,200	30,200	21,800	15,800	15,500	21,400	92,900	212,000	251,000	134,000	75,200
15	34,700	30,200	29,600	22,300	15,500	15,500	21,800	97,200	222,000	248,000	134,000	73,700
16	34,100	29,600	28,500	21,800	15,200	15,200	21,800	101,000	237,000	245,000	134,000	72,900
17	34,100	29,600	27,400	21,800	15,200	15,200	22,300	104,000	254,000	242,000	134,000	72,200
18	33,600	29,000	27,400	21,400	14,800	15,500	22,300	109,000	268,000	239,000	133,000	71,400
19	33,000	29,600	26,900	21,400	14,800	15,500	22,300	112,000	279,000	237,000	133,000	69,900
20	33,000	29,600	26,300	21,400	14,800	15,800	23,300	116,000	284,000	234,000	132,000	68,400
21	33,000	29,600	26,300	21,400	14,800	15,800	23,800	118,000	286,000	228,000	131,000	66,200
22	33,600	29,600	25,800	21,400	14,800	15,800	25,300	120,000	287,000	220,000	130,000	65,500
23	33,000	30,200	25,300	21,400	15,200	15,800	27,400	123,000	285,000	212,000	127,000	64,700
24	33,000	30,200	25,300	20,900	14,800	15,800	29,000	127,000	286,000	206,000	125,000	64,000
25	32,400	30,200	25,300	20,500	14,800	15,800	32,400	131,000	287,000	199,000	120,000	62,500
26	32,400	30,200	25,300	19,600	15,200	15,800	34,700	137,000	286,000	195,000	114,000	60,300
27	31,900	29,600	24,800	19,600	15,200	15,800	39,300	142,000	285,000	194,000	109,000	58,900
28	31,900	29,600	24,300	19,200	15,200	16,200	43,600	146,000	285,000	192,000	104,000	59,200
29	31,300	29,600	24,300	18,800		16,200	48,300	151,000	282,000	190,000	102,000	56,700
30	31,300	29,600	23,800	18,400		16,500	52,500	159,000	284,000	187,000	99,800	55,300
31	31,300		23,300	18,400		16,500		165,000		184,000	102,000	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	41,700	31,300	35,090	1.03	1.19	2,157,000
November	31,300	29,000	30,090	.885	.99	1,791,000
December	34,700	23,300	28,950	.851	.98	1,780,000
January	22,800	18,400	21,370	.629	.73	1,314,000
February	18,000	14,800	16,030	.471	.49	890,200
March	16,500	15,200	15,540	.457	.53	955,600
April	52,500	16,900	25,450	.749	.84	1,515,000
May	165,000	56,700	103,800	3.05	3.52	6,384,000
June	288,000	170,000	239,800	7.05	7.87	14,270,000
July	280,000	164,000	238,000	7.00	8.07	14,630,000
August	174,000	99,800	132,800	3.91	4.51	8,166,000
September	99,800	55,300	74,980	2.21	2.47	4,462,000
The year	288,000	14,800	80,550	2.37	32.19	58,310,000

Columbia River at Trail, British Columbia

(Continued)

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53,900	57,500	42,300	41,100	31,900	25,300	34,700	194,000	272,000	161,000	127,000	76,300
2	53,200	56,900	41,700	40,500	31,300	24,800	35,800	197,000	274,000	160,000	129,000	77,500
3	52,500	60,300	41,100	40,500	30,700	24,300	37,000	199,000	272,000	157,000	128,000	76,000
4	51,800	61,100	40,500	41,100	30,700	23,800	37,600	198,000	267,000	154,000	126,000	74,500
5	51,100	61,800	40,500	41,100	30,200	23,800	38,700	197,000	258,000	150,000	124,000	73,700
6	50,400	61,100	39,900	41,700	30,200	23,300	39,900	196,000	251,000	150,000	121,000	72,900
7	49,700	61,100	39,900	41,700	29,600	23,300	41,700	193,000	245,000	150,000	119,000	72,200
8	49,000	60,300	39,300	41,700	29,600	23,800	43,600	191,000	243,000	151,000	116,000	71,400
9	49,000	58,900	39,300	41,700	29,600	23,800	46,300	188,000	242,000	152,000	112,000	70,700
10	49,000	58,200	39,300	41,100	29,600	24,300	48,300	186,000	242,000	152,000	107,000	70,700
11	48,300	57,500	38,700	39,900	29,600	24,300	51,100	186,000	240,000	150,000	104,000	69,900
12	47,600	56,000	38,100	38,700	29,600	24,300	53,900	183,000	242,000	150,000	101,000	69,200
13	46,900	55,300	37,600	38,100	29,000	24,800	58,200	181,000	242,000	146,000	98,000	69,200
14	46,300	53,900	37,600	37,000	29,000	24,800	61,100	181,000	239,000	143,000	95,400	66,900
15	46,300	53,200	37,000	36,400	28,500	25,300	63,200	183,000	239,000	140,000	92,900	64,000
15	45,600	51,800	36,400	36,400	28,500	25,300	66,200	188,000	235,000	137,000	91,200	61,800
17	45,600	51,100	35,800	35,800	28,000	25,300	69,200	194,000	231,000	134,000	89,500	60,300
18	44,900	50,400	35,800	35,800	27,400	25,800	71,400	199,000	227,000	134,000	88,700	58,900
19	44,900	49,000	36,400	35,300	27,400	25,800	73,700	204,000	224,000	134,000	87,900	58,200
20	44,200	47,600	37,000	35,300	27,400	25,300	77,500	208,000	218,000	134,000	87,100	56,700
21	42,300	46,900	37,600	34,700	26,900	25,300	82,300	208,000	214,000	134,000	86,300	55,300
22	41,700	46,300	38,100	34,700	26,900	25,300	88,700	206,000	210,000	132,000	84,700	53,900
23	42,300	45,600	38,700	34,100	26,360	25,800	96,300	204,000	204,000	129,000	84,700	52,500
24	42,300	45,600	39,900	34,100	26,300	27,400	108,000	201,000	199,000	128,000	83,100	51,100
25	42,900	44,900	40,500	33,600	26,300	29,000	119,000	204,000	193,000	125,000	81,500	49,000
26	43,600	44,900	41,700	33,600	26,300	30,700	132,000	209,000	184,000	123,000	79,900	47,600
27	44,900	44,900	42,900	33,000	25,800	31,900	146,000	216,000	178,000	121,000	79,100	45,600
28	47,600	44,200	43,600	33,000	25,300	33,000	160,000	225,000	172,000	120,000	78,300	44,200
29	51,800	43,600	43,600	32,400		33,000	174,000	239,000	163,000	120,000	76,800	43,600
30	53,900	42,900	42,300	32,400		33,600	186,000	252,000	163,000	121,000	79,100	41,700
31	56,700		41,700	31,900		34,100		264,000		125,000	79,100	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	56,700	41,700	47,750	1.40	1.61	2,936,000
November	61,800	42,900	52,490	1.54	1.72	3,124,000
December	43,600	35,800	39,510	1.16	1.34	2,429,000
January	41,700	31,900	37,050	1.09	1.26	2,278,000
February	31,900	25,300	28,500	.838	.87	1,583,000
March	34,100	25,300	26,470	.779	.90	1,628,000
April	186,000	34,700	78,050	2.30	2.57	4,644,000
May	264,000	181,000	202,400	5.95	6.86	12,440,000
June	274,000	163,000	226,100	6.65	7.42	13,450,000
July	161,000	120,000	139,300	4.10	4.73	8,563,000
August	129,000	76,800	97,980	2.88	3.32	6,024,000
September	78,300	41,700	61,920	1.82	2.03	3,684,000
The year	274,000	23,300	86,730	2.55	34.63	62,780,000

Columbia River at Kettle Falls, Wash.

Location.- Water-stage recorder in northwest corner lot 1, sec. 14, T. 36 N., R. 37 E., 34 miles above mouth of Colville River at Kettle Falls. Gage datum is mean sea level.

Drainage area.- 64,500 square miles.

Records available.- April 1913 to September 1934.

Average discharge.- 21 years, 101,000 second-feet.

Extremes.- Maximum discharge during year, 371,000 second-feet June 2 (gage height, 1,194.96 feet); minimum, 48,600 second-feet Mar. 8, 9, 10, 11 (gage height, 1,171.5 feet).

1913-34: Maximum discharge, 468,000 second-feet June 14, 15, 1913 (gage height, 34.2 feet, from high-water mark referred to U. S. Weather Bureau gage at Marcus); minimum (estimated), 13,000 second-feet Jan. 18-21, 1930, when stage-discharge relation was affected by ice.

Maximum discharge during 1894 flood, 700,000 second-feet based on information from several sources.

Remarks.- Records excellent. Numerous diversions above gage for irrigation are very small in proportion to flow past gage. Slight fluctuation at extreme low water caused by operation of power plant on Kootenai River. No other regulation except the effect of natural storage in numerous lakes above gage.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66,500	75,900	67,200	96,000	68,800	52,700	81,700	295,000	367,000	206,000	142,000	88,000
2	65,000	77,500	66,500	96,000	68,000	52,000	84,400	301,000	369,000	203,000	144,000	88,000
3	64,200	80,000	66,500	95,000	67,200	52,000	86,200	303,000	367,000	200,000	144,000	86,200
4	63,500	82,600	65,800	96,000	66,500	52,000	88,000	305,000	364,000	197,000	142,000	84,400
5	62,800	83,500	65,000	96,000	66,500	52,000	91,000	303,000	356,000	193,000	141,000	83,500
6	62,000	85,300	65,000	95,000	65,800	52,700	94,000	303,000	347,000	189,000	138,000	81,700
7	62,000	85,300	64,200	94,000	65,800	52,000	96,000	299,000	340,000	187,000	136,000	80,800
8	61,200	85,300	62,800	94,000	65,000	52,000	103,000	295,000	332,000	187,000	131,000	80,800
9	60,500	85,300	62,800	92,000	63,500	52,000	109,000	295,000	327,000	186,000	128,000	80,000
10	60,500	85,300	62,800	91,000	63,500	52,000	110,000	291,000	325,000	186,000	124,000	79,100
11	59,800	84,400	63,500	89,000	63,500	51,300	111,000	289,000	323,000	186,000	121,000	77,500
12	59,800	83,500	65,000	87,100	62,800	52,700	114,000	289,000	323,000	183,000	117,000	77,500
13	59,000	83,500	66,500	86,200	62,800	52,000	120,000	287,000	323,000	180,000	113,000	75,900
14	58,300	82,600	67,200	84,400	62,000	54,100	128,000	287,000	321,000	176,000	110,000	73,500
15	57,600	81,700	66,500	81,700	61,200	53,400	132,000	289,000	317,000	172,000	108,000	71,900
16	56,900	80,800	66,500	80,800	60,500	54,100	135,000	295,000	313,000	164,000	105,000	69,500
17	56,200	79,100	65,800	80,000	60,500	54,800	137,000	299,000	307,000	162,000	104,000	68,000
18	56,200	78,300	66,500	77,500	59,800	54,800	142,000	303,000	301,000	161,000	103,000	67,200
19	56,200	77,500	67,200	76,700	59,000	56,900	147,000	307,000	293,000	160,000	101,000	65,800
20	55,500	75,900	68,800	76,700	58,300	56,200	152,000	309,000	287,000	160,000	101,000	64,200
21	54,100	74,300	70,300	75,100	58,300	58,300	161,000	309,000	281,000	159,000	100,000	63,500
22	53,400	73,500	73,500	74,300	57,600	59,800	171,000	307,000	275,000	156,000	98,000	62,000
23	53,400	72,700	75,900	73,500	56,900	60,500	182,000	305,000	268,000	153,000	97,000	61,200
24	54,100	72,700	80,800	72,700	56,200	62,000	196,000	303,000	260,000	151,000	95,000	59,800
25	54,800	71,900	87,100	72,700	56,200	63,500	209,000	303,000	252,000	147,000	94,000	58,300
26	55,500	71,100	92,000	72,700	55,500	63,500	222,000	307,000	243,000	143,000	92,000	56,200
27	56,200	70,300	97,000	72,700	54,100	65,000	236,000	313,000	233,000	141,000	91,000	54,100
28	61,200	69,500	98,000	71,900	53,400	66,500	257,000	321,000	225,000	140,000	90,000	52,700
29	66,500	69,500	99,000	71,100		71,100	273,000	332,000	217,000	138,000	89,000	51,300
30	71,100	68,000	98,000	71,100		75,100	287,000	345,000	211,000	140,000	88,000	49,900
31	72,700		96,000	69,500		78,300		358,000		141,000	89,000	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	72,700	53,400	59,890	0.929	1.07	3,683,000
November	85,300	68,000	78,230	1.21	1.35	4,655,000
December	99,000	62,800	73,540	1.14	1.31	4,522,000
January	96,000	69,500	82,660	1.28	1.48	5,082,000
February	68,800	53,400	61,400	.952	.99	3,410,000
March	78,300	51,300	57,590	.893	1.03	3,541,000
April	287,000	81,700	148,500	2.30	2.57	8,837,000
May	358,000	287,000	304,700	4.72	5.44	18,740,000
June	369,000	211,000	302,200	4.69	5.23	17,980,000
July	206,000	138,000	169,300	2.62	3.02	10,410,000
August	144,000	88,000	112,100	1.74	2.01	6,895,000
September	88,000	49,900	70,420	1.09	1.22	4,190,000
The year	369,000	49,900	127,000	1.97	26.72	91,940,000

Columbia River at Grand Coulee, near Nespelem, Wash.

Location.- Water-stage recorder in lot 6, sec. 36, T. 29 N., R. 30 E., 4,000 feet below Grant County Ferry, at Grand Coulee, 15 miles south of Nespelem. Gage datum is mean sea level.

Drainage area.- 74,100 square miles.

Records available.- June to December 1923, June 1928 to September 1934; monthly discharge, April 1913 to June 1923, January 1924 to May 1928.

Average discharge.- 21 years, 109,600 second-feet.

Extremes.- Maximum discharge during year, 378,000 second-feet June 3 (gage height, 973.38 feet); minimum, 52,800 second-feet Sept. 30 (gage height, 939.96 feet). 1913-34: Maximum discharge, 492,000 second-feet June 15, 1913 (determined from records at other gaging stations); minimum (estimated), less than 16,000 second-feet in January 1930, when stage-discharge relation was affected by ice. Maximum discharge during flood of June 1894 (estimated), 725,000 second-feet.

Remarks.- Records excellent except those for Feb. 9-23, which were estimated and are good. Diversions for irrigation above station are small in proportion to flow past gage. Some diurnal fluctuation, caused by operation of power plants on Spokane River.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69,200	84,800	71,600	135,000	94,800	65,000	103,000	308,000	369,000	215,000	147,000	91,100
2	67,400	85,500	71,000	134,000	92,500	65,000	110,000	315,000	375,000	211,000	148,000	90,400
3	67,400	87,600	71,000	132,000	91,100	63,800	115,000	319,000	378,000	208,000	150,000	89,000
4	66,200	91,800	70,400	134,000	89,700	65,000	118,000	322,000	373,000	205,000	149,000	87,600
5	66,200	94,000	69,800	134,000	88,300	66,200	121,000	319,000	369,000	201,000	147,000	86,900
6	65,600	97,000	68,000	135,000	86,900	66,800	123,000	319,000	361,000	197,000	145,000	84,800
7	65,000	98,600	71,000	133,000	85,500	67,400	125,000	316,000	354,000	194,000	143,000	84,100
8	64,400	98,600	74,700	133,000	86,200	68,600	128,000	312,000	344,000	192,000	140,000	83,400
9	63,800	98,600	76,600	130,000	85,200	67,400	134,000	310,000	338,000	190,000	136,000	82,000
10	63,300	97,800	74,700	128,000	84,200	67,400	138,000	307,000	333,000	190,000	132,000	80,600
11	62,800	97,000	83,400	124,000	83,200	67,400	139,000	306,000	330,000	190,000	129,000	80,600
12	62,200	96,200	81,300	121,000	82,300	67,400	140,000	306,000	329,000	188,000	124,000	79,900
13	61,600	94,800	85,500	118,000	81,300	68,000	142,000	303,000	327,000	186,000	119,000	79,200
14	61,100	94,000	89,000	115,000	80,300	67,400	150,000	302,000	326,000	184,000	115,000	78,000
15	60,600	93,200	92,500	112,000	79,300	69,200	155,000	302,000	323,000	179,000	113,000	75,400
16	59,400	90,400	93,200	107,000	78,300	69,200	158,000	304,000	320,000	175,000	111,000	72,800
17	58,900	84,800	92,500	107,000	77,300	69,800	160,000	307,000	316,000	171,000	108,000	71,000
18	58,900	82,700	92,500	103,000	76,300	70,400	164,000	310,000	311,000	168,000	107,000	69,800
19	58,900	84,100	95,500	101,000	75,300	71,600	167,000	313,000	306,000	166,000	105,000	69,200
20	58,400	83,400	102,000	102,000	74,400	72,800	171,000	317,000	298,000	165,000	103,000	68,000
21	57,800	79,900	105,000	100,000	73,400	72,200	177,000	320,000	290,000	164,000	104,000	66,800
22	56,700	79,900	106,000	99,400	72,400	74,700	185,000	319,000	283,000	163,000	103,000	66,200
23	56,200	78,000	111,000	97,800	71,400	76,000	194,000	315,000	277,000	161,000	101,000	64,400
24	57,800	76,600	120,000	102,000	70,400	76,800	205,000	312,000	271,000	159,000	99,400	62,800
25	61,600	76,600	131,000	100,000	69,200	78,000	218,000	310,000	264,000	158,000	97,800	62,800
26	61,600	76,000	139,000	101,000	68,600	79,200	231,000	311,000	254,000	152,000	95,500	61,600
27	62,800	75,400	144,000	101,000	67,400	79,200	244,000	315,000	245,000	149,000	94,000	59,400
28	63,300	74,700	145,000	100,000	65,600	79,900	261,000	322,000	239,000	146,000	92,500	56,700
29	67,400	74,000	144,000	99,400		83,400	282,000	331,000	229,000	145,000	91,800	55,600
30	75,400	72,800	141,000	96,200		91,800	299,000	341,000	220,000	143,000	91,100	54,000
31	79,900		139,000	96,200		98,600		357,000		145,000	91,100	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	79,900	56,200	63,280	0.854	0.98	3,891,000
November	98,600	72,800	86,630	1.17	1.30	5,155,000
December	145,000	68,000	98,430	1.33	1.53	6,052,000
January	135,000	96,200	113,900	1.54	1.78	7,004,000
February	94,800	65,600	79,670	1.08	1.12	4,425,000
March	98,600	63,800	72,430	.977	1.13	4,454,000
April	299,000	103,000	168,600	2.28	2.54	10,030,000
May	357,000	302,000	315,200	4.25	4.90	19,380,000
June	378,000	220,000	311,700	4.21	4.70	18,550,000
July	215,000	143,000	176,100	2.38	2.74	10,830,000
August	150,000	91,100	117,200	1.58	1.82	7,204,000
September	91,100	54,000	73,800	.996	1.11	4,392,000
The year	378,000	54,000	140,000	1.89	25.65	101,400,000

Columbia River at Trinidad, Wash.

Location.- Water-stage recorder in SE¼ sec. 13, T. 20 N., R. 22 E., half a mile southwest of Trinidad and 12 miles below Rock Island Dam. Zero of gage is 500 feet above mean sea level.

Drainage area.- 89,700 square miles.

Records available.- October 1930 to September 1934. January to December 1910, May 1913 to December 1916 at Wenatchee; January 1917 to September 1930 at Vernita.

Average discharge.- 21 years (1913-34), 120,700 second-feet.

Extremes.- Maximum discharge during year, 404,000 second-feet June 2, 3 (gage height, 48.2 feet); minimum, 55,500 second-feet Sept. 30 (gage height, 22.64 feet).
1913-34: Maximum discharge, 528,000 second-feet June 15, 16, 1913 (gage height, 45.7 feet, on original U. S. Weather Bureau gage at Wenatchee); minimum, 4,120 second-feet Feb. 10, 1932 (gage height, 11.40 feet), caused by regulation.
Maximum discharge known, about 740,000 second-feet June 7, 1894.

Remarks.- Records excellent except those for Oct. 21, 23-25, 28, 31, Nov. 1-3, which were estimated and are good. Considerable water diverted for irrigation above gage but amount small in proportion to flow past gage. Some diurnal fluctuation at low stage as result of operation of Rock Island Power plant. Natural storage in numerous lakes.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75,800		82,200	149,000	104,000	75,000	117,000	354,000	397,000	228,000	147,000	94,300
2	74,200	104,000	80,600	146,000	103,000	75,000	120,000	356,000	401,000	222,000	148,000	93,400
3	72,800		79,800	144,000	102,000	76,600	125,000	358,000	401,000	217,000	150,000	93,400
4	72,000	109,000	79,000	142,000	101,000	74,200	128,000	361,000	401,000	214,000	151,000	91,600
5	72,000	110,000	77,400	142,000	99,700	75,000	132,000	361,000	397,000	211,000	150,000	90,700
6	71,300	110,000	77,400	144,000	97,900	74,200	135,000	358,000	390,000	208,000	149,000	89,800
7	70,600	110,000	75,800	142,000	96,100	75,800	137,000	356,000	383,000	204,000	146,000	88,000
8	70,600	111,000	78,200	141,000	95,200	76,600	141,000	352,000	376,000	201,000	144,000	87,200
9	69,200	110,000	81,400	139,000	95,200	76,600	150,000	344,000	369,000	198,000	140,000	85,400
10	68,500	109,000	85,400	137,000	91,600	75,800	157,000	340,000	363,000	194,000	137,000	84,600
11	67,800	108,000	86,300	135,000	89,800	75,800	159,000	336,000	358,000	194,000	133,000	83,800
12	67,800	107,000	95,200	130,000	91,600	75,800	160,000	334,000	354,000	194,000	129,000	83,800
13	67,800	107,000	94,300	126,000	90,700	76,600	161,000	332,000	354,000	192,000	125,000	83,000
14	66,400	106,000	96,100	124,000	89,800	78,200	169,000	332,000	352,000	190,000	120,000	82,200
15	65,700	105,000	99,700	121,000	88,900	78,200	178,000	332,000	350,000	187,000	118,000	80,600
16	65,000	104,000	102,000	118,000	88,000	79,800	183,000	336,000	344,000	183,000	116,000	78,200
17	65,000	102,000	102,000	114,000	86,300	81,400	189,000	342,000	338,000	178,000	113,000	75,800
18	64,300	97,000	103,000	112,000	85,400	80,600	188,000	344,000	332,000	174,000	110,000	75,000
19	65,000	93,400	103,000	109,000	84,600	83,000	193,000	344,000	326,000	171,000	108,000	73,500
20	64,300	93,400	106,000	108,000	83,800	84,600	200,000	344,000	316,000	169,000	107,000	72,000
21	64,300	91,600	116,000	108,000	83,000	84,600	208,000	344,000	310,000	167,000	106,000	71,300
22	64,300	88,900	130,000	107,000	82,200	84,600	222,000	344,000	301,000	166,000	106,000	69,900
23		88,900	135,000	108,000	82,200	87,200	237,000	342,000	293,000	165,000	105,000	69,200
24	65,000	88,000	135,000	108,000	79,800	88,000	256,000	340,000	286,000	161,000	104,000	67,800
25		88,000	138,000	110,000	79,000	88,000	273,000	342,000	277,000	160,000	102,000	66,400
26	79,800	88,000	145,000	108,000	78,200	89,800	290,000	342,000	268,000	157,000	99,700	65,700
27	79,800	88,000	151,000	109,000	77,400	89,800	301,000	348,000	261,000	155,000	98,800	65,000
28	80,500	86,300	155,000	109,000	76,600	91,600	314,000	356,000	250,000	151,000	97,000	62,900
29	83,000	85,400	155,000	108,000		94,300	328,000	363,000	242,000	149,000	96,100	60,100
30	86,300	84,600	154,000	107,000		101,000	344,000	376,000	236,000	147,000	95,200	58,800
31	92,000		151,000	105,000		110,000		388,000		146,000	94,300	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	92,000	64,300	71,000	0.792	0.91	4,366,000
November	111,000	84,600	99,380	1.11	1.24	5,914,000
December	155,000	75,800	108,100	1.21	1.40	6,644,000
January	149,000	105,000	122,900	1.37	1.58	7,557,000
February	104,000	76,600	89,390	.997	1.04	4,965,000
March	110,000	74,200	82,510	.920	1.06	5,073,000
April	344,000	117,000	196,500	2.19	2.44	11,690,000
May	388,000	332,000	348,500	3.89	4.48	21,430,000
June	401,000	236,000	334,200	3.73	4.16	19,890,000
July	228,000	146,000	182,400	2.03	2.34	11,210,000
August	151,000	94,300	120,800	1.35	1.56	7,428,000
September	94,300	58,800	78,110	.871	.97	4,648,000
The year	401,000	58,800	153,100	1.71	23.18	110,800,000

Kootenai River at Newgate, British Columbia

(International gaging station)

Location.- Two staff gages, one on main river and one on slough, at highway bridges 0.7 mile northwest of Newgate, British Columbia, and 0.9 mile north of the international boundary.

Drainage area.- 7,660 square miles.

Records available.- October 1930 to September 1934.

Extremes.- Maximum discharge recorded during year ending Sept. 30, 1931, 32,800 second-feet May 16; minimum, 1,500 second-feet Jan. 2.
Maximum discharge recorded during year ending Sept. 30, 1932, 60,500 second-feet June 15; minimum (estimated), 1,500 second-feet Nov. 22-30.
Maximum discharge recorded during year ending Sept. 30, 1933, 83,500 second-feet June 18; minimum, 1,200 second-feet Dec. 12.
Maximum discharge recorded during year ending Sept. 30, 1934, 63,400 second-feet May 30; minimum, 2,650 second-feet Feb. 28.
1930-34: Maximum discharge recorded, 83,500 second-feet June 18, 1933; minimum, 1,200 second-feet Dec. 12, 1932.

Remarks.- Records good except those estimated Oct. 7, 14, 1930, June 4, Aug. 15-17, 19-25, 27, 28, Nov. 22 to Dec. 31, 1931, Jan. 1 to Feb. 25, Dec. 8-11, 13-31, 1932, Jan. 16, 17, Feb. 7-12, 1933, which are fair. Records give total flow of main channel and slough.
Records computed and 21 discharge measurements furnished during 1930-34 by Dominion Water Power and Hydrometric Bureau, Department of Interior, Canada. This station is one of the international gaging stations maintained by Canada, under agreement with the United States.

Discharge, in second-feet, 1930-31

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,040	3,110	2,480	1,750	2,140	1,870	1,990	7,270	22,800	14,700	6,830	4,300
2	4,000	3,060	2,480	1,500	2,030	1,890	2,210	9,180	25,200	12,800	6,680	4,160
3	3,930	3,040	2,480	1,680	1,960	1,960	2,120	11,500	26,400	12,100	6,650	4,020
4	3,860	3,000	2,500	2,000	1,880	1,990	2,090	13,600	22,400	11,700	6,610	4,060
5	4,000	3,000	2,500	2,080	1,780	1,940	2,100	13,800	19,900	11,600	6,330	4,100
6	3,930	3,000	2,400	2,160	1,780	1,910	2,150	13,900	19,400	12,500	6,080	4,220
7	3,970	2,960	2,260	2,180	1,760	1,900	2,330	16,000	19,700	12,100	6,050	4,550
8	4,020	2,920	2,320	2,010	1,750	1,830	2,720	15,400	22,500	11,100	5,910	5,640
9	4,210	2,880	2,140	1,860	1,630	1,880	2,690	13,600	24,700	10,700	5,610	5,720
10	4,210	2,880	2,120	1,900	1,620	1,940	2,700	10,900	25,500	10,800	5,420	5,370
11	4,070	2,860	2,080	1,950	1,780	1,820	2,730	11,000	25,300	11,300	5,500	4,750
12	4,000	2,860	2,320	1,960	1,950	1,710	2,750	12,400	22,000	11,300	5,340	4,580
13	3,860	3,020	2,360	1,980	1,840	1,810	2,790	17,400	18,700	10,500	5,240	4,630
14	3,810	3,040	2,320	2,000	1,660	1,910	2,770	23,400	16,400	9,970	5,310	4,730
15	3,750	2,840	2,280	2,010	1,660	1,880	2,750	29,400	14,500	9,890	5,140	4,710
16	3,720	2,780	2,260	1,960	1,820	1,910	2,770	32,800	14,600	9,750	4,980	4,680
17	3,610	2,700	1,900	1,920	1,750	1,960	2,810	30,200	18,500	9,250	4,950	4,680
18	3,450	2,630	1,820	1,900	1,920	2,040	3,010	26,600	23,300	8,860	5,000	4,480
19	3,430	2,270	1,820	1,890	2,200	2,040	2,970	21,200	25,000	8,760	5,060	4,230
20	3,520	2,410	1,780	1,840	2,140	2,050	2,930	17,200	23,900	8,760	5,080	4,190
21	3,410	2,500	1,800	1,860	2,060	2,100	2,780	14,800	21,900	8,600	5,240	4,100
22	3,370	2,500	1,840	1,860	2,060	2,460	2,740	13,400	21,100	8,600	5,200	4,100
23	3,260	2,480	1,800	1,920	2,030	2,520	2,690	12,400	21,900	8,570	5,120	4,100
24	3,300	2,460	1,860	1,980	1,960	2,410	2,720	11,900	20,500	8,440	5,000	4,000
25	3,300	2,450	2,040	2,060	1,870	2,170	2,800	12,300	18,100	8,310	4,940	3,840
26	3,260	2,480	2,240	2,080	1,870	2,020	2,920	16,400	16,600	8,130	4,700	3,740
27	3,430	2,540	2,240	2,080	1,840	1,870	3,390	17,000	18,300	7,810	4,600	3,640
28	3,390	2,410	1,780	2,060	1,820	1,880	4,250	16,400	19,800	7,660	4,480	3,640
29	3,300	2,270	1,840	2,260		1,990	4,750	15,800	17,300	7,480	4,380	3,700
30	3,230	2,290	1,780	2,300		2,010	5,980	16,200	15,400	7,150	4,200	3,600
31	3,170		1,840	2,230		2,050		20,500		7,000	4,220	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,210	3,170	3,670	0.48	0.55	226,000
November	3,110	2,270	2,720	.36	.40	162,000
December	2,500	1,780	2,120	.28	.32	130,000
January	2,300	1,500	1,970	.26	.30	121,000
February	2,200	1,620	1,870	.24	.25	104,000
March	2,520	1,710	1,990	.26	.30	122,000
April	5,980	1,990	2,880	.38	.42	171,000
May	32,800	7,270	16,600	2.17	2.50	1,020,000
June	26,400	14,500	20,700	2.70	3.01	1,230,000
July	14,700	7,000	9,380	1.29	1.49	608,000
August	6,830	4,200	5,350	.70	.81	329,000
September	5,720	3,600	4,340	.57	.64	258,000
The year	32,800	1,500	6,190	.80	10.99	4,480,000

Kootenai River at Newgate, British Columbia

(International gaging station)

(Continued)

Discharge, in second-feet, 1931-32

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,540	2,740				5,900	3,690	9,060	30,900	30,000	9,900	7,290
2	3,500	2,740				5,460	4,150	9,530	43,400	28,600	9,610	7,030
3	3,410	2,760				4,600	4,540	10,200	53,900	27,900	8,900	6,720
4	3,340	2,760				4,060	4,620	12,400	58,200	26,100	8,590	6,420
5	3,320	2,760				4,010	4,600	14,300	55,600	24,100	8,280	6,190
6	3,320	2,800				3,550	4,540	18,300	48,500	23,000	8,110	5,960
7	3,320	3,170				3,250	4,300	22,800	40,600	21,400	7,980	5,960
8	3,230	3,340				3,250	4,030	24,800	38,200	20,400	7,880	6,070
9	3,170	3,390				3,050	3,550	27,600	38,900	19,400	7,750	6,220
10	3,110	3,320				3,120	3,530	31,400	40,200	17,900	7,680	6,130
11	3,110	3,040				3,100	3,910	33,600	42,300	16,700	8,080	5,990
12	3,110	2,860				3,030	4,430	32,600	46,500	16,100	8,730	5,690
13	3,110	2,900			1,650	2,910	5,370	34,100	52,400	15,300	8,730	5,370
14	3,020	2,900				2,850	7,270	37,500	57,900	14,500	8,690	5,270
15	2,940	2,900				2,910	7,940	33,700	60,500	14,400	8,040	5,220
16	2,920	2,860				2,890	8,540	28,300	59,300	14,400	7,710	5,160
17	2,900	2,740				2,890	9,020	25,700	56,000	14,200	7,710	5,010
18	2,880	2,600				2,890	8,960	25,900	49,800	14,000	7,710	4,830
19	2,860	2,400				2,910	8,700	26,900	42,200	13,400	7,710	4,830
20	2,820	2,360				2,930	8,250	30,900	37,100	12,800	7,710	4,830
21	2,800	2,250				2,950	8,030	41,100	35,800	12,100	8,010	4,730
22	2,740					2,870	8,250	50,000	40,700	12,000	8,660	4,590
23	2,780					2,850	8,440	51,300	42,200	12,000	8,450	4,490
24	2,800					2,870	8,440	44,400	42,600	12,500	8,250	4,370
25	2,800					2,870	8,410	35,600	39,700	12,300	7,940	4,270
26	2,820	1,500			2,260	2,810	8,350	28,600	36,600	12,200	7,610	4,260
27	2,880				8,910	2,770	8,220	25,000	33,000	11,600	7,420	4,260
28	2,720				9,950	2,710	8,160	21,700	32,300	11,100	7,320	4,190
29	2,740				7,350	2,910	8,250	20,700	31,600	11,100	7,290	4,070
30	2,740					2,910	8,700	21,800	30,900	10,800	7,060	3,980
31	2,740					2,910		23,600		10,400	7,320	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,540	2,720	3,020	0.39	0.45	186, 000
November	3,390		2,440	.32	.36	145,000
December			2,300	.30	.35	141,000
January			1,800	.23	.26	111,000
February	9,950		2,400	.31	.33	138,000
March	5,900	2,710	3,260	.43	.50	200,000
April	9,020	3,530	6,570	.86	.96	391,000
May	51,300	9,060	27,500	3.59	4.14	1,690,000
June	60,500	30,900	43,900	5.73	6.39	2,610,000
July	30,000	10,400	16,500	2.15	2.49	1,010,000
August	9,900	7,060	8,090	1.06	1.22	497,000
September	7,290	3,980	5,310	.69	.77	316,000
The year	60,500		10,300	1.34	18.22	7,435,000

Kootenai River at Newgate, British Columbia

(International gaging station)

(Continued)

Discharge, in second-feet, 1932-33

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,930	4,070	5,130	1,790	2,310	2,230	2,740	15,500	45,200	38,700	13,800	11,000
2	3,930	4,070	5,180	1,970	2,300	2,230	2,720	15,100	41,000	38,700	12,600	10,800
3	3,910	4,070	5,180	2,330	2,260	2,300	3,220	16,200	41,200	39,200	11,500	9,740
4	3,910	4,050	5,130	2,610	2,260	2,280	3,390	16,800	46,200	38,500	11,000	9,020
5	3,860	4,020	5,100	2,940	2,250	2,260	3,390	16,900	56,900	35,600	11,900	8,360
6	3,840	3,980	4,550	3,100	2,110	2,280	3,410	17,200	55,200	33,000	12,100	7,940
7	4,000	3,960	3,860	2,940	1,950	2,400	3,410	16,800	50,000	30,400	12,500	7,730
8	3,960	3,840	2,800	3,020	1,800	2,400	3,240	16,600	44,000	30,400	11,600	7,500
9	3,840	3,660	2,000	3,100	1,650	2,400	3,140	15,200	41,000	30,700	11,400	7,390
10	3,780	3,560	1,800	3,260	1,600	2,330	3,100	14,200	35,500	31,700	11,000	7,300
11	3,740	3,410	1,500	3,020	1,650	2,250	3,020	13,100	28,400	32,900	11,000	7,610
12	3,690	3,520	1,200	2,900	1,800	2,160	2,980	13,500	28,000	29,700	10,700	7,500
13	3,840	3,620	1,300	2,790	2,050	2,420	2,890	15,300	33,600	28,300	10,600	7,360
14	4,330	3,960	1,400	2,740	2,260	2,450	3,020	18,600	45,700	26,900	10,300	7,190
15	4,550	3,960	1,400	2,630	2,330	2,360	3,120	23,000	64,500	25,700	10,200	7,270
16	4,780	4,020	1,500	2,540	2,380	2,330	3,200	24,800	71,400	24,800	10,000	7,390
17	4,920	4,290	1,600	2,420	2,470	2,330	3,330	24,600	82,100	24,400	9,840	7,190
18	4,680	4,410	1,700	2,310	2,470	2,330	3,390	23,000	83,500	24,100	9,620	7,190
19	4,410	4,850	1,800	2,230	2,450	2,360	3,470	20,900	81,900	22,700	9,490	7,110
20	4,170	4,720	1,900	2,250	2,450	2,420	3,600	19,900	60,500	21,000	9,360	7,020
21	4,070	4,600	2,000	2,470	2,360	2,450	3,930	19,500	54,500	19,300	9,300	6,830
22	4,240	4,530	2,300	2,490	2,360	2,430	4,190	20,900	52,900	17,200	9,230	6,690
23	4,480	4,240	2,300	2,630	2,350	2,380	6,120	22,300	50,800	15,900	8,630	6,880
24	4,430	4,070	2,200	2,610	2,300	2,330	7,600	25,000	51,000	15,300	9,270	6,940
25	4,410	3,930	2,100	2,590	2,280	2,260	9,450	26,500	45,800	15,600	10,700	6,880
26	4,380	3,800	2,000	2,560	2,260	2,200	11,900	31,800	44,100	16,200	9,940	6,600
27	4,380	3,660	1,950	2,520	2,360	2,230	15,400	37,400	43,200	16,300	9,270	6,490
28	4,380	4,050	1,920	2,520	2,280	2,360	19,300	35,500	41,000	16,000	8,820	6,350
29	4,480	4,410	1,900	2,500		2,650	18,900	33,900	39,500	15,500	8,660	6,410
30	4,330	4,920	1,850	2,540		2,680	16,600	37,800	39,100	14,400	8,840	6,690
31	4,310		1,800	2,450		2,760		45,300		13,800	9,970	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,920	3,690	4,190	0.55	0.63	258,000
November	4,920	3,410	4,080	.53	.59	243,000
December	5,180	1,200	2,530	.33	.38	156,000
January	3,260	1,790	2,610	.34	.39	160,000
February	2,470	1,600	2,190	.29	.30	122,000
March	2,760	2,160	2,360	.31	.36	145,000
April	19,300	2,720	5,910	.77	.86	352,000
May	45,300	13,100	22,400	2.92	3.37	1,380,000
June	83,500	28,000	49,900	6.51	7.26	2,970,000
July	39,200	13,800	25,300	3.30	3.80	1,550,000
August	13,800	8,630	10,400	1.36	1.57	641,000
September	11,000	6,350	7,550	.99	1.10	449,000
The year	83,500	1,200	11,600	1.51	20.61	8,426,000

Kootenai River at Newgate, British Columbia

(International gaging station)

(Continued)

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,990	11,900	5,500	7,040	3,880	3,480	5,400	38,700	55,700	18,100	10,000	5,550
2	6,800	11,300	5,480	6,620	3,940	3,800	5,450	33,300	41,600	18,100	9,370	5,260
3	6,550	10,500	5,420	6,370	4,140	3,750	5,520	30,700	33,800	18,100	8,750	5,140
4	6,880	9,500	5,380	6,150	4,270	3,690	5,790	29,200	29,900	17,400	8,620	5,090
5	7,270	9,030	5,350	6,070	4,120	3,460	6,110	30,800	29,900	17,000	8,490	5,050
6	7,730	8,480	5,350	5,550	3,900	3,380	6,990	33,300	28,400	16,200	8,060	4,990
7	7,640	8,180	5,420	4,570	3,730	3,280	9,210	33,300	29,300	16,800	7,800	4,970
8	7,500	7,910	5,200	4,230	3,840	3,300	12,500	33,500	30,700	18,000	7,540	4,930
9	7,470	7,640	5,100	3,800	3,900	3,280	14,600	34,200	31,600	17,300	7,370	4,860
10	7,410	7,390	5,000	3,540	3,840	3,260	14,100	31,600	34,200	15,900	6,990	4,800
11	7,190	7,270	4,210	4,530	3,750	3,240	13,900	32,200	36,400	14,900	6,880	4,740
12	6,880	7,220	3,540	4,800	3,650	3,300	14,700	35,200	28,500	14,100	6,760	4,680
13	6,630	7,130	3,080	4,650	3,560	3,380	15,700	34,100	38,500	13,800	6,720	4,620
14	6,430	7,050	3,180	4,480	3,520	3,580	20,000	35,400	37,100	12,800	6,660	4,520
15	6,350	6,940	3,420	4,160	3,500	4,050	19,600	42,400	31,600	11,900	6,630	4,450
16	6,190	6,800	3,670	3,750	3,540	4,160	18,300	52,500	31,400	11,800	6,600	4,370
17	5,980	6,630	3,540	3,920	3,650	4,270	17,400	56,800	29,300	12,200	6,580	4,370
18	5,980	6,410	4,050	3,880	3,610	4,480	18,200	52,100	26,800	12,800	6,650	4,350
19	6,000	6,320	4,570	3,900	3,560	4,810	18,900	47,000	26,000	12,700	6,500	4,350
20	5,850	6,240	5,100	4,010	3,480	5,450	21,900	41,100	24,700	12,000	6,370	4,330
21	5,690	6,190	5,600	4,050	3,320	5,890	27,400	34,100	22,200	11,400	6,240	4,330
22	5,640	6,160	9,730	4,120	3,220	5,810	33,300	30,000	21,600	11,000	6,090	4,220
23	5,740	6,130	9,790	4,250	3,080	5,680	41,700	30,000	21,100	10,400	5,930	4,110
24	6,570	6,300	7,260	3,900	2,920	5,480	47,000	33,000	19,500	9,900	5,770	3,990
25	7,910	6,380	6,900	3,730	2,750	5,280	50,600	41,900	17,600	9,550	5,670	3,910
26	11,100	6,380	6,070	3,840	2,650	5,120	52,200	52,600	16,800	9,480	5,530	3,860
27	11,500	6,340	5,400	3,970	2,820	5,380	52,400	58,600	17,700	9,610	5,530	3,770
28	16,000	6,120	4,460	3,900	3,320	5,100	55,100	60,400	18,100	9,850	5,530	3,700
29	18,900	5,860	4,690	3,800		5,220	53,900	61,300	18,100	10,100	5,530	3,630
30	15,800	5,710	5,730	3,750		5,250	45,800	63,400	17,800	10,400	5,530	3,560
31	13,700		7,600	3,800		5,320		61,600		10,300	5,530	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	18,900	5,640	8,200	1.07	1.23	504,000
November	11,900	5,710	7,380	.96	1.07	439,000
December	9,790	3,080	5,320	.69	.80	327,000
January	7,040	3,540	4,490	.59	.68	276,000
February	4,270	2,650	3,550	.46	.48	197,000
March	5,890	3,240	4,350	.57	.66	268,000
April	55,100	5,400	24,100	3.15	3.51	1,440,000
May	63,400	29,200	41,400	5.40	6.23	2,550,000
June	55,700	16,800	28,500	3.72	4.15	1,700,000
July	18,100	9,480	13,400	1.75	2.02	821,000
August	10,000	5,530	6,850	.89	1.03	421,000
September	5,550	3,560	4,480	.58	.65	267,000
The year	63,400	2,650	12,700	1.66	22.51	9,210,000

Kootenai River near Rexford, Mont.

(International gaging station)

Location.- Staff gage in sec. 21, T. 36 N., R. 26 W., at highway bridge 300 feet below Sullivan Creek and 1.1 miles southwest of Rexford.

Drainage area.- 8,420 square miles.

Records available.- March 1929 to September 1934.

Extremes.- Maximum discharge during year, 65,000 second-feet May 31 (gage height, 13.50 feet); minimum discharge, 2,720 second-feet Feb. 26 (gage height, 1.70 feet).
1929-34: Maximum discharge, 87,300 second-feet June 18, 1933 (gage height, 15.70 feet); minimum discharge (estimated), 1,280 second-feet Jan. 17, 18, 1932; minimum gage height, 0.35 foot Dec. 31, 1930.

Remarks.- Records good. No diversions or regulation. Results of three discharge measurements furnished by Dominion Water Power and Hydrometric Bureau, Department of Interior, Canada. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,110	13,400	5,760	7,850	4,190	3,650	6,190	42,000	59,900	19,300	10,800	5,910
2	6,870	12,000	5,760	7,110	4,380	3,830	6,410	36,700	46,900	19,300	9,930	5,690
3	6,640	11,600	5,550	6,870	4,660	4,190	6,410	33,200	37,400	18,800	9,360	5,480
4	6,870	10,400	5,550	6,870	4,660	4,100	6,410	31,200	33,200	18,300	9,080	5,380
5	7,110	9,760	5,550	6,640	4,380	3,920	6,640	31,200	31,800	17,000	9,080	5,270
6	7,850	8,910	5,550	6,190	4,190	3,830	7,350	34,500	30,500	17,400	8,540	5,270
7	7,850	8,640	5,760	5,350	4,190	3,650	8,640	35,200	30,500	18,300	8,260	5,270
8	7,650	8,370	5,550	4,660	4,190	3,650	12,600	35,200	32,500	18,800	8,020	5,270
9	7,600	7,850	5,350	4,190	4,280	3,650	15,700	36,000	33,200	18,300	7,770	5,270
10	7,600	7,850	5,350	4,760	4,190	3,650	16,100	34,500	34,500	17,000	7,520	5,270
11	7,350	7,600	5,150	5,050	4,100	3,650	16,100	33,800	36,000	15,700	7,280	5,160
12	7,110	7,600	3,650	4,950	4,010	3,740	15,700	36,000	37,400	14,900	7,280	4,960
13	6,870	7,600	3,400	4,860	4,010	3,830	17,400	36,000	38,900	14,200	7,040	4,960
14	6,640	7,600	3,650	4,950	3,920	4,010	20,600	36,000	36,000	13,800	7,040	4,960
15	6,410	7,350	4,190	4,280	3,920	4,280	22,300	39,600	33,800	13,100	7,040	4,850
16	6,410	7,110	3,920	4,010	3,920	4,950	20,800	47,600	32,500	12,400	7,040	4,650
17	6,190	7,110	4,010	4,480	3,830	5,350	19,800	54,100	30,500	12,400	7,040	4,550
18	6,190	6,870	4,190	4,380	3,920	5,150	19,800	55,000	28,000	13,100	7,040	4,550
19	6,190	6,640	5,150	4,280	3,920	5,350	20,300	48,700	26,800	13,400	7,040	4,550
20	6,190	6,640	5,350	4,380	3,920	5,970	22,300	42,000	25,600	12,800	7,040	4,550
21	5,970	6,410	6,640	4,660	3,650	6,640	26,200	36,700	24,400	12,100	6,810	4,450
22	5,760	6,410	7,600	4,570	3,480	6,640	32,400	33,200	22,800	11,800	6,580	4,350
23	5,970	6,410	10,400	4,760	3,320	6,410	38,600	31,200	22,800	11,100	6,350	4,350
24	6,870	6,410	8,370	4,760	2,940	6,190	43,900	32,500	21,200	10,500	6,130	4,050
25	7,600	6,640	5,970	4,660	2,860	5,970	48,000	38,100	18,800	10,200	6,130	4,050
26	10,100	6,870	4,660	4,480	2,720	5,760	50,600	46,900	18,300	9,930	5,910	3,960
27	11,000	6,640	4,380	4,380	2,860	5,970	50,600	56,000	18,800	9,930	5,910	3,960
28	17,400	6,410	4,760	4,480	3,480	6,190	52,300	59,900	19,800	10,200	5,690	3,860
29	20,300	6,190	4,950	4,380		5,970	55,000	61,900	19,300	10,500	5,910	3,770
30	18,800	5,760	7,110	4,280		5,970	49,600	64,000	19,300	10,800	5,910	3,680
31	16,100		8,110	4,190		6,190		64,000		10,800	5,910	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	20,300	5,760	8,541	1.01	1.16	525,200
November	13,400	5,760	7,835	.931	1.04	466,200
December	10,400	3,400	5,527	.656	.76	339,800
January	7,850	4,010	5,023	.597	.69	308,800
February	4,660	2,720	3,860	.458	.48	214,400
March	6,640	3,650	4,913	.583	.67	302,100
April	55,000	6,190	24,500	2.91	3.25	1,458,000
May	64,000	31,200	42,040	4.99	5.75	2,585,000
June	59,900	18,300	30,050	3.57	3.98	1,788,000
July	19,300	9,930	14,070	1.67	1.93	865,100
August	10,800	5,690	7,306	.868	1.00	449,300
September	5,910	3,680	4,743	.563	.63	282,200
The year	64,000	2,720	13,240	1.57	21.34	9,584,000

Kootenai River at Libby, Mont.

Location.- Water-stage recorder in NW¼ sec. 3, T. 30 N., R. 31 W., 1,200 feet below highway bridge at Libby.

Drainage area.- 11,000 square miles.

Records available.- October 1910 to September 1934.

Extremes.- Maximum discharge during period Jan. 9 to Sept. 30, 1934, 63,700 second-feet May 31 (gage height, 14.42 feet); minimum, 4,140 second-feet Sept. 30 (gage height, 1.87 feet).

1910-34: Maximum discharge, 130,000 second-feet June 21, 1916 (gage height, 19.17 feet); minimum, 895 second-feet Jan. 11, 1930 (discharge measurement; ice present).

Remarks.- Records good. Discharge interpolated Sept. 20, 23, 28. No record Oct. 1 to Jan. 8. No diversions above station.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					6,220	5,150	12,400	49,400	61,700	20,600	11,700	6,360
2					6,500	5,540	12,000	42,200	54,400	20,200	11,000	6,220
3					7,060	6,080	11,700	38,200	42,800	20,200	10,300	5,940
4					7,350	6,080	11,300	36,000	36,600	19,800	9,660	5,800
5					7,060	5,940	11,300	35,500	33,800	18,900	9,660	5,670
6					6,780	5,940	11,700	39,300	32,800	18,500	9,340	5,670
7					6,640	5,800	13,400	39,900	31,800	18,900	9,020	5,670
8					6,500	5,540	13,800	39,900	32,800	19,800	8,700	5,670
9				6,780	6,500	5,540	23,200	40,400	33,800	19,800	8,400	5,670
10				7,350	6,500	5,410	24,500	39,900	35,500	19,300	8,100	5,670
11				7,350	6,500	5,410	23,600	38,200	37,100	17,700	7,800	5,670
12				7,350	6,220	5,540	23,600	39,900	38,200	16,500	7,800	5,540
13				7,060	6,220	5,800	25,000	40,400	39,900	15,700	7,800	5,410
14				7,060	6,080	6,220	28,800	39,900	39,300	14,900	7,500	5,280
15				6,500	5,940	6,780	30,200	41,600	37,100	14,600	7,500	5,280
16				5,940	5,940	7,800	28,300	48,800	34,900	13,800	7,350	5,150
17				5,940	5,800	8,400	26,400	56,400	33,300	13,400	7,350	5,020
18				6,220	5,800	8,400	25,900	58,400	30,800	13,800	7,350	4,890
19				5,940	5,800	8,700	26,800	54,400	28,800	14,600	7,500	4,890
20				6,080	5,800	9,340	28,300	47,500	28,300	14,200	7,500	5,020
21				6,220	5,670	10,300	32,300	42,200	26,800	13,400	7,350	5,150
22				6,360	5,280	11,000	37,600	37,600	24,500	13,100	7,060	5,150
23				7,200	5,150	10,600	45,100	34,400	24,000	12,400	6,920	5,020
24				8,100	5,020	9,980	51,800	34,400	23,200	11,700	6,780	4,890
25				7,350	4,630	9,660	56,400	38,200	21,400	11,000	6,640	4,760
26				6,920	4,140	9,340	59,000	46,900	19,800	10,600	6,500	4,760
27				6,780	4,630	9,340	59,700	55,800	19,800	10,600	6,360	4,630
28				6,780	4,890	9,980	59,700	60,300	20,600	11,000	6,220	4,500
29				6,780		10,300	61,000	62,400	21,000	11,000	6,220	4,380
30				6,500		10,300	57,000	63,000	20,600	11,300	6,360	4,260
31				6,360		11,700		63,700		11,700	6,360	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January 9-31	8,100	5,940	6,736	0.612	0.52	307,300
February	7,350	4,140	5,951	.541	.56	330,500
March	11,700	5,150	7,804	.709	.82	479,800
April	61,000	11,300	31,060	2.82	3.15	1,848,000
May	63,700	34,400	45,330	4.12	4.75	2,787,000
June	61,700	19,800	32,180	2.93	3.27	1,915,000
July	20,600	10,600	15,260	1.39	1.60	938,200
August	11,700	6,220	7,874	.716	.83	484,200
September	6,380	4,260	5,266	.479	.53	313,400
The period						9,403,000

Kootenai River at Leonia, Idaho

Location.- Water-stage recorder in SW¼ sec. 17, T. 33 N., R. 34 W., at Leonia, 450 feet east of Montana-Idaho State line and half a mile above mouth of Boulder Creek. Zero of gage is 1,700.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Drainage area.- 11,740 square miles.

Records available.- March 1928 to September 1934.

Extremes.- Maximum discharge during year, 75,200 second-feet Apr. 29 (water-surface elevation, 1,816.40 feet); minimum (estimated), 4,700 second-feet Sept. 30 (water-surface elevation, 1,800.55 feet).

1928-34: Maximum discharge, 95,500 second-feet June 18, 1933 (water-surface elevation, 1,818.11 feet); minimum (estimated), 1,700 second-feet Feb. 11, 1933; minimum water-surface elevation, 1,797.56 feet Dec. 10, 1929.

Floods of June 1894 and 1916 reached elevations of 1,824.6 and 1,821.6 feet, respectively (information furnished by Great Northern Railway Co.).

Remarks.- Records excellent except those estimated Dec. 24-26, which are fair. No regulation or diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,340	18,400	7,920	17,400	9,030	6,790	17,300	60,100	66,700	21,000	11,700	6,620
2	8,340	16,500	7,890	16,400	9,210	7,310	17,100	51,500	59,100	20,700	11,500	6,530
3	8,040	21,000	7,630	16,300	9,780	7,920	16,200	46,400	46,500	20,800	10,900	6,390
4	7,920	19,500	7,550	16,800	10,200	7,950	15,500	43,100	39,000	20,600	10,300	6,210
5	8,010	16,000	7,460	16,600	10,000	7,780	15,500	43,700	36,000	19,900	9,960	6,100
6	8,400	14,000	7,890	15,600	9,660	7,810	16,300	47,700	35,000	19,100	9,810	6,010
7	8,760	12,900	8,760	13,900	9,420	7,690	18,600	49,000	33,600	19,100	9,540	5,980
8	8,550	12,000	8,520	12,000	9,300	7,370	24,200	48,800	33,800	20,000	9,090	5,980
9	8,730	11,300	8,160	10,800	9,270	7,310	31,100	48,700	35,200	20,200	8,820	5,980
10	8,640	10,800	8,370	10,800	9,210	7,260	32,400	47,100	36,200	19,800	8,610	5,980
11	8,520	10,500	10,000	10,800	9,030	7,200	31,400	45,400	38,000	18,500	8,340	5,980
12	8,310	10,300	11,200	10,400	8,820	7,340	31,300	46,900	39,400	17,400	8,130	5,890
13	8,070	10,200	8,880	10,100	8,640	7,720	33,900	47,700	40,700	16,500	8,010	5,810
14	7,810	10,000	7,840	9,990	8,460	8,220	38,900	46,500	40,700	15,700	7,920	5,720
15	7,600	9,840	7,810	9,240	8,310	8,970	39,700	48,200	38,100	15,200	7,840	5,690
16	7,490	9,570	7,460	8,640	8,160	10,200	36,700	55,200	35,900	14,600	7,750	5,630
17	7,400	9,300	7,460	8,550	8,040	11,500	33,600	63,000	34,100	13,900	7,690	5,520
18	7,400	9,120	8,370	8,640	7,950	11,600	32,700	65,500	31,900	13,900	7,660	5,340
19	7,600	8,880	11,200	8,370	7,950	11,700	33,600	61,700	30,000	14,300	7,660	5,290
20	7,810	8,700	13,100	8,820	7,860	12,800	36,000	53,800	29,100	14,400	7,720	5,320
21	7,630	8,550	20,600	9,030	7,760	14,000	41,300	47,000	27,900	13,900	7,690	5,290
22	7,370	8,520	41,100	9,180	7,340	14,700	49,000	41,900	25,900	13,400	7,490	5,290
23	7,810	8,970	43,200	10,800	7,110	14,200	57,700	38,800	25,000	13,000	7,260	5,260
24	9,870	9,270	32,300	12,200	6,940	13,400	65,800	38,100	24,500	12,300	7,110	5,180
25	10,700	9,360	24,700	11,300	6,470	12,700	69,700	41,700	22,600	11,800	6,970	5,040
26	11,700	9,420	17,200	10,300	5,810	12,200	72,200	50,100	21,100	11,300	6,850	4,950
27	13,000	9,300	14,600	10,000	6,270	12,000	72,600	59,500	20,800	11,000	6,700	4,870
28	15,200	9,120	13,000	9,870	6,500	13,000	74,400	65,500	21,100	11,100	6,560	4,810
29	22,700	8,790	13,300	9,720		13,400	74,300	67,900	21,500	10,900	6,500	4,780
30	24,300	8,310	14,500	9,450		13,900	69,300	68,900	21,200	11,300	6,560	4,730
31	21,300		16,800	9,150		16,100		68,900		11,500	6,590	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	24,300	7,370	10,120	0.862	0.99	622,100
November	21,000	8,310	11,280	.961	1.07	671,200
December	43,200	7,460	13,700	1.17	1.35	842,100
January	17,400	8,370	11,330	.965	1.11	696,500
February	10,200	5,810	8,304	.707	.74	461,200
March	16,100	6,790	10,390	.885	1.02	638,800
April	74,400	15,500	39,940	3.40	3.79	2,377,000
May	68,900	38,100	51,880	4.42	5.10	3,190,000
June	66,700	20,800	33,690	2.87	3.20	2,004,000
July	21,000	10,900	15,710	1.34	1.54	966,100
August	11,700	6,500	8,233	.701	.81	506,200
September	6,620	4,730	5,606	.478	.53	333,600
The year	74,400	4,730	18,380	1.57	21.25	13,310,000

Kootenai River at Boom Camp, near Bonners Ferry, Idaho.

Location.- Water-stage recorder in NW¼ sec. 29, T. 62 N., R. 2 E., 600 feet east of Boom Camp, 3⅜ miles upstream from Bonners Ferry, and 4 miles downstream from Moyie River. Prior to Aug. 23, 1934, staff gage with same datum and same location was used. Zero of gage is 1,754.08 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Records available.- October 1927 to September 1934. From April 1925 to September 1927 records were collected by Dominion Water Power and Hydrometric Bureau, Department of Interior, Canada.

Extremes.- Maximum water-surface elevation recorded during year, 1,774.68 feet Apr. 28; maximum probably occurred Apr. 29, when gage was not read; minimum, 1,757.44 feet Sept. 30.

1927-34: Maximum recorded water-surface elevation, 1,776.58 feet June 18, 1933; minimum, 1,756.20 feet Dec. 3, 1931 (also estimated for Jan. 1, 1931).

Remarks.- Records good October to Aug. 22; excellent thereafter. Gage read once daily October to Aug. 22 and may not take account of diurnal fluctuations. No record on days for which no elevation is shown. Elevations affected by backwater from Kootenai Lake.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		61.85	58.86		59.30	58.50		73.58	73.08		59.98	58.27
2	58.90	61.35	58.78	61.40	59.40	58.70	61.75	71.48	72.18	62.23	59.88	58.25
3	58.80	62.50		61.35	59.61	58.95	61.53	69.43		62.22	59.68	58.18
4	58.75	62.10	58.75	61.50			61.40	66.58	67.88		59.50	58.11
5	58.75		58.70	61.53	59.70	58.85	61.35	68.33	66.93	61.93		58.05
6	58.85	60.75	58.75	61.25	59.55	58.90	61.55		66.53	61.73	59.37	58.01
7	59.05	60.40	59.22		59.47	58.75	62.10	69.22	66.28	61.78	59.26	58.00
8		60.15	59.10	60.30	59.43	58.70		69.23	65.90		59.16	58.00
9	59.00	59.95	58.95	60.05	59.44	58.75	64.68	69.21	66.18	62.06	59.08	58.01
10	58.95	59.80		59.85	59.43	58.70	64.90	68.88		61.98	59.00	58.02
11	58.95	59.70	59.55	59.90			64.80	68.92	66.58	61.60	58.88	59.01
12	58.85		60.05	59.85	59.32	58.73	64.75	68.90	66.88	61.38		57.97
13	58.75	59.65	59.50	59.70	59.20	58.80	65.00		67.10	61.18	58.80	57.93
14	58.70	59.60	59.05		59.15	59.05	65.95	68.70	67.16	60.98	58.77	57.90
15		59.55	58.95	59.45	59.10	59.35		69.03	66.58	60.83	58.73	57.89
16	58.55	59.45	58.75	59.25	59.05	59.75	65.75	70.83	66.10	60.83	58.68	57.86
17	58.55	59.35		59.20	59.00	59.95	65.35	72.08		60.78	58.67	57.79
18	58.50	59.25	58.90	59.20		60.55	65.13	73.03	65.15		58.66	57.73
19	58.55		59.95	59.10	58.95	60.65	65.30	72.83	64.60	60.72		57.70
20	58.70	59.15	60.41	59.20	58.95	60.75	65.65		64.35	60.69	58.70	57.74
21	58.65	59.10	61.60		58.90	60.88	66.62	69.39	63.90	60.68	58.66	57.71
22		59.05	65.90	59.35		61.05		68.16	63.50	60.58	58.58	57.73
23	58.65	59.25	66.53	59.75	58.65	60.95	69.80	67.30	63.25	60.48	58.50	57.68
24	59.50	59.34		60.30	58.60	60.75	71.54	67.05		60.28	58.46	57.65
25	59.65			60.05			72.75	67.66	62.65	60.08	58.40	57.58
26	59.95		61.75	59.70	58.65	60.45	73.48	69.15	62.25	59.78	58.35	57.56
27	60.35	59.45	60.95	59.60		60.40	73.91			59.78	58.30	57.52
28	60.85	59.32	60.75			60.70	74.68	72.13	62.46	59.68	58.24	57.51
29		59.20	60.65	59.55		60.75		72.79	62.38		58.24	57.49
30	63.20		60.95	59.45		60.81	74.26		62.18	59.93	58.26	57.46
31	62.50			59.37		61.45		73.32		59.88	58.28	

Note.- Add 1,700.00 feet to obtain elevations above mean sea level, U. S. Coast and Geodetic Survey datum.

Kootenai River at Bonners Ferry, Idaho

Location.- Wire gage in NE¼ sec. 27, T. 62 N., R. 1 E., on highway bridge at Bonners Ferry. Zero of gage is 1,743.005 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Drainage area.- 13,000 square miles.

Records available.- October 1927 to September 1934. May to October 1904 at point three-quarters of a mile downstream. Gage-height records collected by U. S. Weather Bureau May 1904 to September 1927.

Extremes.- Maximum discharge during year, 89,400 second-feet Apr. 29; maximum water-surface elevation, 1,773.04 feet Apr. 29; minimum daily discharge, 4,620 second-feet Sept. 30; minimum water-surface elevation, 1,743.92 feet Sept. 30.
1927-34: Maximum discharge, 99,800 second-feet June 18, 1933; maximum water-surface elevation, 1,774.96 feet June 19, 1933; minimum discharge, 1,930 second-feet Feb. 10, 1933; minimum water-surface elevation, 1,741.14 feet Dec. 5, 1929. Maximum elevation known, 1,777.2 feet in June 1894.

Remarks.- Records of discharge good. Gage-height records excellent. Discharge records comparable to those heretofore published were obtained by application of discharge measurements made 1½ miles downstream to gage heights at Boom Camp or by slope method computation when affected by backwater, using slope between station and water-stage recorder 8,700 feet upstream. No artificial regulation or diversions above station.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46.39	52.31	46.60	51.74	47.06	45.42	51.21	70.86	71.31	55.80	49.64	45.80
2	46.38	51.46	46.36	51.46	47.12	45.62	51.48	69.08	70.50	55.56	49.54	45.74
3	46.28	52.50	46.32	51.26	47.40	45.98	51.15	67.49	68.21	55.44	49.30	45.60
4	46.18	52.99	46.26	51.50	47.62	46.08	50.84	66.33	66.12	55.19	48.96	45.50
5	46.14	51.46	46.13	51.51	47.58	45.98	50.76	65.89	64.84	54.86	48.74	45.40
6	46.28	50.44	46.16	51.24	47.40	45.99	51.02	66.46	64.24	54.44	48.57	45.31
7	46.44	49.78	46.75	50.55	47.20	45.93	51.94	66.83	63.64	54.22	48.39	45.25
8	46.52	49.36	46.72	49.67	47.10	45.77	54.12	66.80	63.27	54.44	48.16	45.30
9	46.48	48.97	46.50	49.04	47.10	45.70	56.62	66.81	63.39	54.48	48.01	45.22
10	46.42	48.71	46.51	48.68	47.07	45.64	57.80	66.50	63.46	54.30	47.80	45.20
11	46.36	48.50	47.04	48.70	46.98	45.62	57.82	66.16	63.68	53.86	47.60	45.16
12	46.26	48.38	47.96	48.48	46.88	45.67	57.89	66.39	63.98	53.36	47.42	45.08
13	46.09	48.28	47.40	48.20	46.78	45.86	58.62	66.51	64.24	53.06	47.32	45.00
14	45.97	48.18	46.49	48.18	46.67	46.13	60.18	66.31	64.32	52.63	47.20	44.95
15	45.84	48.02	46.37	47.84	46.58	46.48	61.01	66.54	63.76	52.28	47.10	44.88
16	45.74	47.84	46.36	47.42	46.49	47.10	60.62	67.72	63.16	51.88	46.98	44.85
17	45.71	47.66	46.29	47.34	46.42	47.68	59.82	69.32	62.50	51.60	46.90	44.77
18	45.70	47.50	46.90	47.24	46.34	47.94	59.48	70.24	61.84	51.48	46.82	44.66
19	45.79	47.32	47.82	47.20	46.31	48.00	59.76	70.12	61.12	51.53	46.78	44.58
20	45.90	47.16	48.88	47.22	46.24	48.36	60.44	68.89	60.60	51.50	46.75	44.57
21	45.80	47.02	50.84	47.31	46.16	49.07	61.84	67.36	60.12	51.30	46.76	44.54
22	45.63	47.00	57.54	47.43	45.95	49.52	63.96	65.98	59.39	51.03	46.59	44.52
23	45.76	47.14	60.36	47.75	45.80	49.51	66.34	64.91	58.81	50.80	46.46	44.42
24	46.74	47.32	58.82	48.74	45.72	49.16	68.54	64.46	58.38	50.52	46.32	44.29
25	47.22	47.40	56.10	48.46	45.46	48.95	70.02	64.96	57.70	50.18	46.22	44.16
26	47.78	47.38	53.07	47.98	45.14	48.68	71.00	66.49	56.96	49.96	46.10	44.15
27	48.31	47.38	51.18	47.74	45.55	48.58	71.70	68.39	56.62	49.74	46.01	44.06
28	49.16	47.30	50.16	47.58	45.50	49.04	72.48	69.82	56.40	49.60	45.90	44.00
29	52.40	47.01	50.21	47.54		49.32	72.99	70.72	56.30	49.55	45.87	43.97
30	54.04	46.83	50.85	47.39		49.50	72.40	71.22	56.04	49.52	45.82	43.93
31	53.43		51.26	47.22		50.48		71.44		49.56	45.81	

Note.- Add 1,700.00 feet to obtain elevation above mean sea level.

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Discharge, in second-feet, of Kootenai River at Bonners Ferry, Idaho, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,550	19,900	8,380	19,000	9,840	7,340	19,500	68,800	70,200	21,700	12,300	6,640
2	8,540	17,700	8,230	17,900	10,200	7,930	19,500	60,600	64,800	21,800	11,900	6,640
3	8,230	23,100	8,160	17,700	10.900	8,700	18,600	53,100	54,100	21,600	11,200	6,500
4	8,080	21,100	8,080	18,300	11,200	8,700	17,900	46,700	43,400	21,000	10,500	6,230
5	8,080	18,000	7,930	18,600	11,200	8,380	17,700	46,700	38,500	20,400	10,200	6,100
6	8,380	15,200	8,080	17,200	10,700	8,540	18,600	51,800	37,300	19,500	10,000	5,970
7	9,020	13,800	9,510	15,300	10,400	8,080	21,100	53,800	36,200	19,700	9,680	5,970
8	9,050	12,800	9,180	13,400	10,400	7,930	28,000	53,200	35,600	20,700	9,340	5,970
9	8,860	12,100	8,700	12,500	10,400	8,080	35,500	53,200	37,300	20,900	9,180	5,970
10	8,700	11,600	8,850	11,800	10,400	7,930	36,800	52,500	37,900	20,600	8,860	5,970
11	8,700	11,200	10,700	11,900	10,100	7,900	36,100	50,500	38,900	18,800	8,540	5,970
12	8,380	11,100	12,500	11,800	9,840	8,080	35,800	51,600	41,000	17,900	8,350	5,840
13	8,080	11,000	10,500	11,200	9,510	8,230	37,400	52,500	43,100	17,000	8,230	5,840
14	7,930	10,900	9,020	10,800	9,340	9,020	43,700	50,900	43,700	16,200	8,080	5,710
15	7,700	10,700	8,700	10,400	9,180	10,000	44,000	53,600	40,600	15,600	8,080	5,710
16	7,600	10,400	8,080	9,680	9,020	11,400	42,300	59,500	37,400	15,600	7,930	5,580
17	7,480	10,000	8,150	9,510	8,860	12,100	39,700	66,800	35,800	15,400	7,780	5,460
18	7,340	9,680	8,540	9,510	8,750	14,400	38,400	69,100	35,300	14,800	7,780	5,340
19	7,480	9,510	12,100	9,180	8,700	14,800	39,300	67,600	33,500	15,000	7,800	5,210
20	7,930	9,340	13,800	9,510	8,700	15,200	41,800	61,900	31,200	15,000	7,930	5,340
21	7,780	9,180	18,800	9,800	8,540	15,800	46,000	52,700	30,200	15,000	7,780	5,210
22	7,600	9,020	43,300	10,000	8,160	16,400	53,900	46,500	28,900	14,600	7,630	5,340
23	7,780	9,680	47,000	11,400	7,780	16,000	60,600	42,400	27,100	14,200	7,340	5,210
24	10,500	10,000	37,000	13,400	7,630	15,200	70,500	41,000	26,000	13,400	7,200	5,090
25	11,000	10,300	29,000	12,500	7,200	14,600	74,000	44,100	23,900	12,600	7,050	4,970
26	12,100	10,300	19,500	11,200	6,500	14,000	78,700	53,400	21,800	11,600	6,910	4,850
27	13,600	10,400	16,000	10,900	6,900	13,800	80,600	62,600	22,000	11,600	6,770	4,730
28	15,600	9,840	15,200	10,800	7,100	15,000	84,000	66,500	22,800	11,200	6,640	4,730
29	24,600	9,510	14,800	10,700		15,200	87,800	70,300	22,600	11,100	6,640	4,730
30	26,800	8,940	16,000	10,400		15,400	81,900	72,300	21,600	12,100	6,640	4,620
31	23,100		18,500	10,000		18,100		73,900		11,900	6,770	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	26,800	7,340	10,470	0.805	0.93	643,800
November	23,100	8,940	12,210	.939	1.05	726,500
December	47,000	7,930	14,910	1.15	1.33	916,900
January	19,000	9,180	12,460	.958	1.10	766,200
February	11,200	6,500	9,195	.707	.74	510,600
March	18,100	7,340	11,690	.899	1.04	718,500
April	87,800	17,700	44,990	3.46	3.86	2,677,000
May	73,900	41,000	56,450	4.34	5.00	3,471,000
June	70,200	21,600	36,090	2.78	3.10	2,148,000
July	21,800	11,100	16,400	1.26	1.45	1,009,000
August	12,300	6,640	8,420	.648	.75	517,700
September	6,640	4,620	5,581	.429	.48	332,100
The year	87,800	4,620	19,940	1.53	20.83	14,440,000

Kootenai River near Bonners Ferry, Idaho

Location.- Water-stage recorder in NW¼ sec. 28, T. 62 N., R. 1 E., 1.6 miles downstream from highway bridge at Bonners Ferry. Zero of gage is 1,700.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Drainage area.- 13,000 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum water-surface elevation during year, 1,772.29 feet Apr. 29; minimum, 1,742.97 feet Sept. 30.
1926-34: Maximum water-surface elevation, 1,774.17 feet June 20, 1933; minimum, 1,740.32 feet Jan. 16, 1930.

Remarks.- Records excellent. Elevations Dec. 21-29, Apr. 10-12, 17-19, June 1-4 adjusted to correct effect of sluggish intake. Elevations affected by backwater from Kootenai Lake.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45.70	51.78	45.97	51.18	46.43	44.51	50.53	70.36	70.74	55.46	49.27	45.21
2	45.72	50.86	45.77	50.91	46.44	44.78	50.86	68.55	69.97	55.21	49.17	45.15
3	45.62	51.76	45.64	50.75	46.71	45.11	50.57	67.02	67.92	55.10	48.90	45.01
4	45.51	52.35	45.58	50.96	46.91	45.20	50.25	65.94	65.79	54.87	48.59	44.90
5	45.50	51.01	45.42	51.01	46.88	45.12	50.17	65.47	64.56	54.53	48.40	44.80
6	45.61	49.99	45.59	50.70	46.70	45.11	50.45	65.96	63.90	54.12	48.19	44.67
7	45.79	49.36	46.05	50.01	46.50	45.07	51.32	66.29	63.33	53.88	48.00	44.61
8	45.86	48.89	46.00	49.17	46.38	44.92	53.40	66.29	62.96	54.06	47.81	44.69
9	45.81	48.54	45.86	48.48	46.38	44.83	55.88	66.28	63.03	54.10	47.61	44.58
10	45.75	49.25	45.84	48.16	46.35	44.78	56.98	65.99	63.08	53.92	47.40	44.55
11	45.71	48.03	46.38	48.15	46.27	44.75	57.14	65.68	63.28	53.53	47.20	44.47
12	45.60	47.90	47.19	47.96	46.15	44.79	57.28	65.89	63.58	53.04	47.04	44.35
13	45.40	47.80	46.65	47.70	46.04	44.97	57.95	66.00	63.80	52.75	46.91	44.28
14	45.33	47.68	45.87	47.63	45.93	45.22	59.49	65.83	63.87	52.32	46.77	44.23
15	45.23	47.50	45.72	47.30	45.83	45.59	60.26	66.03	63.38	51.94	46.66	44.18
16	45.09	47.33	45.73	46.86	45.73	46.19	59.93	67.13	62.81	51.59	46.52	44.12
17	45.02	47.14	45.77	46.75	45.66	46.82	59.25	68.67	62.22	51.25	46.40	44.05
18	45.05	46.98	46.16	46.69	45.59	47.10	58.92	69.58	61.49	51.16	46.35	43.99
19	45.12	46.80	47.14	46.58	45.54	47.17	59.15	69.53	60.78	51.22	46.29	43.91
20	45.20	46.60	48.18	46.59	45.49	47.60	59.79	68.38	60.29	51.13	46.28	43.79
21	45.10	46.45	50.21	46.70	45.37	48.31	61.16	66.91	59.77	50.94	46.26	43.77
22	44.95	46.44	56.52	46.81	45.17	48.76	63.14	65.58	59.05	50.67	46.10	43.74
23	45.06	46.58	59.18	47.14	45.00	48.73	65.49	64.53	58.52	50.49	45.97	43.60
24	45.98	46.71	57.74	48.05	44.92	48.46	67.70	64.10	58.16	50.21	45.82	43.44
25	46.52	46.80	55.05	47.84	44.62	48.22	69.28	64.53	57.44	49.92	45.69	43.28
26	46.98	46.77	52.41	47.37	44.32	47.99	70.28	65.95	56.73	49.63	45.58	43.22
27	47.59	46.79	50.65	47.12	44.76	47.68	71.00	67.75	56.32	49.42	45.47	43.17
28	48.47	46.71	49.68	47.00	44.69	48.28	71.78	69.21	56.08	49.30	45.35	43.12
29	51.53	46.39	49.74	46.90		48.61	72.22	70.11	56.00	49.19	45.32	43.08
30	53.26	46.18	50.30	46.72		48.83	71.74	70.62	55.71	49.16	45.25	43.02
31	52.97		50.82	46.55		49.78		70.84		49.18	45.25	

Note.- Add 1,700.00 feet to obtain elevations above mean sea level.

Kootenai River at Klockmann ranch, near Bonners Ferry, Idaho

Location.- Water-stage recorder in SE¼ sec. 19, T. 63 N., R. 1 E., at Klockmann ranch, 800 feet south of viaduct on Kootenai Valley Branch of Great Northern Railway and 8 miles north of Bonners Ferry. Zero of gage is 1,700.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Records available.- May 1928 to September 1934.

Extremes.- Maximum mean daily water-surface elevation during year (estimated), 1,769.4 feet Apr. 29; minimum, 1,742.45 feet Sept. 30.
1928-34: Maximum water-surface elevation, 1,771.24 feet June 20, 1933; minimum, 1,739.99 feet Jan. 2, 1931.

Remarks.- Records good. Elevations estimated for Dec. 16, 17, 25-28, Jan. 8, 9, 15, 16, Feb. 21-27, Apr. 25 to May 2, May 16-18. Elevations affected by backwater from Kootenai Lake.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44.83	50.27	45.19	49.80	45.45	43.71	48.94	68.0	68.40	54.51	48.46	44.63
2	44.84	49.46	45.02	49.60	45.46	43.88	49.30	66.5	67.67	54.26	48.37	44.58
3	44.78	50.17	44.92	49.44	45.63	44.15	49.08	65.23	66.28	54.11	48.16	44.46
4	44.72	50.82	44.84	49.61	45.79	44.23	48.80	64.23	64.46	53.87	47.86	44.36
5	44.68	49.67	44.74	49.66	45.75	44.18	48.74	63.79	63.32	53.54	47.69	44.25
6	44.74	48.79	44.76	49.41	45.61	44.17	48.96	64.13	62.70	53.17	47.49	44.18
7	44.86	48.24	45.10	48.82	45.46	44.13	49.73	64.46	62.16	52.94	47.32	44.12
8	44.91	47.83	45.12	48.10	45.37	44.03	51.55	64.46	61.77	53.04	47.15	44.13
9	44.90	47.54	44.98	47.50	45.34	43.95	53.98	64.45	61.77	53.05	46.95	44.07
10	44.85	47.29	44.96	47.23	45.31	43.90	55.17	64.22	61.78	52.88	46.76	44.00
11	44.81	47.10	45.27	47.20	45.24	43.87	55.31	63.94	61.91	52.54	46.59	43.93
12	44.73	46.99	45.95	47.01	45.15	43.89	55.39	64.06	62.13	52.11	46.42	43.83
13	44.60	46.88	45.65	46.79	45.05	44.01	56.01	64.18	62.28	51.85	46.29	43.76
14	44.53	46.77	45.11	46.71	44.96	44.21	57.44	64.07	62.34	51.47	46.15	43.71
15	44.45	46.62	44.89	46.40	44.87	44.48	58.26	64.22	61.94	51.12	46.04	43.65
16	44.32	46.44	44.85	46.05	44.78	44.95	58.06	65.1	61.43	50.80	45.91	43.57
17	44.27	46.28	44.80	45.94	44.71	45.48	57.46	66.3	60.90	50.51	45.79	43.50
18	44.31	46.13	45.07	45.85	44.65	45.76	57.14	67.2	60.29	50.38	45.71	43.43
19	44.33	45.96	45.96	45.75	44.60	45.85	57.31	67.20	59.65	50.39	45.65	43.36
20	44.35	45.82	46.84	45.73	44.55	46.19	57.90	66.39	59.19	50.30	45.62	43.24
21	44.29	45.68	48.16	45.80	44.45	46.61	59.16	65.17	58.73	50.12	45.59	43.22
22	44.18	45.64	54.03	45.86	44.30	47.23	60.96	64.02	58.09	49.87	45.44	43.13
23	44.19	45.72	57.03	46.06	44.15	47.25	63.03	63.10	57.56	49.69	45.33	43.90
24	44.83	45.81	56.02	46.80	44.10	47.05	64.99	62.66	57.20	49.44	45.20	42.87
25	45.32	45.87	53.60	46.66	43.85	46.86	66.5	62.99	56.53	49.16	45.08	42.74
26	45.72	45.85	51.25	46.29	43.60	46.68	67.4	64.16	55.89	48.91	44.98	42.69
27	46.24	45.88	49.65	46.06	43.75	46.57	68.2	65.62	55.47	48.71	44.87	42.62
28	47.02	45.80	48.80	45.94	43.67	46.88	68.9	66.85	55.18	48.58	44.78	42.59
29	49.62	45.55	48.79	45.84		47.23	69.4	67.68	55.05	48.47	44.74	42.54
30	51.41	45.36	49.20	45.70		47.42	69.1	68.18	54.76	48.41	44.68	42.48
31	51.23		49.54	45.55		48.22		68.41		48.41	44.66	

Note.- Add 1,700.00 feet to obtain elevations above mean sea level.

Kootenai River near Copeland, Idaho

(International gaging station)

Location.- Water-stage recorder in NW¼NW¼SW¼ sec. 12, T. 64 N., R. 1 W., at Andrews ranch, three-quarters of a mile below Mission Creek and 1⅛ miles northwest of Copeland. Zero of gage is 1,700.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Drainage area.- 13,400 square miles.

Records available.- October 1927 to September 1934. Gage-height records were collected by Dominion Water Power and Hydrometric Bureau of Canada from April 1925 to September 1927.

Extremes.- Maximum daily discharge, 86,000 second-feet Apr. 29; maximum water-surface elevation, 1,765.32 feet Apr. 30; minimum daily discharge, 4,800 second-feet Sept. 30; minimum water-surface elevation, 1,742.20 feet Sept. 30.

1927-34: Maximum and minimum discharge not determined; maximum water-surface elevation, 1,767.98 feet June 20, 1933; minimum water-surface elevation, 1,739.59 feet Jan. 25, 1930.

Maximum elevation known, about 1,774.5 feet June 1894.

Remarks.- Discharge records good; estimated Dec. 16-18, Feb. 24-28. Records of water-surface elevations excellent; estimated Dec. 15-18, 25-28. Elevations affected by backwater from Kootenai Lake. Daily discharge record during open-water season based on computations by slope method applied to reach between this station and the one near Bonners Ferry, 28 miles upstream. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44.27	48.57	44.59	48.26	44.70	43.11	47.18	64.54	65.26	53.35	47.73	44.23
2	44.26	48.01	44.45	48.11	44.68	43.23	47.52	63.58	64.98	53.13	47.66	44.16
3	44.21	48.45	44.36	47.99	44.79	43.38	47.42	62.56	63.92	52.97	47.51	44.05
4	44.16	49.05	44.30	48.11	44.88	43.46	47.25	61.83	62.55	52.72	47.25	43.96
5	44.13	48.25	44.19	48.19	44.84	43.43	47.22	61.45	61.64	52.43	47.10	43.87
6	44.15	47.62	44.23	48.02	44.74	43.43	47.40	61.61	61.08	52.11	46.92	43.79
7	44.22	47.22	44.41	47.61	44.61	43.40	47.96	61.80	60.61	51.88	46.77	43.75
8	44.24	46.97	44.39	47.10	44.53	43.33	49.34	61.77	60.22	51.87	46.62	43.78
9	44.24	46.73	44.32	46.63	44.51	43.29	51.23	61.75	60.12	51.84	46.44	43.68
10	44.20	46.54	44.30	46.41	44.49	43.25	52.33	61.57	60.04	51.71	46.27	43.61
11	44.17	46.37	44.47	46.35	44.44	43.23	52.56	61.37	60.06	51.45	46.11	43.51
12	44.10	46.26	44.90	46.18	44.37	43.23	52.69	61.44	60.18	51.13	45.96	43.44
13	43.99	46.14	44.73	46.01	44.28	43.29	53.21	61.50	60.24	50.91	45.82	43.39
14	43.98	46.04	44.35	45.94	44.22	43.42	54.38	61.42	60.27	50.86	45.69	43.34
15	43.90	45.91	44.25	45.71	44.15	43.60	55.14	61.53	59.98	50.27	45.58	43.28
16	43.79	45.75	44.20	45.42	44.07	43.92	55.13	62.13	59.60	49.98	45.47	43.23
17	43.75	45.61	44.15	45.32	44.01	44.28	54.74	63.06	59.17	49.74	45.37	43.19
18	43.81	45.49	44.40	45.22	43.97	44.50	54.54	63.77	58.68	49.61	45.29	43.14
19	43.79	45.34	44.93	45.12	43.92	44.60	54.68	63.96	58.18	49.56	45.22	43.07
20	43.78	45.21	45.60	45.07	43.85	44.85	55.17	63.50	57.77	49.45	45.19	42.95
21	43.71	45.09	46.38	45.09	43.76	45.32	56.14	62.65	57.34	49.30	45.14	42.92
22	43.61	45.05	50.82	45.10	43.67	45.66	57.60	61.78	56.82	49.08	45.03	42.78
23	43.66	45.09	53.75	45.20	43.56	45.72	59.30	61.04	56.35	48.93	44.91	42.66
24	44.07	45.12	53.18	45.68	43.45	45.61	60.97	60.65	55.97	48.68	44.79	42.56
25	44.41	45.16	51.30	45.62	43.30	45.50	62.32	60.80	55.42	48.44	44.68	42.47
26	44.70	45.13	49.45	45.38	43.10	45.40	63.20	61.57	54.85	48.24	44.58	42.41
27	45.14	45.13	48.20	45.20	43.05	45.35	63.95	62.66	54.41	48.06	44.49	42.36
28	45.86	45.07	47.50	45.09	43.10	45.58	64.65	63.66	54.08	47.93	44.43	42.33
29	47.91	44.87	47.43	45.00		45.85	65.22	64.40	53.89	47.80	44.38	42.27
30	49.20	44.72	47.92	44.90		46.01	65.19	64.90	53.60	47.74	44.31	42.23
31	49.20		48.13	44.78		46.59		65.19		47.71	44.27	

Note.- Add 1,700.00 feet to obtain elevations above mean sea level.

Discharge, in second-feet, of Kootenai River near Copeland, Idaho, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,480	21,500	9,290	20,500	10,600	8,150	20,500	75,500	71,700	22,500	12,000	6,640
2	8,550	19,100	8,970	19,700	10,700	8,680	21,200	66,000	67,700	22,100	11,700	6,630
3	8,370	20,400	8,770	19,300	11,300	9,310	20,400	58,700	57,400	22,000	11,100	6,450
4	8,090	22,300	8,720	19,900	11,800	9,400	19,400	53,700	48,200	21,700	10,600	6,320
5	8,120	19,300	8,460	20,000	11,800	9,240	19,200	51,900	43,600	21,000	10,300	6,240
6	8,470	16,500	8,930	19,000	11,400	9,210	19,900	54,400	41,600	20,100	9,950	6,010
7	8,830	14,900	9,980	17,200	11,000	9,160	22,200	55,700	39,900	19,700	9,640	5,920
8	9,060	13,700	9,860	15,100	10,800	8,880	27,400	55,900	39,200	20,600	9,340	6,120
9	8,920	12,700	9,580	13,600	10,900	8,710	34,300	56,000	40,300	20,900	9,090	6,020
10	8,830	12,200	9,570	12,900	10,800	8,630	37,300	54,700	41,000	20,400	8,760	6,110
11	8,770	11,600	10,800	13,000	10,700	8,590	37,700	53,600	42,200	19,100	8,460	6,110
12	8,600	11,400	12,300	12,800	10,400	8,710	37,900	54,600	43,500	18,100	8,280	5,910
13	8,240	11,200	11,100	12,200	10,300	9,100	39,600	55,100	44,700	17,400	8,210	5,800
14	8,060	11,100	9,560	12,100	10,100	9,560	44,100	54,200	45,100	16,500	8,050	5,770
15	7,930	10,800	9,330	11,400	9,900	10,300	45,900	55,100	43,100	15,800	7,960	5,770
16	7,710	10,700	8,700	10,500	9,720	11,500	44,500	60,400	41,000	15,100	7,770	5,710
17	7,600	10,500	8,700	10,400	9,650	12,800	42,300	66,800	38,900	14,300	7,620	5,580
18	7,550	10,300	9,100	10,400	9,520	13,400	41,000	70,400	36,400	14,300	7,670	5,520
19	7,680	10,100	12,100	10,200	9,500	13,500	41,900	69,100	34,000	14,800	7,650	5,460
20	8,000	9,790	13,900	10,400	9,470	14,500	43,600	63,400	32,700	14,800	7,700	5,380
21	7,910	9,630	18,900	10,700	9,300	15,900	48,000	56,800	31,300	14,300	7,780	5,390
22	7,640	9,700	36,500	11,100	8,920	16,800	54,100	51,300	29,100	13,900	7,520	5,640
23	7,720	10,100	43,300	12,000	8,630	16,700	62,000	47,400	27,800	13,500	7,410	5,510
24	9,470	10,400	39,100	13,900	8,500	16,000	69,500	46,100	27,400	13,100	7,210	5,260
25	10,300	10,600	31,200	13,400	8,000	15,500	75,200	48,100	25,300	12,500	7,070	5,000
26	11,200	10,600	23,700	12,300	7,300	15,000	79,000	54,200	23,600	11,900	6,960	4,970
27	12,200	10,700	18,900	11,900	7,500	14,700	81,500	61,600	23,100	11,600	6,820	4,930
28	13,600	10,600	16,400	11,700	7,900	15,500	84,600	67,400	23,000	11,500	6,570	4,850
29	20,000	10,000	16,400	11,500		16,200	86,000	71,000	23,400	11,500	6,620	4,890
30	24,200	9,660	17,900	11,200		16,600	83,200	72,700	23,000	11,500	6,570	4,800
31	24,300		19,400	10,800		18,800		73,200		11,600	6,670	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	24,300	7,550	10,140	0.757	0.87	623,600
November	22,300	9,630	12,740	.951	1.06	757,800
December	43,300	8,460	15,470	1.15	1.33	950,900
January	20,500	10,200	13,580	1.01	1.16	835,200
February	11,800	7,300	9,872	.737	.77	548,300
March	18,800	8,150	12,230	.913	1.05	751,800
April	86,000	19,200	46,110	3.44	3.84	2,744,000
May	75,500	46,100	59,190	4.42	5.10	3,640,000
June	71,700	23,000	38,310	2.86	3.19	2,279,000
July	22,500	11,500	16,390	1.22	1.41	1,008,000
August	12,000	6,570	8,356	.624	.72	513,800
September	6,640	4,800	5,690	.425	.47	338,600
The year	86,000	4,800	20,710	1.55	20.97	14,990,000

Kootenai River at Port Hill, Idaho

(International gaging station)

Location.- Water-stage recorder in SW¼ sec. 8, T. 65 N., R. 1 W., 300 feet south of international boundary at Port Hill. Zero of gage is 1,700.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum, and 1,699.80 feet above mean sea level, datum of Geodetic Survey of Canada, adjustment of 1928.

Drainage area.- 13,700 square miles.

Records available.- May to July 1904, October 1927 to September 1934. Gage-height records collected by Dominion Water Power and Hydrometric Bureau, Department of Interior, Canada, from October 1924 to September 1927 at same site.

Extremes.- Maximum mean daily discharge during year, 89,300 second-feet Apr. 29; maximum water-surface elevation, 1,761.97 feet June 1; minimum mean daily discharge, 4,840 second-feet Sept. 30; minimum water-surface elevation, 1,741.92 feet Sept. 30.
1928-34: Maximum discharge, 93,200 second-feet June 19, 1933; maximum water-surface elevation, 1,763.92 feet June 20, 1933; minimum discharge, 2,060 second-feet Feb. 10, 1933; minimum water-surface elevation, 1,739.32 feet Jan. 28, 1930. Maximum elevation known, 1,772.7 feet June 1894.

Remarks.- Discharge records good. Records of water-surface elevations excellent. Discharge record includes flow of Boundary Creek and represents entire flow passing international boundary. Elevations affected by backwater from Kootenai Lake. Daily discharge record obtained by adding tributary inflow to discharges near Copeland. Breach in the dike of the Reclamation Farm remained open during year, allowing part of the river flow and part of normal tributary inflow to pass the international boundary at that point during April, May, June, and July. List of discharge measurements of flow in the regular channel and reversed flow entering mouth of Boundary Creek are shown for the 4 month period. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43.79	47.20	44.10	47.09	44.16	42.69	45.91	60.77	61.95	52.46	47.21	43.90
2	43.78	46.86	43.99	47.00	44.12	42.77	46.24	60.29	61.87	52.24	47.14	43.84
3	43.74	47.14	43.91	46.93	44.19	42.88	46.19	59.80	61.39	52.06	47.00	43.74
4	43.70	47.62	43.84	46.99	44.21	42.93	46.11	59.35	60.65	51.80	46.83	43.67
5	43.68	47.17	43.75	47.06	44.18	42.90	46.12	59.08	60.03	51.55	46.69	43.58
6	43.70	46.74	43.79	46.97	44.11	42.91	46.26	59.11	59.57	51.29	46.50	43.51
7	43.73	46.46	43.88	46.68	44.01	42.89	46.70	59.18	59.17	51.07	46.38	43.47
8	43.76	46.25	43.87	46.32	43.96	42.86	47.71	59.16	58.80	51.01	46.23	43.50
9	43.77	46.06	43.82	45.97	43.93	42.81	49.09	59.14	58.61	50.94	46.05	43.40
10	43.73	45.92	43.81	45.78	43.90	42.78	49.98	59.02	58.46	50.82	45.90	43.31
11	43.71	45.78	43.88	45.71	43.87	42.76	50.25	58.89	58.41	50.63	45.73	43.21
12	43.66	45.67	44.13	45.55	43.78	42.76	50.44	58.90	58.42	50.36	45.60	43.16
13	43.56	45.56	44.10	45.40	43.72	42.78	50.91	58.93	58.40	50.19	45.46	43.11
14	43.57	45.47	43.83	45.34	43.67	42.88	51.78	58.91	58.38	49.90	45.33	43.07
15	43.49	45.34	43.75	45.16	43.61	42.99	52.41	58.98	58.20	49.60	45.22	42.99
16	43.40	45.20	43.67	44.92	43.53	43.20	52.52	59.36	57.95	49.35	45.10	42.95
17	43.37	45.08	43.57	44.83	43.49	43.46	52.37	59.94	57.61	49.14	45.00	42.91
18	43.42	44.96	43.70	44.73	43.45	43.65	52.31	60.40	57.23	49.02	44.92	42.88
19	43.39	44.83	44.00	44.63	43.38	43.75	52.44	60.61	56.87	48.93	44.85	42.79
20	43.36	44.72	44.44	44.58	43.32	43.94	52.84	60.45	56.51	48.80	44.80	42.68
21	43.30	44.62	45.13	44.58	43.26	44.30	53.58	60.03	56.14	48.68	44.76	42.64
22	43.21	44.58	48.23	44.58	43.19	44.58	54.66	59.54	55.73	48.50	44.67	42.50
23	43.26	44.59	50.61	44.64	43.10	44.66	55.87	59.07	55.34	48.34	44.57	42.40
24	43.52	44.58	50.47	44.94	43.01	44.62	57.09	58.78	54.95	48.15	44.45	42.29
25	43.76	44.60	49.25	44.89	42.89	44.58	58.14	58.83	54.48	47.94	44.36	42.20
26	43.97	44.55	47.94	44.71	42.73	44.52	58.94	59.27	53.99	47.77	44.26	42.15
27	44.29	44.55	47.05	44.59	42.68	44.51	59.61	59.95	53.57	47.61	44.18	42.09
28	44.86	44.50	46.53	44.50	42.69	44.64	60.31	60.59	53.23	47.48	44.11	42.06
29	46.21	44.31	46.47	44.42		44.90	60.81	61.12	52.99	47.34	44.06	42.01
30	47.38	44.20	46.92	44.34		45.04	60.99	61.54	52.70	47.25	43.99	41.96
31	47.55		47.06	44.23		45.46		61.81		47.22	43.94	

Note.- Add 1,700.00 feet to obtain elevations above mean sea level, U. S. Coast and Geodetic Survey datum.

Discharge, in second-feet, of Kootenai River at Port Hill, Idaho, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,610	22,000	9,580	21,000	10,800	8,330	21,100	77,500	72,900	22,700	12,100	6,670
2	8,680	19,600	9,250	20,200	10,900	8,870	21,700	67,800	68,800	22,300	11,800	6,660
3	8,510	21,000	9,050	19,800	11,500	9,510	20,900	60,600	58,500	22,200	11,200	6,480
4	8,240	22,800	8,990	20,400	12,000	9,600	19,900	55,500	49,300	21,900	10,700	6,350
5	8,260	19,700	8,720	20,500	12,000	9,430	19,700	54,400	44,700	21,200	10,400	6,270
6	8,600	16,900	9,270	19,400	11,600	9,400	20,500	56,600	42,700	20,300	10,000	6,040
7	8,940	15,300	10,300	17,600	11,200	9,350	23,100	57,800	41,000	19,900	9,690	5,950
8	9,170	14,000	10,100	15,500	11,000	9,070	28,700	58,300	40,200	20,800	9,390	6,150
9	9,020	13,000	9,860	14,000	11,200	8,900	35,600	58,100	41,400	21,000	9,140	6,050
10	8,930	12,500	9,840	13,300	11,000	8,820	38,500	56,600	42,000	20,500	8,810	6,150
11	8,860	11,900	11,100	13,300	10,900	8,780	38,900	56,100	43,100	19,200	8,500	6,160
12	8,690	11,700	12,600	13,100	10,600	8,920	39,300	57,000	44,400	18,200	8,320	5,950
13	8,330	11,500	11,400	12,500	10,500	9,330	41,400	57,300	45,500	17,500	8,250	5,860
14	8,140	11,400	9,820	12,400	10,300	9,800	45,900	56,700	45,800	16,600	8,090	5,820
15	8,010	11,100	9,580	11,700	10,100	10,600	47,400	58,100	43,700	15,900	8,000	5,810
16	7,790	11,000	8,930	10,800	9,930	11,800	45,900	63,400	41,600	15,200	7,810	5,750
17	7,690	10,800	8,940	10,700	9,860	13,100	43,700	69,200	39,400	14,400	7,660	5,620
18	7,690	10,600	9,350	10,600	9,750	13,700	42,500	72,400	36,900	14,400	7,710	5,560
19	7,840	10,400	12,400	10,400	9,710	13,800	43,500	70,900	34,500	14,900	7,690	5,500
20	8,120	10,100	14,200	10,600	9,680	14,800	45,600	65,100	33,100	14,900	7,740	5,420
21	8,010	9,900	19,500	10,900	9,500	16,200	50,400	58,300	31,700	14,400	7,820	5,430
22	7,740	10,000	37,800	11,300	9,120	17,100	57,000	52,900	29,400	14,000	7,560	5,580
23	7,980	10,500	44,400	12,200	8,830	17,000	65,300	49,200	28,100	13,600	7,440	5,550
24	9,910	10,800	39,900	14,100	8,700	16,300	73,100	48,300	27,700	13,200	7,240	5,300
25	10,800	11,100	31,800	13,600	8,190	15,800	78,900	50,900	25,600	12,600	7,100	5,040
26	11,600	11,000	24,200	12,500	7,470	15,300	82,500	57,100	23,900	12,000	7,000	5,010
27	12,700	11,100	19,400	12,100	7,670	15,000	85,200	64,300	23,500	11,700	6,850	4,970
28	14,500	10,900	16,900	11,900	8,070	15,900	89,000	69,900	23,300	11,600	6,600	4,900
29	21,000	10,300	16,900	11,700		16,600	89,300	73,500	23,700	11,600	6,650	4,940
30	25,000	9,980	18,400	11,400		17,100	85,600	74,900	23,200	11,600	6,600	4,840
31	24,900		19,900	11,000		19,400		74,700		11,700	6,700	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	25,000	7,690	10,400	0.759	0.88	639,200
November	22,800	9,900	13,100	.956	1.07	779,300
December	44,400	8,720	16,880	1.16	1.34	976,600
January	21,000	10,400	13,890	1.01	1.16	853,900
February	12,000	7,470	10,070	.735	.77	559,500
March	19,400	8,330	12,500	.912	1.05	768,800
April	89,300	19,700	48,000	3.50	3.90	2,856,000
May	77,500	48,300	61,400	4.48	5.16	3,775,000
June	72,900	23,200	38,990	2.85	3.18	2,320,000
July	22,700	11,600	16,520	1.21	1.40	1,016,000
August	12,100	6,600	8,405	.614	.71	516,800
September	6,670	4,840	5,729	.418	.47	340,900
The year	89,300	4,840	21,270	1.55	21.09	15,400,000

The following table is a list of discharge measuremsnts during period in 1934 when a portion of the total flow was by-passing gage and measuring section through breaks in the dike of the Reclamation Farm in Canada. Measurements of the reversed river flow through the mouth of Boundary Creek represent only a portion of the total flow being by-passed. No measurement of flow through dike breaks made during year.

Date	Main channel	Reversed flow through mouth of Boundary Creek	Date	Main channel	Reversed flow through mouth of Boundary Creek
	Second-feet	Second-feet		Second-feet	Second-feet
Apr. 26	71,600	2,880	June 11	39,000	1,580
Apr. 30	76,000	2,500	June 21	30,500	945
May 10	51,200	1,870	July 2	*	181
May 17	60,500	2,740	July 5	21,000	75.9
May 23	45,100	1,540	July 9	*	27.6
June 2	61,100	3,920			

*Not measured.

Boulder Creek near Leonia, Idaho

Location.- Water-stage recorder in NW¼ sec. 32, T. 61 N., R. 3 E., half a mile below McGinty Creek, 1 mile above buildings of the Idamount Lead-Zinc Mines Co., 3 miles above mouth, and 3 miles southwest of Leonia. Staff gage at same location used Dec. 30, 1933 to Sept. 30, 1934.

Drainage area.- 53 square miles.

Records available.- April 1928 to September 1934. Prior to November 1928 records were collected at staff-gage site 1½ miles downstream.

Extremes.- Maximum discharge during year (estimated), about 1,400 second-feet Dec. 22 or 23 (gage height, unknown); minimum, 4 second-feet Aug. 9 to Sept. 9; minimum gage height, 0.30 foot Aug. 21, 22.
1928-34: Maximum discharge, that of Dec. 22 or 23, 1933; minimum, 2 second-feet Aug. 25, Sept. 5, 1931.

Remarks.- Records good Oct. 1 to Nov. 29; fair Dec. 30 to Sept. 30; and poor Nov. 30 to Dec. 29, which period was estimated. Water diverted around the gage for mining purposes subsequent to June 7; returned to creek below gage; diversion reported constant, measured as 3.28 second-feet on July 21.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	107		262	155	93	372	455	140	27	5	4
2	25	192		248	165	160	354	445	128	27	5	4
3	24	428	60	381	178	123	289	500	114	26	6	4
4	23	207		285	160	110	273	466	132	25	7	4
5	21	151		277	150	106	265	739	121	24	5	4
6	20	126		237	144	104	329	618	114	22	5	4
7	20	113		183	136	100	565	575	108	21	5	4
8	19	100	90	178	160	99	651	535	105	19	5	4
9	18	93		170	146	96	555	505	102	18	4	4
10	18	96		155	140	96	575	475	96	15	4	5
11	18	100		140	128	104	490	607	90	14	4	6
12	17	96		136	128	106	555	515	82	13	4	6
13	17	89	130	132	126	120	896	525	72	12	4	7
14	16	81		126	123	128	662	545	64	11	4	7
15	16	78		123	123	144	525	575	59	11	4	7
16	17	72		116	120	167	495	535	55	10	4	5
17	17	67		123	123	155	555	408	53	9	4	5
18	28	64	300	120	116	150	575	345	50	9	4	5
19	30	62		116	120	167	607	313	46	9	4	5
20	27	59		155	120	192	651	289	43	8	4	5
21	22	59		144	123	197	794	265	40	10	4	5
22	22	85		136	140	189	884	258	36	10	4	8
23	183	104	850	404	123	178	932	313	36	9	4	7
24	167	100		248	106	167	1,040	363	32	8	4	7
25	107	96		186	100	160	968	390	29	9	4	6
26	81	85		248	104	165	849	354	34	8	4	5
27	76	78	300	192	106	186	920	305	42	7	4	6
28	151	70		155	99	317	1,010	258	38	6	4	8
29	296	64		144		317	629	244	34	5	4	9
30	158	58	376	136		394	515	218	30	5	4	8
31	128		368	144		386		158		5	4	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	296	16	58.4	1.10	1.27	3,590
November	428	58	106	2.00	2.23	6,310
December			293	5.53	6.38	18,040
January	404	116	187	3.53	4.07	11,500
February	178	99	131	2.47	2.57	7,260
March	394	93	167	3.15	3.63	10,270
April	1,040	265	626	11.81	13.18	37,250
May	739	156	422	7.96	9.18	25,970
June	140	30	70.9	1.34	1.50	4,220
July	27	5	13.3	.251	.29	817
August	7	4	4.4	.083	.10	268
September	9	4	5.6	.106	.12	333
The year		4	174	3.28	44.52	125,800

Moyie River at Eastport, Idaho

(International gaging station)

Location.- Water-stage recorder in SE¼ sec. 10, T. 65 N., R. 2 E., 1,000 feet downstream from international boundary at Eastport.

Drainage area.- 570 square miles.

Records available.- August 1929 to September 1934.

Extremes.- Maximum discharge during year, 6,240 second-feet Apr. 28 (gage height, 9.46 feet); minimum, 51 second-feet Sept. 8 (gage height, 3.46 feet).
1929-34: Maximum discharge, that of Apr. 28, 1934; minimum (estimated), 34 second-feet Jan. 16, 1930.

Remarks.- Records good. Discharge estimated because of ice Dec. 13-18, 26-29. No regulation or diversions above station. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	1,100	470	1,040	442	362	1,140	4,210	2,010	363	115	59
2	153	1,040	456	1,010	505	396	1,070	3,730	1,780	334	112	59
3	148	1,040	456	1,040	565	404	1,040	3,460	1,620	325	112	59
4	155	920	425	1,040	525	377	1,070	3,200	1,570	304	112	59
5	158	818	412	1,040	510	373	1,180	3,460	1,520	299	109	59
6	158	746	465	938	490	377	1,360	3,600	1,440	291	103	59
7	155	660	465	842	475	370	1,880	3,460	1,360	282	100	59
8	153	630	429	786	495	382	2,740	3,530	1,270	259	98	55
9	153	590	425	752	520	382	2,820	3,400	1,210	252	95	53
10	153	585	412	728	505	366	2,390	3,130	1,160	240	92	55
11	148	615	434	680	495	377	2,390	3,330	1,100	222	89	61
12	146	650	404	645	490	416	2,600	3,400	1,060	219	83	59
13	142	620	400	620	480	485	3,270	3,200	976	212	83	69
14	139	595	390	595	475	515	3,570	3,260	908	208	83	76
15	137	575	360	545	465	610	3,040	3,530	843	201	83	66
16	142	555	340	540	456	700	2,740	3,660	758	191	78	64
17	142	525	370	540	447	690	2,670	3,600	700	188	71	61
18	151	490	400	505	442	690	2,820	3,330	657	181	69	59
19	172	475	456	510	442	782	2,970	3,130	617	171	66	59
20	170	460	480	515	429	926	3,340	2,870	565	168	66	61
21	160	447	878	505	408	980	4,050	2,620	527	158	64	61
22	160	470	2,000	480	400	920	4,750	2,370	491	155	66	64
23	198	535	1,940	515	400	860	5,430	2,310	468	152	66	64
24	358	570	1,450	495	393	812	5,600	2,370	440	148	66	61
25	420	675	1,240	475	366	788	5,630	2,560	423	148	69	61
26	505	630	1,150	460	362	764	5,510	2,620	418	145	69	61
27	570	600	1,000	465	362	788	5,540	2,680	445	139	69	59
28	1,010	570	950	460	362	800	6,100	2,620	413	130	66	59
29	1,500	525	1,000	442		752	5,610	2,560	403	127	61	59
30	1,360	510	1,100	429		914	4,770	2,490	382	124	61	59
31	1,210		1,100	425		1,100		2,250		121	59	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,500	137	338	0.593	0.68	20,790
November	1,100	447	641	1.12	1.25	38,160
December	2,000	340	718	1.26	1.45	44,150
January	1,040	425	647	1.14	1.31	39,800
February	565	362	454	.796	.83	25,200
March	1,110	362	626	1.10	1.27	38,520
April	6,100	1,040	3,303	5.79	6.46	196,500
May	4,210	2,250	3,095	5.43	6.26	190,300
June	2,010	382	918	1.61	1.80	54,610
July	363	121	208	.365	.42	12,810
August	115	59	81.8	.144	.17	5,030
September	76	53	60.6	.106	.12	3,610
The year	6,100	53	925	1.62	22.02	669,500

Moyie River at Eileen, Idaho

Location.- Water-stage recorder in NE¼ sec. 35, T. 63 N., R. 2 E., an eighth of a mile downstream from Skin Creek, a quarter of a mile southeast of Eileen, and 4 miles above junction with Kootenai River.

Drainage area.- 755 square miles.

Records available.- October 1925 to September 1934.

Extremes.- Maximum discharge during year, 8,780 second-feet Apr. 29 (gage height, 4.55 feet); minimum, 87 second-feet Sept. 9, 10 (gage height, 0.28 foot).
1925-34: Maximum discharge, that of Apr. 29, 1934; maximum gage height, 4.8 feet May 17, June 10, 11, 1927, May 13, 17-19, 1928; minimum discharge (estimated), 60 second-feet Dec. 5, 1928, Jan. 16, 1930; minimum gage height, 0.23 foot Oct. 5, 1932.

Remarks.- Records good. No regulation or diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	223	1,290	624	1,420	715	548	1,700	5,970	2,260	461	139	90
2	216	1,210	610	1,340	796	602	1,650	5,260	2,060	439	134	89
3	210	1,270	610	1,410	873	617	1,540	4,740	1,840	417	130	88
4	210	1,120	582	1,420	829	582	1,560	4,240	1,780	406	137	90
5	213	1,010	568	1,440	812	555	1,670	4,660	1,740	401	130	90
6	213	936	624	1,300	796	568	1,900	4,910	1,650	401	125	90
7	210	864	653	1,150	771	548	2,370	4,620	1,540	375	123	89
8	206	812	602	1,050	779	541	3,470	4,660	1,460	349	119	90
9	202	763	595	991	812	541	3,590	4,500	1,400	325	119	88
10	199	746	589	1,000	796	541	3,130	4,090	1,340	307	116	89
11	199	763	632	954	779	562	3,100	4,200	1,270	289	114	91
12	196	812	602	899	771	617	3,320	4,470	1,190	271	110	94
13	189	796	588	899	754	699	3,990	4,090	1,140	255	110	98
14	186	771	588	864	746	738	4,390	4,130	1,040	247	110	104
15	186	763	568	771	730	855	3,880	4,500	973	239	109	100
16	186	738	485	788	723	973	3,500	4,870	917	227	110	95
17	186	699	528	788	723	982	3,410	4,620	864	231	107	94
18	196	668	646	738	715	1,000	3,500	4,170	804	220	100	94
19	220	653	804	746	691	1,070	3,650	3,820	779	210	100	93
20	227	632	804	779	676	1,280	4,130	3,500	723	202	97	94
21	220	624	1,270	779	646	1,350	4,780	3,100	668	199	98	95
22	220	632	2,790	754	595	1,300	5,300	2,810	632	196	98	97
23	259	715	2,790	838	588	1,220	6,020	2,720	595	199	98	95
24	439	754	2,020	829	575	1,150	6,730	2,770	575	186	97	94
25	504	864	1,560	788	535	1,120	7,310	3,000	541	186	97	94
26	602	821	1,320	771	498	1,090	7,620	3,160	535	176	97	93
27	610	796	1,220	771	562	1,110	7,560	3,100	575	170	95	94
28	982	746	1,190	763	548	1,160	8,310	3,000	528	164	94	94
29	1,600	699	1,280	738		1,110	8,380	2,930	510	153	93	94
30	1,550	668	1,470	723		1,260	6,960	2,790	491	145	93	93
31	1,410		1,510	707		1,630		2,530		137	91	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1,600	186	402	0.532	0.61	24,730
November	1,290	624	821	1.09	1.22	48,860
December	2,790	485	991	1.31	1.51	60,930
January	1,440	707	942	1.25	1.44	57,930
February	873	498	708	0.938	0.98	39,340
March	1,630	541	901	1.19	1.37	55,380
April	8,380	1,540	4,281	5.67	6.33	254,700
May	5,970	2,530	3,933	5.21	6.01	241,800
June	2,260	491	1,081	1.43	1.60	64,300
July	461	137	264	0.350	0.40	16,230
August	139	91	109	0.144	0.17	6,720
September	104	88	93.1	0.123	0.14	5,540
The year	8,380	88	1,211	1.60	21.78	876,500

Cow Creek near Bonners Ferry, Idaho

Location.- Staff gage in SW¼ sec. 31, T. 62 N., R. 2 E., at footbridge on Goldbeck ranch, 3 miles southeast of Bonners Ferry.

Records available.- May 1928 to September 1934 (except winters).

Extremes.- Maximum discharge recorded during year, 54 second-feet Apr. 28 (gage height, 5.45 feet); minimum recorded, 0.5 second-foot Sept. 10; minimum gage height recorded, 3.55 feet Aug. 16, 19, 21, 23, 24, 26, 31, Sept. 1-3.
1928-34: Maximum discharge recorded, 60 second-feet June 9, 1933 (gage height, 5.48 feet); minimum recorded, 0.4 second-foot Sept. 8, 9, 14-17, 28-30, 1932.

Remarks.- Records good Mar. 9 to June 30; fair Mar. 1-8, July to September. Discharge estimated Mar. 1-8. Some water diverted above station for irrigation during summer. No records Oct. 1 to Feb. 28.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							22	37	14	2.9	1.2	0.6
2							23	34	13	2.8	1.2	.6
3							20	33	12	2.5	1.1	.6
4							19	30	11	2.4	1.3	.6
5						e.0	18	36	11	2.3	1.3	.6
6							17	36	10	2.3	1.1	.6
7							17	34	9.8	2.3	1.1	.6
8							20	35	10	2.3	1.1	.6
9						7.8	25	34	10	2.3	1.1	.6
10						7.5	25	30	9.2	2.2	1.2	.5
11						7.5	24	32	8.6	2.1	1.1	.8
12						7.3	23	34	8.2	2.0	1.1	.8
13						7.3	25	30	8.0	2.0	1.1	.8
14						7.1	30	28	7.3	2.0	.9	.8
15						7.1	30	30	6.7	1.9	.9	1.1
16						7.6	27	32	6.2	1.7	.8	1.0
17						7.6	25	32	6.0	1.8	.9	.8
18						7.5	24	28	5.2	1.8	.9	.8
19						7.3	24	25	5.2	1.6	.8	.7
20						7.6	25	23	4.5	1.6	.8	.8
21						7.6	27	22	3.3	1.6	.8	.8
22						7.6	31	20	2.9	1.6	.8	1.5
23						7.6	35	19	3.8	1.6	.7	1.2
24						7.5	44	20	3.3	1.6	.7	1.1
25						7.5	46	22	3.1	1.6	.8	1.0
26						7.5	44	24	3.0	1.5	.8	1.1
27						7.5	43	21	4.3	1.4	.8	1.2
28						13	54	21	3.5	1.2	.6	1.3
29						11	53	20	3.3	1.2	.7	1.2
30						15	47	18	3.1	1.2	.7	1.2
31						24		18		1.1	.6	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October				
November				
December				
January				
February				
March	24	7.1	8.68	534
April	54	17	29.6	1,760
May	37	16	27.6	1,700
June	14	2.9	6.98	416
July	2.9	1.1	1.88	116
August	1.3	.6	.94	57
September	1.5	.6	.86	51
The period				4,634

Deep Creek at Moravia, Idaho

Location.- Staff gage in sec. 18, T. 61 N., R. 1 E., at concrete highway bridge 1 mile below Ruby Creek and 1 mile southwest of Moravia.

Drainage area.- 133 square miles.

Records available.- May 1928 to September 1934 (except winters prior to 1933).

Extremes.- Maximum discharge recorded during year, 1,300 second-feet Dec. 22 (gage height, 4.20 feet); minimum recorded, 9 second-feet Aug. 18-20, 26, 27, Sept. 8; minimum gage height recorded, 0.32 foot Aug. 18.
1928-34: Maximum discharge recorded, that of Dec. 22, 1933; minimum recorded, 7 second-feet Aug. 15, 24, 25, 1931; minimum gage height recorded, 0.28 foot Aug. 28-31, Sept. 6, 7, 1933.

Remarks.- Records good except those estimated Dec. 24, 25, 27-30, Apr. 13, Aug. 12, 13, which are fair. Result of discharge measurement shown Dec. 26. Diurnal fluctuations affect flow at high stages. No diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	84	54	433	272	147	684	433	145	33	12	10
2	18	111	49	452	286	173	594	397	143	29	12	10
3	18	160	61	594	301	208	511	397	130	29	13	10
4	18	115	66	594	286	173	433	397	134	29	12	10
5	17	94	76	532	272	173	433	433	126	28	12	10
6	17	85	102	471	258	173	433	380	114	28	12	10
7	17	76	111	397	258	173	552	363	118	26	12	10
8	17	71	79	363	258	173	638	347	130	24	12	9
9	17	69	82	397	258	162	594	331	118	22	12	10
10	17	65	97	316	245	162	594	301	114	22	11	10
11	17	66	119	272	232	162	552	397	96	21	11	11
12	17	66	147	258	220	173	532	363	87	19	10	12
13	17	66	151	258	220	184	638	331	81	16	10	12
14	17	64	134	245	208	220	684	331	74	16	10	12
15	17	64	104	245	196	220	532	363	71	16	10	12
16	18	64	101	245	196	245	452	331	71	16	10	11
17	19	61	130	245	184	245	433	286	61	16	10	11
18	22	61	258	245	184	245	452	258	55	16	9	11
19	26	59	552	232	173	245	471	245	55	16	9	11
20	24	59	532	380	173	258	511	220	50	16	9	11
21	24	58	980	433	162	258	638	208	44	16	10	12
22	26	76	1,300	532	151	258	638	196	42	15	10	14
23	32	79	1,240	594	147	258	684	196	40	15	10	14
24	47	76	800	471	138	245	732	220	40	15	10	14
25	56	76	600	363	130	232	684	272	40	17	10	15
26	59	76	430	331	130	220	638	258	44	16	9	15
27	69	74	400	316	151	220	684	232	55	15	9	14
28	104	74	320	316	162	380	980	220	42	13	10	15
29	115	71	450	301		471	594	162	40	13	10	15
30	119	61	500	286		511	511	162	37	13	10	15
31	94		532	272		532		162		12	10	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	119	17	36.0	0.271	0.31	2,210
November	160	58	76.0	.571	.64	4,520
December	1,300	49	341	2.56	2.95	20,940
January	594	232	367	2.76	3.18	22,590
February	301	130	209	1.57	1.63	11,610
March	532	147	242	1.82	2.10	14,870
April	980	433	584	4.39	4.90	34,720
May	433	162	297	2.23	2.57	18,230
June	145	37	79.9	.601	.67	4,750
July	33	12	19.3	.145	.17	1,190
August	13	9	10.5	.079	.09	647
September	15	9	11.9	.089	.10	706
The year	1,300	9	189	1.42	19.31	137,000

Snow Creek near Moravia, Idaho

Location.- Staff gage in SW¼ sec. 1, T. 61 N., R. 1 W., 2 miles northwest of Moravia and 5 miles southwest of Bonners Ferry.

Drainage area.- 19.3 square miles.

Records available.- May 1928 to September 1934 (except winters).

Extremes.- Maximum discharge recorded during year, 377 second-feet Apr. 28 (gage height, 2.54 feet); minimum recorded, 1 second-foot Aug. 16 to Sept. 10, Sept. 16-21; minimum gage height recorded, 0.34 foot Sept. 7, 9.
1928-34: Maximum discharge, 572 second-feet June 14, 15, 1933 (gage height, 2.80 feet); minimum, that of Aug. 16 to Sept. 10, Sept. 16-21, 1934; minimum gage height, 0.30 foot (present datum) Sept. 16 and 22, 1932.

Remarks.- Records fair. Gage read on alternate days. No records Oct. 8 to Feb. 28. No diversions above station. Diurnal fluctuations occur during spring run-off.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							*72	*160	85	16	*3	1
2							76	153	*84	*16	3	*1
3							*73	*150	82	15	*3	1
4	*8					*27	70	145	*82	*15	3	*1
5							*70	*190	82	15	3	1
6							79	170	*82	*14	*2	*1
7	7					27	*102	*170	82	14	2	1
8						*28	124	185	*87	*12	*2	*1
9						29	*140	*170	92	11	2	1
10						*29	119	156	*90	*10	*2	*1
11						29	*126	*200	88	9	2	2
12						*29	134	185	*78	*9	*2	*2
13						29	*150	*190	68	8	2	2
14						*30	163	227	*63	*7	*2	*2
15						32	300	*230	58	6	*2	2
16						*35	136	236	*51	*6	1	*1
17						38	*140	*220	46	6	*1	1
18						*42	145	210	*43	6	1	*1
19						46	*160	*185	40	6	*1	1
20						*48	201	163	*35	*6	1	*1
21						50	*250	*150	30	6	*1	1
22						*49	300	134	29	*5	1	*2
23						48	*350	*185	25	5	*1	2
24						*42	363	236	*24	*5	1	2
25						35	*360	*236	24	6	*1	3
26						*36	337	236	*24	*5	1	*3
27						38	*357	*236	25	4	*1	3
28						*48	377	210	*25	*4	1	*3
29						58	*294	174	24	3	*1	3
30						*59	210	150	*20	*3	1	*4
31						60		*120		3	*1	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October 1-7			7.9	0.405	0.11	109
November						
December						
January						
February						
March	60		37.3	1.91	2.20	2,290
April	377	70	193	9.90	11.05	11,460
May	236	120	186	9.54	11.00	11,430
June	92	20	55.6	2.85	3.18	3,310
July	16	3	8.3	.426	.49	508
August	3	1	1.6	.082	.09	101
September	4	1	1.7	.087	.10	101

*Interpolated or estimated.

Caribou Creek near Moravia, Idaho

Location.- Staff gage in NE¼ sec. 12, T. 61 N., R. 1 W., 600 feet above road following edge of valley and 1½ miles northwest of Moravia. During 1928, 1930, and 1931, a staff gage in NE¼ sec. 11, T. 61 N., R. 1 W., 1 mile above and 2 miles northwest of Moravia was used.

Drainage area.- 14 square miles.

Records available.- May 1928 to September 1934 (except winters).

Extremes.- Maximum discharge recorded during year, 254 second-feet Apr. 28 (gage height, 5.24 feet); practically no flow Aug. 22-26.
1928-34: Maximum discharge, 376 second-feet June 15, 1933 (gage height, 5.58 feet); minimum, that of Aug. 22-26, 1934.

Remarks.- Records fair. Gage read on alternate days. No records Oct. 1 to Feb. 28. Flow at high stages affected by diurnal fluctuations. Several small diversions for irrigation and railroad water supply between upper and lower gage sites.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							*64	*110	62	12	*1	0.3
2							68	100	*60	*11	1	*.3
3							*64	*90	57	10	*1	.3
4						*20	60	96	*54	*10	.7	*.3
5							*60	*120	52	9	.7	.3
6							76	109	*54	*9	*.6	*.3
7						20	*96	*109	57	9	.5	.3
8						*19	115	113	*60	*8	*.4	*.3
9						19	*120	*102	62	8	.3	.3
10						*19	94	92	*60	*6	*.3	*.5
11						19	*98	*115	59	5	.3	.7
12						*19	109	109	*58	*5	*.3	*.7
13						19	*114	*110	57	4	.3	.7
14						*20	118	123	*47	*3	*.3	*.7
15						20	*107	*127	37	3	*.3	.6
16						*24	96	132	*34	*3	.3	*.6
17						28	*97	*125	32	3	*.3	.6
18						*27	105	118	*30	3	.3	*.6
19						38	*116	*110	28	2	*.3	.5
20						*41	127	105	*24	*2	.3	*.5
21						44	*152	*93	20	2	*.2	.5
22						*43	176	81	19	*2	0	*.5
23						42	*200	*110	11	.7	0	.5
24						*38	209	137	*11	*2	0	1
25						34	*220	*137	12	3	0	1
26						*34	195	137	*15	*2	0	*1
27						37	*200	*140	19	2	*.1	1
28						*41	246	142	*20	*1	.2	*1
29						45	*192	123	20	.7	*.2	2
30						*47	137	109	*16	*1	.2	*2
31						49		*86		1	*.2	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October				
November				
December				
January				
February				
March	49		29.2	1,800
April	246	60	128	7,600
May	142	81	113	6,980
June	62	11	38.2	2,280
July	12	.7	4.59	282
August	1	0	.34	21
September	2	.3	.66	39
The period				19,000

*Interpolated or estimated.

Myrtle Creek near Bonners Ferry, Idaho

Location.- Staff gage in sec. 23, T. 62 N., R. 1 W., 80 feet upstream from power plant of Bonners Ferry Light & Water Co., and 5½ miles west of Bonners Ferry.

Drainage area.- 37 square miles.

Records available.- May 1928 to September 1934 (except winters).

Extremes.- Maximum discharge recorded during year, 875 second-fest Apr. 28 (gage height, 4.30 feet); minimum recorded, 4 second-feet Aug. 27-31, Sept. 1, 8, 9, 30; minimum gage height recorded, 0.91 foot Aug. 30, 31.
1928-34: Maximum discharge recorded, 1,260 second-feet June 15, 1933 (gage height, 4.90 feet); minimum recorded, 0.4 second-foot Sept. 6-22, 30, 1929; minimum gage height, 0.50 foot Sept. 8-22, 30, 1929.

Remarks.- Rscords good. Discharge sstimated Mar. 1-4. No records Oct. 1 to Feb. 28. Water supply for village of Bonners Ferry diverted above station, probably not exceeding 1 second-foot.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							128	358	214	37	8	4
2						36	117	310	191	34	7	5
3							107	325	180	30	8	5
4							107	280	180	26	8	5
5						36	113	392	180	24	8	5
6						39	123	358	180	22	8	5
7						35	150	340	191	21	8	5
8						35	191	340	202	20	8	4
9						35	202	325	180	19	8	4
10						35	191	295	176	19	7	7
11						37	191	430	168	18	7	10
12						42	214	392	152	17	7	9
13						46	266	358	134	16	7	8
14						49	280	410	121	15	7	8
15						51	251	470	113	14	6	7
16						60	238	490	110	13	6	7
17						56	226	392	106	13	6	6
18						55	251	340	94	13	5	6
19						62	251	340	83	12	5	5
20						67	310	310	74	12	5	5
21						73	358	280	69	12	5	7
22						69	450	280	60	11	5	9
23						66	450	310	55	11	5	8
24						58	552	392	53	11	5	7
25						63	530	490	48	11	5	6
26						63	490	410	63	10	5	6
27						69	490	470	63	10	4	6
28						84	820	410	51	9	4	5
29						78	530	450	44	9	4	5
30						112	410	392	39	9	4	4
31						121		266		8	4	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February						
March	121	35	56.1	1.52	1.75	3,450
April	820	107	300	8.11	9.05	17,830
May	490	266	368	9.95	11.47	22,620
June	214	39	119	3.22	3.59	7,090
July	37	8	16.3	.441	.51	1,000
August	8	4	6.1	.165	.19	375
September	10	4	6.1	.165	.18	363
The period						52,730

Ball Creek near Bonners Ferry, Idaho

Location.- Staff gage in SW¼ sec. 24, T. 63 N., R. 1 W., three-quarters of a mile above mouth of creek and 8.2 miles northwest of Bonners Ferry.

Drainage area.- 27 square miles.

Records available.- May 1928 to September 1934 (except winters).

Extremes.- Maximum discharge recorded during year, 642 second-feet Apr. 28 (gage height, 4.30 feet); minimum recorded, 2 second-feet Sept. 10(gage height, 1.82 feet).
1928-34: Maximum discharge recorded, 644 second-feet June 15, 1933 (gage height, 4.60 feet); minimum recorded, that of Sept. 10, 1934.

Remarks.- Records fair except those estimated Mar. 1-16, which are poor. No records Oct. 1 to Feb. 28. Channel loses water in vicinity of gage by seepage. Diversions for irrigation above station negligible.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							73	248	166	30	7	3
2							66	232	151	28	7	3
3							62	217	141	26	7	3
4							64	202	148	24	7	3
5							62	298	148	23	7	3
						15						
6							73	248	146	24	7	3
7							94	232	153	23	7	3
8							126	248	148	21	7	3
9							131	217	153	20	7	3
10							122	202	151	18	6	2
11							124	298	148	17	6	3
12						20	136	264	129	16	6	4
13							166	264	109	16	5	6
14							194	298	104	14	5	6
15							166	372	96	14	5	4
						25						
16							158	353	82	14	5	4
17						33	156	316	75	13	4	4
18						31	161	248	66	13	4	4
19						33	171	217	64	12	4	3
20						40	217	217	56	12	4	4
21						44	248	196	52	11	4	4
22						41	298	217	50	11	4	6
23						41	353	248	46	11	4	5
24						42	372	316	40	11	4	5
25						40	412	372	36	11	4	5
26						39	412	372	49	11	4	5
27						36	433	372	52	10	4	5
28						40	617	372	41	9	3	7
29						42	412	353	35	9	3	7
30						54	316	298	32	8	3	7
31						71		202		7	3	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February						
March	71		29.4	1.09	1.26	1,810
April	617	62	213	7.89	8.80	12,680
May	372	196	274	10.1	11.64	16,880
June	166	32	95.6	3.54	3.95	5,690
July	30	7	15.7	.581	.67	966
August	7	3	5.1	.189	.22	311
September	7	2	4.2	.156	.17	252
The period						38,590

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Trout Creek near Copeland, Idaho

Location.- Staff gage in NE¼ sec. 10, T. 63 N., R. 1 W., 2¼ miles above mouth and 5½ miles southwest of Copeland.

Drainage area.- 20 square miles.

Records available.- May 1928 to September 1934 (except winters).

Extremes.- Maximum discharge recorded during year, 371 second-feet Apr. 28 (gage height, 2.58 feet); minimum recorded, 2 second-feet Aug. 24 to Sept. 10, Sept. 18-23, 27, 28; minimum gage height recorded, 0.58 foot Sept. 7.
1928-34: Maximum discharge recorded, 533 second-feet June 16, 1933; minimum recorded, 2 second-feet Sept. 19-30, 1928, Aug. 23-31, Sept. 1-9, 17-22, 1930, Aug. 17-24, 31, Sept. 4, 5, 24, 25, Oct. 17, 1931, Aug. 24 to Sept. 10, Sept. 18-23, 27, 28, 1934.

Remarks.- Records fair. No records Oct. 25 to Feb. 28. Gage read on alternate days.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						16	*43	*160	137	28	*6	2
2							44	150	*130	*27	6	*2
3	*8						*42	148	122	26	*5	2
4							40	129	*106	*25	5	*2
5							*40	*170	90	25	*5	2
6	8					*16	45	140	*92	*24	5	2
7							*50	*140	93	22	*5	2
8							54	142	*90	*20	5	*2
9	*6						83	*138	86	19	*5	2
10							78	134	*83	*18	4	*2
11							*80	*180	80	16	*4	3
12						*18	83	156	*78	*15	3	*3
13	*5						*104	*156	75	15	*3	3
14						18	126	150	*68	16	3	*3
15						*18	*122	181	60	13	*3	3
16						*21	117	191	*57	*13	3	*3
17						24	*115	*184	54	12	*3	3
18	*7					*23	113	178	*51	*12	3	*2
19						25	*128	*166	48	11	*3	2
20						*28	142	153	*44	*11	3	*2
21						31	181	*148	40	11	*3	2
22	*10					*35	211	142	*38	*10	3	*2
23						34	*229	*145	36	10	*3	2
24	18					*33	247	148	*34	*10	2	*3
25						31	*240	*210	32	10	*2	3
26						28	232	211	*36	11	2	*3
27						29	*300	*210	40	9	*2	2
28						*30	371	198	*36	*7	2	*2
29						31	*290	*210	32	6	*2	3
30						*36	204	211	30	*6	2	*3
31						42		*174		6	*2	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October 1-24			7.5	0.375	0.34	359
November						
December						
January						
February						
March	42		23.6	1.18	1.36	1,450
April	371	40	138	6.90	7.70	8,240
May	211	129	166	8.30	9.57	10,220
June	137	30	66.6	3.33	3.72	3,960
July	28	6	15.0	.750	.86	920
August	6	2	3.4	.170	.20	212
September	3	2	2.4	.120	.13	143

*Interpolated or estimated.

Mission Creek at Copeland, Idaho

Location.- Staff gage in SE¼ sec. 18, T. 64 N., R. 1 E., 400 feet upstream from trestle on Kootenai Valley branch of Great Northern Railway and 0.8 mile south of Copeland.

Drainage area.- 31 square miles.

Records available.- May 1928 to September 1934, except winters.

Extremes.- Maximum discharge recorded during year, 288 second-feet Apr. 28 (gage height, 2.34 feet); minimum recorded, 1 second-foot Aug. 26 (gage height, 0.50 foot).
1928-34: Maximum discharge recorded, 370 second-feet May 22, 1932; maximum gage height recorded, 3.35 feet May 12, 1928; minimum discharge, that of Aug. 26, 1934.

Remarks.- Records good. Discharge estimated Mar. 1-11. No record Oct. 1 to Feb. 28. No regulation or diversions above station except as Round Prairie Creek, which flows into Moyie River Basin, taps Mission Creek at divide 5 miles above gage and diverts a variable flow depending upon the amount of drift that collects at junction of these creeks.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							78	176	42	13	5	2
2							69	152	41	12	4	2
3							67	139	38	12	5	2
4							69	125	39	12	5	2
5							81	127	35	11	5	3
6						16	89	125	32	12	4	2
7							119	122	30	10	4	2
8							131	120	32	10	4	3
9							131	118	35	9	4	2
10							127	109	29	9	4	4
11							129	114	27	8	4	5
12						18	142	125	25	7	4	4
13						20	159	116	24	7	4	5
14						22	176	111	23	7	4	5
15						27	155	111	21	8	4	4
16						31	142	114	20	7	3	3
17						31	142	105	19	7	3	3
18						33	144	97	18	6	3	3
19						37	152	89	18	6	3	3
20						48	162	82	16	6	2	3
21						55	178	73	16	6	3	4
22						50	209	67	16	6	5	5
23						48	220	64	15	6	2	4
24						45	234	63	15	6	2	2
25						44	237	64	14	5	2	3
26						47	237	64	16	5	2	3
27						47	238	59	18	5	2	4
28						51	281	56	15	4	2	5
29						47	238	54	15	4	2	6
30						62	204	50	13	4	2	4
31						78		45		5	2	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October				
November				
December				
January				
February				
March	78		32.8	2,020
April	281	67	158	9,400
May	176	45	97.9	6,020
June	42	13	23.9	1,420
July	13	4	7.6	466
August	5	2	3.4	206
September	6	2	3.4	202
The period				19,730

Rock Creek near Copeland, Idaho

Location.- Staff gage in NW¼ sec. 5, T. 63 N., R. 1 E., at trestle on Kootenai Valley branch of Great Northern Railway 4.7 miles south of Copeland.

Drainage area.- 14.3 square miles.

Records available.- May 1926 to Sept. 1934, except most winters.

Extremes.- Maximum discharge recorded during year, 72 second-feet Apr. 1 (gage height, 2.00 feet); minimum recorded, 0.1 second-foot Aug. 23-25 (gage height, 0.22 foot). 1928-34: Maximum discharge recorded, 86 second-feet Apr. 26, 1933 (gage height, 2.44 feet); minimum recorded, 0.1 second-foot July 20 to Sept. 7, 1931, Aug. 3, 5-10, 14, 15, 17-19, 1932, Aug. 23-25, 1934.

Remarks.- Records good except those estimated Oct. 1-3, 5, 6, 8-19, Mar. 1-9, 11, Apr. 8, 23, which are fair. No diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							72	11	1.5	0.4	0.2	0.2
2	0.2	1.9					61	10	1.2	.4	.2	.2
3							42	9.1	1.2	.3	.2	.2
4	.2						34	8.6	1.2	.3	.2	.2
5	.2					11	34	9.1	1.8	.3	.2	.2
6	.3						36	8.6	1.1	.4	.2	.2
7	.3						51	8.6	1.0	.3	.2	.2
8							42	9.1	1.0	.3	.2	.2
9	.3						33	9.1	1.0	.3	.2	.2
10						11	27	8.6	1.0	.2	.2	.2
11						12	27	8.0	.8	.2	.2	.3
12			14			14	26	8.6	.8	.2	.2	.2
13	.2					17	26	7.4	.7	.2	.2	.2
14						19	25	6.9	.8	.2	.2	.3
15						22	21	5.8	.6	.2	.2	.3
16						25	20	5.3	.7	.2	.2	.3
17	.4	1.3				24	18	4.8	.6	.2	.2	.2
18						25	18	4.8	.6	.2	.2	.2
19						25	17	4.4	.6	.2	.2	.2
20	.6					54	17	4.4	.6	.2	.2	.2
21						30	17	4.4	.6	.3	.2	.2
22						27	14	4.0	.6	.3	.2	.3
23						24	13	4.0	.6	.2	.1	.3
24						24	12	3.1	.5	.2	.1	.3
25						24	10	3.1	.4	.2	.1	.2
26						23	10	2.4	.6	.2	.2	.2
27						22	9	4.4	.7	.2	.2	.2
28						25	10	4.0	.7	.2	.2	.2
29		1.5				24	14	3.5	.5	.2	.2	.2
30						34	14	1.5	.5	.2	.2	.2
31						48		1.5		.2	.2	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October 1-20			0.28	0.020	0.01	11
November						
December						
January						
February						
March	54		21.0	1.47	1.69	1,290
April	72	9	25.7	1.80	2.01	1,530
May	11	1.5	6.07	.424	.49	373
June	1.8	.4	.82	.057	.06	49
July	.4	.2	.25	.017	.02	15
August	.2	.1	.19	.013	.01	12
September	.3	.2	.22	.015	.02	13

Brush Creek near Copeland, Idaho

Location.- Staff gage in SE¼ sec. 19, T. 64 N., R. 1 E., at wooden bridge on valley road paralleling Kootenai Valley branch of Great Northern Railway 1.8 miles south of Copeland.

Drainage area.- 7.2 square miles.

Records available.- May 1928 to September 1934, except most winters.

Extremes.- Maximum discharge recorded during year, 33 second-feet Apr. 1 (gage height, 5.00 feet); no flow July 7-9, 12-19, Aug. 6-30, Sept. 1-12.
1928-34: *Maximum discharge recorded, 68 second-feet Apr. 28, 1933; no flow* June 2, 1929, July 4 to Oct. 31, 1931, July 8 to Aug. 14, Aug. 23 to Oct. 10, 1932, July 7-9, 12-19, Aug. 6-26, Sept. 1-12, 1934.

Remarks.- Records fair. No record Oct. 13 to Feb. 28. Small amount of water is diverted for irrigation from Brush Lake about 2 miles above gage; some regulation at outlet of Brush Lake.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							33	5.6	.04	.09		*0
2							24	4.4	.04	.07	*0.06	*0
3							23	4.0	.04	.07		*0
4							18	9.4	.03	.05	.07	*0
5							17	9.0	.2	.04	*.04	*0
6	*0.1					*4.0	14	8.4	.04	.04	0	*0
7							18	8.4	.03	.00	*0	*0
8							17	5.8	.03	.00	*0	*0
9							20	13	.2	.00	0	*0
10							19	5.8	.2	.01	*0	0
11							16	6.4	.09	.01	*0	*0
12	.1					4.2	15	5.6	.07	*0	*0	*0
13						4.4	15	4.0	.04	*0	*0	.01
14						4.4	14	3.5	.1	*0	*0	
15						4.9	13	5.3	.04	*0	*0	
16						5.8	12	5.3	.09	*0	*0	
17						5.3	11	5.3	.04	*0	0	
18						5.8	10	.4	.04	*0	*0	
19						13	9.4	.4	.04	*0	*0	*.01
20						16	8.4	.4	.09		*0	
21						13	6.4	.4	.09	*.03	*0	
22						7.7	9.0	.2	.09		*0	
23						12	9.0	.09	.09		*0	
24						10	6.4	.2	.07	.05	*0	
25						11	7.7	.07	.05		*0	.01
26						11	7.1	.07	.07		*0	*.01
27						10	6.4	.07	.09	*.05	.07	.01
28						9.0	6.4	.05	.2			
29						11	5.8	.05	.1		*.04	*.01
30						13	6.4	.04	.1			
31						15		.04			.02	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October 1-12			0.10	2.4
November				
December				
January				
February				
March	15		7.50	461
April	33	5.8	13.4	796
May	13	.04	3.60	222
June	.2	.03	.081	4.8
July	.09	.00	.029	1.8
August	.07	.00	.016	1.0
September	.01	.00	.006	.4

*Estimated.

Parker Creek near Copeland, Idaho

Location.- Staff gage in SW¼ sec. 8, T. 64 N., R. 1 W., at U. S. Forest Service bridge 4¼ miles west of Copeland.

Drainage area.- 16.5 square miles.

Records available.- May 1928 to September 1934 (except winters).

Extremes.- Maximum discharge recorded during year, 219 second-feet May 25 (gage height, 1.27 feet); minimum, 2 second-feet Sept. 1-9; minimum recorded gage height, -0.50 foot Sept. 4.
1928-34: Maximum discharge, (estimated), 400 second-feet June 15, 1933; minimum, 1 second-foot Sept. 4-6, 1930.

Remarks.- Records poor. No records Oct. 20 to Feb. 28. No diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*7							*130				
2	*7							111			*5	*2
3	7						*30		*100	*22		
4												2
5	*8										*4	
6						*9	*40	98				
7							50	*125	*90		4	*2
8	*6								*80			
9									77	*18		
10							*65				*4	
11									*70			*3
12						10		135		16		
13	*5						*80	*140				*5
14								172		*15		4
15						*12			*60		*3	
16								*140				
17	*6						*75					
18									56	*12	3	
19	7							66				
20						*17	103		*50			
21							133	*65				*4
22						19				*9		
23							*160		*30			
24								66			*3	
25						*18		219		8		
26								*218	24	*7		
27								216	42	6		
28						*23	*200		*36			4
29						*27			30			*4
30						30		*160	*28	*5	3	*4
31						*32					*3	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October 1-19			6.3	0.382	0.27	236
November						
December						
January						
February						
March	32		14.8	.897	1.03	908
April			99.9	6.05	6.75	5,940
May	219		131	7.94	9.15	8,050
June			61.7	3.74	4.17	3,670
July			13.4	.812	.94	825
August			3.5	.212	.24	214
September			3.3	.200	.22	198

*Estimated or interpolated.

Long Canyon Creek near Port Hill, Idaho

Location.- Water-stage recorder in NW¼ sec. 36, T. 65 N., R. 2 W., on U. S. Forest Service bridge at mouth of canyon, 4 miles southwest of Port Hill.

Drainage area.- 29 square miles.

Records available.- May 1928 to September 1934, except winters.

Extremes.- Maximum discharge during year, 818 second-feet Apr. 28 (gage height, 4.26 feet); minimum, 7 second-feet Sept. 5-9, 18-21; minimum gage height, 1.55 feet Oct. 21.

1928-34: Maximum daily discharge (estimated), 950 second-feet June 15, 1933; maximum gage height, 6.55 feet (caused by drift jam) June 15, 1933; minimum discharge, 4.2 second-feet Nov. 8, 1930 (gage height, 0.91 foot).

Remarks.- Records good except those for Oct. 22 to June 30, which are fair. Discharge estimated Dec. 26-31, Mar. 1-7. No records Jan. 1 to Feb. 28. No diversions above gage.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	65	46				62	327	185	51	14	8
2	18	68	46				58	284	172	48	13	8
3	20	86	46				56	272	161	44	13	8
4	22	67	44			25	55	253	161	42	14	8
5	22	63	44				57	336	161	44	12	7
6	21	59	50				65	314	166	42	12	7
7	19	57	46				80	296	182	38	12	7
8	19	54	44			24	108	292	169	35	11	7
9	18	52	43			24	116	268	172	33	11	7
10	17	52	42			24	112	246	169	31	10	8
11	17	51	47			24	122	322	166	30	10	10
12	17	50	44			26	144	340	156	28	10	8
13	19	50	44			30	179	314	143	28	10	9
14	15	48	43			31	186	345	132	27	10	9
15	15	48	41			35	172	436	126	25	9	8
16	15	47	33			37	161	448	114	25	9	8
17	15	46	39			36	159	362	105	25	9	8
18	22	44	46			36	176	304	100	22	9	7
19	22	44	46			38	181	260	98	20	9	7
20	18	43	47			42	206	243	86	20	9	7
21	16	42	100			43	250	220	80	20	8	7
22	16	47	157			42	345	223	74	21	9	9
23	35	50	113			40	448	246	67	20	8	8
24	45	53	87			39	520	309	61	18	8	8
25	56	57	69			38	562	424	58	20	8	8
26	54	54				37	583	486	72	18	8	8
27	69	51				39	604	468	80	17	8	8
28	118	48	60			44	695	474	66	16	8	9
29	133	48				43	527	486	59	16	8	9
30	91	48				54	406	390	55	14	8	9
31	76					58		240		14	8	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	133	15	34.8	1.20	1.38	2,140
November	86	42	53.1	1.83	2.04	3,160
December	157	33	57.0	1.97	2.27	3,500
January						
February						
March	58	24	34.2	1.18	1.36	2,100
April	695	55	246	8.48	9.46	14,670
May	486	220	330	11.4	13.14	20,290
June	185	55	120	4.14	4.62	7,130
July	51	14	27.5	.948	1.09	1,690
August	14	8	9.8	.338	.39	605
September	10	7	8.0	.276	.31	474

Smith Creek near Port Hill, Idaho

Location.- Water-stage recorder in NE¼ sec. 26, T. 65 N., R. 2 W., at U. S. Forest Service bridge 1 mile south of Smith Creek ranger station and 4 miles southwest of Port Hill.

Drainage area.- 70 square miles.

Records available.- May 1928 to September 1934, except winters.

Extremes.- Maximum discharge during year, 1,960 second-feet Apr. 28 (gage height, 6.20 feet); minimum, 6 second-feet Sept. 5-8; minimum gage height, 1.15 feet Sept. 7. 1928-34: Maximum discharge, 3,060 second-feet June 14, 1933 (gage height, 7.15 feet); minimum, 5 second-feet Oct. 9, 1932; minimum gage height, 0.80 foot Sept. 15-18, 1929, and Sept. 10, 1930.

Remarks.- Records good except those estimated Nov. 8-25, Dec. 11-15, Mar. 1-7, which are fair. No records Dec. 16 to Feb. 28. No diversions above gage.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	267	124			70	249	710	485	85	18	7
2	54	237	118			75	222	660	451	60	18	7
3	64	341	116			80	206	726	431	73	17	7
4	72	247	108			78	208	685	447	68	20	7
5	67	206	106			76	220	1,020	443	73	18	6
6	57	186	166			76	252	836	468	78	16	6
7	51	170	149			76	351	814	502	64	15	6
8	47	150	124			76	511	946	451	58	14	6
9	43	130	118			74	498	836	476	53	13	7
10	41	135	115			73	435	736	435	50	12	9
11	38	140	125			76	460	1,040	412	46	12	14
12	36	145	120			81	530	1,010	365	44	12	12
13	34	135	115			87	715	902	316	41	11	20
14	34	125	110			91	726	1,060	290	38	11	17
15	33	120	105			99	595	1,260	257	37	10	11
16	33	120				106	540	1,260	225	37	10	11
17	34	120				100	560	1,000	199	39	9	9
18	61	120				100	605	786	193	34	10	9
19	69	115				106	665	715	199	31	9	9
20	53	115				121	819	695	164	30	9	9
21	43	115				128	994	630	149	30	8	9
22	43	145				120	1,190	670	133	30	8	12
23	133	165				115	1,330	792	120	34	8	11
24	242	180				115	1,400	1,010	110	28	8	10
25	247	200				112	1,440	1,220	88	33	8	9
26	208	178				114	1,330	1,190	123	31	8	10
27	262	164				120	1,400	1,120	147	25	7	10
28	420	142				156	1,750	1,050	112	24	7	12
29	408	131				156	1,300	1,060	100	22	7	12
30	372	135				227	868	902	92	20	7	12
31	301					262		615		18	7	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	420	33	118	1.69	1.95	7,260
November	341	115	163	2.33	2.60	9,680
December 1-15	166	105	121	1.73	.96	3,610
January						
February						
March	262	70	108	1.54	1.78	6,640
April	1,750	206	746	10.7	11.94	44,370
May	1,260	615	902	12.9	14.87	55,450
June	502	88	279	3.99	4.45	16,630
July	85	18	43.7	.624	.72	2,690
August	20	7	11.2	.160	.18	688
September	20	6	9.87	.141	.16	587

Boundary Creek near Port Hill, Idaho

(International gaging station)

Location.- Water-stage recorder in SW¼ sec. 11, T. 65 N., R. 2 W., 140 feet below bridge at mouth of canyon, 0.2 mile south of the international boundary, and 3 miles west of Port Hill.

Drainage area.- 97 square miles.

Records available.- May 1928 to September 1934.

Extremes.- Maximum discharge during year, 1,760 second-feet Apr. 28 (gage height, 4.66 feet); minimum, 14 second-feet Sept. 6-8; minimum gage height, 0.55 foot Sept. 7. 1928-34: Maximum discharge, 2,400 second-feet June 15, 1933 (gage height, 5.22 feet); minimum, 9 second-feet Oct. 31, 1929 (gage height, 0.33 foot).

Remarks.- Records good except those estimated Dec. 11-18, Dec. 25 to Jan. 10, Feb. 14 to Mar. 14, Apr. 7-12, Sept. 9-12, which are fair. No diversions above gage. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	179	105	210	85	78	254	827	433	64	23	15
2	46	171	100	200	92	85	231	767	402	59	22	15
3	47	189	105	210	91	83	218	821	381	56	22	15
4	49	158	97	210	92	83	224	767	390	54	24	15
5	46	142	94	210	96	80	240	1,040	377	56	23	15
6	42	134	110	190	100	80	271	929	373	77	22	14
7	39	120	112	170	94	80	420	875	361	55	20	14
8	37	117	102	160	108	80	600	1,000	338	50	20	14
9	36	113	97	150	110	80	600	893	350	46	20	15
10	34	117	96	140	105	80	540	803	320	43	20	16
11	35	120	100	132	98	85	540	968	299	41	19	21
12	32	124	97	126	94	90	620	935	267	39	19	20
13	31	118	95	124	91	100	803	881	236	38	19	28
14	30	113	92	112	91	105	761	968	210	37	19	22
15	30	108	90	105	90	115	625	1,140	191	36	18	19
16	30	106	86	105	90	120	575	1,140	169	35	18	18
17	32	105	88	108	90	115	590	935	153	37	18	18
18	48	102	90	97	90	117	635	779	144	34	18	17
19	58	97	94	103	89	122	690	711	144	32	18	17
20	46	98	98	100	88	142	851	660	124	31	18	17
21	36	97	195	97	86	152	1,040	595	113	30	17	17
22	39	115	481	96	85	149	1,250	615	104	30	17	20
23	82	140	400	102	84	142	1,410	695	98	30	16	19
24	142	152	288	92	82	140	1,490	845	90	29	16	18
25	156	176	250	94	78	140	1,490	968	84	33	16	18
26	134	152	210	92	70	138	1,410	968	90	30	16	18
27	173	136	190	91	70	142	1,450	899	94	27	16	19
28	320	117	190	87	70	161	1,710	845	81	26	16	20
29	445	106	190	85		161	1,290	833	77	24	15	22
30	282	115	220	84		224	968	738	70	24	15	20
31	218		220	84		257		528		23	15	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	445	30	91.1	0.939	1.08	5,600
November	189	97	128	1.32	1.47	7,610
December	481	86	154	1.59	1.83	9,480
January	210	84	128	1.32	1.52	7,870
February	110	70	89.6	0.924	.96	4,980
March	257	78	120	1.24	1.43	7,400
April	1,710	218	793	8.18	9.13	47,200
May	1,140	528	851	8.77	10.11	52,300
June	433	219	2.26	2.52	13,000	
July	77	23	39.5	.407	.47	2,430
August	24	15	18.5	.191	.22	1,140
September	28	14	17.9	.185	.21	1,060
The year	1,710	14	221	2.28	30.95	160,100

Clark Fork above Missoula, Mont.

Location.- Water-stage recorder in SE¼ sec. 19, T. 13 N., R. 18 W., 1½ miles below mouth of Blackfoot River and 4 miles east of Missoula.

Records available.- March 1929 to September 1934.

Extremes.- Maximum discharge during year, 15,300 second-feet Apr. 13 (gage height, 8.42 feet); minimum, 520 second-feet Sept. 7 (gage height, 1.60 feet).
1929-34: Maximum discharge, 21,600 second-feet June 2, 1933 (gage height, 9.90 feet), minimum, 86 second-feet Jan. 8, 1930 (gage height, 0.52 foot, ice jammed above gage).

Remarks.- Records good except those for period of ice effect, Dec. 27 to Jan. 2, those estimated Oct. 5 to 10, Dec. 4 to 7, July 12, and those based on observers' staff-gage readings Apr. 7 to 17, July 28 to 31, which are fair. Several diversions for irrigation above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,340	2,860	1,500	2,700	2,010	2,080	5,170	11,100	5,540	2,480	1,140	760
2	1,400	2,860	1,940	2,940	2,460	2,160	5,290	10,300	5,290	2,270	1,090	760
3	1,320	2,700	1,940	3,200	2,620	2,540	5,170	9,700	4,940	2,270	1,120	751
4	1,180	3,200	}	3,460	2,700	2,230	4,720	9,140	5,060	2,130	1,070	742
5	}	3,280	} 1,910	3,200	2,460	2,540	4,720	8,600	5,170	2,060	1,040	778
6		2,620	}	3,370	2,620	2,460	4,720	9,980	4,720	2,060	1,050	733
7	} 1,140	2,860		2,940	2,540	2,230	6,450	11,100	5,410	1,920	1,020	697
8		2,940	1,880	2,540	2,460	2,460	6,860	11,700	7,790	1,920	1,020	733
9		2,460	2,010	2,540	2,620	2,300	7,830	12,000	7,520	1,990	1,010	760
10	}	2,620	2,010	2,540	2,620	2,160	8,870	11,100	6,310	1,800	1,020	796
11	1,110	2,620	2,780	2,620	2,460	2,080	9,980	9,980	5,540	1,700	940	787
12	1,200	2,380	2,620	2,460	2,230	2,230	11,100	9,420	5,290	1,620	940	832
13	1,180	2,380	2,620	3,100	2,460	2,460	13,500	8,600	4,940	1,540	950	832
14	1,220	2,300	2,300	2,160	2,080	2,780	13,500	8,060	4,620	1,460	950	832
15	1,140	2,300	2,300	2,540	2,300	3,030	13,200	7,790	4,410	1,460	940	832
16	1,220	1,940	2,380	1,940	2,230	3,200	12,900	8,330	4,110	1,380	922	859
17	1,560	2,230	1,940	2,380	2,230	3,370	11,100	8,600	3,820	1,370	913	850
18	1,440	2,080	2,160	2,380	2,380	3,120	9,980	8,600	3,640	1,400	922	859
19	1,880	2,080	2,080	2,230	2,460	3,200	9,420	8,330	3,370	1,340	859	841
20	1,680	2,010	2,010	2,230	2,160	3,370	9,700	8,330	3,280	1,270	832	859
21	1,940	2,080	2,160	2,160	2,160	3,640	10,500	7,790	3,200	1,230	850	850
22	1,740	1,740	2,860	2,080	1,940	3,920	11,700	6,840	3,200	1,250	832	850
23	1,880	2,230	2,620	2,540	2,010	3,280	12,600	6,580	2,560	1,580	814	950
24	1,740	2,080	3,460	2,460	2,080	3,730	13,500	6,310	2,340	1,200	850	1,040
25	2,080	1,940	2,940	2,540	1,680	3,640	14,100	6,710	2,410	1,020	787	931
26	1,880	2,230	2,460	2,160	1,760	3,640	14,100	6,980	2,710	1,030	778	1,040
27	1,880	2,080	2,380	2,080	1,500	3,550	13,500	6,580	3,030	922	805	1,050
28	1,810	1,940	2,010	2,300	1,880	3,920	13,200	6,840	2,790	886	769	1,250
29	2,300	2,080	2,010	2,160		4,310	12,900	6,580	2,710	886	760	1,560
30	2,620	2,080	2,160	2,300		4,620	12,000	6,440	2,560	886	769	832
31	2,700		2,300	2,080		4,940		6,180		1,040	778	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,700	1,110	1,557	95,760
November	3,280	1,740	2,373	141,200
December	3,460	1,500	2,241	137,800
January	3,460	1,940	2,527	155,400
February	2,700	1,500	2,253	125,100
March	4,940	2,080	3,071	188,800
April	14,100	4,720	10,080	599,600
May	12,000	6,180	8,535	524,800
June	7,790	2,340	4,276	254,400
July	2,480	886	1,528	93,960
August	1,140	760	921	56,610
September	1,560	697	875	52,060
The year	14,100	697	3,350	2,425,000

Clark Fork below Missoula, Mont.

Location.- Water-stage recorder in SE¼ sec. 21, T. 13 N., R. 20 W., 2 miles below mouth of Bitterroot River and 6 miles west of Missoula.

Records available.- October 1929 to September 1934.

Extremes.- Maximum discharge recorded during year, 25,700 second-feet Apr. 26 (gage height, 8.00 feet); minimum recorded, 1,030 second-feet Sept. 7 (gage height, 0.78 foot).

1929-34: Maximum discharge, 36,800 second-feet June 11, 1933 (gage height, 10.14 feet); minimum, 388 second-feet Jan. 18, 1933 (gage height, 0.58 foot; ice present).

Remarks.- Records good. No records Oct. 1-6, Oct. 12 to Jan. 6. Observers' readings used Mar. 12-15 and July 11-23. Numerous diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					3,960	4,160	10,800	19,100	10,400	4,160	1,730	1,150
2					4,260	4,160	10,400	17,100	9,700	3,960	1,720	1,160
3					4,460	4,570	9,700	15,700	9,000	3,860	1,730	1,150
4					4,680	4,780	9,000	15,200	9,000	3,770	1,660	1,150
5					4,570	4,780	8,660	14,700	9,000	3,580	1,610	1,170
6					4,680	4,680	8,660	17,600	8,660	3,580	1,600	1,130
7	2,020			5,210	4,570	4,780	8,660	20,200	11,600	3,490	1,550	1,120
8	2,090			4,880	4,570	4,880	9,700	21,300	14,300	3,490	1,540	1,110
9	2,070			4,660	4,680	4,680	11,600	21,800	13,800	3,400	1,480	1,130
10	2,040			4,680	4,680	4,570	13,400	19,700	12,000	3,400	1,410	1,170
11	1,940			4,680	4,570	4,360	14,700	17,100	10,800	3,220	1,330	1,180
12				4,570	4,260	4,680	16,200	15,700	10,100	3,130	1,340	1,180
13				4,780	4,460	4,880	18,100	15,200	9,700	3,130	1,340	1,170
14				4,060	4,160	5,550	20,200	13,800	9,000	2,950	1,330	1,210
15				4,360	4,260	4,990	20,700	13,400	8,490	2,860	1,330	1,210
16				4,160	4,460	5,800	19,700	13,800	7,670	2,860	1,310	1,240
17				3,960	4,260	6,320	17,600	14,700	7,040	2,780	1,300	1,240
18				4,160	4,360	6,320	16,200	15,200	6,450	2,350	1,270	1,250
19				4,160	4,160	6,320	15,700	15,200	5,920	2,690	1,270	1,240
20				4,060	4,160	6,450	16,200	14,700	5,670	2,520	1,240	1,300
21				3,960	4,160	6,890	17,100	13,800	5,320	2,600	1,220	1,330
22				3,960	3,960	7,200	19,100	12,500	5,100	2,520	1,200	1,430
23				4,360	3,960	6,740	21,300	11,600	4,990	2,440	1,160	1,470
24				4,680	3,770	7,200	22,900	11,200	4,060	2,350	1,170	1,800
25				4,680	3,680	6,890	24,600	12,000	4,260	2,440	1,170	1,880
26				4,460	3,400	6,740	25,100	13,400	4,360	2,190	1,150	1,960
27				4,160	3,400	6,600	23,500	12,500	4,780	2,350	1,170	1,960
28				4,260	3,960	7,350	22,400	12,900	4,880	1,760	1,150	2,030
29				4,160		8,660	21,800	12,900	4,780	1,720	1,180	2,690
30				4,160		10,100	21,300	12,500	4,460	1,730	1,220	1,760
31				4,060		10,800		12,000		1,570	1,170	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October 7-11	2,090	1,920	2,028	20,110
November				
December				
January 7-31	5,210	3,960	4,372	216,800
February	4,680	3,400	4,232	235,100
March	10,800	4,160	6,028	370,700
April	25,100	8,660	16,500	981,800
May	21,800	11,200	15,110	929,300
June	14,300	4,060	7,843	466,700
July	4,160	1,570	2,866	176,200
August	1,730	1,150	1,356	83,400
September	2,690	1,110	1,399	83,250

Clark Fork at St. Regis, Mont.

Location.- Water-stage recorder in sec. 19, T. 18 N., R. 27 W., at St. Regis, half a mile below mouth of St. Regis River. Staff gage prior to Nov. 29, 1933.

Drainage area.- 10,500 square miles.

Records available.- October 1910 to September 1923, February 1929 to September 1934.

Extremes.- Maximum discharge during year, 35,700 second-feet Apr. 26 (gage height, 14.27 feet); minimum, 1,710 second-feet Sept. 8 (gage height, 3.56 feet).
1910-23, 1929-34: Maximum discharge, 62,800 second-feet May 20-31, 1913 (gage height, 19.1 feet); minimum, 1,050 second-feet Feb. 19-22, 1929, ice on control.

Remarks.- Records good. Numerous diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,130	9,200	5,470	12,700	6,960	5,790	21,100	27,600	15,200	5,790	2,500	1,540
2	3,130	8,700	4,660	12,100	6,740	6,500	19,900	25,400	13,900	5,450	2,500	1,800
3	3,060	10,500	5,050	11,500	7,220	6,950	18,200	23,200	13,000	5,230	2,500	1,800
4	2,960	10,800	4,850	11,800	7,720	7,220	17,100	21,900	12,700	5,020	*2,410	1,800
5	2,950	10,200	4,480	11,800	7,720	7,220	16,600	21,900	12,700	4,810	2,320	1,500
6	2,980	9,700	5,050	11,000	7,720	7,470	15,200	22,400	12,400	4,610	2,320	1,500
7	2,950	8,450	5,470	10,400	7,720	7,470	15,200	25,500	12,700	4,510	*2,260	1,500
8	*2,910	8,450	5,470	9,580	7,720	7,470	16,000	28,100	16,700	4,420	2,200	1,760
9	2,940	8,200	5,470	8,770	7,720	7,470	17,500	29,000	17,500	4,320	2,260	1,760
10	2,700	7,720	6,780	8,500	7,720	7,220	19,900	27,200	16,300	4,220	*2,230	1,760
11	2,640	7,240	8,200	8,240	7,720	7,220	21,900	24,500	14,600	4,040	2,200	1,500
12	2,570	7,240	9,450	8,240	7,470	6,950	23,600	22,500	13,900	3,860	*2,150	1,500
13	2,570	6,340	9,700	7,980	7,220	7,470	25,800	21,500	13,300	3,700	2,100	1,540
14	2,570	6,340	9,200	7,720	7,220	7,950	28,600	19,900	12,700	3,620	2,100	1,540
15	2,640	6,340	8,450	6,980	6,950	8,770	29,900	19,500	11,500	3,540	2,100	1,540
16	2,700	5,900	7,720	7,220	6,980	9,580	29,000	19,900	11,000	3,350	2,040	1,840
17	2,700	5,680	7,240	6,500	7,220	10,400	27,200	20,700	10,100	3,310	*2,020	1,540
18	3,760	5,680	7,000	6,740	6,950	11,000	25,400	21,100	9,310	3,240	1,990	1,840
19	3,780	*5,660	7,000	6,740	6,980	10,700	24,100	20,700	8,770	3,170	*1,990	1,890
20	5,050	5,680	7,240	6,740	6,950	10,700	24,100	20,300	8,240	3,100	1,990	1,890
21	5,260	5,470	9,450	6,500	6,500	11,200	25,000	19,100	7,720	3,030	1,890	1,940
22	*5,060	5,470	16,200	6,500	6,500	11,800	27,200	17,500	7,220	2,960	1,890	1,990
23	4,850	5,050	32,300	7,470	6,250	12,100	29,400	16,300	7,220	*2,560	1,890	2,040
24	6,780	5,900	30,400	8,500	6,260	11,500	31,500	16,000	6,260	2,760	1,540	2,150
25	7,000	6,120	23,200	8,500	6,020	11,500	34,200	16,700	5,650	*2,520	1,540	2,260
26	7,240	5,880	18,200	8,240	5,230	11,200	35,200	17,800	5,790	2,890	1,540	2,380
27	7,000	5,900	15,600	7,720	5,230	11,200	33,700	17,500	6,260	*2,560	1,540	2,440
28	7,450	6,120	13,900	7,220	5,230	11,500	32,700	17,800	6,740	2,520	1,840	2,440
29	*9,140	5,680	13,000	7,470		17,100	31,500	17,500	6,500	*2,660	1,840	2,560
30	10,500	5,680	12,700	7,220		21,100	29,900	17,500	6,260	2,500	1,540	3,030
31	10,200		13,000	7,220		21,900		16,700		2,440	1,540	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	10,800	2,570	4,565	280,700
November	10,800	5,050	7,047	419,300
December	32,300	4,480	10,710	658,300
January	12,700	6,500	8,520	523,900
February	7,720	5,230	6,927	384,700
March	21,900	5,790	10,130	622,800
April	35,200	15,200	24,880	1,481,000
May	29,000	16,000	21,090	1,297,000
June	17,800	5,680	10,750	639,600
July	5,790	2,440	3,675	226,000
August	2,500	1,840	2,083	128,100
September	3,030	1,760	1,986	118,200
The year	35,200	1,760	9,364	6,780,000

*Interpolated.

Clark Fork near Plains, Mont.

Location.- Water-stage recorder on lot 7, sec. 7, T. 19 N., R. 26 W., 3 miles above Plains and 7 miles below mouth of Flathead River.

Drainage area.- 19,900 square miles.

Records available.- October 1910 to September 1934.

Extremes.- Maximum discharge during year, 76,800 second-feet May 10 (gage height, 14.01 feet); minimum, 5,260 second-feet Sept. 19 (gage height, 3.85 feet).
1910-34: Maximum discharge, 126,000 second-feet May 28, 1928; minimum, 3,860 second-feet Jan. 18, 1930.

Remarks.- Records good except those estimated, which are fair. Observer's readings used Aug. 21, 24, 28, 31. Numerous diversions for irrigation above station. Flow somewhat regulated by natural storage in Flathead Lake.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,650				18,400		33,300	74,800	64,000	27,500	11,100	
2	8,650				17,900		32,500	72,800	63,100	26,800	11,100	
3	9,050				17,900		31,000	70,800	61,300	26,100	11,100	*6,100
4	8,850			*26,800	17,900		29,600	68,800	60,400	24,700	10,600	
5	8,850				18,400		28,900	67,900	58,600	24,100	10,600	
6	8,650	*23,200	*15,900		17,900		28,200	67,900	57,700	23,400	10,200	
7	8,650			26,800	17,900		28,200	69,800	55,900	22,800	10,000	
8	8,650			26,100	17,900		28,900	73,800	56,800	22,100	10,000	*5,600
9	8,650			24,700	17,900	*14,000	31,000	75,800	57,700	21,500	9,850	
10	8,450			24,100	17,900		33,300	76,800	56,800	20,800	9,650	
11	8,450			23,400	17,900		36,300	74,800	54,200	20,200	9,450	
12	8,450			23,400	17,300		39,400	73,800	52,400	19,000	9,050	
13	8,450			22,800	17,300		42,600	72,800	52,400	19,000	9,050	*5,500
14	8,250			22,800	17,300		46,600	70,800	49,900	17,900	8,850	
15	8,250	*20,700	*18,300	21,500	17,300	16,200	49,900	69,800	48,200	17,300	8,850	
16	8,450			21,500	17,300	16,800	50,700	68,800	46,600	16,200	8,650	5,650
17	8,450			20,200	17,300	17,900	50,700	70,800	45,000	16,200	8,450	5,450
18	8,450			20,200	16,800	18,400	49,900	70,800	43,400	15,700	*8,300	5,450
19	8,650			20,200	16,200	18,400	49,900	70,800	41,800	15,700	*8,150	5,450
20	9,050			19,600	16,200	18,400	49,900	70,800	40,200	15,200	*8,000	5,650
21	10,200			19,000		19,000	51,600	69,800	39,400	14,700	7,850	5,850
22	10,600			19,000		19,600	55,000	68,800	36,300	14,200	*7,850	5,650
23	10,600			19,600		20,800	57,700	65,900	34,800	14,200	*7,850	5,850
24	10,600			20,800		20,200	64,000	65,000	34,100	13,700	*7,850	5,850
25	11,500	*18,000		20,800	*13,500	20,200	67,900	64,000	32,500	13,200	*8,150	5,850
26			*29,300	20,200		20,200	71,800	64,000	31,800	12,800	*8,450	5,650
27				19,600		20,200	72,800	65,000	31,000	12,800	*8,750	5,650
28	*14,900			19,000		20,800	73,800	65,000	29,600	12,800	9,050	5,650
29				19,000		26,100	74,800	65,000	28,900	11,900	*8,360	5,650
30				18,400		31,000	74,800	65,000	28,900	11,900	*7,720	6,250
31				18,400		33,300		65,000		11,100	7,050	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October		8,250	10,160	625,000
November			20,630	1,228,000
December			21,430	1,318,000
January	26,800	18,400	22,320	1,372,000
February	18,400		16,390	910,200
March	33,300		17,850	1,098,000
April	74,800	28,200	47,830	2,846,000
May	76,800	64,000	69,540	4,276,000
June	64,000	28,900	46,400	2,761,000
July	27,500	11,100	17,920	1,102,000
August	11,100	7,050	9,031	555,300
September	6,250	5,450	5,718	340,300
The year	76,800	5,450	25,460	18,430,000

*Estimated.

Clark Fork near Heron, Mont.

Location.- Water-stage recorder in sec. 28, T. 27 N., R. 34 W., 600 feet above Dead Horse Creek and 1½ miles northwest of Heron.

Drainage area.- 21,800 square miles.

Records available.- September 1928 to September 1934.

Extremes.- Maximum discharge during year, 87,400 second-feet Apr. 28, 29; maximum gage height, 35.52 feet Apr. 28; minimum discharge, 4,090 second-feet Sept. 16 (gage height, 9.70 feet).
1928-34: Maximum discharge, 137,000 second-feet June 17, 1933 (gage height, 46.62 feet, present datum); minimum, 1,640 second-feet as measured Jan. 13, 1930, during period of ice effect (gage height, 8.81 feet, present datum).
Maximum stage known, 59.1 feet, present datum, June 1894.

Remarks.- Records good. Discharge estimated May 9-11, 13-18. Power-plant operation at Thompson Falls causes considerable diurnal fluctuation during low-water periods. Considerable water diverted for irrigation from tributaries upstream.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,800	24,100	18,500	37,200	22,100	16,500	45,100	85,300	70,000	31,400	12,700	6,890
2	9,750	23,800	18,300	36,500	21,800	17,000	44,000	83,100	69,200	30,400	12,500	7,250
3	8,560	26,900	18,000	36,200	21,800	17,600	41,500	80,100	66,800	29,400	12,500	7,250
4	9,750	27,800	17,800	36,500	21,800	18,300	39,700	77,600	64,800	28,200	12,300	7,610
5	9,550	27,200	17,500	36,500	22,100	18,300	37,600	75,900	62,800	27,500	11,600	8,180
6	9,550	26,600	17,500	35,800	22,100	18,500	35,800	75,900	61,200	26,600	11,900	7,990
7	9,350	25,600	18,000	34,500	22,100	18,800	35,500	76,300	59,600	26,200	11,400	7,800
8	9,750	24,400	18,000	33,100	21,800	18,800	37,200	79,300	59,600	25,300	11,600	7,430
9	9,750	23,800	18,300	31,800	21,800	18,800	40,400		61,200	24,400	10,200	6,710
10	9,350	23,500	19,000	30,400	21,800	18,800	42,900	80,000	61,200	23,800	10,400	6,540
11	9,350	22,900	21,800	29,400	21,500	18,800	46,600		59,200	22,900	11,000	6,890
12	9,350	22,400	24,400	28,200	21,200	18,800	48,400	82,700	56,800	21,800	9,950	6,200
13	9,350	22,100	26,200	27,200	20,900	19,000	52,600		54,900	20,900	10,400	7,430
14	8,950	21,800	25,900	26,600	20,700	19,600	57,600	82,000	53,300	20,100	9,550	6,710
15	7,990	21,500	22,100	25,900	20,400	20,100	62,000		52,200	19,800	10,600	6,540
16	7,800	20,900	23,500	24,700	19,800	21,200	64,000		50,300	19,300	10,200	5,550
17	9,750	20,700	22,400	24,400	19,600	22,600	63,600	80,000	48,400	18,500	9,750	6,200
18	8,950	20,400	22,100	23,800	19,600	23,800	62,800		46,900	17,800	10,200	6,370
19	8,950	20,100	22,900	23,200	19,300	24,100	62,000	78,000	45,100	17,000	8,370	6,710
20	9,550	19,600	24,400	23,200	19,300	24,100	62,400	78,000	43,300	17,200	8,950	5,710
21	11,000	19,300	28,200	22,900	19,000	24,400	64,400	76,700	41,500	17,800	9,950	6,710
22	11,000	19,000	42,200	22,600	18,800	25,000	67,200	75,500	40,000	16,800	9,150	6,540
23	11,900	19,000	61,600	23,500	18,500	25,900	71,700	73,400	38,300	16,500	9,150	6,710
24	12,700	19,000	71,700	25,300	18,300	25,900	76,300	71,300	37,200	16,200	8,750	6,540
25	12,700	19,000	62,400	25,900	18,300	25,600	81,000	70,500	36,200	15,800	8,560	6,030
26	13,600	18,800	53,000	25,300	17,500	25,600	84,400	70,000	34,800	15,300	7,800	5,550
27	14,100	18,800	47,300	25,000	16,800	25,300	86,100	70,900	34,500	14,800	7,070	6,370
28	15,000	18,500	42,900	24,100	16,500	26,200	87,000	70,900	33,800	14,600	7,800	6,710
29	18,300	18,500	40,000	23,500		30,400	87,400	70,900	33,100	14,600	7,990	6,540
30	21,800	18,800	37,900	22,900		40,700	87,000	70,900	32,400	13,600	7,250	6,540
31	22,600		37,200	22,400		44,700		70,900		13,900	7,250	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	22,600	7,800	11,320	695,900
November	27,800	18,500	21,830	1,299,000
December	71,700	17,500	30,350	1,866,000
January	37,200	22,400	28,020	1,723,000
February	22,100	16,500	20,190	1,121,000
March	44,700	16,500	23,010	1,415,000
April	87,400	35,500	59,140	3,519,000
May	85,300	70,500	77,100	4,741,000
June	70,000	32,400	50,290	2,992,000
July	31,400	13,600	20,590	1,266,000
August	12,700	7,070	9,896	608,500
September	8,180	5,550	6,740	401,100
The year	87,400	5,550	29,900	21,650,000

Pend Oreille Lake at Hope, Idaho

Location.- Water-stage recorder in lot 2, sec. 35, T. 57 N., R. 1 E., at floating dock near Northern Pacific Railway station at Hope. Zero of gage is 2,000.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Drainage area.- 22,900 square miles.

Records available.- September 1921 to September 1934, March 1914 to September 1922 at Sandpoint.

Extremes.- Maximum water-surface elevation during year, 2,062.39 feet May 12, 13; minimum, 2,047.21 feet Sept. 27.

1921-34: Maximum water-surface elevation, 2,068.78 feet June 21, 1933; minimum, 2,046.59 feet Jan. 28, 1930.

Maximum known water-surface elevation, 2,076.08 feet June 1894. (Elevation of 2,079.29 feet previously published for this flood is referred to the original datum of U. S. Geological Survey bench mark at Hope.)

Remarks.- Records excellent. Considerable water diverted from tributaries of Clark Fork for irrigation.

Gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48.29	49.58	50.82	55.84	52.84	50.93	53.38	61.67	60.75	54.68	49.90	47.92
2	48.31	49.85	50.77	55.75	52.75	50.97	53.76	61.83	60.65	54.48	49.79	47.88
3	48.29	50.24	50.74	55.75	52.67	50.96	54.03	61.94	60.53	54.27	49.73	47.84
4	48.24	50.62	50.68	55.76	52.57	50.97	54.21	61.97	60.39	54.04	49.61	47.80
5	48.23	50.92	50.64	55.80	52.49	50.96	54.31	61.98	60.21	53.93	49.53	47.79
6	48.22	51.17	50.65	55.73	52.42	50.98	54.36	61.97	60.01	53.63	49.44	47.78
7	48.22	51.35	50.67	55.60	52.37	50.98	54.39	61.94	59.84	53.46	49.37	47.76
8	48.20	51.48	50.64	55.44	52.30	50.98	54.45	62.00	59.65	53.27	49.28	47.74
9	48.20	51.56	50.67	55.27	52.24	50.97	54.57	62.10	59.48	53.07	49.19	47.70
10	48.19	51.62	50.71	55.12	52.19	50.96	54.73	62.19	59.37	52.91	49.10	47.68
11	48.15	51.67	50.83	54.94	52.14	50.95	54.90	62.31	59.24	52.73	49.02	47.65
12	48.14	51.69	51.09	54.74	52.08	50.93	55.10	62.38	59.06	52.55	48.96	47.59
13	48.12	51.68	51.37	54.57	52.02	50.91	55.39	62.39	58.88	52.41	48.88	47.60
14	48.12	51.66	51.60	54.43	51.96	50.89	55.75	62.35	58.68	52.20	48.82	47.57
15	48.08	51.62	51.78	54.23	51.88	50.90	56.18	62.29	58.47	52.05	48.73	47.55
16	48.02	51.60	51.85	54.03	51.80	50.96	56.57	62.23	58.26	51.91	48.69	47.52
17	48.01	51.56	51.90	53.88	51.74	51.02	56.92	62.17	58.03	51.74	48.65	47.49
18	48.02	51.50	52.03	53.71	51.68	51.11	57.18	62.09	57.80	51.58	48.60	47.48
19	48.04	51.46	52.26	53.56	51.61	51.19	57.38	62.03	57.55	51.39	48.53	47.44
20	48.06	51.39	52.48	53.48	51.54	51.27	57.57	61.99	57.29	51.25	48.48	47.40
21	48.08	51.33	52.76	53.42	51.48	51.34	57.78	61.89	57.04	51.11	48.40	47.40
22	48.13	51.28	53.42	53.35	51.41	51.41	58.03	61.78	56.80	50.99	48.39	47.36
23	48.20	51.22	54.40	53.36	51.34	51.49	58.33	61.65	56.50	50.85	48.33	47.27
24	48.31	51.19	55.36	53.38	51.27	51.58	58.73	61.48	56.20	50.72	48.29	47.26
25	48.38	51.14	55.98	53.38	51.17	51.67	59.18	61.37	55.97	50.64	48.24	47.26
26	48.47	51.09	56.27	53.36	51.08	51.73	59.67	61.25	55.73	50.52	48.20	47.24
27	48.55	51.05	56.33	53.30	51.03	51.79	60.17	61.17	55.53	50.42	48.14	47.22
28	48.67	50.99	56.28	53.23	50.97	51.94	60.69	61.08	55.29	50.31	48.08	47.23
29	48.86	50.94	56.18	53.13		52.14	61.08	61.01	55.06	50.22	48.05	47.24
30	49.09	50.89	56.07	53.03		52.47	61.42	60.95	54.86	50.12	48.03	47.24
31	49.34		55.95	52.94		52.92		60.87		50.03	47.97	

Clark Fork at Priest River, Idaho

Location.- Water-stage recorder in lot 4, sec. 26, T. 56 N., R. 5 W., at Priest River.

Drainage area.- 24,200 square miles.

Records available.- June 1903 to April 1905, October 1921 to September 1934. June 1903 to September 1921 comparable records at Newport, Wash., 6 miles below present site.

Average discharge.- 31 years, (1903-34), 26,080 second-feet (based on records corrected for storage in Pend Oreille Lake).

Extremes.- Maximum discharge during year, 91,200 second-feet May 12-14 (gage height, 18.2 feet); minimum, 6,550 second-feet Sept. 28-30.

1903-34: Maximum discharge, 136,000 second-feet June 15, 1913, June 21, 1933; minimum, 2,200 second-feet Dec. 12, 1919.

Maximum stage known, 38.9 feet June 1894, from high-water marks referred to Newport gage (estimated discharge, 217,000 second-feet).

Remarks.- Records excellent. Discharge estimated Apr. 6, 7. Numerous small diversions from upper tributaries for irrigation. Flow subject to natural regulation in several lakes and to slight regulation during log-driving seasons, owing to operations of flash dam on tributary of Priest River.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,000	16,600	22,400	49,200	31,700	23,000	34,900	87,000	80,700	41,500	18,100	9,860
2	11,000	18,100	21,900	48,500	31,100	22,400	37,500	87,700	80,000	40,100	17,600	9,860
3	11,200	20,200	21,900	49,200	31,100	22,400	38,800	88,400	79,300	39,500	17,100	9,420
4	11,200	21,300	21,300	48,500	31,100	22,400	38,800	89,100	77,900	38,200	17,100	9,420
5	11,200	22,400	21,300	47,800	30,400	23,000	40,100	88,400	77,200	36,800	16,600	9,200
6	11,200	23,500	21,300	48,500	29,800	23,000	40,300	88,400	75,800	35,500	16,200	8,980
7	11,200	24,700	21,300	47,800	29,800	23,000	40,600	88,400	74,400	34,200	15,700	8,980
8	11,200	25,200	21,300	47,100	29,200	23,500	40,800	88,400	73,000	34,200	15,700	8,760
9	11,200	25,800	21,900	45,700	29,200	23,500	41,500	89,100	72,300	32,900	15,300	8,540
10	11,000	25,800	21,900	45,000	29,200	23,500	42,200	89,800	71,600	31,700	14,800	8,320
11	11,000	25,800	23,000	43,600	28,600	23,000	44,300	90,500	70,200	31,100	14,300	8,320
12	11,000	26,300	24,700	42,900	28,600	23,000	45,000	91,200	69,500	29,800	14,300	8,110
13	10,500	26,300	25,200	40,800	28,000	23,500	46,400	91,200	68,100	29,200	13,900	8,110
14	10,300	26,300	26,300	40,100	28,000	23,000	48,500	91,200	67,400	28,600	13,900	8,110
15	10,300	26,300	26,900	39,500	27,500	23,000	51,300	90,500	65,300	27,500	13,400	7,900
16	10,300	25,800	26,900	38,200	26,900	23,500	54,100	89,800	64,600	26,900	13,400	7,900
17	10,300	25,800	26,900	37,500	26,900	23,500	56,200	89,800	62,500	25,800	13,000	7,900
18	10,100	25,200	28,000	36,800	26,300	24,100	57,600	89,100	61,100	25,800	13,000	7,690
19	10,500	25,200	29,200	35,500	26,300	24,100	59,000	88,400	59,700	24,700	12,500	7,490
20	10,100	24,700	30,400	34,900	26,300	24,700	60,400	88,400	57,600	23,500	12,100	7,290
21	10,500	24,700	31,100	34,200	25,800	24,700	61,800	88,400	55,500	23,500	12,100	7,290
22	11,000	24,100	34,900	34,900	25,200	25,200	63,200	87,700	54,100	22,400	11,600	7,290
23	11,200	24,100	39,500	33,600	25,200	25,800	65,300	87,000	53,400	22,400	11,600	7,490
24	11,600	23,500	46,400	34,200	25,200	26,300	67,400	85,600	51,300	21,900	11,600	7,290
25	11,600	23,500	50,600	34,900	24,700	26,300	70,200	84,200	49,900	21,300	11,600	7,100
26	12,100	23,500	52,700	34,200	24,100	26,900	73,700	84,200	48,500	20,800	11,200	6,910
27	12,500	23,500	52,700	34,200	23,500	26,900	76,500	82,800	47,100	20,800	11,000	6,730
28	13,000	23,000	52,000	34,200	23,000	28,600	80,000	82,800	45,700	19,700	10,500	6,550
29	13,900	23,000	51,300	33,600		29,200	82,800	82,100	44,300	19,200	10,500	6,550
30	14,800	22,400	50,600	32,900		30,400	85,600	81,400	42,900	18,600	10,300	6,550
31	16,200		49,900	32,300		32,300		80,700		18,600	10,300	

Month	Observed				Gain or loss in storage in Pend Oreille Lake (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.....	16,200	10,100	11,430	702,500	+85,760	788,300	12,820	0.530	0.61
November....	26,300	16,600	23,890	1,421,000	+135,200	1,556,000	26,150	1.08	1.20
December....	52,700	21,300	32,120	1,975,000	+447,400	2,422,000	39,390	1.63	1.88
January.....	49,200	32,300	40,010	2,460,000	-268,100	2,192,000	35,650	1.47	1.70
February....	31,700	23,000	27,600	1,533,000	-172,300	1,361,000	24,510	1.01	1.05
March.....	32,300	22,400	24,760	1,523,000	+170,600	1,694,000	27,550	1.14	1.31
April.....	85,600	34,900	54,830	3,262,000	+771,600	4,034,000	67,790	2.80	3.12
May.....	91,200	80,700	87,470	5,379,000	-51,370	5,328,000	86,650	3.58	4.13
June.....	80,700	42,900	65,360	3,770,000	-548,200	3,222,000	54,150	2.24	2.50
July.....	41,500	18,600	27,960	1,719,000	-423,900	1,295,000	21,060	.870	1.00
August.....	18,100	10,300	13,560	833,700	-175,300	658,400	10,710	.443	.51
September...	9,860	6,550	7,997	475,900	-61,060	414,800	6,971	.288	.32
The year..	91,200	6,550	34,610	25,050,000	-89,670	24,970,000	34,480	1.42	19.33

Clark Fork below Z Canyon, near Metaline Falls, Wash.

(International gaging station)

Location.- Water-stage recorder in lot 2, sec. 11, T. 40 N., R. 43 E., three-quarters of a mile below Z Canyon and 10 miles below Metaline Falls.

Drainage area.- 25,200 square miles.

Records available.- October 1928 to September 1934. November 1908 to September 1910, October 1912 to September 1928, for station at Metaline Falls.

Extremes.- Maximum discharge during year, 94,700 second-feet May 14 (gage height, 39.54 feet); minimum, 6,710 second-feet Sept. 28-30.
1912-34: Maximum discharge, 139,000 second-feet June 16, 1913 (gage height, 41.2 feet, Metaline Falls gage); minimum, 2,500 second-feet Dec. 12, 1919 (gage height, -2.4 feet, Metaline Falls gage).

Remarks.- Records excellent. Numerous small diversions from upper tributaries for irrigation. No artificial regulation of any consequence. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,400	16,100	23,600	51,200	34,900	25,400	35,800	87,500	82,700	44,800	18,800	10,000
2	11,400	16,500	23,300	50,900	34,600	25,400	37,600	89,100	82,100	43,300	18,800	10,000
3	11,400	18,100	23,300	50,900	34,000	25,100	39,700	90,500	81,400	42,100	18,100	9,770
4	11,600	19,900	22,900	50,900	33,700	25,100	40,900	91,100	81,100	41,200	17,800	9,510
5	11,400	21,400	22,600	50,900	33,400	25,100	42,100	91,800	79,900	40,000	17,400	9,250
6	11,600	22,900	22,600	50,300	33,100	25,400	42,700	91,800	79,300	39,100	17,100	9,250
7	11,600	24,000	22,600	50,300	32,500	25,400	43,300	91,800	78,100	37,900	16,400	9,000
8	11,600	25,100	22,200	50,000	32,500	25,400	43,900	91,800	76,600	36,700	16,100	8,750
9	11,400	25,800	22,600	49,100	31,900	25,400	44,500	91,800	75,100	35,500	15,800	8,750
10	11,400	26,100	22,600	48,100	31,600	25,400	44,600	92,400	73,900	34,600	15,800	8,750
11	11,400	26,500	23,300	46,900	31,300	25,400	45,400	93,100	73,000	33,400	15,200	8,500
12	11,400	26,800	24,700	45,700	31,300	25,400	46,600	94,100	72,400	32,500	15,000	8,500
13	11,100	26,800	26,100	45,100	31,000	25,400	47,800	94,400	71,500	31,900	14,700	8,500
14	11,100	27,200	27,200	43,600	30,700	25,800	49,100	94,400	70,300	31,300	14,400	8,260
15	10,600	27,200	27,800	42,400	30,400	25,400	51,200	94,400	69,100	30,700	14,100	8,020
16	10,800	27,200	28,200	41,800	30,100	25,400	53,100	94,400	67,600	29,800	13,800	8,020
17	10,600	27,200	28,800	40,900	29,800	25,800	55,600	93,700	66,400	29,100	13,600	8,020
18	10,600	26,800	29,100	39,700	29,500	26,100	57,800	93,100	65,200	28,200	13,300	7,790
19	10,600	26,800	30,700	39,100	29,100	26,500	59,900	92,400	63,200	27,200	13,000	7,570
20	10,800	26,500	31,900	38,800	28,800	26,800	61,700	91,800	61,700	26,500	12,700	7,570
21	10,600	26,100	33,100	38,200	28,500	26,800	63,200	91,100	60,200	25,400	12,400	7,790
22	10,600	25,800	34,000	37,300	28,200	27,500	64,300	90,800	58,100	24,700	12,200	7,570
23	11,100	25,800	36,400	37,300	27,500	27,800	66,400	90,500	56,200	24,000	11,900	7,790
24	11,400	25,400	40,300	36,700	27,500	28,500	68,500	89,500	55,000	23,600	11,900	8,260
25	11,900	25,100	45,100	37,000	27,500	28,800	70,600	88,800	53,400	23,300	11,600	8,020
26	12,200	25,100	49,700	37,000	26,800	29,100	73,000	87,500	51,900	22,600	11,600	7,350
27	12,400	24,400	52,500	37,000	26,500	29,800	76,000	86,500	50,600	22,200	11,400	6,920
28	13,000	24,400	53,400	36,700	26,100	30,400	79,600	85,500	48,800	21,800	11,100	6,710
29	13,600	24,400	53,700	36,400		31,900	82,400	85,200	47,500	21,000	10,800	6,710
30	14,100	23,600	53,100	36,100		33,100	84,600	84,600	46,000	20,300	10,600	6,710
31	15,200		52,500	35,500		34,000		83,300		19,500	10,300	

Month	Observed: Discharge in second-feet: Maximum	Minimum	Mean	Observed: Run-off in acre-feet	Gain or loss in storage in Pend Oreille Lake (acre-feet)	Corrected for storage: Run-off in acre-feet	Discharge in second-feet: Mean	Per square mile	Run-off in inches
October.....	15,200	10,600	11,620	714,200	+85,760	800,000	13,010	0.516	0.59
November....	27,200	16,100	24,510	1,458,000	+135,200	1,593,000	26,770	1.06	1.18
December....	53,700	22,200	32,580	2,003,000	+447,400	2,450,000	39,850	1.58	1.82
January.....	51,200	35,500	42,960	2,642,000	-268,100	2,374,000	38,610	1.53	1.76
February....	34,900	26,100	30,460	1,692,000	-172,300	1,520,000	27,370	1.09	1.14
March.....	34,000	25,100	27,060	1,664,000	+170,600	1,835,000	29,840	1.18	1.36
April.....	84,600	35,800	55,740	3,317,000	+771,600	4,089,000	68,720	2.73	3.05
May.....	94,400	83,300	90,600	5,571,000	-51,370	5,520,000	89,770	3.56	4.10
June.....	82,700	46,000	66,610	3,964,000	-548,200	3,416,000	57,410	2.28	2.54
July.....	44,800	19,500	30,460	1,873,000	-423,900	1,449,000	23,570	.935	1.08
August.....	18,800	10,300	14,120	868,200	-175,300	692,900	11,270	.447	.52
September...	10,000	6,710	8,254	491,100	-61,060	430,000	7,226	.287	.32
The year..	94,400	6,710	36,270	26,260,000	-89,670	26,170,000	36,150	1.43	19.46

46790 O—36——8

Nevada Creek near Finn, Mont.

Location.- Staff gage in NE¼ sec. 13, T. 12 N., R. 10 W., 6 miles west of Finn.

Records available.- May to September 1934.

Extremes.- Maximum discharge recorded during period of record, 98 second-feet May 10 (gage height, 1.83 feet); minimum, 7.7 second-feet July 17-19 (gage height, 0.86 foot).

Remarks.- Records good. Some diversions above gage.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									37	19	12	8.7
2									55	18	12	8.7
3									43	17	12	9.0
4									59	16	14	9.0
5									42	16	12	9.4
6									43	16	11	8.7
7									72	18	11	8.7
8									66	18	11	11
9									46	17	11	11
10								98	42	15	10	11
11								86	32	15	10	10
12								80	38	12	11	10
13								80	45	11	9.7	10
14								78	34	8.5	9.4	10
15								67	36	9.4	9.4	10
16								64	30	9.4	10	10
17								60	28	8.0	11	9.7
18								55	26	7.7	10	9.7
19								52	26	8.2	11	9.4
20								52	26	13	10	10
21								47	28	12	10	11
22								45	25	12	10	12
23								43	23	13	10	12
24								39	23	15	11	12
25								38	26	16	10	12
26								33	40	15	10	13
27								32	31	13	10	13
28								31	28	12	8.7	13
29								31	24	12	9.0	12
30								32	23	12	10	12
31								33		12	9.4	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October				
November				
December				
January				
February				
March				
April				
May 10-31	98	31	53.5	2,330
June	72	23	36.6	2,180
July	19	7.7	13.4	826
August	14	8.7	10.5	646
September	13	8.7	10.5	627
The period				6,610

Flathead River near Trail Creek, Mont.

(International gaging station)

Location.- Staff gage at highway bridge 500 feet north of international boundary, about 1,000 feet northwest of intersection of international boundary with line between secs. 4 and 5, T. 37 N., R. 22 W., and 7 miles northwest of Trail Creek post office.

Drainage area.- 450 square miles.

Records available.- March 1929 to September 1934.

Extremes.- Maximum discharge during year, 6,990 second-feet May 16 (gage height, 5.79 feet); minimum discharge recorded, 182 second-feet Sept. 25-27, 29, 30 (gage height, 1.12 feet). Lower discharge may have occurred during winter, when gage was not read.

1929-34: Maximum discharge, 10,600 second-feet June 17, 1933 (gage height, 6.90 feet); minimum discharge recorded, 65 second-feet Apr. 9, 1929 (gage height, 0.76 foot). Probably not actual minimum.

Remarks.- Records good. No records Dec. 11 to Mar. 31. Records computed and three discharge measurements furnished by Dominion Water Power and Hydrometric Bureau, Department of Interior, Canada. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	334	1,380	581				403	3,710	2,870	983	379	208
2	334	1,170	573				390	3,530	2,490	948	368	208
3	329	1,090	581				379	3,400	2,220	914	356	205
4	324	991	566				368	3,580	2,200	864	345	201
5	324	814	537				379	4,800	2,630	847	324	201
6	320	781	482				448	5,910	2,280	814	315	198
7	320	756	455				573	5,490	3,350	781	315	195
8	315	725	442				931	6,170	3,910	764	305	195
9	315	670	416				1,210	5,740	3,040	732	300	192
10	310	670	422				1,320	4,820	2,900	701	296	192
11	315	686					1,460	4,820	2,720	670	291	192
12	305	686					1,680	5,400	2,690	640	286	195
13	300	717					2,060	4,630	2,430	610	278	195
14	296	686					2,490	4,820	2,140	595	278	192
15	286	655					2,250	5,910	1,970	581	270	192
16	282	640					2,080	6,860	1,860	559	266	188
17	286	625					2,370	6,270	1,790	552	270	188
18	334	581					2,610	5,440	1,630	523	262	188
19	345	552					2,870	4,530	1,550	496	262	188
20	356	552					3,530	4,070	1,470	475	254	185
21	390	545					4,380	3,400	1,360	455	250	188
22	390	552					5,170	3,460	1,280	455	246	192
23	509	566					5,940	3,560	1,230	436	238	188
24	662	588					6,170	4,850	1,170	429	238	185
25	1,040	595					6,530	5,000	1,120	429	231	182
26	1,410	595					6,480	5,630	1,080	422	227	182
27	1,660	595					6,450	5,080	1,050	416	223	182
28	3,710	581					6,560	5,130	1,040	410	223	185
29	3,310	588					6,350	5,000	1,020	403	216	182
30	2,340	581					4,870	4,820	1,000	396	216	182
31	1,730							4,150		390	212	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,710	282	757	1.68	1.94	46,500
November	1,380	545	707	1.57	1.75	42,100
December 1-10	581	416	506	1.12	.42	10,000
January						
February						
March						
April	6,560	368	2,960	6.58	7.34	176,000
May	6,860	3,400	4,840	10.76	12.41	298,000
June	3,910	1,000	1,980	4.40	4.91	118,000
July	983	390	603	1.34	1.54	37,100
August	379	212	275	.61	.70	16,900
September	208	182	192	.43	.48	11,400

Flathead River near Columbia Falls, Mont.

Location.- Water-stage recorder in NW¼ sec. 7, T. 31 N., R. 19 W., at Potter ranch, three-quarters of a mile above junction with Middle Fork and 10 miles northeast of Columbia Falls.

Drainage area.- 1,620 square miles.

Records available.- September 1910 to September 1917, April 1929 to September 1934.

Extremes.- Maximum discharge recorded during year, 19,400 second-feet Apr. 26 (gage height, 9.95 feet); minimum estimated, 625 second-feet Sept. 26-30.
1910-17, 1929-34: Maximum discharge, 29,500 second-feet June 20, 1916 (gage height, 9.8 feet); minimum, 350 second-feet Nov. 10, 1911, Feb. 5-16, 1914 (gage height, 0.70 foot).

Remarks.- Records good except those for estimated period, Sept. 13-30, which are fair. No diversions or storage.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								15,000	13,200	3,820	1,560	970
2								13,200	10,800	3,730	1,560	940
3								12,200	9,300	3,650	1,520	940
4								11,800	8,400	3,490	1,470	910
5								11,500	8,400	3,330	1,430	910
6								15,000	8,110	3,250	1,380	880
7								16,200	7,830	3,180	1,340	880
8								16,200	9,900	3,100	1,300	880
9								17,400	10,200	2,950	1,300	880
10								16,200	9,300	2,880	1,270	880
11								14,700	9,300	2,720	1,270	880
12								15,000	9,600	2,650	1,200	880
13								14,700	9,600	2,510	1,200	
14								13,900	9,000	2,400	1,160	740
15								14,300	8,110	2,370	1,130	
16								16,600	7,560	2,300	1,130	
17								18,200	7,050	2,240	1,100	
18								17,400	6,560	2,240	1,130	675
19								15,400	6,090	2,180	1,130	
20							11,800	13,900	5,640	2,110	1,100	
21							13,600	12,200	5,320	2,050	1,100	
22							15,400	11,200	5,000	1,990	1,070	
23							17,000	11,200	4,700	1,930	1,070	640
24							18,200	11,800	4,420	1,870	1,040	
25							18,600	13,600	4,240	1,760	1,000	
26							19,000	15,400	4,160	1,760	1,000	
27							18,600	16,200	4,520	1,710	1,000	
28							18,600	16,200	4,330	1,660	970	625
29							18,600	16,600	4,070	1,660	940	
30							17,000	16,600	3,900	1,610	940	
31								15,400		1,610	970	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February						
March						
April 20-30	19,000	11,800	16,950	10.5	4.29	369,700
May	18,200	11,200	14,680	9.06	10.44	902,900
June	13,200	3,900	7,287	4.50	5.02	433,600
July	3,820	1,610	2,475	1.53	1.76	152,200
August	1,560	940	1,186	.732	.84	72,950
September	970		758	.468	.52	45,120
The period						1,976,000

Flathead River at Columbia Falls, Mont.

Location.- Water-stage recorder in SW¼ sec. 17, T. 30 N., R. 20 W., about 200 feet below highway bridge on Roosevelt Highway at Columbia Falls. Zero of gage is 2,978.44 feet above mean sea level.

Drainage area.- 4,440 square miles.

Records available.- May 1922 to September 1923 (fragmentary), June 1928 to September 1934.

Extremes.- Maximum discharge during year, 60,200 second-feet Apr. 25 (gage height, 13.92 feet); minimum, 1,660 second-feet Sept. 27 (gage height, 0.94 foot).
1922-23, 1926-34: Maximum discharge, 102,000 second-feet June 5, 1923 (gage height, 17.3 feet); minimum, 798 second-feet Dec. 8, 1929 (gage height, -0.08 foot).

Remarks.- Records good. Discharge interpolated Mar. 18. No diversions.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,810	19,700	7,250	11,800	4,860	4,560	9,230	40,500	33,800	10,800	4,080	2,200
2	3,640	17,300	6,730	11,100	5,070	4,760	9,230	35,700	28,400	10,500	3,990	2,140
3	3,550	21,800	6,730	11,800	5,400	4,960	8,640	34,500	23,700	10,200	3,900	2,140
4	3,550	21,800	6,480	12,100	5,520	4,660	8,350	33,200	22,700	9,840	3,720	2,070
5	3,550	18,100	6,110	11,400	5,520	4,460	8,640	37,700	23,700	9,230	3,640	2,070
6	3,460	15,700	6,480	10,500	5,520	4,560	9,840	52,300	22,700	8,930	3,550	2,010
7	3,460	13,900	6,990	9,840	5,520	4,360	12,800	53,100	25,700	8,640	3,380	1,950
8	3,380	12,500	6,480	8,070	5,520	4,180	18,100	56,200	29,600	8,350	3,300	1,950
9	3,300	11,100	6,230	7,790	5,750	4,080	23,200	56,200	26,200	8,070	3,220	2,010
10	3,220	10,500	6,230	8,070	5,750	3,990	24,200	47,700	25,200	7,790	3,140	2,070
11	3,140	10,200	6,230	8,070	5,640	3,900	26,200	42,600	26,200	7,520	3,060	2,010
12	3,060	10,200	5,400	7,520	5,400	3,990	27,800	44,000	26,700	7,250	2,980	2,010
13	2,980	9,840	5,990	6,990	5,400	4,360	31,400	39,800	25,200	6,990	2,910	2,010
14	2,910	9,230	6,480	6,730	5,400	4,860	36,400	37,700	23,200	6,730	2,910	2,070
15	2,840	8,930	6,730	5,870	5,400	5,640	33,200	42,600	21,800	6,480	2,760	2,010
16	2,840	8,640	6,110	5,520	5,400	6,990	28,400	50,800	20,500	6,230	2,760	1,950
17	2,840	8,350	5,870	6,110	5,520	7,520	26,200	53,100	18,900	6,110	2,760	1,890
18	3,140	7,790	5,870	5,990	5,520	7,660	27,800	50,000	17,700	5,990	2,840	1,830
19	3,900	7,520	6,480	5,640	5,290	7,790	30,200	44,800	16,900	5,870	2,840	1,780
20	4,180	7,250	6,730	5,640	5,180	8,930	33,800	40,500	15,700	5,750	2,760	1,780
21	4,080	6,990	8,070	5,640	4,860	10,500	40,500	35,100	14,600	5,520	2,610	1,780
22	3,900	6,990	16,100	5,400	4,270	10,500	47,700	32,000	13,900	5,400	2,610	1,780
23	4,460	7,790	23,200	5,750	4,360	9,840	54,700	32,000	13,200	5,070	2,470	1,780
24	9,840	8,350	19,700	5,870	4,270	9,230	57,000	35,100	12,100	4,860	2,470	1,720
25	13,900	8,930	15,700	5,520	3,990	8,930	58,600	41,200	11,800	4,660	2,400	1,720
26	18,600	8,930	12,800	5,290	3,720	8,640	58,600	46,200	11,800	4,660	2,330	1,720
27	18,100	8,930	11,400	5,290	4,180	8,640	56,200	47,000	13,200	4,560	2,330	1,660
28	23,200	8,640	11,100	5,180	4,660	9,230	56,200	47,000	12,800	4,460	2,260	1,720
29	33,200	8,070	10,500	4,960		8,640	55,400	47,000	12,100	4,460	2,260	1,720
30	31,400	7,520	11,400	4,860		8,350	47,700	46,200	11,400	4,270	2,200	1,720
31	24,200		12,500	4,860		8,930		41,900		4,180	2,200	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	33,200	2,840	8,117	1.83	2.11	499,100
November	21,800	6,990	11,050	2.49	2.78	657,500
December	23,200	5,400	9,035	2.03	2.34	555,500
January	12,100	4,860	7,264	1.64	1.89	446,600
February	5,750	3,720	5,103	1.15	1.20	283,400
March	10,500	3,900	6,698	1.51	1.74	411,800
April	58,600	8,350	32,210	7.25	8.09	1,916,000
May	56,200	32,000	43,350	9.76	11.25	2,665,000
June	33,800	11,400	20,050	4.52	5.04	1,193,000
July	10,800	4,180	6,754	1.52	1.75	415,300
August	4,080	2,200	2,924	.659	.76	179,800
September	2,200	1,660	1,909	.430	.48	113,600
The year	58,600	1,660	12,900	2.91	39.43	9,337,000

Flathead River near Kalispell, Mont.

Location.- Chain gage in NE¼ sec. 10, T. 28 N., R. 21 W., at highway bridge 3 miles east of Kalispell. Gage readings adjusted to mean sea level, Somers datum.

Records available.- May 1928 to September 1934.

Extremes.- Maximum water-surface elevation recorded during year, 2,911.41 feet Apr. 27; minimum, 2,901.49 feet Sept. 23.
1928-34: Maximum water-surface elevation, 2,913.95 feet May 27, 1928; minimum, that of Sept. 23, 1934.

Remarks.- Records collected for river profile study. Records fragmentary but reliable.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		6.75	4.95						10.20	5.86	3.15	1.98
2	3.00						5.35			5.61	3.09	1.94
3		6.75					5.21		10.40	5.45	3.05	1.92
4	2.94		4.91				5.18		10.45	5.39	2.95	1.90
5									10.36		2.89	1.86
6		6.60	4.83						10.29	5.10	2.83	1.84
7	2.92		4.85				5.31		10.22	4.95	2.77	1.82
8		6.56							10.18	4.75	2.70	
9	2.84		5.05				5.40		9.95		2.63	1.82
10		6.50					5.73		9.75	4.61	2.59	1.76
11	2.84		5.25				6.15		9.60	4.48	2.53	
12		6.47					6.97		9.45	4.35		1.72
13	2.88	6.35	5.40				9.35		9.37	4.23	2.49	1.70
14	2.90		5.58				9.95		9.15	4.15	2.43	1.68
15		6.20							8.70			
16	2.96		5.60				9.15			4.02	2.37	1.66
17									8.44	3.95	2.37	1.64
18	3.00	6.15	5.63				8.50		8.30	3.90	2.35	
19	3.16	6.10					8.73	10.12	8.15	3.85		1.64
20			5.76				9.80		7.90	3.70	2.32	1.62
21	3.70							9.90		3.66	2.28	1.50
22		5.95					10.58	9.43	7.73			
23			5.80				10.90	9.40	7.61	3.60	2.32	1.49
24	6.21										2.16	1.50
25		5.60	5.76				11.21	10.10	7.49	3.54	2.12	
26	6.93							10.21	7.21	3.32		1.52
27		5.63	5.58				11.41	10.40	7.00	3.30	2.10	1.56
28	8.25						11.30	10.45	6.80	3.26	2.06	1.58
29		5.41	5.46					10.50	6.61			1.60
30	6.90	5.16					10.70	10.50	6.42	3.22	2.02	1.58
31	6.80		5.25					10.43		3.20	2.00	

Note.- Add 2,900.00 feet to obtain elevation above mean sea level, Somers datum.

Flathead River at Demersville, near Kalispell, Mont.

Location.- Staff gage in NE¼ sec. 28, T. 28 N., R. 21 W., at Demersville, 3 miles south of Kalispell.

Records available.- April 1909 to July 1912, April 1928 to September 1934.

Extremes.- Maximum water-surface elevation recorded during year, 2,899.54 feet May 8; minimum, 2,883.00 feet Oct. 16-17.
1909-12, 1928-34: Maximum water-surface elevation recorded, 2,904.94 feet June 17, 1933; minimum, 2,882.6 feet Oct. 1, 1910, Feb. 5-28, 1929, and Oct. 8 to Dec. 31, 1931.

Remarks.- Records good. No record Jan. 1 to Mar. 31, Aug. 1, 2. Records for profile study of Flathead River between Kalispell and Flathead Lake.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83.30	88.80	85.52				86.06	96.62	97.50	90.12		84.98
2	83.30	88.14	85.34				86.02	95.54	96.48	89.98		84.98
3	83.28	89.30	85.40				85.86	95.54	95.66	89.76	86.21	84.98
4	83.24	89.54	85.30				85.88	95.38	95.48	89.60	86.17	84.95
5	83.24	88.72	85.34				86.02	97.00	95.42	89.40	86.06	84.94
6	83.23	88.00	85.40				86.28	98.78	95.08	89.30	86.04	84.94
7	83.22	87.84	85.36				87.06	98.36	95.37	89.24	86.02	84.94
8	83.20	87.30	85.24				89.00	99.54	96.02	89.03	86.02	84.93
9	83.17	87.18	85.24				89.96	99.35	95.40	88.84	85.96	84.94
10	83.12	87.00	85.50				90.28	97.90	95.10	88.74	85.92	84.95
11	83.11	86.30	85.68				91.06	96.98	95.20	88.64	85.88	84.92
12	83.16		85.80				91.50	97.15	95.22	88.40	85.80	84.92
13	83.12		85.80				92.44	96.68	94.86	88.30	85.75	84.93
14	83.08	86.48	85.75				93.56	96.26	94.38	88.14	85.66	84.94
15	83.02	86.45	85.70				92.98	96.94	94.06	88.02	85.64	84.95
16	83.00	86.36	85.54				92.26	98.20	93.72	87.86	85.63	84.88
17	83.00	86.26	85.48				91.90	98.56	93.32	87.80	85.61	84.80
18	83.08	86.10	85.38				92.50	98.20	92.46	87.76	85.60	84.78
19	83.12	86.02	85.76				93.00	99.04	92.60	87.60	85.56	84.79
20	83.18	85.90	85.80				93.76	98.38	92.28	87.50	85.50	84.80
21	83.28	85.80	85.90				95.38	97.96	91.98	87.44	85.42	84.82
22	83.32	85.80	87.28				96.42	97.45	91.64	87.31	85.34	84.82
23	84.70	85.80	89.80				97.80	97.28	91.36	87.20	85.28	84.76
24	85.70	85.90	89.92				98.58	97.65	91.04	87.10	85.24	84.76
25	87.48	85.96	87.86				99.04	98.42	90.80	87.00	85.20	84.75
26	87.48	86.10	87.94				99.28	99.35	90.90	86.94	85.17	84.74
27	88.00	85.90	88.20				98.86	99.52	91.00	86.89	85.16	84.74
28	88.98	85.90	87.50				98.80	99.44	90.84	86.78	85.15	84.80
29	91.50	85.86	87.40				98.84	99.38	90.50	86.69	85.10	84.72
30	91.30	85.70	87.14				97.54	99.38	90.26	86.62	85.05	84.75
31	89.84		87.20					98.62		86.54	84.99	

Note.- Add 2,800.00 feet to obtain elevation above mean sea level, Somers datum.

Flathead River at Damon ranch, near Kalispell, Mont.

Location.- Staff gage in NW¼ sec. 32, T. 28 N., R. 20 W., at Damon ranch, 7 miles southeast of Kalispell.

Records available.- April 1909 to July 1912, May 1928 to September 1934.

Extremes.- Maximum water-surface elevation recorded, 2,895.70 feet May 9; minimum, 2,882.08 feet Sept. 30.
1909-12, 1928-34: Maximum water-surface elevation, 2,900.94 feet June 17, 1933; minimum, 2,881.50 feet Jan. 20-26, 1930.

Remarks.- Records good except temporary-gage readings Oct. 1-25, which are fair. No records Jan. 1 to Mar. 31. Records used for river profile studies on Flathead River above Flathead Lake.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.97	87.52	85.05				84.70	94.29	93.73	87.52	84.26	82.88
2	82.96	86.67	85.09				84.72	93.81	93.17	87.34	84.24	82.86
3	82.96	87.06	85.08				84.78	93.45	92.59	87.18	84.18	82.85
4	82.97	87.65	85.02				84.82	93.26	92.28	87.03	84.08	82.81
5	82.94	87.15	84.99				84.89	93.45	92.14	86.99	84.00	82.76
6	82.93	86.45	84.94				85.04	94.55	91.84	86.91	83.99	82.74
7	82.99	86.77	84.92				85.44	95.10	91.79	86.77	83.98	82.70
8	83.01	86.56	84.89				86.19	95.38	92.15	86.57	83.85	82.68
9	82.95	86.45	84.88				87.18	95.69	91.87	86.39	83.80	82.59
10	82.87	86.37	84.88				87.67	95.19	91.58	86.24	83.76	82.52
11	82.85	86.20	84.84				88.09	94.69	91.50	86.16	83.73	82.48
12	82.86	86.16	84.84				88.53	94.59	91.45	86.06	83.66	82.48
13	82.88	86.07	84.86				89.08	94.44	91.28	85.94	83.63	82.47
14	82.87	86.00	84.86				89.92	94.17	91.02	85.77	83.56	82.47
15	82.85	85.92	84.88				90.00	94.29	90.76	85.73	83.51	82.44
16	82.82	85.83	84.90				89.81	94.88	90.54	85.55	83.47	82.42
17	82.82	85.76	84.94				89.60	95.31	90.21	85.46	83.43	82.40
18	82.78	85.66	84.98				89.75	95.26	89.94	85.38	83.41	82.36
19	82.83	85.58	85.02				90.09	94.88	89.85	85.27	83.38	82.29
20	82.91	85.54	85.09				90.54	94.53	89.46	85.18	83.36	82.32
21	82.91	85.49	85.25				91.25	94.12	89.25	85.06	83.27	82.37
22	82.93	85.42	85.61				92.31	93.89	88.95	84.98	83.25	82.36
23	82.99	85.34	86.92				93.14	93.57	88.70	84.93	83.21	82.32
24	83.41	85.25	87.22				93.97	93.56	88.43	84.84	83.17	82.25
25	84.16	85.16	87.25				94.47	93.67	88.16	84.77	83.14	82.19
26	85.18	85.11	87.26				94.86	94.29	88.16	84.70	83.11	82.18
27	85.58	84.98	87.10				94.90	94.52	88.16	84.63	83.07	82.14
28	86.50	84.96	86.69				94.92	94.48	88.03	84.58	83.03	82.12
29	88.03	84.98	86.47				95.15	94.62	87.83	84.56	82.99	82.13
30	88.42	84.99	86.33				94.79	94.66	87.65	84.53	82.95	82.10
31	87.59		86.30					94.55		84.43	82.91	

Note.- Add 2,800.00 feet to obtain elevation above mean sea level, Somers datum.

Flathead River near Holt, Mont.

Location.- Staff gage in NE¼ sec. 22, T. 27 N., R. 20 W., at Keller ranch, near Holt, Mont.

Records available.- April 1909 to July 1912, June 1928 to September 1934.

Extremes.- Maximum water-surface elevation recorded during year, 2,893.04 feet May 18; minimum recorded, 2,882.13 feet Sept. 25-26.
1909-12, 1928-34: Maximum water-surface elevation, 2,897.35 feet May 29-30, 1928 (determined from flood mark); minimum, 2,881.24 feet Jan. 25-28, 1930.

Remarks.- Records fair. No records Jan. 1 to Mar. 31, Aug. 18. Records used for profile study of river between Kalispell and Flathead Lake.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83.00	85.66	84.86				84.77	92.32	92.52	87.32	84.26	82.79
2	82.98	85.68	84.82				84.81	92.22	92.18	87.18	e4.20	82.75
3	82.98	85.86	84.80				84.85	92.14	91.84	87.04	84.16	82.73
4	82.96	86.18	e4.78				84.89	92.00	91.64	86.88	84.08	82.71
5	82.96	e6.16	84.78				84.93	91.94	91.42	86.62	84.02	82.67
6	82.94	e6.16	84.74				85.01	92.14	91.16	86.62	83.96	82.65
7	82.94	86.12	84.68				85.15	92.50	91.00	86.56	83.90	82.63
8	82.92	86.04	84.68				85.45	92.68	90.98	86.46	83.84	82.63
9	82.90	86.00	84.70				85.91	93.00	89.84	86.32	83.80	82.61
10	82.90	85.98	84.66				86.21	92.98	90.70	e6.18	83.74	82.59
11	82.88	85.94	84.62				86.57	92.90	90.52	86.10	83.68	82.53
12	82.88	85.84	84.58				86.85	92.88	90.42	86.02	83.62	82.49
13	82.86	85.72	84.60				87.15	92.78	90.32	85.88	83.56	82.49
14	82.84	85.72	84.62				87.51	92.68	90.20	85.72	83.48	82.49
15	82.84	85.66	84.60				87.91	92.66	90.03	85.64	83.68	82.48
16	82.84	85.60	84.58				87.99	92.78	89.83	85.54	83.60	82.47
17	82.86	85.54	84.60				88.05	92.96	89.63	85.46	83.56	82.43
18	82.88	85.44	84.64				88.17	93.04	89.49	85.32		82.41
19	82.90	85.40	84.70				88.45	92.98	89.31	85.24	83.46	82.37
20	82.92	85.34	84.78				88.71	92.98	89.15	85.16	83.32	82.33
21	82.94	85.28	84.84				89.09	92.72	88.93	85.08	83.22	82.29
22	82.96	85.22	84.88				89.51	92.50	88.73	84.98	83.15	82.25
23	83.00	86.16	85.40				90.06	92.28	88.50	84.88	83.12	82.21
24	83.06	85.12	85.62				90.58	92.18	88.18	84.78	83.06	82.15
25	83.34	85.08	85.60				91.14	92.22	88.02	e4.70	83.04	82.13
26	83.80	85.06	85.62				91.44	92.28	87.90	84.62	83.02	82.13
27	84.06	85.02	85.62				91.74	92.44	87.78	84.58	82.98	82.16
28	84.38	84.98	85.66				92.06	92.50	87.72	84.54	82.94	82.15
29	85.20	84.96	85.68				92.28	92.60	87.70	84.50	82.92	82.15
30	85.78	84.92	85.72				92.36	92.66	87.44	84.42	82.90	82.15
31	85.66		85.74					92.70		84.34	82.86	

Note.- Add 2,800.00 feet to obtain elevation above mean sea level, Somers datum.

Flathead Lake at Somers, Mont.

Location.- Water-stage recorder in NE¼ sec. 26, T. 27 N., R. 21 W., at steamboat dock at Somers.

Records available.- April 1922 to September 1934.

Extremes.- Maximum water-surface elevation during year, 2,892.34 feet May 19; minimum, 2,882.01 feet Sept. 30.
1922-34: Maximum water-surface elevation, 2,896.26 feet June 19, 1933; minimum, 2,881.20 feet Dec. 10, 1929.

Remarks.- Records from recorder excellent, others good. Staff-gage readings used Oct. 10-14, Apr. 29, 30, May 1-5, May 8, May 12-15, May 17, 18.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.97	85.12	84.82	85.53	84.38	83.75	84.55	91.57	91.83	87.04	84.14	82.73
2	82.97	85.29	84.75	85.56	84.35	83.77	84.60	91.60	91.69	86.92	84.07	82.70
3	82.97	85.40	84.74	85.58	84.30	83.75	84.65	91.52	91.46	86.77	84.04	82.67
4	82.96	85.60	84.72	85.60	84.27	83.75	84.68	91.49	91.30	86.64	83.96	82.64
5	82.97	85.73	84.70	85.63	84.25	83.73	84.71	91.40	91.05	86.52	83.90	82.59
6	82.95	85.83	84.68	85.62	84.22	83.77	84.73	91.47	90.82	86.40	83.84	82.58
7	82.95	85.88	84.64	85.58	84.20	83.76	84.79	91.57	90.60	86.31	83.78	82.57
8	82.94	85.88	84.58	85.55	84.19	83.73	84.89	91.75	90.58	86.22	83.73	82.55
9	82.94	85.87	84.58	85.50	84.18	83.69	85.07	92.02	90.38	86.08	83.67	82.53
10	82.95	85.83	84.58	85.47	84.15	83.68	85.33	92.15	90.27	85.96	83.63	82.50
11	82.94	85.78	84.55	85.42	84.13	83.67	85.56	92.20	90.12	85.88	83.57	82.46
12	82.92	85.72	84.54	85.38	84.12	83.65	85.83	92.18	90.00	85.78	83.53	82.42
13	82.90	85.67	84.52	85.33	84.10	83.62	86.12	92.17	89.90	85.68	83.47	82.41
14	82.88	85.63	84.53	85.27	84.08	83.63	86.41	92.11	89.75	85.55	83.43	82.40
15	82.84	85.56	84.50	85.18	84.07	83.64	86.80	92.02	89.64	85.45	83.38	82.39
16	82.83	85.50	84.51	85.12	84.05	83.63	87.11	92.04	89.48	85.38	83.35	82.38
17	82.82	85.45	84.53	85.05	84.03	83.67	87.32	92.11	89.34	85.28	83.31	82.35
18	82.82	85.38	84.51	84.98	84.02	83.71	87.46	92.18	89.16	85.18	83.24	82.34
19	82.84	85.32	84.50	84.92	84.02	83.76	87.63	92.28	88.98	85.08	83.22	82.24
20	82.88	85.27	84.53	84.91	83.97	83.82	87.82	92.25	88.82	85.00	83.20	82.23
21	82.89	85.21	84.56	84.87	83.97	83.87	88.09	92.15	88.64	84.92	83.13	82.20
22	82.92	85.15	84.59	84.79	83.95	83.93	88.42	92.00	88.43	84.83	83.10	82.14
23	82.96	85.08	84.80	84.80	83.90	83.99	88.77	91.82	88.18	84.74	83.04	82.11
24	83.00	85.06	85.05	84.74	83.81	84.07	89.23	91.67	87.96	84.64	83.00	82.08
25	83.12	85.02	85.20	84.70	83.80	84.10	89.68	91.59	87.77	84.58	82.98	82.09
26	83.28	85.00	85.33	84.65	83.79	84.16	90.10	91.57	87.65	84.52	82.94	82.08
27	83.49	84.95	85.40	84.60	83.77	84.20	90.54	91.64	87.58	84.46	82.91	82.08
28	83.74	84.90	85.44	84.54	83.77	84.23	90.92	91.72	87.45	84.40	82.88	82.08
29	84.10	84.91	85.50	84.50		84.39	91.21	91.77	87.30	84.35	82.85	82.09
30	84.47	84.86	85.51	84.47		84.46	91.47	91.87	87.17	84.30	82.82	82.06
31	84.87		85.53	84.43		84.52		91.90		84.26	82.74	

Note.- Add 2,800.00 feet to obtain elevation above mean sea level, Somers datum.

Flathead Lake at Polson, Mont.

Location.- Water-stage recorder in SW¼ sec. 4, T. 22 N., R. 20 W., at south end of Flathead Lake, at Polson.

Records available.- August 1908 to December 1926, June 1928 to September 1934.

Extremes.- Maximum water-surface elevation during year, 2,892.30 feet May 12; minimum, 2,881.93 feet Sept. 30.
1908-26, 1928-34: Maximum water-surface elevation, 2,896.26 feet June 19, 1933; minimum, 2,881.5 feet Feb. 16-23, 1915, Nov. 24, 1923.

Remarks.- Records excellent. Staff-gage readings used Nov. 25 to Dec. 7, July 8 to Aug. 5, Aug. 9 to Sept. 5.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.93	85.03	84.77	85.50	84.32	83.64	84.47	91.49	91.82	86.96	84.03	82.69
2	82.93	85.21	84.71	85.50	84.29	83.60	84.58	91.50	91.65	86.84	84.06	82.73
3	82.92	85.46	84.66	85.50	84.28	83.60	84.62	91.40	91.47	86.72	83.88	82.61
4	82.93	85.55	84.59	85.52	84.27	83.63	84.64	91.36	91.25	86.62	83.84	82.57
5	82.93	85.68	84.49	85.51	84.23	83.68	84.64	91.26	91.04	86.50	83.81	82.64
6	82.92	85.77	84.53	85.57	84.20	83.63	84.67	91.30	90.85	86.37	83.80	82.54
7	82.90	85.78	84.53	85.57	84.18	83.64	84.74	91.45	90.60	86.20	83.75	82.48
8	82.89	85.81	84.50	85.53	84.14	83.67	84.80	91.64	90.40	86.21	83.62	82.42
9	82.88	85.78	84.49	85.46	84.13	83.68	84.98	91.83	90.28	86.13	83.63	82.42
10	82.86	85.75	84.53	85.37	84.12	83.67	85.25	92.06	90.14	86.00	83.54	82.42
11	82.88	85.68	84.67	85.31	84.11	83.64	85.57	92.13	90.02	85.85	83.53	82.39
12	82.85	85.66	84.58	85.27	84.08	83.64	85.84	92.20	89.92	85.75	83.47	82.36
13	82.77	85.62	84.49	85.17	84.06	83.63	86.14	92.09	89.81	85.54	83.46	82.28
14	82.70	85.55	84.42	85.17	84.05	83.57	86.48	92.02	89.72	85.58	83.39	82.34
15	82.76	85.50	84.40	85.16	84.03	83.57	86.79	91.94	89.53	85.43	83.35	82.32
16	82.75	85.42	84.37	85.06	84.02	83.66	87.05	91.93	89.40	85.26	83.23	82.29
17	82.75	85.37	84.24	84.97	84.01	83.63	87.24	92.00	89.23	85.14	83.25	82.28
18	82.67	85.32	84.31	84.96	83.99	83.69	87.44	92.12	89.05	85.09	83.28	82.23
19	82.77	85.21	84.26	84.89	83.98	83.72	87.61	92.17	88.87	85.11	83.14	82.36
20	82.77	85.12	84.34	84.75	84.01	83.74	87.79	92.10	88.70	84.98	83.10	82.25
21	82.75	85.05	84.30	84.68	83.94	83.83	88.02	92.08	88.45	84.83	83.14	82.27
22	82.83	85.02	84.44	84.73	83.89	83.94	88.33	91.94	88.22	84.78	82.99	82.29
23	82.83	84.92	84.60	84.63	83.93	84.01	88.71	91.78	88.16	84.70	83.05	82.23
24	82.93	84.88	84.97	84.62	83.96	84.03	89.13	91.61	87.95	84.61	82.94	82.10
25	82.98	84.91	85.25	84.58	83.85	84.11	89.62	91.52	87.77	84.54	82.94	82.02
26	83.17	84.85	85.36	84.57	83.74	84.12	90.05	91.52	87.58	84.43	82.92	81.97
27	83.40	84.97	85.39	84.53	83.69	84.18	90.43	91.56	87.46	84.45	82.84	81.96
28	83.64	84.91	85.40	84.51	83.64	84.36	90.76	91.63	87.35	84.28	82.79	81.99
29	83.97	84.86	85.39	84.47		84.39	91.08	91.68	87.24	84.25	82.83	82.01
30	84.44	84.80	85.42	84.39		84.41	91.35	91.72	87.12	84.15	82.72	82.00
31	84.82		85.43	84.35		84.43		91.78		84.01	82.78	

Note.- Add 2,800.00 feet to obtain elevation above mean sea level, Somers datum.

Flathead River near Polson, Mont.

Location.- Water-stage recorder in sec. 19, T. 22 N., R. 21 W., at highway bridge at Norrisvale, 12 miles below Polson.

Drainage area.- 7,010 square miles.

Records available.- July 1907 to September 1934.

Extremes.- Maximum discharge during year, 52,200 second-feet May 12 (gage height, 13.30 feet); minimum, 2,590 second-feet Sept. 30 (gage height, 1.92 feet).
1907-34: Maximum discharge, 82,100 second-feet May 29-30, 1928 (gage height, 17.1 feet); minimum, 1,360 second-feet Dec. 9-14, 1919, Mar. 14, 1920 (gage height, -0.1 foot).

Remarks.- Records excellent except those for periods when chain-gage readings were used Oct. 15 to Dec. 7, Feb. 19 to Mar. 18, Apr. 19-24, and Sept. 13-23. Several small diversions from tributaries above Flathead Lake. Flow somewhat regulated by natural storage in Flathead Lake.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,800	12,000	10,900	14,000	9,310	6,080	9,950	47,500	49,500	21,800	8,560	4,410
2	4,800	12,800	10,900	14,400	9,000	6,080	10,300	47,500	48,200	21,300	8,310	4,410
3	4,800	13,600	10,600	14,000	9,000	5,880	10,600	46,900	47,500	20,800	8,070	4,250
4	4,800	13,600	10,600	14,400	9,000	6,500	10,600	46,900	46,200	20,200	7,840	4,090
5	4,800	14,800	10,600	14,000	9,000	6,500	10,600	46,200	44,900	19,700	7,840	4,250
6	4,800	14,800	10,300	14,400	8,590	6,930	10,600	46,200	43,600	19,200	7,620	4,090
7	4,640	14,800	9,950	14,400	8,590	6,930	10,900	47,500	41,700	18,200	7,400	3,770
8	4,640	14,800	9,950	14,400	8,590	6,930	10,900	48,900	41,000	17,700	7,190	3,700
9	4,640	14,400	9,950	13,600	8,590	6,710	11,600	49,500	40,400	17,200	7,190	3,620
10	4,640	14,800	10,300	13,600	8,290	6,500	12,800	50,900	39,200	16,700	6,980	3,620
11	4,640	14,800	10,600	13,200	8,290	6,500	14,000	51,500	38,500	16,200	6,580	3,620
12	4,640	14,800	10,600	12,800	8,290	6,500	14,400	51,500	37,900	15,200	6,580	3,540
13	4,340	14,400	9,950	12,400	8,290	6,930	15,200	51,500	37,300	15,200	6,380	3,770
14	4,200	14,400	9,950	12,400	8,290	6,930	16,600	50,900	36,700	14,700	6,380	3,770
15	4,490	14,400	9,630	12,400	8,290	7,150	17,900	50,200	35,400	14,200	6,190	3,620
16	4,490	14,000	9,630	12,000	8,010	7,150	18,900	50,200	34,800	13,800	6,000	3,470
17	4,340	14,000	9,000	11,600	8,010	6,710	18,900	50,200	34,200	13,300	5,810	3,540
18	4,340	14,000	9,310	11,600	8,010	6,500	18,900	51,500	32,400	12,900	6,000	3,620
19	4,490	13,600	9,310	11,300	7,840	6,930	25,100	51,500	31,800	12,400	5,630	4,090
20	4,490	13,600	9,630	10,900	7,600	7,150	26,800	51,500	30,600	12,000	5,430	3,930
21	4,340	12,800	9,310	10,600	7,370	7,370	27,900	50,900	29,400	11,600	5,630	3,770
22	4,490	12,800	9,950	10,900	6,930	7,840	29,600	50,200	28,300	11,200	5,270	3,620
23	4,490	12,400	10,600	10,300	6,710	8,010	30,800	48,900	28,300	11,200	5,450	3,330
24	4,800	12,400	12,000	10,600	6,500	8,010	33,800	48,200	27,200	10,800	5,090	3,060
25	4,960	12,400	13,200	10,300	6,500	8,290	37,300	47,500	26,000	10,400	5,090	2,940
26	5,140	12,000	13,600	10,300	6,290	8,290	38,500	47,500	25,000	10,100	4,920	2,820
27	5,880	12,000	13,600	9,950	6,290	8,590	41,000	48,200	24,400	9,720	4,750	2,760
28	7,150	11,300	13,600	9,950	6,290	8,010	43,000	48,200	23,900	9,400	4,750	2,820
29	7,600	11,300	13,600	9,950		9,630	44,900	48,900	23,400	9,400	4,580	2,880
30	9,950	10,900	14,000	9,630		9,630	46,900	48,900	22,800	8,820	4,580	2,820
31	11,300		14,000	9,310		9,630		49,500		8,310	4,750	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	11,300	4,200	5,223	0.745	0.86	321,200
November	14,800	10,900	13,420	1.91	2.13	798,700
December	14,000	9,000	10,940	1.56	1.80	672,600
January	14,400	9,310	12,050	1.72	1.98	741,000
February	9,310	6,290	7,920	1.13	1.18	439,900
March	9,630	5,880	7,316	1.04	1.20	449,800
April	46,900	9,950	22,310	3.18	3.55	1,327,000
May	51,500	46,200	49,210	7.02	8.09	3,026,000
June	49,500	22,800	35,020	5.00	5.58	2,084,000
July	21,800	8,310	14,310	2.04	2.35	880,000
August	8,560	4,580	6,221	.887	1.02	382,500
September	4,410	2,760	3,600	.514	.57	214,200
The year	51,500	2,760	15,660	2.23	30.31	11,340,000

South Fork of Flathead River near Columbia Falls, Mont.

Location.- Water-stage recorder in NE¼ sec. 17, T. 30 N., R. 19 W., 2 miles above mouth and 9 miles east of Columbia Falls.

Drainage area.- 1,640 square miles.

Records available.- September 1910 to September 1916, April 1923 to September 1934.

Extremes.- Maximum discharge during year, 22,000 second-feet Apr. 25 (gage height, 13.27 feet); minimum, 470 second-feet Sept. 19, 20 (gage height, 1.39 feet).
1910-16, 1923-34: Maximum discharge, about 46,200 second-feet June 19, 1916 (gage height, 16.6 feet); minimum, 243 second-feet Mar. 11, 1930 (ice on control).

Remarks.- Records good except those estimated, which are poor. No diversions above station. No storage.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,090	7,160	2,520		1,880	1,740	3,990	13,500		3,240		578
2	1,060	6,260	2,410		1,980	1,830	3,990	11,800		3,120	*990	566
3	1,020	9,730	2,410		2,080	1,980	3,730	11,400				554
4	1,020	9,350	2,300		2,140	1,860	3,600	11,200		*2,850	968	544
5	985	7,520	2,240	3,900	2,140	1,830	3,600	13,200	*9,700		968	536
6	950	6,260	2,460		2,140	1,860	4,130	17,500			935	527
7	950	5,420	2,640		2,140	1,780	5,270	18,900			935	522
8	950	4,690	2,460		2,190	1,690	6,980	20,800		*2,500	902	527
9	915	4,270	2,410		2,240	1,690	8,970	20,000			864	549
10	880	3,860	2,640	3,120	2,240	1,640	9,160	16,100			844	554
11	880	3,730	2,640	3,000	2,190	1,640	10,100	14,800			824	560
12	845	3,600	2,520	2,760	2,140	1,740	11,000	14,500			792	532
13	819	3,360	2,520	2,640	2,140	1,980		13,000	*9,100	*2,010	786	554
14	800	3,240	2,880	2,460	2,190	2,300	*12,500	12,300			766	590
15	793	3,120	2,820	2,190	2,240	2,760		14,300			753	572
16	806	2,940	2,520	2,190	2,240	3,600	10,500	17,000	*6,170		728	549
17	826	2,820	2,360	2,410	2,240	3,730	9,500	17,200	5,910		722	532
18	1,060	2,640	2,410	2,190	2,240	3,480	9,730	16,700	*5,500	*1,650	766	516
19	1,520	2,520	2,580	2,140	2,190	3,600	10,500	15,600	*5,090		760	500
20	1,640	2,460	2,760	2,140	2,140	4,130	11,800	15,600	*4,680		722	500
21	1,560	2,360	5,120	2,080	2,030	4,550		12,300	4,270		704	505
22	1,470	2,700		2,080	1,830	4,550		11,400	4,130		686	510
23	2,080	2,940		2,300	1,780	4,270	*18,000	11,400	3,730	*1,360	668	522
24	5,120	3,120		2,190	1,740	3,990		12,500	3,600		662	522
25	5,910	3,120		2,080	1,600	3,860	21,700		3,480		650	510
26	6,440	3,120	*5,300	2,030	1,470	3,730	21,100		3,600		638	510
27	6,260	3,120			1,740	3,860	20,000	*17,000	4,130		632	505
28	8,240	2,940			1,880	3,990	19,700		3,860		608	544
29	12,800	2,820		*1,900		3,860	18,900		3,600	*1,100	596	596
30	11,400	2,640				3,730	15,600		3,360		590	572
31	8,780					3,990					584	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	12,800	793	2,899	1.77	2.04	178,300
November	9,730	2,360	4,128	2.52	2.81	245,600
December		2,240	3,504	2.14	2.47	215,400
January			2,729	1.66	1.91	167,800
February	2,240	1,470	2,042	1.25	1.30	113,400
March	4,550	1,640	2,945	1.80	2.08	181,100
April	21,700	3,600	11,770	7.18	8.01	700,300
May	20,800	11,200	15,230	9.29	10.71	936,200
June		3,360	6,920	4.22	4.71	411,800
July	3,240		1,907	1.16	1.34	117,200
August		584	775	.473	.55	47,650
September	596	500	539	.329	.37	32,050
The year	21,700	500	4,623	2.82	38.30	3,347,000

*Estimated.

Stillwater River near Whitefish, Mont.

Location.- Water-stage recorder in SW¼ sec. 34, T. 30 N., R. 22 W., 600 feet below highway bridge and 7 miles southwest of Whitefish.

Records available.- November 1930 to September 1934.

Extremes.- Maximum discharge during year, 2,680 second-feet Apr. 28 (gage height, 14.47 feet); minimum, 88 second-feet Sept. 18-20; minimum gage height, 1.34 feet Sept. 18. 1930-34: Maximum discharge, that of Apr. 28, 1934; minimum, 58 second-feet Sept. 5-7, 1931.

Remarks.- Records good except those for periods of ice effect, Dec. 12-16, Dec. 24 to Jan. 3, Jan. 8-15, Feb. 23 to Mar. 3, which are fair. Staff-gage readings used Oct. 1 to Mar. 17, Mar. 28 to Apr. 25, June 20 to Aug. 10, Sept. 3-13. Some water stored and released for logging operations during summer. No diversions.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	151	344	232	} 500	321	} 240	965	2,520	985	414	162	98
2	151	344	199		306		1,000	2,450	985	382	156	98
3	146	358	225		306		1,040	2,340	965	382	156	95
4	146	398	206	566	306	292	1,040	2,220	945	366	151	95
5	140	398	212	515	264	292	1,020	2,100	945	344	146	95
6	138	382	192	498	292	306	1,020	1,980	905	344	146	95
7	138	382	212	447	292	306	1,060	1,910	865	351	138	94
8	133	358	212		292	292	1,140	1,840	825	336	136	92
9	133	351	218		292	292	1,280	1,790	785	321	133	92
10	131	328	225	} 540	292	285	1,430	1,750	747	314	131	92
11	127	314	225		292	292	1,550	1,730	709	306	125	92
12	127	306			292	292	1,640	1,680	673	292	123	95
13	125	292			292	321	1,750	1,660	655	278	121	94
14	125	285	} 210	637	292	321	1,860	1,620	637	271	120	98
15	123	278		515	285	351	2,030	1,570	601	264	118	98
16	121	264		515	292	414	2,200	1,510	583	251	116	98
17	121	251	321	637	278	464	2,270	1,470	566	238	114	94
18	123	251	336	637	292	481	2,270	1,430	549	232	109	90
19	129	244	336	601	285	532	2,240	1,380	530	232	107	88
20	151	238	344	583	285	619	2,200	1,340	515	225	107	88
21	156	238	351	583	264	709	2,200	1,300	498	218	104	89
22	156	238	351	549	251	747	2,200	1,260	481	212	104	91
23	162	238	414	464		766	2,270	1,180	464	206	101	91
24	174	238		447		785	2,370	1,120	447	186	99	91
25	192	244		382	} 220	805	2,420	1,060	430	186	98	91
26	212	244		366		805	2,600	1,020	430	186	98	90
27	232	244	} 410	351		825	2,650	1,000	447	186	98	91
28	238	238		351		865	2,680	1,000	464	180	98	94
29	278	238		321		905	2,650	1,000	447	174	98	98
30	306	218		321		905	2,600	1,000	447	174	98	99
31	321			306		905		1,000		162	98	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	321	121	165	10,130
November	398	218	291	17,340
December		192	295	18,130
January		306	495	30,410
February	321		274	15,240
March	905		513	31,530
April	2,680	965	1,855	110,400
May	2,520	1,000	1,556	95,660
June	985	430	651	38,730
July	414	162	265	16,290
August	162	98	120	7,360
September	99	88	93.5	5,570
The year	2,680	88	548	396,800

Logan Creek at Tally Lake, near Whitefish, Mont.

Location.- Staff gage in SE¼ sec. 30, T. 31 N., R. 23 W., at Tally Lake, about 10 miles west of Whitefish. Water-stage recorder used prior to Oct. 1, 1933.

Records available.- August 1931 to April 1933, May to September 1934.

Extremes.- Maximum discharge recorded for period May 18 to Sept. 15, 1934, 431 second-feet May 18 (gage height, 4.08 feet); minimum recorded, 9.1 second-feet Aug. 22 to Sept. 15 (gage height, 1.28 feet).
1931-33, 1934: Maximum stage, 7.22 feet May 28-29, 1933 (discharge not computed); minimum discharge, 0.8 second-foot Sept. 6, 1931.

Remarks.- Records poor. Natural storage in Tally Lake.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									200	80	16.9	9.1
2									196	75	16.2	9.1
3									196	70	15.5	9.1
4									206	65	15.5	9.1
5									216	63	15.5	9.1
6									212	65	15.5	9.1
7									206	65	14.1	9.1
8									200	61	13.4	9.1
9									188	56	12.7	9.1
10									178	51	12.7	9.1
11									170	50	12.0	9.1
12									158	47	11.4	9.1
13									148	42	11.4	9.1
14									137	42	11.4	9.1
15									131	40	11.4	9.1
16									120	36	10.3	
17									114	34	10.3	
18								431	106	33	10.3	
19								399	98	30	10.3	
20								368	92	28	10.3	
21								348	88	26.2	10.3	
22								328	83	26.2	9.1	
23								310	78	24.6	9.1	
24								291	72	23.8	9.1	
25								273	67	23.8	9.1	
26								264	70	23.0	9.1	
27								247	83	23.0	9.1	
28								238	88	23.0	9.1	
29								230	88	21.4	9.1	
30								214	85	19.8	9.1	
31								203		18.3	9.1	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October				
November				
December				
January				
February				
March				
April				
May 18-31	431	203	296	8,220
June	216	67	136	8,080
July	80	18.3	41.5	2,550
August	16.9	9.1	11.6	711
September 1-15	9.1	9.1	9.10	271
The period				19,830

Whitefish Creek near Kalispell, Mont.

Location.- Water-stage recorder in SW¼ sec. 34, T. 30 N., R. 21 W., 8 miles north of Kalispell.

Records available.- November to December 1906, July 1928 to September 1934.

Extremes.- Maximum discharge during year, 982 second-feet May 1 (gage height, 3.55 feet); minimum, 7.5 second-feet Sept. 18, 19 (gage height, 0.89 foot).
1906, 1928-34: Maximum discharge, 1,260 second-feet June 3, 1932 (gage height, 4.26 feet); minimum, 7.2 second-feet Oct. 22, 1929, Oct. 16, 1930 (gage height, 0.94 foot on new gage).

Remarks.- Records good except those for ice periods Dec. 27-28, Feb. 22-28 and estimate July 4, which are fair. Some regulation at Whitefish Lake. No diversions.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	109	164	152	217	177	177	359	982	850	369	28	13
2	109	168	149	221	177	152	355	960	828	362	24	14
3	106	200	149	235	177	137	365	938	806	351	24	15
4	106	217	146	249	174	134	175	894	785	342	24	15
5	106	204	143	256	171	131	366	e2e	785	332	24	13
6	104	200	140	249	168	134	385	850	742	332	24	12
7	104	197	155	238	164	128	444	850	721	309	24	11
8	101	190	246	231	164	125	385	e94	658	302	22	9.8
9	101	190	264	228	171	123	440	872	616	290	112	15
10	99	190	264	224	168	125	448	872	595	275	149	12
11	96	184	264	224	168	125	448	872	574	268	146	12
12	96	184	264	221	164	125	460	894	533	264	140	11
13	96	184	260	217	161	128	472	894	521	242	140	11
14	94	180	253	210	161	131	492	872	504	84	137	12
15	94	177	249	210	158	140	504	872	484	51	134	9.8
16	91	177	242	207	158	149	508	872	512	49	128	8.9
17	94	171	235	200	161	158	508	872	500	47	128	8.0
18	94	168	238	197	66	155	529	894	480	206	125	7.5
19	96	161	238	197	43	149	533	894	460	235	120	114
20	106	158	238	190	155	64	554	e94	444	228	117	158
21	109	158	242	190	168	55	595	e72	416	221	59	155
22	104	158	264	190	}	51	637	850	171	214	24	146
23	112	171	306	197		49	679	828	466	204	21	140
24	125	174	298	200		77	742	806	468	193	19	137
25	128	174	279	197	} 160	82	806	806	448	184	17	134
26	131	168	279	190		109	850	806	432	180	16	131
27	131	161	268	187		290	872	828	456	177	16	123
28	131	161	257	184	}	313	658	828	432	171	15	112
29	137	158	246	180		317	938	828	424	168	15	109
30	143	155	221	177		317	960	850	404	155	15	109
31	152		221	177		340		850		45	14	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	152	91	110	6,750
November	217	155	177	10,520
December	306	140	231	14,220
January	256	177	209	12,870
February	177	43	157	8,720
March	340	49	151	9,300
April	960	175	549	32,660
May	982	806	868	53,400
June	850	171	551	32,760
July	369	45	222	13,670
August	149	14	64.5	3,970
September	158	7.5	59.3	3,530
The year	982	7.5	280	202,400

Ashley Creek near Kalispell, Mont.

Location.- Wire gage in SE¼ sec. 16, T. 28 N., R. 22 W., 4 miles west of Kalispell.

Records available.- April 1931 to March 1933, April to September 1934.

Extremes.- Maximum discharge recorded during period Apr. 26 to Sept. 30, 1934, 285 second-feet Apr. 26 (gage height, 9.30 feet); minimum recorded, 16 second-feet July 17, 19 (gage height, 6.48 feet).
1931-33, 1934: Maximum discharge, that of Apr. 26, 1934; no flow various periods.

Remarks.- Records fair. Some diversions and natural storage in Smith Lake.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									94	56	35	30
2									89	56	35	30
3									89	56	36	29
4									89	56	35	28
5									85	56	37	28
6									89	56	36	27
7									85	60	35	26
8									89	60	37	25
9									85	56	37	23
10									80	49	40	23
11									80	40	40	24
12									80	35	40	26
13									76	31	40	26
14									68	27	40	26
15									64	22	40	30
16									53	21	40	32
17									46	18	40	29
18									43	17	35	29
19								178	37	16	36	21
20								166	32	18	35	28
21								166	35	20	32	27
22								154	40	22	33	25
23								142	37	21	34	27
24								142	37	18	34	29
25								136	40	20	36	21
26							285	124	46	27	35	31
27								119	53	32	35	32
28								114	56	33	33	26
29								109	56	34	32	23
30								104	56	36	30	21
31								99		35	29	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October				
November				
December				
January				
February				
March				
April				
May 19-31	178	99	135	3,480
June	94	32	63.6	3,790
July	60	16	35.6	2,190
August	40	29	35.9	2,210
September	32	21	26.7	1,590
The period				13,260

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Swan River near Big Fork, Mont.

Location.- Water-stage recorder in NW¼ sec. 14, T. 26 N., R. 19 W., at outlet of Swan Lake, 7 miles southeast of Big Fork.

Drainage area.- 647 square miles.

Records available.- April 1922 to September 1934, October 1910 to May 1911, 2 miles above Swan Lake.

Extremes.- Maximum discharge during year, 4,750 second-feet Dec. 25 (gage height, 5.42 feet); minimum, 362 second-feet Sept. 25, 26 (gage height, 2.18 feet).
1922-34: Maximum discharge, 8,280 second-feet May 24, 1933 (gage height, 7.00 feet); minimum, 85 second-feet Jan. 24-29, 1930 (gage height, 0.04 foot).

Remarks.- Records good. No diversions above station. Natural storage in Swan Lake. Staff-gage readings used Nov. 30 to Dec. 7, Jan. 15 to Mar. 18, May 26 to June 20, Sept. 24-27.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	563	1,540	851	1,910	887	726	1,570	3,470	3,560	1,380	602	398
2	563	1,400	833	1,840	887	726	1,740	3,210	3,380	1,330	602	392
3	548	1,300	815	1,840	869	815	1,810	2,890	2,970	1,280	578	392
4	518	1,190	815	1,910	869	887	1,780	2,650	2,890	1,230	570	392
5	518	1,140	815	1,980	869	905	1,770	2,650	2,730	1,190	563	392
6	503	1,060	797	1,980	869	923	1,800	2,890	2,570	1,170	556	386
7	483	1,010	851	1,840	869	923	1,910	3,130	2,420	1,140	548	380
8	483	960	865	1,690	905	923	2,050	3,300	2,340	1,110	533	380
9	489	932	914	1,540	905	923	2,270	3,210	2,270	1,080	526	386
10	518	905	997	1,470	905	905	2,500	3,130	2,200	1,030	518	386
11	548	860	1,250	1,400	905	887	2,650	3,050	2,120	1,010	510	398
12	658	833	1,660	1,340	905	887	2,650	2,890	2,050	978	496	392
13	779	815	1,910	1,260	905	887	2,730	2,730	2,050	941	483	398
14	842	797	1,910	1,240	887	905	2,890	2,730	2,120	923	483	411
15	878	806	1,810	1,110	887	923	2,970	2,890	2,200	905	476	417
16	905	923	1,690	1,090	869	978	2,970	2,970	1,980	878	476	411
17	951	860	1,560	1,050	869	1,070	2,810	3,130	1,910	860	462	411
18	1,020	869	1,430	1,030	851	1,110	2,650	3,130	1,840	842	469	398
19	1,120	869	1,360	1,020	851	1,120	2,500	3,130	1,810	824	462	392
20	1,200	878	1,360	978	815	1,130	2,420	3,050	1,700	788	455	392
21	1,360	860	1,370	978	797	1,150	2,500	3,050	1,600	779	449	386
22	1,700	860	1,640	978	761	1,170	2,650	2,890	1,530	770	449	398
23	2,050	851	2,650	1,020	761	1,190	2,890	2,650	1,480	761	442	392
24	2,200	815	4,250	1,030	743	1,180	3,210	2,650	1,400	752	435	374
25	2,050	797	4,550	1,020	726	1,170	3,470	2,810	1,370	734	423	362
26	2,050	797	3,950	978	709	1,150	3,660	2,890	1,370	726	417	362
27	2,050	770	3,300	960	709	1,140	3,750	3,130	1,420	692	417	374
28	2,120	770	2,810	960	709	1,180	3,750	3,210	1,450	675	417	411
29	2,050	815	2,480	941		1,240	3,750	3,300	1,450	666	404	423
30	1,840	869	2,120	925		1,320	3,750	3,470	1,420	658	411	429
31	1,700		2,050	925		1,400		3,560		618	392	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,200	483	1,137	1.76	2.03	69,930
November	1,540	770	938	1.45	1.62	55,840
December	4,550	797	1,796	2.78	3.20	110,400
January	1,980	925	1,298	2.01	2.32	79,800
February	905	709	839	1.30	1.35	46,600
March	1,400	726	1,027	1.59	1.83	63,160
April	3,750	1,570	2,661	4.11	4.59	158,300
May	3,560	2,650	3,027	4.68	5.40	186,100
June	3,560	1,370	2,053	3.17	3.54	122,200
July	1,380	618	926	1.43	1.65	56,970
August	602	392	485	.750	.86	29,800
September	429	362	394	.609	.68	23,430
The year	4,550	362	1,385	2.14	29.07	1,003,000

Priest Lake at outlet, near Coolin, Idaho

Location.- Staff gage in W½ sec. 5, T. 59 N., R. 4 W., 400 feet north of lake outlet and 2 miles northwest of Coolin. Zero of gage is 2,435.06 feet above mean sea level, U. S. Coast and Geodetic Survey datum, or 2,437.99 feet, U. S. Geological Survey datum (Bulletin 567).

Drainage area.- 572 square miles.

Records available.- April 1928 to September 1934. Fragmentary gage-height records at Coolin from June 1911 to September 1913 are published in connection with the station on Priest River at outlet of Priest Lake, at Coolin.

Extremes.- Maximum gage height recorded during year, 5.49 feet Apr. 30; minimum recorded, -0.05 foot Sept. 29, 30.
1928-34: Maximum gage height recorded, 5.94 feet May 23, 1932; minimum, that of Sept. 29, 30, 1934.

Remarks.- Records good.

Gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.65	1.25	1.29	2.63	2.09	1.75	2.53	5.39	3.69	1.75	0.73	0.23
2	.65	1.35	1.25	2.63	2.05	1.77	2.63	5.31	3.61	1.73	.71	.22
3	.68	1.45	1.25	2.63	2.03	1.79	2.67	5.19	3.51	1.66	.70	.21
4	.65	1.47	1.27	2.65	2.03	1.79	2.71	5.01	3.43	1.67	.67	.19
5	.65	1.47	1.29	2.65	2.01	1.79	2.79	4.99	3.25	1.59	.66	.17
6	.65	1.49	1.31	2.67	1.99	1.79	2.85	4.87	3.14	1.55	.65	.15
7	.65	1.49	1.31	2.63	1.93	1.79	2.89	4.79	3.09	1.47	.63	.13
8	.65	1.47	1.31	2.61	1.91	1.79	2.97	4.71	2.91	1.45	.61	.11
9	.65	1.45	1.31	2.61	1.99	1.75	3.11	4.67	2.89	1.41	.57	.11
10	.65	1.45	1.31	2.59	1.93	1.73	3.26	4.59	2.87	1.37	.55	.11
11	.65	1.45	1.43	2.57	1.93	1.71	3.39	4.55	2.85	1.35	.53	.13
12	.63	1.43	1.51	2.55	1.91	1.73	3.41	4.49	2.79	1.29	.49	.11
13	.63	1.41	1.57	2.51	1.89	1.71	3.55	4.29	2.71	1.23	.51	.11
14	.61	1.41	1.63	2.47	1.89	1.71	3.72	4.39	2.77	1.21	.47	.11
15	.57	1.39	1.65	2.45	1.87	1.73	3.77	4.39	2.65	1.19	.45	.11
16	.57	1.35	1.67	2.41	1.85	1.73	3.85	4.37	2.59	1.15	.43	.09
17	.57	1.37	1.67	2.37	1.85	1.77	3.93	4.37	2.65	1.11	.41	.07
18	.55	1.29	1.77	2.37	1.83	1.79	3.99	4.39	2.49	1.05	.41	.07
19	.57	1.29	1.87	2.33	1.85	1.81	4.01	4.31	2.47	.99	.37	.07
20	.59	1.31	1.95	2.35	1.83	1.83	4.19	4.19	2.39	.97	.37	.07
21	.59	1.33	2.01	2.37	1.81	1.85	4.25	4.11	2.27	.95	.35	.07
22	.61	1.33	2.27	2.37	1.79	1.87	4.39	3.97	2.19	.93	.35	.07
23	.63	1.33	2.47	2.37	1.75	1.89	4.57	3.89	2.11	.91	.35	.05
24	.67	1.33	2.55	2.35	1.73	1.93	4.77	3.85	2.01	.89	.33	.04
25	.71	1.31	2.57	2.33	1.73	1.95	4.95	3.85	1.97	.87	.31	.01
26	.73	1.31	2.59	2.33	1.71	1.97	5.03	3.87	1.95	.85	.29	-.01
27	.89	1.29	2.59	2.31	1.71	2.01	5.11	3.87	1.91	.85	.27	-.03
28	.93	1.29	2.61	2.27	1.73	2.24	5.33	3.87	1.85	.83	.27	-.03
29	1.03	1.27	2.63	2.21		2.21	5.47	3.79	1.79	.84	.27	-.05
30	1.17	1.27	2.63	2.17		2.29	5.49	3.77	1.71	.81	.25	-.05
31	1.21		2.61	2.15		2.39		3.75		.73	.25	

Priest River at outlet of Priest Lake, near Coolin, Idaho

Location.- Water-stage recorder in SW¼ sec. 5, T. 59 N., R. 4 W., at southwest end of Priest Lake and 2 miles northwest of Coolin. Zero of gage is 2,435.06 feet above mean sea level, U. S. Coast and Geodetic Survey datum, or 2,437.99 feet, U. S. Geological Survey datum (Bulletin 567).

Drainage area.- 572 square miles.

Records available.- June 1911 to September 1918 (fragmentary), May 1919 to September 1934.

Average discharge.- 20 years (1913-18, 1919-34), 1,100 second-feet.

Extremes.- Maximum discharge during year, 5,870 second-feet Apr. 30 (gage height, 4.84 feet); minimum (estimated), 140 second-feet Sept. 30; minimum gage height recorded, -0.10 foot Sept. 20, 21.

1911-34: Maximum discharge, 7,290 second-feet May 30, 1917 (gage height, 6.83 feet); minimum, 120 second-feet Dec. 7, 1929; minimum gage height recorded, that of Sept. 20 and 21, 1934.

Remarks.- Records excellent except those estimated, Dec. 17, Jan. 9-13, June 14, 15, Aug. 21-24, 31, Sept. 3-13, 20-22, 24-30, which are fair. No diversions above station.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	372	671	699	1,800	1,360	1,020	1,740	5,690	3,000	996	400	215
2	372	720	685	1,800	1,310	1,040	1,860	5,510	2,840	948	396	208
3	372	790	685	1,800	1,290	1,040	1,920	5,240	2,770	918	386	200
4	368	812	685	1,860	1,250	1,040	1,980	5,060	2,630	895	377	200
5	368	820	685	1,860	1,220	1,040	1,980	4,880	2,560	872	377	200
6	368	820	692	1,860	1,200	1,050	2,040	4,800	2,490	850	364	190
7	364	820	706	1,860	1,180	1,040	2,100	4,710	2,360	805	355	180
8	364	820	706	1,800	1,180	1,040	2,230	4,620	2,300	776	351	175
9	359	812	727	1,740	1,130	1,030	2,360	4,540	2,230	755	343	174
10	359	812	734	1,740	1,180	1,010	2,490	4,460	2,160	727	334	173
11	355	805	755	1,740	1,170	1,000	2,560	4,370	2,100	706	322	173
12	351	798	935	1,680	1,160	996	2,700	4,280	2,040	685	311	173
13	343	776	872	1,680	1,150	1,000	2,920	4,280	1,980	671	303	172
14	338	769	918	1,630	1,130	1,000	3,140	4,200	1,860	657	296	172
15	338	762	940	1,580	1,120	996	3,380	4,200	1,740	637	296	172
16	338	755	948	1,580	1,110	1,020	3,460	4,200	1,680	624	292	172
17	338	748	950	1,520	1,090	1,040	3,550	4,200	1,630	604	282	169
18	343	741	1,050	1,520	1,070	1,050	3,620	4,120	1,580	598	285	166
19	347	734	1,130	1,520	1,060	1,060	3,620	3,940	1,520	585	264	169
20	351	727	1,210	1,520	1,060	1,090	3,780	3,700	1,460	561	264	165
21	351	720	1,280	1,580	1,060	1,110	3,940	3,700	1,360	555	260	160
22	355	720	1,460	1,520	1,050	1,130	4,120	3,540	1,310	531	260	163
23	364	713	1,630	1,520	1,040	1,150	4,370	3,460	1,270	520	250	181
24	377	720	1,740	1,520	1,030	1,180	4,710	3,380	1,250	503	250	180
25	381	727	1,800	1,520	1,010	1,200	4,970	3,380	1,200	498	244	165
26	400	727	1,800	1,520	988	1,210	5,240	3,380	1,180	480	237	160
27	414	727	1,800	1,460	1,000	1,250	5,420	3,380	1,140	470	237	155
28	450	727	1,800	1,410	1,010	1,310	5,600	3,300	1,090	460	237	150
29	531	713	1,860	1,410		1,410	5,780	3,300	1,050	444	234	145
30	592	706	1,860	1,360		1,520	5,780	3,220	1,020	424	231	140
31	644		1,800	1,360		1,630		3,140		405	226	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	644	338	386	0.675	0.78	23,740
November	820	671	757	1.32	1.47	45,050
December	1,860	685	1,143	2.00	2.31	70,300
January	1,860	1,360	1,622	2.84	3.27	99,710
February	1,360	988	1,129	1.97	2.05	62,690
March	1,630	996	1,119	1.96	2.26	68,810
April	5,780	1,740	3,445	6.02	6.72	205,000
May	5,690	3,140	4,135	7.23	8.34	254,200
June	3,000	1,020	1,827	3.19	3.56	108,700
July	996	405	650	1.14	1.31	40,000
August	400	226	299	.523	.60	18,370
September	215	140	174	.304	.34	10,350
The year	5,780	140	1,391	2.43	33.01	1,007,000

Priest River near Priest River, Idaho

Location.- Water-stage recorder in NE¼SE¼ sec. 11, T. 56 N., R. 5 W., 500 feet below Saddler Creek, a quarter of a mile below mouth of Lower West Branch, 2½ miles north of Priest River, and 3½ miles above mouth.

Records available.- October 1930 to September 1934. At site 3 miles downstream, June 1903 to April 1905, November 1910 to April 1911, May to December 1923, February 1929 to September 1930.

Extremes.- Maximum discharge during year, 6,900 second-feet Apr. 29, 30; maximum gage height, 7.02 feet Apr. 29; minimum discharge, 255 second-feet Sept. 30 (gage height, 0.78 foot).

1903-5, 1910-11, 1923, 1929-34: Maximum discharge, 8,890 second-feet May 23, 1932 (gage height, 8.03 feet); minimum, 195 second-feet Dec. 31, 1930, Oct. 14, 1931; minimum gage height, 0.72 foot Dec. 31, 1930.

Remarks.- Records good except those for Oct. 24 to Dec. 12, Apr. 20-23, May 24 to June 29, which are fair. Discharges estimated Apr. 20-23, Sept. 9-13.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	510	882	890	2,830	2,270	1,710	3,430	6,750	3,430	1,210	536	325
2	510	1,120	875	2,830	2,270	2,010	3,430	6,450	3,310	1,170	524	317
3	498	1,340	898	3,550	2,220	1,960	3,190	6,300	3,190	1,140	518	312
4	492	1,200	860	3,550	2,160	1,810	3,190	6,000	3,070	1,100	518	308
5	492	1,080	882	3,490	2,110	1,810	3,130	5,850	2,950	1,070	518	308
6	492	1,050	1,160	3,250	2,060	1,910	3,130	5,710	2,890	1,070	500	299
7	492	1,020	1,160	3,070	2,060	1,860	3,250	5,570	2,830	1,020	473	291
8	486	1,050	1,050	2,830	2,110	1,760	3,370	5,430	2,770	962	473	291
9	480	1,080	1,070	2,710	2,110	1,760	3,550	5,290	2,710	962	465	290
10	474	1,100	1,200	2,770	2,010	1,760	3,680	5,150	2,600	921	454	290
11	480	1,120	1,520	2,710	1,960	1,710	3,740	5,010	2,540	894	442	290
12	474	1,120	2,040	2,600	1,960	1,760	3,810	5,010	2,440	874	437	290
13	468	1,160	2,330	2,600	1,910	1,760	3,940	4,870	2,380	840	426	290
14	468	1,120	2,220	2,600	1,860	1,810	4,070	4,870	2,320	826	415	288
15	456	1,120	2,020	2,380	1,860	1,860	4,070	4,730	2,220	812	410	288
16	450	1,120	1,770	2,320	1,810	1,960	4,200	4,730	2,160	778	404	288
17	450	1,080	1,720	2,380	1,810	1,960	4,200	4,730	2,110	772	393	284
18	456	1,080	2,890	2,270	1,760	1,960	4,200	4,730	1,960	738	398	280
19	462	1,070	3,890	2,380	1,760	1,910	4,200	4,590	1,860	725	393	272
20	504	1,060	3,640	2,830	1,710	1,960	4,500	4,460	1,760	692	383	276
21	474	1,060	4,250	2,830	1,710	2,060	4,800	4,330	1,710	673	378	269
22	486	1,120	5,010	2,770	1,760	2,060	5,000	4,070	1,580	666	363	295
23	528	1,080	4,590	3,130	1,620	1,960	5,200	4,000	1,530	654	358	299
24	528	1,050	3,940	2,890	1,620	1,910	5,570	4,000	1,480	634	353	303
25	590	1,020	3,430	2,770	1,620	1,960	5,850	3,810	1,440	634	353	269
26	583	1,020	3,130	2,600	1,480	1,960	6,000	3,810	1,400	628	348	261
27	596	1,000	2,950	2,540	1,530	2,110	6,300	3,740	1,400	616	343	261
28	656	984	2,890	2,440	1,620	2,490	6,750	3,680	1,360	609	334	261
29	768	928	3,070	2,380		2,830	6,900	3,740	1,280	585	334	258
30	852	920	3,070	2,380		2,830	6,900	3,620	1,240	572	330	255
31	936		2,950	2,320		3,070		3,490		548	325	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	936	450	535	0.593	0.68	32,910
November	1,340	882	1,072	1.19	1.33	63,820
December	5,010	860	2,367	2.62	3.02	145,500
January	3,550	2,270	2,742	3.04	3.50	168,600
February	2,270	1,480	1,884	2.09	2.18	104,600
March	3,070	1,710	2,008	2.23	2.57	123,500
April	6,900	3,130	4,452	4.94	5.51	264,900
May	6,750	3,490	4,791	5.31	6.12	294,600
June	3,430	1,240	2,197	2.44	2.72	130,800
July	1,210	548	819	.908	1.05	50,370
August	536	325	416	.461	.53	25,580
September	325	255	287	.318	.35	17,070
The year	6,900	255	1,964	2.18	29.56	1,422,000

Sheep Creek near Northport, Wash.

Location.- Water-stage recorder in NE¼NE¼ sec. 25, T. 40 N., R. 39 E., at county highway bridge 1 mile above mouth and 1½ miles north of Northport. Zero of gage is 1,300.00 feet above mean sea level.

Drainage area.- 225 square miles.

Records available.- June 1929 to September 1934.

Extremes.- Maximum discharge during year, 1,920 second-feet Apr. 25 (gage height, 26.85 feet); minimum, 23 second-feet Sept. 9-11 (gage height, 22.63 feet).
1929-34: Maximum discharge, 2,450 second-feet Apr. 29, 1933 (gage height, 27.46 feet); minimum, probably less than 8 second-feet, occurred during period Dec. 25, 1929, to Apr. 7, 1930.

Remarks.- Records good except those for periods Nov. 22 to Dec. 5, Dec. 10-26, Mar. 21 to Apr. 2, May 26-28, which were estimated. Flow partly regulated by flash dam 6½ miles above gage. No diversions.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	140	80	152	105	184	820	1,010	231	74	35	25
2	31	144	80	152	107	188	890	864	217	72	35	24
3	30	150	80	160	111	194	926	782	207	71	35	24
4	31	144	80	165	111	186	898	743	196	70	35	25
5	31	135	80	163	113	186	891	711	194	67	35	25
6	31	131	85	158	113	184	940	669	186	67	34	25
7	31	125	83	150	116	181	1,080	638	174	65	34	24
8	31	121	83	137	125	181	1,290	608	167	63	33	24
9	31	117	83	137	135	186	1,540	593	165	63	33	23
10	31	117	80	148	146	194	1,460	564	158	62	32	23
11	32	117	80	146	154	213	1,290	541	149	62	31	23
12	32	117	90	140	158	238	1,260	527	141	61	31	24
13	33	115	110	137	165	273	1,360	518	131	58	30	25
14	34	115	120	133	169	314	1,540	495	123	57	30	25
15	34	115	120	114	176	341	1,460	495	118	56	29	25
16	36	113	110	124	184	352	1,290	500	112	55	29	25
17	37	111	110	127	191	364	1,150	491	109	54	28	25
18	37	107	110	125	196	372	1,080	469	104	52	27	25
19	38	107	130	125	205	384	1,080	418	100	50	27	25
20	38	105	140	123	208	400	1,180	390	98	48	27	24
21	37	105	150	121	210	450	1,360	367	95	46	27	24
22	40	100	170	119	213	460	1,600	338	93	44	27	24
23	40	100	190	119	210	480	1,740	314	90	43	27	24
24	42	100	180	115	205	490	1,780	301	87	42	26	24
25	43	100	170	115	199	500	1,780	304	86	42	26	24
26	43	90	170	111	191	520	1,680	290	82	40	26	27
27	47	90	163	109	188	530	1,540	276	81	39	26	25
28	56	90	163	107	184	550	1,500	262	80	37	26	25
29	89	90	169	105		600	1,400	248	76	37	25	24
30	140	80	163	105		700	1,180	242	75	36	25	24
31	146		156	105		760		245		35	25	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	146	30	44.6	0.198	0.23	2,740
November	150	80	113	.502	.56	6,730
December	190	80	122	.542	.62	7,490
January	165	105	131	.582	.67	8,030
February	213	105	164	.729	.76	9,100
March	760	181	360	1.60	1.84	22,130
April	1,780	820	1,300	5.78	6.45	77,330
May	1,010	242	491	2.18	2.51	30,170
June	231	75	131	.582	.65	7,790
July	74	35	53.8	.239	.28	3,310
August	35	25	29.5	.131	.15	1,820
September	27	23	24.4	.108	.12	1,450
The year	1,780	23	246	1.09	14.84	178,100

Kettle River near Ferry, Wash.

(International gaging station)

Location.- Water-stage recorder in lot 7, sec. 10, T. 40 N., R. 32 E., 1¼ miles south of international boundary and Ferry. Zero of gage is 1,840.00 feet above mean sea level.

Drainage area.- 2,220 square miles.

Records available.- August 1928 to September 1934.

Extremes.- Maximum discharge during year, 11,500 second-feet Apr. 25, 28, 29 (gage height, 17.4 feet); minimum, 81 second-feet Sept. 7, 8 (gage height, 9.23 feet).
1928-34: Maximum discharge, 14,000 second-feet June 17, 1933 (gage height, 18.40 feet); minimum, 14 second-feet Jan. 23, 1930, result of discharge measurement; may have been less during period Jan. 18-23, 1930.

Remarks.- Records excellent except those for Jan. 11-20, which were estimated because of ice. Numerous small diversions above station for irrigation. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	339	1,080	560	489	372	362	2,740	8,120	4,160	578	178	87
2	311	992	596	513	382	377	2,620	6,790	3,700	536	178	87
3	294	992	648	513	367	382	2,420	6,600	3,780	507	188	87
4	281	904	548	501	297	377	2,550	6,030	3,480	501	197	87
5	307	824	590	478	324	367	2,810	6,220	3,250	507	210	85
6	316	770	590	355	353	358	3,320	6,410	3,100	478	234	83
7	311	778	590	255	353	358	4,160	5,850	2,950	444	224	81
8	307	725	560	211	382	353	4,970	5,850	2,880	428	203	81
9	286	711	530	172	397	362	5,490	5,850	2,740	407	188	83
10	281	690	554	194	392	367	4,970	5,310	2,480	392	178	85
11	273	778	536	200	362	382	4,800	5,140	2,240	367	166	89
12	261	800	536	240	339	428	4,970	5,310	2,060	362	169	96
13	254	792	542	280	329	495	5,850	5,140	1,830	348	161	117
14	242	770	542	200	334	548	6,220	5,490	1,660	334	158	129
15	238	740	518	140	353	622	5,670	6,030	1,500	320	152	158
16	238	718	271	190	362	676	5,140	6,600	1,350	320	142	178
17	238	718	300	240	377	711	4,970	6,220	1,210	311	139	172
18	242	704	344	270	377	740	4,970	5,310	1,110	316	134	172
19	265	683	466	300	377	792	5,140	4,640	1,060	325	132	181
20	290	648	560	340	377	880	6,030	4,320	1,030	294	124	175
21	269	642	578	377	372	952	7,170	4,160	960	281	122	166
22	277	636	548	377	325	1,020	8,500	3,700	896	281	117	166
23	277	629	524	382	316	1,040	9,730	3,780	856	269	112	164
24	277	648	402	367	329	1,060	10,600	4,160	808	261	110	164
25	303	655	244	348	348	1,070	11,100	4,800	748	258	110	164
26	402	655	184	353	325	1,080	11,100	5,670	690	254	108	164
27	518	648	191	358	387	1,120	10,600	5,310	655	231	105	164
28	863	616	286	372	372	1,300	11,100	4,800	616	224	98	161
29	1,350	501	366	377		1,780	11,100	4,640	603	217	96	161
30	1,400	484	461	372		2,360	9,730	4,970	616	203	92	169
31	1,210		489	367		2,740		5,850		181	89	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,400	238	410	25,230
November	1,080	484	731	43,500
December	648	184	473	29,070
January	513	140	327	20,090
February	397	297	356	19,800
March	2,740	353	821	50,500
April	11,100	2,420	6,351	377,900
May	8,120	3,700	5,454	335,300
June	4,160	603	1,834	109,100
July	578	181	346	21,290
August	234	89	149	9,150
September	181	81	132	7,850
The year	11,100	81	1,449	1,049,000

Kettle River at Cascade, British Columbia

(International gaging station)

Location.- Staff gage on highway bridge half a mile below Cascade Falls, at Cascade.

Drainage area.- 3,550 square miles.

Records available.- October 1930 to September 1934 (discontinued); April 1916 to September 1930 in Canadian water-resources papers.

Average discharge.- 18 years (1916-34), 2,497 second-feet.

Extremes.- Maximum discharge recorded during year, 20,700 second-feet Sept. 4 (gage height, 13.10 feet); minimum recorded, 182 second-feet Sept. 4 (gage height, 3.02 feet).

1916-34: Maximum discharge, 29,300 second-feet June 8, 1921; minimum, 60 second-feet Jan. 24, 25, 1930.

Remarks.- Records good except those estimated for period of ice effect, Jan. 11-28, which are fair. Numerous diversions above station for irrigation. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	506	2,560	1,050	1,100	790	942	5,560	14,000	7,430	1,190	310	222
2	610	2,010	1,050	1,110	838	926	5,750	11,400	6,390	1,110	300	206
3	625	2,010	1,190	1,130	822	942	5,280	10,600	6,040	1,040	315	196
4	581	1,810	1,100	1,060	734	942	5,280	10,200	5,940	998	320	182
5	581	1,690	1,070	1,070	670	942	5,660	9,540	5,660	1,020	320	192
6	625	1,620	1,140	894	742	926	6,330	10,400	5,460	974	325	192
7	632	1,530	1,120	750	790	894	7,230	9,540	5,180	774	350	189
8	632	1,520	1,110	632	662	878	9,210	9,100	5,080	798	345	196
9	632	1,430	1,110	532	918	886	10,100	9,540	5,080	782	320	196
10	588	1,400	1,070	492	942	910	9,320	8,730	4,610	750	300	182
11	560	1,400	1,060	505	942	918	8,450	8,370	4,320	710	310	192
12	553	1,500	1,050	530	878	998	8,680	8,790	3,940	662	290	192
13	525	1,500	1,110	560	830	1,100	9,870	8,370	3,560	610	285	189
14	525	1,490	1,120	585	830	1,810	11,200	8,680	3,130	610	275	214
15	492	1,480	1,120	620	830	1,500	10,700	9,870	2,890	560	265	234
16	492	1,450	910	653	854	1,620	9,430	10,600	2,650	588	255	246
17	492	1,400	694	680	942	1,690	8,900	10,400	2,340	546	238	265
18	506	1,430	782	720	942	1,780	9,000	9,360	2,260	546	238	265
19	512	1,350	894	760	966	1,870	9,210	8,060	2,120	512	234	265
20	553	1,350	1,050	814	974	2,000	10,200	7,330	2,000	546	222	270
21	553	1,300	1,120	870	998	2,160	12,300	7,030	1,390	480	222	260
22	553	1,310	1,160	854	958	2,340	14,600	6,330	2,650	460	216	285
23	553	1,290	1,130	870	910	2,370	17,400	6,230	1,340	460	210	270
24	553	1,310	1,020	830	798	2,360	19,300	6,650	1,550	442	218	250
25	560	1,330	1,200	830	958	2,370	20,700	7,640	1,500	499	210	250
26	670	1,350	806	766	862	2,370	20,300	9,000	1,430	430	210	250
27	990	1,350	546	790	862	2,440	19,800	8,680	1,330	400	226	255
28	1,250	1,310	670	790	990	2,700	19,300	8,160	1,500	380	214	250
29	2,420	1,140	950	798		3,560	20,500	7,840	1,300	350	200	238
30	2,840	1,020	982	798		4,610	17,300	7,840	1,190	395	203	250
31	2,550		1,070	798		5,750		9,430		320	206	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,840	492	797	49,000
November	2,560	1,020	1,490	88,700
December	1,200	546	1,010	62,100
January	1,130	492	781	48,000
February	998	670	873	46,500
March	5,750	878	1,850	114,000
April	20,700	5,280	11,600	690,000
May	14,000	6,230	8,960	551,000
June	7,430	1,190	3,380	201,000
July	1,190	320	643	39,500
August	350	200	263	16,200
September	285	182	228	13,600
The year	20,700	182	2,650	1,920,000

Kettle River near Laurier, Wash.

(International gaging station)

Location.- Water-stage recorder in SW¼ sec. 11, T. 40 N., R. 36 E., 500 feet below Deep Creek and 1½ miles southeast of Laurier.

Drainage area.- 3,800 square miles.

Records available.- September 1929 to September 1934.

Extremes.- Maximum discharge during year, 21,100 second-feet Apr. 26 (gage height, 13.6 feet); minimum, 166 second-feet Sept. 11 (gage height, 2.59 feet).
1929-34: Maximum discharge, 23,800 second-feet June 17, 1933 (gage height, 14.48 feet); minimum, not determined, occurred during winter of 1929-30.
Maximum stage known, about 22 feet in 1894.

Remarks.- Records excellent except those estimated because of ice, Jan. 11-20, and those estimated Feb. 23, 24, June 18-27, July 2. North Fork regulated by storage above dam at Grand Forks, British Columbia. Numerous small diversions for irrigation and domestic use. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	514	2,350	1,160	1,230	903	1,080	6,400	15,100	8,200	1,430	394	224
2	598	2,170	1,160	1,230	946	1,050	6,200	12,800	7,000	1,330	377	219
3	616	2,080	1,230	1,270	910	1,080	5,800	11,800	6,600	1,230	386	210
4	592	1,940	1,230	1,190	840	1,080	5,800	11,300	6,400	1,120	394	194
5	586	1,790	1,120	1,190	805	1,080	6,000	10,800	6,000	1,080	388	198
6	616	1,690	1,190	1,120	826	1,080	6,800	11,300	5,800	1,050	366	194
7	652	1,600	1,160	980	854	1,050	7,800	10,600	5,600	882	410	198
8	652	1,560	1,160	840	868	1,020	9,670	10,300	5,400	875	399	186
9	634	1,510	1,160	714	882	1,020	10,800	10,600	5,400	868	366	190
10	622	1,470	1,160	598	903	1,050	10,300	9,890	5,020	854	350	186
11	598	1,470	1,160	670	910	1,050	9,230	9,230	4,660	805	350	178
12	574	1,560	1,160	770	980	1,120	9,450	9,450	4,310	770	330	182
13	562	1,600	1,190	840	1,020	1,590	10,600	9,230	3,970	735	320	186
14	550	1,560	1,190	670	1,020	2,190	12,300	9,670	3,570	735	320	190
15	526	1,510	1,190	490	1,050	1,640	11,800	10,600	3,260	694	325	194
16	509	1,510	1,080	670	1,050	1,690	10,600	11,800	2,960	694	320	214
17	504	1,510	861	700	1,020	1,790	9,890	11,800	2,680	676	310	260
18	526	1,510	889	580	1,020	1,890	9,890	10,300	2,590	670	295	270
19	520	1,470	980	770	1,050	1,940	10,100	8,810	2,500	658	285	270
20	556	1,430	1,120	840	1,080	2,060	11,000	8,200	2,410	670	260	275
21	568	1,390	1,190	980	1,080	2,230	12,800	7,800	2,320	622	250	285
22	562	1,390	1,230	980	1,080	2,480	15,100	7,200	2,230	592	246	280
23	562	1,350	1,230	980	1,000	2,540	17,500	7,000	2,140	568	237	285
24	568	1,390	1,160	945	1,050	2,610	19,300	7,400	2,050	568	237	270
25	574	1,390	1,120	910	1,080	2,610	20,500	8,200	1,960	556	232	265
26	652	1,430	1,010	903	1,020	2,680	20,800	9,670	1,870	520	237	265
27	896	1,430	682	896	945	2,680	20,200	9,890	1,780	509	228	270
28	1,240	1,390	777	910	1,120	2,960	19,900	9,020	1,690	482	228	260
29	2,170	1,270	945	910		3,730	20,200	8,600	1,600	448	232	260
30	2,820	1,160	1,050	910		5,210	18,400	8,600	1,510	416	228	265
31	2,680		1,190	910		6,000		9,890		416	224	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,820	504	800	49,190
November	2,350	1,160	1,562	92,950
December	1,230	682	1,101	67,700
January	1,270	490	890	54,740
February	1,120	805	975	54,170
March	6,000	1,020	2,041	125,500
April	20,800	5,800	12,170	724,200
May	15,100	7,000	9,898	608,600
June	8,200	1,510	3,783	225,100
July	1,430	416	759	46,660
August	410	224	307	18,890
September	285	178	231	13,730
The year	20,800	178	2,875	2,081,000

Myers Creek near Myncaster, British Columbia

(International gaging station)

Location.- Water-stage recorder 50 feet north of international boundary and a quarter of a mile south of Myncaster.

Drainage area.- 80 square miles.

Records available.- October 1929 to September 1934; May 1923 to September 1929 in Canadian water-resources papers.

Extremes.- Maximum discharge during year, not determined, occurred during period when station was not operating; minimum, 0.2 second-foot Aug. 21, 22, Sept. 4.
1923-34: Maximum discharge, 99 second-feet June 14, 1923; no flow July 16-18, 25, 1926.

Remarks.- Records fair. Diversion above station for irrigation. No record during winter. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	4.7					13.3	17.8	7.3	1.2	0.7	0.4
2	2.9	4.8					12.3	17.4	7.6	1.1	.7	.4
3	2.8	5.1					11.7	16.9	7.9	1.2	1.3	.4
4	2.8	4.8					11.4	16.5	7.4	1.2	2.0	.2
5	2.8	4.3					10.8	14.2	7.9	1.1	1.6	.4
6	2.9	4.6					10.8	14.8	7.3	1.1	1.2	.3
7	2.6	4.4					11.4	13.9	7.0	1.3	1.0	.6
8	2.5	4.3					12.1	13.5	7.1	1.2	.9	.8
9	2.3	4.3					12.1	13.1	7.1	1.3	.8	.9
10	2.4	4.3					11.7	12.3	6.6	1.2	.7	1.2
11	2.4	4.3					11.2	12.1	5.9	1.3	.6	1.3
12	2.4	4.3					11.0	11.9	4.8	1.4	.6	1.3
13	2.4	4.3					11.6	11.4	4.3	1.4	.6	1.7
14	2.5	4.3					11.4	10.6	4.0	1.2	.5	1.6
15	2.5	4.1					10.8	10.2	3.9	1.1	.4	1.4
16	2.6	4.3					10.8	10.0	3.9	1.2	.4	1.4
17	2.6	4.3					10.6	9.9	3.7	1.6	.3	1.2
18	2.8	4.3					10.6	9.7	3.9	1.4	.3	1.2
19	2.9	4.3					10.8	9.5	3.9	1.2	.3	1.2
20	2.9	4.3					11.0	10.4	3.5	1.0	.3	1.2
21	2.9	4.1					11.9	9.7	3.2	1.0	.2	1.3
22	3.1	4.1					12.7	9.0	3.1	1.5	.3	2.2
23	3.6	4.1					15.0	8.4	3.1	1.5	.3	2.6
24	3.9	4.1					15.0	7.1	3.1	1.1	.3	2.4
25	4.0	4.0				8.4	15.8	6.3	2.9	1.0	.3	2.1
26	4.1	4.0				8.8	15.8	6.2	2.6	1.1	.4	2.1
27	4.4	3.9				10.2	16.5	5.9	2.5	.8	.3	2.2
28	4.8	3.6				12.5	16.3	5.3	2.4	.6	.3	2.2
29	5.6					16.3	18.7	5.0	2.2	.5	.3	2.0
30	5.6					12.5	18.3	7.1	1.4	.4	.3	2.1
31	5.1					12.9		7.8		.6	.4	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	5.6	2.3	3.2	197
November 1-28	5.1	3.6	4.3	239
December				
January				
February				
March 25-31	16.3	8.4	11.7	162
April	18.7	10.6	12.8	762
May	17.8	5.0	10.8	664
June	7.9	1.4	4.7	280
July	1.6	.4	1.1	68
August	2.0	.2	.6	37
September	2.6	.2	1.3	77

Colville River at Meyers Falls, Wash.

Location.- Staff gage in sec. 29, T. 36 N., R. 38 E., 300 feet below Stevens County Light & Power Co.'s plant at foot of Meyers Falls.

Records available.- October 1922 to September 1934.

Average discharge.- 12 years, 224 second-feet.

Extremes.- Maximum discharge recorded during year, 1,040 second-feet Apr. 2-6 (gage height, 3.6 feet); minimum, 34 second-feet July 31, Aug. 1 (gage height, 0.64 foot). 1922-34: Maximum discharge recorded, 1,760 second-feet Apr. 27, 1932 (gage height, 5.55 feet, former datum); minimum, 0.5 second-foot Aug. 15, 1930 (gage height, 0.00 foot, former datum).

Remarks.- Records good except those for Dec. 24-26, which were estimated because of ice. Several small ditches divert water for irrigation above station. Small reservoir above falls; effect of regulation probably slight. Gage-height record and many discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	160	134	529	770	529	980	552	163	88	34	46
2	101	160	120	529	720	552	1,040	552	183	78	37	46
3	97	160	128	529	720	575	1,040	552	195	89	44	43
4	97	183	126	552	720	575	1,040	552	207	88	43	48
5	94	195	130	575	720	575	1,040	529	207	88	43	50
6	94	183	138	552	720	598	1,040	506	207	65	38	48
7	93	160	149	552	670	598	980	484	220	67	40	48
8	91	160	172	529	670	598	980	484	207	65	44	48
9	91	149	183	506	720	598	980	462	195	65	53	48
10	89	138	183	484	720	575	980	440	195	65	44	48
11	89	138	183	484	720	575	980	419	195	63	43	48
12	89	138	207	462	720	575	925	419	183	60	37	50
13	94	136	258	440	720	575	870	398	160	60	36	52
14	76	132	302	440	720	598	870	378	160	59	39	55
15	88	132	320	419	670	622	870	358	149	62	38	58
16	89	132	302	378	670	622	820	339	130	65	40	60
17	89	130	285	398	622	622	820	320	114	64	40	62
18	91	130	285	398	622	622	770	285	114	64	38	67
19	91	128	358	378	622	670	720	285	114	64	38	59
20	97	126	419	440	622	670	720	285	118	58	41	58
21	94	126	462	484	622	720	670	285	114	55	40	60
22	105	126	529	529	622	720	670	272	108	64	41	67
23	112	130	598	575	622	720	622	272	107	55	40	63
24	112	130	600	622	598	720	622	272	103	53	37	64
25	118	130	600	720	575	720	598	258	97	55	39	85
26	122	130	600	770	575	720	575	245	97	64	41	76
27	124	130	598	820	552	720	552	232	97	50	43	78
28	124	132	598	820	552	720	552	232	96	47	47	78
29	122	108	598	820		770	575	220	94	46	46	83
30	149	70	598	770		870	552	207	88	43	50	76
31	160		575	770		925		195		34	46	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	160	76	103	6,310
November	195	70	139	8,290
December		120	346	21,300
January	820	378	557	34,260
February	770	552	663	36,840
March	925	529	653	40,160
April	1,040	552	815	48,500
May	552	195	364	22,390
June	220	88	148	8,800
July	89	34	62.7	3,850
August	53	34	41.3	2,540
September	85	43	59.1	3,510
The year	1,040	34	327	236,800

Coeur d'Alene River near Cataldo, Idaho

Location.- Water-stage recorder in sec. 26, T. 49 N., R. 1 E., 1½ miles above Cataldo and 3 miles below South Fork of Coeur d'Alene River. Zero of gage is 2,100.00 feet above mean sea level.

Drainage area.- 1,220 square miles.

Records available.- April 1911 to December 1912, July 1920 to September 1934.

Average discharge.- 15 years, 2,500 second-feet.

Extremes.- Maximum discharge during year, about 55,300 second-feet Dec. 22 or 23 (gage height, 56.9 feet, determined from high-water mark on gage); minimum, 252 second-feet Sept. 7 (gage height, 37.37 feet).
1911-12, 1920-34: Maximum discharge, that of Dec. 22 or 23, 1933; minimum, 122 second-feet Dec. 4, 1929; minimum gage height, 37.03 feet Sept. 6, 1931.

Remarks.- Records fair. Discharge estimated Dec. 22 to Jan. 3. No diversions or regulation above station. Gage-height record and results of seven discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	489	2,550	649	11,000	5,180	2,860	12,200	3,570	1,390	687	395	263
2	467	2,490	642	10,000	5,180	4,860	10,400	3,320	1,390	677	365	260
3	452	8,180	890	16,000	5,350	7,190	8,620	3,200	1,320	671	365	257
4	457	9,020	925	22,200	5,870	6,610	7,590	3,080	1,360	635	372	257
5	462	5,640	863	17,700	5,690	5,690	6,800	3,200	1,360	615	372	257
6	452	3,970	2,220	13,700	5,520	6,230	6,230	3,320	1,250	605	362	257
7	427	3,180	6,960	10,800	5,350	6,230	6,230	3,080	1,220	605	358	254
8	422	2,610	5,110	8,410	5,350	5,690	6,990	3,320	1,180	600	354	263
9	427	2,220	4,940	6,420	5,520	5,180	7,390	3,320	1,110	590	351	268
10	417	1,910	13,700	5,690	5,520	4,700	6,800	2,970	1,080	585	341	304
11	412	1,720	24,000	5,020	5,350	4,400	6,230	2,860	1,010	562	334	320
12	412	1,540	23,400	4,550	4,860	4,400	6,420	2,860	977	547	348	307
13	412	1,420	23,100	4,400	4,700	4,700	6,990	2,700	915	543	330	304
14	403	1,340	17,400	4,400	4,400	5,180	7,590	2,590	915	520	320	311
15	384	1,260	12,700	3,830	4,250	5,870	6,800	2,540	880	511	317	307
16	398	1,180	9,690	3,570	4,110	6,610	5,690	2,540	855	493	311	301
17	437	1,180	8,200	3,700	3,970	6,610	5,020	2,490	826	489	307	298
18	457	1,030	9,910	3,700	3,830	5,870	4,700	2,290	797	476	307	292
19	580	995	15,500	3,830	3,570	5,350	4,700	2,150	769	484	304	292
20	960	1,030	17,400	5,690	3,570	5,180	4,860	2,020	769	480	298	304
21	883	995	20,600	7,390	3,320	5,520	5,350	1,880	741	454	298	304
22	782	1,030	50,000	7,590	3,080	5,520	5,690	1,790	714	450	298	341
23	883	960	35,000	12,700	2,860	5,020	5,690	1,710	714	442	292	344
24	1,300	925	22,000	15,000	2,750	4,700	5,870	1,710	714	430	292	334
25	1,300	925	16,000	11,000	2,640	4,250	5,690	1,750	714	442	269	330
26	1,140	890	14,000	8,830	2,440	3,970	5,020	1,710	797	426	286	327
27	1,060	890	12,000	7,390	2,540	3,970	4,700	1,630	946	418	280	327
28	1,260	995	11,000	6,420	2,640	6,230	5,020	1,590	880	402	274	324
29	3,110	960	10,000	5,870		17,400	4,700	1,550	797	387	271	320
30	3,040	883	10,000	5,690		20,000	4,110	1,550	741	383	268	317
31	2,920		11,000	5,520		15,200		1,470		372	268	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	3,110	384	871	0.714	0.82	53,560
November	9,020	883	2,131	1.75	1.95	126,800
December	50,000	642	13,230	10.8	12.45	813,700
January	22,200	3,570	6,323	6.82	7.86	511,800
February	5,870	2,440	4,265	3.50	3.64	236,800
March	20,000	2,860	6,490	5.32	6.13	399,100
April	12,200	4,110	6,336	5.19	5.79	377,000
May	3,570	1,470	2,444	2.00	2.31	150,300
June	1,390	714	971	.796	.89	57,780
July	687	372	516	.423	.49	31,700
August	395	268	320	.262	.30	19,690
September	344	254	298	.244	.27	17,740
The year	50,000	254	3,862	3.17	42.90	2,796,000

Coeur d'Alene Lake at Coeur d'Alene, Idaho

Location.- Water-stage recorder in sec. 24, T. 50 N., R. 4 W., 500 feet southwest of south end of Eleventh Street, Coeur d'Alene. Zero of gage is 2,100.00 feet above mean sea level.

Drainage area.- 3,750 square miles.

Records available.- February 1905 to September 1934; April 1903 to February 1905 at St. Joe Boom Co.'s gage at mouth of St. Joe River.

Extremes.- Maximum stage recorded during year, 39.05 feet Dec. 25; minimum, 23.86 feet Sept. 23.

1903-34: Maximum stage, that of Dec. 25, 1933; minimum, 19,9 feet Oct. 10-12, 1904, Sept. 24, 25, 1905, Oct. 14 to Nov. 3, 1906.

Maximum stage known prior to 1903, 37.6 feet (from high-water marks) May 31, 1894.

Remarks.- Records excellent. Considerable storage used by Washington Water Power Co. Regulation effected by Taintor gates and bear-trap dam at Post Falls. Gage-height record furnished by Washington Water Power Co. Add 2,100.00 feet to stages to refer them to originally accepted elevation (2,157.404 feet) of the U. S. Geological Survey bench mark in southeast corner of Merriam Building (see Water-Supply Paper 672).

Gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25.89	25.81	24.83	34.40	29.84	25.54	31.24	29.03	26.33	26.38	25.66	24.46
2	25.88	25.80	24.82	34.06	29.58	25.66	31.90	28.81	26.29	26.38	25.63	24.41
3	25.84	25.94	24.85	33.87	29.30	26.02	32.21	28.60	26.24	26.37	25.60	24.38
4	25.83	26.54	24.85	34.02	29.08	26.36	32.24	28.37	26.29	26.37	25.55	24.33
5	25.81	26.94	24.91	34.32	28.91	26.64	32.00	28.17	26.29	26.38	25.50	24.29
6	25.80	27.01	25.10	34.44	28.75	26.86	31.82	27.97	26.23	26.38	25.48	24.26
7	25.78	26.92	25.54	34.30	28.59	27.05	31.56	27.80	26.21	26.41	25.44	24.23
8	25.76	26.74	25.85	33.94	28.43	27.18	31.32	27.69	26.20	26.38	25.39	24.17
9	25.74	26.52	26.10	33.52	28.29	27.26	31.12	27.55	26.21	26.37	25.36	24.11
10	25.72	26.29	26.88	33.07	28.18	27.26	30.96	27.41	26.27	26.37	25.33	24.12
11	25.70	26.02	28.20	32.54	28.06	27.23	30.82	27.26	26.29	26.34	25.30	24.09
12	25.69	25.77	29.50	32.04	27.95	27.18	30.67	27.08	26.33	26.29	25.26	24.06
13	25.69	25.52	30.55	31.56	27.82	27.13	30.57	26.91	26.40	26.27	25.20	24.04
14	25.68	25.30	31.54	31.08	27.67	27.13	30.52	26.72	26.46	26.23	25.16	23.98
15	25.62	25.07	32.02	30.64	27.52	27.15	30.53	26.57	26.49	26.20	25.13	23.97
16	25.61	24.90	32.13	30.22	27.36	27.24	30.50	26.42	26.47	26.17	25.11	23.97
17	25.60	24.85	32.01	29.86	27.19	27.37	30.37	26.40	26.41	26.14	25.09	23.97
18	25.61	24.82	31.85	29.54	27.05	27.45	30.16	26.39	26.40	26.09	25.06	23.97
19	25.67	24.79	32.06	29.29	26.90	27.48	29.95	26.35	26.36	26.06	25.02	23.94
20	25.76	24.77	32.52	29.17	26.76	27.47	29.76	26.32	26.33	26.03	24.99	23.89
21	25.85	24.76	32.99	29.17	26.62	27.46	29.62	26.22	26.36	25.98	24.96	23.88
22	25.90	24.74	33.75	29.24	26.47	27.46	29.53	26.18	26.36	25.96	24.92	23.88
23	25.90	24.77	35.73	29.58	26.31	27.46	29.49	26.18	26.33	25.92	24.87	23.86
24	25.87	24.81	38.36	30.25	26.14	27.44	29.45	26.21	26.34	25.91	24.83	23.87
25	25.79	24.81	39.00	30.85	25.98	27.39	29.45	26.30	26.37	25.88	24.79	23.88
26	25.62	24.82	38.52	31.10	25.83	27.32	29.46	26.38	26.47	25.86	24.76	23.88
27	25.49	24.80	37.76	31.08	25.73	27.27	29.43	26.43	26.43	25.84	24.72	23.87
28	25.39	24.83	36.96	30.90	25.63	27.30	29.40	26.49	26.41	25.82	24.68	23.87
29	25.42	24.86	36.16	30.64		27.85	29.34	26.51	26.38	25.80	24.62	23.87
30	25.67	24.85	35.42	30.36		28.95	29.21	26.51	26.39	25.76	24.57	23.87
31	25.80		34.83	30.10		30.15		26.43		25.72	24.51	

Spokane River at Post Falls, Idaho

Location.- Water-stage recorder in sec. 4, T. 50 N., R. 5 W., 1,500 feet below power plant of Washington Water Power Co., 3,300 feet below intake of Spokane Valley Farms Co.'s canal, and 1 mile west of Post Falls. Nov. 21, 1920 to Sept. 15, 1934, water-stage recorder 900 feet downstream. Prior to Nov. 21, 1920, staff gage at present location. All gages at about same datum. Zero of gage is 2,000 feet above mean sea level.
Drainage area.- 3,880 square miles.
Records available.- January 1913 to September 1934.
Average discharge.- 21 years, 6,140 second-feet. Average discharge (including Spokane Valley Farms Co.'s canal), 21 years, 6,220 second-feet.
Extremes.- Maximum discharge during year, 50,100 second-feet Dec. 25; minimum, 575 second-feet Aug. 20.
1913-34: Maximum discharge, that of Dec. 25, 1933; minimum, 540 second-feet Sept. 5, 1926 (gage height, 65.3 feet).
Remarks.- Records good. Records for Dec. 24 to Jan. 16, Jan. 27 to Feb. 1, Feb. 3-9, 11-16, Apr. 1, 2, Apr. 4 to May 1, Aug. 14 to Sept. 5, Sept. 8-14, were obtained at the Liberty Bridge station of the Washington Water Power Co. Spokane Valley Farms Co.'s canal diverts 3,300 feet above gage for irrigation (see records for canal, p. 142). Flow partly regulated by storage and release of water at Coeur d'Alene Lake. Gage-height record and the results of four discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,070	8,590	2,740	33,000	19,800	8,900	23,700	17,000	4,880	1,110	870	879
2	1,070	8,290	2,660	32,100	19,000	9,220	25,500	15,600	4,210	1,040	900	879
3	1,070	9,220	2,740	31,600	18,200	9,880	26,000	15,200	4,000	820	900	879
4	1,110	10,900	2,100	32,000	17,700	10,600	26,300	14,800	4,000	720	870	924
5	1,110	12,000	2,040	33,000	17,200	11,300	25,700	14,400	4,210	720	845	948
6	1,150	12,000	4,000	33,500	16,700	11,700	25,000	13,600	4,000	720	870	845
7	1,150	12,000	8,900	33,000	16,300	12,000	24,200	13,200	3,690	745	870	795
8	1,150	11,700	9,880	32,100	15,900	12,400	23,500	13,200	2,890	770	845	781
9	1,070	10,900	10,200	30,700	15,600	12,800	22,900	12,800	2,100	770	820	809
10	1,040	10,600	11,700	29,400	15,200	12,800	22,600	12,400	1,840	820	845	816
11	1,040	9,880	14,800	27,800	14,900	12,800	22,100	12,000	1,370	1,000	870	767
12	1,000	9,220	18,200	26,400	14,500	12,400	21,800	11,700	870	1,190	870	697
13	1,000	8,900	21,300	24,900	14,200	12,400	21,400	11,300	770	845	870	684
14	1,000	8,000	24,600	23,500	13,800	12,400	21,300	10,900	900	965	788	666
15	965	6,910	26,000	22,200	13,500	12,400	21,300	10,600	1,230	1,040	654	640
16	965	5,000	26,500	20,800	13,100	12,800	21,200	8,290	2,240	1,040	654	636
17	965	3,900	26,000	19,500	12,400	12,800	20,900	7,180	2,170	1,070	666	632
18	1,000	3,900	25,500	19,100	12,400	13,200	20,200	7,180	2,240	1,070	610	652
19	1,230	3,900	26,000	18,600	12,000	13,200	19,600	7,180	1,480	1,070	615	648
20	1,420	3,590	27,400	18,200	11,700	13,200	19,000	6,910	1,040	1,040	615	648
21	1,650	3,310	28,900	18,200	11,300	13,200	18,600	6,390	965	965	672	644
22	2,380	2,660	31,400	17,700	10,900	13,200	18,400	5,240	930	870	774	644
23	4,430	2,170	37,400	19,100	10,600	13,200	18,300	4,210	820	930	872	632
24	5,500	2,520	46,000	20,800	10,200	13,200	18,200	3,690	745	930	865	644
25	6,650	2,740	49,800	22,700	9,880	12,800	18,100	3,500	745	870	879	644
26	6,650	2,660	48,400	23,200	9,550	12,800	18,100	3,500	1,420	845	886	632
27	6,420	2,660	45,700	23,400	9,220	12,800	18,000	3,500	3,050	870	989	636
28	6,420	2,660	42,200	22,800	9,220	12,800	18,000	3,690	2,100	870	989	636
29	6,650	2,660	39,300	22,000		14,000	17,800	4,320	1,370	820	964	652
30	7,720	2,660	36,700	21,200		16,900	17,400	5,120	1,110	900	879	644
31	8,290		34,500	20,400		20,400		5,240		900	865	

Discharge of Spokane River and Spokane Valley Farms Co.'s canal, at Post Falls, Idaho, 1933-34

Month	Discharge in second-feet						Combined run-off	
	River (mean)	Canal (mean)	Combined				Inches	Acre-feet
			Maximum	Minimum	Mean	Per square mile		
October	2,720	0	8,290	965	2,720			167,300
November	6,537	0	12,000	2,170	6,537			389,000
December	23,660	0	49,800	2,040	23,660			1,455,000
January	24,930	0	33,500	17,700	24,930			1,533,000
February	13,750	0	19,800	9,220	13,750			763,600
March	12,730	0	20,400	8,900	12,730			782,500
April	21,170	73	26,300	17,600	21,240			1,264,000
May	9,156	258	17,200	3,780	9,414			578,900
June	2,113	267	5,150	1,000	2,380			141,600
July	914	248	1,440	968	1,162			71,470
August	822	239	1,230	850	1,061			65,210
September	721	115	1,180	632	836			49,770
The year	9,929	101	49,800	632	10,030	2.59	35.15	7,261,000

Note.- Monthly figures showing discharge in second-feet per square mile and run-off in inches are not published, owing to regulation by Coeur d'Alene Lake. The yearly figures represent more nearly the natural discharge and run-off.

Spokane River at Spokane, Wash.

Location.- Water-stage recorder in sec. 13, T. 25 N., R. 42 E., at Cochran Street, Spokane. Zero of gage is about 1,700 feet above mean sea level.

Drainage area.- 4,350 square miles.

Records available.- April 1891 to September 1934.

Average discharge.- 43 years, 6,995 second-feet (based on records corrected for storage in Coeur d'Alene Lake.

Extremes.- Maximum discharge during year, 47,800 second-feet Dec. 26 (gage height, 29.75 feet); minimum, 837 second-feet Sept. 20 (gage height, 17.23 feet); minimum daily discharge, 1,260 second-feet Aug. 19.
1891-1934: Maximum discharge, 49,000 second-feet May 31, 1894; minimum, 425 second-feet Sept. 20, 1931; minimum daily discharge, 1,120 second-feet Oct. 30, 1931.

Remarks.- Records excellent. Water diverted above station for irrigation by Spokane Valley Farms Co. Flow partly regulated by storage and release of water at Coeur d'Alene Lake and by pondage at Spokane. Gage-height record and several discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,700	8,980	3,380	34,300	20,100	9,690	21,900	17,200	5,710	2,010	1,580	1,550
2	1,700	8,980	3,350	33,200	19,200	9,690	24,300	16,400	5,240	1,980	1,560	1,520
3	1,620	9,410	3,280	32,700	18,400	10,300	25,700	16,000	4,810	1,810	1,590	1,550
4	1,660	11,000	2,920	32,700	18,000	10,900	25,700	15,600	4,850	1,610	1,610	1,540
5	1,670	11,900	2,740	33,200	17,600	11,600	25,700	14,900	4,920	1,600	1,520	1,660
6	1,630	12,300	4,040	34,300	17,200	11,900	24,800	14,600	4,860	1,460	1,560	1,540
7	1,640	12,300	6,220	33,800	16,800	12,300	24,300	14,100	4,620	1,490	1,550	1,480
8	1,640	11,900	9,730	32,700	16,400	12,600	23,300	13,700	4,130	1,500	1,540	1,510
9	1,610	11,600	10,200	31,700	16,000	13,000	22,800	13,400	3,420	1,550	1,490	1,490
10	1,540	10,900	11,200	30,200	15,600	13,000	22,400	13,400	2,880	1,520	1,460	1,550
11	1,530	10,600	13,700	28,700	15,200	13,000	21,900	13,000	2,750	1,630	1,510	1,510
12	1,540	9,910	17,000	27,200	15,200	13,000	21,400	12,300	2,200	1,980	1,520	1,480
13	1,500	9,600	19,900	25,700	14,900	13,000	21,400	11,900	1,910	1,710	1,520	1,480
14	1,530	8,940	22,700	24,300	14,500	12,600	21,000	11,600	1,820	1,600	1,490	1,440
15	1,480	7,930	24,200	22,800	14,100	13,000	21,000	11,200	1,950	1,770	1,410	1,410
16	1,460	6,500	25,100	21,900	13,700	13,000	21,000	9,690	2,690	1,760	1,410	1,390
17	1,460	4,810	25,100	20,600	13,400	13,400	20,600	7,970	2,950	1,800	1,350	1,310
18	1,450	4,680	24,600	19,700	13,000	13,400	20,100	7,970	2,900	1,800	1,290	1,390
19	1,610	4,680	25,600	18,800	12,600	13,700	19,700	7,700	2,790	1,810	1,260	1,370
20	1,750	4,470	26,600	18,400	12,300	13,700	19,200	7,700	2,100	1,760	1,300	1,340
21	1,930	4,110	28,000	18,400	11,900	13,400	18,800	7,310	1,950	1,790	1,280	1,390
22	2,170	3,810	29,400	18,400	11,600	13,400	18,400	6,480	1,890	1,670	1,370	1,410
23	4,020	2,990	34,000	18,800	11,200	13,400	18,000	5,550	1,930	1,610	1,430	1,370
24	4,930	3,090	41,800	20,100	10,900	13,400	18,000	4,930	1,680	1,620	1,490	1,370
25	6,540	3,440	46,400	22,400	10,600	13,400	18,000	4,560	1,660	1,640	1,480	1,400
26	6,590	3,370	47,100	22,800	10,300	13,000	18,000	4,510	1,850	1,540	1,520	1,330
27	6,620	3,370	44,700	23,300	9,990	13,000	18,000	4,450	4,020	1,540	1,570	1,310
28	6,580	3,470	42,400	22,800	9,990	13,000	17,600	4,460	2,890	1,540	1,610	1,310
29	6,560	3,380	39,600	22,400		13,700	17,600	4,800	2,700	1,500	1,590	1,290
30	7,850	3,420	37,400	21,400		16,000	17,200	5,510	2,120	1,520	1,520	1,300
31	8,640		35,800	20,600		19,200		5,890		1,540	1,510	

Month	Observed				Gain or loss in storage in Coeur d'Alene Lake (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....	8,640	1,450	3,037	186,700	-2,800	183,900	2,991	0.688	0.79
November...	12,300	2,990	7,195	428,100	-26,150	402,000	6,756	1.55	1.73
December...	47,100	2,740	22,910	1,409,000	+468,800	1,878,000	30,540	7.02	8.09
January....	34,300	18,400	25,430	1,564,000	-255,000	1,309,000	21,290	4.89	5.64
February...	20,100	9,990	14,310	794,700	-192,400	602,300	10,840	2.49	2.59
March.....	19,200	9,690	12,960	796,700	+195,000	991,700	16,130	3.71	4.28
April.....	25,700	17,200	20,930	1,245,000	-48,690	1,196,000	20,100	4.62	5.16
May.....	17,200	4,450	9,957	612,300	-123,100	489,200	7,956	1.83	2.11
June.....	5,710	1,660	3,073	182,900	-1,240	181,700	3,064	.702	.78
July.....	2,010	1,460	1,666	102,500	-19,430	83,070	1,351	.311	.36
August.....	1,610	1,260	1,480	91,020	-33,190	57,830	941	.216	.25
September..	1,660	1,290	1,433	85,270	-17,480	67,790	1,139	.262	.29
The year.	47,100	1,260	10,360	7,498,000	-55,680	7,442,000	10,280	2.36	32.07

Spokane River below Little Falls, near Long Lake, Wash.

Location.- Water-stage recorder in NW¼ sec. 19, T. 27 N., R. 39 E., 1½ miles below Little Falls power plant of Washington Water Power Co. and 5 miles below Long Lake. Zero of gage is 1,200 feet above mean sea level.

Drainage area.- 6,380 square miles.

Records available.- November 1912 to September 1934.

Average discharge.- 22 years, 7,813 second-feet (based on records corrected for storage in Coeur d'Alene and Long Lakes).

Extremes.- Maximum discharge during year, 48,000 second-feet Dec. 26 (gage height, 93.10 feet); minimum discharge recorded, 700 second-feet July 5 (gage height, 73.30 feet), may have been less sometime during period Sept. 20-30, when water-stage recorder was not operating.
1912-34: Maximum discharge, that of Dec. 26, 1933; minimum, 169 second-feet Sept. 30, 1931 (result of discharge measurement).

Remarks.- Records excellent. Discharge estimated from plant output Sept. 20-30. Water diverted for irrigation above station. Flow affected considerably by power regulation and by storage in Coeur d'Alene Lake. Gage-height record and several discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,600	10,300	3,830	35,600	23,600	12,200	23,100	18,600	7,030	2,050	2,360	2,050
2	2,280	9,380	4,010	34,100	22,500	11,000	26,100	17,900	7,360	2,550	2,430	1,630
3	2,110	10,900	4,420	34,200	22,100	12,500	27,300	18,000	6,100	2,810	2,130	1,510
4	2,620	11,500	4,240	35,300	21,300	13,400	28,000	17,100	5,410	1,960	1,830	2,010
5	2,300	12,300	3,720	36,100	20,400	13,600	27,700	16,600	5,470	2,480	1,330	2,000
6	2,290	12,900	4,520	35,400	19,100	14,100	27,000	16,500	6,340	2,750	2,010	2,220
7	2,220	12,800	9,380	35,100	20,000	15,800	26,200	15,300	6,320	2,480	2,450	2,050
8	2,020	12,900	13,800	34,300	18,000	15,800	25,700	15,400	5,350	1,860	2,580	1,840
9	2,410	11,700	12,200	32,900	17,000	15,100	24,300	14,700	4,850	2,420	2,570	1,620
10	2,430	11,700	17,800	32,100	17,900	14,800	25,000	14,700	3,700	2,470	2,700	2,020
11	2,510	11,100	20,200	30,000	18,100	15,100	24,400	15,100	3,180	2,850	2,250	2,040
12	2,250	11,000	19,200	29,600	16,500	15,400	22,900	14,300	3,360	2,560	1,310	2,280
13	2,250	10,500	22,500	28,000	16,200	14,400	23,700	13,600	3,300	2,640	1,900	2,250
14	2,230	10,800	25,500	26,800	17,000	14,100	23,000	12,600	2,990	2,470	2,100	2,050
15	1,890	8,740	27,600	25,400	16,100	14,300	22,500	13,200	2,820	1,600	2,050	1,660
16	2,240	5,750	27,200	24,700	15,700	14,700	22,900	12,500	2,700	2,330	2,090	2,000
17	2,600	2,950	27,200	23,000	15,000	14,700	23,000	8,360	3,060	2,580	1,970	2,300
18	2,560	4,670	28,000	22,000	14,800	15,500	21,600	8,380	3,550	2,700	2,090	2,230
19	2,570	5,830	31,900	21,800	14,700	15,500	21,600	8,320	3,470	2,580	1,760	2,380
20	2,300	4,910	34,800	23,500	12,900	14,500	21,500	9,240	3,550	2,310	2,610	2,220
21	2,330	5,150	33,800	22,100	15,000	15,300	21,000	9,480	2,750	2,130	2,770	2,120
22	2,290	4,830	33,500	22,500	12,600	15,100	20,500	7,650	2,540	1,640	2,680	1,580
23	3,320	3,250	38,600	25,300	13,300	15,000	19,400	6,860	2,090	2,530	2,610	1,430
24	7,160	3,840	42,900	26,400	13,200	14,900	19,700	6,590	2,190	2,380	2,580	2,180
25	6,890	3,870	46,400	26,300	12,200	15,000	20,300	5,630	2,570	2,360	2,370	2,550
26	7,780	4,480	47,200	26,900	11,800	15,600	19,400	5,500	2,460	2,470	1,920	2,360
27	7,410	4,070	45,400	26,700	11,900	14,500	19,800	5,590	3,310	2,330	2,270	2,120
28	5,780	4,170	46,600	26,600	10,900	14,800	19,700	6,060	3,390	2,340	2,510	2,080
29	7,240	4,200	40,500	25,100		15,700	19,800	5,690	3,170	1,720	2,500	1,930
30	8,450	3,940	38,900	24,400		20,800	19,600	5,960	3,140	2,350	2,660	1,100
31	11,100		37,200	24,300		20,700		6,830		2,380	2,470	

Month	Observed				Gain or loss in storage in Coeur d'Alene and Long Lakes (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.....	11,100	1,600	3,724	229,000	-11,550	217,400	3,536	0.554	0.64
November....	12,900	2,950	7,814	465,000	-21,650	443,400	7,452	1.17	1.30
December....	47,200	3,720	25,580	1,573,000	+461,300	2,034,000	33,080	5.18	5.97
January.....	36,100	21,800	28,270	1,739,000	-255,200	1,484,000	24,130	3.78	4.36
February....	23,600	10,900	16,420	912,000	-182,400	729,600	13,140	2.06	2.14
March.....	20,800	11,000	14,970	920,500	+189,800	1,110,000	18,050	2.83	3.26
April.....	28,000	19,400	22,910	1,363,000	-46,790	1,316,000	22,120	3.47	3.87
May.....	18,600	5,500	11,360	698,700	-116,400	582,300	9,470	1.48	1.71
June.....	7,360	2,090	3,917	233,100	-1,740	231,400	3,889	.610	.68
July.....	2,850	1,600	2,357	145,000	-20,680	124,300	2,022	.317	.37
August.....	2,770	1,310	2,254	138,600	-37,190	101,400	1,649	.258	.30
September...	2,550	1,100	1,994	118,600	-13,480	105,100	1,766	.277	.31
The year..	47,200	1,100	11,790	8,536,000	-55,980	8,479,000	11,710	1.84	24.91

St. Joe River at Calder, Idaho

Location.- Water-stage recorder in sec. 3, T. 45 N., R. 2 E., 150 feet southwest of Chicago, Milwaukee & St. Paul Railway station at Calder. Zero of gage is about 2,100 feet above mean sea level.

Drainage area.- 1,080 square miles.

Records available.- July 1920 to September 1934, April 1911 to September 1912 at station 2½ miles downstream.

Average discharge.- 15 years (1912, 1920-34), 2,400 second-feet.

Extremes.- Maximum discharge during year, 53,000 second-feet, determined from slope between stations upstream, Dec. 23 (gage height, 92.5 feet); minimum, 266 second-feet Sept. 8 (gage height, 78.93 feet).
1911-12, 1920-34: Maximum discharge, that of Dec. 23, 1933; minimum, 96 second-feet Dec. 5, 1928 (gage height, 78.43 feet).

Remarks.- Records good except those for Dec. 22-24, Aug. 18-20, which are fair. No diversions above gage. Operation of splash dam at Marble Creek causes diurnal fluctuation at gage of about 0.5 foot during log-driving season. Gage-height record and results of five discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	516	3,670	1,290	8,240	3,510	2,580	12,800	6,710	2,390	857	456	309
2	558	3,920	1,330	7,450	3,510	5,260	10,800	6,010	2,270	795	456	309
3	544	11,800	1,370	10,200	3,760	5,790	8,790	6,010	2,100	771	468	312
4	472	8,790	1,330	11,500	3,840	4,950	7,710	5,570	2,390	760	481	325
5	468	5,790	1,250	9,650	3,760	4,560	6,950	5,790	2,000	754	439	338
6	460	4,560	2,330	7,710	3,760	4,950	6,710	5,790	1,890	742	427	309
7	464	3,760	3,050	6,470	3,760	4,660	6,950	6,010	1,940	719	419	287
8	451	3,200	2,220	5,570	4,100	4,280	8,240	6,470	1,840	754	411	287
9	521	2,840	3,760	5,050	4.370	4,010	8,510	5,790	1,740	725	411	312
10	526	2,580	15,900	4,660	4,190	3,920	8,510	5,260	1,640	702	431	392
11	443	2,390	14,500	4,190	3,920	4,010	8,790	4,950	1,550	686	407	472
12	447	2,220	12,100	3,760	3,670	4,460	9,360	4,750	1,460	669	381	423
13	447	2,050	11,200	3,670	3,590	4,950	10,500	4,460	1,420	659	381	356
14	451	2,000	8,510	3,510	3,430	5,570	11,500	4,280	1,370	638	377	342
15	443	1,890	6,470	3,120	3,350	6,470	9,940	4,460	1,330	612	370	331
16	558	1,790	5,050	3,050	3,350	6,950	8,790	4,560	1,250	607	362	309
17	777	1,740	4,280	3,350	3,280	6,240	8,240	4,460	1,210	597	366	305
18	783	1,640	4,560	3,120	3,120	5,570	7,970	4,190	1,140	597	358	315
19	1,100	1,600	5,050	3,050	3,120	5,360	8,240	3,840	1,140	587	350	325
20	2,000	1,640	6,240	3,670	3,050	5,790	8,790	3,590	1,100	582	342	359
21	1,100	1,550	11,800	3,840	2,910	6,240	9,650	3,350	1,060	577	334	342
22	990	1,600	38,000	4,100	2,840	6,240	10,200	3,120	990	558	334	384
23	2,510	1,600	40,000	9,940	2,700	6,010	10,500	3,050	990	549	331	447
24	2,580	1,500	16,900	8,510	2,700	5,570	11,200	3,120	956	530	334	366
25	2,050	1,460	11,800	6,240	2,580	5,360	10,800	3,350	922	544	342	338
26	2,000	1,420	9,070	5,150	2,390	5,260	9,650	3,280	1,170	539	359	334
27	1,890	1,460	7,450	4,560	2,510	5,360	9,360	3,120	1,290	568	373	342
28	2,580	1,500	6,470	4,100	2,510	9,070	9,650	2,980	990	512	373	366
29	6,950	1,420	6,240	3,840		18,600	8,790	2,840	922	477	312	366
30	5,150	1,330	7,200	3,760		16,300	7,450	2,840	890	468	305	325
31	4,190		8,790	3,670		14,500		2,510		464	302	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	6,950	443	1,433	1.33	1.53	88,100
November	11,800	1,330	2,824	2.61	2.91	168,000
December	40,000	1,250	8,887	8.23	9.49	546,500
January	11,500	3,050	5,442	5.04	5.81	334,600
February	4,370	2,390	3,342	3.09	3.22	185,600
March	18,600	2,580	6,414	5.94	6.85	394,400
April	12,800	6,710	9,178	8.50	9.48	546,100
May	6,710	2,510	4,404	4.08	4.70	270,800
June	2,390	890	1,445	1.34	1.50	85,980
July	857	464	632	.585	.67	38,870
August	481	302	380	.352	.41	23,390
September	472	287	344	.319	.36	20,480
The year	40,000	287	3,733	3.46	46.93	2,703,000

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St. Maries River at Lotus, Idaho

Location.- Staff gage in sec. 20, T. 45 N., R. 2 W., just before Lotus. Zero of gage is approximately 2,160 feet above mean sea level.

Drainage area.- 420 square miles.

Records available.- July 1911 to October 1912, July 1920 to September 1934.

Average discharge.- 14 years (1920-34), 511 second-feet.

Extremes.- Maximum discharge during year, about 23,800 second-feet during night of Dec. 22-23 (gage height, 12.1 feet, determined from high-water marks); minimum recorded, 34 second-feet Sept. 2, 3, 5-9; minimum gage height recorded, 3.10 feet Oct. 15, 16.
1911-12, 1920-34: Maximum discharge, that of Dec. 22-23, 1933; minimum (estimated), 16 second-feet Nov. 21, 1929; minimum gage height, 2.71 feet Nov. 20, 1929.

Remarks.- Records good except those for Dec. 21-24, which are fair. Discharge estimated Dec. 22, 23; interpolated July 29, 30. No diversions above gage. Gage-height record and results of seven discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	690	202	2,410	1,360	890	2,760	512	217	107	56	35
2	67	645	244	2,240	1,300	2,410	2,580	461	198	99	54	34
3	66	2,080	198	2,940	1,360	2,410	2,410	433	186	95	54	34
4	64	1,230	194	5,090	1,300	2,000	2,080	406	374	93	53	35
5	64	840	179	3,740	1,300	1,560	1,770	400	178	90	53	34
6	62	560	1,110	3,130	1,300	2,080	1,360	413	178	88	53	34
7	62	420	4,850	2,410	1,170	1,840	1,300	380	209	86	51	34
8	60	350	1,630	1,700	1,170	1,560	1,170	387	205	84	53	34
9	60	294	2,760	1,490	1,230	1,300	1,110	393	198	84	53	34
10	58	262	7,170	1,300	1,170	1,110	1,110	362	198	84	53	53
11	58	235	5,580	1,170	1,060	1,000	1,060	326	175	82	51	53
12	58	235	3,740	1,000	945	890	945	320	141	77	48	54
13	58	202	3,740	945	890	890	945	294	132	73	46	48
14	56	186	2,000	1,110	840	890	945	272	127	73	45	46
15	56	179	2,410	945	740	945	890	253	119	71	45	46
16	56	169	1,630	790	740	945	890	244	116	71	43	45
17	84	162	1,170	1,230	645	945	840	239	114	71	42	43
18	97	159	2,580	1,840	645	890	790	230	111	69	42	42
19	104	159	5,830	1,360	645	840	690	226	109	67	42	40
20	244	152	5,580	2,410	600	790	645	213	107	67	42	40
21	249	152	6,350	2,580	560	790	645	205	104	66	42	40
22	175	156	10,900	3,530	560	790	645	198	99	71	40	58
23	288	156	9,570	6,620	519	740	600	190	95	71	39	67
24	400	159	5,830	4,390	504	690	600	182	93	67	39	75
25	202	152	3,950	3,740	380	645	645	182	95	82	39	67
26	182	149	2,940	2,580	344	690	600	182	135	90	39	54
27	162	149	2,240	2,240	413	1,000	690	175	356	75	39	53
28	179	156	2,000	1,770	645	2,080	840	169	190	62	39	53
29	690	182	1,920	1,560		3,330	600	166	138	60	37	51
30	690	156	1,920	1,360		3,130	600	209	109	58	37	50
31	490		2,580	1,360		2,940		226		56	35	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	690	56	168	0.400	0.46	10,350
November	2,080	149	359	.855	.95	21,370
December	10,900	179	3,322	7.91	9.12	204,300
January	6,620	790	2,290	5.45	6.28	140,800
February	1,360	344	869	2.07	2.15	48,270
March	3,330	645	1,387	3.30	3.80	85,310
April	2,760	600	1,090	2.60	2.90	64,970
May	512	166	285	.679	.78	17,550
June	374	93	160	.381	.43	9,530
July	107	56	77.1	.184	.21	4,740
August	56	35	45.3	.108	.12	2,780
September	75	34	46.2	.110	.12	2,750
The year	10,900	34	846	2.01	27.32	612,700

Hayden Lake at Hayden Lake, Idaho

Location.- Staff gage in sec. 18, T. 51 N., R. 3 W., at Avondale and Hayden Lake pumping plants, a quarter of a mile north of Bozanta Tavern. Zero of gage is 2,200.00 feet above mean sea level, U. S. Coast and Geodetic Survey datum.

Records available.- May 1920 to September 1934.

Extremes.- Maximum water-surface elevation recorded during year, 2,232.55 feet Apr. 11, 12; minimum recorded, 2,224.74 feet Sept. 30.
1920-34: Maximum water-surface elevation, 2,240.41 feet Apr. 30 to May 18, 1921; minimum, 2,219.38 feet Dec. 16, 1931.

Remarks.- Records good. Water is pumped from lake for irrigation and domestic purposes.

Gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25.20	25.08	24.94	28.99	31.25	31.24	32.28	32.18	30.90	29.48	27.63	25.84
2	25.18	25.10	24.92	29.02	31.27	31.36	32.35	32.16	30.86	29.42	27.57	25.78
3	25.16	25.16	24.92	29.20	31.28	31.38	32.42	32.13	30.84	29.36	27.50	25.72
4	25.14	25.20	24.92	29.60	31.30	31.45	32.46	32.10	30.84	29.30	27.44	25.66
5	25.12	25.21	24.92	29.92	31.32	31.48	32.50	32.08	30.80	29.24	27.39	25.62
6	25.10	25.21		30.07	31.34	31.54	32.52	32.04	30.76	29.18	27.34	25.58
7	25.10	25.19		30.14	31.34	31.60	32.54	32.02	30.71		27.26	25.52
8	25.08	25.19		30.19	31.36	31.61	32.54	32.02	30.67	29.06	27.20	25.46
9	25.06	25.18	25.22	30.20	31.37	31.65	32.54	32.01	30.62	29.00	27.14	25.41
10	25.04	25.17	25.35	30.24	31.37	31.67	32.54	31.98	30.57	28.94	27.08	25.36
11	25.02	25.16	25.50	30.26	31.37	31.68	32.55	31.97	30.51	28.88	27.02	25.32
12	25.00	25.15	25.74	30.26	31.37	31.70	32.55	31.96	30.46	28.82	26.96	25.26
13	25.00	25.12	25.94	30.28	31.37	31.72	32.53	31.92	30.39	28.75	26.90	25.20
14	25.00	25.11	26.18	30.30	31.36	31.72	32.52	31.88	30.32	28.68	26.85	25.16
15	25.00	25.10	26.35	30.30	31.36	31.72	32.50	31.84	30.24	28.62	26.80	25.12
16	25.00	25.09	26.48	30.28	31.35	31.72	32.48	31.81	30.16	28.56	26.75	25.08
17	24.98	25.08		30.28	31.34	31.74	32.46	31.76	30.10	28.50	26.68	25.05
18	24.96	25.07		30.26	31.34	31.76	32.44	31.70	30.04	28.44	26.62	25.04
19	24.94	25.07	27.12	30.28	31.32	31.76	32.42	31.66	29.97	28.37	26.56	
20	24.98	25.06		30.34	31.31	31.75	32.40	31.59	29.90	28.31	26.50	
21	25.00			30.46	31.30	31.74	32.37	31.55	29.82	28.24	26.43	24.96
22	25.00		27.90	30.58	31.29	31.74	32.34	31.50	29.74	28.18	26.38	24.96
23	25.02		28.30	30.72	31.27	31.73	32.31	31.45	29.66	28.13	26.32	
24	25.04		28.60	30.88	31.25	31.72	32.28	31.39	29.60	28.07	26.27	
25	25.04	24.96	28.78	30.97	31.23	31.70	32.28	31.33	29.54	28.03	26.22	24.86
26	25.02	24.96	28.86	31.07	31.21	31.69	32.27	31.26	29.48	27.98	26.17	24.82
27	25.00	24.94	28.90	31.16	31.20	31.72	32.24	31.21	29.56	27.94	26.12	24.80
28	25.00	24.94	28.94	31.17	31.20	31.79	32.24	31.15	29.64	27.88	26.07	24.78
29	25.02	24.92	28.94	31.18		31.90	32.22	31.12	29.58	27.82	26.02	24.76
30	25.04	24.92	28.96	31.20		32.04	32.19	31.05	29.54	27.76	25.97	24.74
31	25.06		28.98	31.24		32.14		30.98		27.70	25.92	

Spokane Valley Farms Co.'s canal at Post Falls, Idaho

Location.- Staff gage in NE¼ sec. 4, T. 50 N., R. 5 W., 1,200 feet below head gates and half a mile west of Post Falls.

Records available.- May 1911 to September 1917, September 1919 to September 1934.

Extremes.- Maximum discharge recorded during year, 284 second-feet May 27-29; maximum gage height, 5.05 feet June 10, 12, 13; no flow Oct. 1 to Apr. 15, Sept. 17-30. 1911-17, 1919-34: Maximum discharge, 286 second-feet July 18, 1927; maximum gage height, that of June 10, 12, 13, 1934; no flow during nonirrigation season.

Remarks.- Records good. Canal diverts water for irrigation from Spokane River in SE¼ sec. 3, T. 50 N., R. 5 W. Gage-height record furnished by Spokane Valley Farms Co.

Discharge, in second-feet, 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								209	274	252	241	231
2								221	276	250	241	232
3								232	272	250	238	233
4								238	270	250	240	231
5								232	270	248	240	230
6								232	273	248	237	231
7								229	273	248	238	232
8								241	273	247	237	231
9								248	273	247	237	230
10								245	277	247	237	229
11								244	272	250	237	229
12								250	277	252	239	229
13								245	277	252	240	219
14								253	273	253	242	204
15								258	271	253	242	198
16							26	260	262	254	241	68
17							41	270	262	253	241	
18							81	270	260	252	240	
19							106	271	257	252	240	
20							114	270	257	252	240	
21							128	273	257	252	239	
22							128	279	256	248	239	
23							147	279	258	246	239	
24							172	279	258	244	238	
25							190	280	262	243	238	
26							209	280	262	243	237	
27							209	284	262	241	237	
28							209	284	262	240	237	
29							209	284	262	244	235	
30							209	281	259	246	235	
31								277		244	234	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October						
November						
December						
January						
February						
March						
April 16-30	209	26	145			4,320
May	284	209	258			15,860
June	277	256	267			15,860
July	254	240	248			15,270
August	242	234	239			14,670
September 1-16	233	68	216			6,860
The period						72,840

Note.- Canal closed Oct.1 to Apr. 15 and Sept. 17-30.

Okanogan River at Okanogan Falls, British Columbia

(International gaging station)

Location.- Staff gage between highway bridge and crest of falls at Okanogan Falls, British Columbia.

Drainage area.- 2,550 square miles.

Records available.- October 1930 to September 1934; March 1915 to September 1930 in Canadian water-resources papers.

Average discharge.- 18 years (1916-34), 468 second-feet.

Extremes.- Maximum discharge recorded during year, 1,160 second-feet Apr. 24 (gage height, 2.73 feet); minimum, 208 second-feet Sept. 7 (gage height, 1.05 feet).
1915-34: Maximum discharge, 2,680 second-feet June 10, 1928; minimum, 4.6 second-feet Mar. 14, 1931.

Remarks.- Records fair. Flow regulated by control dam at outlet of Okanogan Lake. This station is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	538	594	639	707	742	700	815	938	906	770	544	396
2	538	613	700	707	735	700	815	946	954	777	544	357
3	538	659	666	742	742	707	807	954	898	777	514	305
4	544	633	673	700	749	742	777	954	891	785	490	264
5	544	639	613	714	756	728	815	954	883	770	454	238
6	544	646	656	728	763	707	837	970	891	770	431	213
7	550	659	700	693	756	742	822	962	883	785	454	208
8	556	686	707	707	770	707	875	970	852	749	454	229
9	550	639	728	693	756	742	914	962	845	749	431	229
10	550	673	742	700	742	728	930	962	837	777	431	276
11	544	666	770	700	749	721	938	978	845	728	421	313
12	556	666	770	693	742	707	922	954	830	735	421	333
13	514	666	756	700	763	721	962	954	837	742	416	353
14	568	673	721	721	749	728	1,000	938	822	742	406	357
15	532	666	707	721	756	707	1,000	930	807	707	406	349
16	508	659	693	721	756	714	1,010	930	792	707	391	391
17	544	653	700	721	763	707	1,020	930	763	749	406	396
18	594	673	707	728	749	700	1,020	946	777	723	406	386
19	574	653	700	728	742	686	1,030	930	770	732	391	396
20	568	666	639	749	749	721	1,030	922	770	735	396	381
21	568	693	728	700	742	721	1,080	922	756	742	401	376
22	544	693	770	728	742	728	1,120	930	763	735	391	401
23	600	686	728	756	728	749	1,140	906	763	728	391	421
24	574	700	735	735	728	735	1,160	922	777	742	386	396
25	587	659	742	735	742	735	1,090	891	785	707	381	366
26	574	721	724	728	707	735	954	852	770	679	381	366
27	594	693	707	700	707	721	845	891	742	666	376	381
28	574	639	686	742	707	728	845	891	785	659	371	391
29	600	639	673	735		749	891	883	770	620	386	396
30	633	639	707	735		763	930	946	777	600	401	416
31	607		686	735		777		914		574	381	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	633	454	562	34,600
November	721	594	661	39,300
December	770	613	706	43,400
January	756	693	719	44,200
February	770	707	744	41,300
March	777	686	724	44,500
April	1,160	777	946	56,300
May	978	852	933	57,400
June	954	742	818	48,700
July	785	574	725	44,600
August	544	371	421	25,900
September	421	208	343	20,400
The year	1,160	208	691	501,000

Osoyoos Lake near Oroville, Wash.

(International gaging station)

Location.- Water-stage recorder in lot 1, sec. 8, T. 40 N., R. 27 E., 1 mile south of Canadian boundary and 3 miles north of Oroville. Gage datum is at mean sea level.

Drainage area.- 3,250 square miles.

Records available.- July 1928 to September 1934.

Extremes.- Maximum stage recorded during year, 917.23 feet Apr. 28; minimum, 912.72 feet Sept. 11.
1928-34: Maximum stage recorded, that of Apr. 28, 1934; minimum, 911.21 feet Oct. 14, 1929.

Remarks.- Records excellent. Stage may have been slightly affected by ice at lake outlet during January or February. Diversion in Canada for irrigation. Okanogan River subject to natural regulation in several lakes, and, in the interest of navigation, to artificial regulation in Okanogan Lake. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Elevation, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13.54	13.76	14.02	14.15	14.16	14.20	14.42	16.58	14.51	13.91	13.71	12.96
2	13.53	13.81	14.02	14.15	14.16	14.20	14.47	16.28	14.50	13.90	13.70	12.93
3	13.55	13.85	14.02	14.14	14.14	14.16	14.46	16.05	14.50	13.88	13.72	12.95
4	13.56	13.84	14.01	14.13	14.16	14.18	14.50	15.85	14.52	13.88	13.70	12.94
5	13.57	13.87	14.01	14.12	14.14	14.19	14.53	15.70	14.50	13.89	13.70	12.93
6	13.58	13.90	14.02	14.12	14.15	14.19	14.57	15.60	14.50	13.90	13.69	12.91
7	13.59	13.90	14.03	14.12	14.17	14.16	14.63	15.49	14.51	13.91	13.65	12.88
8	13.60	13.92	14.02	14.10	14.20	14.18	14.71	15.40	14.48	13.87	13.61	12.82
9	13.59	13.91	14.06	14.10	14.20	14.17	14.79	15.32	14.45	13.88	13.60	12.76
10	13.58	13.94	14.08	14.10	14.20	14.16	14.84	15.22	14.43	13.86	13.55	12.76
11	13.58	13.98	14.11	14.10	14.20	14.16	14.91	15.17	14.40	13.85	13.50	12.74
12	13.57	13.98	14.13	14.10	14.20	14.16	14.97	15.10	14.39	13.84	13.47	12.77
13	13.59	13.98	14.14	14.10	14.21	14.18	15.03	15.05	14.33	13.84	13.45	12.75
14	13.60	13.98	14.16	14.10	14.20	14.18	15.09	14.99	14.30	13.84	13.41	12.77
15	13.61	13.98	14.18	14.11	14.20	14.19	15.10	14.95	14.25	13.82	13.39	12.79
16	13.61	13.99	14.13	14.11	14.20	14.19	15.18	14.92	14.18	13.82	13.35	12.81
17	13.61	13.99	14.15	14.11	14.19	14.19	15.19	14.88	14.16	13.82	13.31	12.83
18	13.62	14.00	14.18	14.11	14.19	14.19	15.24	14.83	14.15	13.81	13.27	12.87
19	13.62	14.00	14.20	14.11	14.18	14.20	15.25	14.80	14.08	13.80	13.21	12.89
20	13.62	14.03	14.19	14.12	14.18	14.21	15.28	14.78	14.05	13.80	13.19	12.88
21	13.61	14.04	14.20	14.12	14.19	14.22	15.30	14.76	14.03	13.79	13.16	12.93
22	13.62	14.04	14.20	14.14	14.17	14.21	15.38	14.73	14.01	13.80	13.09	12.95
23	13.64	14.07	14.21	14.16	14.18	14.20	15.54	14.68	14.00	13.82	13.10	12.93
24	13.65	14.07	14.21	14.15	14.19	14.21	15.93	14.69	13.99	13.83	13.04	12.94
25	13.67	14.07	14.19	14.15	14.26	14.22	16.52	14.66	13.97	13.82	13.03	12.97
26	13.66	14.07	14.17	14.16	14.26	14.22	16.98	14.61	13.96	13.83	13.02	12.97
27	13.68	14.06	14.17	14.17	14.23	14.23	17.20	14.59	13.92	13.82	13.03	12.99
28	13.70	14.05	14.14	14.17	14.21	14.25	17.23	14.58	13.92	13.81	13.00	13.00
29	13.74	14.02	14.14	14.17		14.29	17.11	14.56	13.90	13.80	13.00	13.05
30	13.76	14.02	14.15	14.15		14.33	16.87	14.55	13.92	13.78	13.00	13.06
31	13.77		14.17	14.15		14.38		14.51		13.75	13.00	

Note.- Add 900 feet to obtain mean sea-level elevation.

Okanogan River near Tonasket, Wash.

(International gaging station)

Location.- Water-stage recorder in lot 3, sec. 8, T. 36 N., R. 27 E., 1,000 feet above Chewilken Creek and 5½ miles south of Tonasket.

Drainage area.- 7,250 square miles.

Records available.- April 1929 to September 1934.

Extremes.- Maximum discharge during year, 25,400 second-feet Apr. 27 (gage height, 18.3 feet); minimum, 502 second-feet Sept. 11 (gage height, 4.32 feet).
1929-34: Maximum discharge, that of Apr. 27, 1934; minimum, 126 second-feet Sept. 5, 1931 (gage height, 3.43 feet).

Remarks.- Records excellent except those estimated because of ice, Dec. 24-29, Jan. 10-19. Numerous irrigation diversions above station. Flow subject to natural regulation in several lakes and, in the interest of navigation, to artificial regulation in Okanogan Lake. Operation of power plant with pondage on Similkameen River affects low-water flow slightly. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,760	3,760	3,240	2,400	1,910	1,840	6,410	19,600	11,100	3,090	1,400	622
2	1,620	3,530	3,100	2,340	1,960	1,840	6,410	17,200	9,380	3,030	1,360	622
3	1,530	3,380	2,970	2,280	1,960	1,840	6,250	15,400	8,640	2,910	1,360	610
4	1,580	3,460	2,900	2,280	2,010	2,040	6,090	13,700	8,280	2,850	1,400	592
5	1,620	3,240	2,780	2,280	1,960	2,080	6,090	12,900	8,100	2,740	1,360	604
6	1,580	3,040	2,710	2,280	1,990	2,080	6,250	14,000	7,920	2,680	1,400	580
7	1,530	2,970	2,710	2,230	2,010	2,040	7,090	13,500	7,740	2,630	1,440	568
8	1,480	2,900	2,710	2,120	2,120	2,040	8,500	12,700	7,920	2,580	1,440	544
9	1,440	2,840	2,640	2,010	1,960	2,000	10,000	11,900	8,460	2,520	1,400	538
10	1,400	2,840	2,640	2,000	1,920	2,000	10,600	10,900	8,460	2,360	1,360	514
11	1,360	2,900	2,580	2,000	1,880	2,000	10,400	10,500	8,100	2,240	1,310	514
12	1,360	3,100	2,580	1,900	1,840	2,040	10,400	10,700	7,920	2,140	1,230	538
13	1,320	3,240	2,460	1,900	1,840	2,080	11,000	10,900	7,560	2,090	1,150	544
14	1,280	3,170	2,280	1,900	1,800	2,200	12,500	10,900	7,030	1,990	1,110	550
15	1,240	3,100	2,280	1,900	1,800	2,430	13,600	11,700	6,520	1,990	1,070	568
16	1,240	3,100	2,180	1,800	1,800	2,700	13,200	12,700	6,030	1,940	1,040	622
17	1,200	3,040	1,960	1,800	1,800	2,890	12,500	13,500	5,550	1,940	1,000	658
18	1,200	2,970	1,960	1,900	1,840	2,990	12,100	13,100	5,100	1,940	965	646
19	1,280	2,900	2,120	1,900	1,880	3,090	11,900	11,900	4,800	1,990	916	646
20	1,480	2,780	2,230	1,910	1,840	3,090	12,500	10,900	4,660	1,890	902	658
21	1,530	2,710	2,280	1,960	1,840	3,290	13,800	10,100	4,380	1,840	867	628
22	1,440	2,710	2,340	1,960	1,840	3,490	14,800	9,380	4,100	1,790	839	646
23	1,440	2,840	2,280	1,960	1,760	3,490	16,400	9,190	4,100	1,740	790	676
24	1,440	3,990	2,200	1,960	1,720	3,600	18,500	9,760	3,970	1,690	760	718
25	2,550	3,910	2,200	1,910	1,460	3,600	20,200	10,300	3,710	1,640	742	718
26	3,990	4,150	2,100	1,910	1,720	3,600	23,300	11,300	3,580	1,590	724	724
27	4,630	3,830	2,100	1,910	1,800	3,600	25,400	11,700	3,330	1,540	712	736
28	5,270	3,760	2,200	1,910	1,840	3,710	24,900	12,100	3,330	1,690	682	724
29	5,600	3,530	2,200	1,910		3,820	23,800	12,300	3,330	1,540	676	730
30	4,950	3,310	2,280	1,910		4,920	21,800	12,700	3,330	1,490	664	748
31	4,150		2,340	1,910		6,090		12,900		1,440	640	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	5,600	1,200	2,113	129,900
November	4,150	2,710	3,233	192,400
December	3,240	1,960	2,437	149,900
January	2,400	1,800	2,011	123,600
February	2,120	1,460	1,861	103,300
March	6,090	1,840	2,855	175,600
April	25,400	6,090	13,220	786,800
May	19,600	9,190	12,270	754,400
June	11,100	3,330	6,214	369,800
July	3,090	1,440	2,114	130,000
August	1,440	640	1,055	64,880
September	748	514	626	37,260
The year	25,400	514	4,168	3,018,000

Similkameen River near Nighthawk, Wash.

(International gaging station)

Location.- Water-stage recorder in NW¼ sec. 7, T. 40 N., R. 26 E., 1¼ miles below Nighthawk.

Drainage area.- 3,420 square miles.

Records available.- September 1928 to September 1934.

Extremes.- Maximum discharge during year, 27,200 second-feet Apr. 26 (gage height, 14.96 feet); minimum, 383 second-feet Sept. 7 (gage height, 3.02 feet).
1928-34: Maximum discharge, that of Apr. 26, 1934; minimum, 120 second-feet Jan. 6, 1930 (gage height, 2.05 feet).

Remarks.- Records excellent except those estimated because of ice Dec. 19, 20, 23-27. Some regulation caused by natural diversion into Palmer Lake. Small irrigation diversions above station. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	893	3,200	2,460	1,670	1,140	1,140	5,450	15,800	9,070	2,460	905	426
2	1,400	2,880	2,340	1,580	1,140	1,140	5,450	13,700	8,200	2,340	891	426
3	1,100	2,820	2,240	1,540	1,220	1,310	5,260	12,600	7,800	2,290	942	416
4	980	2,940	2,120	1,540	1,180	1,440	5,080	11,400	7,400	2,180	958	407
5	988	2,640	2,020	1,580	1,100	1,400	5,080	12,000	7,200	2,070	920	402
6	1,040	2,460	2,020	1,540	1,140	1,400	5,450	12,800	7,000	2,020	870	393
7	988	2,340	2,020	1,440	1,220	1,360	6,400	11,700	7,000	2,020	835	386
8	935	2,240	1,920	1,360	1,220	1,360	8,200	10,900	7,600	1,920	793	386
9	898	2,180	1,920	1,440	1,180	1,360	9,550	10,100	7,800	1,820	772	388
10	856	2,180	1,870	1,310	1,180	1,310	9,550	9,310	7,600	1,670	739	402
11	821	2,400	1,820	1,400	1,140	1,360	9,310	9,310	7,400	1,620	694	421
12	800	2,580	1,720	1,360	1,140	1,400	9,550	10,100	7,200	1,540	674	426
13	765	2,580	1,540	1,310	1,140	1,490	10,900	9,800	6,600	1,440	648	436
14	752	2,520	1,540	1,310	1,100	1,720	12,800	10,300	6,020	1,440	635	452
15	732	2,460	1,490	1,220	1,100	1,920	13,400	11,400	5,450	1,400	623	487
16	720	2,400	1,100	1,100	1,100	2,180	12,800	12,600	5,080	1,360	598	508
17	739	2,340	1,180	1,180	1,140	2,340	12,300	12,800	4,590	1,400	574	482
18	713	2,290	1,260	1,260	1,180	2,340	12,000	11,400	4,290	1,540	569	477
19	765	2,180	1,350	1,180	1,180	2,340	12,300	10,300	4,140	1,400	559	462
20	935	2,120	1,450	1,220	1,180	2,460	13,400	9,550	3,840	1,310	548	441
21	1,140	2,070	1,540	1,220	1,140	2,700	15,500	8,840	3,620	1,260	533	431
22	1,010	2,070	1,540	1,220	1,100	2,820	18,000	8,200	3,470	1,220	518	446
23	965	2,840	1,450	1,220	1,040	2,820	21,200	8,620	3,470	1,180	513	457
24	935	3,340	1,400	1,180	1,060	2,880	24,200	9,070	3,200	1,100	498	467
25	2,010	3,400	1,350	1,140	1,100	2,880	26,400	10,300	2,940	1,050	482	472
26	3,220	3,270	1,300	1,140	1,100	2,880	26,400	11,200	2,760	1,040	472	467
27	4,440	3,080	1,350	1,140	1,140	2,880	25,300	11,400	2,640	1,020	462	457
28	4,590	2,940	1,400	1,140	1,140	2,940	24,200	11,700	2,640	1,010	457	462
29	5,260	2,700	1,540	1,140		3,270	21,600	12,000	2,700	988	446	462
30	4,440	2,520	1,620	1,140		4,290	18,400	12,600	2,580	965	436	467
31	3,620		1,620	1,140		5,260		11,400		935	426	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	5,260	713	1,595	0.466	0.54	98,080
November	3,400	2,070	2,599	.760	.85	154,700
December	2,460	1,100	1,661	.486	.56	102,100
January	1,670	1,100	1,302	.381	.44	80,050
February	1,220	1,040	1,141	.334	.35	63,350
March	5,260	1,140	2,206	.645	.74	135,600
April	26,400	5,080	13,510	3.95	4.41	804,200
May	15,800	8,200	11,070	3.24	3.74	680,700
June	9,070	2,580	5,377	1.57	1.75	319,900
July	2,460	935	1,516	.443	.51	93,240
August	958	426	645	.189	.22	39,650
September	508	388	441	.129	.14	26,210
The year	26,400	388	3,588	1.05	14.25	2,598,000

Methow River at Twisp, Wash.

Location.- Water-stage recorder in sec. 17, T. 33 N., R. 22 E., at highway bridge at Twisp, a quarter of a mile below Twisp River. Prior to Dec. 19, 1933, chain gage on highway bridge was used.

Drainage area.- 1,330 square miles.

Records available.- June 1919 to September 1929, October 1933 to September 1934.

Average discharge.- 10 years (1919-29), 1,068 second-feet.

Extremes.- Maximum discharge during period Oct. 31, 1933, to Sept. 30, 1934, 15,200 second-feet Apr. 24, 25 (gage height, 10.0 feet); minimum, 166 second-feet Sept. 10 (gage height, 1.51 feet).
1919-29, 1933-34: Maximum discharge recorded, that of Apr. 24, 25, 1934; maximum gage height recorded, 10.4 feet June 5, 1921; minimum discharge recorded, 134 second-feet Sept. 4, 5, 1926, Sept. 9, 10, 1929 (gage height, 1.42 feet).

Remarks.- Records excellent. Numerous diversions above station for irrigation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1,280	1,150	658	549	710	3,800	6,950	5,230	1,560	537	206
2		1,320	1,150	652	555	826	3,440	6,070	4,540	1,560	543	206
3		1,360	1,110	639	566	826	3,350	5,650	4,250	1,460	543	206
4		1,280	1,110	633	555	805	3,260	5,230	4,070	1,460	509	206
5		1,150	1,110	627	578	791	3,440	5,650	4,070	1,460	466	199
6		1,110	1,070	590	566	798	3,890	5,130	4,070	1,510	437	187
7		1,060	1,050	566	566	770	4,830	5,030	4,630	1,510	404	182
8		1,040	1,020	526	566	763	5,860	4,330	5,650	1,320	381	176
9		1,030	1,010	520	561	770	6,070	4,630	5,860	1,150	355	176
10		1,060	974	566	543	798	5,650	4,440	5,440	1,060	334	171
11		1,110	958	555	543	847	5,650	4,630	5,440	974	310	171
12		1,150	958	561	555	950	6,070	4,730	5,440	926	291	185
13		1,150	896	561	543	1,150	7,400	5,030	5,030	875	284	193
14		1,150	826	537	561	1,360	8,110	5,860	4,440	840	269	212
15		1,110	798	493	572	1,620	7,630	6,730	3,980	847	287	218
16		1,110	677	526	584	1,910	6,730	7,400	3,530	861	287	224
17		1,070	743	526	590	1,970	6,290	6,730	3,260	889	291	231
18		1,040	645	493	615	1,970	6,290	5,860	3,100	833	291	224
19		1,010	791	520	639	2,100	6,730	5,340	2,930	819	291	221
20		974	777	526	665	2,390	8,110	4,830	2,690	770	284	224
21		990	757	537	684	2,540	9,850	4,440	2,540	710	269	218
22		1,010	805	537	690	2,540	11,600	4,340	2,390	690	255	228
23		1,410	896	537	697	2,540	13,200	4,830	2,100	677	245	235
24		1,460	840	532	710	2,460	14,900	5,650	1,850	639	241	231
25		1,460	798	520	716	2,390	14,600	7,170	1,680	578	235	235
26		1,410	763	515	716	2,390	13,800	7,870	1,620	639	248	238
27		1,410	703	520	723	2,390	11,900	8,350	1,680	710	238	238
28		1,360	703	520	703	2,540	10,600	8,110	1,620	710	238	241
29		1,280	703	526		3,260	9,600	8,600	1,620	697	231	248
30		1,150	690	537		3,800	8,110	8,480	1,560	658	218	245
31	1,460		671	549		3,980		6,510		602	212	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October 31			1,460	2,900
November	1,460	974	1,183	70,420
December	1,150	645	876	53,860
January	658	493	552	33,930
February	723	543	611	33,940
March	3,980	710	1,773	109,000
April	14,900	3,260	7,692	457,700
May	8,600	4,340	5,974	367,300
June	5,860	1,560	3,544	210,900
July	1,560	578	968	59,490
August	543	212	323	19,880
September	248	171	212	12,640
The period				1,432,000

Stehekin River at Stehekin, Wash.

Location.- Water-stage recorder in SE¼ sec. 26, T. 33 N., R. 17 E., 1,200 feet above Boulder Creek and 2 miles above Lake Chelan and Stehekin. Flow of Boulder Creek included in records of discharge.

Drainage area.- 372 square miles.

Records available.- December 1910 to October 1915, January 1927 to September 1934.

Average discharge.- 12 years, 1,372 second-feet.

Extremes.- Maximum discharge during year, 10,000 second-feet Apr. 24 (gage height, 26.02 feet); minimum, 305 second-feet Sept. 30 (gage height, 19.40 feet).
1910-15, 1927-34: Maximum discharge, 12,100 second-feet June 15, 1933 (gage height, 26.94 feet); minimum, 56 second-feet Jan. 12, 1930 (gage height, 18.59 feet).

Remarks.- Records good. Discharge estimated Oct. 1. At very high stages small percentage of flow is diverted above gage by natural sloughs; amount diverted included in daily discharge. Gage-height record and several discharge measurements furnished by Chelan Electric Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,020	1,910	1,260	1,100	685	637	3,040	3,870	3,630	2,600	1,400	985
2	1,000	2,500	1,180	1,060	750	927	2,620	3,470	3,160	2,530	1,500	950
3	1,290	2,660	1,100	1,060	764	888	2,360	3,160	3,000	2,340	1,500	985
4	1,280	2,150	1,060	1,020	750	842	2,160	3,450	3,160	2,600	1,260	1,020
5	1,150	1,910	1,020	1,060	730	842	2,160	4,350	3,630	3,000	1,180	1,100
6	1,060	1,730	1,060	985	718	850	2,360	3,710	4,030	3,160	1,260	1,020
7	1,030	1,610	1,060	950	704	813	3,040	3,390	5,010	2,860	1,140	985
8	994	1,490	1,020	918	704	792	3,840	3,000	5,370	2,270	1,060	918
9	881	1,470	1,020	918	692	792	3,760	2,790	5,370	2,150	1,060	781
10	793	1,540	1,140	885	673	806	3,360	2,660	5,190	2,090	1,100	820
11	734	1,550	1,220	852	655	835	3,120	3,230	5,370	1,910	1,100	729
12	680	1,470	1,300	852	637	943	3,360	3,470	5,370	1,850	1,140	672
13	639	1,360	1,220	830	637	1,110	4,380	3,790	5,010	2,030	1,140	722
14	645	1,300	1,140	788	637	1,320	4,830	4,510	4,350	2,030	1,220	618
15	588	1,210	1,100	742	620	1,640	4,470	5,190	3,870	1,910	1,300	636
16	710	1,130	1,020	736	625	1,800	4,110	5,370	3,390	2,840	1,350	807
17	674	1,050	1,020	716	625	1,690	3,760	4,510	3,310	2,660	1,300	672
18	1,750	986	1,020	690	631	1,640	3,520	3,790	3,310	2,090	1,220	618
19	1,190	946	1,020	684	637	1,640	3,840	3,390	3,000	1,850	1,140	552
20	938	916	918	666	637	1,800	5,010	3,080	2,860	1,790	1,180	499
21	833	1,010	1,170	678	637	1,800	5,950	2,860	2,790	1,500	1,180	494
22	806	3,330	2,340	716	637	1,800	7,410	2,930	2,660	1,300	1,140	482
23	2,470	3,260	2,270	623	631	1,740	8,710	3,630	2,210	1,300	1,140	430
24	2,590	2,720	1,910	559	625	1,690	9,590	5,010	2,090	1,400	1,140	410
25	3,870	2,340	1,670	542	608	1,640	8,710	6,150	2,090	1,730	1,180	365
26	3,000	2,090	1,620	559	603	1,580	7,620	6,360	2,340	2,210	1,220	350
27	4,030	1,910	1,450	592	603	1,640	6,570	6,570	2,340	2,460	1,260	330
28	4,190	1,670	1,300	614	592	2,220	5,950	6,780	2,400	2,530	1,300	325
29	3,310	1,450	1,260	625		3,600	5,190	7,410	2,400	2,210	1,260	320
30	2,660	1,350	1,220	637		4,020	4,510	6,580	2,460	1,910	1,140	320
31	2,210		1,140	649		3,600		4,510		1,620	1,060	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4,190	588	1,581	4.25	4.90	97,220
November	3,330	916	1,734	4.66	5.20	103,200
December	2,340	918	1,266	3.40	3.92	77,850
January	1,100	542	784	2.11	2.43	48,210
February	764	592	659	1.77	1.84	36,590
March	4,020	637	1,546	4.16	4.80	95,080
April	9,590	2,160	4,644	12.5	13.95	276,300
May	7,410	2,660	4,289	11.5	13.26	263,700
June	5,370	2,090	3,506	9.42	10.51	208,600
July	3,160	1,300	2,153	5.79	6.68	132,400
August	1,500	1,060	1,212	3.26	3.76	74,520
September	1,100	320	664	1.78	1.99	39,500
The year	9,590	320	2,007	5.40	73.24	1,453,000

Lake Chelan at Chelan, Wash.

Location.- Water-stage recorder in lot 3, sec. 15, T. 27 N., R. 22 E., 2 miles west of Chelan. Gage datum is at mean sea level.

Drainage area.- 950 square miles.

Records available.- September 1897 to December 1899, January to June 1905, December 1910 to September 1934.

Extremes.- Maximum water-surface elevation during year, 1,099.79 feet July 30; minimum, 1,090.06 feet Mar. 5.
1897-99, 1905, 1910-34: Maximum water-surface elevation, 1,099.88 feet July 13, 1930; minimum, 1,076.78 feet Jan. 27, 28, Dec. 2, 3, 1898.

Remarks.- Records excellent. Lake level regulated under stipulation of Federal Power Commission for power and for scenic effect during tourist season. Gage-height record furnished by Chelan Electric Co.

Gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98.97	98.03	96.28	95.57	93.32	90.23	93.46	98.40	98.38	99.55	99.61	98.30
2	98.98	98.05	96.24	95.40	93.30	90.20	93.70	98.11	98.16	99.55	99.61	98.23
3	99.00	98.10	96.21	95.25	93.25	90.16	93.89	97.80	98.02	99.48	99.59	98.17
4	99.03	98.03	96.19	95.07	93.20	90.10	94.10	97.53	97.97	99.46	99.53	98.12
5	99.03	97.93	96.22	94.95	93.17	90.12	94.29	97.32	97.96	99.49	99.47	98.06
6	99.03	97.84	96.37	94.76	93.08	90.21	94.47	97.10	97.98	99.50	99.48	98.04
7	99.01	97.72	96.40	94.60	93.00	90.19	94.70	96.90	98.08	99.52	99.42	98.00
8	99.01	97.60	96.40	94.46	92.95	90.19	95.01	96.76	98.31	99.38	99.34	97.88
9	99.00	97.50	96.49	94.29	92.86	90.18	95.25	96.68	98.58	99.28	99.27	97.78
10	98.94	97.39	96.52	94.15	92.77	90.18	95.38	96.60	98.80	99.33	99.26	97.73
11	98.90	97.29	96.57	94.01	92.71	90.17	95.56	96.57	98.99	99.33	99.23	97.63
12	98.86	97.19	96.62	93.94	92.62	90.18	95.78	96.51	99.17	99.33	99.16	97.54
13	98.80	97.08	96.68	93.92	92.50	90.20	96.10	96.54	99.36	99.31	99.12	97.48
14	98.77	96.99	96.71	93.87	92.34	90.26	96.54	96.65	99.44	99.35	99.08	97.38
15	98.67	96.87	96.72	93.82	92.20	90.35	96.97	96.83	99.43	99.38	99.02	97.29
16	98.62	96.76	96.72	93.77	92.06	90.50	97.36	97.07	99.31	99.45	99.03	97.27
17	98.55	96.64	96.80	93.74	91.95	90.57	97.55	97.16	99.33	99.58	99.08	97.24
18	98.53	96.53	96.91	93.68	91.84	90.74	97.78	97.15	99.40	99.62	98.97	97.16
19	98.54	96.41	96.94	93.65	91.72	90.81	97.86	97.14	99.34	99.62	98.96	97.04
20	98.54	96.31	97.00	93.63	91.58	90.89	97.93	97.10	99.34	99.62	98.96	96.93
21	98.49	96.28	97.08	93.63	91.41	91.05	98.07	97.03	99.34	99.57	98.86	96.87
22	98.48	96.29	97.12	93.63	91.26	91.23	98.30	97.01	99.36	99.52	98.80	96.74
23	98.50	96.45	97.12	93.69	91.10	91.40	98.69	96.98	99.34	99.48	98.74	96.67
24	98.57	96.56	96.98	93.60	90.95	91.57	98.85	97.11	99.34	99.46	98.68	96.60
25	98.59	96.57	96.82	93.54	90.76	91.74	99.09	97.37	99.35	99.45	98.62	96.52
26	98.40	96.55	96.66	93.50	90.63	91.87	99.16	97.64	99.48	99.49	98.59	96.43
27	98.26	96.53	96.46	93.45	90.49	92.04	99.15	97.95	99.49	99.54	98.55	96.32
28	98.25	96.48	96.30	93.40	90.35	92.23	99.07	98.31	99.67	99.62	98.53	96.23
29	98.27	96.40	96.11	93.37		92.50	98.90	98.54	99.62	99.73	98.50	96.15
30	98.27	96.33	95.94	93.35		92.85	98.67	98.71	99.58	99.74	98.45	96.03
31	98.16		95.75	93.33		93.16		98.56		99.66	98.38	

Note.- Add 1,000 feet to obtain mean sea level elevation.

Chelan River at Chelan, Wash.

Location.- Water-stage recorder in NE¼ sec. 30, T. 27 N., R. 23 E., half a mile above mouth and 2 miles southeast of Chelan. Gage datum is at mean sea level.

Drainage area.- 950 square miles.

Records available.- November 1903 to September 1934.

Average discharge.- 31 years, 2,073 second-feet.

Extremes.- Maximum mean daily discharge during year, 12,300 second-feet Apr. 27; minimum mean daily discharge, 6.0 second-feet Mar. 29.
1903-34: Maximum mean daily discharge, that of Apr. 27, 1934; no flow part of day Jan. 30, 1917, when lake outlet was blocked with ice, and at times during winter, owing to artificial regulation.

Remarks.- Records good. Unmeasured diversion for irrigation above station is small proportion of run-off. Chelan Electric Co. diverts water at Chelan for power purposes and irrigation, which is included in daily discharge. Flow regulated by operation of power plant. Records of diversion, gage-height record, and discharge measurements furnished by Chelan Electric Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,160	3,880	2,460	4,390	1,730	3,190	180	11,100	9,080	3,870	2,330	2,310
2	1,200	4,080	2,070	4,350	1,980	2,740	11	10,800	7,740	3,810	2,350	2,290
3	1,220	3,930	2,070	4,280	2,290	2,990	6.8	10,500	6,010	3,700	2,340	2,000
4	946	3,870	1,770	4,080	2,250	1,320	7.7	10,100	5,230	3,210	2,330	2,170
5	1,390	3,860	1,430	3,930	2,430	1,220	335	9,890	5,070	3,780	2,330	2,280
6	1,610	3,760	1,500	3,850	2,640	1,190	602	9,450	5,140	4,350	2,250	2,170
7	1,770	3,750	1,360	3,670	2,570	1,500	560	8,580	5,210	4,570	2,340	2,210
8	1,540	3,750	1,340	3,780	2,580	1,440	902	6,560	2,910	4,340	2,340	2,290
9	1,680	3,730	1,350	3,650	2,520	1,520	2,980	5,510	4,260	3,190	2,320	1,890
10	1,690	3,600	1,340	3,620	2,450	1,440	2,150	5,380	4,320	2,420	2,160	1,830
11	1,720	3,630	1,440	3,170	2,310	1,520	2,130	5,740	4,650	2,230	2,090	2,210
12	1,880	3,580	1,480	2,390	2,480	1,530	575	5,090	4,740	2,360	2,010	2,220
13	1,780	3,480	1,440	1,940	3,560	1,490	568	4,440	4,930	2,340	2,130	2,180
14	1,840	3,520	1,510	1,660	3,530	1,550	567	4,620	6,630	2,360	1,990	2,150
15	1,620	3,460	1,510	1,910	3,220	1,310	524	4,680	6,670	2,000	2,280	1,870
16	1,820	3,400	1,500	1,840	3,100	829	1,100	5,410	4,400	2,350	2,200	910
17	1,650	3,400	1,500	1,840	2,980	972	2,560	5,890	4,650	2,350	2,210	1,840
18	1,600	3,330	1,550	1,640	2,920	980	857	5,950	4,680	2,350	1,570	2,050
19	1,850	3,270	1,870	1,920	3,170	1,620	5,900	5,870	4,280	2,350	1,440	2,030
20	1,860	2,680	2,500	1,760	3,520	680	6,080	5,720	3,740	2,310	1,820	2,060
21	1,660	2,200	3,760	1,660	3,770	8.2	6,710	5,000	3,650	2,220	2,320	2,100
22	1,500	2,180	4,990	1,760	3,560	7.0	7,300	5,340	3,590	2,380	2,320	2,020
23	1,770	2,190	5,440	1,770	3,660	7.3	8,360	4,530	3,450	2,350	2,310	1,400
24	2,480	2,600	5,290	1,730	3,700	9.1	10,000	4,820	2,860	2,350	2,320	1,910
25	5,610	2,900	5,110	1,910	3,420	444	11,600	4,980	2,570	2,380	2,250	1,760
26	6,730	2,900	5,240	1,960	3,470	438	12,200	4,880	2,010	2,350	2,310	2,060
27	6,330	2,910	5,100	1,960	3,560	7.2	12,300	5,030	1,920	2,310	2,310	2,080
28	4,820	2,940	5,110	1,810	3,450	7.2	12,200	5,440	2,100	2,110	2,320	2,140
29	4,440	2,910	4,840	1,930		6.0	11,800	7,190	3,030	2,340	2,310	2,160
30	4,720	2,910	4,630	1,760		9.2	11,400	10,200	4,140	2,350	2,170	1,560
31	4,270		4,430	1,760		9.6		9,980		2,340	2,310	

Month	Observed				Gain or loss in storage in Lake Chelan (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.....	6,730	946	2,457	151,100	-26,570	124,500	2,025	2.13	2.46
November....	4,080	2,180	3,287	195,600	-59,210	136,400	2,292	2.41	2.69
December....	5,440	1,340	2,804	172,400	-18,580	153,800	2,501	2.63	3.03
January.....	4,390	1,660	2,577	158,400	-78,560	79,840	1,298	1.37	1.58
February....	3,770	1,730	2,958	164,300	-96,630	67,670	1,218	1.28	1.33
March.....	3,190	6.0	1,048	64,430	+89,780	154,200	2,508	2.64	3.04
April.....	12,300	6.8	4,416	262,700	+179,900	442,600	7,438	7.83	8.74
May.....	11,100	4,440	6,731	413,900	-4,590	409,300	6,657	7.01	8.08
June.....	9,080	1,920	4,462	265,500	+33,780	299,300	5,030	5.29	5.90
July.....	4,570	2,000	2,765	170,000	+1,640	171,600	2,791	2.94	3.39
August.....	2,350	1,440	2,196	135,000	-41,330	93,670	1,523	1.60	1.84
September...	2,310	910	2,005	119,300	-75,870	43,430	730	.768	.86
The year..	12,300	6.0	3,139	2,273,000	-96,240	2,176,000	3,006	3.16	42.94

Railroad Creek at Lucerne, Wash.

Location.- Water-stage recorder in sec. 9, T. 31 N., R. 18 E., half a mile above mouth and half a mile southwest of Lucerne.

Drainage area.- 64 square miles.

Records available.- December 1910 to June 1913, January 1927 to September 1934.

Extremes.- Maximum discharge during year, 1,580 second-feet Apr. 24 (gage height, 4.75 feet); minimum, 47 second-feet Sept. 29, 30; minimum gage height, 2.59 feet Oct. 15. 1910-13, 1927-34: Maximum discharge, 1,910 second-feet June 8, 1927 (gage height, 5.3 feet); minimum, not determined, occurred during period Jan. 15-25, 1930, when stage-discharge relation was affected by ice.

Remarks.- Records good except those for Oct. 1, Sept. 7, 8, which were estimated. No diversions or regulation. Gage-height record and several discharge measurements furnished by Chelan Electric Co.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	202	108	147	107	99	348	567	549	361	232	105
2	70	193	96	143	111	151	316	523	464	367	252	105
3	73	238	86	147	119	143	301	472	425	342	256	101
4	77	255	76	143	115	131	296	524	440	361	218	105
5	81	251	67	143	115	127	296	660	489	410	190	112
6	81	242	60	135	111	123	311	558	540	440	190	108
7	81	221	53	127	111	115	388	514	730	410	181	105
8	85	212	143	119	107	115	498	455	907	342	168	100
9	81	202	147	111	99	111	480	418	874	306	164	129
10	75	202	177	107	95	111	464	395	820	311	168	129
11	71	199	187	103	91	115	440	432	885	286	168	118
12	66	199	212	99	91	127	464	448	907	281	172	112
13	62	196	192	99	87	147	594	480	820	276	177	108
14	62	187	177	99	87	167	700	567	640	291	181	95
15	60	182	167	87	91	207	710	730	540	286	190	92
16	64	177	159	91	91	217	670	810	489	367	209	105
17	71	169	159	87	91	217	594	630	464	388	209	105
18	79	164	167	80	91	217	558	514	472	322	190	95
19	95	159	159	83	91	227	603	489	410	286	177	89
20	83	157	147	80	91	247	750	432	395	271	172	84
21	77	154	217	87	91	252	1,010	395	388	242	172	81
22	70	169	326	83	95	252	1,230	402	380	209	168	81
23	81	230	297	83	91	247	1,360	480	329	195	160	75
24	130	234	242	77	91	237	1,530	720	291	190	160	67
25	167	224	217	77	91	227	1,460	1,050	286	232	164	62
26	190	194	197	91	91	222	1,320	1,170	306	342	164	57
27	209	171	182	99	87	227	1,170	1,200	329	374	168	55
28	260	153	167	99	87	277	1,060	1,160	342	386	168	52
29	264	129	159	95		338	896	1,280	342	348	160	47
30	251	115	159	95		380	690	1,170	348	296	132	47
31	225		151	95		380		730		266	112	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	264	60	110	1.72	1.98	6,780
November	255	115	193	3.02	3.37	11,460
December	326	53	163	2.55	2.94	10,020
January	147	77	104	1.62	1.87	6,370
February	119	87	97.0	1.52	1.58	5,390
March	380	99	198	3.09	3.56	12,200
April	1,530	296	717	11.2	12.50	42,660
May	1,280	395	657	10.3	11.87	40,410
June	907	286	520	8.12	9.06	30,940
July	440	190	316	4.94	5.70	19,410
August	256	112	180	2.81	3.24	11,090
September	129	47	90.9	1.42	1.58	5,410
The year	1,530	47	279	4.36	59.25	202,100

Wenatchee Lake near Plain, Wash.

Location.- Staff gage in sec. 19, T. 27 N., R. 17 E., on north shore of lake, 7½ miles northwest of Plain. Datum of published gage heights is mean sea level.

Drainage area.- 277 square miles.

Records available.- January 1932 to September 1934.

Extremes.- Maximum water-surface elevation recorded during year, 1,876.08 feet Apr. 24; minimum, 1,869.49 feet Sept. 30.
1932-34: Maximum water-surface elevation recorded, 1,876.57 feet June 16, 1933; minimum, 1,869.49 feet Oct. 12, 1932, Sept. 30, 1934.

Remarks.- Records good. No diversions or regulation.

Gage height, in feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71.01	72.12	70.73	72.04	71.31	71.00	74.10	73.38	72.99	71.38	70.48	69.96
2	70.93	72.08	70.66	72.01	71.38	71.54	73.56	73.16	72.71	71.40	70.45	69.96
3	70.91	75.38	70.62	71.98	71.45	71.85	73.01	72.76	72.50	71.34	70.51	69.94
4	70.92	75.73	70.60	71.92	71.48	71.91	72.73	72.73	72.33	71.28	70.39	69.90
5	70.88	72.84	70.62	72.05	71.41	71.81	72.53	73.31	72.37	71.32	70.33	69.90
6	70.84	72.32	70.64	72.10	71.36	71.76	72.55	73.20	72.50	71.41	70.30	69.88
7	70.76	72.15	70.65	71.94	71.30	71.45	72.59	73.11	72.79	71.51	70.27	69.87
8	70.70	71.92	70.67	71.77	71.26	71.30	72.96	72.94	73.19	71.35	70.23	69.86
9	70.62	71.68	70.71	71.61	71.21	71.35	73.31	72.57	73.47	71.19	70.18	69.81
10	70.47	71.50	70.82	71.53	71.11	71.43	73.27	72.41	73.26	71.00	70.11	69.78
11	70.39	71.32	71.50	71.45	71.06	71.41	73.26	72.56	73.33	70.94	70.05	69.77
12	70.31	71.20	72.70	71.40	71.04	71.40	73.35	72.40	73.36	70.90	70.03	69.77
13	70.25	71.14	72.69	71.36	71.00	71.44	73.52	72.59	73.27	70.80	70.06	69.79
14	70.23	71.05	72.51	71.21	70.97	71.51	74.06	72.87	73.07	70.91	70.11	69.84
15	70.22	71.04	72.39	71.13	70.94	71.94	74.21	73.28	72.91	70.98	70.11	69.82
16	70.29	70.91	72.15	71.06	70.92	72.06	74.27	73.60	72.37	71.07	70.13	69.81
17	70.70	70.81	71.73	71.03	70.90	72.12	74.17	73.42	72.21	71.23	70.11	69.79
18	71.04	70.73	71.64	71.00	70.89	72.06	73.83	73.05	72.34	71.13	70.06	69.76
19	71.60	70.68	71.64	71.02	70.89	72.01	73.79	72.75	71.91	70.94	70.11	69.71
20	71.36	70.66	71.75	71.14	70.87	72.03	74.00	72.57	71.74	70.77	70.13	69.69
21	71.13	70.69	72.08	71.24	70.87	72.08	74.78	72.31	71.68	70.67	70.13	69.70
22	71.02	71.18	74.14	71.33	70.85	72.13	75.75	72.23	71.63	70.56	70.13	69.64
23	71.68	71.42	75.60	71.41	70.83	72.10	75.69	72.37	71.53	70.49	70.11	69.62
24	72.85	71.46	74.90	71.46	70.83	72.01	76.06	72.86	71.37	70.50	70.11	69.61
25	73.38	71.45	73.94	71.40	70.81	71.91	75.95	73.47	71.30	70.55	70.10	69.60
26	73.55	71.42	73.24	71.33	70.79	71.84	75.73	73.92	71.34	70.67	70.06	69.56
27	73.32	71.30	72.88	71.28	70.84	71.90	75.40	74.07	71.30	70.85	70.06	69.54
28	73.12	71.07	72.26	71.24	70.94	72.51	75.47	74.15	71.33	70.85	70.04	69.52
29	72.89	70.95	72.08	71.21		73.33	74.95	73.94	71.32	70.76	70.04	69.51
30	72.71	70.81	72.05	71.19		74.23	73.89	73.66	71.33	70.65	70.02	69.49
31	72.32		72.07	71.22		74.41		73.31		70.56	70.01	

Note.- Add 1,800 feet to obtain mean sea level elevation.

Wenatchee River at Plain, Wash.

Location.- Water-stage recorder in lot 8, sec. 12, T. 26 N., R. 17 E., a quarter of a mile below Beaver Creek at Plain.

Drainage area.- 591 square miles.

Records available.- November 1910 to September 1929, August 1931 to September 1934.

Average discharge.- 22 years, 2,254 second-feet.

Extremes.- Maximum discharge during year, 13,500 second-feet Apr. 24 (gage height, 9.59 feet); minimum, 396 second-feet Sept. 30 (gage height, 1.73 feet).
1910-29, 1931-34: Maximum discharge, 20,800 second-feet Dec. 13, 1921 (gage height, 11.8 feet); minimum, 250 second-feet Oct. 18, 19, 1925.

Remarks.- Records excellent. Wenatchee Park Land & Irrigation Co. diverts a maximum of about 12 second-feet from Chiwawa River during irrigation seasons. No regulation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,900	3,410	1,680	3,180	2,390	1,900	7,120	7,120	6,150	2,610	1,260	662
2	1,680	4,330	1,630	3,030	2,620	3,000	6,380	6,380	5,250	2,670	1,260	642
3	1,730	9,190	1,580	3,410	2,680	3,410	5,480	6,020	4,570	2,490	1,300	629
4	1,730	7,910	1,480	3,650	2,620	3,330	5,130	5,840	4,400	2,490	1,170	622
5	1,680	6,200	1,530	3,730	2,560	3,100	4,790	6,930	4,740	2,670	1,080	622
6	1,580	4,960	1,530	3,490	2,390	3,100	4,790	6,740	4,910	2,800	1,050	636
7	1,480	3,970	1,580	3,180	2,340	2,890	5,300	6,380	5,790	2,730	1,010	602
8	1,430	3,410	1,580	2,960	2,280	2,680	6,200	5,840	6,340	2,430	958	596
9	1,300	3,030	1,680	2,750	2,170	2,560	6,560	5,480	6,340	2,140	940	567
10	1,200	2,820	2,440	2,620	2,120	2,500	6,560	5,130	6,340	2,030	924	561
11	1,090	2,620	3,490	2,500	2,000	2,500	6,380	5,130	6,340	1,920	915	556
12	1,000	2,440	4,620	2,390	1,950	2,620	6,380	5,300	6,530	1,820	906	544
13	934	2,340	4,790	2,340	1,900	2,890	7,120	5,660	6,340	1,720	906	590
14	892	2,170	4,290	2,170	1,840	3,180	8,120	6,200	5,790	1,720	898	609
15	828	2,060	3,810	2,000	1,780	3,650	8,330	6,930	5,250	1,670	898	585
16	1,090	1,950	3,260	2,000	1,780	3,970	8,330	7,510	4,570	1,870	915	579
17	1,680	1,840	3,030	1,950	1,780	3,970	7,910	7,120	4,240	2,310	932	556
18	2,160	1,780	3,180	1,840	1,780	3,810	7,510	6,340	4,080	2,080	906	534
19	2,750	1,680	3,100	1,840	1,780	3,810	7,510	5,610	3,760	1,870	890	505
20	2,390	1,630	3,030	1,780	1,730	3,890	8,330	5,250	3,440	1,720	838	483
21	2,060	1,680	4,340	1,950	1,730	4,050	9,410	4,910	3,360	1,580	822	475
22	1,900	1,950	8,330	2,120	1,730	4,130	10,900	4,740	3,280	1,440	822	479
23	2,800	2,680	9,880	2,820	1,680	3,970	12,400	5,080	2,990	1,300	796	491
24	4,620	2,680	8,120	2,680	1,680	3,810	13,200	5,970	2,670	1,300	779	475
25	5,660	2,680	6,560	2,440	1,630	3,650	13,200	7,310	2,550	1,350	770	459
26	5,840	2,440	5,480	2,390	1,580	3,490	12,600	7,910	2,610	1,580	762	441
27	5,300	2,280	4,620	2,390	1,630	3,570	11,500	8,540	2,610	1,720	754	426
28	5,480	2,120	4,050	2,340	1,680	4,620	10,100	8,750	2,610	1,820	762	412
29	5,300	1,950	3,570	2,280		6,020	9,190	8,970	2,610	1,720	770	402
30	4,790	1,780	3,570	2,220		7,510	8,120	9,190	2,550	1,580	762	399
31	4,050		3,490	2,220		7,710		7,710		1,400	707	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	5,840	828	2,527	4.28	4.93	155,400
November	9,190	1,630	3,066	5.19	5.79	182,400
December	9,880	1,480	3,720	6.29	7.25	228,700
January	3,730	1,780	2,537	4.29	4.95	156,000
February	2,680	1,580	1,994	3.37	3.51	110,700
March	7,710	1,900	3,719	6.29	7.25	228,700
April	13,200	4,790	8,162	13.8	15.40	485,700
May	9,190	4,740	6,516	11.0	12.68	400,600
June	6,530	2,550	4,434	7.50	8.37	263,800
July	2,800	1,300	1,953	3.30	3.80	120,100
August	1,300	707	918	1.55	1.79	56,450
September	662	399	538	.910	1.02	32,010
The year	13,200	399	3,344	5.66	76.74	2,421,000

Wenatchee River at Peshastin, Wash.

Location.- Water-stage recorder in SE¼SW¼ sec. 8, T. 24 N., R. 18 E., 1 mile northwest of Peshastin.

Drainage area.- 1,000 square miles.

Records available.- February 1929 to September 1934.

Extremes.- Maximum discharge during year, 18,400 second-feet Apr. 24 (gage height, 11.2 feet); minimum, 508 second-feet Sept. 29 (gage height, 1.93 feet).
1929-34: Maximum discharge, 20,400 second-feet June 16, 1933 (gage height, 11.82 feet); minimum, 270 second-feet Oct. 2, 1929 (gage height, 0.50 foot, former staff-gage datum).

Remarks.- Records excellent except those for Oct. 6-8, Oct. 25 to Nov. 3, Nov. 6, 7, Nov. 17 to Dec. 5, Apr. 5-17, which were estimated. Several diversions for irrigation above station. Slight regulation at mill pond at Leavenworth.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,600	8,900	2,300	4,530	3,780	2,720	9,470	9,700	8,330	3,630	1,620	840
2	2,340			4,230	4,080	4,310	8,330	8,780	7,030	3,700	1,560	870
3	2,270			4,690	4,230	4,860	7,240	8,110	6,230	3,560	1,670	777
4	2,340	11,600		5,040	4,080	4,690	6,630	7,890	6,030	3,420	1,500	744
5	2,200	8,780		5,040	3,930	4,380		9,240	6,430	3,700	1,400	731
6	2,100	7,530	2,340	4,690	3,700	4,380		9,240	6,830	3,780	1,310	738
7	1,990	6,290	2,270	4,380	3,560	4,080		8,550	7,890	3,780	1,260	712
8	1,880	5,040	2,270	4,080	3,490	3,930	7,900	7,890	8,550	3,350	1,200	687
9	1,780	4,380	2,660	3,930	3,350	3,700		7,240	8,780	3,000	1,150	675
10	1,620	4,080	4,250	3,780	3,210	3,630		6,830	8,780	2,860	1,130	657
11	1,500	3,930	5,430	3,560	3,070	3,630		6,830	8,780	2,660	1,100	663
12	1,350	3,630	6,830	3,420	3,000	3,780		6,830	9,010	2,530	1,100	663
13	1,250	3,420	6,830	3,280	2,860	4,080		7,450	8,780	2,400	1,090	744
14	1,260	3,210	6,030	3,140	2,790	4,530		8,330	7,890	2,400	1,090	826
15	1,170	3,000	5,430	2,860	2,720	5,040	11,000	9,470	7,030	2,400	1,070	777
16	1,420	2,790	4,530	2,860	2,660	5,630		10,700	6,230	2,400	1,070	750
17	2,400		4,380	2,860	2,660	5,430		9,700	5,830	3,070	1,080	744
18	2,850	2,500	4,860	2,660	2,660	5,230	10,200	8,550	5,630	2,790	1,080	699
19	3,930		4,690	2,660	2,660	5,230	10,200	7,670	5,040	2,460	1,050	657
20	3,350		4,530	2,600	2,660	5,430	11,400	7,030	4,690	2,270	1,010	612
21	2,860		8,090	2,860	2,660	5,830	13,400	6,630	4,690	2,080	982	606
22	2,790		14,900	3,140	2,600	5,830	15,400	6,430	4,530	1,840	975	623
23	4,660	3,400	15,700	4,380	2,530	5,630	17,200	6,830	4,230	1,720	952	663
24	7,030		12,400	4,230	2,530	5,230	18,400	8,330	3,780	1,670	930	640
25			9,700	3,780	2,460	5,040	17,800	10,200	3,560	1,670	915	618
26			7,890	3,630	2,400	4,860	17,200	11,100	3,560	2,140	900	596
27	7,700	3,000	6,630	3,780	2,400	4,690	15,700	12,100	3,560	2,270	900	570
28			5,830	3,780	2,460	6,030	13,900	12,100	3,560	2,340	915	550
29			5,230	3,630		8,110	12,600	12,900	3,560	2,270	915	531
30			5,040	3,560		10,200	11,100	12,900	3,560	2,020	900	531
31			4,860	3,560		10,200		10,700		1,780	862	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October		1,170	3,640	223,800
November			4,546	270,500
December	15,700		5,648	347,300
January	5,040	2,600	3,697	227,300
February	4,230	2,400	3,042	169,000
March	10,200	2,720	5,172	318,000
April	18,400		11,250	669,400
May	12,900	6,430	8,911	547,900
June	9,010	3,560	6,079	361,700
July	3,780	1,670	2,644	162,600
August	1,670	862	1,119	68,800
September	870	531	683	40,650
The year	18,400	531	4,706	3,407,000

Yakima River near Martin, Wash.

Location.- Water-stage recorder below dam at outlet of Keechelus Lake, 3½ miles northwest of Martin.

Drainage area.- 55 square miles.

Records available.- October 1903 to September 1934.

Average discharge.- 30 years (1904-34), 332 second-feet.

Extremes.- Maximum discharge during year, 1,500 second-feet Dec. 14 to Jan. 9 (gage height, 8.50 feet); minimum, 1 second-foot Oct. 20 to Nov. 8, Sept. 24-30, caused by regulation.
1903-34: Maximum discharge, 7,370 second-feet Mar. 25, 1915, when temporary crib dam was washed out; practically no flow when gates in Keechelus Reservoir Dam are closed.

Remarks.- Records excellent except those for extremely low flow. Flow over Keechelus Reservoir spillway Apr. 13 to May 22. Records include water diverted by way of spillway. Flow partly controlled by storage and release of water at Keechelus Reservoir. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	349	1	596	1,500	925	4	4	484	474	449	449	486
2	349	1	596	1,500	925	4	4	449	474	449	449	486
3	349	1	596	1,500	925	4	4	460	474	449	449	486
4	349	1	596	1,500	925	4	4	472	474	449	449	486
5	301	1	596	1,500	925	4	489	609	474	449	449	461
6	275	1	596	1,500	925	4	754	570	461	449	915	437
7	242	1	596	1,500	925	4	754	545	449	449	1,070	199
8	226	1	596	1,500	925	4	286	472	449	449	1,070	56
9	207	2	596	904	925	4	5	416	449	449	876	56
10	169	373	596	596	925	4	5	371	449	449	1,070	56
11	155	596	596	596	925	4	5	349	449	449	1,260	56
12	64	596	596	596	925	4	5	349	449	449	1,380	56
13	2	596	596	596	925	4	11	339	449	499	1,380	56
14	2	596	1,150	596	925	4	279	382	449	449	1,380	56
15	2	596	1,500	596	925	4	675	416	449	449	1,380	56
16	2	582	1,500	442	925	4	1,030	416	449	449	1,380	56
17	2	596	1,500	349	608	4	1,030	382	449	449	1,380	56
18	2	596	1,500	349	292	4	905	339	449	449	1,380	56
19	2	596	1,500	349	266	4	830	309	449	449	1,380	56
20	1	596	1,500	292	211	4	936	299	449	449	1,380	56
21	1	596	1,500	258	67	4	997	718	449	449	1,380	22
22	1	596	1,500	258	4	4	1,040	927	449	449	1,380	2
23	1	596	1,500	258	4	4	1,040	677	449	449	1,380	2
24	1	596	1,500	258	4	4	981	449	449	449	1,380	1
25	1	596	1,500	675	4	4	e30	449	449	449	1,380	1
26	1	596	1,500	925	4	4	688	461	449	449	1,380	1
27	1	596	1,500	925	4	4	662	474	449	449	1,380	1
28	1	596	1,500	925	4	4	622	474	449	449	1,380	1
29	1	596	1,500	925		4	582	474	449	449	914	1
30	1	596	1,500	925		4	558	474	449	449	486	1
31	1		1,500	925		4		474		449	486	

Month	Observed				Gain or loss in storage in Lake Keechelus (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.....	349	1	98.7	6,070	+30,710	36,780	598	10.9	12.57
November....	596	1	410	24,400	+7,500	31,900	536	9.75	10.88
December....	1,500	596	1,110	68,200	+11,860	80,060	1,302	23.7	27.32
January.....	1,500	258	823	50,600	-13,620	36,980	601	10.9	12.57
February....	925	4	581	32,300	-14,490	17,810	321	5.84	6.08
March.....	4	4	4	246	+47,440	47,690	776	14.1	16.26
April.....	1,040	4	534	31,800	+16,440	48,240	811	14.7	16.40
May.....	927	299	467	28,700	-6,340	22,360	364	6.62	7.63
June.....	474	449	454	27,000	-19,840	7,160	120	2.18	2.45
July.....	449	449	449	27,600	-24,920	2,680	43.6	.793	.91
August.....	1,380	449	1,090	67,100	-65,830	1,270	20.7	.376	.43
September...	486	1	127	7,540	-4,720	2,820	47.4	.862	.96
The year..	1,500	1	513	371,600	-35,810	335,800	464	8.44	114.44

Yakima River at Cle Elum, Wash.

Location.- Water-stage recorder in sec. 27, T. 20 N., R. 15 E., at highway bridge at Cle Elum, just above Roslyn Creek.

Drainage area.- 500 square miles.

Records available.- August 1906 to September 1934.

Average discharge.- 28 years, 1,986 second-feet.

Extremes.- Maximum discharge during year, 14,000 second-feet Dec. 22 (gage height, 10.10 feet); minimum, 383 second-feet Oct. 21 (gage height, 2.60 feet).
1906-34: Maximum discharge, about 25,600 second-feet Nov. 14, 1906 (gage height, 12.5 feet, from high-water marks); minimum, 64 second-feet Nov. 16, 17, 1929 (gage height, -0.31 foot).

Remarks.- Records excellent. Kittitas Canal diverts above gage. Diversions included in monthly-discharge table. Flow partly regulated by several reservoirs upstream. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,130	971	2,260	6,800	4,890	735	6,010	4,530	2,210	2,080	2,140	2,080
2	2,070	1,090	2,190	6,600	4,890	1,610	5,820	4,190	1,500	2,080	2,140	2,080
3	2,020	2,320	2,190	6,800	4,890	1,840	5,630	3,850	1,300	2,080	2,080	2,140
4	2,020	2,520	2,130	7,200	4,710	1,720	5,440	4,100	1,400	2,140	2,210	2,140
5	2,020	1,490	2,190	7,410	4,530	1,720	5,440	4,100	1,500	2,140	2,210	2,210
6	1,960	1,350	2,660	7,200	4,360	1,960	5,820	4,190	1,500	2,140	2,210	2,080
7	1,900	1,130	2,800	7,000	4,280	1,840	6,010	4,100	1,500	2,140	2,080	2,140
8	1,900	831	2,730	6,800	4,280	1,610	5,070	3,940	1,500	2,210	2,140	2,140
9	1,690	671	3,390	6,010	4,190	1,450	2,140	3,770	1,500	2,210	2,140	2,080
10	1,350	568	6,510	4,100	4,020	1,300	1,780	3,610	1,560	2,140	2,210	2,080
11	1,170	852	7,820	3,690	3,940	1,250	1,500	3,530	1,610	2,140	2,210	2,020
12	1,090	971	6,720	3,530	3,850	1,560	858	3,450	1,610	2,210	2,140	2,080
13	932	896	5,880	3,530	3,690	1,350	1,400	3,370	1,720	2,210	2,080	1,960
14	845	932	5,480	3,450	3,690	1,350	3,030	3,290	1,660	2,080	2,080	1,610
15	776	971	5,880	3,370	3,530	1,400	5,070	3,210	1,660	2,020	2,080	1,020
16	1,220	1,010	5,680	3,290	3,450	1,500	5,630	3,210	1,720	2,080	2,080	948
17	1,260	1,010	5,680	2,760	3,370	1,400	5,820	3,290	1,780	2,020	2,080	882
18	1,090	709	6,300	2,690	3,210	1,300	5,440	3,210	1,840	2,140	2,080	882
19	597	1,350	6,300	2,620	2,210	1,160	5,440	3,140	1,960	2,210	2,140	890
20	506	1,300	6,300	2,620	1,960	1,100	5,440	3,060	1,960	2,080	2,080	898
21	432	1,540	8,040	2,760	1,720	1,110	5,630	3,060	2,020	2,020	2,080	898
22	591	2,360	12,300	3,850	1,400	1,110	6,200	2,760	2,080	2,020	2,080	882
23	1,590	2,730	10,500	5,440	1,300	1,300	6,200	2,480	2,080	2,020	2,140	834
24	1,690	2,000	9,190	4,890	1,300	1,400	6,200	2,020	2,080	2,020	2,140	763
25	1,220	1,050	8,500	4,360	1,200	890	5,630	1,450	2,080	2,020	2,140	778
26	932	1,010	8,040	5,070	1,200	1,200	6,010	858	2,080	2,020	2,140	770
27	810	1,010	7,620	5,250	939	1,200	5,820	906	2,080	2,080	2,140	882
28	803	1,010	7,410	5,070	644	1,400	5,820	1,660	2,060	2,060	2,140	898
29	932	1,980	7,200	4,890		2,210	5,820	2,760	2,060	2,020	2,140	794
30	1,010	2,400	7,000	4,890		3,560	5,250	2,760	2,030	2,080	2,140	756
31	1,220		7,000	4,890		5,630		2,690		2,140	2,080	

Month	Observed				Gain or loss in storage in Lakes Keechelus, Kachess, & Cle Elum (acre-feet)	Diverted by Kittitas Canal (acre-feet)	Corrected for storage and diversions			
	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	2,130	432	1,280	78,900	+99,540	10,310	188,800	3,071	6.14	7.08
November	2,730	568	1,340	79,400	+100,500		179,900	3,023	6.05	6.75
December	12,300	2,130	5,930	365,000	+83,410		448,400	7,293	14.6	16.83
January	7,410	2,620	4,800	295,000	-61,920		233,100	3,791	7.58	8.74
February	4,890	644	3,130	174,000	-35,990		138,000	2,485	4.97	5.18
March	5,630	735	1,620	99,500	+182,500		282,000	4,586	9.17	10.57
April	6,200	858	4,910	292,000	+33,930	6,390	332,300	5,584	11.2	12.50
May	4,530	858	3,110	191,000	-19,260	28,100	199,800	3,249	6.50	7.49
June	2,210	1,300	1,790	107,000	-62,500	48,070	92,570	1,556	3.11	3.47
July	2,210	2,020	2,100	129,000	-141,000	50,790	38,790	631	1.26	1.45
August	2,210	2,060	2,130	131,000	-146,600	38,050	22,450	365	.730	.84
September	2,210	756	1,420	84,500	-91,410	30,290	23,380	393	.786	.88
The year	12,300	432	2,800	2,026,000	-58,800	212,000	2,179,000	3,010	6.02	81.78

Yakima River near Parker, Wash.

Location.- Water-stage recorder in sec. 28, T. 12 N., R. 19 E., below Sunnyside diversion dam 1½ miles east of Parker.

Drainage area.- 3,560 square miles.

Records available.- April 1908 to September 1921, October 1931 to September 1934.

Extremes.- Maximum discharge during year, 54,300 second-feet Dec. 23 (gage height, 15.0 feet, from high-water marks); minimum, 8 second-feet Aug. 8 (gage height, 0.70 foot).

1908-21, 1931-34: Maximum discharge, that of Dec. 23, 1933; practically no flow on several days during latter part of irrigation seasons as result of diversion.

Remarks.- Records good. Water diverted above gage for irrigation of a large area. Flow partly regulated by diversions and by several reservoirs upstream. Gage-height record and most of discharge measurements furnished by U. S. Bureau of Reclamation. Records of monthly discharge of canals furnished by U. S. Office of Indian Affairs and by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,570	3,190	4,490	14,700	12,300	3,570	10,700	6,520	1,790	127	142	62
2	2,430	2,950	4,120	14,300	12,300	4,740	10,400	5,520	1,000	183	167	111
3	2,430	5,720	3,860	14,700	12,700	7,490	9,010	4,840	294	64	347	159
4	2,360	7,710	3,770	16,900	12,300	6,930	8,080	4,330	166	96	331	209
5	2,220	5,500	3,770	17,400	11,500	6,000	7,780	4,840	312	127	308	221
6	2,220	4,490	4,300	16,500	11,100	6,930	7,490	5,520	422	90	245	154
7	2,020	3,860	5,290	15,600	10,700	6,930	8,690	5,280	371	41	111	41
8	1,830	3,430	4,980	14,700	10,400	6,260	9,680	5,060	312	113	13	55
9	1,780	2,870	5,610	13,500	10,400	5,640	8,690	4,530	343	212	64	92
10	1,610	2,500	13,700	10,000	9,680	5,170	5,520	4,040	236	111	67	183
11	1,280	2,290	19,200	9,340	9,340	5,060	4,740	3,660	218	53	144	215
12	770	2,430	18,300	8,690	9,010	5,170	4,230	3,480	183	146	146	186
13	791	2,640	15,800	8,690	8,690	5,640	4,330	3,390	86	162	198	189
14	1,100	2,790	14,000	8,380	7,490	6,000	6,390	3,390	48	245	215	215
15	978	2,870	12,400	7,780	8,380	6,660	8,690	3,220	94	142	105	365
16	962	2,870	12,100	7,490	8,380	6,930	9,340	3,300	164	149	206	200
17	1,280	2,870	11,100	7,780	8,080	6,800	9,680	3,220	156	192	335	28
18	1,410	2,790	13,700	7,210	8,080	6,130	9,010	2,890	156	38	308	17
19	1,410	2,500	15,000	7,210	6,660	5,640	7,780	2,500	239	162	105	12
20	1,320	3,030	14,000	7,210	6,000	5,400	8,080	2,220	167	181	53	107
21	1,120	3,270	17,000	7,490	5,280	5,520	8,380	1,970	21	103	53	252
22	1,050	3,520	31,800	9,680	4,950	5,400	9,680	1,790	32	94	62	242
23	1,610	4,120	46,800	18,800	4,640	5,170	10,700	1,500	215	86	67	315
24	4,210	4,490	35,000	19,800	4,430	4,950	11,100	1,290	239	46	132	276
25	3,600	3,860	25,600	15,600	4,330	4,230	10,700	1,290	276	107	186	122
26	3,030	3,110	20,600	14,300	4,230	3,480	9,680	1,100	206	118	159	55
27	2,570	3,110	17,800	14,300	4,130	3,390	9,010	737	215	118	156	48
28	2,430	3,030	16,500	13,500	3,840	3,940	8,690	840	167	33	152	154
29	2,790	2,950	16,000	13,100		5,860	8,080	1,600	57	98	103	41
30	3,270	4,120	15,600	12,700		7,780	7,490	2,580	92	139	67	46
31	3,270		15,200	12,700		9,680		2,430		170	50	

Month	Mean discharge in second-feet						Gain or loss by upstream storage (second-feet)	Combined flow of Yakima River and canals corrected for upstream storage	
	Yakima River near Parker	Union Gap Canal (estimated)	New Reservation Canal	Old Reservation Canal	Sunnyside Canal	Combined flow, Yakima River and canals		*Second-feet	*Run-off in acre-feet
October.....	1,990	20	405	3.0	449	2,867	+1,900	4,767	293,100
November....	3,500			1.5		3,502	+2,015	5,517	328,300
December....	14,800					14,800	+2,022	16,820	1,034,200
January.....	12,300					12,300	-1,421	10,880	669,000
February....	8,190			1.3		8,191	-1,207	6,984	387,900
March.....	5,760	15	278	24.2	374	6,451	+4,035	10,490	645,000
April.....	8,390	35	1,420	178	1,200	11,220	+872	12,090	719,400
May.....	3,190	40	1,570	194	1,300	6,294	-292	6,002	369,000
June.....	276	40	1,630	78.4	1,270	3,294	-1,398	1,896	112,800
July.....	121	40	1,650	70.3	1,280	3,161	-3,124	37	2,280
August.....	155	35	1,510	53.8	1,230	2,984	-3,313	-329	-20,230
September...	146	25	1,070	25.2	1,080	2,346	-2,124	222	13,210
The year..	4,890					6,451	-161	6,290	4,554,000

*Totals are comparable with monthly results previously determined for Yakima River at Union Gap, near Yakima, Wash.

Yakima River at Kiona, Wash.

Location.- Water-stage recorder in sec. 19, T. 9 N., R. 27 E., at highway bridge at Kiona, 3¼ miles below intake of Kiona Canal and 25 miles above mouth. Prior to July 27, 1934, chain gage at same location was used.

Drainage area.- 5,520 square miles.

Records available.- August 1896 to March 1915, February 1933 to September 1934.

Average discharge.- 19 years (1896-1914, 1933-34), 4,663 second-feet.

Extremes.- Maximum discharge during year, 71,100 second-feet Dec. 23 (gage height, 21.57 feet); minimum, 696 second-feet June 24 (gage height, 2.94 feet).
1896-1915, 1933-34: Maximum discharge, that of Dec. 23, 1933; minimum, 105 second-feet Sept. 11, 1906 (gage height, 2.35 feet).

Remarks.- Records good. Water diverted above gage for irrigation of large acreage. Flow partly regulated by diversions and by storage and release of water in several reservoirs upstream. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,850	4,000	4,610	18,200	14,200	4,850	9,640	8,470	3,570	813	1,000	1,240
2	3,850	3,850	4,930	17,300	13,900	4,520	10,900	7,520	3,120	858	1,040	1,340
3	3,700	4,000	4,610	17,100	13,700	5,880	10,400	6,780	2,700	930	1,100	1,360
4	3,700	6,110	4,450	16,800	13,700	7,900	6,780	5,880	2,040	970	1,270	1,440
5	3,550	7,200	4,300	18,200	13,400	7,710	8,660	5,880	1,680	950	1,380	1,430
6	3,480	6,110	4,450	18,700	12,900	7,140	8,470	6,060	1,560	903	1,380	1,450
7	3,320	5,090	5,260	18,200	12,400	7,900	9,040	6,420	1,500	930	1,320	1,450
8	3,180	4,610	6,110	17,300	11,700	7,900	9,240	6,420	1,500	960	1,270	1,280
9	2,960	4,150	5,940	16,500	11,700	7,330	9,840	5,880	1,360	903	1,220	1,240
10	3,030	3,700	6,820	15,200	11,300	6,780	8,470	5,700	1,360	950	1,150	1,330
11	2,820	3,320	12,000	13,200	10,900	6,420	6,600	5,530	1,350	1,020	1,130	1,380
12	2,420	3,180	15,800	11,700	10,400	6,240	5,880	4,680	1,130	1,080	1,110	1,450
13	2,040	3,250	18,500	10,700	10,200	6,780	5,360	4,360	1,080	1,120	1,170	1,450
14	1,980	3,320	18,500	10,400	9,640	6,960	5,700	4,360	1,080	1,190	1,190	1,500
15	2,040	3,550	16,800	10,400	8,850	7,140	7,140	4,200	894	1,260	1,270	1,560
16	2,040	3,550	14,200	9,840	9,240	7,710	8,850	4,200	894	1,420	1,240	1,620
17	2,160	3,620	13,200	9,440	9,240	7,900	9,640	4,200	822	1,360	1,180	1,680
18	2,290	3,620	13,000	9,440	9,240	7,520	9,840	4,200	804	1,360	1,260	1,500
19	2,420	3,550	14,500	8,850	9,040	6,960	9,440	4,040	858	1,280	1,420	1,320
20	2,360	3,480	16,800	8,850	7,900	6,600	8,470	3,640	804	1,170	1,620	1,270
21	2,290	3,550	17,900	9,040	6,960	6,060	8,470	3,420	930	1,050	1,430	1,240
22	2,220	3,700	18,200	9,040	6,420	6,060	8,850	3,270	930	1,070	1,160	1,270
23	2,100	4,150	30,700	10,900	6,060	6,240	9,640	2,980	813	1,110	1,140	1,360
24	2,550	4,770	59,400	16,000	5,700	6,060	10,700	2,840	732	1,090	1,140	1,440
25	4,150	4,930	39,800	19,900	5,360	5,880	11,300	2,560	885	1,100	1,220	1,500
26	4,000	4,450	39,800	18,700	5,360	4,850	11,300	2,430	930	1,010	1,240	1,500
27	3,550	3,850	42,500	16,500	5,020	4,200	10,200	2,500	1,020	990	1,320	1,430
28	3,400	3,850	24,600	16,000	4,850	4,520	9,640	2,300	990	1,090	1,340	1,360
29	3,480	3,700	20,900	15,500		5,020	9,240	2,300	950	1,050	1,340	1,360
30	3,700	3,780	19,500	14,900		5,880	8,850	2,840	930	1,000	1,270	1,380
31	4,000		19,200	14,400		8,660		3,720		970	1,240	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	4,150	1,980	2,988	183,700
November	7,200	3,180	4,133	245,900
December	59,400	4,300	17,330	1,066,000
January	19,900	8,850	14,100	867,200
February	14,200	4,850	9,617	534,100
March	8,660	4,200	6,502	399,800
April	11,300	5,360	8,885	528,700
May	8,470	2,300	4,503	276,900
June	3,570	732	1,307	77,780
July	1,420	813	1,063	65,370
August	1,620	1,000	1,244	76,480
September	1,680	1,240	1,404	83,560
The year	59,400	732	6,085	4,405,000

Kachess River near Easton, Wash.

Location.- Water-stage recorder in sec. 3, T. 20 N., R. 13 E., three-quarters of a mile below Kachess Lake and 2 miles northwest of Easton.

Drainage area.- 64 square miles.

Records available.- November 1903 to September 1934.

Average discharge.- 31 years, 289 second-feet.

Extremes.- Maximum discharge during year, 1,590 second-feet Dec. 24, 25; maximum gage height, 5.90 feet Dec. 24; minimum discharge, 1 second-foot Oct. 21, Nov. 29 to Dec. 4; minimum gage height, 0.83 foot Oct. 21, Dec. 2-4.
1903-34: Maximum discharge, 2,240 second-feet Aug. 27, 1920 (computed from gate opening); practically no flow when gates in dam are closed.

Remarks.- Records excellent except those for extremely low flow. Leakage, when gates are closed, based on current-meter measurements. No diversions. Flow regulated by Kachess Lake Reservoir. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,190	2	1	1,430	265	4	1,470	955	155	500	540	1,200
2	1,190	5	1	1,430	265	12	1,470	636	155	500	540	1,200
3	1,170	15	1	1,430	265	11	1,470	480	155	500	540	1,200
4	1,190	7	1	1,430	265	8	1,470	211	155	500	540	1,200
5	1,190	5	2	1,430	265	7	1,470	19	148	468	540	1,140
6	1,190	4	3	1,430	265	12	1,470	19	124	460	540	1,120
7	1,170	3	4	1,430	265	8	1,470	19	114	444	540	1,220
8	1,170	3	4	1,380	265	6	908	19	114	444	540	1,420
9	1,140	2	11	959	265	5	540	19	114	468	758	1,370
10	1,120	2	34	636	265	4	540	19	114	500	580	1,320
11	1,120	2	17	636	265	4	540	19	114	500	468	1,240
12	1,060	2	12	636	265	4	540	19	124	895	246	1,220
13	985	2	9	636	265	4	540	19	192	436	246	1,170
14	955	2	7	636	265	3	540	19	316	404	246	1,020
15	959	2	5	636	265	3	540	19	351	404	246	895
16	934	2	4	433	265	4	540	19	334	428	246	870
17	832	2	4	265	265	4	600	19	334	560	246	848
18	428	2	12	265	265	3	622	19	368	622	246	848
19	2	2	10	265	223	3	622	86	444	622	246	848
20	2	2	12	265	186	3	622	134	480	622	246	848
21	1	2	31	267	71	3	780	134	480	622	246	848
22	2	2	36	267	2	272	895	134	480	600	246	848
23	2	2	25	265	2	480	995	140	480	580	246	848
24	2	2	754	265	2	412	1,040	150	480	580	246	848
25	2	2	1,590	265	2	368	1,040	152	480	540	246	602
26	2	2	1,540	265	2	368	1,040	155	480	540	246	590
27	2	2	1,540	265	2	368	1,040	152	460	500	246	476
28	2	2	1,480	265	2	368	1,040	155	464	500	246	468
29	2	1	1,480	265		587	1,040	155	500	540	542	468
30	2	1	1,480	265		1,020	1,040	152	500	540	1,200	452
31	2		1,430	265		1,320		152		540	1,200	

Month	Observed				Gain or loss in storage in Lake Kachess (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.....	1,190	1	614	37,800	-10,060	27,740	451	7.05	8.13
November....	15	1	2.87	171	+27,450	27,620	464	7.25	8.09
December....	1,590	1	372	22,900	+52,990	75,890	1,234	19.3	22.25
January.....	1,430	265	664	40,800	-5,590	35,210	573	8.95	10.32
February....	265	2	188	10,400	+8,380	18,780	338	5.28	5.50
March.....	1,320	3	183	11,300	+35,600	46,900	763	11.9	13.72
April.....	1,470	540	931	55,400	-7,810	47,590	800	12.5	13.95
May.....	955	19	142	8,730	+15,740	24,470	398	6.22	7.17
June.....	500	114	307	18,300	-10,110	8,190	138	2.16	2.41
July.....	895	404	528	32,400	-30,320	2,080	33.8	.528	.61
August.....	1,200	246	427	26,300	-25,500	800	13.0	.203	.23
September...	1,420	452	962	57,200	-55,800	1,400	23.5	.367	.41
The year..	1,590	1	444	321,700	-5,030	316,700	437	6.83	92.79

Cle Elum River near Roslyn, Wash.

Location.- Water-stage recorder in SW¼ sec. 11, T. 20 N., R. 14 E., below Cle Elum Lake and 4 miles northwest of Roslyn.

Drainage area.- 202 square miles.

Records available.- October 1903 to September 1934.

Average discharge.- 31 years, 917 second-feet.

Extremes.- Maximum discharge during year, 3,610 second-feet Apr. 26 (gage height, 9.51 feet); no flow Oct. 10 to Nov. 16, Nov. 25-27.
1903-34: Maximum discharge, 18,700 second-feet Nov. 15, 1906 (gage height, 14.05 feet); no flow Sept. 28, 1914, Nov. 10 to Dec. 6, 1932, Feb. 26, 27, Aug. 10-19, Oct. 10 to Nov. 16, Nov. 25-27, 1933.

Remarks.- Records excellent. No diversions above station. Flow partly controlled at Cle Elum Lake Reservoir. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	550	0	1,240	2,860	2,000	18	2,970	2,570	1,950	2,030	1,760	1,120
2	570	0	1,200	2,860	1,960	18	2,970	2,570	1,200	2,030	1,760	1,120
3	570	0	1,200	2,750	1,960	18	2,970	2,570	1,120	2,030	1,760	1,120
4	550	0	1,200	2,750	1,960	18	2,970	2,870	1,230	2,030	1,760	1,120
5	550	0	1,160	2,750	1,920	18	2,970	3,070	1,300	2,030	1,760	1,120
6	550	0	1,160	2,700	1,920	19	2,870	3,070	1,300	2,030	1,600	1,120
7	550	0	1,160	2,640	1,920	19	2,870	3,070	1,300	2,030	1,020	1,120
8	550	0	1,160	2,580	1,880	19	1,160	3,070	1,340	2,080	1,020	1,120
9	195	0	1,200	1,810	1,840	19	34	3,070	1,370	2,030	1,020	1,120
10	0	0	1,690	1,340	1,800	19	34	3,070	1,400	2,030	1,020	1,120
11	0	0	2,580	1,340	1,760	19	34	2,970	1,440	2,080	1,020	1,120
12	0	0	2,640	1,340	1,720	19	35	2,970	1,480	1,940	911	1,090
13	0	0	2,700	1,340	1,680	19	35	2,970	1,520	2,030	840	1,060
14	0	0	2,700	1,340	1,600	19	1,560	2,970	1,440	2,030	840	621
15	0	0	2,700	1,380	1,480	19	3,170	2,970	1,520	2,030	840	281
16	0	0	2,640	1,340	1,410	19	3,170	2,970	1,600	2,030	840	281
17	0	101	2,580	1,240	1,380	19	3,170	2,970	1,640	1,980	840	281
18	0	54	2,580	1,270	1,020	19	3,170	2,870	1,760	1,850	870	303
19	0	335	2,580	1,240	695	20	3,170	2,870	1,850	1,800	900	321
20	0	360	2,580	1,200	672	20	3,170	2,870	1,850	1,680	900	325
21	0	778	2,700	1,200	650	20	3,380	2,770	1,900	1,640	930	325
22	0	1,500	2,970	1,240	650	20	3,600	2,070	1,900	1,600	1,020	325
23	0	1,680	3,190	1,270	650	20	3,600	1,760	1,940	1,600	1,090	281
24	0	762	3,190	1,270	650	20	3,600	1,600	1,980	1,640	1,120	253
25	0	0	3,190	1,800	650	21	3,380	1,010	1,980	1,680	1,120	253
26	0	0	3,190	2,140	650	21	3,600	592	1,980	1,680	1,090	390
27	0	0	3,080	2,100	261	21	3,600	693	1,980	1,680	1,120	592
28	0	102	3,080	2,100	18	21	3,600	1,780	1,980	1,680	1,120	592
29	0	1,430	2,970	2,100		21	3,600	2,570	1,980	1,720	1,120	531
30	0	1,790	2,970	2,050		1,400	2,970	2,570	1,980	1,760	1,120	491
31	0		2,970	2,000		2,770		2,480		1,760	1,120	

Month	Observed				Gain or loss in storage in Lake Cle Elum (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.....	570	0	150	9,190	+78,890	88,080	1,432	7.09	8.17
November....	1,790	0	296	17,600	+65,560	83,160	1,398	6.92	7.72
December....	3,190	1,160	2,330	143,000	+18,560	161,600	2,628	13.0	14.99
January.....	2,860	1,200	1,850	114,000	-42,710	71,290	1,159	5.74	6.62
February....	2,000	18	1,310	72,900	-29,880	43,020	775	3.84	4.00
March.....	2,770	18	153	9,390	+99,450	108,800	1,769	8.76	10.10
April.....	3,600	34	2,580	154,000	+25,300	179,300	3,013	14.9	16.62
May.....	3,070	592	2,530	155,000	-28,660	126,300	2,054	10.2	11.76
June.....	1,980	1,120	1,640	97,600	-32,550	65,050	1,093	5.41	6.04
July.....	2,080	1,600	1,880	116,000	-85,770	30,230	492	2.44	2.81
August.....	1,760	840	1,140	69,900	-55,280	14,620	238	1.18	1.36
September...	1,120	253	697	41,500	-30,890	10,610	178	.881	.98
The year..	3,600	0	1,380	1,000,000	-17,980	982,100	1,356	6.71	91.17

Bumping River near Nile, Wash.

Location.- Water-stage recorder a quarter of a mile below spillway of Bumping Lake Dam and 19 miles west of Nile.

Drainage area.- 68 square miles.

Records available.- June to July 1906, April 1909 to September 1934.

Average discharge.- 25 years (1909-34), 295 second-feet.

Extremes.- Maximum discharge during year, 3,710 second-feet Dec. 22 (gage height, 7.70 feet); minimum, 2.0 second-feet Sept. 26-30 (gage height, 0.80 foot).
1906, 1909-34: Maximum discharge, 5,180 second-feet Dec. 29, 1917 (gage height, 9.33 feet); practically no flow when gates in outlet conduit are closed.

Remarks.- Records excellent. No diversions above station. Flow partly regulated by Bumping Lake Reservoir. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	10	468	670	549	466	639	639	494	442	272	57
2	114	16	468	670	522	468	735	608	442	442	272	55
3	114	21	468	803	522	468	670	578	418	442	272	52
4	114	18	468	839	522	468	578	670	468	442	272	49
5	114	18	468	803	522	468	522	1,090	466	442	272	48
6	114	18	468	670	522	468	522	1,020	468	442	272	46
7	114	17	468	578	522	468	549	875	468	442	272	44
8	114	16	468	549	522	468	670	735	442	442	272	43
9	114	15	494	494	522	466	702	608	442	442	272	42
10	306	14	521	549	522	468	670	578	468	442	272	42
11	549	153	549	522	522	468	670	578	468	442	272	41
12	577	327	577	522	522	468	735	549	468	442	272	48
13	549	327	636	522	522	468	839	578	468	442	272	59
14	549	327	830	522	522	468	947	608	468	442	272	63
15	521	327	830	522	494	466	1,020	670	468	442	272	41
16	494	327	730	522	494	468	947	769	468	442	272	4
17	468	327	698	522	494	468	875	702	468	290	272	3
18	443	327	796	522	494	468	839	608	468	207	272	3
19	394	327	763	522	494	468	875	549	442	207	272	3
20	290	327	830	522	494	468	947	494	442	207	272	3
21	7	327	1,740	522	494	468	1,090	442	442	207	272	3
22	6	327	3,500	522	468	468	1,240	442	468	207	272	3
23	6	327	3,040	578	468	468	1,380	494	442	207	272	3
24	6	371	2,020	639	468	468	1,240	549	442	207	238	3
25	6	494	1,520	947	468	22	1,160	639	442	222	207	3
26	6	494	1,160	803	468	22	1,090	670	442	238	163	2
27	7	494	947	670	468	24	1,020	735	442	238	131	2
28	10	494	769	578	468	30	911	735	442	272	103	2
29	13	494	769	549		35	839	769	442	272	85	2
30	12	468	803	549		39	735	735	442	272	73	2
31	11		735	549		107		608		272	64	

Month	Observed				Gain or loss in storage in Bumping Lake (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.....	577	6	202	12,400	+7,020	19,420	316	4.65	5.36
November....	494	10	252	15,000	+5,650	20,650	347	5.10	5.69
December....	3,500	468	936	57,500	+8,510	66,010	1,074	15.8	18.22
January.....	947	494	611	37,600	-1,160	36,440	593	8.72	10.05
February....	549	468	502	27,900	-11,790	16,110	290	4.26	4.44
March.....	468	22	371	22,800	+12,300	35,100	571	8.40	9.68
April.....	1,380	522	855	50,900	+1,540	52,440	881	13.0	14.50
May.....	1,090	442	656	40,300	-159	40,140	653	9.60	11.07
June.....	494	418	455	27,100	-8,420	18,680	314	4.62	5.16
July.....	442	207	342	21,000	-13,370	7,630	124	1.82	2.10
August.....	272	64	236	14,500	-10,710	3,790	61.6	.906	1.04
September...	57	2	25.7	1,530	+1,720	3,250	54.6	.803	.90
The year..	3,500	2	454	328,500	-8,870	319,700	442	6.50	88.21

Tieton River at Tieton Dam, near Naches, Wash.

Location.- Water-stage recorder 800 feet above Wild Cat Creek, 1,900 feet below Tieton Dam, and 22 miles southwest of Naches.

Drainage area.- 187 square miles.

Records available.- August 1908 to September 1914 (fragmentary), October 1918 to March 1919, April 1925 to September 1934.

Extremes.- Maximum discharge during year, 8,450 second-feet Dec. 22 (gage height, 9.24 feet); minimum, 4 second-feet Oct. 12-17; minimum gage height, 0.13 foot Oct. 13, 14. 1908-14, 1918-19, 1925-34: Maximum discharge, that of Dec. 22, 1933; no flow Apr. 4-6, 10, 1930.

Remarks.- Records good. Discharge estimated Oct. 12, Feb. 21 to Mar. 16. No diversions. Flow regulated at Tieton Reservoir. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,070	5	522	2,690	1,110	7	15	978	740	985	1,190	1,140
2	1,070	5	403	2,790	1,570	7	15	785	644	896	1,140	1,140
3	1,070	5	318	2,790	1,570	7	15	639	759	910	1,140	1,140
4	1,070	5	318	2,790	1,570	7	15	662	874	955	1,060	1,060
5	1,080	5	318	2,790	1,570	7	42	874	910	970	925	948
6	1,050	5	322	2,690	1,570	7	246	1,100	853	970	832	839
7	924	5	322	2,790	1,570	7	518	1,060	685	1,020	832	839
8	948	5	322	2,790	1,570	7	740	970	668	1,060	962	839
9	964	5	429	1,110	1,570	7	439	853	680	985	1,020	853
10	964	5	533	626	1,530	7	80	772	697	955	1,060	832
11	200	5	533	1,190	1,530	7	87	759	734	1,020	1,100	759
12	4	5	533	1,190	1,530	7	153	740	722	1,020	1,060	674
13	4	220	533	1,190	832	7	595	722	728	1,050	1,060	606
14	4	379	533	1,190	706	7	1,530	759	759	925	1,020	595
15	4	383	913	1,190	1,530	7	1,400	846	826	910	978	595
16	4	387	1,190	1,190	1,530	7	1,530	918	792	910	1,020	600
17	4	395	1,180	1,190	1,530	8	1,480	896	819	910	1,020	662
18	5	395	1,180	1,190	1,080	8	1,190	819	896	1,100	1,020	772
19	5	395	1,180	822	389	8	910	753	882	1,140	1,020	932
20	27	494	1,180	606	167	8	910	703	799	1,140	1,060	970
21	43	678	1,200	612	7	8	925	662	799	1,140	1,060	882
22	182	387	5,900	880	7	10	1,060	662	903	1,140	1,060	860
23	231	467	6,650	1,230	7	10	1,360	680	860	1,140	1,100	772
24	119	522	4,580	1,190	7	11	1,440	662	839	1,230	1,100	662
25	5	522	3,340	1,190	7	11	1,400	680	799	1,270	1,100	595
26	5	522	2,690	1,400	7	11	1,320	703	772	1,230	1,100	590
27	5	522	2,350	1,620	7	11	1,230	839	766	1,190	1,100	590
28	5	517	2,300	1,620	7	11	1,140	985	715	1,230	1,060	528
29	5	517	2,590	1,620		13	1,100	1,140	812	1,320	1,100	494
30	5	522	2,690	1,620		14	1,020	1,140	910	1,320	1,100	494
31	5		2,790	1,620		15		918		1,230	1,140	

Month	Observed				Gain or loss in storage in Tieton Reservoir (acre-feet)	Corrected for storage			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October.....	1,080	4	357	22,000	+10,200	32,200	524	2.80	3.23
November....	678	5	276	16,400	+13,710	30,110	506	2.71	3.02
December....	6,650	318	1,610	98,900	+32,400	131,300	2,135	11.4	13.14
January.....	2,790	606	1,590	98,000	-24,320	73,680	1,198	6.41	7.39
February....	1,570	7	931	51,700	-19,260	32,440	584	3.12	3.25
March.....	15	7	8.68	534	+53,310	53,840	876	4.68	5.40
April.....	1,530	15	797	47,400	+16,390	63,790	1,072	5.73	6.39
May.....	1,140	639	828	50,900	+1,440	52,340	851	4.55	5.25
June.....	910	644	788	46,900	-12,290	34,610	582	3.11	3.47
July.....	1,320	896	1,070	66,100	-37,710	28,390	462	2.47	2.85
August.....	1,190	832	1,050	64,500	-46,350	18,150	295	1.58	1.82
September...	1,140	494	775	46,100	-36,710	9,390	158	.845	.94
The year..	6,650	4	642	609,400	-49,190	560,200	774	4.14	56.15

Tieton River at headworks of Tieton Canal, near Naches, Wash.

Location.- Water-stage recorder in sec. 30, T. 14 N., R. 15 E. (unsurveyed), below intake of Tieton Canal and 16 miles southwest of Naches.

Drainage area.- 240 square miles.

Records available.- April to September 1906 (fragmentary gage-height records), July 1907 to September 1934.

Average discharge.- 25 years (1907-16, 1918-34), 558 second-feet.

Extremes.- Maximum discharge during year, 8,910 second-feet Dec. 22 (gage height, 9.70 feet); minimum, 1 second-foot Apr. 4 (gage height, 0.98 foot).
1907-34: Maximum discharge, that of Dec. 22, 1933; no flow Mar. 27, 28, Nov. 25-28, 1926, Apr. 9, 1929, Apr. 14-23, Nov. 20, 21, 1931, Apr. 23, 1932.

Remarks.- Records good. Diversions by Tieton Canal included in monthly-discharge table. Flow regulated by Tieton Reservoir, 7 miles above gage. Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,090	31	552	2,580	1,470	97	25	839	480	712	930	895
2	1,090	72	460	2,700	1,980	204	20	670	354	640	930	895
3	1,090	86	348	2,770	1,980	131	8	462	448	640	895	867
4	1,090	57	344	2,770	1,920	108	1	466	574	676	786	806
5	1,100	48	366	2,770	1,920	129	11	652	629	694	629	700
6	985	42	460	2,700	1,920	201	276	853	602	700	585	585
7	853	46	405	2,700	1,860	153	510	839	417	742	541	585
8	860	46	385	2,770	1,860	134	792	760	350	780	652	585
9	860	44	1,000	1,520	1,920	123	510	640	358	724	724	602
10	860	43	1,220	761	1,920	112	104	580	358	700	760	596
11	335	42	932	1,370	1,860	104	90	552	394	730	780	530
12	31	42	811	1,370	1,860	108	121	530	426	742	760	412
13	25	214	727	1,370	1,240	112	471	510	399	736	760	342
14	23	410	671	1,370	747	114	1,280	530	404	664	724	312
15	22	405	1,060	1,370	1,800	125	1,080	590	458	652	694	312
16	17	415	1,370	1,370	1,800	112	1,320	646	448	652	718	312
17	14	425	1,530	1,370	1,800	104	1,470	640	426	652	724	370
18	14	405	1,700	1,370	1,320	99	1,200	580	520	732	718	530
19	26	362	1,530	1,160	485	90	881	530	515	895	730	688
20	49	401	1,700	895	276	87	874	444	440	846	760	760
21	51	620	2,480	930	101	88	888	404	435	881	773	724
22	96	335	7,310	1,690	94	85	1,000	382	525	881	786	682
23	255	405	7,310	2,220	92	85	1,280	412	500	881	799	629
24	161	470	4,620	1,800	90	87	1,370	382	458	965	832	530
25	36	475	3,300	1,690	90	88	1,370	378	444	1,040	825	440
26	34	496	2,640	1,800	90	90	1,280	404	426	965	812	444
27	33	546	2,400	1,980	90	90	1,200	552	435	895	812	458
28	41	546	2,340	1,980	90	67	1,040	700	374	895	792	422
29	49	546	2,520	1,980		31	1,040	825	490	1,080	792	366
30	41	552	2,640	1,980		31	930	839	618	1,080	792	399
31	34		2,640	1,980		29		682		1,000	867	

Month	Observed				Gain or loss in storage in Tieton Reservoir (acre-feet)	Diverted by Tieton Canal (acre-feet)	Corrected for storage and diversions			
	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	1,100	14	363	22,300	+10,200		32,500	529	2.20	2.54
November	620	31	288	17,100	+13,710	1,090	31,900	536	2.23	2.49
December	7,310	344	1,860	115,000	+32,400		147,400	2,397	9.99	11.52
January	2,770	761	1,840	113,000	-24,320		88,680	1,442	6.01	6.93
February	1,980	90	1,170	64,800	-19,260		45,540	820	3.42	3.56
March	204	29	104	6,380	+53,310	3,020	62,710	1,020	4.25	4.90
April	1,470	1	751	44,700	+16,390	11,650	72,740	1,222	5.09	5.68
May	853	378	589	36,200	+1,440	17,970	55,610	904	3.77	4.35
June	629	350	457	27,200	-12,290	18,490	33,400	561	2.34	2.61
July	1,080	640	804	49,500	-37,710	19,070	30,860	502	2.09	2.41
August	930	541	764	47,000	-46,350	19,230	19,880	323	1.35	1.56
September	895	312	559	33,300	-36,710	14,960	11,550	194	.808	.90
The year	7,310	1	796	576,500	-49,190	105,500	632,800	874	3.64	49.45

North Fork of Ahtanum Creek near Tampico, Wash.

Location.- Water-stage recorder in NW¼ sec. 2, T. 12 N., R. 15 E., 100 feet below Nasty Creek and 3½ miles northwest of Tampico.

Drainage area.- 69 square miles.

Records available.- August 1907 to September 1924, March 1931 to September 1934.

Extremes.- Maximum discharge during year, 755 second-feet Dec. 22 (gage height, 4.45 feet); minimum, 10 second-feet Sept. 1; minimum gage height, 0.28 foot Sept. 21. 1907-24, 1931-34: Maximum discharge, that of Dec. 22, 1933; maximum gage height, 4.6 feet June 18, 1916; minimum discharge, 5.9 second-feet Nov. 22, 1931; minimum gage height, that of Sept. 21, 1934.

Remarks.- Records good except those for Oct. 21 to Nov. 1, Apr. 21-29, July 20-23, Sept. 23, which were estimated. No diversions of importance. No regulation. Gage-height record and most of discharge measurements furnished by U. S. Indian Service.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	40	19	152	158	70	148	162	107	38	23	12
2	21	49	19	146	154	100	135	154	100	38	25	12
3	20	52	17	168	150	86	127	146	96	36	27	12
4	20	39	18	162	142	83	125	152	93	35	25	12
5	20	34	26	158	137	94	125	168	96	35	23	12
6	20	33	86	148	131	114	135	158	96	34	22	12
7	19	31	58	139	131	107	148	150	98	34	22	13
8	18	30	44	127	127	103	162	141	98	35	22	14
9	18	29	140	120	118	100	156	135	94	34	20	16
10	18	28	230	116	110	96	156	135	90	33	20	18
11	17	26	169	107	107	96	160	142	85	32	19	16
12	17	25	186	103	103	103	166	142	80	32	19	22
13	17	24	153	100	100	110	187	144	77	32	19	22
14	17	24	123	90	96	116	195	148	80	31	17	20
15	17	24	103	82	93	125	191	154	74	31	17	18
16	19	23	84	91	91	124	195	156	70	31	16	16
17	19	22	111	86	88	120	198	144	65	29	16	15
18	18	22	174	80	86	118	198	135	62	29	16	14
19	33	22	157	131	85	122	200	129	59	29	16	15
20	37	21	200	156	85	129	204	122	56	27	16	17
21	}	21	403	156	82	133	240	116	54	32	15	16
22	}	21	665	260	77	131	240	118	51	28	14	17
23	}	21	490	420	74	125	240	124	51	26	14	20
24	}	21	340	328	73	120	250	135	50	26	15	18
25	}	21	278	272	70	116	250	141	47	25	15	18
26	} 30	20	235	238	69	112	230	146	46	25	15	19
27	}	20	202	211	69	118	220	148	46	23	16	19
28	}	18	180	195	67	154	190	148	44	23	16	19
29	}	17	180	182		172	180	146	42	22	15	18
30	}	20	168	168		170	172	137	41	22	14	17
31	}		158	160		160		116		23	11	

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	37	17	23.8	0.345	0.40	1,460
November	52	17	26.6	.386	.43	1,580
December	665	17	175	2.54	2.93	10,740
January	420	80	163	2.36	2.72	10,020
February	158	67	103	1.49	1.55	5,700
March	172	70	117	1.70	1.96	7,190
April	250	125	184	2.67	2.98	10,950
May	168	116	142	2.06	2.38	8,720
June	107	41	71.6	1.04	1.16	4,260
July	38	22	30.0	.435	.50	1,840
August	27	11	18.1	.262	.30	1,110
September	22	12	16.3	.236	.26	970
The year	665	11	89.2	1.29	17.57	64,540

South Fork of Ahtanum Creek at Conrad ranch, near Tampico, Wash.

Location.- Staff gage in W½ sec. 23, T. 12 N., R. 15 E., at Conrad ranch, 2½ miles above North Fork and 2⅝ miles southwest of Tampico.

Drainage area.- 26 square miles.

Records available.- March 1915 to September 1924, March 1931 to September 1934.

Extremes.- Maximum discharge recorded during year, 424 second-feet Dec. 23 (gage height, 3.10 feet); minimum, 4.2 second-feet Sept. 6-9; minimum gage height, 0.46 foot Oct. 16.
1915-24, 1931-34: Maximum discharge, that of Dec. 23, 1933; minimum, 2.6 second-feet Aug. 23, 25, 1931 (gage height, 0.35 foot).

Remarks.- Records good except those for Dec. 31 to Jan. 6, which were estimated. Small irrigation diversion above gage. Gage-height record and most of discharge measurements furnished by U. S. Indian Service.

Discharge, in second-feet, 1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	9.7	6.5	65	54	20	45	54	24	11	6.8	4.8
2	7.3	11	6.5	65	52	23	42	50	23	11	7.2	4.8
3	6.9	10	6.5	70	49	23	38	45	22	10	7.6	4.8
4	6.5	9.7	6.2	70	46	23	36	47	20	10	6.8	4.8
5	7.3	11	8.9	70	44	28	35	47	20	9.6	6.8	4.8
6	6.9	10	32	65	40	33	35	45	20	9.2	6.4	4.2
7	6.5	8.9	16	64	42	32	40	45	20	9.2	6.4	4.2
8	6.5	8.5	17	59	39	31	42	43	19	9.2	6.4	4.2
9	6.5	8.1	44	52	36	30	42	41	18	9.2	6.0	4.2
10	6.5	8.1	57	50	35	28	44	40	17	9.2	6.0	4.5
11	6.5	7.7	45	47	32	28	44	40	17	9.2	6.0	4.5
12	6.5	7.3	48	44	31	28	46	40	17	9.2	5.7	6.0
13	6.5	7.3	41	41	31	28	51	38	17	8.8	5.7	6.0
14	6.5	7.3	34	38	30	29	55	38	17	8.4	5.7	5.7
15	6.5	7.3	30	35	28	30	57	36	16	8.4	5.7	5.4
16	6.2	7.3	27	35	27	30	57	36	14	8.8	5.4	4.8
17	6.5	7.3	31	35	25	30	57	36	13	8.4	5.4	4.8
18	6.5	7.3	60	32	25	28	59	36	13	8.4	5.4	4.8
19	9.7	7.3	62	42	25	28	59	36	13	8.0	5.4	4.8
20	9.7	7.3	70	48	25	28	63	33	14	7.6	5.4	4.8
21	7.3	7.3	151	59	24	29	70	31	14	9.2	5.4	4.8
22	8.5	7.3	281	113	23	31	71	30	14	8.0	5.4	6.0
23	8.5	7.3	403	275	23	31	71	29	14	7.6	5.1	7.2
24	8.5	6.9	171	182	22	28	74	28	13	7.6	5.1	6.8
25	8.5	7.3	121	129	22	28	76	28	12	6.8	5.1	6.4
26	8.9	6.9	98	106	21	28	71	28	12	7.6	5.1	6.0
27	8.1	7.3	84	87	21	28	69	27	13	7.2	4.8	6.0
28	8.1	6.5	74	75	21	38	61	25	13	6.8	4.8	6.0
29	8.9	6.5	72	65		44	59	25	12	6.8	4.8	6.0
30	9.7	6.5	71	61		48	59	25	12	6.8	4.8	6.0
31	9.7		65	57		46		24		6.8	4.8	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	9.7	6.2	7.55	464
November	11	6.5	7.94	472
December	403	6.2	72.3	4,450
January	275	32	72.1	4,440
February	54	21	31.9	1,770
March	48	20	30.2	1,860
April	76	35	54.3	3,230
May	54	24	36.3	2,230
June	24	12	16.1	958
July	11	6.8	8.52	524
August	7.6	4.8	5.72	352
September	7.2	4.2	5.27	314
The year	403	4.2	29.1	21,060

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages; measurements of flow were made at other points as shown by the following table:

Miscellaneous discharge measurements in Cedar River Basin in Washington during 1932 and 1933

Date	Stream	Tributary to or diverting from-	Locality	Discharge
				Sec.-ft.
1932				
Apr. 21	Rock Creek.....	Cedar River....	Landsberg-Isaaquah road culvert near Landsberg, Wash.	†46.8
July 21	.....do.....	.....do.....	.....do.....	†7.2
Nov. 19	.....do.....	.....do.....	.....do.....	†78.9
1933				
Apr. 6	.....do.....	.....do.....	.....do.....	†27.5

Miscellaneous discharge measurements in Pacific Slope basins in Washington and upper Columbia River Basin during the year ending September 30, 1934.

Date	Stream	Tributary to or diverting from-	Locality	Discharge
				Sec.-ft.
		Snohomish River Basin		
Jan. 10	Wallace River...	Skykomish River	Former gaging station at Gold Bar, Wash.	198
		Skagit River Basin		
July 11	Big Beaver Creek	Skagit River...	500 feet above mouth, near Newhalem, Wash.	*512
Apr. 25	Pyramid Creek...	.....do.....	550 feet above mouth, near Newhalem, Wash.	*47.2
26	Ladder Creek....	.....do.....	Just above mouth, at Newhalem, Wash.	*97.1
		Nooksack River Basin		
Sept. 13	Nooksack River..	Bellingham Bay.	Puget Sound Power & Light Co.'s gaging station 1½ miles above Wells Creek near Excelsior, Wash.	612
July 4	Skookum Creek...	South Fork of Nooksack River	At mouth, near Saxon Bridge, Wash.....	42.2
		Kootenai River Basin		
Nov. 9	Kootenai River	Columbia River	Grohman Narrows, 2 miles below Nelson, British Columbia.	24,870
Jan. 25	.....do.....	.....do.....	.....do.....	18,990
Mar. 20	.....do.....	.....do.....	.....do.....	14,350
Apr. 20	.....do.....	.....do.....	.....do.....	43,510
26	.....do.....	.....do.....	.....do.....	65,670
28	.....do.....	.....do.....	.....do.....	76,670
May 1	.....do.....	.....do.....	.....do.....	89,460
3	.....do.....	.....do.....	.....do.....	92,450
15	.....do.....	.....do.....	.....do.....	86,120
17	.....do.....	.....do.....	.....do.....	90,390
21	.....do.....	.....do.....	.....do.....	93,920
24	.....do.....	.....do.....	.....do.....	92,270
28	.....do.....	.....do.....	.....do.....	97,090
31	.....do.....	.....do.....	.....do.....	104,200
June 2	.....do.....	.....do.....	.....do.....	108,800
6	.....do.....	.....do.....	.....do.....	100,500
9	.....do.....	.....do.....	.....do.....	96,950
11	.....do.....	.....do.....	.....do.....	91,410
20	.....do.....	.....do.....	.....do.....	83,110
Aug. 16	.....do.....	.....do.....	.....do.....	22,860
Sept. 30	.....do.....	.....do.....	.....do.....	11,470
Nov. 9	.....do.....	.....do.....	Glade, British Columbia (station of Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada).	28,540
Jan. 26	.....do.....	.....do.....	.....do.....	21,030
Mar. 20	.....do.....	.....do.....	.....do.....	16,170
Apr. 20	.....do.....	.....do.....	.....do.....	51,240
27	.....do.....	.....do.....	.....do.....	87,330
May 2	.....do.....	.....do.....	.....do.....	106,500
16	.....do.....	.....do.....	.....do.....	104,300
22	.....do.....	.....do.....	.....do.....	104,200
25	.....do.....	.....do.....	.....do.....	106,500
29	.....do.....	.....do.....	.....do.....	115,100
June 1	.....do.....	.....do.....	.....do.....	123,100
5	.....do.....	.....do.....	.....do.....	117,100
8	.....do.....	.....do.....	.....do.....	110,300
20	.....do.....	.....do.....	.....do.....	90,680
Aug. 16	.....do.....	.....do.....	.....do.....	25,580
Sept. 30	.....do.....	.....do.....	.....do.....	12,200

†Diverted from former mouth above gaging station on Cedar River near Landsberg, returned to river below gaging station.
*Results furnished by city of Seattle.

Miscellaneous discharge measurements in Pacific Slope basins in Washington and upper Columbia River Basin during the year ending September 30, 1934 - Continued.

Kootenai River Basin - Continued

Date	Stream	Tributary to or diverting from-	Locality	Discharge
				Sec.-ft.
Nov. 10	Slocan River....	Kootenai River..	Near Crescent Valley, British Columbia (station of Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada).	2,890
Jan. 26	.....do.....	.....do.....	.....do.....	1,270
Mar. 21	.....do.....	.....do.....	.....do.....	1,570
Apr. 21	.....do.....	.....do.....	.....do.....	6,860
27	.....do.....	.....do.....	.....do.....	12,390
May 4	.....do.....	.....do.....	.....do.....	9,050
16	.....do.....	.....do.....	.....do.....	11,860
23	.....do.....	.....do.....	.....do.....	9,180
June 5	.....do.....	.....do.....	.....do.....	10,650
19	.....do.....	.....do.....	.....do.....	8,390
Aug. 17	.....do.....	.....do.....	.....do.....	1,660

Kettle River Basin

Mar. 26	Christina Creek.	Kettle River....	Highway crossing near Cascade, British Columbia.	*231
May 8	.....do.....	.....do.....	.....do.....	*839
28	.....do.....	.....do.....	.....do.....	*449
Sept.21	.....do.....	.....do.....	.....do.....	0
27	Deep Creek.....	.....do.....	Road crossing near mouth, near Laurier, Wash.	17.4

Coeur d'Alene River Basin

Jan. 15	Coeur d'Alene River.	Coeur d'Alene Lake.	Sec. 20, T. 50 N., R. 4 E., opposite ranger station at Prichard, Idaho.	1,290
16	.....do.....	.....do.....	Sec. 30, T. 49 N., R. 2 E., at railroad bridge 1/2 mile below abandoned U. S. Geological Survey gage at Enaville, Idaho.	2,810
24	.....do.....	.....do.....	.....do.....	14,200
Feb. 6	.....do.....	.....do.....	.....do.....	3,970
Jan. 24	South Fork of Coeur d'Alene River.	Coeur d'Alene River.	Sec. 27, T. 48 N., R. 4 E., at bridge 1 mile northwest of Wallace, Idaho.	1,070
27	.....do.....	.....do.....	.....do.....	557
Feb. 1	.....do.....	.....do.....	.....do.....	365
Jan. 13	.....do.....	.....do.....	Sec. 6, T. 48 N., R. 3 E., at wooden highway bridge at airport, Kellogg, Idaho.	627
23	.....do.....	.....do.....	Sec. 32, T. 49 N., R. 2 E., at railroad bridge, 1½ miles above mouth and 1½ miles southeast of Enaville, Idaho.	5,760
26	.....do.....	.....do.....	.....do.....	1,640
Feb. 6	.....do.....	.....do.....	.....do.....	1,090
Jan. 23	Pine Creek.....	South Fork of Coeur d'Alena River.	Sec. 32, T. 49 N., R. 2 E., at highway bridge 1/2 mile above mouth at Pine Creek, Idaho, 2 miles southeast of Enaville, Idaho.	2,990
26	.....do.....	.....do.....	.....do.....	659
Feb. 1	.....do.....	.....do.....	.....do.....	258
6	Bear Creek.....	.....do.....	Sec. 29, T. 49 N., R. 2 E., 1/2 mile above mouth, 3/4 mile east of Enaville, Idaho.	31.8

Spokane River Basin

Dec. 28	Spokane River...	Columbia River..	Liberty Bridge, near Spokane, Wash.....	42,200
30	.....do.....	.....do.....	.....do.....	36,600

Okanogan River Basin

Mar. 22	Palmer Creek....	Similkameen River.	Highway crossing near Nighthark, Wash..	‡176
May 11	.....do.....	.....do.....	.....do.....	††242
24	.....do.....	.....do.....	.....do.....	0

Yakima River Basin

Mar. 17	Union Gap Canal.	Left side of Yakima River.	1 mile above Inland Empire Highway crossing of Yakima River near Union Gap, Wash.	16.2
May 3	.....do.....	.....do.....	.....do.....	41.0
June 25	.....do.....	.....do.....	.....do.....	40.3
Sept.17	.....do.....	.....do.....	.....do.....	10.3
Mar. 16	New Reservation Canal.	Right side of Yakima River.	Former gaging station at Parker, Wash.	159
May 2	.....do.....	.....do.....	.....do.....	1,530
June 29	.....do.....	.....do.....	.....do.....	1,740
Sept.19	.....do.....	.....do.....	.....do.....	798
Mar. 17	Old Reservation Canal.	.....do.....	.....do.....	17.2

*Flow from Lake into Kettle River.
‡Flow into Palmer Lake from Similkameen River.
††Flow from Palmer Lake to Similkameen River.

Miscellaneous discharge measurements in Pacific Slope basins in Washington and upper Columbia River Basin during the year ending September 30, 1934 - Continued.

Yakima River Basin - continued

Date	Stream	Tributary to or diverting from-	Locality	Discharge
				Sec.-ft.
May 3	Old Reservation Canal	Right side of Yakima River	Former gaging station at Parker, Wash.	218
June 26	.....do.....	.....do.....	.....do.....	75.2
Oct. 3	Sunnyside Canal	Left side of Yakima River	Former gaging station near Parker, Wash.	674
Mar. 17	.....do.....	.....do.....	.....do.....	522
May 6	.....do.....	.....do.....	.....do.....	1,320
June 25	.....do.....	.....do.....	.....do.....	1,290
Aug. 30	.....do.....	.....do.....	.....do.....	1,240
Sept.17	.....do.....	.....do.....	.....do.....	1,040
Mar. 15	Reservation Drain	Yakima River..	At crossing of main line of Northern Pacific Railway at Alfalfa, Wash.	294
May 2	.....do.....	.....do.....	.....do.....	451
June 28	.....do.....	.....do.....	.....do.....	324
Sept.20	.....do.....	.....do.....	.....do.....	548
Oct. 9	Toppenish Creek	.....do.....	Below feeder canal diversion dam near Fort Simcoe, Wash.	2.8
Mar. 15	.....do.....	.....do.....	.....do.....	155
May 3	.....do.....	.....do.....	.....do.....	19.8
June 28	.....do.....	.....do.....	.....do.....	3.2
Sept.20	.....do.....	.....do.....	.....do.....	2.0
Mar. 14	.....do.....	.....do.....	Just above crossing of main line of Northern Pacific Railway near Satus, Wash.	158
May 2	.....do.....	.....do.....	.....do.....	59.3
June 27	.....do.....	.....do.....	.....do.....	37.0
Sept.20	.....do.....	.....do.....	.....do.....	9.5
Oct. 2	Toppenish feeder canal	Left side of Toppenish Creek	Former gaging station at intake near Fort Simcoe, Wash.	15.5
May 3	.....do.....	.....do.....	.....do.....	37.0
June 28	.....do.....	.....do.....	.....do.....	17.3
Sept.20	.....do.....	.....do.....	.....do.....	14.8
Oct. 2	Satus Creek....	Yakima River..	Former gaging station below Dry Creek near Toppenish, Wash.	16.5
Mar. 14	.....do.....	.....do.....	.....do.....	180
May 1	.....do.....	.....do.....	.....do.....	100
June 27	.....do.....	.....do.....	.....do.....	18.3
Sept.18	.....do.....	.....do.....	.....do.....	11.4
Mar. 14	.. .do.....	.....do.....	3/4 mile below crossing of main line of Northern Pacific Railway at Satus, Wash.	164
June 27	.....do.....	.....do.....	.....do.....	56.9
May 1	.....do.....	.....do.....	.....do.....	61.3
Sept.18	.....do.....	.....do.....	.....do.....	40.6

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