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W. C. MENDENHALL, Director

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Water-Supply Paper 792

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# SURFACE WATER SUPPLY *of the* UNITED STATES 1935

PART 12

PACIFIC SLOPE BASINS IN WASHINGTON AND  
UPPER COLUMBIA RIVER BASINS

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SURFACE WATER SUPPLY OF PACIFIC SLOPE BASINS IN WASHINGTON  
AND UPPER COLUMBIA RIVER BASIN, 1935

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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, 1935. The work was begun in 1888 inconnection with special studies relating to irrigation. In the execution of the work, measurements of stream flow have been made at about 7,020 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July 1935, 3,020 gaging stations were being maintained by the Geological Survey and the cooperating organizations. Many miscellaneous discharge measurements were made at other points.

DEFINITION OF TERMS

The units in which stream-flow data are presented in this report and other terms used herein are defined as follows:

"Second-foot" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel when the cross-sectional area is 1 square foot and the average velocity is 1 foot per second.

"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.

"Second-foot-day" is the volume of water represented by a flow of 1 second-foot for 24 hours.

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

"Control" is a term used to designate the natural section or reach of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

EXPLANATION OF DATA

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. Typical gaging stations, equipped with water-stage recorder and measuring cable and car, are shown on plate 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. Skeleton rating tables are published except for those stations whose daily discharge for the greater part of the year was determined by shifting-control method or by use of slope or other special methods.

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 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.

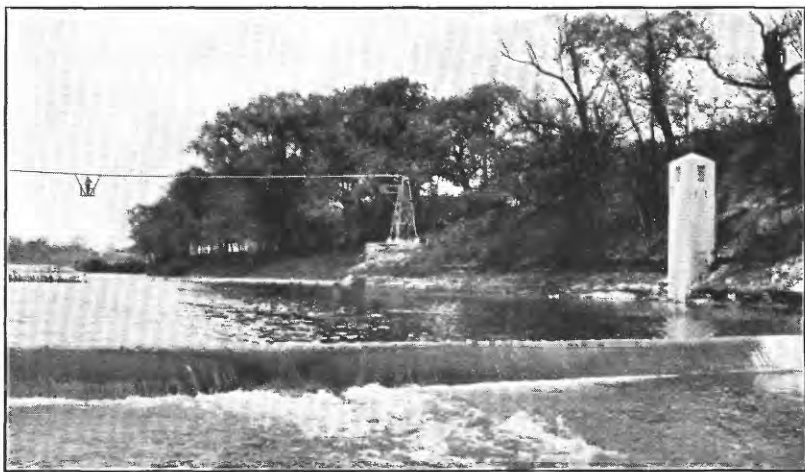
The table of daily discharge gives, for stations equipped with nonrecording gages, the discharge in second-feet corresponding to once-daily or the mean of twice-daily readings of the gage. For stations equipped with water-stage recorders the table gives the discharge corresponding to the mean daily gage 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 "Second-foot-days" gives the sum for each month of the discharge given in the table of daily 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 permanency of the stage-discharge relation and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that, 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.



A. ARTIFICIAL CONTROL, RECORDER HOUSE, AND MEASURING CABLE ON OLENTANGY RIVER, DELAWARE, OHIO.



B. RECORDER HOUSE AND MEASURING CABLE ON KAWEAH RIVER, THREE RIVERS, CALIF.

TYPICAL RIVER-MEASUREMENT STATIONS.

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

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 station 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 in computation procedure were followed in preparing some of the records published in the series of reports for 1934 and all the records for 1935: (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.

#### PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts (parts 12, 13, and 14 were formerly 12-A, 12-B, and 12-C), 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. Pacific slope basins in Washington and upper Columbia River Basin.  
 13. Snake River Basin.  
 14. Pacific slope basins in Oregon and lower Columbia River Basin.

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

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



giving prices.

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

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

Augusta, Maine, Statehouse.  
 Boston, Mass., 945 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., 119 United States Courthouse.  
 Ocala, Fla., Post Office Building.  
 Chattanooga, Tenn., 442 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.

Records of flow of streams in the United States 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.....	1884 to Sept. 1890.
11th A, pt. 2	Monthly discharge and descriptive information.....	1884 to June 30, 1891.
12th A, pt. 2	....do.....	1884 to Dec. 31, 1892.
13th A, pt. 3	....do.....	1888 to Dec. 31, 1893.
14th A, pt. 2	Monthly discharge (long-time records, 1871-93).....	1893-94
B 131.....	Descriptions, measurements, gage heights, and ratings.	
16th A, pt. 2	Descriptive information only.....	1895.
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	
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).	1896-96.
W 15.....	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte Rivers, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.

Stream-flow data in reports of the United States Geological Survey - Continued  
(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
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.

Note.- The reports which contain records after 1901 are given in the table on page 12.

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 1935. The data for any particular station will, in general, 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. Special papers containing compilation of records previously published and also records not contained in the annual series of water-supply papers have been published for some States and drainage basins. For example, stream-flow records for the New-Kanawha River Basin in part 3 from 1895 to 1920 are contained in Water-Supply Paper 536.

Numbers of water-supply papers containing results of stream measurements, 1899-1935  
(For basins included see p. 9)

Year	1	2	3	4	5	6	7	8	9	10	11	12 (12-A)	13 (12-B)	14 (12-C)
1899 8....	35	b 35, 36	36	36	c 35, 37	c 35, 37	37	37	d 37, 38	38, e 39	38, f 39	38	38	38
1900 8....	47, h 48	48	48	49	49	49	50	50	50	51	51	51	51	51
1901.....	66, 75	65, 75	66, 75	65, 75	k 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	82	b 82, 83	83	m 82, 83	k 83, 85	k 83, 85	k 83, 84	84	85	85	85	85	85	85
1903.....	97	b 97, 98	98	97	k 98, 99, n 100	99	k 98, 99	99	100	100	100	100	100	100
1904.....	o 124, p 125, q 126	q 125, 127	128	129	k 128, 130	130, r 131	k 128, 131	132	133	133, s 134	133	135	135	135
1905.....	o 165, p 166, q 167	q 167, 168	169	170	171	172	k 169, 173	174	175, t 176	175, s 177	177	178	178	178
1906.....	o 201, p 202, q 203	q 203, 204	205	206	207	208	k 205, 209	210	211, t 212	212, s 213	213	214	214	214
1907.....	215	216	217	218	219	220	k 215, 216	217	218	219, s 220	220	221	221	221
1908.....	222	223	224	225	226	227	k 222, 223	224	225	226, s 227	227	228	228	228
1909.....	229	230	231	232	233	234	235	236	237	238	239	240	240	240
1910.....	241	242	243	244	245	246	247	248	249	250	251	252	252	252
1911.....	253	254	255	256	257	258	259	260	261	262	263	264	264	264
1912.....	265	266	267	268	269	270	271	272	273	274	275	276	276	276
1913.....	277	278	279	280	281	282	283	284	285	286	287	288	288	288
1914.....	289	290	291	292	293	294	295	296	297	298	299	300	300	300
1915.....	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1916.....	313	314	315	316	317	318	319	320	321	322	323	324	324	324
1917.....	325	326	327	328	329	330	331	332	333	334	335	336	336	336
1918.....	337	338	339	340	341	342	343	344	345	346	347	348	348	348
1919.....	349	350	351	352	353	354	355	356	357	358	359	360	360	360
1920.....	361	362	363	364	365	366	367	368	369	370	371	372	372	372
1921.....	373	374	375	376	377	378	379	380	381	382	383	384	384	384
1922.....	385	386	387	388	389	390	391	392	393	394	395	396	396	396
1923.....	397	398	399	400	401	402	403	404	405	406	407	408	408	408
1924.....	409	410	411	412	413	414	415	416	417	418	419	420	420	420
1925.....	421	422	423	424	425	426	427	428	429	430	431	432	432	432
1926.....	433	434	435	436	437	438	439	440	441	442	443	444	444	444
1927.....	445	446	447	448	449	450	451	452	453	454	455	456	456	456
1928.....	457	458	459	460	461	462	463	464	465	466	467	468	468	468
1929.....	469	470	471	472	473	474	475	476	477	478	479	480	480	480
1930.....	481	482	483	484	485	486	487	488	489	490	491	492	492	492
1931.....	493	494	495	496	497	498	499	500	501	502	503	504	504	504
1932.....	505	506	507	508	509	510	511	512	513	514	515	516	516	516
1933.....	517	518	519	520	521	522	523	524	525	526	527	528	528	528
1934.....	529	530	531	532	533	534	535	536	537	538	539	540	540	540
1935.....	541	542	543	544	545	546	547	548	549	550	551	552	552	552
1936.....	553	554	555	556	557	558	559	560	561	562	563	564	564	564
1937.....	565	566	567	568	569	570	571	572	573	574	575	576	576	576
1938.....	577	578	579	580	581	582	583	584	585	586	587	588	588	588
1939.....	589	590	591	592	593	594	595	596	597	598	599	600	600	600
1940.....	601	602	603	604	605	606	607	608	609	610	611	612	612	612
1941.....	613	614	615	616	617	618	619	620	621	622	623	624	624	624
1942.....	625	626	627	628	629	630	631	632	633	634	635	636	636	636
1943.....	637	638	639	640	641	642	643	644	645	646	647	648	648	648
1944.....	649	650	651	652	653	654	655	656	657	658	659	660	660	660
1945.....	661	662	663	664	665	666	667	668	669	670	671	672	672	672
1946.....	673	674	675	676	677	678	679	680	681	682	683	684	684	684
1947.....	685	686	687	688	689	690	691	692	693	694	695	696	696	696
1948.....	697	698	699	700	701	702	703	704	705	706	707	708	708	708
1949.....	709	710	711	712	713	714	715	716	717	718	719	720	720	720
1950.....	721	722	723	724	725	726	727	728	729	730	731	732	732	732
1951.....	733	734	735	736	737	738	739	740	741	742	743	744	744	744
1952.....	745	746	747	748	749	750	751	752	753	754	755	756	756	756
1953.....	757	758	759	760	761	762	763	764	765	766	767	768	768	768
1954.....	769	770	771	772	773	774	775	776	777	778	779	780	780	780
1955.....	781	782	783	784	785	786	787	788	789	790	791	792	792	792

a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. b Tables of monthly discharge for 1899 in 21st Annual Report, part 4.

c Gallatin River only.

d Green and Gunnison Rivers and Colorado River above Gunnison River.

e Mojave River only.

f Kings and Kern Rivers and south Pacific slope basins.

g Rating tables and index to Water-Supply Papers 47-52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52.

h Wascatchon for 1900 in 22d Annual Report, part 4.

i Wascatchon and Schuykill Rivers to James River.

j Scioto River.

j Loup, Platte, and Elkhorn Rivers and tributaries below Platte River.

k Tributaries of Mississippi River from east.

m Lake Ontario and tributaries to St. Lawrence River proper.

n Hudson River only.

o Hudson River only.

p Hudson River to Delaware River, inclusive.

q Susquehanna River to Yachin River, inclusive.

r Platte and Kansas Rivers.

s The Great Basin in California, except Truckee and Carson River Basins.

t Below junction with Gila River.

u Rogue, Umpqua, and Siletz Rivers only.

## RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table contains a list of gaging stations for the area covered by this report at which records of discharge were collected during the year ending September 30, 1935, by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey.

Records of discharge collected by agencies other than the Geological Survey

Stream or reservoir	Location	Period	Operated by	Remarks
Bumping Lake.....	Near Nile, Wash....	1926-35	U. S. Bureau of Reclamation.	Unpublished.
Cle Elum Lake....	Near Roslyn, Wash...	1926-35	....do.....	Do.
Diablo Reservoir.	Near Hewahalem, Wash.	1929-35	City of Seattle cooperating with U. S. Geological Survey.	Do.
Glines Canyon Reservoir.	Near Port Angeles, Wash.	1927-35	Washington Pulp and Paper Co. in cooperation with U. S. Geological Survey.	Do.
Kachess Lake.....	Near Easton, Wash...	1926-35	U. S. Bureau of Reclamation.	Do.
Keechelus Lake....	Near Martin, Wash...	1926-35	....do.....	Do.
Lake Chelan.....	Stehekin, Wash.....	1927-35	Chelan Electric Co....	Do.
Lake Cushman Reservoir.	Near Hoodsport, Wash.	1925-35	City of Tacoma cooperating with U. S. Geological Survey.	Do.
Naches River.....	Below Tieton River, near Naches, Wash.	1926-35	U. S. Bureau of Reclamation.	Do.
Tieton Reservoir.	At Tieton Dam near Naches, Wash.	1926-35	....do.....	Do.
Yakima River.....	Umtanum, Wash.....	1921-35	....do.....	Do.
Yakima River.....	Near Yakima, Wash...	1932-35	....do.....	Do.

Note.- Unpublished records of discharge for 1935 and earlier years have been collected by the U. S. Bureau of Reclamation for numerous canals in Washington in connection with irrigation projects.

## 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., West Coast Power Co., the Puget Sound Power & Light Co., the Washington Water Power Co., and the Western Washington Electric Light & Power Co.

Funds for the rehabilitation of gaging stations, repairs, replacement of equipment and improvement of records were allocated by the Public Works Administration from funds made available by the National Industrial Recovery Act.

## 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 Flathead, British Columbia, and Kootenai River at Newgate, British Columbia, and near 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, lat. 46°22', long. 123°44', in SW $\frac{1}{4}$  sec. 1, T. 10 N., R. 9 W.,  
 $\frac{1}{4}$  miles above Salmon Creek and  $\frac{3}{4}$  miles east of Naselle.

Drainage area.- 66 square miles.

Records available.- May 1929 to September 1935.

Extremes.- Maximum discharge during year, 10,400 second-feet Jan. 22 (gage height, 15.9 feet, from flood marks); minimum, 34 second-feet Aug. 29 (gage height, 1.72 feet).  
 1929-35: Maximum observed discharge, that of Jan. 22, 1935; minimum, 22 second-feet Oct. 6, 7, 1929; minimum gage height, that of Aug. 29, 1935.

Remarks.- Records excellent except those above 4,500 second-feet, which are fair. No diversions or regulation.

Rating table, water year 1934-35 (gage height, in feet, and discharge in second-feet)

1.7	32	5.0	1,120	9.5	4,190
1.9	49	5.5	1,415	10.0	4,590
2.1	72	6.0	1,715	10.5	4,990
2.3	102	6.5	2,040	11.0	5,400
2.5	142	7.0	2,370	12.0	6,300
3.0	265	7.5	2,720	13.0	7,300
3.5	426	8.0	3,070	14.0	8,500
4.0	680	8.5	3,420	15.0	9,400
4.5	855	9.0	3,790	16.0	10,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	755	1,060	1,240	373	356	408	164	78	121	49	40
2	51	1,600	905	1,240	340	324	356	164	75	100	49	40
3	52	1,840	805	1,420	294	324	324	153	72	88	48	39
4	49	1,720	705	1,500	265	294	294	142	70	66	47	38
5	47	2,370	620	1,480	251	294	294	142	67	83	46	38
6	45	2,650	540	2,720	224	340	265	134	64	72	44	38
7	46	1,940	463	1,540	211	426	237	121	61	72	44	37
8	187	1,190	426	1,180	199	373	224	121	70	75	44	37
9	224	805	356	855	187	324	211	115	102	75	44	37
10	132	620	324	705	164	309	187	112	115	70	43	36
11	106	540	324	755	237	444	187	106	78	65	42	36
12	97	463	309	620	356	2,930	176	102	72	62	42	40
13	89	492	280	540	660	2,660	176	99	72	60	41	125
14	80	580	280	501	540	1,540	164	99	75	59	41	373
15	78	705	294	426	444	1,060	164	99	73	58	40	237
16	76	660	294	408	390	655	176	125	72	57	40	265
17	70	755	324	356	580	705	142	199	70	53	60	164
18	67	482	390	324	444	620	142	142	67	51	70	129
19	164	444	1,480	280	408	580	142	121	68	49	51	106
20	755	462	2,650	237	426	540	187	110	62	49	44	94
21	501	580	2,370	1,600	1,120	463	294	102	60	49	43	83
22	755	755	1,980	10,400	2,650	463	373	97	61	49	42	78
23	1,720	1,060	1,980	5,510	1,540	540	426	92	62	49	41	75
24	3,280	1,240	1,840	5,070	905	1,120	340	86	60	49	40	71
25	4,430	1,180	1,600	3,140	660	1,480	294	66	59	49	40	67
26	1,720	1,120	2,510	1,840	540	1,060	265	85	58	46	40	64
27	955	1,120	1,980	1,180	444	805	237	83	56	48	39	60
28	705	1,010	1,120	805	390	705	211	82	66	60	38	60
29	540	905	905	855	-	620	199	80	94	53	39	59
30	482	1,060	855	805	-	540	187	80	134	49	44	58
31	540	-	1,010	426	-	444	-	78	-	49	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	18,092	4,430	45	584	8.85	10.20	35,880
November.....	31,003	2,650	444	1,033	15.7	17.52	61,490
December.....	30,979	2,650	280	999	15.1	17.41	61,450
Calendar year 1934.....	168,653	4,920	41	462	7.00	95.06	334,500
January.....	49,858	10,400	237	1,606	24.4	28.13	98,990
February.....	15,242	2,650	164	544	6.24	8.58	30,220
March.....	23,738	2,930	294	766	11.6	13.37	47,080
April.....	7,282	426	142	243	3.68	4.11	14,440
May.....	3,521	199	78	114	1.73	1.99	6,980
June.....	2,193	134	56	73.1	1.11	1.24	4,350
July.....	1,957	121	48	63.1	.956	1.10	3,880
August.....	1,376	70	38	44.4	.673	.78	2,730
September.....	2,624	573	36	87.5	.33	1.48	5,200
Water year 1934-35.....	187,665	10,400	36	515	7.80	105.91	372,600

## North River near Raymond, Wash.

Location.— Water-stage recorder, lat. 46°49', long. 123°51', in sec. 6, T. 15 N., R. 9 W., 1 1/4 miles above Salmon Creek and 10 miles northwest of Raymond.

Records available.— August 1927 to September 1935.

Extremes.— Maximum discharge during year ending Sept. 30, 1934, 35,000 second-feet Dec. 10 (gage height, 15.8 feet, from flood marks); minimum (revision), 53 second-feet Aug. 25 (gage height, 1.42 feet).

Maximum discharge during year ending Sept. 30, 1935, 24,000 second-feet some time during period Jan. 21-24 (gage height, 12.5 feet, from flood marks); minimum, 37 second-feet Sept. 11.

1927-35: Maximum discharge, that of Dec. 10, 1933; minimum mean daily discharge, 28 second-feet Aug. 17, 1928, Sept. 25, 1930, both the result of regulation.

Remarks.— Records excellent except those above 10,000 second-feet and those estimated for periods Sept. 24 to Oct. 8, Nov. 29 to Dec. 17, 1934, Jan. 20-26, 1935, on basis of records for Chehalis River near Grand Mound, all of which are fair. Splash dam 800 feet above gage no longer operating. Many discharge measurements furnished by Western Washington Electric Light & Power Co.

Discharge, in second-feet, water year October 1933 to September 1934

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	112	86	62
2	471	4,140	618	3,160	1,300	4,120	1,840	316	227	108	100	59
3	397	6,590	746	3,010	1,230	4,020	1,600	366	212	104	100	58
4	341	6,080	819	3,160	1,090	2,460	1,270	743	204	104	122	56
5	307	3,460	2,200	3,080	1,020	2,400	1,060	1,310	196	102	116	54
6	261	1,940	6,080	2,660	943	3,320	907	1,150	193	93	118	54
7	237	1,480	7,530	2,140	934	3,160	799	853	193	90	106	56
8	237	1,190	6,200	1,780	1,240	2,400	714	714	196	96	100	56
9	216	950	9,780	1,540	1,380	1,840	654	612	193	95	81	67
10	203	828	19,900	1,490	1,180	1,490	688	527	187	108	94	75
11	195	730	25,500	1,660	1,050	1,240	628	465	185	100	79	106
12	185	648	22,400	1,660	952	1,070	534	421	177	96	78	324
13	179	595	16,800	2,140	871	943	492	387	167	93	76	270
14	177	550	11,600	2,940	799	844	458	351	162	88	73	282
15	172	522	6,560	2,520	748	782	440	334	154	106	71	236
16	203	514	3,750	2,460	688	705	414	321	152	380	70	167
17	205	494	6,550	2,660	637	646	397	321	147	299	68	133
18	255	471	21,200	2,460	604	568	371	321	140	239	67	118
19	696	456	18,400	3,410	565	541	346	392	131	164	67	104
20	1,000	498	14,200	5,550	541	499	329	471	127	140	65	98
21	983	624	14,500	9,160	513	471	312	421	133	129	64	93
22	1,270	746	18,600	9,310	478	433	305	334	138	120	62	95
23	2,720	766	18,800	10,500	458	414	302	305	145	112	60	104
24	3,020	762	9,940	9,310	433	403	312	286	142	104	59	
25	2,270	723	5,220	5,750	414	376	316	276	129	100	56	
26	1,940	695	4,900	3,580	408	366	299	270	120	98	56	100
27	1,820	648	5,440	2,500	557	440	289	257	118	98	59	
28	2,630	648	4,020	2,330	653	776	279	248	129	98	59	
29	3,650	636	3,660	1,900	-	1,030	289	236	133	96	60	
30	3,380	575	4,020	1,660	-	1,110	312	242	127	95	62	
31	2,200	-	3,660	1,540	-	1,060	-	245	-	90	64	
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					32,435	3,650	172	1,046	64,330			
November.....					40,679	6,590	456	1,356	80,690			
December.....					292,959	25,500	546	9,450	581,100			
Calendar year 1933.....					639,944	25,500	54	1,753	1,269,000			
January.....					109,810	10,500	1,490	3,542	217,800			
February.....					23,326	1,440	408	833	46,270			
March.....					41,867	4,120	366	1,351	83,040			
April.....					18,356	1,840	279	611	36,370			
May.....					13,800	1,310	236	445	27,370			
June.....					4,902	345	113	163	9,720			
July.....					3,860	380	88	125	7,660			
August.....					2,400	122	56	77.4	4,760			
September.....					3,425	324	54	114	6,790			
Water year 1933-34.....					597,799	25,500	54	1,610	1,166,000			

Note.— These records supersede those published in Water-Supply Paper 767.

## North River near Raymond, Wash.

(Continued)

Rating tables, water years 1933-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 10, 1933

0.6	52	6.0	5,240
.8	77	6.5	6,460
1.0	104	7.0	7,800
1.5	181	8.0	10,600
2.0	301	9.0	13,500
2.5	471	10.0	16,500
3.0	730	11.0	19,600
3.5	1,210	12.0	22,800
4.0	1,760	13.0	26,000
4.5	2,420	14.0	29,200
5.0	3,290	15.0	32,400
5.5	4,200	16.0	35,600

Table for Dec. 11, 1933, to Sept. 30, 1935

1.0	10	5.5	3,660
1.2	26	6.0	4,600
1.4	50	6.5	5,660
1.6	81	7.0	6,850
1.8	118	7.5	8,160
2.0	164	8.0	9,600
2.5	312	8.5	11,090
3.0	620	9.0	12,630
3.5	1,060	10.0	15,730
4.0	1,600	11.0	18,900
4.5	2,200	12.0	22,200
5.0	2,870	13.0	25,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	1,120	2,600	2,870	1,240	988	1,240	371	180	196	67	53
2		1,690	2,350	2,940	1,080	880	1,090	346	169	177	67	52
3		2,870	2,050	2,800	979	844	961	354	167	147	68	49
4		3,400	1,800	2,750	871	907	880	312	157	136	68	46
5		5,260	1,600	2,600	799	916	817	305	152	136	64	45
6	110	7,560	1,400	4,400	739	916	730	289	145	129	62	42
7		7,100	1,200	5,220	688	889	688	282	140	136	60	40
8		350	4,540	1,100	3,750	880	637	273	142	136	56	38
9		321	2,530	950	2,520	817	588	267	167	138	56	38
10		267	1,840	820	2,020	748	557	257	215	131	54	38
11	198	1,490	760	1,900	696	826	499	251	207	118	53	38
12	159	1,240	1,000	1,900	925	3,250	471	245	182	108	52	38
13	158	1,090	1,050	1,720	1,430	5,890	446	233	169	100	49	128
14	125	1,130	990	1,540	1,960	5,660	421	230	162	96	49	321
15	114	1,220	950	1,370	1,640	3,490	408	227	154	93	47	531
16	106	1,250	900	1,290	1,250	2,590	414	236	147	88	47	390
17	102	1,120	1,100	1,220	1,260	2,200	414	355	140	86	54	276
18	106	1,010	1,490	1,040	1,260	2,020	387	435	136	84	65	218
19	122	925	2,330	970	1,080	1,720	371	321	151	61	62	157
20	270	961	3,560	900	1,040	1,720	592	270	129	79	76	129
21	631	1,080	5,010	10,000	1,300	1,660	612	245	129	75	67	112
22	835	1,340	5,220	17,000	3,090	1,540	902	233	122	73	59	100
23	1,910	1,960	4,900	22,000	3,580	1,440	934	221	114	73	53	93
24	3,680	2,260	4,700	10,000	2,730	2,240	817	212	112	70	50	84
25	6,360	2,260	4,210	7,000	2,020	3,840	662	201	108	68	49	79
26	6,600	2,260	4,300	4,500	1,600	3,840	565	196	108	68	47	76
27	4,260	2,460	4,400	3,160	1,310	2,800	506	190	108	68	45	73
28	2,150	2,460	3,240	2,520	1,130	2,200	452	186	122	67	44	71
29	1,490	2,300	2,870	2,020	-	1,900	421	132	142	67	52	68
30	1,140	2,100	2,940	1,720	-	1,600	403	182	167	65	53	67
31	1,030	-	2,870	1,440	-	1,440	-	177	-	65	50	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	33,176	6,600	-	1,070	65,600
November.....	69,626	7,560	925	2,521	136,100
December.....	74,750	5,220	750	2,412	148,500
Calendar year 1934.....	399,308	10,500	54	1,094	792,000
January.....	127,260	22,000	900	4,105	252,400
February.....	37,445	3,580	565	1,537	74,270
March.....	62,651	5,890	748	2,021	124,500
April.....	18,685	1,240	371	625	37,080
May.....	8,061	433	177	260	16,990
June.....	4,423	215	108	147	8,770
July.....	3,154	196	65	102	6,260
August.....	1,745	76	44	56.3	3,460
September.....	3,490	531	38	116	6,920
Water year 1934-35.....	444,496	22,000	38	1,218	881,600



## CHEHALIS RIVER BASIN

Chehalis River near Grand Mound, Wash.

Location.— Water-stage recorder, lat. 46°47', long. 123°2', in NE¼ sec. 22, T. 15 N., R. 3 W., at Meadow, 1½ miles southwest of Grand Mound. Zero of gage is 123.27 feet above mean sea level. Prior to Oct. 3, 1934, staff gage across river at datum 3.00 feet higher.

Drainage area.— 928 square miles.

Records available.— October 1928 to September 1935.

Extremes.— Maximum discharge during year, 38,000 second-feet Jan. 23 (gage height, 17.1 feet); minimum, 126 second-feet Aug. 29 (gage height, 2.36 feet).  
1928-35: Maximum observed discharge, 45,000 second-feet Dec. 21, 1933 (gage height, 17.9 feet, present datum); minimum discharge, that of Aug. 29, 1935.

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

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

2.5	168	5.5	3,020	10.0	10,900
2.7	239	6.0	3,780	11.0	13,100
2.9	325	6.5	4,580	12.0	15,700
3.1	430	7.0	5,400	13.0	18,870
3.3	555	7.5	6,300	14.0	22,900
3.5	685	8.0	7,200	15.0	27,420
4.0	1,060	8.5	8,100	16.0	32,120
4.5	1,600	9.0	9,000	17.0	37,460
5.0	2,290				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	195	2,510	9,570	8,640	4,420	2,720	3,540	1,260	496	448	206	165
2	188	6,130	6,460	7,920	3,490	2,360	3,020	1,150	478	424	217	162
3	213	11,600	6,840	6,260	3,620	2,220	2,570	1,050	454	402	217	166
4	202	13,600	5,400	7,740	3,240	2,360	2,360	997	448	365	202	146
5	202	15,500	4,420	8,460	2,870	2,430	2,430	946	436	335	195	140
6	192	27,200	3,700	10,500	2,570	2,360	2,360	922	430	325	192	134
7	192	31,100	3,100	14,600	2,290	2,570	2,080	890	424	316	178	137
8	188	25,200	2,720	12,200	2,010	2,570	2,010	841	424	312	171	137
9	192	14,800	2,360	9,190	1,790	2,890	1,870	820	430	320	178	137
10	251	9,520	2,080	7,200	1,550	2,010	1,690	785	448	316	165	134
11	239	6,660	2,080	5,940	2,030	1,940	1,590	771	496	289	152	134
12	228	4,900	3,470	5,760	2,720	4,550	1,760	757	472	264	162	134
13	213	4,100	3,620	4,900	4,680	12,200	1,940	711	448	268	162	137
14	206	4,260	3,240	4,100	7,560	11,900	1,940	685	442	243	162	362
15	202	5,060	2,800	3,620	6,500	9,570	1,770	698	478	228	156	1,150
16	202	5,060	2,500	3,470	4,900	7,380	1,770	698	472	224	156	750
17	209	4,260	3,130	3,400	4,260	5,940	1,760	718	397	224	156	752
18	213	3,540	4,260	2,940	4,100	5,060	1,550	876	424	220	162	536
19	199	2,940	7,200	2,430	3,540	4,260	1,440	771	424	213	175	408
20	336	2,800	11,400	1,940	3,240	4,100	1,380	685	414	213	195	340
21	1,650	3,400	12,600	2,910	3,320	4,020	1,650	640	402	199	188	302
22	1,810	3,900	13,800	17,800	5,930	3,780	2,220	620	375	195	171	280
23	2,740	7,980	14,600	36,300	7,920	3,860	3,020	607	365	199	159	255
24	5,860	9,580	16,000	29,300	6,460	4,400	2,940	574	365	195	156	239
25	13,100	9,000	14,400	21,600	4,900	10,500	2,360	542	345	192	152	224
26	17,500	8,820	13,300	16,900	3,940	11,100	2,010	536	330	185	162	206
27	12,200	9,190	13,600	12,900	3,320	8,820	1,760	510	316	188	185	209
28	7,020	9,000	10,900	9,570	2,940	6,840	1,560	503	312	199	137	220
29	4,580	8,460	10,100	7,380	-	5,940	1,440	510	307	209	131	206
30	3,100	7,920	10,900	6,120	-	4,900	1,350	510	375	213	137	185
31	2,360	-	9,190	5,060	-	4,100	-	510	-	209	159	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	76,182	17,500	188	2,457	2.65	3.06	151,100
November.....	275,770	31,100	2,510	9,192	9.91	11.06	547,000
December.....	231,740	16,000	2,080	7,475	8.05	9.28	459,600
Calendar year 1934.....	1,145,521	31,100	131	3,138	3.38	45.96	2,272,000
January.....	299,070	36,300	1,940	9,647	10.4	11.99	593,200
February.....	110,480	7,920	1,650	3,946	4.25	4.43	219,100
March.....	158,950	12,200	1,940	5,127	5.52	6.36	315,300
April.....	61,140	3,540	1,350	2,038	2.20	2.46	121,300
May.....	23,093	1,260	503	745	.803	.93	45,800
June.....	12,427	496	307	414	.446	.50	24,650
July.....	8,132	448	185	262	.282	.33	16,130
August.....	5,296	217	131	171	.184	.21	10,500
September.....	8,477	1,150	134	283	.305	.34	16,810
Water year 1934-35.....	1,270,757	36,300	131	3,482	3.75	50.95	2,520,000

## Satsop River near Satsop, Wash.

Location.- Staff gage, lat. 47°, long. 123°30', 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 1935.

Extremes.- Maximum discharge during year, 52,500 second-feet Jan. 22 (gage height, 18.0 feet, from flood marks); minimum discharge, 205 second-feet Sept. 8-11; minimum gage height, 0.80 foot Oct. 6.  
1929-35: Maximum discharge, that of Jan. 22, 1935; minimum, 203 second-feet Sept. 21, 22, 1930.

Remarks.- Records good except those above 20,000 second-feet, which are poor. Discharge estimated Jan. 18, 25, Aug. 13. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 21

0.7	237	5.0	3,520
1.0	312	7.0	6,210
1.5	490	9.0	9,600
2.0	760	11.0	13,950
3.0	1,470	13.0	19,900

Table for Jan. 22 to Sept. 30

2.4	195	10.0	13,370
3.0	495	11.0	16,020
4.0	1,320	12.0	19,370
5.0	2,450	13.0	23,560
6.0	4,290	14.0	28,500
7.0	6,460	15.0	33,920
8.0	8,700	16.0	39,700
9.0	11,000	17.0	45,900

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	272	3,890	3,760	6,680	3,480	1,950	1,950	1,230	570	425	273	234
2	298	3,760	4,540	9,200	3,300	1,830	1,830	1,140	570	411	264	220
3	298	6,520	3,520	9,010	2,960	1,630	1,720	1,100	532	397	255	215
4	272	5,640	3,040	9,600	2,630	1,720	1,620	1,100	532	404	255	215
5	272	12,000	2,700	6,520	2,340	1,720	1,620	1,050	495	404	248	212
6	259	8,620	2,370	10,200	2,200	2,070	1,420	1,000	495	397	248	212
7	259	5,780	2,170	6,520	2,070	1,830	1,320	960	495	376	248	210
8	585	4,410	1,970	5,220	1,830	1,730	1,230	920	495	390	248	205
9	1,030	3,520	1,860	4,280	1,720	1,720	1,140	860	608	369	241	205
10	700	2,610	1,710	3,760	1,620	1,620	1,320	860	682	355	241	205
11	560	2,370	2,270	3,690	2,070	1,830	1,420	880	608	344	241	205
12	470	2,170	2,370	3,520	1,950	13,800	1,620	840	570	338	238	215
13	430	2,270	2,170	3,280	3,130	12,200	1,620	800	532	333	232	311
14	411	2,810	2,070	2,920	2,960	8,240	1,320	800	532	322	227	1,230
15	394	2,920	2,070	2,700	2,480	5,580	1,320	800	532	322	227	1,050
16	360	2,920	2,270	2,700	2,200	2,070	1,320	800	495	322	227	1,720
17	343	2,700	2,700	2,430	3,130	1,830	1,230	1,050	495	322	291	1,050
18	328	2,370	4,670	2,520	2,630	1,520	1,140	880	498	311	300	570
19	360	2,170	5,500	2,170	2,480	1,420	1,140	800	451	300	264	682
20	2,920	2,270	6,520	2,070	2,630	1,320	1,230	760	467	291	241	570
21	1,790	2,370	10,000	6,680	3,300	1,140	1,950	780	453	291	234	495
22	2,920	4,940	6,520	45,900	10,100	1,140	2,070	720	439	286	234	467
23	6,060	5,500	5,500	30,100	6,020	1,050	2,200	682	425	282	227	425
24	6,060	5,360	5,500	32,600	4,080	5,800	2,070	682	411	282	220	397
25	12,600	5,220	5,220	21,000	3,130	4,920	1,720	645	404	282	220	369
26	4,940	4,020	5,500	13,800	2,630	3,430	1,620	608	404	282	220	355
27	3,040	4,280	5,780	8,700	2,340	2,960	1,620	608	397	282	220	333
28	2,370	4,150	4,670	6,680	2,200	2,790	1,420	608	411	273	215	322
29	1,970	3,890	4,150	5,360	-	2,630	1,320	608	532	264	234	311
30	1,710	4,150	3,640	4,710	-	2,340	1,230	570	467	264	244	311
31	1,880	-	4,540	4,290	-	2,070	-	570	-	264	234	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	56,061	12,500	259	1,808	5.74	6.62	111,200
November.....	126,000	12,000	2,170	4,200	13.3	14.84	249,900
December.....	121,290	10,000	1,710	3,913	12.4	14.30	240,600
Calendar year 1934.....	764,402	16,500	248	2,094	6.65	90.25	1,516,000
January.....	279,060	45,900	2,070	9,002	28.6	32.97	553,500
February.....	83,610	10,100	1,620	2,996	9.48	9.87	165,600
March.....	98,140	13,800	1,050	3,165	10.1	11.64	194,700
April.....	45,250	2,200	1,140	1,508	4.79	5.34	89,750
May.....	25,731	1,230	570	830	2.63	3.03	51,040
June.....	15,017	682	397	501	1.59	1.77	29,790
July.....	10,185	425	264	329	1.04	1.20	20,200
August.....	7,511	300	215	242	.768	.89	14,900
September.....	13,521	1,720	205	451	1.45	1.60	26,820
Water year 1934-35.....	881,376	45,900	205	2,415	7.67	104.07	1,748,000

## Wynoochee River at Oxbow, near Aberdeen, Wash.

Location.- Water-stage recorder, lat. 47°19'30", long. 123°38'20", 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 1935.

Average discharge.- 10 years, 790 second-feet.

Extremes.- Maximum discharge during year, 18,000 second-feet Jan. 22 (gage height, 30.3 feet, from flood marks); minimum, 96 second-feet Sept. 11-12 (gage height, 2.20 feet). 1925-35: Maximum discharge, that of Jan. 22, 1935; minimum, 76 second-feet Sept. 23, 1930 (gage height, 2.09 feet).

Remarks.- Records good except those for periods Jan. 22-27, Feb. 11-13, 17-19, Sept. 16-27, which were determined on basis of records for nearby streams and are fair. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 21

2.0	55
3.0	144
4.0	271
5.0	485
6.0	735
7.0	1,000
8.0	1,300
9.0	1,600
10.0	1,970

Table for Jan. 22 to Sept. 30

2.2	96	9.0	1,620	22.0	10,000
3.0	170	10.0	1,970	24.0	11,800
4.0	299	12.0	2,810	26.0	13,700
5.0	515	14.0	3,960	28.0	15,700
6.0	765	16.0	5,350	30.0	17,700
7.0	1,020	18.0	6,750		
8.0	1,320	20.0	8,350		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108	2,320	1,390	2,370	1,810	865	715	578	416	308	170	140
2	111	2,320	1,150	4,410	1,850	790	665	540	405	291	170	136
3	108	2,810	1,210	3,730	1,710	815	602	540	373	276	165	136
4	103	2,620	1,060	3,010	1,530	765	540	590	405	276	165	131
5	102	8,290	885	2,510	1,380	740	478	665	490	283	160	126
6	100	3,810	810	3,090	1,200	765	465	628	552	268	160	122
7	102	2,210	785	1,970	1,020	890	440	552	540	268	160	118
8	827	1,630	735	1,540	940	815	428	540	490	261	155	108
9	748	1,530	685	1,270	865	765	416	552	528	254	155	101
10	376	1,120	622	1,090	815	715	423	502	659	240	155	98
11	280	970	1,030	1,000	900	852	490	465	465	240	150	97
12	240	985	910	885	800	3,030	602	440	452	240	150	111
13	213	1,210	785	785	1,200	5,140	665	440	478	254	150	458
14	194	2,100	760	710	990	3,510	590	490	478	254	145	922
15	182	1,890	860	660	915	1,800	602	478	405	254	145	1,990
16	165	1,770	910	635	915	1,350	615	452	384	234	140	1,900
17	180	1,420	1,090	585	1,300	1,200	552	665	373	227	160	900
18	154	1,150	2,020	535	1,200	1,020	502	578	353	214	170	560
19	710	970	1,990	510	1,100	965	478	478	344	208	155	440
20	2,500	1,000	2,580	485	1,230	915	665	490	325	196	150	360
21	1,740	1,030	4,540	4,960	1,610	840	990	602	325	196	145	300
22	1,880	2,500	2,440	16,000	3,720	840	915	565	325	191	145	260
23	2,820	3,240	1,810	12,000	1,900	815	865	478	308	186	140	220
24	3,930	2,800	1,600	13,000	1,410	1,200	740	440	283	180	140	200
25	3,720	2,370	1,580	10,000	1,200	1,050	690	428	276	175	136	190
26	1,650	1,730	2,520	7,000	1,080	940	715	452	283	170	131	180
27	1,150	1,600	1,570	4,000	990	915	690	452	291	170	126	180
28	860	1,480	1,300	2,600	915	890	640	465	378	170	122	196
29	735	1,360	1,120	2,210	-	840	628	478	406	170	153	191
30	685	1,540	940	2,210	-	815	615	428	334	170	150	186
31	1,550	-	1,350	1,890	-	790	-	405	-	170	140	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	28,203	3,930	100	910	55,940
November.....	61,475	8,290	885	2,049	121,900
December.....	43,017	4,540	622	1,388	85,320
Calendar year 1934.....	327,160	8,290	100	896	648,900
January.....	107,650	16,000	485	3,473	213,500
February.....	36,495	3,720	800	1,303	72,390
March.....	37,642	5,140	715	1,214	74,660
April.....	18,426	990	416	614	36,550
May.....	15,856	665	405	511	31,450
June.....	12,124	659	276	404	24,050
July.....	6,994	308	170	226	13,870
August.....	4,653	170	122	150	9,240
September.....	11,067	1,990	97	369	21,930
Water year 1934-35.....	383,597	16,000	97	1,051	760,800

## Humptulips River near Humptulips, Wash.

Location.- Water-stage recorder, lat. 47°13'45", long. 123°56'30", 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 January 1935 (discontinued).

Extremes.- Maximum discharge during period October to January, 21,200 second-feet Jan. 22 (gage height, 12.7 feet, from flood marks); minimum, 193 second-feet Oct. 7 (gage height, 1.36 feet).  
1933-35: Maximum discharge, that of Jan. 22, 1935; minimum, 147 second-feet July 12, 1934 (gage height, 1.31 feet).

Remarks.- Records good except those for the estimated periods Dec. 11 to Jan. 8 and Jan. 14-31, which are poor. No diversions or regulation.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

1.2	144	5.0	4,140
1.4	205	5.5	5,040
1.6	273	6.0	5,950
1.8	359	7.0	7,900
2.0	472	8.0	10,000
2.5	875	9.0	12,200
3.0	1,350	10.0	14,500
3.5	1,900	11.0	16,900
4.0	2,540	12.0	19,400
4.5	3,300	13.0	22,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	199	3,300	2,680	4,000								
2	218	3,520	2,140									
3	228	4,860	2,270									
4	205	4,230	2,020									
5	199	8,960	1,720									
6	199	5,960	1,500	2,140								
7	199	3,820	1,300									
8	1,180	2,760	1,180									
9	1,680	2,140	1,060									
10	696	1,780	956									
11	634	1,560	1,960	1,450								
12	493	1,350	1,670									
13	418	1,560	1,450									
14	375	2,090										
15	350	2,680										
16	326	2,660	2,400	1,100								
17	304	2,200										
18	292	1,780										
19	605	1,500										
20	2,680	1,560										
21	2,210	1,780	3,500	11,000								
22	3,190	2,630										
23	4,590	4,320										
24	5,150	4,060										
25	7,120	3,720										
26	3,460	2,960	2,500	3,200								
27	2,270	3,060										
28	1,780	2,680										
29	1,450	2,610										
30	1,260	2,680										
31	1,680	-										
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				46,020	7,120	199	1,485	11.9	13.72	91,280		
November.....				90,810	8,960	1,350	3,027	24.2	27.00	180,100		
December.....				67,526	-	956	2,172	17.4	20.06	135,500		
Calendar year 1934.....				507,626	9,600	150	1,391	11.1	151.02	1,007,000		
January.....				123,020	-	-	3,968	31.7	36.55	244,000		
February.....												
March.....												
April.....												
May.....												
June.....												
July.....												
August.....												
September.....												
The period.....										648,900		

## QUINULT RIVER BASIN

Quinault River at Quinault Lake, Wash.

Location.- Water-stage recorder, lat. 47°27'30", long. 123°53'30", in sec. 25, T. 23 N., R. 10 W., at outlet of Quinault Lake, 4 miles southwest of Quinault. On May 3, 1935, station was moved a few hundred feet upstream and reset at new datum.

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 1935. Mean monthly discharge, October 1911 to September 1933, in State Water-Supply Bulletin 5.

Average discharge.- 24 years (1911-35), 2,741 second-feet.

Extremes.- Maximum discharge during year, 36,100 second-feet Jan. 24 (gage height, 16.0 feet, former datum, from high-water mark in well); minimum, 451 second-feet Oct. 7 (gage height, 1.06 feet, former datum).  
1911-22, 1924-32, 1933-35: Maximum discharge, 37,000 second-feet Dec. 12, 1921 (gage height, 16.3 feet, former datum); minimum, 285 second-feet Sept. 20, 1924 (gage height, 0.74 foot, former datum).

Remarks.- Records excellent except those for Nov. 6-23, which were estimated and are fair. No diversions. Slight regulation caused by natural storage in Quinault Lake.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	495	7,020	4,150	3,390	6,620	2,380	1,760	2,080	2,520	2,320	1,030	633
2	468	8,510	3,760	7,500	7,250	2,200	1,670	2,020	2,450	2,200	963	614
3	488	9,520	3,530	9,500	7,040	2,140	1,560	2,020	2,380	2,080	936	594
4	477	9,750	3,390	7,810	6,200	2,020	1,500	2,080	2,380	1,960	909	588
5	472	23,500	3,040	7,040	5,250	1,960	1,420	2,200	2,640	1,960	868	574
6	462	11,000	2,840	7,470	4,570	1,840	1,330	2,380	2,970	1,840	836	562
7	456	6,500	2,770	6,410	4,070	1,840	1,280	2,380	3,320	1,780	806	549
8	749	5,500	2,640	4,910	3,600	1,780	1,220	2,320	3,320	1,730	799	537
9	1,210	4,000	2,510	3,990	3,250	1,720	1,160	2,320	3,250	1,680	785	525
10	1,250	3,500	2,380	3,320	2,900	1,620	1,130	2,260	3,390	1,620	778	507
11	1,140	3,000	2,770	3,110	2,900	1,730	1,110	2,140	3,250	1,620	771	490
12	1,010	3,000	3,250	2,840	2,840	3,580	1,200	2,020	3,040	1,680	764	495
13	929	4,000	3,180	2,580	3,110	3,100	1,350	2,020	3,040	1,780	764	657
14	862	6,500	3,110	2,280	3,160	9,740	1,560	2,080	2,970	2,020	771	1,790
15	802	7,000	3,040	2,140	2,900	7,480	1,560	2,200	2,900	2,200	757	3,300
16	742	6,500	3,040	2,020	2,640	5,430	1,720	2,200	2,710	2,200	730	6,120
17	700	4,500	3,180	1,900	2,970	4,320	1,720	2,260	2,580	2,140	711	4,820
18	664	3,500	4,070	1,780	3,180	3,600	1,720	2,320	2,520	1,960	737	3,390
19	784	3,000	5,080	1,670	3,040	3,110	1,670	2,260	2,450	1,900	730	2,580
20	3,350	3,000	7,040	1,560	3,180	2,840	1,720	2,260	2,320	1,780	704	2,200
21	4,270	3,000	10,300	5,680	3,600	2,580	2,140	2,450	2,260	1,730	678	1,840
22	6,290	5,000	9,740	29,000	7,690	2,380	2,260	2,710	2,260	1,730	666	1,620
23	6,570	7,000	7,470	29,700	6,830	2,200	2,380	2,710	2,200	1,730	640	1,460
24	8,280	7,910	6,000	32,300	5,250	2,640	2,320	2,580	2,080	1,680	620	1,280
25	14,600	7,690	5,250	32,900	4,150	3,110	2,200	2,450	1,960	1,620	607	1,160
26	9,520	6,410	6,000	24,100	3,460	2,900	2,140	2,380	1,900	1,460	588	1,070
27	6,640	5,430	5,250	17,400	2,970	2,580	2,140	2,380	2,020	1,340	581	990
28	5,270	4,570	4,320	10,600	2,640	2,380	2,080	2,450	2,200	1,260	588	918
29	4,430	4,150	3,750	8,130	-	2,200	2,080	2,580	2,520	1,180	614	868
30	3,870	4,070	3,320	7,690	-	2,080	2,080	2,580	2,520	1,120	633	836
31	4,590	-	3,600	7,040	-	1,960	-	2,520	-	1,070	640	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	91,858	14,600	456	2,963	11.2	12.91	182,200
November.....	188,060	25,500	3,000	6,269	23.7	26.44	373,000
December.....	133,760	10,300	2,380	4,315	16.3	18.79	265,300
Calendar year 1934.....	1,115,779	25,500	456	3,057	11.6	156.95	2,213,000
January.....	287,840	32,900	1,560	9,285	35.2	40.58	570,900
February.....	117,280	7,690	2,640	4,189	16.9	16.56	232,600
March.....	96,440	9,740	1,620	3,111	11.8	13.60	191,300
April.....	51,170	2,580	1,110	1,706	6.48	7.21	101,500
May.....	71,610	2,710	2,020	2,310	8.75	10.09	142,000
June.....	78,320	3,590	1,900	2,611	9.89	11.03	155,300
July.....	54,370	2,320	1,070	1,754	6.64	7.66	107,800
August.....	23,004	1,030	581	742	2.81	3.24	45,630
September.....	45,567	6,120	490	1,452	5.50	6.14	86,410
Water year 1934-35.....	1,237,279	32,900	456	3,390	12.8	174.25	2,454,000

## Queets River near Clearwater, Wash.

Location.- Staff gage, lat. 47°32', long. 124°19', in SW¼ sec. 36, T. 24 N., R. 13 W., on Quinault Indian Reservation, 4 miles southwest of Clearwater. Zero of gage is 14.5 feet above mean sea level. Prior to Jan. 22, 1935, water-stage recorder at same site with datum 4 feet higher.

Drainage area.- 454 square miles.

Records available.- September 1930 to September 1935.

Extremes.- Maximum discharge during year, about 100,000 second-feet Jan. 22 (gage height, 23.0 feet, former datum, from flood marks); minimum, 455 second-feet Sept. 12 (gage height, 4.70 feet, present datum).  
1930-35: Maximum discharge, that of Jan. 22, 1935; minimum, 420 second-feet Aug. 23, 24, 1931; minimum gage height, 0.42 foot (former datum) Oct. 11, 1932.

Remarks.- Records excellent October to Jan. 10, poor for February to July, fair for August, and good for September. Discharge Jan. 11 to Aug. 23 determined on basis of records for Quinault River at Quinault Lake. No diversions or regulation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	522	12,700	7,490	17,700							1,100	675
2	514	12,200	6,030	24,600								656
3	538	14,300	6,510	20,100								638
4	506	15,000	5,430	13,700								632
5	482	43,800	4,480	12,900								608
6	466	17,800	3,930	20,400							880	602
7	474	10,800	3,600	10,800								596
8	3,980	8,510	3,300	7,740								564
9	3,370	6,510	2,900	6,270								552
10	1,810	5,430	2,620	5,190								516
11	1,320	4,720	5,960								810	485
12	1,140	4,480	5,070									480
13	1,010	6,750	4,040									1,220
14	890	10,500	3,930									6,890
15	810	11,100	4,260									18,600
16	752	10,500	3,930								720	12,900
17	705	7,240	5,430									5,300
18	669	5,790	11,100									2,540
19	2,890	4,830	11,000									2,340
20	13,000	4,720	15,700									2,030
21	8,120	4,950	20,900								614	1,650
22	10,000	11,300	12,400									1,480
23	13,400	14,300	11,100									1,320
24	16,700	12,700	10,200									1,220
25	15,400	11,400	9,780									614
26	7,750	9,330	15,900								614	1,020
27	5,670	9,050	8,780								638	985
28	4,490	7,490	6,750								680	950
29	3,710	7,240	6,270								732	915
30	3,500	8,480	5,430								758	880
31	7,520	-	15,300								693	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	131,898	16,700	466	4,255	9.37	10.80	261,600
November.....	315,920	43,800	4,480	10,460	23.0	25.66	622,700
December.....	239,520	20,900	2,620	7,726	17.0	19.60	475,100
Calendar year 1934.....	1,671,468	43,800	466	4,579	10.1	136.92	3,315,000
January.....	728,400	-	-	23,500	51.8	59.72	1,445,000
February.....	243,600	-	-	8,700	19.2	19.99	483,200
March.....	164,300	-	-	5,300	11.7	13.49	325,900
April.....	78,000	-	-	2,600	5.73	6.39	154,700
May.....	99,200	-	-	3,200	7.06	8.13	196,800
June.....	102,000	-	-	3,400	7.49	8.35	202,300
July.....	65,100	-	-	2,100	4.63	5.34	129,100
August.....	25,303	-	614	816	1.80	2.08	50,190
September.....	70,324	18,600	480	2,344	5.16	5.76	139,500
Water year 1934-35.....	2,261,565	-	466	6,196	13.6	165.32	4,486,000

## Hoh River near Spruce, Wash.

Location.- Water-stage recorder, lat. 47°48', long. 124°6', in sec. 34, T. 27 N., R. 11 W.,  $2\frac{1}{2}$  miles below Spruce and 5 miles below South Fork.

Drainage area.- 193 square miles.

Records available.- August 1926 to September 1935.

Extremes.- Maximum discharge during year, about 40,000 second-feet Nov. 5 (gage height, 21.2 feet, from high-water mark in gage structure); minimum, 530 second-feet Oct. 18, 19 (gage height, 1.53 feet).

1926-35: Maximum discharge, that of Nov. 5, 1934 (gage observer noted water higher on this day than at any other time during his 43 years of residence on the stream); minimum discharge, 247 second-feet Nov. 14, 15, 1929; minimum gage height, 1.44 feet Sept. 27, 1934.

Remarks.- Records good except those for periods Nov. 2-18, Jan. 18-20, Apr. 2-12, 18, 19, which are fair and were determined on basis of records for neighboring streams, and those above 10,000 second-feet, which are poor. No diversions or artificial regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 21

1.5	516	6.0	3,400
1.7	574	8.0	6,090
2.0	689	10.0	9,800
2.5	846	12.0	14,200
3.0	1,050	15.0	21,700
3.5	1,300	18.0	30,100
4.0	1,620	21.0	39,360
5.0	2,440		

Table for Jan. 22 to Sept. 30

1.5	565	5.0	2,690
1.7	640	6.0	3,750
2.0	761	8.0	6,440
2.5	1,000	10.0	10,260
3.0	1,270	12.0	14,750
3.5	1,560	15.0	22,260
4.0	1,970		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	574	5,790	2,710	4,000	5,790	1,490	1,190	1,300	1,440	1,800	1,050	1,130
2	574	5,500	2,440	6,530	6,120	1,410	1,150	1,220	1,460	1,580	1,050	1,100
3	589	7,500	2,440	5,890	4,710	1,410	1,100	1,220	1,380	1,610	1,080	1,080
4	560	6,000	2,120	4,650	3,750	1,300	1,100	1,300	1,550	1,460	1,000	1,380
5	574	28,000	1,850	4,450	3,200	1,220	1,050	1,490	1,870	1,410	925	1,050
6	636	10,000	1,800	5,160	2,790	1,190	1,000	1,460	2,250	1,300	925	1,020
7	754	6,000	1,720	3,510	2,610	1,190	980	1,350	2,330	1,220	950	950
8	2,000	4,500	1,660	2,800	2,170	1,160	950	1,350	2,090	1,240	925	950
9	1,800	3,500	1,520	2,350	1,980	1,190	930	1,410	2,010	1,190	975	950
10	1,420	3,000	1,390	2,040	1,870	1,190	920	1,270	2,330	1,160	1,050	928
11	1,240	2,500	2,920	1,960	2,170	1,420	900	1,160	1,900	1,240	975	740
12	1,010	2,500	2,430	1,720	1,840	3,450	1,050	1,100	1,980	1,500	1,080	713
13	771	3,000	2,170	1,480	2,470	8,440	1,220	1,190	2,090	1,900	1,270	2,020
14	669	4,000	2,040	1,330	2,090	8,080	1,160	1,350	2,010	2,330	1,160	2,690
15	636	4,500	1,880	1,250	1,870	3,310	1,270	1,440	1,800	2,330	950	4,200
16	589	4,000	1,720	1,220	1,800	2,510	1,410	1,300	1,610	2,010	850	5,000
17	560	3,000	2,170	1,150	2,930	2,330	1,240	1,300	1,640	1,870	850	2,200
18	530	2,500	3,680	1,100	2,530	1,980	1,150	1,300	1,640	1,640	1,050	1,550
19	2,510	2,220	3,920	1,100	2,090	2,170	1,150	1,190	1,700	1,610	900	1,670
20	4,990	2,120	5,450	1,150	3,090	1,670	1,420	1,320	1,490	1,640	850	1,440
21	3,480	2,000	6,130	15,000	3,010	1,550	1,730	1,700	1,490	1,700	850	1,220
22	3,480	4,180	5,070	21,900	6,710	1,440	1,670	1,670	1,550	1,840	850	1,130
23	4,620	4,930	3,870	16,600	3,940	1,350	1,700	1,440	1,390	1,940	828	1,050
24	7,280	4,650	3,510	22,500	2,890	2,490	1,490	1,300	1,240	1,840	783	925
25	6,420	4,260	3,630	20,400	2,240	2,010	1,380	1,270	1,160	1,540	783	805
26	3,400	3,510	4,610	12,800	2,090	1,700	1,410	1,320	1,380	1,300	875	761
27	2,890	3,090	3,190	9,420	1,870	1,520	1,380	1,410	1,590	1,220	1,020	783
28	2,350	2,710	2,710	8,610	1,670	1,490	1,320	1,490	2,030	1,220	1,220	828
29	2,000	2,620	2,350	7,270	-	1,460	1,350	1,550	2,510	1,150	1,330	875
30	2,040	2,980	2,040	5,820	-	1,350	1,350	1,490	2,170	1,160	1,300	900
31	4,970	-	3,150	4,580	-	1,270	-	1,440	-	1,130	1,160	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	65,716	7,280	530	2,120	11.0	12.68	130,300
November.....	144,060	25,000	2,000	4,802	24.9	27.78	285,700
December.....	90,520	8,130	1,390	2,920	15.1	17.41	179,500
Calendar year 1934.....	829,864	25,000	516	2,274	11.8	159.93	1,646,000
January.....	199,740	22,500	1,100	6,443	33.4	38.51	396,200
February.....	82,270	6,710	1,670	2,938	15.2	15.83	163,200
March.....	60,740	6,440	1,160	1,959	10.2	11.76	120,500
April.....	37,120	1,730	900	1,237	6.41	7.15	73,650
May.....	42,100	1,700	1,100	1,358	7.04	8.12	83,500
June.....	53,060	2,510	1,160	1,789	9.17	10.23	105,200
July.....	48,060	2,330	1,130	1,550	8.03	9.28	95,350
August.....	30,914	1,380	783	997	5.17	5.96	61,320
September.....	41,838	5,000	713	1,395	7.23	8.07	82,980
Water year 1934-35.....	896,138	25,000	530	2,456	12.7	172.76	1,777,000

## Soleduck River near Fairholm, Wash.

Location.- Water-stage recorder, lat. 46°2'30", long. 123°57'30", 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 1935.

Extremes.- Maximum discharge during year, 23,000 second-feet Nov. 5 (gage height, 14.4 feet); minimum discharge, 69 second-feet Sept. 12; minimum gage height, 1.24 feet Oct. 7.

1917-21, 1933-35: Maximum discharge, 24,300 second-feet Dec. 21, 1933 (gage height, 14.9 feet); minimum, 58 second-feet Sept. 29, Oct. 2, 3, 1918 (gage height, 0.48 foot, former datum).

Remarks.- Records good except those above 5,000 second-feet, which are fair. Discharge estimated because of ice Jan. 19-20. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 22

1.2	69	4.5	1,580
1.5	99	5.0	2,070
2.0	200	6.0	3,400
2.5	369	7.0	5,160
3.0	560	8.0	7,500
3.5	855	9.0	9,550
4.0	1,190	10.0	11,950

Table for Jan. 23 to Sept. 30

1.3	65	4.0	1,290
1.5	106	5.0	2,230
2.0	229	6.0	3,580
2.5	393	7.0	5,330
3.0	610	8.0	9,580
3.5	910	11.0	14,350

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	1,370	885	1,540	2,280	546	351	479	528	474	212	100
2	76	1,510	789	2,610	2,780	520	331	450	528	415	201	96
3	76	1,780	796	2,480	2,120	497	317	454	488	419	198	91
4	75	1,720	696	1,620	1,650	458	304	485	565	386	191	89
5	73	12,500	620	1,410	1,280	426	291	585	726	397	180	67
6	72	2,500	620	1,760	1,120	404	278	551	845	365	173	83
7	72	1,450	615	1,190	980	390	272	506	878	351	168	81
8	111	1,160	585	948	878	368	262	497	732	358	165	77
9	101	915	535	783	774	351	256	515	687	351	163	75
10	85	789	501	686	744	338	256	462	726	331	163	73
11	79	708	1,030	655	512	480	278	419	605	348	156	71
12	52	715	610	605	726	1,320	348	412	605	393	151	77
13	80	885	686	540	738	2,460	426	446	621	458	161	267
14	76	1,190	680	498	704	1,700	423	520	621	515	161	382
15	76	1,300	600	479	654	1,120	470	565	533	479	144	608
16	77	1,190	580	471	638	945	515	497	488	400	137	1,510
17	74	885	686	430	996	732	458	510	488	382	140	461
18	72	759	1,500	389	819	632	426	510	502	341	170	298
19	449	665	1,420	375	800	580	423	470	506	334	146	278
20	1,220	645	2,040	375	1,200	524	514	565	454	334	130	238
21	839	625	3,930	7,240	1,140	470	605	728	462	334	121	209
22	1,010	1,530	1,790	12,900	2,500	442	580	670	462	331	119	188
23	1,520	1,810	1,500	8,670	1,400	423	565	533	423	331	117	170
24	2,520	1,580	1,120	14,200	1,050	665	515	474	390	314	110	158
25	1,760	1,540	1,080	10,600	845	551	488	466	372	278	106	144
26	885	1,190	1,540	4,580	738	470	497	492	419	250	104	135
27	645	980	1,080	2,830	660	419	479	528	462	235	104	128
28	531	885	686	2,180	600	426	474	561	565	235	104	124
29	446	855	777	1,960	-	423	497	575	565	223	108	117
30	397	1,050	670	2,010	-	390	515	558	585	218	108	113
31	691	-	964	1,710	-	372	-	528	-	221	104	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				14,344	2,520	72	463	5.86	6.78	28,450		
November.....				46,659	12,500	625	1,555	19.7	21.98	92,550		
December.....				31,589	3,930	501	1,019	12.9	14.87	62,660		
Calendar year 1934.....				245,069	12,500	72	671	8.49	115.42	486,100		
January.....				88,912	14,200	375	2,868	36.3	41.85	176,400		
February.....				31,604	2,780	600	1,129	14.3	14.89	62,690		
March.....				19,742	2,460	338	637	6.06	9.29	39,160		
April.....				12,414	605	256	414	5.24	5.85	24,620		
May.....				15,922	728	412	516	6.55	7.53	31,700		
June.....				16,831	878	372	561	7.10	7.92	33,580		
July.....				10,801	515	218	348	4.41	5.06	21,420		
August.....				4,493	212	104	145	1.64	2.12	8,910		
September.....				6,325	1,310	71	211	2.67	2.98	12,560		
Water year 1934-35.....				299,696	14,200	71	821	10.4	141.12	594,500		



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

Location.— Water-stage recorder, lat. 48°3'20", long. 123°34'55", in NE¼ 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 1935.

Average discharge.— 21 years, 1,496 second-feet.

Extremes.— Maximum discharge observed during year, 25,200 second-feet Nov. 5 (gage height, 10.17 feet); minimum, 75 second-feet Oct. 14 (gage height, -0.17 foot, result of regulation); minimum mean daily discharge, 180 second-feet Sept. 2, result of regulation.

1897-1901, 1918-35: Maximum discharge, 26,700 second-feet Dec. 21, 1933 (gage height, 10.5 feet, from flood marks); minimum mean daily discharge, 11 second-feet Sept. 18, 25, 1932, result of regulation.

Remarks.— Records good except those for discharges above 10,000 second-feet, which are poor. Discharge determined Nov. 5-7, Feb. 17, Mar. 3, Apr. 26 to May 1, from records of power load and estimated inflow. Flow regulated for power by operation of Glines Canyon Reservoir (capacity at elevation 610 feet, 38,650 acre-feet). Diversions for power returned to river above gage. Many discharge measurements and reservoir gage heights furnished by Northwestern Power & Light Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	3,030	1,180	1,610	5,010	1,760	1,470	1,300	2,160	1,760	1,280	*663
2	506	2,630	*456	2,500	5,290	1,820	1,180	1,260	*2,200	1,660	1,180	180
3	473	3,010	568	2,660	*4,560	1,800	1,080	1,140	2,160	1,110	1,060	597
4	480	*2,640	1,150	2,240	5,010	1,440	1,120	1,220	2,160	1,530	*616	854
5	415	16,000	1,100	2,060	3,890	1,600	1,030	*1,210	2,530	1,490	748	818
6	533	11,000	948	*2,360	2,640	1,490	1,150	1,290	3,050	1,530	1,060	706
7	*308	4,990	1,120	1,810	3,180	1,410	*614	1,380	3,310	*1,230	972	824
8	279	2,670	1,150	1,500	3,060	1,320	708	1,550	3,060	1,330	1,010	*464
9	503	2,300	*770	1,320	2,720	1,300	1,020	1,730	*2,460	1,530	1,030	514
10	471	2,010	1,080	1,150	*2,610	1,100	1,110	1,690	2,610	1,560	1,030	790
11	458	*1,910	972	1,130	2,640	1,010	1,100	1,370	2,530	1,520	668	754
12	556	2,700	1,070	1,030	2,310	1,840	1,010	*1,510	2,480	1,660	591	656
13	428	3,170	1,430	*804	2,450	3,300	1,030	1,530	2,640	1,630	993	724
14	*216	3,660	1,520	940	2,120	2,930	*684	1,530	2,360	1,970	980	937
15	292	3,600	1,270	970	1,990	2,340	761	1,630	2,270	2,390	974	1,630
16	445	2,920	*1,150	1,010	1,980	1,960	1,070	1,680	2,010	1,860	910	2,220
17	472	2,110	1,190	956	2,020	1,730	1,100	1,680	1,970	1,920	958	1,300
18	466	1,670	1,450	824	2,070	1,640	1,070	1,530	2,070	1,660	*668	1,300
19	479	1,750	1,730	812	*1,910	1,650	1,200	*1,370	2,070	1,610	666	1,250
20	733	1,490	2,560	812	2,340	1,580	1,200	1,490	1,950	1,660	980	1,280
21	*1,330	1,290	4,160	2,840	2,180	1,530	*710	1,680	1,910	*1,580	806	1,240
22	2,170	2,170	2,910	7,430	3,330	1,530	892	1,580	2,020	1,630	792	778
23	1,680	2,330	*2,000	7,500	2,820	1,500	1,210	1,610	1,710	1,830	768	568
24	4,130	2,230	1,930	10,700	2,330	*1,130	1,180	1,780	1,700	1,730	736	760
25	3,740	*2,110	1,740	14,200	2,130	1,430	1,160	1,610	1,640	1,510	*431	568
26	1,810	1,630	2,200	9,150	1,970	1,490	1,260	*1,730	1,800	1,370	583	555
27	1,760	1,750	1,650	*6,850	1,870	1,460	1,260	2,180	2,040	1,200	875	617
28	*1,280	1,570	1,290	6,200	1,660	1,530	*226	2,150	2,320	*1,060	730	598
29	1,150	1,020	1,420	5,590	-	1,790	1,140	2,410	2,320	1,170	774	*310
30	1,300	1,690	*1,160	5,390	-	1,740	1,180	2,240	1,780	2,240	982	445
31	2,800	-	1,520	4,650	-	1,620	-	2,260	-	1,230	983	-

Month	Observed				Gain or loss 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 square miles
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	4,130	216	1,005	61,790	+3,760	65,550	1,066	4.07	4.69
November.....	16,000	1,020	3,105	184,800	-3,570	181,230	3,045	11.6	12.94
December.....	4,160	436	1,487	91,460	+3,530	95,000	1,546	6.90	6.80
Calendar year 1934	16,000	75	1,713	1,240,000	+490	1,240,000	1,713	6.54	88.77
January.....	14,200	804	3,513	216,000	-2,650	213,400	3,471	13.2	15.22
February.....	5,290	1,660	2,792	155,100	+2,560	157,600	2,838	10.3	11.25
March.....	3,300	1,010	1,671	102,700	-4,210	98,490	1,602	6.11	7.04
April.....	1,470	226	1,028	61,160	-1,540	59,620	1,002	3.82	4.26
May.....	2,410	1,140	1,610	99,000	+5,750	104,800	1,704	6.60	7.49
June.....	3,310	1,640	2,249	133,800	-70	133,700	2,247	8.56	9.87
July.....	2,390	1,080	1,575	96,570	-300	96,670	1,571	6.00	6.92
August.....	1,280	431	863	53,040	-1,400	51,640	840	3.21	3.70
September.....	2,220	180	829	49,330	-1,130	48,200	810	3.09	3.45
Water year 1934-35	16,000	180	1,803	1,305,000	+820	1,306,000	1,804	6.89	93.33

\*Sunday.

## DOSEWALLIPS RIVER BASIN

Dosewallips River near Brinnon, Wash.

Location.— Water-stage recorder, lat. 47°43', long. 123°, in SW $\frac{1}{4}$  sec. 24, T. 26 N., R. 3 W., half a mile above Corrigenda ranger station and 5 $\frac{1}{2}$  miles northwest of Brinnon.

Drainage area.— 109 square miles.

Records available.— October 1930 to September 1935.

Extremes.— Maximum discharge during year, 10,900 second-feet Nov. 5 (gage height, 9.57 feet); minimum, 98 second-feet Oct. 18, 19 (gage height, 1.88 feet).  
1930-35: Maximum discharge, that of Nov. 5, 1934; minimum, 88 second-feet Oct. 16, 1930 (gage height, 1.77 feet).

Remarks.— Records excellent for October and February to September, good for November to January. No diversions or regulation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	106	1,490	524	425	1,320	414	289	450	760	560	361	245
2	104	988	443	533	1,680	393	278	441	760	555	333	232
3	104	981	421	580	1,320	377	271	459	705	585	329	222
4	101	858	404	600	1,070	361	264	515	790	535	305	226
5	101	5,510	395	580	910	349	257	612	940	490	285	226
6	103	1,980	408	654	820	349	250	634	1,110	459	278	215
7	111	1,160	412	551	760	357	246	590	1,150	446	285	203
8	194	860	416	484	683	333	243	575	970	436	282	190
9	193	707	404	430	628	317	236	580	850	423	285	193
10	167	632	391	395	590	306	243	545	850	432	297	179
11	152	626	659	378	570	317	260	510	820	477	278	171
12	144	751	695	353	555	504	317	500	850	570	289	168
13	122	1,220	695	333	545	850	373	535	850	694	321	235
14	112	2,340	677	311	500	790	365	600	790	760	297	499
15	114	1,740	580	300	477	634	385	617	732	760	250	617
16	109	1,140	538	292	459	540	385	600	698	672	232	621
17	104	900	492	278	530	495	361	590	678	628	240	353
18	103	777	528	282	500	454	341	550	688	560	243	271
19	244	685	542	239	490	428	329	535	683	540	222	301
20	686	610	677	233	535	405	357	617	628	535	218	260
21	854	570	1,130	1,030	535	381	369	820	683	530	222	229
22	577	738	832	3,110	760	385	353	910	705	555	226	212
23	503	884	654	2,550	666	381	333	760	606	580	218	206
24	1,440	758	575	4,080	575	418	321	683	555	540	212	190
25	1,580	677	548	4,880	520	401	333	656	535	498	206	174
26	877	605	556	2,930	477	399	373	672	639	428	212	166
27	565	585	506	1,920	454	365	385	732	705	401	229	183
28	494	546	474	1,470	436	353	393	760	790	361	254	161
29	435	515	452	1,190	-	361	425	620	705	361	278	161
30	494	575	412	1,320	-	345	454	760	595	357	268	166
31	1,900	-	408	1,150	-	317	-	760	-	349	250	-
Month				Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off		
										Inches	Acres-feet	
October.....				12,691		1,900	101	409	3.75	4.32	25,170	
November.....				32,406		5,610	515	1,060	9.91	11.06	64,280	
December.....				16,846		1,130	391	543	4.96	5.74	33,410	
Calendar year 1934.....				191,403		5,610	101	524	4.81	65.27	379,600	
January.....				33,811		4,880	233	1,091	10.0	11.53	67,080	
February.....				19,365		1,680	436	692	6.35	6.61	38,410	
March.....				13,068		850	305	422	3.87	4.46	25,920	
April.....				9,787		454	236	326	2.99	3.34	19,410	
May.....				19,388		910	441	625	5.73	6.61	38,460	
June.....				22,810		1,150	535	760	6.97	7.76	45,240	
July.....				16,095		760	349	519	4.76	5.49	31,920	
August.....				8,205		361	206	265	2.43	2.80	16,270	
September.....				7,463		621	161	248	2.28	2.54	14,780	
Water year 1934-35.....				211,925		5,610	101	581	5.33	72.28	420,300	

## SKOKOMISH RIVER BASIN

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

Location.- Staff gage, lat. 47°31', long. 123°20', in NW¼ sec. 4 (revised), T. 23 N., R. 5 W., 2 miles above Dry Creek and 1¼ miles (revised) northwest of Hoodsport. Prior to Nov. 1, 1934, water-stage recorder at same site and datum.

Drainage area.- 60 square miles.

Records available.- July 1924 to September 1935.

Average discharge.- 11 years, 468 second-feet.

Extremes.- Maximum discharge during year, 23,300 second-feet Nov. 5 (gage height, 14.4 feet, from flood marks); minimum, 53 second-feet Oct. 5-7 (gage height, 1.49 feet). 1924-35: Maximum, that of Nov. 5, 1934; minimum, 16 second-feet Sept. 23, 1930 (gage height, 1.12 feet).

Remarks.- Records fair except those for Oct. 12-31, which were estimated and are poor. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 4

1.5	54	3.0	487
1.7	79	3.5	770
2.0	134	4.0	1,100
2.3	217	4.5	1,486
2.6	320	5.0	1,960

Table for Nov. 5 to Sept. 30

4.0	1,200	8.0	7,250
4.5	1,640	9.0	9,500
5.0	2,110	10.0	11,900
5.5	2,630	11.0	14,400
6.0	3,300	13.0	19,500
7.0	5,150		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	3,450	615	555	1,280	342	232	500	615	405	187	108
2	55	1,400	555	1,040	1,730	302	232	475	645	384	187	108
3	55	1,440	500	1,120	1,420	321	216	500	555	384	187	104
4	54	1,400	450	900	1,120	321	216	585	645	362	179	102
5	53	15,000	428	700	1,040	321	216	708	810	362	169	98
6	53	12,400	428	740	880	321	202	675	920	321	161	95
7	56	7,040	128	585	740	302	202	475	960	321	164	92
8	362	2,410	428	428	675	265	202	585	775	321	156	88
9	206	1,550	428	342	555	266	202	615	708	302	156	87
10	126	615	420	302	500	266	202	555	810	302	159	82
11	108	555	1,200	266	500	266	232	500	675	321	156	79
12		528	675	342	450	645	321	450	675	362	156	75
13		1,200	615	283	428	1,640	405	500	675	450	154	111
14	85	2,880	585	232	428	1,370	405	585	645	555	154	475
15		1,730	555	266	384	775	428	585	585	475	136	845
16		1,550	542	232	342	615	362	528	555	405	128	740
17		1,200	528	202	615	545	384	708	528	405	121	428
18		880	645	187	500	475	342	615	528	342	138	283
19		775	675	177	450	405	342	555	500	342	132	266
20	600	675	1,280	177	645	384	362	615	475	342	117	232
21		675	2,750	475	615	342	475	810	500	321	123	187
22		1,730	1,200	3,780	2,010	342	450	810	528	321	123	171
23		1,730	810	2,980	1,040	302	405	675	450	321	115	156
24	1,900	1,460	700	4,340	675	321	384	615	428	302	111	147
25		1,280	600	6,530	555	302	384	585	405	302	106	136
26		845	675	2,680	450	283	450	645	475	248	109	134
27		675	475	2,010	428	266	475	675	500	232	111	125
28		645	405	1,640	384	266	450	708	555	232	115	117
29	1,350	555	342	1,460	-	266	475	740	555	202	115	117
30		740	321	1,640	-	266	475	675	450	202	117	113
31		-	342	1,280	-	248	-	645	-	202	108	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	20,860		53	673	11.2	12.91	41,380
November.....	69,013	15,000	528	2,300	38.3	42.73	136,900
December.....	20,800	2,750	321	665	11.1	12.80	40,860
Calendar year 1934.....	227,766	15,000	53	624	10.4	141.15	451,800
January.....	38,291	6,830	177	1,235	20.6	23.75	75,950
February.....	20,839	2,010	342	744	12.4	12.91	41,330
March.....	13,369	1,640	248	431	7.18	8.28	26,520
April.....	10,128	475	202	338	5.63	6.28	20,090
May.....	18,697	810	450	610	10.2	11.76	37,480
June.....	18,130	960	405	604	10.1	11.27	35,960
July.....	10,348	555	202	334	5.57	6.42	20,520
August.....	4,350	187	106	140	2.33	2.69	8,630
September.....	5,903	845	75	197	3.28	3.66	11,710
Water year 1934-35.....	250,728	15,000	53	667	11.4	155.46	497,300

Location.— Water-stage recorder, lat. 47°20'30", long. 123°16'30", in NE<sup>1</sup> sec. 2, T. 21 N., R. 5 W., 5 miles above Vance Creek and 8 miles west of Union.

Records available.- August 1931 to September 1935.

Extremes.- Maximum discharge during year, 17,000 second-feet Jan. 22 (gage height, 11.0 feet); minimum, 81 second-feet Sept. 12.  
1931-35: Maximum discharge, that of Jan. 22, 1935; minimum, 71 second-feet Oct. 11, 1932.

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

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	2,260	1,120	1,600	1,870	682	512	598	423	244	127	96
2	96	2,180	948	2,800	1,700	647	466	572	423	227	124	94
3	92	2,800	893	2,690	1,560	619	467	572	394	223	121	92
4	92	2,630	810	2,590	1,370	592	448	612	405	219	118	92
5	89	2,990	775	1,950	1,240	565	423	661	448	219	118	89
6	89	3,660	661	2,020	1,080	565	411	640	486	206	116	89
7	89	2,160	643	1,500	960	612	411	578	486	206	113	87
8	277	1,520	607	1,180	875	572	405	558	461	202	113	87
9	359	1,190	556	992	814	538	405	572	467	195	113	87
10	232	1,000	532	860	766	512	430	532	518	187	110	85
11	182	871	780	790	798	572	492	506	436	183	110	83
12	155	810	770	724	796	1,840	647	467	411	187	108	87
13	142	1,060	697	652	866	3,230	728	473	411	195	108	225
14	134	2,070	652	589	839	2,380	654	512	405	202	108	566
15	126	1,760	715	564	774	1,370	654	506	370	206	108	1,180
16	118	1,560	810	556	750	1,050	654	492	342	195	106	1,130
17	114	1,320	848	516	990	902	592	675	332	183	110	541
18	110	1,090	1,600	476	980	798	545	592	305	176	113	370
19	310	948	1,620	438	902	735	518	525	300	169	106	305
20	1,600	904	1,810	436	1,080	682	611	512	286	165	105	258
21	1,550	893	3,440	5,170	1,320	633	857	572	281	162	101	219
22	1,580	2,400	2,000	14,300	3,060	619	798	565	291	162	98	195
23	2,180	2,770	1,460	8,990	1,620	599	742	506	287	158	98	176
24	2,820	2,390	1,230	11,100	1,140	682	682	467	253	158	98	165
25	2,950	2,000	1,190	9,620	940	675	668	454	244	152	96	158
26	1,370	1,440	1,600	5,030	830	612	690	467	249	141	96	152
27	905	1,240	1,180	3,230	766	578	675	473	253	138	94	141
28	714	1,150	992	2,490	728	578	654	473	295	135	94	138
29	604	1,070	871	2,070	-	585	633	480	316	132	101	132
30	580	1,210	751	1,980	-	558	633	454	287	130	105	130
31	1,330	-	930	1,750	-	532	-	430	-	127	98	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	21,081	2,950	89	680	8.40	9.68	41,810
November.....	57,346	8,990	810	1,912	23.6	26.33	113,700
December.....	33,531	3,440	532	1,082	13.4	15.45	66,510
Calendar year 1934.....	267,376	8,990	89	733	9.05	122.81	530,300
January.....	89,531	14,300	436	2,888	35.7	41.16	177,600
February.....	31,216	3,060	728	1,115	13.8	14.37	61,920
March.....	26,113	3,230	612	842	10.4	11.99	51,790
April.....	17,525	857	405	584	7.21	8.04	34,760
May.....	16,496	675	430	532	6.67	7.57	32,720
June.....	10,825	518	244	361	4.46	4.98	21,470
July.....	5,584	244	127	180	2.22	2.56	11,080
August.....	3,338	127	94	108	1.33	1.53	6,620
September.....	7,249	1,180	83	242	2.99	3.34	14,380
Water year 1934-35.....	319,835	14,300	83	876	10.8	147.00	654,400

## NISQUALLY RIVER BASIN

Nisqually River near Alder, Wash.

Location.- Water-stage recorder, lat. 46°46', long. 122°15', in SW¼ sec. 23, T. 15 N., R. 4 E., 2½ miles southeast of Alder.

Drainage area.- 250 square miles.

Records available.- August 1931 to September 1935.

Extremes.- Maximum discharge during year, 14,400 second-feet Oct. 25 (gage height, 9.88 feet); minimum, 182 second-feet Oct. 19 (gage height, 1.43 feet).  
1931-35: Maximum discharge, 25,000 second-feet Dec. 22, 1933 (gage height, 13.2 feet); minimum, that of Oct. 19, 1935.

Remarks.- Records excellent. No diversions or regulation. Gage-height record collected in cooperation with city of Tacoma.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

1.4	174	3.4	1,250	6.5	5,650
1.6	229	3.8	1,570	7.0	6,660
1.8	297	4.2	1,960	7.5	7,850
2.0	380	4.6	2,440	8.0	9,100
2.3	530	5.0	3,010	9.0	11,720
2.6	705	5.5	3,830	10.0	14,700
3.0	970	6.0	4,700	9.0	11,720

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	313	1,910	1,570	1,180	2,510	935	865	1,250	1,220	970	563	568
2	309	2,630	1,400	1,280	2,790	865	798	1,180	1,180	830	546	803
3	280	3,400	1,320	1,480	2,790	830	759	1,140	1,140	817	552	597
4	245	3,180	1,280	1,540	2,510	810	741	1,220	1,220	778	546	581
5	235	8,320	1,180	1,900	2,190	753	747	1,320	1,440	772	524	541
6	268	9,500	1,110	2,130	1,960	717	717	1,440	1,660	735	502	536
7	279	7,600	1,110	1,750	1,700	699	693	1,320	1,800	759	486	514
8	313	5,040	1,180	1,480	1,480	657	669	1,280	1,660	784	475	546
9	475	3,320	1,140	1,280	1,320	609	627	1,320	1,400	705	519	536
10	546	2,440	1,080	1,140	1,220	580	609	1,280	1,520	693	591	530
11	508	1,660	1,140	1,080	1,220	574	639	1,220	1,480	687	541	440
12	460	1,680	1,400	1,000	1,140	1,180	765	1,080	1,320	729	597	371
13	297	1,570	1,400	900	1,250	2,190	1,080	1,040	1,400	900	711	341
14	268	1,750	1,280	830	1,080	1,650	1,110	1,110	1,360	1,110	651	550
15	272	1,750	1,140	791	970	1,570	1,110	1,280	1,280	1,320	502	486
16	217	1,400	1,110	778	900	1,320	1,180	1,320	1,110	1,220	440	620
17	203	1,260	1,220	729	1,040	1,260	1,110	1,320	1,040	1,000	389	455
18	203	1,120	1,280	669	1,110	1,110	1,040	1,360	1,080	900	553	354
19	190	1,080	1,660	603	1,110	1,080	1,040	1,260	1,080	817	440	384
20	682	1,110	3,740	568	1,110	1,000	1,110	1,260	970	810	430	407
21	765	1,250	4,880	1,100	1,580	900	1,180	1,480	1,000	824	460	416
22	935	1,560	4,620	7,180	1,960	865	1,220	1,700	1,110	900	502	384
23	1,500	2,260	3,400	6,840	1,760	791	1,260	1,520	970	935	508	363
24	4,350	2,310	2,860	6,030	1,440	935	1,140	1,360	900	865	412	367
25	12,000	2,190	2,310	6,230	1,280	1,000	1,110	1,280	765	759	445	333
26	6,620	2,020	2,380	4,880	1,140	865	1,140	1,320	865	687	530	346
27	3,260	1,900	1,850	3,920	1,040	810	1,180	1,400	935	621	597	330
28	2,020	1,660	1,620	3,320	1,000	935	1,180	1,400	1,040	657	711	412
29	1,520	1,570	1,570	3,010	-	1,110	1,180	1,480	1,110	585	753	455
30	1,280	1,660	1,400	2,790	-	1,000	1,250	1,320	1,040	574	627	440
31	1,250	-	1,250	2,510	-	935	-	1,250	-	574	558	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	42,073	12,000	190	1,357	5.43	6.26	83,450
November.....	80,340	9,500	1,080	2,678	10.7	11.94	159,400
December.....	55,880	4,880	1,080	1,803	7.21	8.31	110,800
Calendar year 1934.....	495,674	12,000	190	1,358	5.43	73.70	983,200
January.....	70,728	7,180	568	2,282	9.13	10.53	140,300
February.....	42,320	2,790	900	1,511	6.04	6.29	83,940
March.....	30,725	2,190	574	921	3.96	4.56	80,940
April.....	29,259	1,250	609	975	3.90	4.35	57,990
May.....	40,490	1,700	1,040	1,306	5.22	6.02	80,310
June.....	36,095	1,800	765	1,203	4.81	5.37	71,590
July.....	25,317	1,320	574	817	3.27	3.77	50,220
August.....	16,661	753	389	537	2.15	2.48	33,050
September.....	13,846	620	333	462	1.85	2.06	27,460
Water year 1934-35.....	483,714	12,000	190	1,325	5.30	71.94	959,400

## PUYALLUP RIVER BASIN

Puyallup River near Orting, Wash.

Location.- Water-stage recorder, lat. 47°2'30", long. 122°12'20", in SW $\frac{1}{4}$  sec. 17, T. 18 N., R. 5 E., 4 miles south of Orting.

Drainage area.- 154 square miles.

Records available.- September 1931 to September 1935.

Extremes.- Maximum discharge during year, 8,900 second-feet Nov. 5 (gage height, 9.0 feet); minimum, 86 second-feet Oct. 19 (gage height, 3.16 feet, the result of regulation).

1931-35: Maximum discharge, not determined, occurred Dec. 9 or 10, 1933; minimum, that of Oct. 19, 1934.

Remarks.- Records fair. Discharge estimated for the period Dec. 28 to Jan. 2. Water diverted for Electron Power plant of Puget Sound Power & Light Co. returned to river above gage. Slight regulation due to pondage in connection with Electron power plant.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	248	1,220	740	660	1,190	413	480	496	716	980	656	446
2	250	1,300	652	680	1,280	471	437	471	680	824	680	420
3	270	1,540	666	1,110	1,160	462	420	462	680	788	740	378
4	218	1,660	632	1,030	1,050	462	406	496	752	716	620	339
5	198	5,460	586	1,020	932	437	428	528	860	620	446	238
6	220	3,880	562	1,090	812	420	413	562	1,000	551	447	300
7	242	3,590	586	968	728	437	392	516	1,030	551	471	252
8	282	2,320	608	860	656	413	385	505	896	620	496	259
9	427	1,580	597	764	608	399	364	528	824	551	562	259
10	536	1,240	540	704	551	385	357	516	920	528	586	357
11	510	1,040	716	680	620	385	378	480	884	516	540	454
12	417	920	956	620	551	803	420	446	896	597	608	378
13	300	908	944	574	528	1,390	505	446	1,040	728	608	371
14	258	1,060	812	528	480	1,020	480	471	956	956	480	632
15	242	1,060	668	516	462	836	488	540	956	1,180	344	454
16	201	836	597	516	437	716	516	528	800	968	312	528
17	186	752	716	496	496	656	496	528	764	776	317	371
18	179	704	704	480	505	597	462	528	812	692	462	306
19	171	620	982	428	488	562	462	480	824	656	334	392
20	460	656	2,460	399	505	516	516	516	740	704	339	437
21	428	716	2,390	692	540	480	516	632	788	740	357	399
22	356	812	2,090	3,370	656	446	496	680	848	764	364	357
23	329	908	1,800	3,040	597	420	488	656	752	762	339	371
24	2,220	800	1,680	2,700	516	446	454	608	716	680	275	300
25	5,360	908	1,430	2,700	480	496	437	608	656	597	312	287
26	3,220	824	1,460	2,240	471	462	462	620	692	551	317	283
27	2,090	836	1,200	1,800	446	454	471	656	764	551	378	350
28	1,330	728	1,040	1,530	428	528	480	704	836	586	528	392
29	872	716	880	1,350	-	656	488	716	920	528	848	413
30	620	800	720	1,510	-	562	496	668	992	620	716	428
31	680	-	700	1,200	-	505	-	656	-	620	505	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	23,320	5,360	171	752	4.88	5.63	46,250
November.....	40,394	5,460	620	1,346	8.74	9.75	80,120
December.....	31,076	2,460	540	1,002	6.51	7.50	61,640
Calendar year 1934.....	297,323	5,460	171	815	5.29	71.77	589,800
January.....	36,275	3,370	399	1,170	7.60	8.76	71,950
February.....	18,173	1,280	428	649	4.21	4.38	36,060
March.....	17,235	1,390	385	556	3.61	4.16	34,190
April.....	13,583	516	357	453	2.94	3.28	26,960
May.....	17,247	716	446	556	3.61	4.16	34,210
June.....	24,994	1,040	656	833	5.41	6.04	49,570
July.....	21,491	1,180	516	693	4.50	5.19	42,830
August.....	14,987	740	275	483	3.14	3.62	29,730
September.....	11,131	632	238	371	2.41	2.69	22,080
Water year 1934-35.....	289,916	5,460	171	739	4.80	65.16	535,400

## Little Nisqually River near Alder, Wash.

Location.- Water-stage recorder, lat. 46°47'20", long. 122°18'45", in NW¼ sec. 16, T. 15 N., R. 4 E., 1,500 feet above mouth, 3,000 feet above diversion dam of Tacoma's municipal power plant on Nisqually River, and 1½ miles southwest of Alder.

Drainage area.- 28.5 square miles.

Records available.- August 1920 to September 1935.

Average discharge.- 15 years, 124 second-feet.

Extremes.- Maximum discharge during year, 1,890 second-feet Jan. 22 (gage height, 5.90 feet); minimum, 4.4 second-feet Sept. 7-9 (gage height, 0.58 foot).  
1920-35: Maximum discharge, 2,430 second-feet Dec. 20, 21, 1933 (gage height, 6.8 feet); minimum, 0.9 second-foot July 17, 1928; minimum gage height, 0.55 foot Sept. 1, 2, 1934.

Remarks.- Records good except those for period of ice effect, Jan. 16-21, which are fair. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-24

0.5	2.0	3.0	572
.7	11.9	3.5	770
.9	30	4.0	980
1.2	64	4.5	1,205
1.5	116	5.0	1,450
2.0	233	5.5	1,670
2.5	387		

Table for Oct. 25 to Sept. 30

0.5	2.0	3.0	540
.7	10.4	3.5	740
.9	25	4.0	960
1.2	54	4.5	1,185
1.5	99	5.0	1,420
2.0	212	5.5	1,670
2.5	360		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	238	235	122	337	90	68	133	62	35	12	6.5
2	6.4	603	192	137	367	80	64	116	58	33	10	6.0
3	8.2	802	170	177	340	76	62	108	53	32	9.8	6.0
4	7.0	660	158	280	277	70	60	116	56	30	9.8	5.6
5	6.4	1,170	135	395	258	64	59	137	63	28	9.2	5.2
6	6.4	1,100	122	384	207	66	58	144	70	26	9.2	5.2
7	5.9	670	114	274	170	60	56	118	73	24	8.6	4.4
8	8.9	521	112	202	139	55	57	107	60	31	8.6	4.4
9	12	317	101	158	116	52	54	107	53	26	8.6	4.4
10	9.6	217	90	128	99	49	53	101	59	24	8.0	4.8
11	8.2	161	92	112	103	49	64	90	53	23	8.0	4.8
12	8.2	126	99	97	253	120	73	51	20	20	8.0	4.8
13	7.0	114	96	85	122	540	192	74	49	19	7.5	8.0
14	6.4	153	85	79	103	360	177	85	47	18	7.0	65
15	7.6	163	80	76	87	260	175	105	45	17	6.5	36
16	8.2	141	79	75	80	194	180	101	39	16	6.0	44
17	7.0	120	116	70	122	156	156	131	36	15	6.5	31
18	6.4	103	163	65	144	128	135	128	35	14	9.2	24
19	7.0	96	289	65	156	114	131	103	33	14	7.5	21
20	116	124	521	65	182	99	149	96	30	13	6.5	17
21	132	177	763	360	229	87	180	114	30	13	6.5	15
22	194	309	600	1,650	502	82	187	118	30	12	6.5	14
23	481	540	412	1,230	357	78	194	99	28	12	6.5	12
24	960	560	353	1,070	238	100	168	79	25	11	6.5	11
25	1,320	484	286	960	177	105	158	70	24	11	6.5	10
26	692	353	347	720	139	87	156	73	23	11	6.5	9.8
27	340	295	287	580	116	76	149	78	23	11	5.6	9.8
28	200	243	202	484	103	79	139	76	23	13	5.6	9.2
29	133	233	173	406	-	82	135	78	31	12	7.5	8.6
30	99	249	133	377	-	79	137	70	41	10	8.6	8.6
31	92	-	124	344	-	78	-	67	-	11	7.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,901.7	1,320	5.9	158	5.54	6.39	9,720
November.....	11,242	1,170	96	375	13.2	14.73	22,500
December.....	6,699	763	79	216	7.58	8.74	13,290
Calendar year 1934.....	52,307.0	1,320	3.3	143	5.02	68.35	103,700
January.....	11,229	1,650	65	362	12.7	14.64	22,270
February.....	5,347	502	60	191	6.70	6.98	10,610
March.....	3,750	540	49	121	4.25	4.90	7,440
April.....	3,675	194	53	122	4.28	4.78	7,290
May.....	3,100	144	67	100	3.51	4.05	6,150
June.....	1,302	73	23	43.4	1.52	1.70	2,580
July.....	585	35	10	18.9	.663	.76	1,160
August.....	239.8	12	5.6	7.7	.272	.31	475
September.....	416.1	65	4.4	13.9	.468	.54	825
Water year 1934-35.....	52,486.6	1,650	4.4	144	5.05	68.52	104,100

## Carbon River near Fairfax, Wash.

Location.— Water-stage recorder, lat. 47°1'30", long. 122°2', 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 1935. November 1910 to July 1912 at station 1½ miles upstream.

Extremes.— Maximum discharge during year, 5,030 second-feet Oct. 25 (gage height, 7.75 feet); minimum, 102 second-feet Oct. 19; minimum gage height, 1.17 feet Sept. 25, 28, 1910-12, 1929-35: Maximum discharge, 8,030 second-feet Dec. 9, 1933 (gage height, 10.2 feet); minimum (estimated), 40 second-feet Jan. 20, 1930 (stage discharge relation affected by ice).

Remarks.— Records good except those above 1,000 second-feet, which are fair. Water diverted for use in lumber industry but returned to river above gage.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-24

1.5	105
1.7	130
1.9	185
2.2	330
2.5	495
3.0	785
3.5	1,085
4.0	1,385
4.5	1,720

Table for Oct. 25 to Sept. 30

1.6	103	3.5	1,250
1.2	139	4.0	1,600
1.4	180	4.5	1,950
1.7	270	5.0	2,350
2.0	395	6.0	3,200
2.5	650	7.0	4,200
3.0	950		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	111	525	326	274	650	214	229	350	500	686	310	286
2	115	505	310	442	740	202	214	322	520	573	290	274
3	130	562	342	590	704	200	205	318	475	540	290	259
4	111	618	314	555	617	189	202	342	515	500	265	286
5	107	2,290	298	540	540	182	200	404	606	470	243	243
6	106	2,150	306	610	480	182	191	440	681	440	262	247
7	107	1,740	346	480	418	176	184	395	728	455	270	232
8	116	1,180	359	404	372	165	180	382	650	490	274	236
9	140	830	330	338	354	159	174	400	612	440	282	240
10	176	658	310	298	306	155	174	372	698	436	298	243
11	209	535	541	282	314	276	182	322	634	440	270	200
12	213	465	548	247	286	1,020	217	298	599	490	286	187
13	156	422	495	223	252	810	290	359	753	562	354	182
14	128	445	422	205	240	644	299	413	698	622	346	269
15	118	470	354	200	214	505	322	470	660	686	247	255
16	111	382	338	195	214	426	359	418	540	722	208	294
17	108	330	364	187	278	377	322	396	520	584	120	212
18	104	306	350	174	298	330	298	382	558	540	104	172
19	103	286	496	163	278	302	310	338	578	465	318	196
20	232	322	1,540	172	302	270	372	390	500	450	266	229
21	286	314	1,160	323	357	243	364	530	520	470	255	198
22	346	355	995	1,860	426	226	334	562	556	510	255	176
23	527	368	791	2,040	364	226	310	500	460	525	247	176
24	1,750	350	683	1,820	314	240	282	440	386	530	220	167
25	3,650	440	562	1,790	282	211	278	426	382	470	208	145
26	1,830	395	546	1,290	259	202	298	455	431	386	232	137
27	988	400	450	980	240	202	314	495	495	350	262	139
28	829	359	366	830	232	320	318	515	556	390	314	141
29	455	346	350	728	-	306	330	540	650	342	390	155
30	359	382	306	680	-	278	359	495	710	318	390	167
31	342	-	286	628	-	255	-	455	-	326	322	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	13,662	3,650	103	447	5.45	6.28	27,490
November.....	18,708	2,290	286	624	7.61	6.49	37,110
December.....	15,202	1,540	286	490	5.98	6.49	30,150
Calendar year 1934.....	170,790	3,650	103	466	5.71	77.54	338,800
January.....	19,528	2,040	163	630	7.68	8.85	38,730
February.....	10,321	740	214	369	4.50	4.69	20,470
March.....	9,593	1,020	155	309	3.77	4.35	19,030
April.....	8,110	372	174	270	3.29	3.67	16,090
May.....	12,914	582	298	417	5.09	5.87	25,610
June.....	17,159	753	362	572	6.98	7.79	34,050
July.....	15,208	722	318	491	5.99	6.91	30,160
August.....	8,799	404	208	284	3.46	3.99	17,450
September.....	6,323	294	137	211	2.57	2.87	12,540
Water year 1934-35.....	155,737	3,650	103	427	5.21	70.65	306,900



## Puyallup River at Puyallup, Wash.

Location.— Water-stage recorder, lat. 47°12'20", long. 122°19'30", 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 1935.

Average discharge.— 21 years, 3,305 second-feet.

Extremes.— Maximum discharge during year, 39,500 second-feet Oct. 25 (gage height, 15.82 feet); minimum daily discharge (estimated), 800 second-feet Oct. 7.  
1914-35: Maximum discharge, about 57,000 second-feet Dec. 10, 1933 (gage height, 21.4 feet); minimum probably below 350 second-feet Nov. 24, 28, Dec. 1, 3-5, 1929, (caused by regulation).

Remarks.— Records good except those partly estimated for the periods Oct. 1-22, Aug. 2 to Sept. 30, which are fair. All diversions returned to river above gage. Beginning with records for this year, monthly discharge has been corrected for regulation of large part of flow of White River in Lake Tapps. Results of Lake Tapps storage regulation and records of flow through Dieringer power plant furnished by Puget Sound Power & Light Co. Some pondage on upper Puyallup River and other tributaries.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,350	4,320	2,880	3,100	4,580	2,420	3,000	4,580	3,680	5,290	3,080	*1,230
2	1,300	4,830	*2,310	3,790	4,930	2,140	2,920	3,840	*3,520	4,320	2,850	1,210
3	1,350	6,310	3,260	5,750	*4,750	*2,140	2,550	2,850	3,760	3,840	2,490	1,880
4	1,500	*6,990	3,480	5,360	4,750	2,140	2,780	2,290	3,840	*3,000	*1,760	2,140
5	1,050	15,600	3,400	5,950	4,580	2,210	2,920	*2,780	4,160	3,000	2,490	2,210
6	950	23,800	3,480	*6,150	4,410	2,210	2,420	3,450	5,110	3,000	2,560	2,010
7	*800	18,100	3,180	5,750	4,410	2,210	*1,940	3,520	5,550	*3,000	2,140	1,940
8	1,200	11,700	3,030	5,170	4,080	2,210	2,550	3,520	4,930	3,600	2,010	*1,200
9	1,100	7,620	*2,860	4,620	3,520	2,280	2,350	3,760	*3,840	3,520	1,940	2,080
10	1,150	5,550	3,180	3,950	*2,920	*2,280	2,210	3,300	4,750	3,000	1,880	2,210
11	1,250	*4,450	3,330	3,370	3,460	2,420	2,490	2,630	4,930	2,490	*1,640	2,140
12	1,500	4,280	4,450	3,530	3,220	3,490	2,700	*2,140	4,320	2,780	2,010	1,940
13	1,250	4,620	4,280	*3,100	3,080	8,520	2,920	2,920	5,290	2,780	2,350	2,080
14	*1,100	4,980	4,280	2,960	3,150	6,370	*2,700	3,150	4,930	*3,220	2,080	1,520
15	1,150	5,360	3,660	2,660	2,780	5,110	3,450	3,520	5,110	6,010	1,880	*1,480
16	1,150	4,450	*3,030	2,580	2,210	4,000	3,520	3,520	*3,380	5,630	1,820	1,760
17	1,250	3,030	3,950	2,520	*2,780	*3,450	3,600	3,220	3,920	4,930	1,490	1,700
18	850	*2,450	3,870	2,450	2,850	3,450	3,300	2,700	4,160	2,160	*1,820	1,550
19	1,300	2,660	4,450	2,350	2,490	3,220	3,220	*2,010	4,080	2,700	1,640	1,450
20	1,350	2,520	10,700	*2,520	2,850	2,920	3,220	2,630	3,840	2,420	1,700	1,400
21	*1,700	2,730	9,590	3,660	3,450	2,920	*3,220	3,220	3,520	*1,820	1,700	1,250
22	1,800	2,520	9,960	14,400	4,240	2,850	3,920	3,920	3,600	2,700	1,820	*900
23	1,760	3,400	*7,180	22,100	4,160	2,210	3,520	3,760	*3,000	3,080	1,640	1,400
24	5,650	3,030	5,170	15,400	*3,300	*2,350	3,300	3,080	2,920	1,530	1,600	
25	31,800	*3,030	3,950	15,400	3,450	3,220	3,150	2,920	3,000	2,780	*1,200	1,300
26	21,400	3,630	4,450	12,000	3,000	2,920	3,300	*2,350	3,000	2,350	1,760	1,350
27	10,300	3,710	4,450	*8,940	2,700	2,850	2,920	3,450	3,300	2,010	2,080	1,450
28	*6,630	3,790	4,280	7,500	2,490	2,780	*2,700	3,840	3,920	*1,940	2,350	1,100
29	4,000	3,450	3,630	6,190	-	3,680	3,080	3,760	4,580	2,010	2,490	*1,250
30	3,140	3,630	*3,660	5,290	-	3,220	3,380	3,150	*5,290	2,210	2,350	1,650
31	3,220	-	3,630	4,930	-	*2,920	-	3,650	-	2,140	2,010	-
Month	Observed					Gain or loss in storage in Lake Tapps (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			
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile				
October.....	31,800	800	3,719	228,700		-1,100	227,600	3,702	4.05	4.67		
November.....	23,800	2,450	5,902	351,200		+6,470	357,700	6,011	6.58	7.34		
December.....	10,700	2,310	4,414	271,400		+820	272,200	4,427	4.84	5.58		
Calendar year 1934	31,800	700	4,014	2,906,000								
January.....	22,100	2,380	6,261	385,000		-3,990	381,000	6,196	6.78	7.82		
February.....	4,930	2,210	3,521	195,600		+2,890	198,500	3,574	3.91	4.07		
March.....	8,520	2,140	3,133	192,600		-2,060	190,500	3,098	3.39	3.91		
April.....	3,920	1,940	2,985	177,600		-5,370	172,200	2,894	3.17	3.54		
May.....	4,580	2,010	3,215	197,700		+960	198,700	3,232	3.54	4.08		
June.....	5,650	3,000	4,116	244,900		+9,090	254,000	4,269	4.67	5.21		
July.....	6,010	1,820	3,189	196,100		-340	195,800	3,184	3.48	4.01		
August.....	3,080	1,200	2,018	124,100		-9,570	114,500	1,862	2.04	2.35		
September.....	2,210	900	1,826	96,750		-14,050	82,700	1,390	1.52	1.70		
Water year 1934-35	31,800	800	3,676	2,662,000		-16,250	2,645,000	3,654	4.00	54.28		

\*Sunday.

## White River at Greenwater, Wash.

Location.- Water-stage recorder, lat. 47°8'50", long. 121°38'50", 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 1935. September 1911 to May 1912 fragmentary, for a station 2 miles above, published as White River near Enumclaw, Wash.

Extremes.- Maximum discharge during year, 5,440 second-feet Nov. 5 (gage height, 6.15 feet); minimum, 168 second-feet Oct. 18, 19 (gage height, 2.04 feet).

1911-12, 1929-35: Maximum discharge, 12,100 second-feet Dec. 21, 1933 (gage height, 9.38 feet); minimum, probably less than 150 second-feet sometime during January 1930.

Remarks.- Records good except those for Jan. 21 to Feb. 13, which were estimated and are poor, and those above 3,000 second-feet, which are fair. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-25

2.0	137	3.5	1,340
2.2	291	4.0	1,940
2.4	445	4.5	2,650
2.7	676	5.0	3,450
3.0	910	5.5	4,250

Table for Oct. 26 to Sept. 30

1.9	185	3.5	1,280
2.1	270	4.0	1,880
2.3	380	4.5	2,650
2.6	580	5.0	3,450
3.0	860	5.5	4,250

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	276	1,400	748	685	1,500	573	524	660	1,320	1,040	671	668
2	268	1,160	706	808	1,700	559	505	825	1,270	956	678	689
3	245	1,110	706	972	1,600	535	496	859	1,250	1,040	678	650
4	222	1,060	692	916	1,500	524	475	916	1,340	1,040	608	664
5	206	3,660	664	916	1,400	503	461	1,030	1,550	960	601	615
6	245	3,850	664	988	1,200	469	454	1,100	1,810	916	615	601
7	268	3,130	692	884	1,100	482	434	1,060	1,960	956	636	580
8	360	2,260	727	790	1,000	454	434	1,040	1,810	940	643	608
9	406	1,610	713	727	900	434	428	1,080	1,610	846	664	622
10	437	1,360	692	692	800	428	428	1,040	1,610	860	699	629
11	445	1,190	748	671	800	440	482	972	1,550	900	664	524
12	399	1,080	892	629	750	909	608	924	1,550	972	734	461
13	291	1,090	924	587	700	1,320	748	956	1,610	1,120	804	454
14	252	1,480	900	573	692	1,110	741	1,050	1,550	1,300	713	706
15	245	1,740	818	552	671	956	762	1,110	1,390	1,450	622	587
16	206	1,350	769	545	650	846	783	1,080	1,260	1,360	552	622
17	199	1,150	748	524	678	783	784	1,010	1,240	1,300	538	447
18	183	1,040	734	492	671	734	706	964	1,270	1,050	622	399
19	176	948	799	434	657	706	720	956	1,300	996	566	440
20	388	900	1,740	386	657	657	811	1,040	1,230	956	566	428
21	406	839	2,000	700	685	622	804	1,230	1,260	996	587	410
22	391	846	1,880	3,600	797	587	762	1,420	1,370	1,070	608	404
23	544	653	1,410	4,000	762	566	727	1,350	1,230	1,110	594	404
24	1,310	811	1,220	3,600	706	566	692	1,260	1,110	1,080	545	392
25	3,690	884	1,070	3,500	678	538	708	1,210	1,080	980	538	362
26	2,630	839	1,030	2,700	650	517	748	1,240	1,150	868	594	362
27	1,650	618	908	2,100	629	496	769	1,320	1,260	793	636	362
28	1,130	769	846	1,800	594	557	769	1,380	1,370	748	755	374
29	948	769	797	1,600	-	608	797	1,460	1,350	699	825	404
30	868	776	748	1,500	-	566	860	1,390	1,220	706	769	422
31	1,160	-	713	1,400	-	545	-	1,340	-	720	697	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	20,344	3,690	176	656	3.04	3.50	40,350
November.....	40,772	3,850	769	1,359	6.29	7.02	80,870
December.....	28,698	2,000	664	926	4.29	4.95	56,920
Calendar year 1934.....	362,988	4,250	176	994	4.60	62.52	720,000
January.....	40,461	4,000	366	1,306	6.04	6.96	80,260
February.....	25,127	1,700	594	897	4.15	4.32	49,840
March.....	19,613	1,320	428	633	2.93	3.38	38,900
April.....	19,366	860	428	646	2.99	3.34	38,410
May.....	34,452	1,460	825	1,111	5.14	5.93	68,380
June.....	41,880	1,960	1,080	1,396	6.46	7.21	83,070
July.....	30,638	1,450	699	988	4.57	5.27	60,770
August.....	20,022	825	538	646	2.99	3.45	39,710
September.....	15,275	706	362	509	2.36	2.63	30,500
Water year 1934-35.....	336,648	4,000	176	922	4.27	57.96	667,700

## Greenwater River at Greenwater, Wash.

Location.— Water-stage recorder, lat. 47°9'15", long. 121°38', 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 1935.

Extremes.— Maximum discharge during year, 1,320 second-feet Jan. 23 (gage height, 5.20 feet); minimum, 23 second-feet Oct. 7 (gage height, 2.06 feet).  
1911-12, 1929-35: Maximum discharge, 4,140 second-feet Dec. 9, 1933 (gage height, 9.24 feet, former site and datum); minimum, that of Oct. 7, 1934.

Remarks.— Records excellent except those for discharges above 750 second-feet, which are fair. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 5

2.0	18	3.0	161
2.2	35	3.5	348
2.4	57	4.0	600
2.6	87	4.5	870
2.8	121	5.0	1,160

Table for Nov. 6 to Sept. 30

2.0	18	3.5	371
2.2	38	4.0	625
2.4	64	4.5	900
2.6	94	5.0	1,200
2.8	129	5.5	1,500
3.0	174	6.0	1,840

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	153	204	183	603	162	154	271	470	201	89	50
2	26	171	189	246	636	152	145	254	455	189	83	48
3	26	185	207	371	636	149	141	250	425	180	80	47
4	25	216	214	338	586	143	137	271	420	172	78	47
5	24	575	204	348	535	137	135	310	445	166	77	46
6	24	990	198	352	490	133	131	357	465	159	75	46
7	24	845	195	306	455	131	125	357	515	159	74	44
8	24	658	195	258	395	127	124	348	505	154	71	43
9	25	510	186	224	343	122	120	362	475	145	70	42
10	25	415	174	195	310	118	122	362	455	137	68	41
11	24	357	172	183	297	118	135	343	430	131	67	41
12	27	315	183	169	271	263	183	315	410	127	65	39
13	30	279	186	156	250	480	250	315	410	124	64	41
14	29	263	192	147	231	405	224	315	425	118	63	44
15	27	263	189	143	214	333	221	348	415	116	61	46
16	26	246	180	139	201	284	228	357	371	113	60	43
17	25	235	180	135	201	246	221	343	338	111	63	42
18	24	231	183	127	198	221	211	333	315	109	75	39
19	24	218	248	122	192	204	214	324	297	106	67	39
20	30	214	656	124	169	186	263	333	279	104	63	39
21	36	211	680	152	204	174	279	400	258	101	60	38
22	45	204	691	759	245	162	258	470	258	99	59	37
23	64	207	530	1,200	235	152	242	475	246	96	58	36
24	256	201	440	1,140	218	149	224	455	231	94	56	35
25	1,010	221	366	1,230	198	147	224	430	214	91	55	35
26	760	224	324	1,110	186	145	242	430	204	89	54	34
27	433	228	279	960	177	139	250	450	198	89	52	34
28	274	211	246	818	169	152	250	460	198	91	51	34
29	199	207	231	735	-	183	254	480	224	86	54	32
30	166	207	207	664	-	172	271	490	207	83	55	32
31	148	-	195	614	-	164	-	480	-	86	51	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,906	1,010	24	126	1.68	1.94	7,750
November.....	9,460	990	153	315	4.20	4.69	18,760
December.....	8,554	691	172	276	3.68	4.24	16,970
Calendar year 1934.....	87,072	1,780	24	239	3.19	43.19	172,700
January.....	13,648	1,230	122	440	5.87	6.77	27,070
February.....	8,837	636	169	316	4.21	4.38	17,530
March.....	5,853	480	118	189	2.52	2.90	11,610
April.....	5,978	279	120	199	2.65	2.96	11,860
May.....	11,498	490	250	371	4.95	5.71	22,810
June.....	10,578	515	198	353	4.71	5.26	20,980
July.....	3,626	201	83	123	1.64	1.89	7,590
August.....	2,018	89	51	65.1	.868	1.00	4,000
September.....	1,214	50	32	40.5	.540	.60	2,410
Water year 1934-35.....	86,370	1,230	24	234	3.12	42.34	169,300

## Green River near Palmer, Wash.

Location.- Water-stage recorder, lat. 47°17'40", long. 121°49'20", in SW¼ 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 1935.

Extremes.- Maximum discharge during year, 15,100 second-feet Oct. 25 (gage height, 15.75 feet); minimum mean daily discharge, 115 second-feet Oct. 1, 6, 7, Sept. 29, 30. 1931-35: Maximum discharge, 33,600 second-feet Dec. 9, 1933 (gage height, 19.4 feet); minimum, 81 second-feet Sept. 4, 5, 1934; minimum gage height, 4.00 feet Sept. 4, 1933.

Remarks.- Records excellent except those for periods Jan. 19-26, Feb. 5-11, Sept. 10-30, which were determined on basis of records for neighboring streams and are fair. No diversions or regulation.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

4.5	75	7.5	1,670	11.5	5,720
4.7	160	8.0	1,970	12.0	6,450
4.9	260	8.5	2,320	12.5	7,240
5.2	410	9.0	2,730	13.0	8,070
5.5	565	9.5	3,260	13.5	8,960
6.0	840	10.0	3,860	14.0	10,000
6.5	1,115	10.5	4,460	15.0	12,550
7.0	1,390	11.0	5,060		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	1,250	1,390	1,000	2,390	840	950	1,310	1,090	614	280	151
2	124	1,610	1,220	1,560	2,390	785	868	1,220	1,090	548	255	142
3	138	2,040	1,440	2,390	2,390	758	812	1,200	978	505	230	138
4	126	2,260	1,560	2,110	2,040	719	785	1,250	950	470	225	138
5	120	4,660	1,390	2,320	1,900	675	785	1,440	1,060	445	215	133
6	115	6,150	1,220	2,550	1,700	642	724	1,610	1,140	415	210	133
7	115	4,580	1,120	2,040	1,500	631	692	1,500	1,200	410	200	128
8	128	3,160	1,000	1,870	1,400	598	670	1,390	1,120	425	195	124
9	138	2,320	922	1,440	1,300	578	642	1,390	1,000	395	185	124
10	128	1,850	868	1,250	1,200	548	646	1,360	950	375	180	125
11	124	1,560	895	1,170	1,100	554	730	1,220	668	360	160	125
12	133	1,360	895	1,030	1,060	1,940	978	1,090	812	345	180	130
13	151	1,220	868	950	1,030	3,860	1,280	1,030	840	336	170	135
14	138	1,140	922	868	960	2,740	1,170	1,090	895	325	165	155
15	146	1,060	922	840	895	2,110	1,120	1,280	978	330	165	165
16	156	950	895	812	840	1,730	1,220	1,310	840	320	160	180
17	146	895	1,090	785	1,000	1,500	1,140	1,200	758	305	175	180
18	133	868	1,220	730	1,030	1,340	1,090	1,140	702	290	315	150
19	138	812	1,740	700	978	1,220	1,090	1,090	664	285	265	140
20	315	895	5,740	700	1,090	1,120	1,310	1,140	620	270	220	150
21	320	922	5,320	900	1,280	1,030	1,350	1,390	570	260	205	145
22	320	950	4,960	4,500	1,910	950	1,310	1,610	543	255	195	130
23	911	1,030	3,260	7,000	1,670	895	1,540	1,440	521	260	180	125
24	3,600	1,140	2,730	8,600	1,390	895	1,220	1,220	475	245	175	125
25	12,400	1,500	2,180	10,000	1,200	868	1,200	1,090	440	235	165	125
26	5,990	1,560	1,910	6,600	1,060	785	1,280	1,090	415	225	160	120
27	3,020	1,560	1,610	4,820	978	730	1,280	1,120	395	230	156	120
28	1,970	1,390	1,390	3,860	895	812	1,250	1,140	395	255	146	120
29	1,500	1,440	1,250	3,150	-	1,120	1,250	1,200	440	235	156	115
30	1,280	1,440	1,140	2,730	-	1,060	1,310	1,200	564	215	170	115
31	1,090	-	1,060	2,470	-	1,030	-	1,120	-	245	160	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	35,200	12,400	115	1,135	4.91	5.66	69,820
November.....	53,782	6,150	812	1,792	7.76	8.66	106,600
December.....	54,127	6,740	868	1,746	7.56	8.72	107,400
Calendar year 1934.....	406,810	12,400	81	1,115	4.83	65.50	606,900
January.....	81,545	10,000	700	2,630	11.4	13.14	161,700
February.....	38,566	2,390	840	1,377	5.96	6.21	75,490
March.....	35,061	3,860	548	1,131	4.90	5.65	69,540
April.....	31,504	1,360	642	1,050	4.55	5.08	62,490
May.....	38,880	1,610	1,030	1,254	5.43	6.26	77,120
June.....	23,303	1,200	395	777	3.36	3.75	46,220
July.....	10,417	614	215	336	1.45	1.67	20,660
August.....	6,038	315	146	195	.844	.97	11,960
September.....	4,086	160	115	136	.589	.66	8,100
Water year 1934-35.....	412,489	12,400	115	1,130	4.89	66.43	818,100

## Cedar River at Cedar Falls, Wash.

Location.- Water-stage recorder, lat. 47°25'10", long. 121°47'20", 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 1935.

Average discharge.- 21 years, 311 second-feet.

Extremes.- Maximum discharge during year, 3,270 second-feet Jan. 25 (gage height, 9.61 feet); minimum observed discharge, 34 second-feet Sept. 1, result of regulation.  
1914-35: Maximum discharge, 6,290 second-feet Dec. 19, 1917; maximum gage height, 11.5 feet Dec. 22, 1933; no flow Nov. 25, 1917, and Aug. 18, 1923, result of regulation.

Remarks.- Records good except those estimated for period Oct. 1 to Nov. 5, which are poor. All diversions returned to river above gage. Flow partly regulated in Cedar Lake Reservoir for power-plant operation. Gage-height record collected in co-operation with city of Seattle, which also furnished some discharge measurements.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			291	284	1,210	266	220	232	252	259	140	42
2			368	332	1,160	272	220	212	262	245	94	76
3		210	261	403	1,160	363	274	219	244	234	84	93
4			357	438	901	318	261	256	230	230	91	110
5			362	431	861	270	250	336	224	210	87	90
6			342	344	506	748	288	216	207	216	106	84
7			167	314	512	674	272	153	256	250	234	96
8			170	256	454	611	266	206	247	269	219	86
9			302	301	408	644	298	259	227	605	310	100
10			403	244	386	499	340	240	245	228	244	76
11			402	267	357	440	284	236	270	236	238	74
12			233	239	321	433	318	194	222	212	222	76
13			264	252	303	398	324	231	222	214	214	74
14			228	260	300	338	348	118	230	215	157	75
15			248	215	290	372	301	203	238	230	108	70
16			95	219	295	310	140	223	248	224	106	71
17			90	326	301	283	121	266	312	261	115	72
18			57	242	326	326	256	250	240	226	102	72
19			174	308	330	322	298	290	224	256	100	78
20			114	329	316	275	240	258	236	266	90	70
21			161	709	391	321	194	230	239	280	89	78
22			86	1,080	427	304	216	242	258	204	90	76
23			99	1,090	1,070	350	157	271	254	224	100	72
24			138	976	1,800	312	550	256	273	200	102	68
25			96	845	2,940	299	252	262	236	243	86	63
26			252	804	2,970	268	239	290	192	247	86	52
27			228	702	2,550	294	264	231	256	230	80	50
28			235	505	2,190	298	238	210	266	250	94	65
29			208	390	1,920	-	212	233	265	231	95	64
30			332	345	1,680	-	176	294	268	246	106	54
31			-	396	1,340	-	97	-	292	-	153	42
Month			Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off				
									Inches	Acres-feet		
October.....			3,100	-	-	100	-	-	-	6,150		
November.....			6,224	-	57	207	-	-	-	12,350		
December.....			13,596	1,090	215	439	-	-	-	26,970		
Calendar year 1934.....			113,869	3,090	-	312	3.76	51.04	225,900			
January.....			26,451	2,970	264	853	-	-	-	52,460		
February.....			14,331	1,210	275	512	-	-	-	28,430		
March.....			8,218	550	97	265	-	-	-	16,300		
April.....			7,087	294	118	236	-	-	-	14,060		
May.....			7,773	336	192	251	-	-	-	15,420		
June.....			7,475	605	200	249	-	-	-	14,830		
July.....			4,964	310	80	160	-	-	-	9,850		
August.....			2,376	140	42	76.6	-	-	-	4,710		
September.....			2,212	110	42	73.7	-	-	-	4,390		
Water year 1934-35.....			103,807	2,970	42	284	3.42	46.42	205,900			

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, lat. 47°23'35", long. 121°56'50", in sec. 17, T. 22 N., R. 7 E., 1 3/4 miles above intake of Seattle water-supply system at Landsberg.

Drainage area.- 136 square miles.

Records available.- April 1914 to September 1935; comparable records, staff gage 2 miles downstream July 1895 to September 1898; staff gage at water-supply intake March 1901 to April 1912; mean monthly discharge August 1895 to April 1912, May 1914 to September 1933, published in State Water-Supply Bulletin 5.

Average discharge.- 37 years (1895-1911, 1914-35), 710 second-feet.

Extremes.- Maximum discharge during year, 4,180 second-feet Jan. 25 (gage height, 5.45 feet); minimum, 206 second-feet Oct. 10, 11, 14, 15, 17-19 (gage height, 0.92 foot). 1895-98, 1901-12, 1914-35: Maximum observed discharge, 13,800 second-feet Nov. 19, 1911 (gage height, 9.7 feet, former site and datum); minimum observed discharge, 83 second-feet Sept. 19, 1898.

Remarks.- Records excellent. All diversions except Rock Creek returned to river above station. Rock Creek entering naturally just above gage has been diverted to a point below municipal water-supply intake to lessen danger of pollution. Part of table of monthly discharge corrected for estimated amount of Rock Creek diversion. Flow partly controlled by storage and release of water at Cedar Lake reservoir. Gage-height record collected in cooperation with city of Seattle.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 25

0.9	200	3.5	1,950
1.2	303	4.0	2,470
1.5	445	4.5	3,030
2.0	740	5.0	3,640
2.5	1,090	5.5	4,300
3.0	1,470		

Table for Jan. 26 to Sept. 30

1.0	260	2.5	1,090
1.2	325	3.0	1,470
1.5	460	4.0	2,470
2.0	755	5.0	3,640

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	213	531	761	758	1,710	704	634	620	588	646	469	301
2	219	494	850	917	1,640	680	640	590	572	597	394	340
3	222	530	770	1,080	1,650	805	702	595	558	567	380	346
4	219	583	823	1,150	1,430	740	682	614	564	559	366	369
5	216	1,170	808	1,190	1,370	686	671	702	533	542	379	356
6	213	1,190	826	1,290	1,260	698	634	576	528	555	390	348
7	213	964	768	1,260	1,190	690	570	622	558	544	390	332
8	213	870	693	1,130	1,110	694	610	610	541	559	370	355
9	213	853	734	1,040	1,040	694	654	594	575	612	358	345
10	216	846	662	1,040	992	741	632	596	573	554	364	344
11	206	866	678	960	938	682	631	614	552	537	362	321
12	213	660	632	886	910	667	595	576	528	530	363	314
13	210	708	632	842	882	954	607	596	528	502	365	362
14	206	667	668	826	812	936	530	578	544	490	360	334
15	213	654	620	786	830	845	598	588	554	409	353	330
16	213	552	592	799	762	658	622	579	538	413	352	338
17	206	554	761	769	764	632	652	660	556	413	366	349
18	206	528	654	784	777	734	636	578	536	404	370	335
19	206	617	750	767	772	768	664	578	538	400	358	342
20	300	695	851	731	757	710	680	580	552	389	350	345
21	280	604	1,320	866	784	652	642	575	580	356	355	316
22	233	566	1,730	1,670	852	667	662	587	513	356	352	308
23	326	604	1,850	2,270	860	578	700	583	511	392	350	304
24	636	678	1,650	3,120	798	958	690	600	506	395	347	295
25	1,850	647	1,480	4,000	768	694	670	568	525	361	340	292
26	990	694	1,420	3,860	754	677	686	523	537	380	328	294
27	708	740	1,320	3,230	736	672	636	570	514	375	316	292
28	575	730	1,120	2,700	736	681	610	600	540	389	322	290
29	546	737	988	2,440	-	682	632	600	538	382	336	288
30	502	792	878	2,090	-	622	648	594	628	389	317	303
31	520	-	919	1,840	-	558	-	609	-	409	307	-

Month	Observed				Divered by: Rock Creek (estimated) (acre-feet)	Corrected for diversion			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run- off in inches
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	1,850	206	371	22,810	2,090	24,900	405		
November.....	1,190	494	707	42,100	3,730	45,830	770		
December.....	1,850	592	943	57,990	3,730	61,720	1,004		
Calendar year 1934	4,690	206	708	513,000					
January.....	4,000	731	1,518	93,320	3,990	97,310	1,583		
February.....	1,710	756	996	55,290	1,980	57,270	1,031		
March.....	958	558	721	44,350	1,690	46,040	749		
April.....	702	530	641	38,140	1,320	39,460	663		
May.....	702	523	595	36,570	869	37,430	609		
June.....	875	505	557	33,130	571	33,700	566		
July.....	646	375	467	28,740	373	29,110	473		
August.....	469	307	360	22,130	248	22,380	364		
September.....	369	288	326	19,410	190	19,600	329		
Water year 1934-35	4,000	206	682	494,000	20,770	514,800	711	5.23	70.99

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, lat. 47°48'20", long. 121°32'40", 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.

Drainage area.- 355 square miles.

Records available.- October 1902 to September 1905, April 1911 to September 1935.

Average discharge.- 27 years, 2,387 second-feet.

Extremes.- Maximum discharge observed during year ending Sept. 30, 1934, 38,300 second-feet Dec. 21 (gage height, 19.00 feet, at former site); minimum, 405 second-feet (revised) Sept. 7 (gage height, 2.14 feet).

Maximum discharge during year ending Sept. 30, 1935, 35,400 second-feet Oct. 25 (gage height, 19.28 feet); minimum, 391 second-feet Sept. 30 (gage height, 1.93 feet).

1902-5, 1911-35: Maximum observed discharge, about 57,000 second-feet Dec. 18, 1917 (gage height, 22.6 feet, at former site); minimum, 214 second-feet Oct. 15-21, 23, 1925.

Remarks.- Records good. Discharge estimated Oct. 16, 18, 22, 23, 25, 27, 28, 31, 1933 on basis of records for nearby streams. No diversions or regulation.

## Discharge, in second-feet, water year October 1933 to September 1934

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	5,950	2,750	2,280	1,050	490	428
2	2,530	20,400	1,490	5,060	4,700	10,700	4,400	2,750	1,960	1,020	510	425
3	2,160	17,300	1,560	11,800	4,110	6,010	3,580	3,470	1,780	980	540	430
4	1,910	9,030	1,560	8,050	3,870	4,940	3,150	4,120	1,530	945	540	425
5	1,700	5,180	1,560	9,240	3,030	6,310	2,850	6,680	2,060	945	582	425
6	1,560	4,220	15,900	5,450	2,630	4,940	2,850	4,660	2,100	945	582	420
7	1,420	3,450	5,450	4,220	2,530	4,580	3,260	3,920	2,140	910	562	415
8	1,290	2,930	4,220	3,560	2,730	3,890	3,580	3,360	1,960	890	542	422
9	1,230	2,530	14,100	3,230	2,530	3,130	3,360	2,850	1,960	820	526	418
10	1,050	2,250	22,000	3,560	2,340	2,730	3,250	2,650	2,060	790	518	482
11	1,050	1,990	16,200	3,230	2,160	2,630	3,150	2,850	2,100	760	510	590
12	940	1,770	13,600	3,030	1,990	2,830	3,690	2,850	2,140	730	506	808
13	885	1,700	8,630	3,480	1,840	3,340	4,400	2,950	2,060	710	503	1,420
14	940	1,560	6,010	4,110	1,770	3,560	4,400	3,250	1,880	700	496	1,350
15	1,110	1,420	4,700	3,450	1,770	3,780	4,400	3,470	1,740	695	489	850
16	3,230	1,350	3,670	3,450	1,700	2,930	6,320	3,250	1,540	1,190	492	685
17	3,450	1,290	9,450	4,340	1,700	2,730	4,530	2,850	1,460	1,340	492	604
18	6,470	1,230	14,300	3,230	1,700	2,430	3,800	2,460	1,460	1,060	486	558
19	5,590	1,230	9,030	6,470	1,700	2,340	4,280	2,460	1,340	910	482	518
20	4,700	1,490	21,400	6,900	1,700	2,340	5,210	2,550	1,260	850	475	492
21	3,450	2,340	27,200	10,500	1,700	2,430	5,800	2,190	1,220	790	472	500
22	8,240	5,450	24,900	9,870	1,630	2,340	6,100	2,190	1,460	754	472	690
23	21,700	3,030	13,600	8,830	1,490	2,160	5,950	2,550	1,340	720	466	784
24	9,030	4,110	8,240	6,630	1,490	2,070	5,210	3,050	1,190	685	469	617
25	9,660	3,150	5,590	4,940	1,350	1,910	4,660	2,850	1,120	676	466	546
26	6,160	2,340	4,580	4,460	1,290	1,840	4,160	2,950	1,080	715	466	503
27	5,590	2,160	4,460	4,000	1,560	4,580	4,160	3,250	1,050	730	472	478
28	7,500	1,840	4,340	3,780	2,070	7,660	4,040	3,250	1,080	725	472	463
29	6,800	1,630	8,240	3,560	-	11,200	3,690	3,360	1,120	690	466	448
30	5,590	1,560	9,240	4,110	-	8,050	3,150	3,250	1,050	653	451	442
31	4,340	-	6,010	4,110	-	6,310	-	2,850	-	630	438	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				134,105	21,700	885	4,326	12.2	11.94	266,000		
November.....				113,580	20,400	1,230	3,766	10.7	11.07	225,300		
December.....				292,650	27,200	1,420	9,440	26.6	30.67	580,500		
Calendar year 1933.....				1,371,331	27,200	-	3,757	10.6	143.71	2,720,000		
January.....				165,340	11,800	3,030	5,334	15.0	17.29	327,900		
February.....				63,340	4,700	1,290	2,262	6.37	6.83	126,600		
March.....				132,620	11,200	1,840	4,278	12.1	12.95	263,000		
April.....				127,320	6,320	2,560	4,244	12.0	13.39	262,500		
May.....				97,890	6,680	2,190	3,158	8.90	10.26	194,200		
June.....				48,820	2,280	1,050	1,627	4.58	5.11	96,830		
July.....				26,018	1,340	630	659	2.56	2.72	51,610		
August.....				15,423	582	438	498	1.40	1.61	30,590		
September.....				17,626	1,420	415	588	1.66	1.85	34,960		
Water year 1933-34.....				1,234,732	27,200	415	3,363	9.53	129.49	2,449,000		

Note.- The above records supersede those published in Water-Supply Paper 767.

## South Fork of Skykomish River near Index, Wash.

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	438	4,320	2,340	1,680	4,720	1,340	1,030	2,520	3,870	3,350	925	478
2	428	4,570	1,980	2,160	5,500	1,260	925	2,340	4,090	2,970	860	468
3	463	4,820	2,090	2,880	5,220	1,220	890	2,430	3,550	2,880	800	462
4	463	4,570	2,160	2,610	4,610	1,140	860	2,790	4,090	2,790	770	459
5	435	16,200	1,800	2,890	4,100	1,040	860	3,650	5,360	2,620	728	453
6	422	11,500	1,640	3,350	3,700	1,000	800	3,760	6,260	2,340	875	450
7	418	7,940	1,560	2,610	3,220	970	770	3,150	6,700	2,250	642	441
8	445	6,860	1,520	2,070	2,860	935	740	3,250	6,100	2,540	624	435
9	626	4,690	1,480	1,760	2,500	868	728	3,450	5,220	2,200	607	432
10	578	3,650	1,360	1,560	2,280	835	758	3,150	5,650	2,160	603	430
11	534	3,150	1,500	1,440	2,230	868	925	2,700	4,620	2,160	583	418
12	500	2,880	2,250	1,320	2,100	2,660	1,320	2,340	4,570	2,430	571	413
13	478	2,880	2,160	1,200	1,980	5,950	1,940	2,520	4,570	2,790	567	418
14	451	3,150	2,070	1,100	1,820	4,280	1,720	3,250	4,820	2,970	595	494
15	442	3,350	1,890	1,060	1,700	3,060	1,680	4,330	5,080	2,970	560	599
16	454	2,790	1,720	1,030	1,580	2,520	1,940	3,870	3,960	2,700	530	1,120
17	445	2,340	1,890	995	1,820	2,160	1,760	3,650	3,760	2,340	526	746
18	432	2,200	2,430	925	2,140	1,840	1,600	3,760	3,760	2,120	1,260	571
19	547	1,940	2,810	860	1,940	1,680	1,850	3,350	3,870	1,940	860	526
20	3,430	2,160	7,930	830	2,020	1,520	2,790	3,870	3,450	1,800	665	556
21	2,300	2,340	11,000	1,570	2,180	1,360	2,700	5,360	3,760	1,720	599	505
22	1,620	2,720	7,710	9,660	2,770	1,200	2,340	6,100	4,090	1,680	564	475
23	2,670	3,450	5,040	12,600	2,590	1,140	2,200	4,690	3,450	1,640	545	456
24	12,500	3,550	4,090	26,200	2,140	1,280	1,980	3,870	2,970	1,480	519	447
25	25,100	3,460	3,350	24,000	1,860	1,280	1,990	3,650	2,790	1,320	501	432
26	9,040	3,060	2,790	15,600	1,700	1,170	2,250	3,980	3,060	1,140	491	424
27	5,320	2,790	2,340	9,960	1,540	1,030	2,430	4,330	3,550	1,030	491	413
28	3,650	2,610	2,020	7,600	1,420	1,060	2,340	4,690	3,760	1,240	494	408
29	2,970	2,610	1,890	6,250	-	1,400	2,430	5,080	4,330	1,100	498	406
30	2,610	2,430	1,680	5,560	-	1,280	2,700	4,450	4,330	925	512	402
31	2,700	-	1,640	4,860	-	1,170	-	4,090	-	925	491	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off	
											Inches	Acres-feet
October.....	80,909		23,100		418		2,610		7.35		8.47	160,500
November.....	123,970		16,200		1,940		4,132		11.6		12.94	245,900
December.....	88,150		11,000		1,360		2,843		8.01		9.24	174,800
Calendar year 1934.....	967,406		23,100		415		2,705		7.62		103.46	1,958,000
January.....	157,870		26,200		830		5,093		14.3		16.49	313,100
February.....	74,240		5,500		1,420		2,651		7.47		7.78	147,300
March.....	50,515		5,950		835		1,630		4.69		5.29	100,200
April.....	49,236		2,790		728		1,641		4.62		5.16	97,660
May.....	114,320		6,100		2,340		3,698		10.4		11.99	226,800
June.....	129,680		6,700		2,790		4,522		12.2		13.61	257,400
July.....	64,220		3,350		925		2,072		6.84		6.73	127,400
August.....	15,678		1,260		491		635		1.79		2.06	39,030
September.....	14,733		1,120		402		491		1.38		1.54	29,220
Water year 1934-35.....	967,470		26,200		202		2,651		7.47		101.30	1,919,000



## SNOHOMISH RIVER BASIN

## Skykomish River near Gold Bar, Wash.

Location.- Water-stage recorder, lat. 47°50'15", long. 121°40', 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 1935.

Extremes.- Maximum discharge during year, 58,400 second-feet Oct. 24 (gage height, 18.28 feet); minimum discharge, 622 second-feet Sept. 30; minimum gage height, 2.88 feet Oct. 7, 8.

1928-35: Maximum discharge, 79,000 second-feet Dec. 21, 1933 (gage height, 21.3 feet); minimum, 392 second-feet Oct. 2, 3, 1929.

Remarks.- Records excellent. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-25

3.0	690	7.0	6,750
3.5	1,040	8.0	9,330
4.0	1,610	10.0	16,490
4.5	2,320	12.0	25,300
5.0	3,070	14.0	35,300
6.0	4,720	16.0	45,700

Table for Oct. 26 to Sept. 30

3.0	580	6.0	8,900
3.5	940	9.0	12,000
4.0	1,430	10.0	15,650
4.5	2,010	11.0	19,800
5.0	2,680	12.0	24,400
6.0	4,350	14.0	34,500
7.0	6,400	16.0	45,200

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	681	7,550	3,800	2,540	7,310	2,010	1,830	4,260	5,980	5,350	1,770	913
2	672	7,550	3,210	3,360	8,900	1,950	1,770	3,800	6,400	4,640	1,650	868
3	690	7,800	3,370	4,640	8,330	1,890	1,770	3,890	5,580	4,440	1,540	842
4	690	7,310	3,540	4,260	7,070	1,830	1,710	4,440	6,400	4,260	1,480	816
5	668	27,700	2,980	4,640	6,400	1,710	1,710	5,980	8,330	3,980	1,430	802
6	640	17,900	2,760	5,350	5,560	1,600	1,650	6,190	9,800	3,620	1,330	786
7	636	11,700	2,680	4,070	4,840	1,600	1,600	5,140	10,400	3,540	1,280	763
8	685	10,100	2,680	3,210	4,160	1,540	1,540	5,240	9,500	3,800	1,220	742
9	668	6,840	2,610	2,760	3,710	1,430	1,540	5,560	9,060	3,540	1,180	735
10	678	5,560	2,400	2,400	3,290	1,380	1,840	5,040	8,900	3,450	1,160	714
11	821	4,940	2,770	2,540	3,210	1,430	1,770	4,260	7,550	3,450	1,160	688
12	776	4,540	3,980	2,080	3,060	3,570	2,340	3,710	7,070	3,890	1,130	664
13	772	4,540	3,710	1,890	2,900	9,500	3,130	4,070	7,310	4,540	1,140	688
14	715	5,140	3,540	1,770	2,610	7,070	2,830	6,140	7,550	4,840	1,160	1,070
15	695	5,560	3,290	1,710	2,470	5,140	2,760	6,840	8,060	4,840	1,150	1,360
16	700	4,540	2,980	1,650	2,270	4,070	3,130	6,190	6,190	4,260	1,080	2,230
17	686	3,800	3,210	1,800	2,680	3,540	2,830	5,980	5,770	3,800	1,030	1,770
18	668	3,540	3,800	1,480	3,060	3,130	2,640	5,980	5,770	3,450	2,080	1,330
19	802	3,130	4,550	1,880	2,760	2,830	2,900	5,560	5,980	3,130	1,710	1,110
20	6,140	3,450	11,800	1,260	2,900	2,610	4,350	6,190	5,560	2,980	1,430	1,070
21	4,350	3,800	18,400	2,230	3,210	2,400	4,260	8,330	5,980	2,830	1,300	994
22	3,070	4,510	11,600	13,800	4,260	2,200	3,710	9,500	6,400	2,530	1,180	886
23	4,590	5,770	7,550	20,000	3,890	2,080	3,540	7,310	5,560	2,760	1,110	816
24	20,200	5,980	6,190	46,900	3,210	2,270	3,210	5,980	4,640	2,540	1,040	776
25	37,600	5,980	5,140	42,000	2,760	2,340	3,130	5,770	4,350	2,270	976	735
26	15,100	5,140	4,350	26,000	2,540	2,140	3,620	6,190	4,740	2,010	940	700
27	7,800	4,640	3,540	14,900	2,340	2,010	3,800	7,070	5,560	1,830	922	676
28	5,560	4,160	3,130	11,400	2,200	2,080	3,800	7,310	5,980	2,400	904	658
29	4,540	4,070	2,900	9,200	-	2,340	3,890	8,060	6,620	2,080	913	652
30	4,070	3,890	2,610	8,530	-	2,140	4,540	6,840	6,620	1,830	940	634
31	4,260	-	2,540	7,650	-	2,010	-	6,400	-	1,770	940	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off				
								Inches	Acres-feet			
October.....	128,913			37,600	636	4,158	7.77	6.96	255,700			
November.....	201,130			27,700	3,130	6,704	12.5	13.95	398,900			
December.....	141,610			18,400	2,400	4,668	8.54	9.85	280,900			
Calendar year 1934.....	1,604,598			37,600	636	4,396	8.22	111.56	3,183,000			
January.....	255,600			45,900	1,260	8,245	15.4	17.75	507,000			
February.....	111,900			8,900	2,800	3,996	7.47	7.78	222,000			
March.....	83,840			9,500	1,380	2,705	5.06	5.83	166,300			
April.....	82,740			4,540	1,540	2,758	5.16	5.76	164,100			
May.....	182,220			9,500	3,710	5,878	11.0	12.68	361,400			
June.....	202,590			10,400	4,350	6,753	12.6	14.06	401,800			
July.....	104,950			5,550	1,770	3,585	6.33	7.30	208,200			
August.....	58,286			2,080	904	1,235	2.31	2.66	75,940			
September.....	27,514			2,230	634	917	1.71	1.91	54,670			
Water year 1934-35.....	1,561,292			45,900	634	4,278	8.00	108.49	3,097,000			

North Fork of Skykomish River at Index, Wash.

Location.- Chain gage, lat. 47°49'20", long. 121°32'50", in SE¼ sec. 17, T. 27 N., R. 10 E., on highway bridge at Index, 1 3/4 miles above mouth.

Drainage area.- 149 square miles.

Records available.- August 1910 to September 1922, February 1929 to September 1935.

Average discharge.- 18 years, 1,236 second-feet.

Extremes.- Maximum discharge observed during year ending Sept. 30, 1934, 20,400 second-foot Dec. 21 (gage height, 10.30 feet); unofficial reports indicate maximum stage possibly as much as 2 feet higher (discharge, 26,500 second-feet); minimum, 132 second-foot Sept. 3, 7 (gage height, 2.17 feet).

Maximum discharge observed during year ending Sept. 30, 1935, 16,500 second-foot Jan. 24 (gage height, 9.0 feet); minimum, 120 second-foot Oct. 2 (gage height, 2.15 feet).

1910-22, 1929-35: Maximum observed discharge, about 21,000 second-foot Feb. 26, 1932 (gage height, 10.5 feet); possibly as much as 26,500 second-foot Dec. 21, 1933; minimum, 76 second-foot Sept. 25, 1930.

Remarks.- Records good. Discharge estimated Oct. 8, 16, 18, 21, 22, 25, 27, 28, Dec. 17, 20, 25, 1933, July 3, 4, Nov. 5-7, 1934, Jan. 16-20, Feb. 1, 5, 6, Sept. 28, 29, 1935, on basis of records for nearby streams. Discharge estimated because of ice effect Jan. 16-20, 1935. No diversions or regulation.

Discharge, in second-foot, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,600	1,800	618	2,610	2,330	1,650	3,190	1,650	1,340	420	252	158
2	1,600	16,200	630	3,590	2,330	6,490	2,240	1,410	945	399	315	144
3	1,400	6,760	582	6,490	1,930	2,990	1,730	1,730	810	368	270	132
4	1,130	3,450	570	4,470	1,570	2,060	1,570	2,240	870	315	261	158
5	922	2,130	907	5,200	1,410	1,980	1,490	3,590	1,040	346	180	150
6	849	1,700	5,680	2,990	1,260	3,390	1,490	2,610	1,110	420	188	144
7	755	1,220	2,790	2,420	1,340	2,330	1,650	2,060	1,260	399	215	132
8	692	1,030	2,130	1,610	1,490	1,990	1,890	1,730	1,110	368	216	172
9	630	879	8,760	1,570	1,340	1,410	1,730	1,490	1,040	346	202	144
10	548	755	9,340	1,610	1,180	1,410	1,650	1,490	1,180	326	202	306
11	493	666	9,340	1,570	1,040	1,490	1,570	1,730	1,110	297	195	432
12	460	570	7,040	1,650	960	1,490	2,330	1,490	1,040	297	158	825
13	440	515	5,160	1,570	960	1,730	2,330	1,570	1,040	297	202	1,260
14	440	482	3,230	1,570	825	1,810	2,150	1,610	840	297	202	740
15	430	440	2,460	1,260	754	1,730	2,060	1,890	782	297	202	432
16	2,130	410	1,910	1,730	726	1,730	2,990	1,730	698	1,890	218	288
17	1,600	380	2,600	2,330	754	1,490	2,150	1,670	634	610	202	297
18	4,400	333	4,650	1,730	754	1,260	2,150	1,260	644	563	188	261
19	3,010	333	4,150	2,800	754	1,180	2,060	1,260	618	398	188	243
20	2,460	570	9,280	3,590	754	1,110	2,610	1,340	579	540	195	210
21	1,600	1,400	14,400	5,200	782	1,180	2,800	1,180	579	410	195	180
22	4,150	5,960	10,500	4,020	726	1,110	2,990	1,110	712	357	188	288
23	11,700	2,650	8,220	7,600	644	1,110	2,990	1,410	670	326	195	243
24	4,650	2,460	4,020	3,590	605	960	2,610	1,570	540	326	172	243
25	4,400	1,700	2,600	2,330	592	915	2,330	1,570	516	326	188	234
26	2,790	1,130	1,980	2,060	540	885	2,060	1,570	516	346	188	218
27	3,010	965	1,890	1,810	810	2,800	2,330	1,730	456	357	195	195
28	4,150	742	2,060	1,650	945	4,950	2,150	1,650	579	357	195	180
29	3,450	582	6,220	1,650	-	7,690	1,980	1,570	528	346	188	172
30	2,790	515	6,490	1,890	-	5,200	1,890	1,570	410	297	188	165
31	2,020	-	3,800	1,980	-	3,390	-	1,490	-	270	172	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-foot		
October.....				70,599	11,700	430	2,277	15.3	17.64	140,000		
November.....				58,746	16,200	333	1,958	13.1	14.62	116,500		
December.....				142,007	14,400	570	4,581	30.7	35.39	281,700		
Calendar year 1933.....				705,389	16,200	120	1,406	9.44	128.16	1,018,000		
January.....				86,540	7,600	1,260	2,792	18.7	21.56	171,600		
February.....				30,165	2,330	540	1,077	7.23	7.53	59,810		
March.....				71,100	7,890	885	2,294	15.4	17.75	141,000		
April.....				65,160	3,190	1,490	2,172	14.6	16.29	129,200		
May.....				52,070	3,590	1,110	1,680	11.3	13.03	103,300		
June.....				24,246	1,340	410	808	5.42	6.05	48,090		
July.....				13,091	1,890	270	422	2.83	3.26	26,970		
August.....				6,320	315	158	204	1.37	1.58	12,540		
September.....				8,748	1,260	132	292	1.96	2.19	17,350		
Water year 1933-34.....				628,780	16,200	132	1,723	11.6	156.89	1,247,000		

Note.- The above records supersede those published in Water-Supply Paper 787.

## SNOHOMISH RIVER BASIN

North Fork of Skykomish River at Index, Wash.

(Continued)

Rating tables, water years 1933-35 (gage height, in feet, and discharge, in second-feet)

Table for Dec. 21, 1933, to Jan. 24, 1935

Table for Jan. 25 to Sept. 30, 1935

2.1	90	5.6	6,490	2.1	60	5.0	4,950
2.8	810	6.6	8,470	2.4	235	5.5	6,220
3.5	1,990	7.0	10,500	2.8	590	6.0	7,600
4.2	3,190	8.0	13,500	3.2	1,330	6.5	9,050
4.9	4,710	9.0	16,500	3.6	2,040	7.0	10,500
				4.0	2,800	8.0	13,500
				4.5	3,800		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	168	2,990	1,180	1,040	2,200	664	464	1,500	2,040	1,770	599	273
2	120	2,610	960	1,040	3,190	548	418	1,330	2,040	1,680	536	264
3	168	2,610	1,110	1,410	2,990	512	396	1,330	1,770	1,590	512	264
4	150	2,060	1,040	1,260	2,420	488	386	1,590	2,040	1,590	464	264
5	138	11,000	945	1,340	2,200	440	385	2,320	2,800	1,590	440	244
6	138	5,300	870	1,260	1,800	418	363	2,140	3,190	1,500	396	235
7	138	3,100	825	1,110	1,590	396	352	1,770	3,390	1,240	396	219
8	165	3,190	945	960	1,240	418	352	1,770	3,190	1,420	374	219
9	315	2,240	796	684	1,240	363	341	1,950	2,800	1,240	374	219
10	234	1,650	782	644	1,160	341	374	1,880	3,390	979	396	219
11	226	1,490	1,040	631	1,060	352	512	1,240	2,610	967	374	203
12	202	1,490	1,490	553	1,110	1,160	762	1,160	2,420	1,420	363	179
13	196	1,570	1,410	504	931	3,390	1,040	1,330	2,420	1,680	407	211
14	172	2,060	1,260	452	851	2,320	855	1,860	2,610	1,770	596	734
15	172	2,060	1,040	456	762	1,500	899	2,610	2,610	1,680	341	464
16	180	1,570	1,040	420	704	1,240	995	2,040	2,040	1,500	330	1,110
17	158	1,260	1,040	390	1,030	1,030	851	2,040	1,660	1,330	282	719
18	150	1,180	1,260	350	1,030	899	762	1,950	1,950	1,240	835	464
19	172	1,490	1,260	320	883	867	1,420	1,860	2,140	1,160	464	385
20	3,590	1,260	4,020	320	867	777	1,420	2,230	1,770	1,080	385	352
21	1,180	1,180	7,600	4,470	931	651	1,420	2,800	2,040	1,030	341	292
22	1,280	1,490	3,190	4,020	1,500	599	1,160	3,190	2,140	1,010	341	282
23	1,730	1,810	2,150	4,960	1,330	536	1,150	2,420	1,660	1,040	330	254
24	8,760	2,060	1,730	16,200	979	677	995	1,950	1,590	931	302	254
25	9,050	1,980	1,570	12,600	867	599	995	1,860	1,680	762	282	244
26	2,990	1,890	1,260	7,890	820	548	1,240	2,230	1,590	690	273	211
27	2,060	1,570	1,040	4,950	704	476	1,240	2,320	1,950	625	273	195
28	1,570	1,340	960	3,800	704	536	1,240	2,420	2,040	1,240	273	187
29	1,410	1,260	810	3,190	-	599	1,240	2,800	2,320	719	302	179
30	1,260	1,180	631	2,990	-	548	1,860	2,420	2,140	658	311	171
31	1,340	-	740	2,610	-	500	-	2,230	-	612	282	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	39,540	9,050	120	1,275	8.56	9.87	78,430
November.....	67,940	11,000	1,180	2,265	15.2	16.96	134,800
December.....	46,994	7,600	631	1,464	9.96	11.48	91,230
Calendar year 1934.....	510,902	11,000	120	1,400	9.40	127.55	1,013,000
January.....	82,794	16,200	320	2,671	17.9	20.64	164,200
February.....	37,093	3,190	704	1,325	8.89	9.26	73,670
March.....	24,392	3,390	341	787	5.23	6.09	48,380
April.....	26,846	1,860	341	862	5.79	6.46	51,260
May.....	62,340	3,190	1,160	2,011	13.6	15.56	123,600
June.....	66,250	3,390	1,690	2,275	15.3	17.07	136,400
July.....	37,623	1,770	612	1,214	8.15	9.40	74,620
August.....	11,974	835	273	366	2.69	2.99	23,750
September.....	9,500	1,110	171	317	2.13	2.38	18,640
Water year 1934-35.....	515,286	16,200	120	1,406	9.44	128.16	1,018,000

## Troublesome Creek near Index, Wash.

Location.— Water-stage recorder, lat. 47°54', long. 121°23'50", 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 1935.

Extremes.— Maximum discharge during year ending Sept. 30, 1934, 2,300 second-feet Dec. 21 (gage height, 7.0 feet); minimum, 22 second-feet (revised) Sept. 30 (gage height, 0.59 foot).

Maximum discharge during year ending Sept. 30, 1935, 1,480 second-feet Jan. 24 (gage height, 5.33 feet); minimum (estimated), 18 second-feet Jan. 19, 20, when stage-discharge relation was affected by ice.

1929-35: Maximum discharge, that of Dec. 21, 1933; maximum gage height, 7.54 feet Feb. 28, 1932; minimum discharge, 11 second-feet Jan. 30, 1930.

Remarks.— Records good except those for Oct. 2 to Nov. 3, 1933, Mar. 20-30, Apr. 3-5, Apr. 17 to May 4, 1934, Jan. 19-21, July 2-11, 1935, which were estimated on basis of records for North Fork of Skykomish River and are poor. Stage-discharge relation affected by ice Jan. 19-21. No diversions or regulation.

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	130	52	278	179	252	321	160	126	80	57	42
2	160	1,200	48	286	186	549	238	140	100	81	56	41
3	150	600	50	511	177	367	170	180	83	73	57	40
4	120	358	49	486	143	226	140	230	81	76	55	40
5	100	200	174	486	117	229	120	338	91	81	50	40
6	95	133	513	350	106	392	100	252	106	35	50	38
7	85	102	386	225	103	315	117	186	124	81	48	37
8	70	85	323	174	109	180	138	141	127	69	45	40
9	65	71	453	155	112	127	133	117	127	62	45	37
10	55	62	640	167	105	115	127	103	133	58	45	48
11	50	57	680	165	99	109	118	109	145	57	45	68
12	45	51	565	155	95	117	149	118	153	56	47	83
13	45	48	406	176	91	136	186	129	141	55	48	130
14	45	44	280	184	87	155	191	165	129	57	49	118
15	45	42	130	150	85	148	186	169	117	58	50	94
16	210	40	120	179	77	129	213	155	102	147	52	82
17	150	38	263	274	76	110	180	131	95	174	52	65
18	480	37	430	210	77	99	170	112	92	127	49	53
19	360	36	393	295	77	91	170	109	87	103	47	49
20	300	42	584	414	76	90	200	118	78	95	46	43
21	200	77	1,270	504	77	90	220	103	80	96	48	43
22	500	340	837	529	76	85	250	99	98	74	49	47
23	800	272	557	579	73	85	250	120	96	66	49	49
24	560	210	355	417	69	85	250	150	83	62	48	45
25	510	150	250	252	66	80	210	153	73	71	49	42
26	280	109	201	177	62	75	180	165	73	83	49	36
27	300	98	179	148	72	270	210	186	71	92	50	32
28	370	82	201	127	92	500	190	196	72	94	51	28
29	310	69	412	141	-	660	170	203	77	85	53	25
30	220	59	523	155	-	520	170	198	76	78	51	24
31	140	-	416	187	-	330	-	172	-	83	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	6,998	800	45	226	21.7	25.02	13,880
November.....	4,842	1,200	36	161	15.5	17.29	9,600
December.....	11,800	1,270	48	381	36.6	42.20	23,400
Calendar year 1933.....	61,609	1,270	22	169	16.2	220.14	122,200
January.....	8,496	579	127	274	26.3	30.32	16,850
February.....	2,762	186	62	98.6	9.48	9.87	5,480
March.....	6,719	660	75	217	20.9	24.10	13,330
April.....	5,407	321	100	180	17.3	19.30	10,720
May.....	4,907	338	99	158	15.2	17.62	9,730
June.....	3,036	153	71	101	9.71	10.85	6,020
July.....	2,527	174	55	81.5	7.84	9.04	5,010
August.....	1,536	57	45	49.5	4.76	5.49	3,050
September.....	1,559	130	24	52.0	5.00	5.58	3,090
Water year 1933-34.....	60,589	1,270	24	166	16.0	216.56	120,200

Note.— The above records supersede those published in Water-Supply Paper 767.

## Troublesome Creek near Index, Wash.

(Continued)

Rating tables, water years 1933-35 except for period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 21, 1933

1.0	23	2.5	252
1.2	29	3.0	434
1.4	37	3.5	621
1.7	61	4.0	820
2.0	111	5.0	1,260

Table for Dec. 21, 1933 to Sept. 30, 1935

0.5	18	2.5	378
.7	29	3.0	560
.9	43	3.5	760
1.2	73	4.0	960
1.5	113	4.5	1,160
1.8	179	5.0	1,360
2.1	254		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	316	352	53	228	39	25	113	160	177	62	53
2	22	436	272	120	276	35	22	100	160	170	73	51
3	20	468	243	443	265	32	20	99	143	160	69	50
4	20	468	277	450	218	30	19	112	165	160	65	49
5	19	795	181	450	177	27	19	169	231	160	58	49
6	18	568	67	468	158	25	19	179	276	150	52	48
7	18	468	62	418	112	24	18	148	302	120	49	45
8	20	364	73	239	94	22	18	145	285	140	49	44
9	30	214	69	76	77	20	18	153	257	120	50	44
10	44	131	60	50	66	19	20	133	274	100	54	42
11	49	117	73	44	61	20	28	110	244	85	53	39
12	49	109	109	39	56	71	44	95	228	145	53	37
13	42	110	112	35	52	345	65	95	238	124	62	36
14	37	138	102	29	48	268	63	113	238	213	69	54
15	35	165	91	26	44	164	63	177	251	228	59	72
16	32	124	83	24	41	115	67	169	206	220	51	121
17	28	96	81	22	45	92	63	157	167	201	46	122
18	25	82	170	22	51	72	58	148	167	177	78	91
19	34	69	425	18	48	61	62	131	172	160	74	68
20	275	71	523	18	53	54	94	159	162	148	62	55
21	210	78	622	230	57	46	102	228	172	145	56	49
22	172	115	523	504	78	41	98	262	198	157	53	45
23	332	302	418	592	96	37	89	208	167	169	50	42
24	783	468	378	1,140	72	37	78	157	138	157	47	38
25	800	468	238	1,060	61	35	77	141	118	129	45	35
26	525	468	112	680	56	35	89	155	131	113	45	32
27	364	450	82	496	48	31	95	186	169	86	46	29
28	220	361	72	358	42	31	98	208	206	114	49	27
29	145	337	62	288	-	33	99	216	220	102	52	25
30	120	372	58	265	-	30	113	195	205	90	53	26
31	140	-	53	233	-	28	-	189	-	86	53	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,628	800	18	149	14.3	16.49	9,180
November.....	8,728	795	69	281	28.0	31.24	17,510
December.....	6,053	622	53	195	18.8	21.67	12,010
Calendar year 1934.....	56,358	800	18	154	14.8	201.45	111,800
January.....	8,891	1,140	18	287	27.6	31.82	17,640
February.....	2,650	276	41	94.6	9.10	9.48	5,260
March.....	1,917	343	19	61.8	5.94	6.85	3,800
April.....	1,743	113	18	58.1	5.59	6.24	3,480
May.....	4,826	262	95	156	15.0	17.29	9,570
June.....	6,048	302	118	202	19.4	21.64	12,000
July.....	4,566	228	85	147	14.1	16.26	9,080
August.....	1,759	82	45	56.7	5.45	6.23	3,490
September.....	1,517	122	25	50.6	4.87	5.43	3,010
Water year 1934-35.....	55,326	1,140	18	146	14.0	190.69	105,800

## Sultan River near Startup, Wash.

Location.- Water-stage recorder, lat. 47°58'30", long. 121°46'30", in NE¼ sec. 28, T. 29 N., R. 8 E., 1½ miles above intake of Everett water-supply system and 7½ miles north of Startup.

Drainage area.- 75 square miles.

Records available.- May 1934 to September 1935.

Extremes.- Maximum discharge during year, 15,600 second-feet Oct. 24 (gage height, 18.05 feet); minimum, 95 second-feet Oct. 7, 8; minimum gage height, 3.69 feet Sept. 12.

1934-35: Maximum discharge, that of Oct. 24, 1934; minimum, 66 second-feet Sept. 7, 1934 (gage height, 3.52 feet).

Remarks.- Records excellent except those for period Jan. 20-30, which are poor and were estimated on basis of records of neighboring streams, and those above 5,000 second-feet, which are fair. No regulation or diversions.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-24

5.7	85	7.0	1,360
3.9	110	8.0	2,230
4.2	156	9.0	3,400
4.5	219	10.0	4,800
5.0	356	11.0	6,360
6.0	755		

Table for Oct. 25 to Sept. 30

3.7	97	6.5	1,020	10.0	4,800
4.0	133	7.0	1,360	10.5	5,550
4.3	181	7.5	1,760	11.0	6,360
4.6	245	8.0	2,230	12.0	8,100
5.0	356	8.5	2,780	13.0	9,950
5.5	535	9.0	3,400	14.0	11,850
6.0	755	9.5	4,080	15.0	13,750

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	2,480	882	488	1,770	385	265	830	755	932	275	130
2	113	2,230	682	1,150	2,280	353	245	705	805	805	252	126
3	113	2,130	1,160	1,560	1,900	338	231	730	688	682	227	121
4	107	1,770	568	1,560	1,360	303	229	890	804	595	216	119
5	101	7,320	615	1,280	1,080	275	229	1,220	1,080	535	197	116
6	98	3,360	595	1,500	980	258	234	1,070	1,180	485	179	113
7	95	2,030	730	755	730	250	222	805	1,150	451	170	109
8	129	1,650	780	595	615	234	220	805	1,020	988	165	106
9	247	1,020	730	488	535	216	227	855	932	840	161	102
10	173	780	595	412	462	201	255	730	1,520	660	165	100
11	142	682	1,180	382	562	230	397	615	968	595	153	98
12	141	595	1,380	338	496	1,910	875	555	855	660	147	97
13	142	705	1,080	292	466	3,930	830	656	805	755	157	144
14	132	855	932	288	412	1,900	638	880	985	755	161	984
15	130	855	780	255	372	1,160	682	1,120	1,160	705	149	724
16	133	660	660	248	344	855	880	905	780	575	137	932
17	128	535	830	231	788	705	660	1,460	705	496	205	659
18	118	575	1,220	216	780	595	555	1,270	705	440	920	395
19	457	488	1,490	199	615	516	754	960	905	408	409	312
20	2,970	827	3,120	200	781	444	1,180	1,090	705	585	275	265
21	1,140	932	5,080	800	839	385	1,080	1,360	730	372	284	222
22	1,120	1,410	2,220	5,200	1,590	341	855	1,280	780	382	197	195
23	2,230	1,920	1,320	5,200	1,010	312	830	905	638	372	177	177
24	6,650	2,020	1,180	12,000	730	417	682	730	535	323	165	165
25	6,510	1,900	905	8,000	575	375	682	755	481	270	152	152
26	2,100	1,410	975	4,200	485	309	780	855	535	238	144	141
27	1,180	1,120	638	2,400	428	273	780	932	682	216	141	132
28	805	893	535	1,800	408	412	755	932	755	467	139	125
29	638	992	469	1,600	-	447	755	960	1,200	326	139	119
30	535	976	412	1,550	-	350	1,060	805	1,120	255	139	115
31	576	-	422	1,520	-	303	-	730	-	245	133	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	29,271	6,650	95	944	12.6	14.53	58,080
November.....	45,120	7,320	488	1,504	20.1	22.43	89,480
December.....	34,445	5,080	412	1,111	14.8	17.06	68,320
Calendar year .....							
January.....	56,087	12,000	199	1,809	24.1	27.78	111,200
February.....	23,291	2,280	344	832	11.1	11.56	46,200
March.....	18,982	3,930	201	612	8.16	9.41	37,650
April.....	17,840	1,180	220	595	7.93	8.55	35,390
May.....	28,385	1,460	555	916	12.2	14.07	56,300
June.....	26,810	1,520	481	860	11.5	12.83	51,190
July.....	16,213	988	216	523	6.97	8.04	32,160
August.....	6,470	920	133	209	2.79	3.22	12,830
September.....	7,295	984	97	243	3.24	3.62	14,470
Water year 1934-35.....	309,209	12,000	95	847	11.3	153.40	613,260

## Snoqualmie River near Tolt, Wash.

Location.- Water-stage recorder, lat. 47°39'55", long. 121°55'30", in sec. 9, T. 25 N., R. 7 E., 100 feet below highway bridge 1 mile northwest of Tolt. Zero of gage is 42.96 feet above mean sea level.

Drainage area.- 605 square miles.

Records available.- February 1929 to September 1935.

Extremes.- Maximum discharge during year, 47,100 second-feet Oct. 25 (gage height, 15.4 feet); minimum, 354 second-feet Sept. 9, 13 (gage height, 3.54 feet).  
1929-35: Maximum discharge, about 51,000 second-feet Feb. 28, 1932; minimum, that of Sept. 9, 13, 1935; minimum gage height, 0.34 foot Sept. 11, 1930.

Remarks.- Records good. Both slope and stage used in determining discharge Oct. 23-28, Nov. 5-7, Dec. 20-22, Jan. 21-28. Low-water flow diverted for power at Snoqualmie Falls but returned to river above gage. Some regulation caused by operation of Snoqualmie Falls power plants.

Rating table, water year 1934-35 except for the periods Oct. 23-28, Nov. 5-7, Dec. 20-22, Jan. 21-28, when the slope method was used (gage height, in feet, and discharge, in second-feet)

3.5	320	6.0	4,100	10.0	15,300
3.7	495	6.5	5,200	11.0	18,500
3.9	690	7.0	6,480	12.0	22,050
4.2	1,020	7.5	7,900	13.0	27,550
4.5	1,420	8.0	9,550	14.0	34,500
5.0	2,200	8.5	10,800	15.0	41,500
5.5	3,100	9.0	12,500	16.0	49,200

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	834	5,420	4,750	3,490	6,480	2,460	2,320	3,200	3,490	5,550	1,290	730
2	812	6,480	4,000	4,060	7,320	2,370	2,550	2,910	4,000	4,000	1,460	660
3	948	6,760	4,220	7,610	7,040	2,380	2,370	2,320	3,290	3,490	1,280	690
4	1,100	7,800	4,970	6,090	5,950	2,200	2,200	3,100	3,290	3,100	1,190	630
5	924	14,000	4,000	7,320	5,200	2,030	2,280	3,690	4,000	2,730	1,190	620
6	900	21,700	3,590	7,320	4,750	1,950	2,200	4,100	4,530	2,550	1,120	620
7	867	14,600	3,490	6,160	4,200	1,900	2,030	3,490	4,750	2,370	972	600
8	823	11,100	3,590	4,360	3,790	1,840	1,980	3,290	4,200	2,370	960	582
9	1,100	7,610	3,490	4,200	3,590	1,740	1,890	3,490	3,790	2,550	936	552
10	1,150	5,690	3,100	3,690	3,100	1,660	1,840	3,490	4,100	2,280	900	590
11	1,060	4,660	3,100	3,490	3,100	1,700	1,930	3,100	3,990	2,120	834	552
12	996	4,310	4,530	3,290	3,100	3,720	2,460	2,730	3,390	2,200	856	562
13	1,010	4,000	4,100	3,000	3,000	10,500	3,290	2,730	3,390	2,280	801	542
14	984	4,100	3,890	2,320	2,910	7,900	3,100	3,290	3,490	2,370	812	1,100
15	1,020	4,200	3,590	2,640	2,730	5,320	2,320	4,100	5,080	2,370	845	1,360
16	1,030	4,000	3,290	2,550	2,550	4,750	3,100	4,000	3,790	2,200	780	1,390
17	1,020	3,590	3,690	2,460	2,910	4,100	3,000	3,990	3,200	2,010	760	1,520
18	936	3,200	4,530	2,370	4,000	3,690	2,640	4,530	3,200	1,840	1,390	1,010
19	936	3,000	5,080	2,120	3,590	3,390	2,320	3,690	3,200	1,700	1,920	856
20	3,930	3,690	12,600	1,930	3,390	3,200	3,990	3,590	3,000	1,580	1,430	1,010
21	5,120	5,080	13,400	2,630	3,790	2,910	4,000	4,640	2,910	1,450	1,200	960
22	3,200	4,860	14,400	13,500	4,970	2,730	3,590	5,200	3,200	1,460	984	978
23	4,810	5,950	9,350	25,600	4,750	2,550	3,790	4,200	3,000	1,450	912	760
24	10,600	5,950	7,320	30,800	3,790	2,550	3,390	3,490	2,640	1,420	845	740
25	35,600	5,690	6,210	35,300	3,290	3,000	3,100	3,290	2,370	1,320	845	710
26	25,800	5,320	5,950	25,600	3,000	2,820	3,200	3,390	2,370	1,190	790	660
27	11,000	4,750	4,970	16,000	2,730	2,640	3,290	3,690	2,550	1,120	750	640
28	6,480	4,310	4,310	10,700	2,640	2,550	3,200	3,790	2,820	1,190	730	630
29	4,860	4,750	4,100	8,490	-	4,000	3,200	4,000	3,590	1,390	750	630
30	4,000	4,750	3,790	7,610	-	3,690	3,290	3,790	7,010	1,120	770	590
31	3,590	-	3,490	6,760	-	3,100	-	3,690	-	1,140	730	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	137,440	35,600	812	4,434	7.33	8.45	272,600
November.....	21,700	6,000	3,000	6,381	10.5	11.71	379,700
December.....	164,990	14,400	3,100	5,319	8.79	10.13	327,100
Calendar year 1934.....	1,423,737	35,600	618	3,901	6.45	87.47	2,824,000
January.....	264,440	35,300	1,930	9,530	14.1	16.26	524,500
February.....	111,280	7,320	2,550	3,974	6.57	6.34	220,700
March.....	101,740	10,600	1,660	3,282	5.42	6.25	201,600
April.....	85,260	4,000	1,840	2,842	4.70	5.24	169,100
May.....	112,400	5,200	2,730	3,626	5.99	6.91	222,900
June.....	107,530	7,010	2,370	3,594	5.92	6.60	213,300
July.....	65,910	5,550	1,120	2,126	3.51	4.05	130,700
August.....	31,032	1,920	730	1,001	1.65	1.90	61,580
September.....	23,374	1,520	542	779	1.29	1.44	46,360
Water year 1934 .....	1,396,696	35,600	542	3,827	6.33	85.78	2,770,000

## North Fork of Snoqualmie River near Snoqualmie Falls, Wash.

Location.- Water-stage recorder, lat. 47°37'10", long. 121°42'35", in SW 1/4 sec. 30, T. 25 N., R. 9 E., 1 mile above Calligan Creek and 8 miles northeast of Snoqualmie Falls.

Drainage area.- 65 square miles.

Records available.- August 1929 to September 1935.

Extremes.- Maximum discharge during year, 7,470 second-feet Oct. 24 (gage height, 15.65 feet); stage and discharge somewhat higher Oct. 25, neither determined; minimum discharge, 52 second-feet Sept. 12 (gage height, 2.34 feet).  
1929-35: Maximum discharge, 8,020 second-feet Feb. 25, 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 Oct. 1, 6-11, which were estimated on basis of records for neighboring streams and are fair; those for Oct. 25 to Nov. 7, Nov. 19 to Dec. 8, estimated on same basis, which are poor; and others above 2,500 second-feet, which are poor. No diversions or regulation.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	740	540	337	952	261	286	430	583	860	201	84
2	99	820	410	615	1,240	242	259	399	628	615	175	80
3	133	940	680	1,030	995	234	242	430	477	528	152	77
4	115	1,000	560	772	730	226	234	510	578	461	172	74
5	107	2,500	460	916	615	212	232	670	711	399	152	71
6	100	2,300	450	815	528	203	220	655	792	356	134	68
7	100	1,700	480	580	445	197	210	477	762	337	124	66
8	110	1,140	520	461	384	188	203	510	598	384	117	61
9	140	792	461	384	337	179	197	562	562	370	110	58
10	150	598	399	342	313	172	203	477	766	337	106	56
11	120	528	559	324	329	175	253	430	562	316	101	55
12	109	461	774	303	313	1,250	420	370	528	345	98	52
13	113	445	632	275	286	2,380	545	430	510	370	95	62
14	106	528	562	255	261	1,080	399	562	659	356	94	149
15	106	528	477	251	261	670	414	730	821	337	92	206
16	109	414	414	242	251	461	494	545	510	293	88	346
17	104	348	562	230	494	384	399	666	494	261	96	224
18	98	348	650	218	590	340	348	741	494	236	491	161
19	156	330	955	203	430	308	465	562	494	220	292	147
20	1,620	490	2,700	199	510	281	750	662	430	206	199	192
21	710	700	2,760	381	546	255	615	882	477	195	159	154
22	381	740	1,450	3,260	928	236	494	830	494	188	139	131
23	992	900	905	3,600	562	218	494	580	445	177	125	118
24	3,650	780	730	4,880	414	230	430	477	370	163	117	108
25	6,000	740	615	3,660	351	230	430	494	345	149	108	100
26	2,500	600	598	2,700	313	210	477	545	370	138	102	92
27	1,400	520	477	1,670	286	197	477	580	430	131	97	87
28	900	470	414	1,240	275	244	461	580	477	192	92	82
29	700	620	384	1,040	-	510	461	615	952	158	91	79
30	580	600	340	995	-	384	610	562	1,740	131	94	75
31	560	-	321	860	-	324	-	528	-	139	90	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches		Acres-feet	
October.....				22,144	6,000	96	714	11.0	12.68		43,920	
November.....				23,620	2,500	330	787	12.1	13.50		46,850	
December.....				22,239	2,760	321	717	11.0	12.38		44,110	
Calendar year 1934.....				185,980	6,000	50	510	7.85	106.37		368,900	
January.....				33,238	4,880	199	1,072	16.5	19.02		65,930	
February.....				13,969	1,240	261	499	7.68	8.00		27,710	
March.....				12,461	2,380	172	403	6.20	7.15		24,760	
April.....				11,622	750	197	387	5.95	6.64		23,050	
May.....				17,491	882	370	564	8.63	10.01		34,690	
June.....				18,062	1,740	348	602	9.26	10.33		35,830	
July.....				9,348	860	131	302	4.65	5.36		18,540	
August.....				4,303	491	88	139	2.14	2.47		8,530	
September.....				3,514	346	52	110	1.69	1.89		6,570	
Water year 1934-35.....				191,831	6,000	52	526	8.09	109.73		380,500	



North Fork of Snoqualmie River near North Bend, Wash.

Location.- Water-stage recorder, lat. 47°32'20", long. 121°44'20", 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 1935.

Average discharge.- 25 years, 698 second-feet.

Extremes.- Maximum discharge recorded during year, about 11,500 second-feet Oct. 24 or 25 (gage height, 11.4 feet, from apparent range of stage); minimum, 68 second-feet Sept. 12 (gage height, 1.67 feet).

1907-26, 1929-35: Maximum discharge, that of Oct. 25, 1934; water above gage Nov. 18, 19, 23, 24, 29, 30, 1909; stage and discharge may have exceeded those of 1934. Minimum discharge, 54 second-feet Aug. 31, Sept. 1, 1930, Sept. 1, 1934.

Remarks.- Records good except those for periods Oct. 1-10, 20-29, Dec. 1-5, Apr. 20-30, which were estimated on basis of records for Sultan River, and those above 3,000 second-feet, which are poor. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-23

1.8	87
2.0	120
2.3	182
2.6	278
3.0	475
3.5	750

Table for Oct. 24 to Sept. 30

1.7	93	3.5	860	6.0	3,750
2.0	143	4.0	1,350	6.5	4,400
2.3	223	4.5	1,900	7.0	5,100
2.6	337	5.0	2,500	8.0	6,500
3.0	525	5.5	3,100	9.0	7,950

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	1,220	860	564	1,460	430	525	647	804	1,450	281	121
2	110	1,280	660	977	1,840	398	485	634	819	1,040	269	118
3	110	1,400	1,100	1,560	1,570	389	445	682	703	869	230	115
4	110	1,570	900	1,200	1,220	371	425	788	780	745	240	110
5	100	4,530	750	1,440	1,030	337	420	1,020	968	640	230	107
6	100	3,280	731	1,260	869	321	402	1,040	1,040	586	204	106
7	100	2,560	780	977	745	308	402	796	1,040	547	184	103
8	130	2,130	836	788	654	292	402	812	844	566	174	99
9	250	1,340	745	675	598	277	402	873	788	574	161	96
10	160	1,020	661	598	547	262	398	773	999	520	152	93
11	144	873	846	558	558	269	420	703	612	490	148	92
12	153	759	1,120	525	542	1,230	632	616	738	500	143	90
13	157	717	941	480	515	2,600	860	675	710	525	137	94
14	142	780	852	445	485	1,580	668	869	821	510	137	181
15	151	788	731	425	455	1,070	675	1,130	1,170	490	135	284
16	157	669	654	416	430	844	796	905	766	435	129	427
17	146	564	604	398	667	724	703	1,010	710	398	133	304
18	136	684	683	376	592	634	634	1,140	696	358	579	220
19	138	525	1,260	346	675	586	863	905	689	325	440	204
20	2,000	794	3,420	337	774	542	1,200	1,010	610	304	304	258
21	860	1,140	3,460	560	836	490	1,100	1,300	622	288	248	217
22	840	1,180	2,320	3,690	1,320	455	900	1,260	682	273	211	184
23	1,500	1,440	1,570	4,270	905	420	860	941	834	254	189	164
24	4,100	1,260	1,870	5,940	689	435	700	788	558	240	174	150
25	7,000	1,190	1,060	4,960	596	445	700	766	610	217	161	141
26	3,000	968	1,020	3,560	525	412	780	836	520	198	150	133
27	1,700	844	828	2,440	455	394	770	873	574	189	139	125
28	1,000	752	724	1,960	455	438	740	860	640	254	133	118
29	740	990	668	1,680	-	844	740	923	1,240	237	129	115
30	682	950	604	1,570	-	668	1,000	820	2,440	189	131	110
31	640	-	564	1,380	-	580	-	773	-	201	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	26,696	7,000	100	861	8.20	9.45	52,950
November.....	33,061	4,530	525	1,269	12.1	13.50	75,490
December.....	33,707	3,460	564	1,087	10.4	11.99	66,860
Calendar year 1934.....	264,765	7,000	54	725	6.90	93.81	525,100
January.....	48,275	5,940	337	1,493	14.2	16.37	91,790
February.....	22,327	1,840	430	797	7.59	7.90	44,280
March.....	19,245	2,800	262	621	5.91	6.81	38,170
April.....	20,047	1,200	398	668	6.36	7.10	39,760
May.....	27,178	1,300	616	877	6.35	9.63	53,910
June.....	25,027	2,440	510	654	7.94	8.86	49,640
July.....	14,432	1,450	189	466	4.44	5.12	28,630
August.....	6,202	579	127	200	1.90	2.19	12,300
September.....	4,679	427	90	156	1.49	1.66	9,280
Water year 1934-35.....	283,976	7,000	90	778	7.41	100.58	563,100

## South Fork of Snoqualmie River at North Bend, Wash.

Location.- Water-stage recorder, lat. 47°29'20", long. 121°47'10", 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 1935.

Average discharge.- 25 years, 542 second-feet.

Extremes.- Maximum discharge during year, 7,620 second-feet Oct. 25 (gage height, 11.2 feet, from high-water mark in well); minimum (estimated), 75 second-feet Oct. 1, 1907-26, 1929-35: 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 fair except those above 3,000 second-feet, and those estimated for periods Oct. 1-10, 24-29, June 26, June 29 to Aug. 7, which are poor. No diversions or regulation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	745	700	628	1,170	458	447	574	700	650	220	119
2	85	870	628	700	1,230	432	421	544	700		215	115
3	95	1,050	650	1,020	1,200	425	404	560	628		210	113
4	90	1,260	675	960	1,080	414	396	628	700		205	109
5	90	2,150	628	1,050	990	404	400	750	870		200	107
6	85	2,370	564	1,140	930	393	386	840	960	450	192	105
7	90	1,770	544	900	840	382	376	700	960		185	104
8	100	1,530	532	725	750	369	372	675	810		176	100
9	110	1,140	512	650	700	345	365	750	725		174	100
10	110	900	492	605	650	328	358	725	750		168	100
11	108	780	504	605	650	318	369	628	675	400	166	100
12	115	700	544	582	605	668	436	548	628		161	100
13	113	650	544	548	587	1,590	536	564	650		158	102
14	108	675	536	524	569	1,320	516	675	725		158	117
15	115	675	532	508	540	990	516	840	780		156	124
16	116	628	520	492	516	840	512	780	600	300	148	132
17	113	578	560	484	532	725	476	725	552		148	132
18	108	564	628	465	569	650	454	750	574		210	111
19	111	544	725	447	540	605	458	700	569		218	107
20	396	605	1,590	439	552	564	560	780	512		176	117
21	505	700	1,980	528	592	532	605	1,020	536	220	158	113
22	400	725	1,830	2,340	810	496	605	1,080	552		148	105
23	615	840	1,440	3,350	750	458	650	810	473		141	102
24	2,100	900	1,200	3,800	650	462	578	700	436		134	100
25	6,300	960	1,020	4,080	574	473	556	675	425		132	100
26	3,000	870	930	2,810	536	465	574	725	434	190	128	98
27	1,500	810	810	2,110	504	456	587	780	443		126	98
28	980	725	725	1,710	476	443	574	810	480		121	96
29	740	725	700	1,470	-	524	564	870	600		124	92
30	587	725	675	1,320	-	500	596	780	1,000		128	91
31	544	-	628	1,230	-	473	-	725	-	121	-	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-foot		
October.....				19,604	6,300	75	632	7.52	8.67	38,880		
November.....				26,164	2,370	544	939	11.2	12.50	55,860		
December.....				24,546	1,980	492	792	9.43	10.87	48,690		
Calendar year 1934.....				241,059	6,300	-	660	7.86	106.79	478,100		
January.....				38,220	4,080	439	1,233	14.7	16.95	75,810		
February.....				20,092	1,230	476	718	8.55	8.90	39,850		
March.....				17,482	1,590	316	564	6.71	7.74	34,680		
April.....				14,647	650	358	488	5.81	6.48	29,050		
May.....				22,711	1,080	544	733	8.75	10.06	45,050		
June.....				19,447	1,000	425	648	7.71	8.60	36,570		
July.....				11,240	-	-	363	4.32	4.98	22,290		
August.....				5,105	220	121	165	1.96	2.26	10,130		
September.....				3,209	132	91	107	1.27	1.42	6,360		
Water year 1934-35.....				224,467	6,300	75	615	7.32	99.43	445,200		

## STILLAGUAMISH RIVER BASIN

South Fork of Stillaguamish River near Granite Falls, Wash.

Location.- Water-stage recorder, lat. 46°6'10", long. 121°56'40", 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 1935.

Extremes.- Maximum discharge during year, 21,100 second-feet Jan. 24 (gage height, 17.0 feet); minimum discharge, 106 second-feet Sept. 12; minimum gage height, 3.32 feet Oct. 7, 8.

1928-35: Maximum discharge, about 28,700 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 excellent except those for periods of ice effect, Jan. 14, 15, 18-20, which were estimated and are fair, those between 5,000 and 7,500 second-feet, which are good, and those above 7,500 second-feet, which are fair. No diversions or regulation.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 23

3.0	55	5.5	1,240	10.0	7,800
3.5	165	6.0	1,700	12.0	11,400
4.0	325	7.0	2,900	14.0	15,200
4.5	545	8.0	4,450	16.0	19,100
5.0	860	9.0	6,080		

Table for Jan. 24 to Sept. 30

3.2	70	6.0	1,600
3.5	145	7.0	2,800
4.0	290	8.0	4,250
4.5	504	9.0	5,900
5.0	795	10.0	7,600

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	154	4,040	1,380	930	2,090	573	427	938	874	1,090	314	167
2	149	3,050	965	1,570	2,540	525	395	814	962	970	314	158
3	146	3,280	1,480	2,250	2,150	525	377	834	762	768	274	153
4	141	2,420	1,160	2,250	1,500	470	364	994	924	894	278	150
5	133	10,400	874	2,090	1,330	427	352	1,290	1,250	824	268	148
6	126	4,630	811	1,980	1,130	399	356	1,250	1,420	573	241	142
7	120	2,360	888	1,200	930	395	344	970	1,420	535	226	132
8	157	2,060	1,000	909	738	364	337	962	1,420	1,120	217	124
9	322	1,530	895	758	700	341	341	1,050	1,210	1,070	212	122
10	240	965	770	654	624	322	360	881	1,500	743	217	122
11	194	839	1,760	642	776	394	470	758	1,130	653	206	114
12	188	738	1,640	572	724	2,360	740	658	978	712	194	109
13	203	964	1,380	500	718	5,410	970	776	1,010	788	206	191
14	177	1,160	1,280	430	618	2,880	788	1,050	1,120	821	214	2,090
15	165	1,240	1,200	430	551	1,650	828	1,460	1,330	782	209	1,200
16	177	965	1,000	423	499	1,210	1,090	1,130	816	670	139	1,600
17	160	725	1,270	401	587	994	954	2,220	840	590	204	876
18	146	811	1,900	360	952	860	1,520	354	525	525	990	551
19	375	666	2,070	310	769	776	859	1,170	923	494	443	441
20	4,160	1,180	3,520	290	1,030	688	1,510	1,250	821	465	304	356
21	1,520	1,420	6,340	1,400	1,080	595	1,460	1,560	828	450	256	304
22	1,960	2,740	2,840	7,990	2,380	540	1,080	1,610	916	455	232	271
23	3,350	3,180	1,780	7,990	1,500	499	1,130	1,090	776	465	214	244
24	6,120	3,180	1,420	18,400	1,050	747	861	867	653	422	197	229
25	8,560	3,710	1,240	11,700	821	676	828	891	575	356	183	212
26	2,530	2,070	1,800	6,080	694	540	930	1,010	624	308	172	194
27	1,380	1,650	1,040	3,220	624	475	902	1,130	769	281	169	183
28	1,000	1,280	811	2,480	595	530	874	1,130	881	451	172	172
29	790	1,380	744	2,090	-	658	874	1,210	1,700	423	175	164
30	699	1,480	666	1,970	-	546	1,130	994	1,370	308	183	153
31	782	-	741	1,800	-	480	-	874	-	294	175	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	36,324	8,560	120	1,172	9.85	11.36	72,050
November.....	65,913	10,400	666	2,197	13.5	20.64	130,700
December.....	46,875	6,340	666	1,512	12.7	14.64	92,980
Calendar year 1934.....	421,990	10,400	89	1,156	9.71	131.93	837,000
January.....	84,049	18,400	290	2,711	22.8	26.29	166,700
February.....	30,250	2,540	499	1,080	9.08	9.46	60,000
March.....	27,648	5,410	322	893	7.55	8.70	55,240
April.....	22,329	1,510	337	751	6.31	7.04	44,680
May.....	34,329	2,220	658	1,107	9.30	10.72	68,090
June.....	30,739	1,700	578	1,025	8.61	9.61	60,970
July.....	18,920	1,120	281	610	5.13	5.91	37,530
August.....	7,848	990	169	253	2.13	2.46	15,570
September.....	11,052	2,090	109	368	3.09	3.45	21,920
Water year 1934-35.....	416,877	18,400	109	1,142	9.60	130.28	826,400

## South Fork of Stillaguamish River near Arlington, Wash.

Location.- Staff gage, lat. 48°11'40", long. 122°5'45", in NW¼ sec. 7, T. 31 N., R. 6 E., 1½ miles east of Arlington.

Drainage area.- 254 square miles.

Records available.- December 1928 to September 1935.

Extremes.- Maximum observed discharge during year, 31,200 second-feet Jan. 24 (gage height, 13.6 feet); minimum, 168 second-feet Oct. 8 (gage height, 1.96 feet).  
1928-35: Maximum observed discharge, about 35,000 second-feet Feb. 26, 1932 (gage height, 14.4 feet); minimum discharge, 108 second-feet Sept. 6, 1930; minimum gage height, 1.82 feet Sept. 3-6, 1934.

Remarks.- Records good. No diversions or regulation.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

2.0	175	4.0	1,550	6.5	6,230	9.0	12,910	11.5	22,000
2.2	220	4.5	2,210	7.0	7,500	9.5	14,510	12.0	23,900
2.5	325	5.0	3,070	7.5	8,800	10.0	16,300	12.5	25,980
3.0	605	5.5	4,050	8.0	10,100	10.5	18,200	13.0	28,300
3.5	1,030	6.0	5,100	8.5	11,470	11.0	20,100	13.5	30,680

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	195	7,760	3,070	2,060	4,050	1,230	1,180	1,670	1,230	1,550	475	250
2	195	5,320	2,060	3,070	5,320	1,130	982	1,440	1,550	1,550	505	250
3	185	4,890	2,210	5,760	4,470	1,180	890	1,440	1,230	1,230	420	235
4	185	4,470	2,370	3,070	3,450	1,130	890	1,670	1,380	1,080	355	235
5	175	22,000	1,790	5,100	2,710	1,030	845	2,060	1,790	982	420	235
6	175	9,840	1,550	4,680	2,370	935	802	2,060	2,060	935	370	268
7	175	4,470	1,550	2,540	1,920	935	760	1,550	2,060	802	348	268
8	168	4,470	1,790	2,060	1,670	890	760	1,550	1,920	890	325	250
9	370	2,710	1,670	1,670	1,440	845	760	1,670	1,790	1,790	325	250
10	305	1,920	1,380	1,440	1,330	760	935	1,440	2,060	1,230	305	305
11	235	1,550	1,330	1,550	1,440	760	1,390	1,280	1,790	1,030	305	268
12	208	1,440	3,650	1,380	1,550	1,920	1,440	1,180	1,440	982	285	220
13	250	1,550	2,540	1,130	1,440	11,200	1,920	1,280	1,440	1,180	285	220
14	220	2,060	2,370	982	1,440	6,230	1,550	1,790	1,380	1,130	305	2,540
15	195	2,060	2,210	890	1,280	3,650	1,550	2,060	2,210	1,180	285	1,550
16	220	1,790	1,920	890	1,180	2,540	2,060	1,920	1,440	982	285	2,210
17	208	1,330	2,210	802	1,180	2,210	1,670	4,050	1,330	890	268	1,550
18	195	1,440	3,850	802	2,060	2,060	1,330	2,890	1,280	760	1,670	890
19	175	1,280	3,070	760	1,550	1,790	1,440	1,920	1,380	760	760	890
20	7,500	1,670	7,500	605	1,920	1,670	3,070	1,920	1,230	680	505	605
21	2,060	2,710	11,800	760	2,060	1,440	2,060	2,370	1,230	680	395	505
22	2,540	2,370	5,100	13,500	4,470	1,280	1,920	2,540	1,330	680	348	420
23	3,070	5,100	3,450	12,900	3,070	1,230	2,060	1,790	1,230	680	325	395
24	3,070	6,730	2,710	30,200	2,060	1,280	1,790	1,440	1,030	605	325	370
25	12,900	8,020	2,370	15,600	1,790	1,670	1,550	1,440	890	505	285	325
26	4,680	4,260	4,680	11,500	1,550	1,440	1,790	1,790	935	448	285	325
27	2,710	3,260	2,370	6,730	1,380	1,330	1,670	1,790	1,130	420	268	305
28	1,790	2,890	1,790	5,100	1,330	1,230	1,550	1,790	1,280	448	268	285
29	1,440	3,070	1,550	4,470	-	1,550	1,550	1,790	1,920	720	268	268
30	1,230	2,370	1,380	4,260	-	1,330	1,920	1,550	2,060	475	268	268
31	1,130	-	1,280	3,850	-	1,180	-	1,380	-	475	268	-
Month				Second-foot-days		Maximum	Minimum	Mean	Per square mile	Run-off		
										Inches	Acre-feet	
October.....				48,154		12,600	168	1,553	6.11	7.04	95,510	
November.....				124,900		22,000	1,280	4,180	16.4	18.30	247,500	
December.....				88,570		11,800	1,280	2,857	11.2	12.91	175,700	
Calendar year 1934.....				680,593		22,000	146	1,865	7.34	99.55	1,350,000	
January.....				150,111		30,200	605	4,842	19.1	22.02	297,700	
February.....				61,480		5,320	1,180	2,196	8.65	9.01	121,900	
March.....				59,055		11,200	760	1,905	7.50	8.65	117,100	
April.....				44,074		3,070	760	1,469	5.78	6.45	87,420	
May.....				56,510		4,050	1,180	1,823	7.18	8.28	112,100	
June.....				45,025		2,210	890	1,501	5.91	6.59	89,310	
July.....				27,749		1,790	420	895	3.52	4.06	55,040	
August.....				12,144		1,670	268	392	1.54	1.78	24,090	
September.....				16,762		2,540	220	559	2.20	2.46	33,250	
Water year 1934-35.....				734,434		30,200	168	2,012	7.92	107.55	1,457,000	

## STILLAGUAMISH RIVER BASIN

North Fork of Stillaguamish River near Arlington, Wash.

Location.- Water-stage recorder, lat. 48°15'45", long. 122°2'45", 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 1935.

Extremes.- Maximum discharge during year, 22,600 second-feet Jan. 24 (gage height, 11.7 feet); minimum discharge, 220 second-feet Sept. 13; minimum gage height, 1.40 feet Oct. 6-8.

1928-35: Maximum discharge, 27,700 second-feet Feb. 23, 1932 (gage height, 12.7 feet); minimum discharge, 158 second-feet Sept. 1, 1931; minimum gage height, 1.33 feet Sept. 7, 1934.

Remarks.- Records good October to January, excellent February to September. No diversions or regulation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	281	5,610	2,980	1,880	4,600	1,200	1,030	1,360	1,280	1,280	486	297
2	279	4,840	2,140	2,700	5,060	1,130	935	1,200	1,280	1,160	486	285
3	276	4,240	2,560	3,660	4,430	1,160	908	1,240	1,030	935	458	276
4	274	3,980	2,280	3,660	3,540	1,100	855	1,500	1,200	830	521	270
5	270	13,900	1,760	3,880	3,010	995	808	1,910	1,630	785	486	267
6	265	8,240	1,600	3,470	2,610	908	785	1,960	1,910	762	423	261
7	265	3,970	1,680	2,550	2,280	908	762	1,540	1,960	713	396	250
8	272	3,380	1,800	2,060	1,910	855	740	1,500	1,960	855	376	247
9	378	2,500	1,640	1,720	1,680	808	718	1,680	1,560	965	366	244
10	342	1,960	1,420	1,460	1,450	785	718	1,360	2,010	785	363	244
11	320	1,680	2,740	1,450	1,820	902	808	1,160	1,580	718	353	233
12	307	1,480	3,160	1,310	1,770	3,020	1,100	1,030	1,400	740	340	225
13	305	1,720	2,440	1,150	1,720	6,480	1,500	1,200	1,450	908	340	302
14	295	1,760	2,290	1,010	1,540	4,860	1,280	1,580	1,510	930	344	3,400
15	286	1,800	2,190	985	1,320	3,280	1,280	1,960	1,610	830	340	1,730
16	281	1,560	1,920	960	1,200	2,500	1,580	1,630	1,200	740	328	1,600
17	279	1,310	2,300	910	1,770	2,160	1,360	2,580	1,160	675	328	1,030
18	276	1,420	3,420	842	1,960	1,910	1,130	2,280	1,130	635	705	740
19	266	1,280	3,190	842	1,580	1,760	1,160	1,720	1,200	615	512	615
20	2,570	1,400	4,200	820	1,980	1,580	1,990	1,810	995	595	409	557
21	1,580	2,010	6,240	2,340	2,060	1,360	2,160	2,280	995	575	373	503
22	2,270	3,060	4,250	14,000	4,200	1,240	1,760	2,220	1,060	575	353	458
23	3,480	4,650	3,260	12,600	3,200	1,130	1,960	1,630	965	575	337	426
24	4,480	5,150	2,930	21,300	2,330	1,320	1,580	1,320	830	557	328	402
25	10,600	5,400	2,710	19,100	1,860	1,400	1,400	1,280	762	521	309	373
26	3,710	3,680	3,300	12,500	1,580	1,280	1,540	1,500	785	486	297	356
27	2,520	3,040	2,270	7,000	1,400	1,200	1,450	1,580	855	454	297	328
28	1,920	2,490	1,800	5,400	1,280	1,370	1,360	1,630	965	679	297	312
29	1,540	2,700	1,600	4,530	-	1,540	1,400	1,720	1,630	658	306	503
30	1,360	3,060	1,450	4,240	-	1,320	1,540	1,450	1,690	503	315	297
31	1,370	-	1,450	3,960	-	1,160	-	1,280	-	486	309	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				42,937	10,600	265	1,385	4.91	5.66	85,160		
November.....				103,170	13,900	1,280	3,439	12.2	13.61	204,600		
December.....				79,970	6,240	1,420	2,547	9.03	10.41	156,600		
Calendar year 1934.....				665,167	13,900	250	1,822	6.46	87.68	1,319,000		
January.....				144,209	21,300	820	4,655	16.5	19.02	286,200		
February.....				65,140	5,060	1,200	2,326	8.25	8.59	129,200		
March.....				52,521	6,480	785	1,697	6.02	6.94	104,400		
April.....				37,597	2,160	718	1,253	4.44	4.95	74,570		
May.....				49,990	2,580	1,030	1,613	5.72	6.60	99,150		
June.....				39,712	2,010	762	1,324	4.70	5.24	76,770		
July.....				22,330	1,280	454	720	2.55	2.94	44,290		
August.....				11,081	705	297	363	1.36	1.57	23,570		
September.....				17,031	3,400	225	568	2.01	2.24	33,780		
Water year 1934-35.....				665,686	21,300	225	1,824	6.47	87.77	1,320,000		

## Skagit River near Hope, British Columbia

(International gaging station)

Location.- Water-stage recorder, lat. 49°3', long. 121°5', just below Galena Creek, 4 miles above the international boundary, and 40 miles southeast of Hope. Prior to October 1934, gage at practically same site but different datum.

Drainage area.- 370 square miles.

Records available.- October 1934 to September 1935; March 1915 to September 1922 in Canadian water resources papers.

Extremes.- Maximum discharge observed during year, 6,560 second-feet Jan. 25 (gage height, 8.83 feet, from high-water mark in stilling well); minimum, estimated at 170 second-feet Jan. 19, when stage-discharge relation was affected by ice.  
1915-22, 1934-35: Maximum discharge, 7,560 second-feet June 17, 1916; minimum, 120 second-feet Oct. 1, 1915; both reported by the Dominion Water Power and Hydro-metric Bureau.

Remarks.- Records good except those for Dec. 26 to Jan. 29, which are fair and were determined from staff-gage readings made Jan. 5, 12, 19, 23, high-water mark in stilling well, and records near Newwaleam. Discharge interpolated May 6. No diversions or regulation. This station is maintained with the cooperation of the city of Seattle and is one of the international gaging stations maintained by Canada under agreement with the United States.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

2.5	175	4.0	870	6.5	3,060
2.7	245	4.5	1,220	7.0	3,710
2.9	325	5.0	1,620	7.5	4,440
3.2	455	5.5	2,045	8.0	5,230
3.5	590	6.0	2,520		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	912	522	505	2,520	635	392	1,040	2,960	2,100	822	333
2	-	846	496	493	3,200	615	383	1,010	2,840	2,000	768	317
3	-	702	491	480	3,810	600	378	1,070	2,570	1,790	720	309
4	-	640	478	468	3,500	576	370	1,240	2,690	1,660	720	301
5	-	2,040	455	455	2,980	550	365	1,620	3,320	1,620	665	289
6	-	3,000	450	430	2,590	532	353	1,690	3,840	1,530	600	293
7	-	1,880	450	405	2,280	518	353	1,730	4,100	1,520	568	293
8	-	1,510	450	360	2,020	500	349	1,730	4,140	1,540	550	293
9	-	1,240	455	355	1,840	482	353	1,860	3,710	1,440	536	293
10	-	1,060	464	330	1,660	478	361	1,660	3,640	1,320	522	289
11	-	944	625	305	1,430	468	392	1,600	3,480	1,250	509	277
12	-	924	822	277	1,320	456	450	1,480	3,140	1,270	509	261
13	-	979	864	260	1,220	572	514	1,510	3,300	1,430	536	281
14	-	1,060	882	245	1,100	600	527	1,680	3,070	1,600	527	414
15	-	1,180	834	230	1,010	600	540	2,100	2,800	1,690	500	396
16	-	1,150	774	215	951	581	558	2,260	2,510	1,620	486	568
17	-	1,040	732	200	912	576	563	2,080	2,320	1,500	468	468
18	-	972	702	185	870	563	558	2,030	2,310	1,360	478	368
19	-	888	732	170	840	554	568	2,010	2,280	1,270	442	341
20	-	810	810	180	816	532	640	2,200	2,150	1,160	419	313
21	-	750	810	250	792	514	696	2,900	2,160	1,120	401	297
22	-	744	750	320	804	496	702	3,520	2,260	1,130	388	285
23	341	738	696	365	780	496	680	3,220	2,030	1,160	363	277
24	301	696	620	1,000	744	491	665	2,690	1,840	1,180	374	265
25	455	690	563	5,200	720	482	680	2,480	1,780	1,000	353	233
26	432	650	518	4,500	696	460	780	2,480	1,840	900	345	245
27	353	615	568	4,000	680	446	822	2,590	1,950	834	349	237
28	361	596	565	3,500	655	442	822	2,970	2,110	828	353	229
29	410	568	543	3,000	-	432	918	3,410	2,080	798	357	225
30	428	550	530	2,670	-	414	1,040	3,130	1,970	738	353	221
31	500	-	518	2,470	-	410	-	2,990	-	846	345	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October 23-31 .....	3,581	500	301	398	1.08	0.36	7,100
November.....	30,359	3,000	550	1,010	2.73	3.05	60,200
December.....	19,159	882	450	618	1.67	1.82	38,000
Calendar year .....							
January.....	33,843	5,200	170	1,090	2.95	3.40	67,100
February.....	42,780	3,810	655	1,530	4.14	4.31	84,800
March.....	18,091	636	410	519	1.40	1.61	31,900
April.....	16,802	1,040	349	560	1.51	1.68	53,500
May.....	56,950	3,520	1,010	2,130	5.76	6.64	131,000
June.....	81,180	4,140	1,780	2,710	7.32	8.17	161,000
July.....	41,194	2,100	738	1,330	3.59	4.14	81,700
August.....	15,346	822	345	495	1.34	1.54	30,400
September.....	9,231	568	221	308	.83	.93	18,300
The period... ..							745,000

## SKAGIT RIVER BASIN

Skagit River near Newhalem, Wash.

Location.— Water-stage recorder, lat. 48°45', long. 121°2', in sec. 30, T. 38 N., R. 14 E.,  $\frac{1}{4}$  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 1935.

Extremes.— Maximum discharge during year, 17,000 second-feet Nov. 5 (gage height, 13.05 feet); minimum, 587 second-feet Oct. 6 (gage height, 3.98 feet).  
1930-35: Maximum discharge, 25,700 second-feet Feb. 27, 1932 (gage height, 15.9 feet); minimum, 386 second-feet Dec. 5, 1929 (result of discharge measurement).

Remarks.— Records excellent except those for period of ice effect, Jan. 15-23, which are fair. No regulation or diversions. Gage-height record collected in cooperation with city of Seattle, which furnished many discharge measurements.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

4.0	600	7.0	3,850	10.0	9,470
4.5	940	7.5	4,600	10.5	10,620
5.0	1,340	8.0	5,360	11.0	11,800
5.5	1,820	8.5	6,270	11.5	13,020
6.0	2,450	9.0	7,270	12.0	14,300
6.5	3,150	9.5	8,360	12.5	15,630

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	658	3,990	1,820	1,570	6,270	1,820	1,160	2,870	6,270	4,600	2,520	1,520
2	646	3,270	1,720	1,620	8,360	1,770	1,120	2,800	6,070	4,450	2,310	1,480
3	632	3,000	1,670	1,620	8,800	1,720	1,120	2,870	5,530	4,500	2,240	1,480
4	620	2,680	1,620	1,620	8,140	1,670	1,120	3,140	5,700	4,000	2,120	1,430
5	600	9,990	1,520	1,620	7,070	1,570	1,080	3,710	7,070	3,850	1,930	1,430
6	594	10,900	1,520	1,620	6,070	1,520	1,080	4,150	8,360	3,710	1,770	1,340
7	632	6,880	1,480	1,570	5,360	1,480	1,040	4,300	9,020	3,850	1,670	1,300
8	808	5,200	1,480	1,480	4,750	1,430	1,040	4,300	9,020	3,850	1,670	1,300
9	1,010	4,300	1,480	1,430	4,300	1,380	1,040	4,450	8,140	3,500	1,670	1,300
10	1,010	3,710	1,480	1,340	4,000	1,380	1,040	4,300	8,360	3,290	1,720	1,200
11	1,010	3,290	1,870	1,340	3,710	1,340	1,080	3,850	7,920	3,220	1,670	1,120
12	1,010	3,150	2,520	1,250	3,430	1,430	1,250	3,570	7,270	3,570	1,770	1,040
13	849	3,450	2,660	1,160	3,220	1,570	1,450	3,570	7,460	4,300	1,990	1,250
14	758	4,000	2,730	1,040	3,010	1,930	1,520	4,000	6,870	4,900	1,990	3,080
15	730	4,450	2,590	1,000	2,800	1,930	1,570	4,900	6,270	5,200	1,720	2,520
16	691	4,000	2,450	1,000	2,590	1,880	1,620	5,360	5,530	5,050	1,520	3,500
17	665	3,500	2,310	1,000	2,520	1,770	1,670	5,050	5,050	4,600	1,430	2,420
18	639	3,220	2,180	940	2,450	1,720	1,620	4,750	5,050	4,300	1,520	1,770
19	665	2,870	2,120	870	2,310	1,670	1,670	4,750	5,200	4,000	1,430	1,520
20	1,990	2,660	2,240	870	2,310	1,620	1,930	4,900	4,900	3,710	1,340	1,340
21	1,470	2,450	2,870	1,100	2,240	1,520	2,120	6,280	5,050	3,710	1,380	1,200
22	1,670	2,450	2,940	1,400	2,380	1,480	2,120	7,700	5,360	4,000	1,340	1,160
23	1,420	2,590	2,660	1,900	2,310	1,430	2,050	7,270	4,900	4,150	1,340	1,080
24	1,380	2,520	2,450	4,590	2,180	1,480	1,990	6,070	4,450	4,000	1,300	1,040
25	2,120	2,520	2,240	11,500	2,120	1,480	1,990	5,530	4,300	3,570	1,250	975
26	1,880	2,380	2,050	15,400	1,990	1,380	2,180	5,360	4,600	3,080	1,300	928
27	1,570	2,240	1,880	12,900	1,930	1,340	2,510	5,700	4,900	2,800	1,380	884
28	1,870	2,050	1,820	9,930	1,880	1,300	2,450	6,470	5,360	2,730	1,430	884
29	1,620	1,930	1,820	8,140	-	1,250	2,590	7,460	5,360	2,590	1,520	912
30	1,720	1,930	1,720	6,270	-	1,250	2,800	7,070	4,900	2,380	1,620	905
31	2,170	-	1,620	6,270	-	1,200	-	6,670	-	2,660	1,620	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	34,797	2,170	594	1,122	1.47	1.70	69,020
November.....	111,650	10,900	1,936	3,718	4.86	5.42	221,300
December.....	63,530	2,940	1,480	2,049	2.68	3.09	126,000
Calendar year 1934.....	1,272,069	14,000	594	3,485	4.56	61.88	2,523,000
January.....	105,160	15,400	870	3,392	4.43	5.11	208,600
February.....	108,500	8,800	1,880	3,875	5.07	5.28	215,200
March.....	47,710	1,930	1,200	1,539	2.01	2.32	94,630
April.....	48,800	2,800	1,040	1,627	2.13	2.38	96,790
May.....	153,200	7,700	2,800	4,942	6.46	7.45	303,900
June.....	124,260	4,300	4,300	6,242	8.03	8.96	365,500
July.....	117,920	5,200	2,380	3,804	4.97	5.73	233,900
August.....	51,480	2,520	1,250	1,661	2.17	2.50	102,100
September.....	43,316	3,500	884	1,444	1.89	2.11	85,920
Water year 1934-35.....	1,070,223	15,400	594	2,932	3.83	52.05	2,123,000

## Skagit River at Newhalem, Wash.

Location.— Water-stage recorder, lat. 48°40', long. 121°15', 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 1935. Monthly discharge October 1908 to September 1933 published in State Water-Supply Bulletin 5.

Average discharge.— 27 years (1908-35), 4,460 second-feet.

Extremes.— Maximum discharge during year, 30,300 second-feet Jan. 25 (gage height, 90.82 feet); minimum, 186 second-feet Oct. 19 (gage height, 78.87 feet, result of regulation); minimum mean daily discharge, 1,310 second-feet Mar. 24.

1908-14, 1920-35: 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, the result of regulation; minimum mean daily discharge, 136 second-feet Aug. 24, 1930, also the result of regulation.

Remarks.— Records excellent. Water diverted 3 miles above station returned to river at the Seattle power plant just above station. Entire low flow may be carried through plant. Flow partly controlled by storage and release of water at tunnel intake and above Diablo Dam. Capacity of Diablo Reservoir, 91,300 acre-feet at elevation 1,205 feet. Part of table of monthly discharge corrected for storage. Gage-height record collected in cooperation with city of Seattle, which furnished results of several discharge measurements.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 5

81.0	1,350	84.0	5,310
82.0	2,350	85.0	7,200
83.0	3,620	86.0	10,140

Table for Nov. 6 to Sept. 30

81.0	1,330	82.5	2,930	84.0	5,200	87.0	12,880
81.5	1,790	83.0	3,620	85.0	7,150	88.0	16,700
82.0	2,330	83.5	4,400	86.0	9,820	90.0	26,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,090	3,870	3,150	2,460	9,680	3,090	2,450	2,870	10,400	7,640	3,170	3,440
2	2,210	3,560	*2,520	2,910	13,400	2,960	2,460	2,830	*9,770	7,130	4,120	3,440
3	2,080	3,510	3,060	2,510	13,200	*2,540	2,360	2,910	9,230	6,840	4,030	3,410
4	2,030	*5,820	2,960	2,700	12,000	3,690	2,450	2,860	9,580	6,740	*4,120	3,200
5	2,190	19,200	2,970	2,700	10,300	5,270	2,460	*2,920	11,700	6,440	3,630	3,020
6	2,030	17,000	2,170	2,670	9,060	4,220	2,230	4,370	14,200	6,260	3,650	3,020
7	*1,680	10,200	2,090	2,430	7,660	2,870	*1,990	6,200	15,200	6,360	3,550	2,280
8	2,250	7,660	2,030	2,380	6,780	2,270	2,330	6,050	15,100	6,450	3,560	*2,650
9	2,180	6,150	*1,560	2,260	6,960	2,070	2,230	6,220	*12,600	6,090	2,380	2,980
10	2,080	5,420	2,200	2,160	*4,940	*1,640	2,270	6,560	13,900	5,530	2,690	2,810
11	2,240	*4,950	2,810	2,020	5,590	2,350	2,310	6,070	13,200	5,470	3,220	2,530
12	2,220	5,700	4,210	1,840	4,820	2,530	2,440	*5,580	12,100	6,210	3,680	2,520
13	2,080	4,300	4,510	*1,700	4,750	2,600	2,590	5,510	12,700	8,290	4,680	2,470
14	*1,720	6,260	4,340	1,990	4,400	2,630	*2,340	6,050	12,200	9,780	4,400	5,810
15	2,290	7,200	3,390	2,110	3,950	4,270	2,390	7,690	10,900	10,400	3,400	*5,050
16	2,210	6,440	*4,320	2,030	3,440	6,180	2,430	8,420	9,120	9,980	2,840	6,370
17	2,050	4,900	2,830	2,130	3,650	*6,070	2,370	8,060	8,610	8,370	2,600	4,200
18	1,900	*5,090	3,890	2,180	3,740	4,270	2,400	6,890	8,620	7,830	2,980	3,320
19	1,380	4,370	3,480	2,010	3,720	2,980	2,320	*6,750	9,170	7,530	2,960	3,010
20	2,150	4,050	3,790	*1,770	3,990	2,910	2,380	7,690	8,690	7,000	2,820	2,350
21	*1,570	3,880	4,980	2,310	3,760	2,980	*2,290	10,400	8,700	*6,940	2,460	2,180
22	2,150	3,940	4,690	3,140	3,430	2,960	2,640	13,100	9,770	7,750	2,350	*1,880
23	2,170	4,110	*4,060	3,220	3,330	2,940	2,630	12,000	8,770	8,790	2,370	2,090
24	2,310	3,370	3,920	9,280	*3,000	*1,510	2,570	9,980	7,470	7,700	2,580	1,950
25	2,500	3,480	3,520	24,200	3,360	2,590	2,580	8,200	6,780	6,600	*2,450	1,920
26	1,990	3,940	3,410	24,800	3,200	2,550	2,570	*8,400	8,050	5,870	2,630	1,900
27	1,750	3,900	3,470	*19,200	3,070	2,470	2,500	9,600	9,080	5,140	3,200	2,250
28	*1,450	3,800	2,380	14,300	3,090	2,610	*2,510	10,900	9,960	5,170	3,200	2,160
29	1,900	3,230	2,590	11,600	-	2,530	2,820	12,100	10,300	5,360	3,500	*1,920
30	1,940	3,250	*2,810	10,200	-	2,430	2,890	11,600	*9,030	5,120	3,910	2,420
31	2,040	-	2,460	9,330	-	*2,190	-	11,200	-	4,720	3,440	-

Month	Observed				Gain or loss in storage in Diablo Reservoir  (acre-feet)	Corrected for storage			
	Discharge in second-foot			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-foot		Run off in inches
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	2,500	1,380	2,025	124,500	+40	124,500	2,025	1.75	2.02
November.....	19,200	3,230	5,684	338,200	+15,120	353,300	5,937	5.12	5.71
December.....	4,980	1,560	3,224	198,200	+3,900	202,100	3,287	2.83	3.26
Calendar year 1934	22,600	1,390	5,741	4,156,000	+1,960	4,158,000	5,743	4.95	67.24
January.....	24,800	1,700	5,695	350,100	-280	349,800	5,689	4.90	5.65
February.....	13,400	3,000	5,792	321,700	-2,680	319,000	5,744	4.95	5.18
March.....	6,180	1,310	3,070	188,800	-45,460	143,300	2,363	2.04	2.35
April.....	2,890	1,990	2,440	145,200	+7,700	152,900	2,570	2.22	2.48
May.....	13,100	2,830	7,419	456,200	+35,190	491,400	7,992	6.89	7.94
June.....	15,200	6,760	10,500	624,500	-90	624,400	10,490	9.04	10.09
July.....	10,400	4,720	8,952	427,500	-1,850	425,600	6,922	5.97	6.88
August.....	4,680	2,350	3,665	200,600	+4,950	205,600	3,344	2.88	3.32
September.....	6,370	1,980	2,061	176,200	-7,720	168,500	2,832	2.44	2.72
Water year 1934-35	24,800	1,310	4,906	3,552,000	+10,820	3,562,000	4,921	4.24	57.58

\*Sunday.



## SKAGIT RIVER BASIN

Skagit River near Concrete, Wash.

**Location.**— Water-stage recorder, lat. 48°32', long. 121°46', in sec. 16, T. 35 N., R. 8 E., at dikes 2 miles below Baker River and 2½ miles southwest of Concrete. Zero of gage is 183 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 1935.

**Average discharge.**— 11 years, 14,710 second-feet.

**Extremes.**— Maximum discharge during year, 131,000 second-feet probably Jan. 25 (gage height, 25.2 feet, from flood mark in well); minimum, 5,160 second-feet Oct. 8 (gage height, 2.09 feet).

1924-35: Maximum discharge, 147,000 second-feet Feb. 27, 1932 (gage height, 27.3 feet); minimum, probably less than 2,180 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 58.6 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 except those estimated for period Jan. 19-26, which are fair. All diversions returned to river above gage. At low stages flow partly controlled by storage at power plants on Baker River and on upper Skagit River. Capacity of Lake Shannon Reservoir, on Baker River, 156,200 acre-feet, at elevation 435 feet. Capacity of Diablo Reservoir, on upper Skagit River, 91,300 acre-feet, at elevation 1,205 feet. Records of mean monthly flow corrected for storage.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,360	29,000	12,900	9,580	33,600	10,900	7,860	11,100	22,400	22,700	12,000	*8,900
2	5,550	23,400	*10,900	11,500	43,900	10,200	7,880	10,400	24,900	18,800	11,700	8,480
3	5,550	19,900	11,600	12,200	*42,200	*8,090	7,820	10,600	21,900	17,900	11,800	8,960
4	5,550	*20,800	10,700	12,400	36,100	9,300	7,630	11,300	22,400	16,400	*11,100	9,100
5	5,550	80,600	10,300	14,200	30,500	10,800	7,800	*12,300	28,400	16,400	10,700	8,760
6	5,550	73,000	10,200	*14,000	26,800	10,800	7,540	14,600	34,500	16,300	10,200	8,620
7	*5,360	38,900	10,100	12,500	23,600	8,650	*7,100	16,000	39,100	*17,600	9,900	8,330
8	5,460	31,000	10,600	10,800	20,700	8,200	7,140	16,400	38,900	16,200	10,000	*7,900
9	6,720	22,900	*10,500	9,940	19,100	7,640	7,480	16,700	*33,000	14,900	9,360	8,120
10	6,770	18,700	10,100	9,580	*17,200	*7,260	7,470	16,100	35,700	14,600	9,720	8,160
11	6,880	17,300	15,800	9,150	18,000	7,530	7,540	14,900	33,700	14,600	*8,960	7,670
12	6,810	16,600	19,600	9,290	16,400	9,080	5,100	*13,400	30,800	19,000	9,640	7,460
13	6,450	18,000	18,600	*7,260	14,700	15,000	9,200	13,500	32,000	23,600	11,600	7,510
14	*6,380	22,700	17,400	7,730	13,900	16,400	*8,450	15,300	31,400	*27,200	12,000	15,200
15	6,090	24,200	14,400	7,720	12,700	15,000	8,700	20,200	29,900	26,700	10,300	*14,900
16	6,300	20,600	*13,300	7,770	11,700	14,900	9,080	21,700	*24,000	24,400	8,700	17,600
17	6,220	16,000	13,100	7,660	*11,000	*14,700	8,880	20,700	22,000	21,500	8,200	14,000
18	5,930	15,100	14,100	7,440	12,500	13,000	8,540	19,300	22,200	20,100	*9,300	10,000
19	5,670	13,400	14,200	6,600	12,800	10,400	8,440	*17,500	23,400	19,000	9,220	9,130
20	14,100	12,600	17,900	*6,900	13,200	10,000	9,460	19,700	21,300	17,700	8,400	8,250
21	*9,810	12,200	26,000	9,600	13,400	9,330	*9,270	25,300	21,600	18,400	8,660	7,570
22	10,900	14,300	24,400	26,000	15,400	9,000	9,680	31,800	23,900	20,600	8,180	*7,340
23	11,100	17,200	*18,900	34,000	15,200	8,920	9,690	28,700	20,200	20,800	8,660	7,110
24	12,400	17,000	16,300	78,000	*12,400	*7,900	9,080	24,000	18,600	18,700	8,340	7,060
25	35,600	*17,900	14,900	120,000	12,000	8,820	9,120	21,200	17,100	16,500	*7,680	6,840
26	20,800	16,700	14,200	95,000	11,400	8,650	9,740	*21,000	20,100	14,600	7,820	6,700
27	14,700	15,000	12,300	*66,500	11,300	8,360	9,700	23,300	23,700	14,400	8,860	6,500
28	*12,700	13,400	11,100	49,800	10,500	8,460	*8,920	26,800	26,100	14,500	9,220	6,500
29	12,000	13,000	10,400	46,800	-	8,600	10,300	29,900	28,100	14,500	9,880	6,500
30	11,600	13,600	*10,100	36,400	-	8,240	11,200	27,900	23,500	15,600	9,880	6,700
31	14,800	-	9,750	32,700	-	*7,440	-	26,400	-	14,000	9,680	-

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	35,600	5,360	9,505	584,400	+17,480	601,900	9,789	3.63	4.18
November.....	80,500	12,200	22,830	1,359,000	+14,190	1,373,000	23,070	8.54	9.53
December.....	28,000	9,750	14,090	666,300	-1,410	864,900	14,070	5.21	6.01
Calendar year 1934	80,500	5,360	17,700	12,810,000	-910	12,810,000	17,700	6.56	88.96
January.....	120,000	6,600	25,240	1,552,000	+4,560	1,557,000	26,320	9.38	10.81
February.....	43,900	10,600	19,010	1,056,000	-17,500	1,038,500	18,690	6.92	7.21
March.....	16,400	7,260	10,050	617,800	-49,860	567,900	9,236	3.42	3.94
April.....	11,200	7,100	8,624	513,100	-6,120	507,000	8,620	3.16	3.53
May.....	31,600	10,400	19,290	1,186,000	+55,220	1,241,000	20,180	7.47	8.61
June.....	39,100	17,100	26,800	1,677,000	+11,900	1,689,000	26,700	9.69	11.03
July.....	27,200	15,600	18,240	1,121,000	+1,620	1,123,000	18,260	6.76	7.79
August.....	12,000	7,680	9,663	594,100	-28,650	565,400	9,195	3.41	3.93
September.....	17,600	6,500	8,858	627,100	-11,170	515,900	8,670	3.21	3.68
Water year 1934-35	120,000	5,360	15,960	11,550,000	-9,740	11,540,000	15,950	5.91	80.15

\*Sunday.

## Ruby Creek near Newhalem, Wash.

Location.- Water-stage recorder, lat.  $48^{\circ}44'$ , long.  $121^{\circ}2'$ , in sec. 31, T. 38 N., R. 14 E., 1 mile above mouth and  $10\frac{1}{2}$  miles northeast of Newhalem.

Drainage area.- 210 square miles.

Records available.- June 1919 to March 1920, April 1930 to September 1935.

Extremes.- Maximum discharge during year, 3,460 second-feet Nov. 5; maximum gage height, 13.1 feet June 5, 6; minimum, 35 second-feet Jan. 23 (gage height, 6.42 feet).  
1919-20, 1930-35: 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 excellent except those estimated for Jan. 8 and for period of ice effect, Jan. 15-25, which are poor. No diversions or regulation. Gage-height record collected in cooperation with city of Seattle, which furnished results of many discharge measurements.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	112	665	375	317	1,420	364	212	778	2,120	1,380	620	371
2	110	512	357	337	1,850	351	205	742	1,930	1,230	575	358
3	108	443	348	328	1,850	351	203	795	1,810	1,230	590	334
4	107	394	331	323	1,700	326	205	930	2,020	1,230	545	321
5	103	1,980	320	323	1,490	314	203	1,230	2,800	1,260	473	314
6	101	1,770	323	331	1,320	302	196	1,380	3,170	1,230	447	301
7	106	1,180	326	302	1,140	295	194	1,350	3,170	1,230	434	277
8	118	915	337	288	1,030	283	196	1,350	2,980	1,260	447	267
9	148	745	337	274	950	273	194	1,420	2,500	1,120	473	267
10	173	665	328	264	870	264	209	1,260	2,620	1,030	466	251
11	181	645	500	269	830	271	255	1,120	2,500	1,070	460	224
12	173	665	606	257	760	300	326	1,010	2,440	1,320	500	203
13	148	705	586	231	725	377	390	1,050	2,620	1,700	575	221
14	128	825	587	181	655	418	377	1,260	2,440	1,980	545	396
15	120	1,080	530	180	602	377	404	1,630	2,220	1,980	421	372
16	122	985	477	180	568	351	418	1,600	1,890	1,770	371	545
17	116	825	460	170	550	338	404	1,460	1,810	1,560	346	377
18	110	765	443	150	535	326	390	1,420	1,850	1,420	384	289
19	112	685	443	120	520	314	418	1,420	1,850	1,290	346	245
20	265	625	460	130	505	300	520	1,700	1,740	1,170	334	226
21	204	586	587	150	490	288	535	2,470	1,850	1,170	346	210
22	200	567	530	170	490	273	505	2,920	2,020	1,290	346	197
23	181	548	477	200	461	271	476	2,350	1,660	1,320	346	190
24	212	530	460	820	446	278	446	1,890	1,460	1,140	311	185
25	434	530	410	2,700	418	264	490	1,740	1,460	1,010	294	170
26	284	494	394	2,800	404	256	602	1,810	1,700	885	308	161
27	243	460	366	2,170	390	242	638	1,980	1,890	832	346	154
28	259	426	360	1,770	377	244	690	2,440	2,020	798	358	154
29	282	410	351	1,520	-	235	742	2,620	1,850	695	384	163
30	289	394	334	1,380	-	223	830	2,350	1,560	665	396	166
31	382	-	323	1,290	-	223	-	2,330	-	710	384	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				5,630	434	101	182	.867	1.00	11,170		
November.....				21,999	1,980	394	733	3.49	3.89	43,630		
December.....				13,026	606	320	420	2.00	2.31	25,840		
Calendar year 1934.....				321,355	4,300	101	880	4.19	56.98	637,400		
January.....				19,925	2,800	120	643	3.06	3.53	39,520		
February.....				23,346	1,850	377	834	3.97	4.13	46,310		
March.....				9,292	418	223	300	1.43	1.65	18,430		
April.....				11,874	830	194	396	1.89	2.11	23,560		
May.....				49,765	2,920	742	1,805	7.64	8.81	98,710		
June.....				63,950	3,170	1,460	2,132	10.2	11.38	126,800		
July.....				37,975	1,980	665	1,225	5.83	6.72	75,320		
August.....				13,191	620	294	426	2.03	2.34	26,160		
September.....				7,609	545	154	264	1.26	1.41	15,690		
Water year 1934-35.....				277,882	3,170	101	761	3.62	49.28	551,130		

## SKAGIT RIVER BASIN

Thunder Creek near Newhalem, Wash.

Location.- Water-stage recorder, lat. 48°40', long. 121°4', 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 1935.

Extremes.- Maximum discharge during year, 8,230 second-feet Jan. 25; maximum gage height, 10.0 feet Nov. 5; minimum discharge, not determined, probably occurred during period of ice effect Jan. 18-24.

1930-35: Maximum discharge, 8,780 second-feet Feb. 28, 1932 (gage height, 11.3 feet); minimum discharge, not determined, occurred during period of ice effect.

Remarks.- Records excellent for February to September, good for October to January, except those for period of ice effect, Jan. 18-24. No diversions or regulation. Gage-height record collected in cooperation with city of Seattle, which furnished results of many discharge measurements.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	236	1,250	267	215	1,040	213	139	381	1,010	935	910	1,290
2	230	702	254	224	1,500	201	137	372	910	935	950	1,180
3	218	568	249	222	1,260	197	133	390	860	860	1,060	1,210
4	190	485	234	224	1,060	190	129	454	1,010	860	866	1,180
5	209	3,390	224	229	886	181	129	631	1,340	865	750	1,140
6	276	1,930	220	222	750	174	125	690	1,620	885	730	1,060
7	357	1,100	217	208	650	172	125	650	1,780	935	775	1,020
8	566	895	220	201	575	168	123	650	1,680	885	820	1,090
9	853	715	220	192	522	162	121	670	1,340	750	981	1,100
10	942	616	217	180	471	157	125	592	1,700	750	1,030	881
11	875	576	458	183	437	160	141	522	1,430	839	928	730
12	726	557	557	169	393	192	166	471	1,550	1,180	1,220	610
13	470	675	519	161	369	345	198	505	1,790	1,760	1,510	892
14	393	898	478	157	337	351	210	630	1,580	2,320	1,220	1,930
15	331	1,010	425	153	314	301	220	869	1,320	2,500	841	1,340
16	282	760	374	145	298	272	229	790	1,110	2,190	690	1,590
17	240	596	342	140	306	256	227	710	1,060	1,900	695	818
18	211	538	324	135	295	234	220	650	1,110	1,780	847	630
19	319	471	312	125	282	225	232	650	1,180	1,660	703	610
20	800	414	361	125	277	210	282	772	1,040	1,560	785	595
21	390	367	562	125	272	199	285	1,090	1,200	1,780	638	523
22	323	358	500	125	277	190	272	1,290	1,360	2,260	867	505
23	290	355	428	185	267	181	262	1,020	1,040	2,370	806	505
24	398	367	384	1,850	252	185	256	802	885	2,060	705	405
25	982	394	336	5,300	237	177	269	750	898	1,610	744	345
26	501	361	306	3,830	229	170	298	810	1,110	1,320	912	328
27	393	335	289	2,010	225	164	323	924	1,320	1,240	1,090	343
28	408	309	273	1,320	217	162	342	1,110	1,560	1,260	1,190	441
29	408	285	256	1,090	-	155	359	1,180	1,460	1,060	1,290	578
30	454	286	239	960	-	149	402	1,080	1,110	1,110	1,320	645
31	719	-	227	885	-	145	-	1,060	-	1,080	1,290	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	13,990	982	190	451	4.60	5.30	27,750
November.....	21,504	3,390	286	717	7.32	8.17	42,650
December.....	10,272	562	217	331	3.38	3.90	20,370
Calendar year 1934.....	287,268	3,550	190	787	8.03	109.07	569,600
January.....	21,280	5,300	125	666	7.00	8.07	42,210
February.....	13,997	1,500	217	500	5.10	5.31	27,760
March.....	6,338	351	145	201	2.05	2.36	12,370
April.....	6,490	402	121	216	2.20	2.46	12,870
May.....	23,155	1,290	372	747	7.62	8.78	45,930
June.....	38,373	1,780	660	1,279	15.1	14.62	76,110
July.....	43,419	2,500	750	1,401	14.3	16.49	86,120
August.....	29,353	1,510	690	947	9.66	11.14	58,220
September.....	25,504	1,930	328	850	8.67	9.67	50,590
Water year 1934-35.....	253,575	5,300	121	695	7.06	96.27	503,000

## Stettattle Creek near Newhalem, Wash.

Location.- Water-stage recorder, lat. 48°44', long. 121°10', 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 1935; December 1913 to March 1914, December 1914 to April 1915, comparable records at a point half a mile below.

Extremes.- Maximum discharge during year, 4,520 second-feet Nov. 5 (gage height, 10.4 feet); minimum discharge, 28 second-feet Oct. 4; minimum gage height, 1.03 feet Sept. 27.

1913-15, 1933-35: Maximum discharge, that of Nov. 5, 1934; minimum observed discharge, 23 second-feet Feb. 9-13, 1914 (gage height, 1.0 foot, at former site and datum).

Remarks.- Records good except those above 1,000 second-feet and those estimated for period of ice effect, Jan. 19-22, and those estimated for period Sept. 4-22, which are fair. No diversions or regulation. Gage-height record collected in cooperation with city of Seattle, which furnished results of several discharge measurements.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 4

2.0	25
2.5	50
2.8	75
3.0	101
3.5	199
4.0	362
4.5	555
5.0	770

Table for Nov. 5 to Sept. 30

1.0	32	3.5	434
1.2	44	4.0	630
1.4	56	5.0	1,110
1.6	72	6.0	1,670
2.0	116	7.0	2,270
2.5	197	8.5	3,190
3.0	293		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	595	110	72	428	65	41	183	285	341	151	120
2	30	335	106	93	646	62	39	197	284	266	146	114
3	30	306	101	106	427	61	38	231	258	244	149	106
4	28	274	90	127	317	57	37	260	368	228	129	100
5	28	2,200	82	144	256	52	37	304	486	228	104	100
6	30	817	86	135	217	51	37	287	482	229	91	95
7	34	441	95	105	183	48	36	276	484	241	94	90
8	120	333	109	86	149	45	37	278	403	226	110	85
9	133	228	105	73	126	42	39	270	401	192	124	85
10	91	193	93	65	114	40	46	216	498	168	120	80
11	76	201	364	63	111	43	72	179	340	220	114	70
12	103	208	328	59	101	89	110	157	394	303	146	60
13	62	329	295	52	91	244	132	234	374	368	168	70
14	49	358	246	49	79	274	119	300	352	396	150	130
15	44	408	190	49	71	210	129	361	284	391	113	120
16	40	238	149	49	66	165	125	282	333	336	81	160
17	35	168	135	48	90	134	115	256	260	299	75	120
18	32	144	156	45	90	112	108	239	277	292	100	90
19	199	119	168	45	84	101	143	267	299	265	95	75
20	521	108	239	55	103	86	208	343	260	258	95	70
21	244	102	378	120	105	74	190	467	337	278	102	65
22	214	153	286	220	156	65	161	400	310	317	101	60
23	189	199	217	352	136	60	142	294	237	321	100	57
24	264	206	179	1,660	112	65	138	241	220	280	92	52
25	464	220	138	2,330	96	68	154	256	250	231	86	42
26	235	184	128	1,090	84	70	199	287	310	192	98	37
27	104	152	102	556	77	60	200	339	339	168	114	36
28	232	129	86	441	70	54	204	416	366	234	122	41
29	204	120	80	457	-	51	220	360	377	188	125	48
30	229	115	76	307	-	48	222	324	347	175	128	50
31	331	-	69	278	-	45	-	298	-	188	125	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,654	521	28	147	6.87	7.92	9,050
November.....	9,613	2,200	102	320	15.0	16.74	19,070
December.....	5,011	384	69	162	7.57	8.73	9,940
Calendar year 1934.....	76,277	2,200	28	209	9.77	132.60	151,300
January.....	9,321	2,330	45	301	14.1	16.25	18,490
February.....	4,585	646	66	164	7.66	7.93	9,090
March.....	2,641	274	40	85.2	3.98	4.59	5,240
April.....	3,470	222	36	116	5.42	6.05	6,880
May.....	8,845	467	157	285	13.3	15.33	17,540
June.....	10,094	498	220	336	15.7	17.52	20,020
July.....	8,086	396	168	261	12.2	14.07	16,040
August.....	3,548	168	75	114	5.33	6.14	7,040
September.....	2,428	160	36	80.9	3.78	4.22	4,820
Water year 1934-35.....	72,206	2,330	28	198	9.25	125.55	143,200

## Cascade River at Marblemount, Wash.

Location.- Water-stage recorder, lat. 48°31'45", long. 121°23'30", in SW $\frac{1}{4}$  sec. 9, T. 35 N., R. 11 E., 2 miles east of Marblemount.

Drainage area.- 180 square miles.

Records available.- September 1928 to September 1935.

Extremes.- Maximum discharge during year, 11,500 second-feet Nov. 5 (gage height, 9.40 feet); minimum, 252 second-feet Oct. 5 (gage height, 1.64 feet).  
1928-35: 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 excellent except those above 7,500 second-feet and those estimated for period of ice effect, Jan. 18-20, also those estimated for Feb. 17 to Mar. 2, May 24, 25, all of which are fair. No diversions or regulation.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 5

1.6	242
1.8	292
2.0	360
2.5	540
3.0	770
3.5	1,050
4.0	1,390
5.0	2,290
6.0	3,680

Table for Nov. 6 to Sept. 30

1.8	274	5.0	2,290
2.0	335	5.5	2,930
2.5	525	6.0	3,680
3.0	755	6.5	4,570
3.5	1,030	7.0	5,550
4.0	1,360	7.5	6,640
4.5	1,790	8.0	7,830
4.5	1,790	8.5	9,070

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	292	2,230	705	592	2,290	510	335	682	1,520	1,840	1,090	830
2	292	1,390	680	592	3,210	500	326	650	1,440	1,520	1,000	780
3	274	1,250	658	592	2,720	484	320	705	1,280	1,440	1,030	780
4	264	1,050	615	638	2,240	464	307	855	1,620	1,360	910	755
5	259	6,720	592	705	1,840	453	307	1,150	2,300	1,320	780	730
6	274	3,630	638	755	1,560	410	301	1,180	2,890	1,260	705	682
7	300	2,180	705	730	1,320	392	298	1,090	3,000	1,320	705	638
8	381	1,790	780	682	1,150	375	295	1,120	2,800	1,320	755	660
9	540	1,360	780	638	1,030	355	295	1,150	2,180	1,150	830	660
10	576	1,150	705	592	940	342	313	1,000	2,600	1,120	882	592
11	588	1,090	1,120	538	882	355	361	830	2,180	1,150	730	507
12	592	1,030	1,520	489	805	506	456	755	2,270	1,620	910	456
13	444	1,150	1,320	448	755	935	538	805	2,570	2,170	1,060	684
14	371	1,440	1,220	425	705	910	498	1,060	2,580	2,620	1,000	1,620
15	329	1,700	1,000	414	638	755	525	1,660	2,290	2,650	755	1,200
16	303	1,220	855	407	592	660	538	1,320	1,790	2,180	615	1,640
17	284	1,000	805	392	620	615	498	1,180	1,660	1,980	842	958
18	264	840	780	370	600	561	472	1,120	1,740	1,880	1,000	705
19	364	830	780	340	590	534	488	1,060	1,880	1,730	730	615
20	1,260	780	940	340	580	498	660	1,320	1,610	1,660	705	570
21	655	730	1,630	492	580	468	660	2,420	1,940	1,730	705	520
22	620	780	1,610	1,530	600	440	592	2,260	2,140	1,930	705	476
23	620	855	1,290	2,260	580	418	561	1,660	1,610	2,030	705	464
24	1,210	882	1,120	5,820	560	440	520	1,300	1,320	1,740	638	407
25	3,220	1,030	1,000	8,550	550	425	556	1,250	1,290	1,440	615	361
26	1,330	940	910	6,560	530	403	638	1,400	1,590	1,260	682	358
27	1,020	855	830	3,940	520	382	660	1,700	1,980	1,150	830	407
28	990	780	755	3,000	510	386	660	2,010	2,180	1,450	882	452
29	960	730	705	2,470	-	375	705	2,130	2,290	1,150	882	464
30	960	730	660	2,240	-	361	755	1,790	1,960	1,090	855	444
31	1,330	-	615	2,030	-	352	-	1,700	-	1,290	855	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	21,136	3,220	259	682	3.79	4.37	41,920
November.....	42,272	6,720	730	1,409	7.83	8.74	83,850
December.....	28,283	1,630	592	912	5.07	5.84	56,100
Calendar year 1934.....	426,585	6,720	259	1,169	6.49	86.16	846,200
January.....	49,571	8,550	340	1,599	8.88	10.24	98,320
February.....	29,497	3,210	510	1,065	5.85	6.09	58,610
March.....	15,044	935	342	465	2.69	3.10	29,640
April.....	14,439	755	295	481	2.67	2.98	28,640
May.....	39,932	2,250	660	1,298	7.16	8.26	79,200
June.....	60,530	3,000	1,290	2,018	11.2	12.50	120,100
July.....	49,560	2,650	1,090	1,598	8.88	10.24	98,280
August.....	25,188	1,090	615	815	4.52	5.21	49,960
September.....	20,415	1,640	358	680	3.78	4.22	40,490
Water year 1934-35.....	395,867	8,550	259	1,065	6.03	81.79	785,200

Sauk River above Whitechuck River, near Darrington, Wash.

Location.- Water-stage recorder, lat. 48°10', long. 121°27'45", 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 1935.

Average discharge.- 12 years (1917-22, 1928-35), 1,166 second-feet.

Extremes.- Maximum discharge during year, 13,200 second-feet Jan. 25 (gage height, 10.41 feet); minimum, 188 second-feet Oct. 7, 8, 19 (gage height, 2.67 feet).  
1917-22, 1928-35: Maximum discharge, 23,000 second-feet Dec. 12, 1921 (gage height, 14.65 feet); minimum, 146 second-feet Sept. 25, 1930; minimum gage height, 2.01 feet Oct. 2, 3, 1929.

Remarks.- Records excellent except those above 3,000 second-feet, and those estimated for periods Jan. 20 and May 3-5, which are fair. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 5

2.7	199	5.5	3,000
3.0	333	6.0	3,850
3.5	620	6.5	4,750
4.0	1,060	7.0	5,700
4.5	1,600	8.0	7,700
5.0	2,250	9.0	9,900

Table for Nov. 6 to Sept. 30

2.6	205	5.5	3,120
2.8	290	6.0	3,880
3.0	395	7.0	5,700
3.5	750	8.0	7,700
4.0	1,190	9.0	9,900
4.5	1,750	10.0	12,250
5.0	2,400	11.0	14,700

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	220	2,570	947	678	2,200	606	407	1,030	1,880	1,640	742	407
2	211	2,110	790	839	2,680	555	373	920	1,820	1,470	670	384
3	211	2,110	758	929	2,610	527	351	930	1,640	1,480	586	378
4	207	1,780	726	956	2,270	500	346	990	1,880	1,470	638	378
5	199	8,030	662	1,070	1,940	474	335	1,250	2,470	1,380	576	351
6	195	5,020	646	1,190	1,700	437	330	1,640	2,970	1,290	534	346
7	188	3,270	678	911	1,450	419	320	1,460	3,200	1,270	514	320
8	215	2,475	758	1,220	1,280	407	310	1,470	3,040	1,290	520	315
9	348	2,080	758	654	1,150	390	300	1,520	2,540	1,200	527	315
10	358	1,700	710	569	1,060	368	310	1,330	2,970	1,180	569	300
11	328	1,520	976	534	1,020	368	356	1,170	2,540	1,210	507	272
12	309	1,380	1,330	494	956	573	462	1,070	2,340	1,620	527	254
13	295	1,510	1,270	443	902	1,930	630	1,120	2,400	1,940	638	293
14	254	1,880	1,140	413	814	1,880	620	1,340	2,470	2,200	630	674
15	232	2,080	1,050	396	750	1,350	654	1,760	2,470	2,200	500	853
16	232	1,640	920	390	702	1,060	750	1,760	2,010	1,940	431	1,340
17	220	1,370	911	373	750	920	678	1,700	1,760	1,760	421	930
18	199	1,270	1,060	351	774	798	614	1,580	1,760	1,680	886	622
19	285	1,120	1,080	315	726	734	654	1,510	1,940	1,600	598	520
20	2,470	1,130	1,820	320	766	670	984	1,700	1,820	1,400	507	449
21	1,290	1,070	3,440	858	830	606	902	2,270	1,880	1,370	468	390
22	1,220	1,320	2,510	2,900	1,180	555	822	2,680	2,140	1,450	449	351
23	1,440	1,580	1,760	3,760	1,140	520	774	2,140	1,760	1,500	421	325
24	3,100	1,640	1,410	9,820	963	545	710	1,760	1,520	1,330	395	320
25	7,020	1,640	1,180	12,700	848	569	726	1,640	1,450	1,120	362	286
26	2,720	1,410	1,060	7,640	750	507	814	1,760	1,640	956	368	268
27	1,780	1,180	902	4,390	678	462	866	2,010	1,940	857	401	245
28	1,390	1,010	798	3,340	646	455	884	2,200	2,200	983	431	237
29	1,190	947	750	2,750	-	494	929	2,400	2,200	866	462	237
30	1,160	992	694	2,400	-	474	1,070	2,080	1,880	790	456	241
31	1,400	-	678	2,200	-	437	-	2,010	-	806	419	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	30,886	7,020	188	996	6.55	7.55	61,260
November.....	59,109	8,030	947	1,970	13.0	14.50	117,200
December.....	34,152	3,440	646	1,102	7.25	8.36	67,740
Calendar year 1934.....	466,578	8,030	188	1,278	8.41	114.15	925,400
January.....	65,340	12,700	315	2,108	13.9	16.03	129,600
February.....	33,565	2,680	646	1,199	7.89	8.22	66,580
March.....	20,673	1,930	368	667	4.39	5.06	41,000
April.....	18,191	1,070	300	606	3.99	4.45	36,080
May.....	50,200	2,680	920	1,619	10.7	12.54	99,570
June.....	64,530	3,200	1,450	2,151	14.2	15.84	128,000
July.....	42,948	2,200	790	1,885	9.11	10.50	85,190
August.....	16,262	886	362	525	3.45	3.98	32,260
September.....	12,801	1,340	237	427	2.61	3.14	25,390
Water year 1934-35.....	448,657	12,700	188	1,229	8.09	109.97	889,900

## Sauk River near Sauk, Wash.

Location.- Water-stage recorder, lat. 48°25'15", long. 121°33'45", 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 1935. August 1910 to August 1912, various gages between a point 1 mile below and a point 5 miles above present site. Early discharge measurements all made at point 5 miles above.

Extremes.- Maximum discharge during year, 49,400 second-feet Nov. 5 (gage height, 13.54 feet); minimum, 916 second-feet Oct. 19 (gage height, 2.83 feet).  
1910-12, 1928-35: Maximum discharge, 68,500 second-feet Feb. 26, 1932 (gage height, 15.63 feet); minimum, 572 second-feet Dec. 5, 1929 (gage height, 2.62 feet); flow may have been less sometime Jan. 10-27, 1930, when stage-discharge relation was affected by ice.

Remarks.- Records excellent. Stage-discharge relation slightly affected by ice Jan. 19-20. No diversions or regulation.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Nov. 5

2.8	880	5.0	4,890
3.0	1,120	5.5	6,200
3.5	1,810	6.0	7,670
4.0	2,650	7.0	11,050
4.5	3,680	9.0	19,980

Table for Nov. 6 to Sept. 30

3.0	1,050	8.0	15,200
3.5	1,730	9.0	19,980
4.0	2,550	10.0	25,180
5.0	4,690	11.0	31,230
6.0	7,660	12.0	36,130
7.0	11,050	13.5	49,420

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,100	6,540	3,860	3,020	8,630	2,550	1,840	3,640	6,400	7,020	3,320	2,280
2	1,070	7,360	3,520	3,530	10,700	2,460	1,740	3,320	6,090	5,940	3,020	2,200
3	1,040	7,360	3,220	4,080	10,300	2,370	1,700	3,320	5,600	5,500	3,120	2,120
4	1,010	6,620	3,120	4,200	8,960	2,280	1,660	3,420	6,090	5,360	2,930	2,200
5	954	28,100	2,840	4,560	7,980	2,200	1,650	4,200	6,500	5,220	2,550	2,040
6	988	20,100	2,840	4,950	6,860	2,120	1,600	5,220	10,300	4,950	2,370	2,040
7	1,050	11,400	2,930	3,970	5,790	1,980	1,580	4,820	11,000	4,950	2,370	1,880
8	1,140	9,640	3,220	3,320	5,080	1,910	1,560	4,690	11,400	4,920	2,550	1,880
9	1,600	7,180	3,220	2,930	4,440	1,820	1,550	4,820	9,300	4,560	2,550	1,880
10	1,830	5,790	3,020	2,640	4,080	1,780	1,580	4,690	9,990	4,320	2,840	1,820
11	1,840	5,080	4,430	2,550	3,970	1,840	1,730	4,320	8,960	4,320	2,460	1,620
12	1,690	4,690	5,640	2,280	3,750	2,900	2,120	3,970	8,300	5,360	2,550	1,490
13	1,360	5,080	5,080	2,120	3,530	7,220	2,550	3,750	8,300	7,020	3,020	1,530
14	1,180	6,090	4,690	1,980	3,320	6,400	2,460	3,970	8,960	8,300	3,120	3,670
15	1,110	6,710	4,080	1,940	3,020	4,690	2,550	5,080	8,960	8,630	2,460	3,240
16	1,080	5,360	3,750	1,900	2,840	3,860	2,740	5,790	7,180	7,660	2,120	4,690
17	1,010	4,440	3,640	1,850	3,020	3,420	2,550	5,500	6,400	7,020	1,960	3,440
18	952	4,200	4,200	1,800	3,320	3,120	2,370	5,360	6,560	6,240	3,080	2,370
19	1,020	3,750	4,200	1,750	3,120	2,930	2,370	4,950	7,020	5,940	2,550	2,120
20	5,560	3,640	6,240	1,950	3,220	2,740	3,120	5,220	6,400	5,500	2,280	1,990
21	3,620	3,640	10,300	2,930	3,220	2,550	3,220	6,710	6,710	5,500	2,200	1,790
22	3,800	4,480	8,650	11,300	4,520	2,460	2,930	8,300	7,820	5,790	2,200	1,660
23	4,470	5,500	6,560	14,500	4,080	2,280	2,840	7,500	6,400	6,240	2,200	1,560
24	6,290	5,790	5,500	36,300	3,420	2,460	2,640	5,940	5,360	5,500	1,990	1,550
25	21,400	6,400	4,950	46,300	3,020	2,550	2,840	5,360	4,950	4,820	1,900	1,420
26	8,990	5,360	4,690	31,200	2,840	2,280	3,020	5,940	5,500	4,080	1,980	1,340
27	6,060	4,440	3,860	18,000	2,640	2,120	3,220	6,710	6,400	3,750	2,200	1,280
28	5,000	3,970	3,530	13,000	2,550	2,120	3,220	7,660	7,500	4,200	2,370	1,300
29	4,380	3,750	3,320	10,700	-	2,200	3,220	8,300	8,140	3,860	2,460	1,390
30	4,260	3,860	3,120	9,640	-	2,040	3,420	7,340	7,660	3,420	2,460	1,420
31	4,840	-	2,930	8,630	-	1,960	-	6,860	-	3,640	2,370	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	101,704	21,400	952	3,281	4.60	5.30	201,700
November.....	208,320	28,100	3,640	6,944	9.73	10.86	413,200
December.....	134,950	10,300	2,840	4,353	6.10	7.03	267,700
Calendar year 1934.....	1,879,824	28,100	952	5,150	7.21	97.86	3,729,000
January.....	259,820	46,300	1,750	8,381	11.7	13.49	515,300
February.....	132,220	10,700	2,550	4,722	6.61	6.88	262,800
March.....	85,610	7,220	1,780	2,762	3.87	4.46	169,800
April.....	71,590	3,420	1,550	2,326	3.34	3.78	142,000
May.....	166,670	8,300	3,320	5,376	7.53	8.68	330,600
June.....	228,180	11,400	4,950	7,606	10.7	11.94	452,600
July.....	169,430	8,630	3,420	5,465	7.65	8.82	336,100
August.....	77,650	3,320	1,900	2,502	3.50	4.04	153,800
September.....	61,210	4,690	1,280	2,040	2.86	3.19	121,400
Water year 1934-35.....	1,697,254	46,300	952	4,650	6.51	88.42	3,366,000

## Nooksack River near Glacier, Wash.

Location.- Water-stage recorder, lat. 48°54'30", long. 121°59'30", 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 1934 to September 1935; September 1910 to September 1911, fragmentary, from staff gage at practically same site.

Extremes.- Maximum discharge during year, 8,810 second-feet Nov. 5 (gage height, 7.42 feet); minimum, 130 second-feet Oct. 17 (gage height, 0.77 foot).  
1910-11, 1934-35: Maximum discharge recorded, that of Nov. 5, 1934; minimum, that of Oct. 17, 1934.

Remarks.- Records good except those estimated Jan. 18-22, for period of ice effect, which are fair. 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	302	2,420	740	624	3,240	448	355	625	1,590	1,990	1,000	918
2	298	1,560	645	761	3,830	448	350	604	1,530	1,720	1,050	909
3	263	1,230	700	842	3,080	460	340	653	1,560	1,590	1,080	1,000
4	242	1,040	545	1,030	2,280	448	335	746	1,720	1,420	918	990
5	256	5,470	600	1,050	1,780	454	325	1,060	2,140	1,460	802	936
6	302	3,560	631	1,030	1,490	448	320	1,080	2,680	1,380	786	891
7	567	2,500	694	922	1,210	448	320	1,000	2,760	1,450	794	873
8	1,040	1,900	775	818	1,020	448	320	1,020	2,620	1,330	837	873
9	1,150	1,500	740	727	900	454	310	1,080	2,520	1,280	918	855
10	1,070	1,300	674	631	802	432	325	864	2,760	1,210	900	709
11	970	1,230	1,690	560	786	448	366	709	2,060	1,330	873	632
12	875	1,230	1,560	505	702	570	454	667	1,990	1,720	1,170	584
13	418	1,990	1,670	458	667	900	519	802	2,520	2,210	1,270	1,520
14	298	2,890	1,450	419	597	1,050	477	1,090	2,280	2,600	1,090	3,640
15	256	2,560	1,130	428	558	730	525	1,340	1,990	2,680	819	2,190
16	211	1,620	979	419	532	632	588	1,180	1,720	2,280	746	2,930
17	180	1,240	954	399	709	604	525	1,180	1,780	2,060	709	1,280
18	160	1,120	1,010	340	625	570	489	1,100	1,650	1,650	819	818
19	604	1,050	968	270	570	551	495	1,060	1,920	1,650	716	802
20	2,200	970	1,550	290	618	532	604	1,380	1,720	1,590	746	723
21	1,360	906	2,160	340	597	507	611	1,990	1,920	1,720	794	667
22	1,320	1,050	1,620	1,000	873	477	570	2,060	1,920	2,060	794	632
23	949	1,090	1,250	2,690	738	454	558	1,590	1,530	2,060	746	590
24	1,140	1,030	1,090	5,500	611	465	532	1,240	1,410	1,780	688	532
25	1,780	1,100	954	7,290	551	445	558	1,220	1,420	1,450	730	477
26	1,040	922	906	5,500	513	426	577	1,400	1,720	1,210	855	454
27	882	810	740	4,610	469	410	577	1,650	2,060	1,110	1,020	454
28	922	714	681	3,660	465	421	584	1,990	2,360	1,290	1,090	519
29	850	667	631	3,050	-	416	611	2,060	2,210	1,060	1,100	577
30	962	817	577	2,790	-	394	667	1,650	1,920	1,060	1,070	570
31	1,850	-	589	2,520	-	372	-	1,590	-	1,160	1,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	24,537	2,200	160	792	4.06	4.68	48,670
November.....	47,506	5,470	667	1,584	8.12	9.06	94,230
December.....	31,019	2,160	577	1,001	5.13	5.91	61,530
Calendar year .....							
January.....	51,373	7,290	270	1,657	8.50	9.80	101,900
February.....	30,835	3,630	465	1,101	5.65	5.88	61,160
March.....	15,860	1,050	372	512	2.63	3.03	31,460
April.....	14,137	667	310	471	2.42	2.70	28,040
May.....	37,680	2,060	604	1,215	6.23	7.18	74,740
June.....	59,880	2,760	1,360	1,996	10.2	11.38	118,800
July.....	50,750	2,680	1,050	1,637	8.39	9.67	100,700
August.....	27,940	1,270	688	901	4.62	5.33	55,420
September.....	29,645	3,640	454	988	5.07	5.66	58,800
Water year 1934-35.....	421,160	7,290	160	1,154	5.92	80.28	835,400



## Middle Fork of Nooksack River near Deming, Wash.

Location.- Staff gage, lat. 48°46'45", long. 122°6'20", in SW $\frac{1}{4}$  sec. 13, T. 38 N., R. 5 E., half a mile above Heislars Creek and 6 miles southeast of Deming.

Drainage area.- 70 square miles.

Records available.- February 1934 to September 1935 (discontinued). Comparable records October 1910 to March 1911 (fragmentary gage heights), August 1920 to September 1921, from staff gage at highway bridge just below mouth of Heislars Creek.

Extremes.- Maximum discharge during year, not determined, probably occurred Nov. 5 (gage height, 15.0 feet, from flood marks); minimum observed discharge, 127 second-feet Apr. 9 (gage height, 2.68 feet).  
1920-21, 1934-35: Maximum observed discharge, that of Nov. 5, 1934; minimum, that of Apr. 9, 1935.

Remarks.- Records poor. No diversions or regulation. Large diurnal fluctuation due to glacial melt in summer.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	204	*1,000	554	*300	*1,500	*233	149	281	*484	*360	264	281
2		*980	*450	365	*2,000	218	*145	*270	437	355	*249	*281
3		*900	*500	*420	1,630	*213	*142	*270	*430	*310	*253	*281
4		860	355	*500	*1,300	*209	133	299	*520	*310	218	261
5		*4,000	*350	482	*1,100	204	*136	*380	735	336	*213	*275
6	*250	*7,500	*380	*409	980	*195	*133	*370	*820	*310	*209	*270
7		980	416	*337	*905	*187	131	299	*820	*310	204	264
8			*500	264	*630	178	*129	*290	681	299	*209	*231
9			*450	*254	*756	*182	127	*290	*520	*318	*213	*199
10			*400	*243	681	*187	129	248	*640	*336	218	166
11	178	*600	1,630	233	*615	191	*160	*292	529	355	*245	*160
12			*1,300	218	*548	*233	*200	336	*560	*470	*272	*160
13			*950	*213	482	*275	264	*360	*600	*560	299	204
14			604	*209	*400	317	*270	*460	508	578	*258	*1,300
15			*528	204	281	*700	*275	655	*460	*510	218	790
16	*160	*140	395	*451	*195	*250	*580	281	*646	*440	*443	191
17		*135	*370	375	*187	*450	*460	*251	*638	460	375	*220
18		*130	*400	*553	178	395	*354	*221	529	*470	*332	*370
19			355	*752	*180	*360	246	191	*590	*470	*388	264
20			317	910	*190	*380	204	*240	*540	395	395	*280
21	*850	*388	*1,500	1,450	395	*195	*250	554	*450	*388	*290	*324
22		460	*1,000	*2,000	*600	*187	248	655	*480	*382	300	299
23		*550	508	1,450	*450	178	*250	529	555	375	*250	*282
24		*550	*449	*3,000	355	*200	*220	437	*310	*360	204	*285
25		554	*393	4,540	*325	*195	233	*430	*320	*340	*234	248
26		*508	336	2,330	*294	191	*243	*490	395	336	264	*277
27		*462	*297	1,630	264	*190	*254	578	*460	*270	*264	*307
28		416	*257	1,370	*249	*200	264	*660	*540	*450	*264	336
29		*400	218	1,210	-	191	*280	*680	482	264	264	*336
30		*600	*200	1,210	-	*185	*300	578	*400	*240	*280	336
31		-	*250	1,130	-	*180	-	*531	-	*240	*280	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				14,997	-	130	484	6.91	7.97	29,750		
November.....				27,705	7,500	317	924	13.2	14.73	54,950		
December.....				17,794	1,630	200	574	8.20	9.45	35,290		
Calendar year .....												
January.....				26,891	4,540	178	867	12.4	14.30	53,840		
February.....				18,775	2,000	249	671	9.59	9.99	37,240		
March.....				7,660	700	178	247	3.53	4.07	15,190		
April.....				6,234	300	127	208	2.97	3.31	12,360		
May.....				14,195	680	248	458	6.54	7.54	28,160		
June.....				15,169	820	310	506	7.23	6.07	30,090		
July.....				11,345	578	240	366	5.23	6.03	22,500		
August.....				7,741	370	191	250	3.57	4.12	15,350		
September.....				10,508	1,300	160	360	5.00	5.68	20,840		
Water year 1934-35.....				179,014	7,500	127	490	7.00	95.16	355,060		

\*Estimated.

South Fork of Nooksack River near Wickersham, Wash.

Location.- Water-stage recorder, lat. 48°39'50", long. 122°07'50", in lot 2, sec. 28, T. 37 N., R. 5 E., three-quarters of a mile above Skookum Creek and 4 miles east of Wickersham.

Drainage area.- 103 square miles.

Records available.- May 1934 to September 1935.

Extremes.- Maximum discharge during year, 11,200 second-feet Nov. 5 (gage height, 9.95 feet); minimum, 102 second-feet Sept. 12 (gage height, 2.27 feet).  
1934-35: Maximum discharge, that of Nov. 5, 1934; minimum, that of Sept. 12, 1935.

Remarks.- Records excellent except those estimated for the periods Jan. 18-23, Mar. 29-31, Apr. 2-6, which are fair. No diversions or regulation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Sept. 13

2.2	93	5.5	2,470
2.4	120	6.0	3,030
2.7	155	6.5	3,770
3.0	300	7.0	4,570
3.5	555	7.5	5,480
4.0	940	8.0	6,500
4.5	1,390	8.5	7,570
5.0	1,870	9.0	8,700

Table for Sept. 14-30

2.4	159
2.7	235
3.0	335
3.5	580
4.0	1,390
5.0	1,870
5.5	2,470

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	126	2,910	1,010	770	2,230	440	292	634	922	931	199	117
2	122	2,900	778	1,220	2,530	415	282	588	922	702	185	114
3	120	1,990	1,080	1,440	2,110	425	272	669	706	537	174	113
4	117	1,710	886	1,440	1,620	381	262	834	986	478	171	112
5	117	6,360	722	1,340	1,340	358	252	994	1,390	468	157	109
6	116	3,200	714	1,300	1,140	340	242	949	1,520	440	151	107
7	114	1,620	770	868	940	327	232	842	1,480	468	144	106
8	125	1,500	886	876	778	304	232	904	1,260	468	142	107
9	130	1,020	788	549	669	280	240	949	1,540	456	140	105
10	122	794	683	478	600	272	266	746	1,390	405	140	105
11	119	706	1,980	468	730	395	327	614	1,070	403	134	103
12	130	641	1,730	410	662	1,070	505	560	1,020	513	133	105
13	122	794	1,570	363	655	1,990	630	837	1,010	591	138	633
14	117	1,130	1,390	358	568	1,520	473	1,070	1,010	594	138	2,490
15	117	985	1,060	332	507	1,010	543	1,190	931	542	136	1,040
16	116	690	850	318	473	746	588	940	669	440	133	1,040
17	113	543	967	309	632	641	490	1,340	868	390	139	487
18	112	588	1,390	500	770	662	420	1,120	834	372	220	343
19	173	490	1,390	295	627	531	432	976	818	340	144	290
20	1,080	451	2,070	290	606	478	778	1,180	676	314	131	256
21	915	627	3,050	500	770	425	746	1,480	780	318	126	235
22	1,440	1,290	1,770	2,000	1,620	390	627	1,340	763	322	123	221
23	1,410	1,960	1,340	3,500	1,110	366	662	994	568	318	122	215
24	1,890	1,760	1,160	8,240	786	395	574	770	490	284	120	202
25	2,400	1,910	976	8,550	627	376	568	834	475	228	117	194
26	1,020	1,440	1,080	8,260	549	350	669	1,040	586	206	116	187
27	730	1,140	794	2,830	501	327	627	1,120	730	188	117	180
28	655	913	662	2,290	468	354	607	1,210	727	360	119	175
29	555	922	594	1,990	-	350	683	1,210	706	262	119	170
30	513	1,190	537	1,970	-	330	746	994	676	206	122	166
31	762	-	595	1,760	-	310	-	886	-	192	120	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	15,696	2,400	112	506	4.91	5.66	31,130
November.....	43,474	6,360	451	1,449	14.1	15.73	86,230
December.....	35,270	3,050	537	1,138	11.0	12.68	69,960
Calendar year .....							
January.....	52,314	8,550	290	1,688	16.4	18.91	103,800
February.....	26,918	2,530	468	961	9.33	9.72	53,390
March.....	16,460	1,990	272	531	5.16	5.95	32,650
April.....	14,257	778	232	475	4.61	5.14	28,280
May.....	29,814	1,480	560	962	9.34	10.77	59,140
June.....	27,323	1,520	475	911	8.84	9.66	54,190
July.....	12,726	931	188	411	3.99	4.60	25,240
August.....	4,370	220	116	141	1.37	1.58	8,670
September.....	9,527	2,490	103	328	3.16	3.55	19,490
Water year 1934-35.....	289,449	8,550	103	790	7.67	104.15	572,200

## COLUMBIA RIVER

Columbia River at Trail, British Columbia

(International gaging station)

Location.— Cable gage, lat. 49°8', long. 117°42', on highway bridge at Trail, 12 miles above international boundary and mouth of Clark Fork.

Drainage area.— 34,000 square miles.

Records available.— April 1913 to September 1935.

Average discharge.— 22 years, 72,040 second-feet.

Extremes.— Maximum discharge observed during year, 238,000 second-feet June 20 (gage height, 35.0 feet); minimum, 17,800 second-feet Jan. 20 (gage height, 8.94 feet).  
1913-35: Maximum discharge observed, 312,000 second-feet June 14, 15, 1918 (gage height, 41.6 feet); minimum observed, 9,600 second-feet Mar. 28, 1917.

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

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

8.5	16,190	12.0	33,000	17.0	66,200	24.0	125,000
9.0	18,000	13.0	38,700	18.0	73,700	26.0	144,000
9.5	20,070	14.0	44,900	19.0	81,500	29.0	174,000
10.0	22,300	15.0	51,800	20.0	89,500	32.0	205,500
10.5	24,760	16.0	58,900	22.0	107,000	35.0	238,000
11.0	27,400						

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40,200	33,100	35,700	22,500	23,000	22,600	20,100	42,600	173,000	210,000	180,000	76,100
2	38,800	33,500	35,300	22,300	23,400	20,800	19,800	44,200	178,000	214,000	174,000	75,200
3	38,100	33,600	34,900	22,100	23,700	20,700	19,600	46,100	182,000	214,000	168,000	75,200
4	36,400	33,200	34,700	22,100	24,000	22,000	19,400	46,200	187,000	215,000	163,000	74,800
5	35,400	33,800	34,100	22,100	24,300	20,600	19,600	50,400	190,000	213,000	159,000	74,700
6	34,400	35,400	33,800	22,000	24,900	20,400	19,600	53,800	192,000	209,000	155,000	74,500
7	33,300	35,700	33,300	21,800	24,700	20,200	19,700	56,100	194,000	206,000	151,000	73,800
8	32,300	36,800	32,800	21,700	24,500	19,700	19,900	58,500	196,000	206,000	146,000	72,900
9	31,900	37,800	31,900	21,400	24,500	19,100	19,800	61,000	199,000	203,000	140,000	72,600
10	31,600	38,500	31,000	21,200	24,400	19,000	19,100	63,600	200,000	202,000	135,000	72,000
11	31,300	38,800	30,300	21,600	24,200	18,800	19,500	64,900	204,000	199,000	129,000	71,000
12	31,600	38,400	30,100	21,400	23,900	18,800	19,900	66,300	209,000	196,000	126,000	70,000
13	32,500	37,800	30,200	21,500	24,100	19,100	20,500	67,700	214,000	193,000	122,000	69,500
14	32,700	38,400	29,700	20,500	23,700	19,300	21,100	69,300	219,000	191,000	119,000	68,600
15	33,900	38,400	28,400	20,500	23,500	20,000	21,800	71,100	224,000	191,000	117,000	67,400
16	34,800	38,300	27,600	20,400	23,400	20,000	22,300	73,300	228,000	193,000	116,000	67,500
17	35,000	38,400	27,200	20,400	23,300	20,200	23,000	75,200	231,000	197,000	114,000	67,800
18	34,700	38,500	26,900	19,800	23,200	20,400	22,500	79,300	234,000	201,000	110,000	67,500
19	34,200	39,000	26,300	18,900	23,000	20,400	23,200	84,000	236,000	204,000	106,000	67,400
20	34,700	38,400	26,100	17,800	26,200	20,300	24,500	88,900	238,000	204,000	103,000	65,500
21	35,200	38,100	26,300	17,900	24,000	20,400	27,100	96,600	236,000	201,000	98,900	63,600
22	34,300	37,900	26,400	18,100	22,600	21,000	28,200	107,000	234,000	198,000	95,400	61,700
23	34,900	37,800	26,300	18,100	22,600	20,200	29,900	117,000	232,000	195,000	92,700	60,300
24	34,600	37,900	25,600	18,100	21,400	20,200	31,000	126,000	230,000	193,000	88,700	58,300
25	34,500	38,200	25,100	18,700	23,000	20,200	32,300	134,000	226,000	193,000	86,000	56,200
26	34,700	38,000	25,000	20,100	22,700	20,700	34,800	143,000	222,000	194,000	84,400	54,000
27	34,700	37,900	25,000	20,500	22,500	20,200	37,100	150,000	218,000	193,000	82,500	52,100
28	34,100	37,000	24,700	21,100	23,100	20,500	37,700	155,000	212,000	191,000	80,900	50,600
29	33,700	36,500	23,800	21,600	-	20,400	39,700	158,000	210,000	191,000	79,300	48,600
30	33,100	36,100	23,100	22,100	-	20,300	42,200	163,000	209,000	188,000	77,900	46,800
31	32,300	-	22,800	23,000	-	20,200	-	168,000	-	184,000	76,800	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	1,063,900	40,200	33,100	34,300	1.01	1.16	2,110,000
November.....	1,111,200	39,000	33,100	37,000	1.09	1.22	2,200,000
December.....	894,400	35,700	22,800	28,900	.85	.98	1,770,000
Calendar year 1934.....	30,446,600	274,000	22,800	83,400	2.45	33.29	60,300,000
January.....	641,300	23,000	17,800	20,700	.61	.70	1,270,000
February.....	662,200	26,200	21,400	23,600	.69	.72	1,310,000
March.....	626,700	22,600	18,800	20,200	.59	.68	1,240,000
April.....	765,000	42,200	19,100	25,200	.74	.83	1,500,000
May.....	2,782,000	166,000	42,600	89,700	2.64	3.04	5,520,000
June.....	6,357,000	238,000	173,000	212,000	6.24	6.96	12,600,000
July.....	6,181,000	215,000	184,000	199,000	5.85	6.74	12,300,000
August.....	3,676,500	180,000	76,800	119,000	3.50	4.04	7,290,000
September.....	1,976,100	76,100	46,800	65,900	1.94	2.16	3,920,000
Water year 1934-35.....	26,727,300	238,000	17,800	73,200	2.15	29.18	53,000,000

## Columbia River at Kettle Falls. Wash.

Location.- Water-stage recorder, lat. 48°37'20", long. 118°7', in northwest corner lot 1, sec. 14, T. 36 N., R. 37 E., 3½ miles above mouth of Colville River at Kettle Falls. Zero of gage is at mean sea level.

Drainage area.- 64,500 square miles.

Records available.- April 1913 to September 1935.

Average discharge.- 22 years, 101,100 second-feet.

Extremes.- Maximum discharge during year, 337,000 second-feet June 19 (gage height, 1,193.36 feet); minimum mean daily discharge (estimated) 27,500 second-feet.

1913-35: Maximum discharge, 466,000 second-feet June 14, 15, 1913 (gage height, 34.2 feet, from flood marks referred to U. S. Weather Bureau gage at Marcus); minimum (estimated because of ice) 13,000 second-feet Jan. 18-21, 1930.

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

Remarks.- Records excellent. Stage discharge relation affected by ice Jan. 18-24. Numerous diversions above gage for irrigation, but amount 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.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

1,168.0	27,300	1,175.0	74,300	1,182.0	146,900	1,189.0	251,000
1,169.0	32,600	1,176.0	82,600	1,183.0	159,900	1,190.0	269,500
1,170.0	38,800	1,177.0	92,000	1,184.0	175,400	1,191.0	288,500
1,171.0	45,300	1,178.0	102,000	1,185.0	197,400	1,192.0	308,500
1,172.0	52,000	1,179.0	112,000	1,186.0	201,700	1,193.0	329,000
1,173.0	59,000	1,180.0	123,300	1,187.0	217,000	1,194.0	350,000
1,174.0	66,500	1,181.0	134,700	1,188.0	233,500	1,195.0	372,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48,600	43,400	53,100	37,600	42,000	38,200	38,200	88,000	271,000	268,000	211,000	90,000
2	47,900	44,600	52,700	37,600	42,700	37,600	38,200	89,000	275,000	292,000	203,000	89,000
3	46,600	45,300	52,000	37,000	42,700	36,400	37,600	91,000	279,000	296,000	197,000	88,000
4	45,300	45,300	52,000	37,000	42,700	37,600	37,000	95,000	283,000	292,000	190,000	88,000
5	43,400	45,300	51,500	37,600	42,700	36,400	37,000	101,000	288,000	288,000	186,000	88,000
6	42,700	47,200	50,600	37,000	42,700	36,400	37,000	107,000	294,000	281,000	192,000	86,200
7	41,400	49,200	49,900	36,400	42,700	35,800	36,400	112,000	298,000	277,000	176,000	86,200
8	40,800	50,600	49,200	36,400	42,700	35,800	37,000	114,000	300,000	273,000	171,000	85,300
9	40,100	52,700	48,600	36,400	42,000	35,200	37,600	118,000	300,000	270,000	164,000	84,400
10	38,800	54,100	47,200	35,800	41,400	34,000	37,600	121,000	304,000	266,000	157,000	82,600
11	38,800	54,800	46,600	35,200	41,400	34,000	38,200	122,000	306,000	262,000	152,000	82,600
12	38,800	55,600	46,000	35,200	41,400	33,400	39,400	123,000	310,000	256,000	147,000	80,800
13	39,400	54,800	46,000	35,800	42,000	33,400	41,400	126,000	316,000	251,000	142,000	80,000
14	40,100	54,800	46,000	35,200	42,000	34,600	42,700	128,000	323,000	247,000	139,000	79,100
15	40,800	54,800	44,600	34,000	41,400	35,800	44,600	131,000	327,000	246,000	136,000	79,300
16	41,400	54,800	44,000	32,800	40,800	35,800	46,000	135,000	331,000	246,000	135,000	77,500
17	42,700	55,500	43,400	30,600	40,800	36,400	46,600	138,000	333,000	247,000	132,000	77,500
18	43,400	56,200	42,700	29,500	40,100	37,600	47,900	143,000	335,000	251,000	130,000	76,700
19	42,700	56,200	42,000	29,000	40,100	37,600	49,900	148,000	335,000	253,000	127,000	75,900
20	42,700	55,500	42,000	28,500	40,100	38,200	52,700	156,000	335,000	251,000	122,000	75,100
21	43,400	55,500	42,000	27,500	40,100	38,200	59,000	165,000	333,000	246,000	119,000	74,300
22	43,400	55,500	41,400	28,500	39,400	38,200	64,200	180,000	329,000	240,000	114,000	72,700
23	43,400	55,500	41,400	30,000	39,400	38,800	65,000	193,000	323,000	235,000	110,000	70,300
24	43,400	55,500	41,400	31,000	38,200	38,800	65,800	205,000	321,000	230,000	106,000	68,800
25	44,000	55,500	41,400	32,800	38,800	38,200	68,000	211,000	314,000	228,000	103,000	66,500
26	44,000	55,100	41,400	35,200	38,800	38,200	72,700	219,000	308,000	228,000	101,000	64,200
27	44,600	54,700	40,800	37,000	38,800	37,600	77,500	228,000	302,000	228,000	99,000	62,000
28	44,800	54,300	40,100	37,600	38,800	36,800	80,000	237,000	294,000	227,000	96,000	60,500
29	44,800	53,900	40,100	38,800	-	36,800	82,800	246,000	288,000	223,000	94,000	58,500
30	44,000	53,500	39,400	40,100	-	36,200	86,200	255,000	287,000	220,000	93,000	56,200
31	43,400	-	37,600	40,800	-	37,600	-	262,000	-	215,000	91,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,329,200	48,600	38,800	42,880	0.665	0.77	2,636,000
November.....	1,376,600	56,200	43,400	52,650	.814	.91	3,133,000
December.....	1,396,800	53,100	37,600	45,060	.699	.81	2,771,000
Calendar year 1934.....	44,177,400	369,000	37,600	121,000	1.88	25.48	87,620,000
January.....	1,075,900	40,800	27,500	34,640	.537	.62	2,130,000
February.....	1,146,700	42,700	38,200	40,950	.635	.66	2,274,000
March.....	1,141,600	38,800	33,400	36,830	.571	.66	2,264,000
April.....	1,644,000	86,200	36,400	51,470	.798	.89	3,062,000
May.....	4,797,000	262,000	89,000	154,400	2.59	2.76	8,496,000
June.....	9,240,000	335,000	271,000	303,000	4.78	5.33	15,330,000
July.....	7,585,000	296,000	215,000	253,300	3.93	4.53	15,580,000
August.....	4,524,000	211,000	91,000	139,500	2.16	2.49	8,577,000
September.....	2,505,000	90,000	56,200	76,830	1.19	1.33	4,672,000
Water year 1934-35.....	37,720,900	335,000	27,500	103,300	1.60	21.76	74,820,000

## Columbia River at Grand Coulee, Wash.

Location.— Water-stage recorder, lat. 47°58', long. 118°58'45", in lot 6, sec. 36, T. 29 N., R. 30 E., 4,000 feet below Grand Coulee dam site, at Grand Coulee. Zero of gage is at mean sea level.

Drainage area.— 74,100 square miles.

Records available.— June to December 1923, June 1928 to September 1935; monthly discharge April 1913 to June 1923, January 1924 to May 1928.

Average discharge.— 22 years, 109,800 second-feet.

Extremes.— Maximum discharge during year, 355,000 second-feet June 18 (gage height, 971.77 feet); minimum, 29,300 second-feet Jan. 21 (gage height, 935.40 feet).

1913-35: 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 at 725,000 second-feet.

Remarks.— Records excellent. Diversions for irrigation above station are small in comparison with flow past gage. Some diurnal fluctuation caused by operation of power plants on Spokane River.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 19-30, July 4 to Aug. 31, Sept. 1-2-30)

935.5	29,700	944.0	75,000	957.0	182,000
936.0	31,800	945.0	81,500	959.0	201,000
937.0	36,550	946.0	89,000	961.0	221,000
938.0	41,550	947.0	97,000	963.0	243,000
939.0	46,550	948.0	105,000	965.0	266,000
940.0	52,000	949.0	113,000	967.0	290,000
941.0	57,500	951.0	129,500	969.0	316,000
942.0	63,000	953.0	146,500	971.0	344,000
943.0	68,900	955.0	164,000	973.0	372,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51,400	45,200	59,700	45,600	51,400	47,000	49,800	115,000	290,000	296,000	216,000	95,400
2	50,900	44,600	59,200	44,600	52,000	46,600	49,200	117,000	298,000	296,000	210,000	93,800
3	49,800	46,000	57,500	45,000	53,100	46,000	49,200	118,000	303,000	303,000	203,000	92,200
4	48,700	46,600	57,000	44,600	53,100	45,600	47,600	120,000	304,000	299,000	196,000	92,200
5	47,600	48,200	57,000	41,600	53,600	46,600	48,200	124,000	310,000	285,000	192,000	91,400
6	45,600	49,200	56,400	43,000	53,100	44,600	48,200	131,000	312,000	290,000	187,000	90,600
7	44,600	52,000	55,300	43,600	53,100	45,000	47,600	138,000	317,000	284,000	183,000	89,800
8	43,000	56,400	54,200	45,000	52,600	44,600	46,600	141,000	319,000	280,000	178,000	89,000
9	43,600	58,000	55,600	44,600	52,600	42,600	47,000	145,000	322,000	276,000	171,000	87,400
10	42,600	58,000	52,000	44,000	51,400	41,600	47,600	148,000	322,000	273,000	165,000	86,600
11	41,600	60,200	49,800	43,600	50,900	42,600	48,700	150,000	326,000	268,000	159,000	85,800
12	41,600	61,400	49,200	43,000	49,200	42,600	49,200	152,000	329,000	261,000	155,000	85,100
13	42,000	61,900	48,700	42,600	49,200	42,000	52,600	153,000	333,000	256,000	149,000	83,600
14	42,000	60,200	49,200	43,600	50,400	44,000	54,200	155,000	338,000	253,000	145,000	82,900
15	42,000	60,200	49,800	42,000	50,900	47,600	58,000	156,000	344,000	251,000	141,000	80,800
16	43,600	60,200	48,700	40,600	49,800	48,700	61,400	160,000	348,000	250,000	139,000	79,600
17	44,000	59,700	46,600	39,000	49,200	50,400	62,400	162,000	352,000	253,000	136,000	79,600
18	44,600	59,200	47,000	38,000	48,700	50,900	65,200	167,000	352,000	256,000	135,000	79,600
19	45,600	59,700	46,000	38,600	48,200	52,000	68,200	171,000	345,000	258,000	131,000	79,600
20	45,000	60,800	45,000	37,000	47,600	52,000	69,400	177,000	343,000	256,000	128,000	78,900
21	44,600	59,200	45,600	32,700	47,600	51,400	73,700	184,000	340,000	252,000	123,000	77,600
22	44,000	59,200	45,600	31,400	48,200	51,400	80,800	194,000	336,000	247,000	119,000	76,300
23	45,600	59,700	52,000	36,600	47,600	50,900	87,400	209,000	330,000	243,000	115,000	75,000
24	45,600	60,200	50,900	38,600	49,800	50,900	90,600	224,000	324,000	238,000	111,000	73,000
25	45,600	59,700	50,900	42,600	48,200	50,400	93,000	234,000	320,000	234,000	107,000	71,200
26	45,600	60,800	50,400	48,200	46,700	50,900	96,300	241,000	313,000	233,000	106,000	68,800
27	45,600	60,800	50,400	49,700	47,600	50,900	101,000	250,000	308,000	232,000	104,000	66,400
28	46,000	60,200	49,200	47,600	47,600	50,400	106,000	259,000	300,000	232,000	102,000	64,100
29	46,000	59,700	48,700	49,200	-	51,400	109,000	267,000	293,000	228,000	100,000	61,900
30	46,000	59,700	48,700	49,800	-	50,400	112,000	276,000	290,000	225,000	97,800	60,200
31	46,000	-	47,000	50,900	-	49,800	-	283,000	-	221,000	95,400	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,400,400	51,400	41,600	45,170	0.610	0.70	2,778,000
November.....	1,706,900	61,900	44,600	56,900	.768	.86	3,598,000
December.....	1,581,300	59,700	46,000	51,010	.698	.79	3,136,000
Calendar year 1934.....	48,179,100	378,000	41,600	132,000	1.78	24.19	95,570,000
January.....	1,325,900	50,900	31,400	42,770	.577	.67	2,630,000
February.....	1,405,400	53,600	47,600	50,190	.677	.70	2,788,000
March.....	1,481,800	52,000	41,600	47,800	.645	.74	2,939,000
April.....	2,020,000	112,000	47,000	67,330	.909	1.01	4,007,000
May.....	5,521,000	283,000	118,000	178,100	2.40	2.77	10,950,000
June.....	9,661,000	356,000	290,000	322,000	4.35	4.85	19,160,000
July.....	8,040,000	303,000	221,000	259,400	3.50	4.04	15,950,000
August.....	4,496,200	216,000	95,400	145,000	1.96	2.26	8,918,000
September.....	2,418,400	95,400	60,200	80,610	1.09	1.22	4,797,000
Water year 1934-35.....	41,058,300	352,000	31,400	112,500	1.52	20.61	81,440,000

## Columbia River at Trinidad, Wash.

Location.- Water-stage recorder, lat. 47°13'30", long. 120°50", in SE $\frac{1}{4}$  sec. 13, T. 20 N., R. 22 E., half 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 1935; January to December 1910, May 1913 to December 1916 at Wenatchee; January 1917 at Beverlay; January 1917 to September 1930 at Vernita.

Average discharge.- 22 years, 120,700 second-feet.

Extremes.- Maximum discharge during year, 378,000 second-feet June 18 (gage height, 47.13 feet); minimum, 34,100 second-feet Jan. 23 (gage height, 19.07 feet).  
1913-35: 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. Stage-discharge relation affected by ice Jan. 20-22. Discharge estimated Jan. 20-22, June 10, 11. 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. Artificial regulation at Coeur d'Alene and Chelan Lakes. No other regulation except the effect of natural storage in numerous lakes above gage.

Rating table, water year 1934-35 except period of ice effect, Jan. 20-22 (gage height, in feet, and discharge, in second-feet)

19.0	33,600	24.0	65,000	30.0	116,000	36.0	184,000	42.0	277,000
19.5	36,340	25.0	72,000	31.0	126,000	37.0	197,000	44.0	314,000
20.0	39,200	26.0	79,800	32.0	137,000	38.0	211,000	46.0	354,000
21.0	45,300	27.0	88,000	33.0	148,000	39.0	226,000	48.0	399,000
22.0	51,600	28.0	97,000	34.0	159,000	40.0	242,000		
23.0	58,100	29.0	106,000	35.0	171,000	41.0	259,000		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56,800	51,800	65,000	51,000	66,400	55,500	55,500	121,000	322,000	312,000	226,000	101,000
2	56,800	51,800	65,000	50,300	66,400	56,200	54,800	124,000	330,000	308,000	220,000	98,800
3	54,800	51,800	64,300	49,000	66,400	56,500	54,200	126,000	334,000	308,000	214,000	96,100
4	53,600	51,800	62,200	49,000	67,800	54,200	54,200	127,000	334,000	314,000	206,000	95,200
5	52,900	52,900	62,200	49,000	67,800	53,600	52,900	132,000	338,000	312,000	201,000	95,200
6	51,600	57,400	62,200	46,900	69,900	54,200	52,900	138,000	346,000	308,000	196,000	95,200
7	49,700	56,800	60,800	47,800	67,800	52,200	52,900	145,000	354,000	301,000	190,000	94,300
8	47,800	60,800	60,100	47,800	66,400	51,600	52,200	152,000	358,000	297,000	185,000	93,400
9	47,200	65,700	58,800	49,000	65,700	51,000	52,200	167,000	361,000	291,000	180,000	92,500
10	47,200	66,400	58,100	49,000	66,400	49,700	51,600	159,000	360,000	286,000	176,000	90,700
11	46,500	65,000	56,800	47,800	65,000	48,400	52,200	163,000	359,000	284,000	170,000	89,800
12	46,500	67,100	55,500	47,200	63,600	49,000	53,600	164,000	358,000	279,000	164,000	88,900
13	46,500	67,800	54,200	46,500	62,200	49,000	54,800	166,000	361,000	275,000	157,000	88,000
14	46,500	67,800	53,600	46,500	60,800	50,300	58,100	166,000	365,000	275,000	152,000	87,200
15	46,900	67,800	54,200	45,300	62,200	51,600	60,800	169,000	372,000	270,000	150,000	86,300
16	45,300	69,200	54,800	45,300	61,500	52,200	63,600	172,000	376,000	266,000	147,000	85,400
17	46,500	68,500	54,200	44,100	60,100	55,500	67,900	176,000	374,000	266,000	144,000	83,800
18	47,800	66,500	51,600	41,800	59,400	67,400	69,200	179,000	376,000	264,000	142,000	85,800
19	46,400	67,100	51,600	36,000	58,000	67,400	72,000	184,000	376,000	264,000	140,000	85,800
20	49,000	67,800	51,600	-	58,100	58,100	75,800	188,000	374,000	264,000	137,000	85,800
21	46,400	67,800	50,300	35,000	57,400	58,100	78,200	196,000	367,000	264,000	134,000	83,000
22	49,000	66,400	51,000	-	57,400	56,100	82,200	208,000	366,000	263,000	129,000	82,200
23	49,000	66,400	51,000	36,200	58,100	57,400	89,800	224,000	361,000	261,000	126,000	80,600
24	50,500	66,400	56,800	41,600	56,800	57,400	95,200	245,000	354,000	254,000	121,000	78,200
25	52,200	66,400	55,500	51,000	58,100	56,800	97,900	259,000	346,000	245,000	117,000	77,400
26	54,200	66,400	56,200	62,900	57,400	56,200	101,000	266,000	340,000	242,000	113,000	75,000
27	52,900	66,400	54,800	75,000	56,800	56,800	104,000	272,000	334,000	239,000	110,000	73,500
28	51,600	67,100	54,800	71,300	56,200	56,800	109,000	284,000	330,000	237,000	108,000	71,800
29	51,600	65,700	52,900	69,200	-	56,200	114,000	295,000	322,000	236,000	106,000	68,500
30	51,000	66,400	52,900	67,800	-	56,200	117,000	304,000	316,000	233,000	104,000	67,100
31	51,600	-	52,200	67,100	-	55,500	-	314,000	-	229,000	102,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Acres-foot
October.....	1,544,200	56,800	45,300	49,810	0.555	0.64	3,083,000
November.....	1,910,400	69,200	51,600	63,600	.710	.79	3,789,000
December.....	1,745,200	66,000	50,300	56,500	.628	.72	3,462,000
Calendar year 1934.....	52,536,000	401,000	45,300	143,900	1.60	21.78	104,200,000
January.....	1,532,000	72,000	-	49,420	.551	.64	3,039,000
February.....	1,740,900	69,900	56,200	62,130	.693	.72	3,455,000
March.....	1,698,100	59,100	48,400	54,450	.607	.70	3,349,000
April.....	2,149,800	117,000	51,600	71,650	.799	.89	4,264,000
May.....	5,974,000	314,000	121,000	192,700	2.15	2.48	11,850,000
June.....	10,563,000	376,000	316,000	352,100	3.93	4.38	20,950,000
July.....	8,446,000	314,000	229,000	272,500	3.04	3.50	16,750,000
August.....	4,767,000	226,000	102,000	153,800	1.71	1.97	9,465,000
September.....	2,570,000	101,000	67,100	85,670	.955	1.07	5,098,000
Water year 1934-35.....	44,630,400	376,000	-	122,300	1.36	18.50	88,520,000

Kootenai River at Newgate, British Columbia  
(International gaging station)

Location.— Two staff gages, one on main river and one on slough, lat. 49°1', long. 115°10', 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 1935.

Extremes.— Maximum discharge observed during year, 45,200 second-feet May 24; minimum observed, 1,580 second-feet Jan. 20.

1930-35: Maximum discharge observed, 83,500 second-feet June 18, 1933; minimum, 1,200 second-feet Dec. 12, 1932.

Remarks.— Records good except those for Jan. 21-30, which are fair. Discharge estimated Nov. 17, 18, Dec. 6-11, 24-29, Jan. 10, 11, 21-30, July 18, 24, Aug. 2-5. Records give total flow of main channel and slough. Records computed and six discharge measurements furnished during the year 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,510	3,270	3,360	2,510	4,030	2,760	2,410	9,530	43,800	35,700	13,500	6,450
2	3,480	3,350	3,330	2,680	3,970	2,700	2,400	9,050	42,300	32,300	13,200	6,450
3	3,530	3,480	3,300	2,880	3,950	2,680	2,390	8,490	35,800	28,600	14,000	6,430
4	3,480	3,520	3,270	2,870	3,800	2,650	2,420	9,650	32,800	27,200	14,800	6,330
5	3,430	3,630	3,220	2,820	3,700	2,600	2,440	11,500	34,000	27,400	14,000	6,250
6	3,410	4,270	3,010	2,810	3,610	2,540	2,450	13,200	35,600	27,700	13,400	6,200
7	3,400	5,330	2,910	2,780	3,490	2,510	2,450	14,200	37,100	28,000	12,300	6,000
8	3,360	6,180	2,760	2,720	3,430	2,500	2,460	13,200	39,800	28,600	11,000	5,850
9	3,350	6,130	2,480	2,600	3,090	2,500	2,470	12,300	42,500	27,000	10,800	5,750
10	3,330	5,240	2,420	2,530	3,090	2,510	2,390	12,700	43,300	26,000	10,400	5,590
11	3,320	4,780	2,310	2,450	3,080	2,520	2,620	12,200	42,700	22,300	10,300	5,460
12	3,320	4,460	2,730	2,360	3,110	2,550	2,560	11,600	41,400	21,400	10,200	5,350
13	3,400	4,250	2,850	2,210	3,170	2,730	2,670	11,100	42,800	22,000	10,100	5,210
14	3,360	4,150	2,930	2,080	3,160	2,580	3,710	11,100	44,900	23,300	10,200	5,130
15	3,720	4,110	3,010	2,000	3,110	3,010	3,730	12,200	45,000	24,700	10,300	5,060
16	3,660	4,070	3,060	1,950	3,030	3,160	3,660	14,200	45,000	25,100	9,550	5,020
17	3,580	4,260	3,030	1,820	2,880	3,170	3,720	16,900	40,200	25,500	9,030	5,260
18	3,510	4,360	3,000	1,660	2,900	3,080	3,810	20,700	39,800	25,600	8,430	5,460
19	3,480	4,560	3,030	1,620	2,820	3,000	4,230	22,200	39,900	25,500	8,070	5,340
20	3,430	4,460	3,080	1,580	2,780	2,880	4,890	24,200	37,800	22,300	7,670	5,210
21	3,490	4,270	3,060	2,010	2,780	2,880	5,560	29,000	35,700	20,200	7,370	5,020
22	3,590	4,170	3,060	2,210	2,930	2,760	6,700	36,600	35,400	19,500	7,320	4,450
23	3,690	4,070	3,030	2,410	2,870	2,600	6,620	45,000	36,400	18,700	7,290	4,370
24	3,640	4,030	2,880	2,610	2,730	2,600	6,590	45,200	35,200	19,300	7,240	4,430
25	3,680	3,960	2,410	2,810	2,720	2,620	7,690	36,100	30,000	19,600	7,130	4,390
26	3,590	3,780	1,730	3,010	2,870	2,730	9,270	29,800	26,900	19,400	6,980	4,250
27	3,510	3,700	1,680	3,260	2,720	2,590	9,300	28,300	26,600	18,300	6,740	4,090
28	3,360	3,630	1,790	3,510	2,730	2,550	8,580	29,100	28,300	17,000	6,630	4,080
29	3,360	3,530	2,010	3,760	-	2,550	8,670	32,000	31,100	16,800	6,500	4,000
30	3,350	3,490	2,210	4,010	-	2,510	9,260	34,900	33,300	15,800	6,350	3,980
31	3,320	-	2,330	4,350	-	2,470	-	38,900	-	14,400	6,430	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	107,440	3,720	3,320	3,470	0.45	0.52	213,000
November.....	126,500	6,180	3,270	4,220	.55	.61	261,000
December.....	86,320	3,360	1,680	2,750	.36	.42	169,000
Calendar year 1934.....	4,316,940	63,400	1,680	11,800	1.54	20.96	8,570,000
January.....	80,880	4,360	1,580	2,610	.54	.39	160,000
February.....	88,660	4,030	2,720	3,160	.41	.43	176,000
March.....	133,820	3,170	2,470	2,700	.35	.40	166,000
April.....	138,120	9,300	2,390	4,600	.60	.67	274,000
May.....	655,120	45,200	8,480	21,100	2.75	3.17	1,300,000
June.....	1,125,800	45,000	26,600	37,500	4.90	5.47	2,230,000
July.....	722,100	36,700	14,400	25,300	3.04	3.59	1,430,000
August.....	297,230	14,800	6,350	9,590	1.25	1.44	590,000
September.....	166,890	6,460	3,980	5,230	.68	.76	311,000
Water year 1934-36.....	3,667,480	45,200	1,580	10,000	1.31	17.78	7,270,000

## Kootenai River near Rexford, Mont.

(International gaging station)

Location.— Staff gage and chain gage, lat. 48°52', long. 115°14', in sec. 21, T. 36 N., R. 28 W., at highway bridge 300 feet below Sullivan Creek and 1.1 miles southwest of Rexford. Chain gage at same site and datum used for readings below 6.7 feet after Feb. 10, 1935.

Drainage area.— 8,420 square miles.

Records available.— March 1929 to September 1935.

Extremes.— Maximum discharge during year, 47,500 second-feet May 24 (gage height, 11.46 feet); minimum mean daily discharge (estimated), 1,700 second-feet Jan. 19-21; minimum gage height, 0.80 foot Dec. 27.  
1929-35: Maximum discharge, 87,300 second-feet June 18, 1933 (gage height, 15.70 feet); minimum discharge (estimated), 1,230 second-feet Jan. 17, 18, 1932; minimum gage height, 0.35 foot Dec. 31, 1930.

Remarks.— Records good except those estimated because of ice effect, Jan. 15 to Feb. 8, which are fair. No diversions or regulation. This is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table for period Feb. 9 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

1.1	2,340	3.5	6,640	6.0	13,830	8.5	26,070
1.5	2,880	4.0	7,820	6.5	15,830	9.0	29,070
2.0	3,670	4.5	9,110	7.0	18,080	10.0	35,770
2.5	4,570	5.0	10,520	7.5	20,570	11.0	45,590
3.0	5,550	5.5	12,080	8.0	23,250	11.5	47,510

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,690	3,340	3,690	2,540	4,300	2,880	2,740	10,200	42,600	35,000	13,900	6,640
2	3,600	3,510	3,690	2,610	4,100	2,880	2,670	9,940	44,200	34,400	13,500	6,780
3	3,600	3,600	3,600	2,960	4,100	2,810	2,540	9,660	40,200	30,500	14,200	6,780
4	3,510	3,780	3,420	2,960	4,000	2,880	2,600	9,660	35,000	28,400	15,000	6,520
5	3,510	3,670	3,340	3,180	3,900	2,670	2,540	11,100	35,000	27,800	14,200	6,520
6	3,510	4,650	3,100	3,180	3,800	2,540	2,600	14,200	37,200	28,400	13,500	6,520
7	3,420	5,690	3,030	3,030	3,700	2,600	2,600	15,400	36,700	28,400	12,400	6,080
8	3,340	6,350	2,880	2,960	3,600	2,600	2,670	14,600	39,500	28,400	11,800	6,190
9	3,340	6,580	2,600	2,740	3,420	2,670	2,670	13,500	43,400	28,400	11,100	5,860
10	3,340	5,910	2,540	2,540	3,260	2,740	2,740	13,500	44,200	26,100	10,600	5,780
11	3,340	5,270	2,340	2,600	3,030	2,600	2,810	13,800	43,400	23,800	10,500	5,660
12	3,340	4,960	2,740	2,600	3,260	2,740	3,030	12,800	42,600	22,700	10,500	5,660
13	3,420	4,850	2,960	2,100	3,420	2,680	3,340	12,100	43,400	22,700	10,200	5,560
14	3,600	4,550	3,100	2,100	3,260	3,180	4,200	11,800	45,000	23,600	10,200	5,450
15	3,780	4,550	3,260	2,100	3,180	3,500	4,380	12,400	46,700	24,900	10,500	5,250
16	3,870	4,550	3,260	2,000	2,960	3,670	4,380	14,200	45,800	25,500	10,200	5,350
17	3,780	4,750	3,180	1,900	3,030	3,580	4,200	16,300	42,600	26,100	9,380	5,450
18	3,690	4,850	3,100	1,800	3,030	3,580	4,380	20,000	41,000	25,500	8,840	6,550
19	3,610	4,860	3,030	1,700	3,030	3,420	4,680	22,200	41,000	23,200	8,560	5,450
20	3,510	4,860	3,100	1,700	3,030	3,260	5,050	24,400	40,200	22,700	8,320	5,250
21	3,510	4,650	3,180	1,700	3,100	3,180	6,870	27,800	38,000	21,600	7,820	4,950
22	3,690	4,550	3,180	1,900	3,100	3,030	7,460	34,400	36,500	20,000	7,580	4,660
23	3,780	4,450	3,180	2,200	3,100	3,030	7,460	42,600	37,200	19,000	7,460	4,660
24	3,780	4,350	3,030	2,500	3,030	3,030	7,340	46,700	37,200	19,600	7,460	4,570
25	3,870	4,250	2,540	3,100	2,960	3,030	7,820	41,000	35,000	20,000	7,460	4,570
26	3,960	4,250	1,880	4,000	2,740	2,880	9,380	31,000	29,700	19,600	7,340	4,570
27	3,780	4,160	1,830	5,000	2,740	2,810	10,200	31,000	28,400	18,600	6,960	4,570
28	3,600	4,060	1,940	6,000	2,610	2,740	9,940	31,000	29,100	17,200	6,870	4,380
29	3,510	3,870	2,160	5,400	—	2,740	9,660	33,000	31,000	16,700	6,760	4,290
30	3,420	3,690	2,340	5,000	—	2,740	9,660	35,000	33,600	15,400	6,760	4,380
31	3,420	—	2,470	4,600	—	2,670	—	38,000	—	15,000	6,760	—

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	111,020	3,960	3,340	3,561	0.425	0.49	280,200
November.....	137,390	6,580	3,340	4,580	.544	.61	272,500
December.....	69,690	3,690	1,830	2,893	.544	.40	177,900
Calendar year 1934.....	4,498,610	64,000	2,720	12,320	1.46	19.88	8,924,000
January.....	90,700	6,000	1,700	2,926	.348	.40	179,900
February.....	92,990	4,500	2,740	3,321	.394	.41	184,400
March.....	81,630	5,670	2,540	2,956	.351	.40	181,700
April.....	152,590	10,200	2,540	5,066	.604	.67	302,700
May.....	673,260	46,700	9,660	21,730	2.55	2.97	1,355,000
June.....	1,165,400	46,700	28,400	36,550	4.61	5.14	2,312,000
July.....	759,200	35,000	15,000	23,850	2.83	3.26	1,466,000
August.....	306,650	18,000	6,760	9,892	1.17	1.35	608,200
September.....	163,830	6,760	4,290	5,461	.649	.72	325,000
Water year 1934-35.....	3,814,350	46,700	1,700	10,450	1.24	16.82	7,566,000



## Kootenai River at Libby, Mont.

Location.- Water-stage recorder, lat. 48°24', long. 115°33'30", 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 1935.

Average discharge.- 25 years, 11,600 second-feet.

Extremes.- Maximum discharge during year, 52,500 second-feet May 24 (gauge height, 12.66 feet); minimum, 1,460 second-feet Feb. 28 (gauge height, 0.63 foot).  
1910-35: Maximum discharge, 130,000 second-feet June 21, 1916 (gauge height, 19.17 feet); minimum, 895 second-feet Jan. 11, 1930 (discharge measurement, ice present).

Remarks.- Records good except those for periods of ice effect, Dec. 25-30 and Jan. 16 to Feb. 10, which are fair. No diversions above station.

Rating table, water year 1934-35 except periods of ice effect (gauge height, in feet, and discharge, in second-feet)

0.8	1,800	4.0	10,300	9.0	31,250
1.0	2,200	4.5	12,000	9.5	33,850
1.2	2,640	5.0	13,800	10.0	36,550
1.4	3,080	5.5	15,700	10.5	39,320
1.6	3,540	6.0	17,700	11.0	42,170
1.8	4,020	6.5	19,750	11.5	45,110
2.0	4,500	7.0	21,850	12.0	48,140
2.5	5,800	7.5	24,080	12.5	51,260
3.0	7,200	8.0	26,350	13.0	54,450
3.5	8,700	8.5	28,750		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,140	4,500	4,500	3,500	6,220	3,660	3,660	15,700	44,500	34,900	15,700	7,060
2	4,140	4,500	4,500	3,500	5,940	3,650	3,540	15,300	46,900	36,000	14,900	7,060
3	4,140	4,630	4,500	3,700	5,800	3,720	3,420	14,600	44,600	35,300	15,300	7,060
4	4,140	4,630	4,260	3,900	5,540	3,780	3,420	14,900	39,900	30,200	16,100	6,820
5	4,020	5,410	4,140	4,020	5,150	3,650	3,540	16,900	37,100	29,200	15,700	6,920
6	4,020	9,020	4,140	4,260	4,890	3,190	3,540	21,000	38,800	29,200	14,900	6,780
7	3,900	10,600	3,900	3,900	4,890	3,080	3,660	23,200	39,900	29,800	14,200	6,640
8	3,900	10,600	3,780	3,900	4,500	3,190	3,660	21,800	41,000	29,800	13,100	6,500
9	3,900	9,980	3,540	3,780	4,280	3,190	3,660	20,600	43,500	30,200	12,400	6,360
10	3,900	8,400	3,300	3,540	4,020	3,250	3,660	19,600	45,100	28,800	12,000	6,220
11	3,780	7,350	3,190	3,420	3,900	3,300	3,660	19,800	45,100	26,400	11,700	6,080
12	3,780	6,640	3,190	3,540	4,020	3,300	4,020	18,500	44,600	24,500	11,300	6,080
13	3,900	6,220	3,540	3,190	4,500	3,420	4,760	17,300	43,900	23,600	11,300	5,940
14	3,900	5,940	3,660	2,620	4,500	4,250	6,080	16,500	45,100	24,000	11,000	5,940
15	4,140	5,670	3,900	2,420	4,360	4,630	6,640	17,300	46,300	25,400	11,000	5,670
16	4,380	5,670	3,900	2,580	4,380	5,020	6,780	16,900	46,900	26,400	11,300	5,670
17	4,380	5,800	3,900	2,640	4,260	5,780	6,780	21,400	44,500	26,800	10,600	5,640
18	4,260	5,940	3,780	2,100	4,630	6,920	6,920	26,400	42,200	29,300	9,980	5,800
19	4,140	5,940	3,780	2,120	4,260	4,500	7,350	28,300	42,200	26,400	9,340	5,800
20	4,020	5,940	3,780	2,080	4,260	4,380	8,400	29,800	41,600	24,000	9,020	5,670
21	4,140	5,800	4,020	1,940	4,020	4,260	10,300	32,800	39,900	23,600	8,700	5,410
22	4,260	5,540	4,260	1,800	4,020	4,140	12,400	38,800	37,600	21,800	8,400	5,150
23	4,380	5,410	4,140	1,920	4,140	4,020	12,000	46,300	37,600	20,600	8,100	4,890
24	4,380	5,410	3,900	2,770	4,140	3,900	11,700	51,800	38,200	20,200	7,800	4,890
25	5,410	5,280		3,900	3,900	4,140	12,000	48,100	36,000	21,000	7,800	4,890
26	5,940	5,280		5,150	3,780	4,020	13,800	40,400	31,800	21,000	7,800	4,890
27	5,410	5,150	2,500	6,500	3,780	3,900	16,100	35,500	29,200	20,800	7,500	4,760
28	4,890	5,020		6,500	3,540	3,780	15,700	34,400	29,200	19,300	7,350	4,630
29	4,630	4,760		7,060	-	3,780	14,900	35,500	30,800	18,500	7,200	4,630
30	4,380	4,630		6,640	-	3,780	14,900	38,200	32,800	18,100	7,060	4,500
31	4,380	-	2,790	6,640	-	3,780	-	41,000	-	17,300	7,060	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	133,080	5,940	3,780	4,293	0.390	0.45	264,000
November.....	185,790	10,600	4,500	6,193	.583	.63	368,500
December.....	111,290	4,500	-	3,590	.326	.38	220,700
Calendar year .....							
January.....	114,730	7,060	1,900	3,700	.336	.39	227,600
February.....	126,130	6,220	3,540	4,469	.406	.42	248,200
March.....	120,080	5,020	3,080	3,974	.352	.41	238,200
April.....	230,950	16,100	3,420	7,698	.700	.78	458,100
May.....	839,800	51,800	14,600	27,090	2.46	2.84	1,666,000
June.....	1,206,400	46,900	29,200	40,210	3.66	4.08	2,393,000
July.....	788,700	36,000	17,300	25,580	2.31	2.66	1,560,000
August.....	335,610	16,100	7,060	10,830	.985	1.14	665,700
September.....	174,360	7,060	4,500	5,812	.528	.59	346,800
Water year 1934-35.....	4,363,910	51,800	1,800	11,960	1.09	14.77	8,656,000

## Kootenai River at Leonia, Idaho

Location.— Water-stage recorder, lat. 48°37', long. 116°3', 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 1935.

Extremes.— Maximum discharge during year, 63,600 second-feet May 24 (water-surface elevation, 1,815.04 feet); minimum discharge (estimated), 1,900 second-feet Jan. 20; minimum water-surface elevation, 1,799.42 feet January 18.  
1928-35: 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 (furnished by Great Northern Railway Co.)

Remarks.— Records excellent except those estimated because of ice, Dec. 28, 29, Jan. 14-27, Feb. 8-11, which are fair. No regulation or diversions above station.

Rating table for period Nov. 6, 1934, to Sept. 30, 1935, except periods of ice effect  
(Shifting-control method used Apr. 19 to May 22)

1,799.5	1,740	1,802.0	8,600	1,804.5	16,150	1,807.0	24,240	1,810.0	35,820
1,800.0	3,020	1,802.5	10,100	1,805.0	17,700	1,807.5	26,000	1,811.0	40,520
1,800.5	4,360	1,803.0	11,600	1,805.5	19,300	1,808.0	27,820	1,812.0	45,640
1,801.0	5,740	1,803.5	13,100	1,806.0	20,900	1,808.5	29,690	1,813.0	51,120
1,801.5	7,160	1,804.0	14,600	1,806.5	22,540	1,809.0	31,620	1,814.0	57,010
								1,815.0	65,840

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,590	4,760	5,660	4,010	8,600	4,630	4,790	21,100	53,800	35,200	16,000	7,440
2	4,550	5,150	5,490	4,470	8,250	4,660	4,520	20,500	55,900	36,700	15,100	7,410
3	4,480	5,200	5,550	4,630	7,930	4,710	4,550	19,700	53,100	34,300	15,000	7,410
4	4,420	5,200	5,260	4,560	7,560	4,710	4,550	20,100	47,600	31,100	15,600	7,410
5	4,590	5,660	5,100	4,790	7,210	4,600	4,580	23,700	44,600	29,900	15,800	7,380
6	4,340	14,700	4,930	4,980	6,830	4,330	4,600	29,000	45,300	30,000	15,200	7,300
7	4,310	20,400	4,790	4,960	6,640	4,260	4,600	31,500	46,100	30,100	14,400	7,120
8	4,260	19,900	4,680	4,790	6,400	4,310	4,680	29,400	46,900	30,200	13,400	7,000
9	4,200	15,600	4,440	4,550	6,200	4,280	4,630	27,000	48,400	30,600	12,600	6,830
10	4,200	12,900	4,170	4,170	6,000	4,280	4,710	26,100	50,600	29,700	12,200	6,660
11	4,170	10,700	4,010	3,930	5,700	4,280	4,960	25,300	50,600	27,400	11,800	6,520
12	4,170	9,230	3,950	4,170	5,460	4,250	5,400	23,700	49,700	25,200	11,700	6,440
13	4,200	8,310	4,120	4,010	5,740	4,740	6,620	21,900	46,700	24,100	11,600	6,410
14	4,280	7,670	4,360	3,500	5,740	5,660	8,400	21,000	49,300	24,300	11,200	6,330
15	4,420	7,300	4,520	2,900	5,490	6,360	9,410	21,600	50,700	25,400	11,200	6,220
16	4,620	7,120	4,600	2,550	5,520	6,640	9,500	23,300	51,400	26,400	11,400	6,080
17	4,730	7,000	4,660	2,400	5,240	6,610	9,410	28,000	46,600	26,600	11,000	6,020
18	4,700	7,210	4,680	2,200	5,240	6,360	9,620	32,500	46,400	26,800	10,400	6,060
19	4,590	7,300	4,650	2,000	5,240	6,220	9,950	35,900	44,600	25,900	9,860	6,160
20	4,530	7,270	4,520	1,900	5,180	6,020	11,600	38,300	44,100	24,200	9,410	6,020
21	4,530	7,150	4,580	1,940	5,120	5,770	14,400	42,600	42,500	23,700	9,170	5,820
22	4,700	6,890	5,040	2,500	5,120	5,540	17,000	50,600	40,000	22,300	8,810	5,600
23	4,840	6,750	5,040	2,800	5,120	5,400	16,900	59,300	39,100	20,900	8,460	5,430
24	4,870	6,660	4,900	3,400	5,210	5,290	15,800	63,200	39,600	20,300	8,220	5,350
25	5,520	6,580	4,710	5,800	4,930	5,620	16,600	59,200	37,900	20,600	8,190	5,280
26	6,940	6,520	3,960	8,300	4,710	5,400	19,200	50,400	33,700	20,800	8,220	5,280
27	6,420	6,380	2,790	11,500	4,630	5,240	21,700	44,300	30,800	20,500	8,080	5,210
28	5,690	6,160	2,200	14,400	4,630	5,070	21,200	42,400	30,200	19,300	7,820	5,150
29	5,250	5,960	2,500	12,200	-	5,010	20,000	43,400	31,200	18,400	7,610	5,070
30	4,950	5,770	3,420	10,500	-	4,960	20,200	46,100	33,200	18,100	7,470	4,980
31	4,760	-	4,010	9,410	-	4,930	-	49,500	-	17,300	7,440	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				146,570	6,940	4,170	4,728	0.403	0.46	290,700		
November.....				255,400	20,400	4,760	8,447	.720	.89	502,600		
December.....				136,770	5,660	2,200	4,412	.376	.43	271,300		
Calendar year 1934.....				6,170,150	74,400	2,200	16,900	1.44	19.53	12,240,000		
January.....				158,320	14,400	1,900	5,107	.435	.50	314,000		
February.....				165,640	8,600	4,630	5,913	.504	.52	328,500		
March.....				160,030	6,640	4,260	5,162	.440	.51	317,400		
April.....				315,980	21,700	4,620	10,470	.892	1.00	622,800		
May.....				1,070,600	63,200	19,700	34,540	2.94	3.39	2,124,000		
June.....				1,335,100	55,900	30,200	44,440	3.79	4.23	2,644,000		
July.....				796,300	36,700	17,300	26,690	2.19	2.52	1,579,000		
August.....				344,260	16,000	7,440	11,110	.946	1.09	682,800		
September.....				187,340	7,440	4,980	6,245	.532	.59	371,600		
Water year 1934-35.....				5,066,310	63,200	1,900	13,880	1.18	16.04	10,050,000		

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

Location.- Water-stage recorder, lat. 48°42'5", long. 116°14'30", in NW¼ sec. 29, T. 62 N., R. 2 E., 800 feet east of Boom Camp, 3¼ miles upstream from Bonners Ferry, and 4 miles downstream from Moyie River. Zero of gage is 1,754.08 feet above mean sea level, U. S. Coast & Geodetic Survey datum.

Records available.- October 1927 to September 1935. 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, 1,771.38 feet May 25; minimum, 1,756.26 feet Jan. 21.  
1927-35: Maximum water-surface elevation recorded, 1,776.58 feet June 18, 1933; minimum, 1,756.20 feet Dec. 3, 1931 (also estimated for Jan. 1, 1931).

Remarks.- Records excellent. Elevations affected by backwater from Kootenai Lake from about May 18 to July 11.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57.42	57.72	58.13	57.28	59.63	57.65	57.74	62.70	69.92	65.77	61.19	58.64
2	57.41	57.93	58.06	57.48	59.48	57.65	57.62	62.60	70.55	66.10	60.95	58.64
3	57.40	57.92	58.01	57.68	59.35	57.68	57.63	62.44	70.35	66.81	60.91	58.63
4	57.37	57.91	57.96	57.70	59.27	57.69	57.62	62.54	69.39	65.14	61.05	58.63
5	57.34	58.15	57.87	57.78	59.04	57.62	57.64	63.23	68.71	64.73	61.11	58.62
6	57.32	60.80	57.80	57.85	58.86	57.52	57.65	64.26	68.67	64.69	60.96	58.59
7	57.30	61.88	57.71	57.53	58.94	57.45	57.64	64.71	68.75	64.88	60.77	58.54
8	57.29	61.78	57.61	57.74	58.76	57.50	57.67	64.36	68.92	64.55	60.49	58.49
9	57.27	61.00	57.54	57.65	58.52	57.45	57.67	63.92	69.14	64.70	60.28	58.42
10	57.29	60.36	57.38	57.74	58.38	57.46	57.74	63.77	69.54	64.60	60.14	58.36
11	57.27	59.77	57.32	57.36	58.19	57.46	57.88	63.58	69.71	63.96	60.04	58.30
12	57.25	59.38	57.31	57.48	58.05	57.45	58.16	63.32	69.59	63.41	59.98	58.25
13	57.27	59.09	57.39	57.53	58.29	57.69	58.64	63.02	69.45	63.11	59.96	58.24
14	57.30	58.88	57.50	57.28	58.35	58.13	59.27	62.84	69.48	63.11	59.88	58.20
15	57.39	58.76	57.68	56.95	58.28	58.43	59.65	62.95	69.79	63.32	59.85	58.18
16	57.60	58.71	57.62	56.79	58.22	58.52	59.55	63.23	70.01	63.53	59.88	58.13
17	57.65	58.68	57.64	56.80	58.10	58.51	59.62	64.10	69.72	63.59	59.81	58.09
18	57.62	58.79	57.60	56.57	58.08	58.43	59.60	65.01	69.09	63.60	59.63	58.10
19	57.47	58.79	57.59	56.67	58.04	58.36	59.76	65.61	68.75	63.46	59.49	58.16
20	57.44	58.78	57.57	56.54	58.00	58.29	60.27	65.06	68.59	63.10	59.34	58.12
21	57.49	58.71	57.63	56.35	57.93	58.18	61.03	66.83	68.24	62.96	59.26	58.03
22	57.68	58.61	57.87	56.85	57.89	58.08	61.61	68.23	67.72	62.89	59.15	57.94
23	57.65	58.60	57.87	57.10	57.88	58.03	61.69	70.06	67.35	62.34	59.02	57.87
24	57.67	58.55	57.79	57.14	57.92	57.99	61.46	71.16	67.27	62.17	58.94	57.82
25	58.07	58.54	57.68	58.27	57.79	58.07	61.61	71.10	67.00	62.23	58.90	57.79
26	58.65	58.49	57.40	59.67	57.67	58.04	62.25	69.77	66.25	62.29	58.92	57.79
27	58.59	58.41	56.81	60.45	57.68	57.94	62.76	68.41	65.45	62.21	58.88	57.78
28	58.08	58.34	56.55	61.22	57.67	57.88	62.71	67.83	65.09	61.98	58.79	57.75
29	57.68	58.27	56.71	60.69	-	57.85	62.47	67.90	65.14	61.76	58.71	57.71
30	57.77	58.19	57.15	60.21	-	57.81	62.55	68.35	65.42	61.67	58.66	57.66
31	57.69	-	57.60	59.85	-	57.81	-	69.06	-	61.61	58.66	-

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, lat.  $48^{\circ}42'$ , long.  $116^{\circ}18'45''$ , in NE $\frac{1}{4}$  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 & Geodetic Survey datum.

Drainage area.-- 13,000 square miles.

Records available.-- October 1927 to September 1935. 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, 69,500 second-feet May 24; maximum water-surface elevation, 1,768.67 feet May 25; minimum mean daily discharge (estimated), 2,000 second-feet Jan. 21; minimum water-surface elevation, 1,743.39 feet Oct. 12.  
1927-35: Maximum discharge, 99,800 second-feet June 18, 1933; maximum water-surface elevation, 1,774.98 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 except those for period of ice effect Jan. 16 to Feb. 21, which are fair. Gage-height records good. Discharge records comparable to those heretofore published were obtained by application of discharge measurements made  $\frac{1}{4}$  miles downstream to gage heights at Boom Camp or by slope method computation when affected by backwater. No artificial regulation or diversions above station.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43.67	43.86	45.07	44.50	49.40	44.07	43.97	53.44	67.27	62.23	53.70	46.76
2	43.78	44.14	44.96	44.28	49.18	44.02	43.80	53.45	68.12	62.74	53.22	46.72
3	43.72	44.18	44.86	44.26	48.86	43.96	43.84	53.19	68.03	62.53	52.96	46.66
4	43.66	44.19	44.79	44.40	48.59	43.96	43.82	53.26	67.04	61.46	52.88	46.60
5	43.62	44.35	44.67	44.41	48.26	43.82	43.82	54.42	66.27	60.80	52.92	46.54
6	43.60	47.82	44.58	44.50	48.00	43.72	43.82	56.52	66.16	60.64	52.65	46.46
7	43.55	50.44	44.47	44.52	47.50	43.66	43.82	57.86	66.26	60.55	52.20	46.34
8	43.48	50.88	44.29	44.40	47.29	43.64	43.82	57.76	66.48	60.44	51.76	46.24
9	43.48	49.69	44.17	44.20	47.26	43.59	43.82	57.04	66.74	60.49	51.36	46.12
10	43.44	48.54	43.98	44.01	46.99	43.58	43.91	56.66	67.18	60.29	50.94	46.00
11	43.44	47.54	43.85	44.95	47.04	43.54	44.06	56.44	67.43	59.54	50.72	46.91
12	43.40	46.90	43.86	44.84	47.31	43.50	44.45	55.96	67.37	58.66	50.45	46.78
13	43.42	46.46	43.89	44.75	47.34	43.78	45.06	55.34	67.25	58.01	50.24	46.68
14	43.44	46.16	43.96	44.90	47.30	44.40	46.02	54.86	67.26	57.79	50.08	46.66
15	43.50	45.94	44.02	45.06	47.02	44.86	46.49	55.04	67.87	57.98	49.91	46.58
16	43.62	45.86	44.04	45.12	46.91	45.00	46.59	55.57	67.94	58.23	49.90	46.49
17	43.68	45.86	44.04	45.04	46.70	45.00	46.58	57.10	67.68	58.32	49.68	46.44
18	43.66	45.91	43.95	45.09	46.52	44.96	46.72	58.87	66.99	58.35	49.38	46.40
19	43.58	45.99	43.94	44.75	46.29	44.80	46.97	60.06	66.59	58.26	49.06	46.43
20	43.48	45.99	43.96	44.70	46.15	44.72	47.75	60.92	66.80	57.68	48.70	46.40
21	43.57	45.89	43.98	44.76	45.92	44.60	49.11	62.20	65.99	57.30	48.52	46.24
22	43.64	45.76	44.26	45.04	45.45	44.49	50.30	64.29	65.40	56.88	48.24	46.09
23	43.71	45.72	44.26	45.59	45.14	44.38	50.67	66.72	64.74	56.26	47.97	44.98
24	43.80	45.69	44.21	45.60	44.87	44.32	50.47	68.30	64.72	55.92	47.82	44.91
25	44.18	45.64	44.15	46.78	44.74	44.42	50.72	68.55	64.40	55.84	47.66	44.84
26	45.12	45.60	43.96	47.80	44.52	44.42	51.86	67.20	63.38	55.84	47.58	44.76
27	44.90	45.48	43.62	48.82	44.34	44.30	53.05	65.62	62.24	55.70	47.48	44.68
28	44.41	45.36	43.87	50.08	44.20	44.18	53.32	64.77	61.61	55.40	47.26	44.62
29	44.16	45.29	44.17	51.06	-	44.22	52.98	64.79	61.49	54.92	47.06	44.54
30	44.04	45.14	44.24	50.31	-	44.14	53.04	65.36	61.76	54.66	46.95	44.48
31	43.92	-	44.66	49.81	-	44.10	-	66.25	-	54.30	46.86	-

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

## KOOTENAI RIVER BASIN

Discharge, in second-feet, of Kootenai River at Bonners Ferry, Idaho,  
water year September 1934 to October 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,550	5,040	6,130	4,120	9,600	4,970	5,310	24,100	58,900	38,900	16,600	7,750
2	4,520	5,560	5,940	4,570	9,100	4,970	5,020	23,600	61,200	40,300	16,600	7,750
3	4,500	5,540	5,840	4,800	8,600	5,040	5,040	22,800	59,000	38,500	15,400	7,720
4	4,430	5,510	5,710	5,090	8,300	5,070	5,020	23,300	53,400	35,800	16,000	7,720
5	4,360	5,130	5,480	5,240	8,000	4,900	5,070	27,100	50,800	34,000	16,200	7,690
6	4,320	15,000	5,340	5,480	7,800	4,660	5,790	32,800	50,900	34,000	15,600	7,600
7	4,270	19,700	5,110	5,410	7,500	4,500	5,070	35,500	51,100	34,000	14,800	7,460
8	4,250	19,200	4,870	5,190	7,100	4,620	5,140	33,400	51,900	33,900	13,900	7,320
9	4,200	15,800	4,710	4,970	6,900	4,520	5,140	30,700	52,900	34,200	13,200	7,130
10	4,250	13,200	4,340	5,190	6,800	4,520	5,310	29,900	54,700	33,100	12,600	6,960
11	4,200	11,200	4,200	4,290	6,200	4,520	5,660	29,000	55,000	30,200	12,300	6,800
12	4,180	9,810	4,180	4,520	5,700	4,500	6,590	27,300	53,900	27,100	12,100	6,660
13	4,200	8,860	4,360	4,680	6,300	5,070	7,750	25,700	52,900	25,500	12,000	6,640
14	4,270	8,200	4,620	4,120	6,400	6,200	9,740	24,900	53,100	25,500	11,700	6,530
15	4,480	7,810	4,800	3,410	6,100	7,020	10,700	25,400	54,700	26,600	11,600	6,480
16	4,730	7,690	4,900	2,900	6,000	7,310	10,700	27,100	55,000	28,000	11,700	6,350
17	4,850	7,600	4,950	2,700	5,800	7,280	10,600	31,900	52,900	28,300	11,500	6,240
18	4,780	7,930	4,850	2,400	5,800	7,050	10,900	36,700	49,900	28,300	10,900	6,270
19	4,660	7,930	4,830	2,200	5,700	6,880	11,400	40,400	48,800	27,400	10,400	6,430
20	4,590	7,900	4,780	2,100	5,800	6,690	13,200	43,200	48,200	25,600	9,910	6,320
21	4,710	7,690	4,920	2,000	5,800	6,420	16,400	47,600	46,800	24,700	9,650	6,090
22	4,920	7,400	5,410	2,600	5,580	6,150	18,800	56,500	44,900	23,400	9,240	5,880
23	5,090	7,370	5,410	3,000	5,540	6,020	19,800	64,500	43,700	21,500	8,390	5,680
24	5,140	7,220	5,310	3,500	5,640	5,940	19,100	69,000	43,800	20,700	8,640	5,560
25	6,150	7,220	5,040	6,000	5,310	6,150	18,800	65,800	42,500	21,100	8,520	5,490
26	7,690	7,080	4,380	8,700	5,020	6,070	21,800	57,400	39,500	21,400	8,580	5,490
27	6,850	6,850	3,130	12,000	5,040	5,810	24,400	51,300	36,200	20,900	8,460	5,460
28	5,940	6,660	2,650	15,000	5,020	5,660	24,100	49,400	35,200	20,000	8,190	5,390
29	5,440	6,500	2,940	13,500	-	5,580	22,800	50,100	35,800	18,900	7,950	5,290
30	5,180	6,280	3,830	12,000	-	5,480	23,300	51,900	37,400	18,400	7,800	5,170
31	4,970	-	4,620	10,500	-	5,480	-	55,100	-	17,800	7,800	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	150,560	7,690	4,180	4,860	0.374	0.43	298,800
November.....	265,880	19,700	5,040	8,863	.682	.76	527,400
December.....	147,580	6,130	2,650	4,761	.366	.42	292,700
Calendar year 1934.....	5,689,560	87,800	2,650	18,330	1.41	19.13	13,270,000
January.....	172,160	15,000	2,000	5,554	.427	.49	341,500
February.....	181,430	9,600	5,020	6,480	.498	.52	359,900
March.....	175,060	7,310	4,500	5,647	.434	.50	347,200
April.....	355,550	24,400	5,020	11,850	.912	1.02	705,200
May.....	1,212,400	69,000	22,800	39,110	3.01	3.47	2,405,000
June.....	1,474,800	61,200	35,200	49,180	3.78	4.22	2,925,000
July.....	858,000	40,300	17,800	27,680	2.13	2.46	1,702,000
August.....	357,730	16,600	7,800	11,540	.888	1.02	709,500
September.....	195,500	7,750	5,170	6,510	.601	.66	387,400
Water year 1934-35.....	5,546,530	69,000	2,000	15,200	1.17	16.87	11,000,000

## Kootenai River near Bonners Ferry, Idaho

Location.- Water-stage recorder, lat. 48°41'55", long. 116°20'40", 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 & Geodetic Survey datum.

Drainage area.- 13,000 square miles.

Records available.- May 1928 to September 1935.

Extremes.- Maximum water-surface elevation during year, 1,768.02 feet May 25; minimum, 1,741.88 feet Jan. 20.  
1928-35: Maximum water-surface elevation, 1,774.17 feet June 20, 1933; minimum, 1,740.32 feet Jan. 16, 1930.

Remarks.- Records excellent. Elevations affected by backwater from Kootenai Lake.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42.96	42.80	44.37	42.96	46.57	43.19	43.11	52.80	66.70	61.84	53.41	46.31
2	42.56	43.08	44.29	43.04	46.39	43.14	42.97	52.86	67.52	62.33	52.96	46.25
3	42.73	43.13	44.22	43.21	46.23	43.08	42.96	52.62	67.48	62.11	52.68	46.18
4	42.68	43.17	44.13	43.32	46.05	43.08	42.95	52.73	66.56	61.16	52.60	46.11
5	42.63	43.36	43.98	43.43	45.87	42.96	42.92	53.76	65.80	60.44	52.61	46.06
6	42.61	46.68	43.90	43.55	45.66	42.88	42.85	55.72	65.68	60.25	52.35	45.97
7	42.57	49.52	43.77	43.61	45.37	42.73	42.90	57.14	65.78	60.16	51.94	45.86
8	42.48	50.13	43.57	43.52	45.07	42.74	42.93	57.11	65.96	60.06	51.46	45.74
9	42.49	49.02	43.44	43.33	44.77	42.68	42.94	56.46	66.20	60.07	51.02	45.62
10	42.47	47.81	43.25	43.07	44.54	42.65	42.96	56.06	66.64	59.89	50.64	45.46
11	42.44	46.02	43.14	43.06	44.40	42.60	43.07	55.94	66.90	59.17	50.42	45.34
12	42.34	46.16	43.13	43.08	44.44	42.57	43.43	55.43	66.84	58.33	50.18	45.24
13	42.45	45.71	43.12	42.90	44.60	42.85	44.03	54.83	66.74	57.71	49.95	45.16
14	42.45	45.40	43.13	42.56	44.74	43.38	44.96	54.42	66.77	57.47	49.76	45.08
15	42.49	46.20	43.19	42.40	44.60	43.85	45.54	54.51	67.06	57.59	49.63	45.00
16	42.59	45.14	43.19	42.41	44.54	44.00	45.69	55.04	67.41	57.82	49.55	44.89
17	42.63	45.13	43.16	42.46	44.41	44.02	45.69	56.45	67.19	57.93	49.54	44.87
18	42.60	46.20	43.08	42.28	44.38	43.98	45.83	58.20	66.56	57.96	49.05	44.84
19	42.50	46.30	43.07	42.15	44.34	43.84	46.10	59.43	66.15	57.87	48.71	44.82
20	42.41	45.28	43.11	41.96	44.33	43.78	46.85	60.30	65.95	57.37	48.40	44.77
21	42.52	45.19	43.13	41.93	44.24	43.70	48.22	61.52	65.57	56.97	48.17	44.63
22	42.52	45.03	43.34	42.24	44.16	43.68	49.51	63.53	64.95	56.56	47.89	44.49
23	42.65	45.03	43.35	42.55	44.05	43.45	49.95	65.95	64.43	55.96	47.60	44.37
24	42.75	44.95	43.28	42.67	43.95	43.35	49.79	67.52	64.28	55.59	47.44	44.30
25	43.11	44.95	43.30	43.57	43.70	43.47	50.00	67.86	63.97	55.49	47.27	44.25
26	43.99	44.92	43.05	45.02	43.47	43.50	51.10	66.64	63.02	55.49	47.18	44.14
27	43.81	44.83	42.59	46.21	43.98	43.43	52.29	65.10	61.94	55.35	47.07	44.04
28	43.42	44.66	42.49	48.06	43.32	43.32	52.64	64.23	61.28	55.01	46.85	43.95
29	43.18	44.59	42.53	46.06	-	43.40	52.36	64.23	61.13	54.61	46.66	43.85
30	43.02	44.48	42.76	47.56	-	43.33	52.42	64.84	61.37	54.35	46.53	43.76
31	42.92	-	42.94	46.95	-	43.24	-	65.87	-	54.01	46.42	-

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

## KOOTENAI RIVER BASIN

Kootenai River at Klockmann ranch, near Bonners Ferry, Idaho

Location.- Water-stage recorder, lat. 48°47'40", long. 118°22'50", in SE¼ sec. 19, T. 83 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 & Geodetic Survey datum.

Records available.- May 1928 to September 1935.

Extremes.- Maximum water-surface elevation during year, 1,765.70 feet June 16; minimum, 1,741.41 feet probably on Jan. 20.  
1928-35: Maximum water-surface elevation, 1,771.24 feet June 20, 1933; minimum, 1,739.99 feet Jan. 2, 1931.

Remarks.- Records good except those estimated Jan. 20-31 and those for Feb. 8, 9, 13, which are fair. Elevations affected by backwater from Kootenai Lake.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42.44	42.22	43.72	42.24	44.99	42.64	42.47	51.19	64.75	60.43	52.61	45.65
2	42.34	42.41	43.64	42.29	44.06	42.57	42.37	51.28	65.45	60.81	52.17	45.58
3	42.23	42.47	43.56	42.42	44.76	42.50	42.35	51.09	65.50	60.89	51.89	45.50
4	42.16	42.50	43.50	42.50	44.65	42.49	42.34	51.16	64.83	59.87	51.75	45.42
5	42.12	42.63	43.39	42.58	44.54	42.37	42.31	52.09	64.16	59.21	51.73	45.37
6	42.09	45.02	43.29	42.66	44.39	42.31	42.25	53.93	64.03	59.00	51.49	45.28
7	42.05	47.67	43.19	42.73	44.14	42.21	42.27	55.31	64.12	58.89	51.10	45.16
8	41.98	48.45	43.05	42.71	43.9	42.19	42.28	55.38	64.30	58.77	50.66	45.06
9	41.98	47.60	42.95	42.60	43.7	42.13	42.28	54.80	64.50	58.75	50.27	44.94
10	41.95	46.56	42.80	42.42	43.61	42.11	42.28	54.49	64.91	58.57	49.92	44.81
11	41.94	45.72	42.73	42.40	43.58	42.07	42.37	54.27	65.14	57.96	49.70	44.71
12	41.87	45.18	42.72	42.39	43.56	42.05	42.82	53.90	65.13	57.21	49.44	44.60
13	41.94	44.79	42.69	42.30	43.55	42.24	43.09	53.41	65.07	56.67	49.21	44.52
14	41.93	44.56	42.68	42.09	43.82	42.61	43.81	53.05	65.10	56.41	49.03	44.45
15	41.94	44.41	42.68	41.92	43.57	42.96	44.32	53.11	65.35	56.47	48.88	44.37
16	42.00	44.37	42.67	41.87	43.48	43.10	44.50	53.56	65.65	56.65	48.77	44.29
17	42.03	44.38	42.64	41.88	43.40	43.12	44.51	54.79	65.50	56.73	48.56	44.26
18	42.02	44.42	42.58	41.71	43.34	43.12	44.63	56.42	64.99	56.73	48.29	44.22
19	41.95	44.49	42.57	41.59	43.32	43.02	44.98	57.55	64.59	56.65	47.99	44.20
20	41.87	44.45	42.60	41.45	43.29	42.98	45.52	58.42	64.39	56.24	47.70	44.13
21	41.96	44.39	42.60	41.5	43.23	42.92	46.71	59.58	64.06	55.86	47.48	44.02
22	41.96	44.27	42.74	41.7	43.17	42.82	47.90	61.42	63.52	55.51	47.22	43.89
23	42.05	44.26	42.74	41.9	43.16	42.75	48.39	63.59	63.01	54.99	46.99	43.80
24	42.13	44.21	42.71	42.0	43.16	42.63	48.29	65.01	62.83	54.65	46.82	43.73
25	42.34	44.20	42.73	42.5	43.06	42.75	48.45	65.45	62.53	54.53	46.62	43.70
26	42.99	44.17	42.47	43.5	42.88	42.79	49.42	64.61	61.71	54.49	46.51	43.57
27	42.92	44.08	42.13	44.5	42.81	42.75	50.59	63.32	60.72	54.36	46.41	43.45
28	42.55	43.96	42.05	46.1	42.74	42.57	51.01	62.55	60.09	54.07	46.20	43.38
29	42.46	43.89	42.04	46.3	-	42.75	50.79	62.54	59.91	53.70	46.01	43.29
30	42.35	43.78	42.14	45.8	-	42.68	50.85	63.06	60.07	53.45	45.88	43.21
31	42.29	-	42.24	45.3	-	42.58	-	63.84	-	53.13	45.78	-

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, lat. 48°54'45", long. 116°25', in NW1/4SW1/4 sec. 12, T. 64 N., R. 1 W., at Andrews ranch, three-quarters of a mile below Mission Creek and 1 1/2 miles northwest of Copeland. Zero of gage is 1,700.00 feet above mean sea level, U. S. Coast & Geodetic Survey datum.

Drainage area.-- 13,400 square miles.

Records available.-- October 1927 to September 1935. Gage-height records were collected by Dominion Water Power and Hydrometric Bureau of Canada from April 1925 to September 1927.

Extremes.-- Maximum mean daily discharge, 67,100 second-feet May 25; maximum water-surface elevation, 1,763.10 feet June 16; minimum discharge (estimated), 2,160 second-feet Jan. 21; minimum water-surface elevation, 1,741.29 feet probably on Jan. 21. 1927-35: 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.

Remarks.-- Discharge records good except those for period of ice effect Dec. 26 to Mar. 12, which are fair. Records of water-surface elevations excellent; estimated Jan. 18 to Feb. 4. 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42.19	41.95	43.34	41.97	43.65	42.26	42.11	49.14	61.81	58.54	51.68	46.20
2	42.08	42.06	43.27	41.97	43.75	42.22	42.07	49.29	62.44	59.79	51.33	45.13
3	41.90	42.12	43.22	42.04	43.7	42.18	42.04	49.18	62.62	58.72	51.06	45.04
4	41.93	42.15	43.17	42.09	43.65	42.16	42.02	49.26	62.21	59.13	50.86	44.97
5	41.89	42.26	43.07	42.15	43.68	42.06	41.97	49.98	61.74	57.59	50.78	44.89
6	41.86	43.65	42.99	42.19	43.50	42.00	41.94	51.45	61.61	57.37	50.56	44.80
7	41.82	45.61	42.89	42.27	43.37	41.93	41.96	52.67	61.67	57.24	50.23	44.71
8	41.76	46.44	42.79	42.25	43.23	41.90	41.94	52.85	61.81	57.10	49.87	44.62
9	41.77	46.94	42.70	42.20	43.10	41.87	41.95	52.46	61.96	57.05	49.52	44.51
10	41.73	46.20	42.60	42.09	42.96	41.84	41.94	52.25	62.28	56.88	49.23	44.38
11	41.71	44.64	42.54	42.06	42.90	41.80	41.99	52.12	62.54	56.41	48.99	44.31
12	41.66	44.28	42.55	42.04	42.89	41.78	42.14	51.89	62.56	55.84	48.74	44.21
13	41.72	44.06	42.49	41.99	42.83	41.90	42.45	51.56	62.55	55.36	48.61	44.13
14	41.72	43.90	42.44	41.86	42.97	42.14	42.90	51.29	62.60	55.09	48.35	44.06
15	41.69	43.80	42.43	41.72	42.92	42.37	43.28	51.33	62.79	55.06	48.20	43.99
16	41.73	43.79	42.41	41.67	42.66	42.48	43.46	51.70	63.05	55.16	48.06	43.93
17	41.75	43.80	42.37	41.65	42.78	42.50	43.49	52.63	63.01	55.19	47.84	43.92
18	41.74	43.62	42.32	41.5	42.75	42.54	43.59	53.96	62.63	55.18	47.63	43.66
19	41.69	43.88	42.31	41.4	42.74	42.48	43.78	54.91	62.30	55.12	47.58	43.82
20	41.62	43.86	42.35	41.3	42.70	42.46	44.27	55.69	62.12	54.80	47.12	43.75
21	41.70	43.62	42.34	41.3	42.65	42.44	45.13	56.66	61.94	54.50	46.90	43.66
22	41.68	43.75	42.41	41.45	42.60	42.38	46.06	58.18	61.43	54.21	46.67	43.55
23	41.75	43.74	42.42	41.55	42.69	42.35	46.54	60.06	61.00	53.81	46.47	43.46
24	41.81	43.70	42.41	41.6	42.59	42.26	46.53	61.58	60.80	53.53	46.31	43.42
25	41.94	43.70	42.45	42.0	42.53	42.35	46.59	61.95	60.55	53.40	46.12	43.37
26	42.32	43.67	42.25	42.5	42.41	42.38	47.44	61.56	59.94	53.31	46.01	43.24
27	42.32	43.61	42.04	43.3	42.37	42.35	48.42	60.66	59.14	53.19	45.89	43.13
28	42.18	43.53	41.94	44.2	42.33	42.29	48.84	60.06	58.56	52.98	45.71	43.05
29	42.07	43.47	41.90	44.5	-	42.37	48.74	60.01	59.31	52.88	45.53	42.97
30	42.02	43.36	41.84	44.3	-	42.29	48.62	60.44	58.32	52.42	45.45	42.89
31	41.98	-	41.99	44.0	-	42.21	-	61.08	-	62.11	45.31	-

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



## KOOTENAI RIVER BASIN

Discharge, in second-feet, of Kootenai River near Copeland, Idaho,  
water year September 1934 to October 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,770	4,940	6,260	4,360	10,200	5,300	5,570	25,600	59,300	39,000	16,800	7,740
2	4,680	5,540	6,140	4,750	9,820	5,230	5,270	26,700	61,800	39,800	16,800	7,710
3	4,540	5,560	6,040	4,890	9,070	5,300	5,300	25,000	60,400	39,000	15,400	7,720
4	4,500	5,610	5,890	5,220	8,780	5,290	5,310	25,300	55,700	35,700	15,800	7,670
5	4,450	5,950	5,680	5,580	8,440	5,220	5,340	27,800	52,400	33,400	16,100	7,700
6	4,470	14,500	5,620	5,580	8,060	4,940	5,210	32,600	52,000	33,100	15,800	7,640
7	4,440	19,800	5,470	5,540	7,850	4,800	5,330	36,400	52,300	33,200	15,000	7,550
8	4,320	20,200	5,090	5,440	7,630	4,840	5,430	36,400	53,000	33,000	14,200	7,530
9	4,320	16,900	4,900	5,260	7,430	4,760	5,440	33,900	53,500	33,500	13,400	7,230
10	4,360	14,000	4,550	5,540	7,080	4,730	5,570	32,400	55,100	33,000	12,700	7,030
11	4,320	11,800	4,340	4,480	6,820	4,760	5,860	31,600	55,100	30,600	12,600	6,820
12	4,150	10,400	4,330	4,680	5,980	4,740	6,630	30,100	54,000	27,900	12,400	6,750
13	4,330	9,250	4,450	4,950	6,500	5,290	7,910	28,500	53,400	26,100	12,100	6,690
14	4,330	8,430	4,600	4,510	6,580	6,340	9,670	27,200	53,500	25,800	11,900	6,610
15	4,560	8,010	4,820	3,710	6,460	7,350	10,800	27,500	54,500	26,600	11,800	6,520
16	4,770	7,800	4,870	3,060	6,310	7,600	11,000	29,100	55,700	27,400	11,900	6,320
17	4,870	7,750	4,880	2,820	6,140	7,620	11,000	33,000	54,400	27,800	11,800	6,290
18	4,800	7,970	4,760	2,700	6,060	7,320	11,300	37,900	51,500	29,000	11,200	6,350
19	4,690	8,130	4,750	2,460	5,950	7,010	11,800	41,200	50,200	27,900	10,600	6,380
20	4,490	8,120	4,780	2,570	5,850	6,890	13,200	43,600	49,500	26,300	10,100	6,400
21	4,670	7,870	4,860	2,160	5,900	6,660	15,900	47,200	48,100	25,200	9,820	6,140
22	4,750	7,510	5,320	2,520	5,850	6,410	18,500	53,700	45,800	24,100	9,390	5,980
23	4,970	7,530	5,320	3,060	5,840	6,150	19,200	61,600	44,000	22,300	8,900	5,820
24	5,120	7,390	5,150	3,690	5,920	5,970	19,000	66,900	43,800	21,400	8,750	5,650
25	5,960	7,390	5,110	5,930	5,700	6,220	19,300	67,100	42,900	21,400	8,640	5,620
26	7,890	7,310	4,760	8,350	5,450	6,240	21,300	60,600	39,500	21,700	8,610	5,610
27	7,280	7,130	3,640	11,600	5,350	6,060	24,200	54,400	36,100	21,400	8,540	5,510
28	6,370	6,790	2,930	14,100	5,300	5,880	25,100	51,100	34,300	20,200	8,240	5,440
29	5,850	6,680	3,150	13,800	-	5,880	25,100	51,100	34,800	19,300	8,050	5,330
30	5,410	6,500	3,910	12,800	-	5,800	24,900	52,900	36,100	18,900	7,890	5,250
31	5,180	-	4,720	11,400	-	5,720	-	55,700	-	18,300	7,820	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				153,510	7,890	4,150	4,952	0.370	0.43	304,500		
November.....				272,760	20,200	4,940	9,092	.679	.76	541,000		
December.....				151,090	6,260	2,930	4,874	.364	.42	299,700		
Calendar year 1934.....				6,959,360	86,000	2,930	19,070	1.42	19.32	13,800,000		
January.....				177,110	14,100	2,160	5,713	.426	.49	351,300		
February.....				191,900	10,200	5,300	6,854	.511	.53	380,600		
March.....				182,320	7,620	4,730	5,881	.439	.51	361,600		
April.....				365,440	25,100	5,210	12,180	.909	1.01	724,800		
May.....				1,252,900	67,100	25,000	40,420	3.02	3.48	2,485,000		
June.....				1,492,700	61,800	34,300	49,760	3.71	4.14	2,961,000		
July.....				860,200	39,900	18,300	27,750	2.07	2.39	1,706,000		
August.....				362,060	16,800	7,820	11,680	.872	1.01	718,100		
September.....				196,750	7,740	5,250	6,558	.469	.55	390,200		
Water year 1934-35.....				5,658,730	67,100	2,160	15,500	1.16	15.72	11,220,000		

## Kootenai River at Lucas Creek, near Port Hill, Idaho

Location.- Staff gage, lat. 48°57'25", long. 116°28'55", in sec. 28, T. 65 N., R. 1 W., at mouth of Lucas Creek, 3 miles southeast of Port Hill. 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 1930, May 1932 to July 1935.

Extremes.- Maximum observed water-surface elevation during period April to June 1934, 1,763.52 feet June 1; minimum occurred during period of no record.

Maximum observed water-surface elevation during period May to June 1935, 1,761.75 feet June 17; minimum occurred during period of no record.

1928-30, 1932-35: Maximum observed water-surface elevation, 1,765.78 feet June 21, 1933; minimum occurred during period of no record.

Remarks.- Records reliable. No records obtained Oct. 1, 1933, to Apr. 12, 1934, June 20, 1934, to May 21, 1935, and July 2 to Sept. 30, 1935. Elevation affected by backwater from Kootenai Lake.

Elevation, in feet, 1934-35

Day	1934						1935					
	Apr.	May	June	July	Aug.	Sept.	Apr.	May	June	July	Aug.	Sept.
1	-	62.47	63.50					-	60.37	57.73		
2	-	61.84	63.28					-	60.93			
3	-	61.14	62.50					-	61.10			
4	-	60.50	61.51					-	60.82			
5	-	60.17	60.78					-	60.48			
6	-	60.28	60.32		46.78			-	60.39			
7	-	60.42	59.86					-	60.44			
8	-	60.38	59.48					-	60.59			
9	-	60.34	59.34					-	60.74			
10	-	60.21	59.23					-	60.98			
11	-	60.04	59.21					-	61.24			
12	-	60.09	59.28					-	61.27			
13	51.78	60.11	59.29					-	61.30			
14	52.78	60.06	59.29					-	61.33			
15	53.62	60.17	59.02					-	61.53			
16	53.78	60.63	58.77					-	61.71			
17	53.46	61.40	58.34					-	61.71			
18	53.32	61.92	57.90					-	61.43			
19	53.52	62.16	57.62					-	61.13			
20	53.92	61.89	-					-	60.98			
21	54.84	61.23	-					-	60.75			
22	56.14	60.66	-					56.83	60.40			
23	57.37	59.99	-					58.38	59.99			
24	59.97	59.66	-					59.52	59.83			
25	60.07	59.77	-					60.06	59.56			
26	60.94	60.41	-					59.83	59.01			
27	61.64	61.25	-					59.18	58.31			
28	62.32	62.08	-					58.81	57.83			
29	62.77	62.65	-					58.78	57.60			
30	62.90	63.10	-					59.07	-			
31	-	63.36	-					59.73	-			

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

## KOOTENAI RIVER BASIN

Kootenai River at Port Hill, Idaho

(International gaging station)

Location.- Water-stage recorder, lat. 49°, long. 116°30'10", in SW $\frac{1}{4}$  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 1935. 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, 69,400 second-feet May 24; maximum water-surface elevation, 1,760.58 feet June 17; minimum mean daily discharge, 2,330 second-feet Jan. 21; minimum water-surface elevation, 1,741.08 feet Jan. 20.  
1928-35: 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 in June 1894.

Remarks.- Discharge records good except those for period of ice effect, Dec. 26 to Mar. 12, which are fair. Records of water-surface elevation excellent. Discharge record includes flow of Boundary Creek and represents entire flow passing international boundary. Elevations affected by backwater from Kootenai Lake. Daily discharge obtained by adding tributary inflow to discharge near Copeland. Breaches in the dike of the Reclamation Farm remained open during year, but U. S. Forest Service roadway dike was completed along the south side of Boundary Creek. Flow through the breaches occurred during part of May, all of June and July, and part of August, and was limited to discharge of Boundary Creek and part of river flow entering mouth of that creek. List of discharge measurements of flow in regular channel and reversed flow entering mouth of Boundary Creek are shown for the period. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41.91	41.68	42.99	41.66	43.10	41.85	41.80	47.60	58.96	56.87	50.96	44.32
2	41.82	41.77	42.93	41.68	43.07	41.81	41.76	47.77	59.48	56.99	50.66	44.75
3	41.72	41.80	42.88	41.72	43.03	41.77	41.73	47.72	59.64	56.93	50.40	44.67
4	41.65	41.83	42.82	41.76	43.00	41.76	41.70	47.83	59.49	56.54	50.16	44.59
5	41.64	41.80	42.74	41.80	42.96	41.69	41.67	48.38	59.25	56.14	50.04	44.52
6	41.59	42.91	42.66	41.62	42.91	41.69	41.64	49.48	59.22	55.94	49.82	44.43
7	41.56	44.30	42.58	41.90	42.82	41.64	41.63	50.42	59.28	55.78	49.53	44.35
8	41.80	45.00	42.46	41.90	42.72	41.61	41.61	50.64	59.40	55.64	49.22	44.26
9	41.52	44.74	42.41	41.85	42.82	41.59	41.82	50.49	59.52	55.53	48.91	44.17
10	41.49	44.25	42.32	41.79	42.53	41.56	41.61	50.39	59.78	55.35	48.64	44.06
11	41.48	43.88	42.28	41.78	42.48	41.52	41.64	50.35	60.00	55.01	48.43	43.98
12	41.43	43.64	42.26	41.73	42.47	41.51	41.77	50.23	60.07	54.58	48.19	43.87
13	41.48	43.49	42.22	41.70	42.47	41.59	42.00	50.03	60.12	54.21	47.96	43.78
14	41.48	43.39	42.18	41.60	42.49	41.75	42.33	49.67	60.18	53.98	47.81	43.75
15	41.46	43.32	42.14	41.48	42.46	41.94	42.61	49.93	60.32	53.90	47.66	43.67
16	41.47	43.34	42.12	41.44	42.40	42.02	42.75	50.20	60.51	53.92	47.50	43.60
17	41.49	43.36	42.09	41.42	42.34	42.05	42.81	50.89	60.52	53.92	47.28	43.60
18	41.47	43.38	42.04	41.33	42.32	42.11	42.91	51.87	60.30	53.90	47.10	43.54
19	41.41	43.42	42.03	41.24	42.29	42.05	43.06	52.63	60.07	53.85	46.97	43.50
20	41.35	43.40	42.06	41.14	42.26	42.06	43.46	53.24	59.92	53.63	46.63	43.43
21	41.42	43.38	42.04	41.15	42.20	42.05	44.10	54.06	59.71	53.37	46.44	43.34
22	41.41	43.32	42.09	41.23	42.14	42.01	44.80	55.30	59.41	53.13	46.23	43.24
23	41.46	43.32	42.09	41.26	42.15	41.96	45.25	56.69	59.09	52.83	46.04	43.17
24	41.52	43.29	42.08	41.32	42.14	41.91	45.29	57.73	58.80	52.61	45.90	43.12
25	41.60	43.29	42.12	41.50	42.08	41.99	45.44	58.28	58.66	52.45	45.72	43.07
26	41.89	43.28	41.96	41.99	42.00	42.00	46.04	58.25	56.21	52.34	45.59	42.95
27	41.93	43.22	41.83	42.44	41.96	41.98	46.81	57.81	57.61	52.22	45.45	42.85
28	41.83	43.16	41.73	43.12	41.92	41.94	47.20	57.60	57.15	52.05	45.30	42.77
29	41.76	43.10	41.68	43.48	-	42.02	47.20	57.53	56.89	51.83	45.15	42.69
30	41.72	43.02	41.69	43.39	-	41.94	47.33	57.87	56.80	51.60	45.03	42.62
31	41.63	-	41.71	43.22	-	41.87	-	56.59	-	51.32	44.93	-

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,  
water year September 1934 to October 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,810	5,130	6,500	4,520	10,500	5,450	5,700	26,300	62,400	39,100	16,900	7,790
2	4,720	5,770	6,350	4,910	9,910	5,380	5,400	26,400	64,300	40,800	15,900	7,760
3	4,580	5,710	6,250	5,050	9,560	5,450	5,420	25,800	62,600	39,700	15,600	7,770
4	4,540	5,730	6,090	5,380	9,070	5,430	5,440	26,300	58,100	36,400	15,900	7,720
5	4,490	6,570	5,870	5,540	8,710	5,360	5,470	29,100	56,200	34,000	16,200	7,750
6	4,500	15,400	5,800	5,720	8,310	5,080	5,340	34,200	54,600	33,800	15,900	7,690
7	4,480	20,700	5,630	5,680	8,080	4,940	5,460	37,800	54,700	33,900	16,100	7,550
8	4,350	21,200	5,240	5,580	7,870	4,980	5,560	37,600	56,400	33,600	14,300	7,380
9	4,360	17,500	5,040	5,380	7,670	4,890	5,570	35,100	55,600	33,900	13,600	7,270
10	4,400	14,600	4,650	5,650	7,320	4,850	5,720	33,700	57,300	33,500	12,800	7,070
11	4,360	12,200	4,510	4,590	6,850	4,900	6,030	32,700	57,200	31,000	12,700	6,860
12	4,180	10,800	4,510	4,790	6,200	4,870	6,840	31,100	56,000	28,300	12,500	6,790
13	4,370	9,620	4,620	5,060	6,200	5,470	8,170	29,300	55,600	26,500	12,200	6,730
14	4,370	8,800	4,770	4,620	6,800	6,580	9,930	28,300	55,400	26,100	12,000	6,650
15	4,600	8,440	4,980	3,820	6,560	7,570	11,100	25,800	56,600	26,900	11,900	6,570
16	4,820	8,340	5,020	3,160	6,490	7,800	11,200	30,500	57,400	27,700	12,000	6,390
17	4,910	8,210	5,020	2,920	6,310	7,820	11,200	35,100	56,100	28,100	11,900	6,340
18	4,840	8,440	4,900	2,800	6,220	7,500	11,600	39,900	53,100	28,200	11,500	6,400
19	4,630	8,560	4,890	2,560	6,110	7,190	12,100	43,400	51,700	28,100	10,700	6,420
20	4,560	8,600	4,920	2,470	6,010	7,060	13,600	46,900	50,900	26,600	10,200	6,440
21	4,830	8,220	5,010	2,330	6,060	6,830	16,400	50,200	49,400	25,400	9,890	6,180
22	4,860	7,860	5,480	2,690	6,010	6,570	18,900	57,300	47,100	24,200	9,480	6,020
23	5,050	7,890	5,470	3,290	6,000	6,310	19,600	64,900	45,100	22,500	8,960	5,860
24	5,190	7,740	5,300	3,920	6,080	6,130	19,400	69,400	44,800	21,600	8,810	5,690
25	6,110	7,720	5,250	6,160	5,850	6,380	19,800	69,300	43,800	21,600	8,700	5,660
26	8,050	7,610	4,880	8,730	5,600	6,400	21,900	62,800	40,400	21,900	8,670	5,650
27	7,380	7,420	3,760	12,000	5,610	6,200	24,900	56,700	36,900	21,600	8,600	5,580
28	6,460	7,060	3,060	14,500	5,450	6,020	25,700	53,600	35,100	20,400	8,300	5,480
29	5,930	6,940	3,300	14,200	-	6,030	25,700	54,100	35,700	19,500	8,100	5,370
30	5,490	6,750	4,060	13,200	-	5,940	25,600	55,900	36,900	19,100	7,940	5,290
31	5,280	-	4,870	11,800	-	5,850	-	58,800	-	18,400	7,880	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off				
								Inches	Acres-feet			
October.....	155,490			8,050	4,180	5,016	0.366	0.42	308,400			
November.....	285,330			21,200	5,130	9,511	.694	.77	565,900			
December.....	156,030			6,600	3,050	5,033	.367	.42	309,500			
Calendar year 1934 .....	7,154,560			89,300	3,050	19,600	1.43	19.41	14,190,000			
January.....	183,020			14,600	2,330	5,904	.431	.50	363,000			
February.....	197,730			10,500	5,450	7,062	.615	.54	392,200			
March.....	187,230			7,820	4,850	6,040	.441	.51	371,400			
April.....	374,750			25,700	5,340	12,490	.912	1.02	743,300			
May.....	1,310,100			69,400	25,800	42,260	3.08	3.55	2,599,000			
June.....	1,545,400			64,300	35,100	51,510	3.76	4.20	3,065,000			
July.....	872,500			40,800	18,400	28,150	2.05	2.36	1,731,000			
August.....	364,710			16,900	7,880	11,760	.858	.99	723,400			
September.....	198,090			7,790	5,290	6,603	.482	.54	392,900			
Water year 1934-35 .....	5,830,380			69,400	2,330	15,970	1.17	15.82	11,560,000			

List of discharge measurements during period when a part of the total flow was bypassing gage and measuring section through breaks in the dike of the Reclamation Farm in Canada. Measurements of reversed river flow through mouth of Boundary Creek plus flow passing gaging station on Boundary Creek near Port Hill represent total flow being bypassed since U. S. Forest Service roadway dike was completed in February 1935.

Date	Main Channel (Second-feet)	Reversed flow through mouth of Boundary Creek (Second-feet)	Daily Discharge of Boundary Creek near Port Hill (Second-feet)
May 27	53,700	2,400	939
June 6	50,400	3,030	1,030
14	51,000	3,270	786
29	32,500	1,620	330
July 13	25,600	826	149
29	20,100	235	73

## KOOTENAI RIVER BASIN

Boulder Creek near Leonia, Idaho

Location.— Water-stage recorder, lat.  $48^{\circ}36'$ , long.  $116^{\circ}6'$ , in NW $\frac{1}{4}$  sec. 32, T. 61 N., R. 3 E., half a mile below McGinty Creek, 1 mile above buildings of the Idamont Lead-Zinc Mines Co., 3 miles above mouth, and 3 miles southwest of Leonia. Prior to Oct. 13, 1934, staff gage at same site and datum.

Drainage area.— 53 square miles.

Records available.— April 1928 to September 1935. Prior to November 1928 records were collected at staff gage site  $\frac{1}{4}$  miles downstream.

Extremes.— Maximum discharge during year, 1,540 second-foot Nov. 7 (gage height, 4.40 feet); minimum discharge, 5 second-foot Sept. 26 (gage height, 0.39 foot).  
1928-35: Maximum discharge, that of Nov. 7, 1934; minimum discharge, 2 second-foot Aug. 25, Sept. 5, 1931.

Remarks.— Records good except those for periods of ice effect, Dec. 25-30, Jan. 7-25, which are fair. Water diverted around gage for mining purposes in October and from May 20 to Sept. 30. Diversion, estimated as 1.5 second-foot on June 22 is returned to creek below gage.

Discharge, in second-foot, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7	83	73	49	98	53	54	460	668	96	15	9
2	7	89	68	48	95	52	56	440	505	89	15	8
3	7	65	67	46	95	52	56	475	445	77	15	8
4	7	56	63	45	93	50	56	585	455	70	14	8
5	7	372	61	50	90	49	57	766	465	66	14	8
6	7	1,250	56	45	89	47	56	800	394	81	13	9
7	7	1,280	56	44	83	46	56	690	350	72	12	8
8	7	706	53	42	79	47	56	602	329	82	12	8
9	6	333	46	40	77	45	56	612	297	73	11	7
10	6	218	41	39	76	44	63	565	285	66	11	7
11	7	167	57	40	79	44	79	445	262	57	12	7
12	10	140	55	38	79	47	106	381	234	53	12	8
13	10	126	52	30	74	118	160	376	215	47	11	8
14	9	118	48	28	69	128	160	428	200	43	10	8
15	10	116	48	30	67	108	150	460	258	40	10	10
16	11	120	47	31	65	98	136	495	209	36	11	11
17	8	110	46	30	63	93	140	761	186	33	11	9
18	7	130	45	30	63	86	155	783	167	30	13	9
19	7	121	45	28	62	83	192	788	155	26	15	9
20	12	113	44	25	61	78	289	844	142	27	13	9
21	49	105	64	28	59	74	321	926	132	26	11	9
22	32	106	79	34	61	72	262	992	125	24	11	8
23	20	116	64	40	59	70	240	872	114	22	10	8
24	19	108	61	80	57	69	281	673	105	21	10	8
25	155	104	50	250	55	68	399	596	99	20	9	6
26	85	95	35	227	53	65	460	570	93	18	9	6
27	49	89	40	167	55	62	425	570	89	16	9	7
28	42	83	45	132	54	53	404	570	85	18	9	7
29	36	79	46	118	—	61	450	570	86	21	9	7
30	31	77	47	108	—	59	485	590	82	17	8	7
31	32	—	48	100	—	58	—	624	—	15	8	—

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	709	155	6	22.9	0.432	0.50	1,410
November.....	6,674	1,280	56	222	4.19	4.67	13,240
December.....	1,553	79	35	53.3	1.01	1.16	3,280
Calendar year 1934.....	58,391	1,280	4	160	3.02	40.97	115,800
January.....	2,042	250	25	65.9	1.24	1.43	4,050
February.....	2,010	98	53	71.8	1.35	1.41	3,990
March.....	2,089	128	44	67.4	1.27	1.46	4,140
April.....	5,861	485	54	195	3.68	4.11	11,630
May.....	19,307	992	376	623	11.8	13.60	38,290
June.....	7,231	668	82	241	4.55	5.08	14,340
July.....	1,380	96	15	44.5	.840	.97	2,740
August.....	353	15	8	11.4	.215	.26	700
September.....	241	11	6	8.0	.151	.17	478
Water year 1934-35.....	49,550	1,280	6	136	2.57	34.81	98,290

## Moyie River at Eastport, Idaho

(International gaging station)

Location.- Water-stage recorder, lat. 49°, long. 116°11', 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 1935.

Extremes.- Maximum discharge during year, 4,420 second-feet May 23 (gage height, 8.14 feet); minimum, 53 second-feet Oct. 2 (gage height, 3.47 feet).  
1923-35: Maximum discharge, 6,240 second-feet Apr. 28, 1934; minimum (estimated), 34 second-feet Jan. 16, 1930.

Remarks.- Records good except those estimated because of ice Dec. 6-14, 25, 26, Dec. 28 to Jan. 6, Jan. 10-31, Feb. 6-11, 15, 16, which are fair. No regulation or diversions above station. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

3.4	40	5.0	743	6.6	2,370	8.2	4,490
3.8	142	5.4	1,075	7.0	2,870	8.6	5,060
4.2	282	5.8	1,460	7.4	3,400	9.0	5,610
4.6	479	6.2	1,890	7.8	3,940	9.4	6,170

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	100	230	250	*399	222	233	1,840	3,400	868	244	112
2	55	124	212	240	302	219	230	1,670	3,200	851	237	109
3	55	115	212	180	377	215	226	1,720	2,940	804	286	103
4	57	106	208	200	377	212	219	2,010	2,810	758	222	103
5	55	136	201	220	372	212	222	2,560	2,810	707	226	106
6	55	348	190	200	370	206	219	2,870	2,750	707	212	103
7	57	339	170	181	340	198	219	2,680	2,620	729	206	103
8	57	387	150	164	330	201	226	2,870	2,660	729	198	100
9	59	321	140	164	320	198	230	2,310	2,430	721	194	95
10	59	292	130	160	350	188	267	2,310	2,370	657	184	92
11	57	267	160	180	340	188	348	2,070	2,310	603	181	89
12	57	252	190	170	304	194	533	1,840	2,250	558	171	89
13	59	240	180	150	291	226	766	1,780	2,190	521	168	89
14	59	233	170	110	282	304	811	1,840	2,070	485	161	86
15	64	233	164	130	280	330	804	2,070	2,190	457	155	89
16	81	248	161	140	270	325	707	2,130	2,130	434	152	92
17	73	248	161	160	263	330	729	2,870	2,010	398	152	86
18	77	278	161	160	256	321	835	3,000	1,890	377	155	85
19	69	291	158	120	262	316	917	3,000	1,780	363	161	81
20	69	291	161	90	248	312	1,290	3,200	1,670	398	145	76
21	98	274	168	120	244	295	1,570	3,600	1,620	387	148	73
22	103	274	168	140	244	286	1,520	4,070	1,430	363	142	73
23	95	278	164	220	244	266	1,330	4,210	1,310	344	136	73
24	95	262	164	300	240	266	1,400	3,870	1,180	339	133	78
25	124	278	140	370	237	282	1,780	3,550	1,080	330	133	78
26	148	253	100	450	230	274	2,070	3,330	1,000	312	127	76
27	118	255	*120	600	230	267	1,950	3,200	934	295	121	76
28	109	248	190	550	226	263	1,780	3,200	876	291	121	69
29	106	237	210	500	-	255	1,780	3,200	835	282	115	69
30	103	233	230	450	-	248	1,950	3,260	804	267	115	64
31	98	-	230	420	-	244	-	3,400	-	235	115	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	2,422	148	55	78.1	0.137	0.16	4,800
November.....	7,461	387	100	249	.437	.49	14,800
December.....	5,393	230	100	174	.305	.35	10,700
Calendar year 1934.....	300,839	6,100	53	824	1.45	19.64	596,700
January.....	7,479	600	90	241	.423	.49	14,830
February.....	8,287	399	226	296	.619	.64	16,440
March.....	7,902	330	189	255	.447	.52	15,670
April.....	27,161	2,070	219	905	1.59	1.77	53,870
May.....	85,010	4,210	1,670	2,742	4.81	5.55	168,600
June.....	59,349	3,400	804	1,978	3.47	3.87	117,700
July.....	15,590	868	255	503	.882	1.02	30,920
August.....	5,158	244	115	166	.291	.34	10,230
September.....	2,615	112	64	87.2	.153	.17	5,190
Water year 1934-35.....	233,827	4,210	55	641	1.12	15.27	463,800

\*Discharge measurement.

## Moyie River at Eileen, Idaho

Location.- Water-stage recorder, lat. 48°46', long. 116°10', in NE¼ sec. 35, T. 63 N., R. 2 E., an eighth of a mile downstream from Skin Creek, a quarter of a mile south-east of Eileen, and 4 miles above junction with Kootenai River.

Drainage area.- 755 square miles.

Records available.- October 1925 to September 1935.

Average discharge.- 10 years, 804 second-feet.

Extremes.- Maximum discharge during year, 6,230 second-feet May 23 (gage height, 4.16 feet); minimum discharge, 87 second-feet Oct. 14 (gage height, 0.28 foot).  
1925-35: Maximum discharge, 8,780 second-feet Apr. 29, 1934; maximum gage height, 4.8 feet May 17, June 10, 11, 1927, May 13, 17-19, 1928; minimum discharge (estimated), 80 second-feet Dec. 5, 1928, Jan. 16, 1930; minimum gage height, 0.23 foot Oct. 5, 1932.

Remarks.- Records good except those estimated because of ice Jan. 14-28, which are fair.  
No Regulation or diversions above station. Gage read by employee of Cynide Gold Mining Co.

Rating table for period Apr. 21 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

0.3	107	1.4	538	2.4	1,540	3.4	3,280
.6	173	1.6	684	2.6	1,530	3.6	3,790
.8	237	1.8	957	2.8	2,140	3.8	4,480
1.0	317	2.0	1,060	3.0	2,470	4.0	5,370
1.2	416	2.2	1,290	3.2	2,640	4.2	6,460

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	130	311	330	528	307	335	2,380	4,440	1,030	322	150
2	90	145	289	316	528	307	340	2,220	4,050	1,060	313	147
3	90	153	285	289	510	307	340	2,250	3,650	997	300	140
4	91	142	280	287	510	307	340	2,620	3,440	935	292	140
5	89	192	267	293	491	293	349	3,040	3,510	877	288	140
6	89	450	255	263	495	285	345	3,590	3,410	877	275	140
7	89	516	224	247	456	271	345	3,440	3,190	906	260	138
8	89	562	192	231	433	269	354	3,080	3,150	935	252	134
9	89	491	180	224	439	271	380	2,940	2,960	935	245	134
10	89	417	176	206	445	259	433	2,980	2,840	848	234	132
11	89	385	216	235	450	267	555	2,710	2,740	785	230	127
12	89	354	259	227	439	276	796	2,470	2,650	754	223	125
13	89	335	243	192	411	321	1,070	2,330	2,610	684	213	123
14	88	330	239	150	401	461	1,140	2,370	2,470	658	206	123
15	93	325	216	170	380	535	1,150	2,600	2,600	608	200	127
16	95	335	206	190	369	522	1,020	2,710	2,520	573	194	134
17	98	349	206	210	359	528	1,020	3,540	2,400	532	194	129
18	95	385	206	200	349	516	1,190	3,890	2,250	500	200	125
19	95	411	206	160	345	510	1,270	3,820	2,080	468	206	123
20	104	401	210	120	340	491	1,700	4,110	2,000	493	194	120
21	125	390	231	150	345	461	2,270	4,730	1,830	493	185	116
22	134	375	235	190	349	456	2,170	5,630	1,700	462	179	116
23	134	380	239	300	345	450	1,940	5,890	1,570	439	173	116
24	127	380	220	400	330	450	1,980	5,280	1,420	433	170	116
25	148	395	183	500	316	445	2,350	4,690	1,300	428	168	118
26	183	375	134	600	307	422	2,820	4,370	1,210	406	160	118
27	156	354	173	800	311	395	2,690	4,180	1,130	385	155	118
28	139	340	267	730	307	406	2,380	4,180	1,070	374	152	114
29	134	325	265	653	-	395	2,350	4,220	1,020	364	152	112
30	130	311	307	602	-	364	2,520	4,220	986	345	150	111
31	127	-	307	555	-	364	-	4,410	-	331	150	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,370	183	88	109	0.144	0.17	6,680
November.....	10,423	562	130	347	.460	.51	20,870
December.....	7,247	311	134	234	.310	.36	14,370
Calendar year 1934.....	395,137	8,380	88	1,063	1.43	19.48	783,700
January.....	10,000	800	120	323	.428	.49	19,830
February.....	11,278	528	307	403	.534	.56	22,370
March.....	11,931	535	259	385	.510	.59	23,660
April.....	37,922	2,820	335	1,264	1.67	1.86	75,220
May.....	110,790	5,890	2,220	3,574	4.73	5.45	219,700
June.....	72,196	4,440	986	2,407	3.19	3.58	143,200
July.....	19,375	1,060	331	641	.849	.98	39,420
August.....	6,635	322	150	214	.233	.35	13,160
September.....	3,806	150	111	127	.168	.19	7,550
Water year 1934-35.....	306,473	5,690	88	837	1.11	15.05	606,800

## Deep Creek at Moravia, Idaho

Location.- Staff gage, lat. 48°38', long. 116°24', 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 1935 (except winters prior to 1933).

Extremes.- Maximum discharge observed during year, 825 second-feet May 7; maximum gage height, 3.60 feet Jan. 27 (ice jam); minimum discharge, 14 second-feet Aug. 30, 31, Sept. 1, 5-11 (gage height, 0.38 foot).  
1928-35: Maximum discharge observed, 1,300 second-feet Dec. 22, 1933 (gage height, 4.20 feet); minimum, 7 second-feet Aug. 15, 24, 25, 1931; minimum gage height, 0.28 foot Aug. 28-31, Sept. 6, 7, 1933.

Remarks.- Records good except those estimated Dec. 25-31, Jan. 9-23, 25-30, Feb. 8-17, which are poor. No diversions above station.

Rating table for period May 6 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

0.3	11	1.9	259
.5	21	2.1	325
.7	39	2.3	403
.9	65	2.5	485
1.1	96	2.7	568
1.3	129	2.9	652
1.5	166	3.1	736
1.7	208	3.3	825

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	31	110	110	143	106	173	245	506	136	24	14
2	15	55	114	92	138	99	162	220	485	102	24	15
3	14	58	118	65	136	96	151	532	424	96	24	15
4	14	71	110	85	126	96	143	638	403	93	24	15
5	14	112	106	85	122	96	151	732	403	90	24	14
6	15	232	92	88	120	96	151	781	403	99	23	14
7	15	268	96	88	118	96	151	825	333	115	21	14
8	14	220	85	83	117	92	151	610	333	109	20	14
9	14	184	71	80	116	92	173	568	290	96	19	14
10	14	126	71	80	115	88	208	506	308	86	19	14
11	15	110	68	80	120	88	258	485	290	83	17	14
12	15	106	68	75	120	114	347	464	290	83	17	15
13	15	99	68	60	115	272	415	464	274	80	17	15
14	15	92	68	60	105	316	452	464	274	74	16	15
15	21	92	71	60	100	301	433	485	274	61	16	17
16	22	92	71	60	100	245	397	485	259	54	16	20
17	22	92	74	60	100	232	363	695	246	51	16	19
18	22	122	74	60	96	220	363	652	232	49	17	17
19	26	122	74	55	96	184	397	610	220	46	17	16
20	28	118	81	50	99	173	471	652	186	41	16	16
21	50	114	81	55	103	173	638	738	176	33	16	16
22	50	110	103	70	103	173	638	781	156	33	16	16
23	52	132	110	80	112	173	552	738	156	37	16	16
24	52	122	126	*92	106	184	511	610	143	33	16	15
25	138	114	100	400	114	196	594	568	136	29	16	15
26	85	110	70	370	126	184	286	485	129	29	16	15
27	61	122	80	270	122	173	286	485	126	29	15	15
28	55	122	90	220	110	151	286	464	119	31	15	16
29	50	118	90	200	-	151	272	464	112	29	15	15
30	44	110	100	180	-	162	245	464	112	27	14	15
31	28	-	105	147	-	162	-	526	-	26	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,010	138	14	32.6	0.245	0.28	2,000
November.....	3,666	268	31	119	.895	1.00	7,070
December.....	2,745	126	68	88.5	.665	.77	5,440
Calendar year 1934.....	62,435	980	9	171	1.29	17.46	123,800
January.....	3,580	400	50	115	.865	1.00	7,100
February.....	3,198	143	96	114	.857	.89	6,340
March.....	4,984	316	88	161	1.21	1.39	9,890
April.....	9,818	658	143	327	2.46	2.74	19,470
May.....	17,436	925	220	562	4.23	4.88	34,580
June.....	7,998	506	112	263	1.98	2.21	15,070
July.....	1,980	136	26	63.9	.480	.55	3,930
August.....	556	24	14	17.9	.135	.16	1,100
September.....	461	20	14	15.4	.116	.13	914
Water year 1934-35.....	57,232	825	14	157	1.18	16.00	113,500

\*Discharge measurement.



## KOOTENAI RIVER BASIN

Long Canyon Creek near Port Hill, Idaho

Location.- Water-stage recorder, lat. 48°57', long. 116°32', 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 1935 (except winters prior to 1935).

Extremes.- Maximum discharge during year, 637 second-feet May 22 (gage height, 4.01 feet); minimum discharge, 5 second-feet Sept. 29, 30; minimum gage height, 1.68 feet Sept. 30. 1928-35: 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 periods of ice effect, Dec. 8-11, Dec. 25 to Jan. 8, Jan. 10 to Mar. 6, Mar. 31 to Apr. 4, which are poor. No diversions above gage.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to May 21

1.6	5	2.8	96
1.8	9	3.0	134
2.0	16	3.2	182
2.2	27	3.4	247
2.4	43	3.6	335
2.6	66	3.8	450

Table for May 22 to Sept. 30

1.6	4	3.0	135
1.8	8	3.2	193
2.0	15	3.4	270
2.2	26	3.6	368
2.4	41	3.8	490
2.6	63	4.0	630
2.8	93		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	21	40			23	17	77	445	121	22	9
2	8	24	36			23	17	79	342	106	21	8
3	8	16	36	24	45	23	17	85	307	93	20	8
4	8	16	33			22	17	101	321	88	20	8
5	8	59	33			22	18	128	380	62	20	8
6	7	126	30			22	18	149	342	89	18	8
7	7	124	26	21	36	23	18	149	321	62	16	8
8	7	134	25			20	18	143	311	76	16	7
9	7	103	24	19		20	18	145	279	69	16	7
10	7	88	24			20	20	147	264	62	15	7
11	7	77	30			20	23	136	275	59	15	6
12	7	72	30	17	34	20	29	129	266	56	14	6
13	8	67	28			29	36	128	279	55	14	6
14	8	67	28			33	34	134	245	51	13	6
15	8	74	28			31	33	143	226	49	12	10
16	10	86	24			28	31	154	190	46	12	10
17	8	79	23			28	31	209	187	44	12	8
18	8	77	23	15		26	33	216	178	39	13	7
19	8	72	23			26	36	226	178	39	14	7
20	11	66	23			25	47	268	171	41	13	7
21	22	61	24			23	56	396	165	35	12	6
22	15	60	24			23	53	595	165	34	11	6
23	12	59	22	35	24	23	49	525	161	33	10	6
24	11	55	22			23	50	374	133	34	10	6
25	26	55				23	56	307	124	32	10	6
26	22	51	17			21	69	298	121	29	10	6
27	15	47				20	70	302	119	27	9	6
28	13	45		55		22	69	321	119	28	9	6
29	12	43	22			20	70	374	114	30	9	5
30	11	42				20	79	459	101	26	9	5
31	11	-				18	-	464	-	23	9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	329	26	7	10.6	0.366	0.42	653
November.....	1,987	134	16	65.6	2.28	2.52	3,900
December.....	793	40	-	26.6	.893	1.02	1,570
Calendar year .....							
January.....	884	-	-	28.5	.983	1.13	1,750
February.....	897	-	-	31.7	1.09	1.14	1,760
March.....	721	33	19	23.3	.803	.93	1,430
April.....	1,131	79	17	37.7	1.30	1.45	2,240
May.....	7,340	595	77	237	8.17	9.42	14,560
June.....	6,636	445	101	225	7.86	8.77	13,560
July.....	1,974	121	23	64.0	1.86	2.14	3,320
August.....	424	22	9	13.7	.472	.54	841
September.....	209	10	5	7.0	.241	.27	415
Water year 1934-35.....	23,197	595	5	63.6	2.19	29.75	46,000

## Smith Creek near Port Hill, Idaho

Location.- Water-stage recorder, lat. 48°57'40", long. 118°33'20", 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 1935 (except winters prior to 1935).

Extremes.- Maximum discharge during year, 1,520 second-feet May 22 (gage height, 5.61 feet); minimum discharge, 8 second-feet Oct. 12 (gage height, 1.23 feet).

1928-35: 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, Sept. 10, 1930.

Remarks.- Records good except those for periods of ice effect, Dec. 7-11, Dec. 26 to Jan. 8, Jan. 10 to Mar. 6, Mar. 30 to Apr. 4, which are poor. No diversions above gage.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to May 5

1.1	5	3.0	197
1.5	18	3.5	328
2.0	50	4.0	520
2.5	106	4.5	775

Table for May 6 to Sept. 30

1.2	7	4.0	548
1.6	20	4.4	755
2.0	48	4.8	980
2.4	94	5.2	1,230
2.8	159	5.6	1,520
3.2	285	6.0	1,650
3.6	383		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	90	109	65	110	58	50	267	1,200	451	44	14
2	9	108	98			57	50	270	920	402	44	14
3	9	71	102			56	50	304	832	318	41	13
4	9	59	95			52	50	383	944	284	39	12
5	9	441	93			54	51	530	1,130	272	41	12
6	8	516	90	55	95	55	49	625	1,030	308	36	13
7	8	550	80			61	48	570	932	273	32	12
8	8	580	75			51	50	493	904	252	30	12
9	8	322	70			48	54	497	777	220	29	11
10	8	249	70			48	59	501	848	196	27	11
11	8	213	80	45	85	48	71	416	788	178	28	10
12	8	193	90			48	85	372	772	161	26	10
13	10	186	86			79	108	380	887	148	24	10
14	11	189	81			100	100	447	738	135	22	10
15	10	222	76			97	95	506	832	125	21	14
16	12	281	71	40	65	79	88	551	678	114	20	22
17	11	230	69			70	88	804	645	104	20	14
18	11	230	67			71	93	782	604	94	24	12
19	10	206	87			70	103	804	580	89	29	11
20	22	184	68			67	149	932	580	95	23	11
21	68	170	88	90	60	64	178	1,200	514	82	20	11
22	45	168	79			62	160	1,370	519	75	19	10
23	32	174	69			62	145	1,260	451	70	18	10
24	28	168	68			62	145	944	380	71	17	10
25	72	160	61			62	186	843	345	76	17	10
26	70	143	50	150	80	59	237	860	341	64	16	9
27	43	135				55	242	920	338	57	16	9
28	37	126				59	232	1,030	332	60	15	10
29	34	120				56	239	1,200	345	74	14	10
30	31	115				54	278	1,230	306	56	14	9
31	31	-	-	-	-	52	-	1,260	-	48	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	688	72	8	22.2	0.317	0.37	1,360
November.....	6,599	580	59	220	3.14	3.50	13,090
December.....	2,312	109	-	74.6	1.07	1.23	4,590
Calendar year .....							
January.....	2,361	-	-	76.2	1.09	1.26	4,680
February.....	2,255	-	-	80.5	1.15	1.20	4,470
March.....	1,912	100	48	61.7	.881	1.02	3,790
April.....	3,553	275	48	118	1.69	1.89	7,010
May.....	22,551	1,370	267	727	10.4	11.99	44,730
June.....	20,472	1,200	306	682	9.74	10.87	40,510
July.....	4,966	451	48	160	2.29	2.64	9,830
August.....	780	44	14	25.2	.360	.42	1,550
September.....	346	22	9	11.5	.164	.18	666
Water year 1934-35.....	68,764	1,370	8	188	2.69	36.57	136,400

## KOOTENAI RIVER BASIN

Boundary Creek near Port Hill, Idaho

(International gaging station)

Location.— Water-stage recorder, lat. 48°59'50", long. 116°34'5", in SW $\frac{1}{4}$  sec. 11, T. 85 N., R. 2 W., 140 feet below bridge at mouth of canyon, 0.2 mile south of international boundary, and 3 miles west of Port Hill.

Drainage area.— 97 square miles.

Records available.— May 1928 to September 1935.

Extremes.— Maximum discharge during year, 1,600 second-feet May 22 (gage height, 4.45 feet); minimum, 17 second-feet Oct. 8-12 (gage height, 0.62 foot).

1928-35: 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 for periods of ice effect, Dec. 3-7, Dec. 9 to Jan. 8, Jan. 10 to Feb. 18, Mar. 31 to Apr. 4, which are poor. No diversions above gage. This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table for Nov. 8, 1934, to Sept. 30, 1935 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.6	16	2.0	215	3.4	840
.8	27	2.2	277	3.6	965
1.0	42	2.4	349	3.8	1,100
1.2	63	2.6	430	4.0	1,240
1.4	88	2.8	520	4.2	1,400
1.6	120	3.0	618	4.4	1,560
1.8	163	3.2	725	4.6	1,650

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	70	80	65	120	61	50	316	1,200	413	54	26
2	19	86	64		120	60	50	316	998	345	53	25
3	18	52	62		115	59	50	349	882	280	50	23
4	18	43	60		115	56	50	459	959	248	49	23
5	18	106	58		100	59	56	598	1,100	233	54	23
6	17	219	56	55	100	53	54	681	1,030	287	48	23
7	17	199	50		100	52	53	628	965	245	44	22
8	17	288	*42		95	60	54	550	952	239	41	22
9	17	166	40		95	53	54	515	852	227	39	21
10	17	126	40		95	48	59	525	676	193	37	20
11	17	108	52	45	95	58	70	456	628	176	36	20
12	17	100			90	54	87	422	804	161	36	20
13	21	97			90	64	103	434	858	149	34	20
14	20	100			85	92	108	483	786	136	33	20
15	19	113			60	85	113	549	876	124	31	25
16	22	152	45	40	75	79	106	623	696	115	31	33
17	20	154			70	79	106	906	692	105	30	25
18	18	146			65	76	115	882	676	97	37	23
19	18	134			65	74	122	870	593	91	44	23
20	28	118			65	71	176	965	558	98	36	22
21	62	108	50	90	65	70	218	1,200	515	85	33	21
22	45	106			65	67	196	1,400	511	79	30	20
23	32	112			64	83	178	1,320	448	76	29	20
24	28	108			63	67	180	1,030	330	75	29	20
25	45	103			59	63	224	920	345	78	28	20
26	58	96	45	150	61	65	288	913	338	68	27	20
27	38	94			65	59	302	939	323	64	26	19
28	34	88			59	54	277	998	313	65	26	19
29	32	85			—	62	280	1,200	330	73	25	18
30	30	84			—	56	327	1,200	298	62	25	18
31	—	—	—	—	—	*55	—	1,240	—	58	28	—

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	813	62	17	26.2	0.270	0.31	1,810
November.....	3,542	288	43	11.9	1.22	1.36	7,030
December.....	1,602	80	—	51.7	.533	.61	3,180
Calendar year 1934.....	75,227	1,710	14	206	2.12	28.85	149,200
January.....	2,257	—	—	72.8	.751	.87	4,480
February.....	2,336	120	59	63.4	.860	.90	4,630
March.....	1,979	92	48	53.6	.658	.76	3,930
April.....	4,106	327	50	137	1.41	1.57	8,140
May.....	23,847	1,400	316	769	7.93	9.14	47,300
June.....	20,968	1,200	298	700	7.22	8.06	41,650
July.....	4,725	415	58	182	1.87	1.81	9,370
August.....	1,123	54	26	36.2	.373	.43	2,250
September.....	653	33	18	21.8	.225	.26	1,300
Water year 1934-35.....	67,969	1,400	17	186	1.92	26.07	134,800

\*Discharge measurement.

## Clark Fork above Missoula, Mont.

Location.- Water-stage recorder, lat. 46°53', long. 113°54'30", 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 1935.

Extremes.- Maximum discharge during year, 10,300 second-feet May 25 (gage height, 6.74 feet); minimum, 305 second-feet Apr. 11-13 (gage height 1.23 feet).  
1929-35: Maximum discharge, 21,800 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 periods of ice effect, Jan. 4-24, Mar. 4, 9-17, and those based on observers staff-gage readings, Jan. 20-25 and Mar. 9-18, which are fair. Several diversions for irrigation above station.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.6	520	3.0	1,990	4.4	4,600	5.8	7,920
1.8	670	3.2	2,280	4.6	5,040	6.0	8,420
2.0	850	3.4	2,610	4.8	5,500	6.2	8,920
2.2	1,040	3.6	2,960	5.0	5,960	6.4	9,440
2.4	1,250	3.8	3,340	5.2	6,440	6.6	9,980
2.6	1,480	4.0	3,740	5.4	6,920	6.8	10,540
2.8	1,730	4.2	4,160	5.6	7,420	7.0	11,220

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,040	1,260	1,360	1,120	1,360	1,120	1,250	3,060	7,670	3,150	1,160	679
2	1,110	1,360	1,230	1,250	1,330	1,080	1,250	3,060	7,920	2,870	1,180	679
3	1,140	1,360	1,380	1,250	1,240	1,130	1,140	3,060	7,870	2,610	1,160	679
4	1,100	1,320	1,290	1,160	1,250	1,140	1,200	2,960	6,920	2,700	1,140	715
5	1,120	1,380	1,270	1,120	1,140	1,150	1,300	2,960	6,680	2,960	1,140	688
6	1,120	1,370	1,330	1,160	1,230	940	1,150	3,440	6,680	2,440	1,040	715
7	1,090	1,410	1,400	1,230	1,230	1,070	1,080	3,840	6,680	2,780	990	697
8	1,120	1,380	1,400	1,090	1,220	1,070	1,240	3,840	6,440	2,520	960	697
9	1,080	1,360	877	1,160	1,090	1,080	1,240	3,740	6,680	2,780	960	706
10	1,080	1,360	1,280	1,120	1,060	1,100	1,240	3,840	6,920	2,250	940	697
11	1,060	1,270	950	1,090	1,060	1,110	1,240	3,740	6,680	2,280	990	654
12	1,040	1,540	950	1,120	1,120	1,120	1,240	3,740	6,440	2,130	895	715
13	1,040	1,420	1,060	1,090	1,120	1,140	1,340	3,740	6,680	1,800	868	697
14	1,090	1,460	1,180	1,020	1,090	1,150	1,460	3,640	6,680	1,920	866	688
15	1,210	1,380	1,180	1,070	1,130	1,140	1,920	3,540	6,680	1,860	895	670
16	1,430	1,360	1,290	1,080	1,060	1,140	2,080	3,540	6,440	1,730	895	724
17	1,340	1,420	1,280	1,070	1,000	1,140	2,060	3,540	5,500	1,720	805	697
18	1,270	1,300	1,280	760	1,140	1,150	1,920	4,490	5,270	1,720	805	662
19	1,360	1,480	1,230	670	1,260	1,600	1,990	4,710	4,620	1,360	868	697
20	1,300	1,480	1,230	715	1,270	1,600	2,060	5,270	4,600	2,260	877	654
21	1,330	1,360	1,170	805	1,230	1,420	2,360	5,730	4,380	904	668	688
22	1,500	1,400	1,270	950	1,080	1,480	2,700	6,440	3,950	1,240	850	670
23	1,400	1,380	1,300	1,110	1,540	1,420	2,780	8,420	3,740	1,360	832	742
24	1,370	1,480	1,270	1,040	1,320	1,250	2,700	9,440	3,740	1,340	778	706
25	1,560	1,320	1,180	697	1,080	1,250	2,610	9,180	3,640	1,340	760	706
26	1,380	1,400	1,250	1,540	960	1,480	2,610	8,420	3,150	1,340	778	706
27	1,380	1,370	1,120	1,530	950	1,250	2,870	7,670	2,960	1,300	715	679
28	1,280	1,370	1,160	1,530	990	1,250	2,960	7,420	2,780	1,200	715	724
29	1,350	1,360	1,340	1,480	-	1,360	3,060	7,170	2,960	1,270	688	778
30	1,380	1,440	1,090	1,360	-	1,250	3,060	6,920	3,150	1,230	688	760
31	1,280	-	1,140	1,390	-	1,250	-	7,170	-	1,230	670	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	38,280	1,660	1,040	1,235	75,930
November.....	41,560	1,640	1,260	1,385	62,430
December.....	37,747	1,400	877	1,218	74,870
Calendar year 1934.....	1,151,503	14,100	697	3,155	2,284,000
January.....	34,787	1,540	670	1,122	69,980
February.....	32,550	1,540	850	1,162	64,580
March.....	37,890	1,900	940	1,222	75,150
April.....	57,090	3,060	1,080	1,903	113,200
May.....	158,030	9,440	2,960	5,098	313,400
June.....	164,400	7,920	2,780	5,480	326,100
July.....	59,644	3,150	904	1,924	118,300
August.....	27,758	1,160	670	895	55,060
September.....	20,969	778	654	699	41,590
Water year 1934-35.....	710,685	9,440	654	1,947	1,410,000

## Clark Fork below Missoula, Mont.

Location.- Water-stage recorder, lat. 46°52'30", long. 114°7'30", 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 1935.

Extremes.- Maximum discharge during year, 19,200 second-feet May 25 (gage height, 6.80 feet); minimum, 710 second-feet Jan. 21 (gage height, 0.50 foot).  
1929-35: Maximum discharge, 36,800 second-feet June 11, 1933 (gage height, 10.14 feet); minimum, 368 second-feet Jan. 18, 1933 (gage height, 0.58 foot, ice present).

Remarks.- Records good. Observer's gage readings used Jan. 2-5, 14, Feb. 16-22, Apr. 25 to May 7. Numerous diversions above station.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,030	2,860	2,520	1,850	2,190	2,190	2,270	5,690	16,300	6,560	1,660	957
2	2,110	3,040	2,270	2,190	2,110	2,030	2,030	5,690	16,800	5,830	1,660	990
3	2,110	3,130	2,440	2,520	2,030	2,270	2,030	5,680	15,900	5,290	1,680	1,010
4	2,030	3,130	2,350	2,520	2,110	2,190	2,030	5,690	13,600	5,290	1,680	979
5	2,030	3,040	2,350	2,440	2,030	2,110	2,110	5,530	13,200	5,560	1,590	968
6	2,030	3,040	2,350	2,350	2,030	1,960	2,190	6,410	13,600	5,290	1,610	1,020
7	2,030	3,130	2,350	2,350	2,030	1,800	2,110	7,490	14,500	5,560	1,540	1,010
8	2,030	3,040	2,350	2,350	1,960	1,960	2,270	7,490	14,100	5,290	1,520	979
9	1,960	3,130	1,880	2,270	1,960	2,030	2,190	7,180	14,500	5,290	1,390	979
10	1,960	3,130	2,110	2,110	1,780	2,110	2,190	7,340	14,500	4,780	1,380	1,000
11	2,030	3,040	1,760	1,840	1,800	2,110	2,190	7,640	13,600	4,650	1,270	957
12	1,960	3,040	1,750	2,030	1,790	2,110	2,190	7,340	12,800	4,160	1,310	957
13	2,030	3,040	1,880	1,880	1,880	2,350	2,350	7,180	13,200	3,500	1,250	979
14	2,030	3,040	2,190	1,620	1,880	2,600	2,780	6,870	13,200	3,300	1,220	957
15	2,190	2,860	2,270	1,780	1,860	3,770	3,220	6,720	12,800	3,110	1,180	968
16	2,440	2,860	2,270	1,620	2,190	3,580	3,580	6,870	11,600	2,840	1,210	990
17	2,520	2,860	2,270	1,600	2,030	3,310	3,770	7,800	10,100	2,750	1,200	1,060
18	2,520	2,690	2,270	1,600	2,270	3,040	3,680	9,070	9,400	2,750	1,160	1,010
19	2,520	2,780	2,270	1,620	2,190	2,690	3,770	8,400	9,070	2,500	1,140	1,080
20	2,600	2,780	2,270	1,510	2,190	2,780	3,960	9,400	8,750	3,070	1,120	946
21	2,600	2,690	2,270	875	2,190	2,520	4,400	10,400	8,110	1,760	1,110	1,010
22	2,690	2,600	2,350	1,200	2,270	2,520	5,160	12,800	7,800	1,910	1,140	1,020
23	2,690	2,600	2,350	1,470	2,520	2,600	5,560	16,300	7,490	2,040	1,110	1,070
24	2,690	2,690	2,440	1,960	2,190	2,350	5,290	19,200	7,180	1,980	1,060	1,030
25	2,780	2,520	2,190	2,440	1,960	2,190	5,420	19,200	6,560	1,950	1,040	1,020
26	2,860	2,600	2,350	2,440	1,820	2,520	5,030	17,300	5,970	1,980	1,020	1,030
27	3,040	2,520	2,270	2,440	1,760	2,190	5,560	15,900	5,560	1,960	1,030	1,030
28	3,040	2,520	2,190	2,350	1,960	2,270	5,830	15,000	5,290	1,850	1,010	1,070
29	2,860	2,440	2,030	2,270	-	2,350	5,830	14,500	5,690	1,800	957	1,120
30	2,950	2,520	1,960	2,190	-	2,350	5,690	14,500	6,720	1,760	935	1,170
31	2,780	-	1,880	2,190	-	2,190	-	16,000	-	1,770	957	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	74,140	3,040	1,960	2,392	147,100
November.....	85,360	3,130	2,440	2,845	169,300
December.....	68,430	2,520	1,750	2,207	135,700
Calendar year 1934.....	-	-	-	-	-
January.....	61,855	2,520	875	1,995	122,700
February.....	56,980	2,520	1,760	2,035	115,000
March.....	75,040	3,770	1,800	2,421	146,800
April.....	106,680	5,290	2,030	3,556	211,600
May.....	312,750	19,200	5,560	10,090	620,400
June.....	327,890	16,800	5,290	10,930	650,400
July.....	108,130	6,560	1,760	3,488	214,500
August.....	39,139	1,680	935	1,263	77,630
September.....	30,306	1,170	946	1,010	60,110
Water year 1934-35.....	1,346,710	19,200	875	3,690	2,671,000

## Clark Fork at St. Regis, Mont.

Location.- Water-stage recorder, lat. 47°18'30", long. 115°5', in sec. 19, T. 18 N., R. 27 W., at St. Regis, half a mile below mouth of St. Regis River.

Drainage area.- 10,500 square miles.

Records available.- October 1910 to September 1923, February 1929 to September 1935.

Average discharge.- 13 years (1912-15, 1918, 1921, 1923, 1930-35), 7,448 second-feet.

Extremes.- Maximum discharge during year, 27,400 second-feet May 26 (gage height, 12.36 feet); minimum, 1,460 second-feet Sept. 14 (gage height, 3.54 feet).

1910-23, 1929-35: 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. Discharge estimated because of ice effect Jan. 19-25. Numerous diversions above station.

Rating table for Nov. 1, to Sept. 30 except period of ice effect (gage height, in feet, and discharge, in second-feet)

3.0	1,010	4.4	2,540	5.8	5,130	8.5	12,370
3.2	1,150	4.6	2,840	6.0	5,610	9.0	14,040
3.4	1,320	4.8	3,160	6.2	6,100	9.5	15,620
3.6	1,510	5.0	3,500	6.6	7,100	10.0	17,700
3.8	1,730	5.2	3,860	7.0	8,110	11.0	21,500
4.0	1,980	5.4	4,240	7.5	9,410	12.0	25,700
4.2	2,250	5.6	4,660	8.0	10,800	13.0	30,040

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,380	3,590	3,330	2,620	3,860	2,540	3,080	9,950	22,800	9,680	2,690	1,620
2	2,440	3,860	3,240	2,540	3,590	2,690	3,080	10,200	23,200	9,150	2,690	1,560
3	2,560	4,060	3,080	2,620	3,480	2,620	2,920	9,950	22,400	8,370	2,620	1,620
4	2,560	4,060	3,160	2,690	3,240	2,620	2,920	9,950	20,800	7,850	2,620	1,560
5	2,500	4,060	3,080	2,760	3,160	2,760	3,000	10,800	20,000	8,110	2,540	1,620
6	2,500	4,140	3,080	2,920	3,000	2,620	3,000	12,000	20,400	8,370	2,460	1,560
7	2,500	4,140	3,080	3,000	3,000	2,640	3,000	13,000	20,800	7,950	2,390	1,620
8	2,500	4,440	3,080	3,160	3,000	2,460	2,920	13,000	20,800	8,110	2,390	1,560
9	2,500	4,550	3,000	3,080	2,920	2,540	3,160	12,700	20,800	7,850	2,250	1,560
10	2,500	4,440	2,540	2,920	2,760	2,540	3,160	12,700	20,800	7,850	2,110	1,560
11	2,440	4,340	2,760	2,760	2,760	2,540	3,240	12,700	19,600	7,100	2,110	1,560
12	2,440	4,140	2,460	2,620	2,760	2,620	3,500	12,400	19,200	6,600	2,110	1,560
13	2,500	4,240	2,390	2,760	2,760	2,840	4,050	12,000	19,200	6,100	2,040	1,510
14	2,500	4,060	2,540	2,540	2,690	3,180	4,780	12,000	19,200	5,490	1,980	1,510
15	2,560	4,060	2,760	2,320	2,840	3,680	5,490	12,000	18,600	5,130	1,920	1,610
16	2,700	3,860	2,840	2,110	2,760	4,780	6,350	12,000	17,300	4,780	1,920	1,560
17	2,890	3,860	2,920	2,320	2,690	4,550	6,500	13,400	15,800	4,440	1,820	1,560
18	2,960	3,860	2,920	2,040	2,620	4,140	6,850	14,700	14,400	4,140	1,920	1,560
19	2,960	3,770	2,920	1,980	2,760	3,860	7,100	15,400	13,400	4,050	1,920	1,560
20	3,030	3,770	2,920	1,980	2,840	3,690	7,600	15,800	12,700	3,660	1,920	1,560
21	3,100	3,770	3,000	1,920	2,840	3,680	8,630	16,900	12,400	4,140	1,920	1,510
22	3,240	3,690	3,330	1,920	3,000	3,420	9,150	19,600	11,700	3,160	1,850	1,510
23	3,310	3,590	3,240	2,390	2,690	3,420	9,410	23,200	11,100	3,240	1,850	1,560
24	3,310	3,590	3,160	3,000	3,000	3,420	9,150	28,100	10,800	3,240	1,790	1,510
25	3,620	3,590	3,240	5,010	2,940	3,420	8,890	27,000	10,200	3,160	1,790	1,560
26	4,220	3,500	3,000	5,250	2,540	3,240	9,150	25,300	9,410	3,160	1,730	1,560
27	3,950	3,500	3,080	4,660	2,460	3,420	9,680	23,200	8,890	3,080	1,730	1,510
28	3,950	3,420	2,840	4,550	2,460	3,080	9,680	21,600	8,370	3,000	1,660	1,560
29	3,700	3,420	2,840	4,140	-	3,160	9,680	20,800	8,370	2,920	1,660	1,560
30	3,620	3,240	2,760	4,050	-	3,080	9,950	20,800	9,150	2,920	1,620	1,560
31	3,620	-	2,620	3,960	-	3,160	-	21,600	-	2,890	1,620	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	91,560	4,220	2,380	2,954	181,800
November.....	115,650	4,550	3,240	3,885	231,200
December.....	91,210	3,330	2,390	2,942	160,900
Calendar year 1934.....	3,032,250	35,200	1,760	8,308	6,015,000
January.....	92,580	5,250	1,920	2,987	183,800
February.....	81,260	3,860	2,460	2,902	161,200
March.....	96,190	4,780	2,460	3,187	194,800
April.....	179,170	9,950	2,920	5,972	355,400
May.....	492,750	27,000	9,950	15,900	977,400
June.....	482,490	23,200	8,370	16,080	957,000
July.....	169,160	9,680	2,690	5,457	335,500
August.....	63,780	2,690	1,620	2,057	126,500
September.....	46,750	1,620	1,510	1,558	92,750
Water year 1934-35.....	2,005,460	27,000	1,510	5,494	3,988,000

## Clark Fork near Plains, Mont.

Location.- Water-stage recorder, lat. 47°26', long. 114°51', on lot 7, sec. 7, T. 19 N., R. 28 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 1935.

Average discharge.- 25 years, 19,800 second-feet.

Extremes.- Maximum discharge during year, 71,200 second-feet June 3 (gage height, 13.27 feet); minimum, 5,280 second-feet Oct. 13 (gage height, 3.85 feet).

1910-35: Maximum discharge, 128,000 second-feet May 28, 1928; minimum, 3,860 second-feet Jan. 18, 1930.

Remarks.- Records good except those for estimated periods, Dec. 23-25, 27-30, Jan. 1-3, 5-7, 9-10, 19-22, and periods of ice effect, Jan. 18 to Feb. 5, which are fair. Numerous diversions for irrigation above station. Flow somewhat regulated by natural storage in Flathead Lake.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1, to Jan. 17

3.8	5,060	4.6	8,250
4.0	5,850	4.8	9,050
4.2	6,650	5.0	9,850
4.4	7,450	5.5	11,900

Table for Jan. 18, to Sept. 30

3.8	5,570	6.0	14,800	9.5	37,720
4.0	6,310	6.5	17,500	10.0	41,700
4.4	7,820	7.0	20,400	10.5	45,700
4.8	9,390	7.5	23,580	11.0	50,000
4.8	9,390	8.0	26,880	11.5	54,500
5.0	10,200	8.5	30,300	12.0	59,000
5.5	12,400	9.0	33,900	13.0	68,300
				14.0	77,800

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,850	7,250	10,000	7,250	8,400	7,440	8,010	21,000	68,300	44,900	16,900	8,010
2	5,450	7,250	9,850	7,450	8,400	7,630	7,820	21,600	70,200	44,100	15,800	7,820
3	5,650	7,450	9,650	7,650	8,400	7,630	7,820	22,300	70,200	42,500	15,800	7,630
4	5,650	7,650	9,650	7,850	8,400	7,630	7,820	22,800	70,200	40,900	15,300	7,630
5	5,650	7,650	9,650	7,850	8,400	7,820	7,820	24,200	69,200	40,100	14,800	7,440
6	5,450	7,650	9,450	7,850	8,400	7,630	7,630	25,600	69,200	39,300	14,300	7,430
7	5,450	8,050	9,450	7,850	8,200	7,440	7,630	28,200	70,200	38,500	13,800	7,440
8	5,450	8,250	9,450	7,850	8,200	7,250	7,630	29,600	70,200	37,700	13,800	7,060
9	5,450	8,650	9,250	7,700	8,200	7,250	7,820	31,000	69,200	36,900	13,300	6,870
10	5,450	9,050	9,050	7,600	8,010	7,250	7,820	31,700	69,200	35,400	12,900	6,870
11	5,450	9,450	8,650	7,450	7,820	7,250	7,820	31,700	68,300	33,900	12,400	6,870
12	5,450	9,650	8,650	7,250	8,010	7,250	8,010	32,400	68,300	33,200	11,900	6,880
13	5,450	9,650	8,250	7,450	8,010	7,250	8,400	33,200	67,400	31,700	11,900	6,500
14	5,450	9,850	8,050	6,450	8,010	7,630	8,990	33,200	67,400	30,300	11,600	6,310
15	5,450	10,000	8,250	5,650	8,010	8,010	9,590	33,200	67,400	29,600	11,000	6,310
16	5,650	10,000	8,450	6,050	8,010	8,790	10,200	33,900	65,400	28,200	10,600	6,120
17	6,050	10,000	8,450	6,250	7,820	8,990	11,000	35,400	64,500	26,900	10,600	6,120
18	6,050	10,200	8,450	6,310	7,820	8,790	11,500	36,900	62,600	26,200	10,600	6,120
19	6,050	10,200	8,250	6,300	7,820	8,400	11,500	40,100	60,800	25,600	10,200	6,120
20	6,050	10,200	8,250	6,300	7,820	8,200	12,400	41,700	59,000	24,900	10,200	6,120
21	5,850	10,200	8,250	6,300	8,010	8,200	13,300	44,100	57,200	24,900	10,000	6,120
22	6,250	10,600	8,450	6,300	8,010	8,200	14,300	48,200	55,400	21,600	9,790	5,940
23	6,250	10,200	8,500	8,790	8,010	8,200	15,300	54,500	55,400	22,300	9,590	5,940
24	6,250	10,200	8,550	8,790	8,200	8,010	15,800	59,900	52,700	21,600	9,190	5,760
25	6,250	10,200	8,600	8,990	8,010	8,010	15,800	64,500	51,800	21,000	8,990	5,760
26	7,050	10,200	8,650	10,000	7,820	8,010	16,400	66,400	50,000	20,400	8,790	5,760
27	7,450	10,000	8,300	9,790	7,630	8,010	17,500	65,400	48,200	19,600	8,790	5,940
28	7,250	10,200	8,000	9,190	7,630	8,010	18,600	65,400	46,500	19,200	8,590	5,760
29	7,250	10,000	7,700	8,990	-	8,010	19,200	64,500	45,700	18,100	8,590	5,570
30	7,250	10,000	7,400	8,590	-	8,200	20,400	65,400	44,900	18,100	8,400	5,570
31	7,250	-	7,050	8,590	-	8,200	-	66,400	-	17,500	8,200	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	186,950	7,450	5,450	6,031	370,800
November.....	280,100	10,600	7,250	9,337	556,600
December.....	268,600	10,000	7,050	8,665	532,800
Calendar year 1934.....	8,420,650	76,800	5,450	23,090	16,720,000
January.....	236,680	10,000	-	7,635	469,500
February.....	226,480	8,400	7,630	8,053	447,200
March.....	244,590	8,990	7,250	7,990	486,100
April.....	343,330	20,400	7,630	11,460	689,000
May.....	1,274,500	66,400	21,000	41,110	2,629,000
June.....	1,655,000	70,200	44,900	61,830	3,678,000
July.....	915,300	44,900	17,500	29,530	1,815,000
August.....	356,520	16,900	8,200	11,500	707,100
September.....	195,980	8,010	5,570	6,533	388,700
Water year 1934-35.....	6,383,530	70,200	5,450	17,490	12,660,000

## Clark Fork near Heron, Mont.

Location.— Water stage recorder, lat. 48°4', long. 115°59', in sec. 28, T. 27 N., R. 34 W., 800 feet above Dead Horse Creek and 1½ miles northwest of Heron.

Drainage area.— 21,800 square miles.

Records available.— September 1928 to September 1935.

Extremes.— Maximum discharge during year, 77,600 second-feet June 3, 4; maximum gage height, 33.25 feet June 3; minimum discharge, 3,570 second-feet Oct. 14 (gage height, 9.34 feet).

1928-35: Maximum discharge, 137,000 second-feet June 17, 1933 (gage height, 46.62 feet, present datum); minimum, 1,840 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 except those estimated and those for Sept. 1-4, which are fair.

Power-plant operation at Thompson Falls causes considerable diurnal fluctuation during low-water periods. Considerable water diverted for irrigation from tributaries upstream.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

10.0	4,510	16.0	16,500	26.0	48,780
11.0	6,030	17.0	19,050	28.0	56,430
12.0	7,800	18.0	21,780	30.0	64,350
13.0	9,750	20.0	27,330	32.0	72,530
14.0	11,860	22.0	34,460	34.0	80,980
15.0	14,110	24.0	41,460		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,250	8,370	11,600	8,560	10,800	7,990	10,400	29,800	75,500	48,000	18,800	*10,400
2	6,200	9,350	11,600	8,560	10,600	8,180	9,550	30,800	77,200	47,300	18,500	*9,870
3	7,610	9,750	11,600	8,560	10,800	8,560	9,750	30,400	77,600	46,200	18,000	*9,510
4	6,890	9,150	9,750	8,560	10,600	8,950	9,850	31,100	77,600	45,100	17,800	*8,740
5	6,890	8,660	11,200	9,150	10,400	8,180	9,750	32,800	76,300	43,300	17,500	8,180
6	5,870	9,550	11,000	9,150	9,950	9,750	35,100	75,900	42,500	16,800	7,250	
7	6,710	10,800	11,000	8,950	10,400	10,200	9,750	37,600	75,500	41,800	16,500	9,150
8	5,710	11,000	11,000	9,150	10,400	8,950	9,550	38,600	75,500	40,700	15,800	8,180
9	7,250	11,600	10,800	9,150	9,750	6,540	9,950	39,000	75,000	39,700	16,000	7,800
10	6,540	11,600	9,750	9,150	10,400	7,800	9,950	39,700	74,200	38,600	15,000	7,800
11	6,540	11,000	10,400	10,600	10,600	8,370	9,950	39,700	73,400	37,600	14,300	7,610
12	6,540	9,750	9,950	9,150	9,550	8,750	10,400	39,000	72,500	35,800	13,900	7,610
13	6,710	11,400	9,750	8,560	9,150	8,750	11,600	39,000	72,100	34,800	13,600	7,610
14	5,710	11,400	9,550	7,450	9,150	9,750	13,200	39,000	71,700	33,400	13,400	7,430
15	5,870	11,400	9,550	8,370	10,200	10,200	14,600	39,700	71,300	32,400	*13,000	7,610
16	5,710	11,400	9,750	6,710	9,350	10,600	15,800	40,400	70,000	31,100	*12,500	7,610
17	7,070	11,600	9,750	6,710	9,150	11,200	16,000	41,500	68,400	29,800	12,100	7,250
18	6,890	11,900	9,750	6,710	8,750	11,200	16,500	44,000	66,400	28,800	*12,000	7,070
19	7,610	11,900	9,750	6,030	9,150	11,000	17,000	46,200	64,400	27,500	*11,800	7,070
20	6,890	11,900	9,550	6,030	9,350	10,800	17,200	48,000	62,400	26,900	*11,700	6,890
21	7,070	11,900	10,600	*7,000	9,550	10,200	19,300	51,000	60,400	25,200	*11,600	6,890
22	7,070	12,900	11,200	*8,000	9,550	10,200	20,700	55,600	59,200	25,300	*11,500	6,710
23	7,430	11,400	10,600	*9,000	8,950	10,200	22,400	60,400	57,600	23,500	11,300	6,710
24	6,030	12,100	9,750	*9,250	9,150	10,200	21,500	66,000	56,000	22,900	11,200	5,870
25	7,610	11,900	10,800	9,350	9,550	10,400	21,500	70,500	54,900	22,600	*11,000	5,870
26	10,800	11,600	9,350	10,200	9,550	10,200	22,100	73,400	53,700	22,100	*10,800	6,370
27	9,350	12,300	8,370	10,600	9,350	9,550	23,500	73,800	52,200	21,500	*10,600	6,370
28	8,370	11,600	9,150	10,800	8,560	9,550	24,400	73,800	50,700	20,900	*10,400	6,710
29	6,200	11,600	9,150	11,000	-	10,200	25,900	73,400	49,500	20,400	*10,200	6,540
30	7,800	12,100	9,750	11,000	-	9,950	27,200	73,400	48,400	19,600	*10,000	5,710
31	7,990	-	8,750	11,000	-	10,200	-	74,200	-	19,000	11,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	218,180	10,800	5,710	7,038	0.323	0.87	432,800
November.....	332,180	12,300	8,370	11,070	.508	.87	668,900
December.....	313,520	11,600	8,370	10,110	.464	.53	621,900
Calendar year 1934.....	9,831,270	87,400	5,550	26,930	1.24	16.77	19,500,000
January.....	272,440	11,000	6,030	8,768	.403	.46	540,400
February.....	272,710	10,800	8,560	9,740	.447	.47	540,900
March.....	296,970	11,200	6,540	9,580	.439	.51	589,000
April.....	469,100	27,200	9,550	15,640	.717	.80	930,400
May.....	1,506,900	74,200	29,800	48,610	2.23	2.67	2,989,000
June.....	1,995,500	77,600	48,400	66,520	3.05	3.40	3,968,000
July.....	995,300	48,000	19,000	32,110	1.47	1.70	1,974,000
August.....	418,600	18,800	10,000	15,500	.619	.71	880,500
September.....	224,190	10,400	5,710	7,473	.343	.38	444,700
Water year 1934-35.....	7,315,590	77,600	5,710	20,040	.919	12.47	14,510,000

\*Interpolated. †Estimated.



## Pend Oreille Lake at Hope, Idaho

Location.- Water-stage recorder, lat. 48°15', long. 116°18', 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 1935, March 1914 to September 1922 at Sandpoint.

Extremes.- Maximum water-surface elevation during year, 2,061.20 feet June 10; minimum, 2,047.21 feet Oct. 17.  
1921-35: 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 in June 1894.

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

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47.25	47.73	49.02	48.47	48.80	48.43	48.73	52.00	60.14	57.96	51.71	48.69
2	47.26	47.79	49.00	48.42	48.80	48.40	48.71	52.20	60.39	57.74	51.54	48.66
3	47.29	47.81	49.00	48.41	48.81	48.40	48.68	52.39	60.59	57.52	51.40	48.55
4	47.29	47.85	48.99	48.39	48.82	48.39	48.66	52.56	60.75	57.32	51.27	48.46
5	47.29	47.90	48.94	48.38	48.82	48.38	48.66	52.76	60.99	57.10	51.11	48.37
6	47.29	48.06	48.90	48.41	48.81	48.37	48.67	53.02	60.97	56.89	50.98	48.28
7	47.27	48.24	48.87	48.41	48.80	48.36	48.65	53.30	61.06	56.69	50.87	48.24
8	47.27	48.46	48.83	48.40	48.80	48.38	48.63	53.59	61.13	56.51	50.73	48.20
9	47.25	48.60	48.79	48.39	48.79	48.33	48.62	53.85	61.19	56.29	50.62	48.16
10	47.26	48.67	48.75	48.39	48.77	48.27	48.61	54.09	61.19	56.08	50.52	48.11
11	47.28	48.70	48.72	48.43	48.76	48.24	48.62	54.32	61.18	55.89	50.39	48.07
12	47.29	48.70	48.67	48.44	48.75	48.28	48.67	54.48	61.17	55.67	50.27	48.03
13	47.30	48.71	48.62	48.40	48.72	48.33	48.74	54.61	61.14	55.46	50.18	47.98
14	47.28	48.71	48.61	48.36	48.71	48.40	48.83	54.70	61.12	55.24	50.10	47.95
15	47.28	48.72	48.68	48.47	48.69	48.69	48.95	54.82	61.09	55.02	49.96	47.95
16	47.27	48.74	48.54	48.47	48.67	48.52	49.11	54.94	61.03	54.80	49.83	47.92
17	47.22	48.76	48.51	48.40	48.63	48.59	49.27	55.10	60.95	54.58	49.74	47.88
18	47.23	48.80	48.51	48.36	48.60	48.65	49.41	55.29	60.82	54.35	49.67	47.83
19	47.24	48.83	48.52	48.39	48.56	48.69	49.55	55.52	60.69	54.12	49.57	47.82
20	47.28	48.86	48.52	48.35	48.52	48.74	49.70	55.75	60.51	53.89	49.47	47.78
21	47.35	48.88	48.55	48.34	48.52	48.76	49.91	56.01	60.31	53.69	49.39	47.76
22	47.41	48.91	48.61	48.36	48.53	48.76	50.15	56.35	60.11	53.50	49.30	47.73
23	47.46	48.96	48.68	48.38	48.55	48.76	50.42	56.79	59.91	53.26	49.25	47.71
24	47.50	48.96	48.70	48.36	48.52	48.77	50.62	57.29	59.67	53.06	49.15	47.68
25	47.55	49.00	48.71	48.43	48.52	48.83	50.80	57.78	59.42	52.87	49.08	47.62
26	47.66	49.00	48.68	48.49	48.50	48.86	50.99	58.25	59.17	52.69	49.02	47.56
27	47.71	49.00	48.63	48.58	48.48	48.85	51.13	58.68	58.94	52.51	48.94	47.54
28	47.75	49.00	48.59	48.65	48.46	48.83	51.39	59.00	58.66	52.38	48.89	47.51
29	47.73	49.00	48.55	48.70	-	48.83	51.58	59.33	58.44	52.20	48.80	47.50
30	47.68	49.01	48.53	48.74	-	48.79	51.79	59.60	58.19	52.02	48.75	47.48
31	47.70	-	48.50	48.79	-	48.77	-	59.87	-	51.87	48.71	-

## Clark Fork at Priest River, Idaho

Location.— Water-stage recorder, lat. 48°10'30", long. 116°55'30", in lot 4, sec. 26, T. 55 N., R. 5 W., at Priest River. Discharge measurements made at highway bridge at Newport, Wash., 6 miles below. Zero of gage is about 2,040 feet above mean sea level. Weather Bureau wire-weight gage on highway bridge at Priest River set approximately to sea-level datum.

Drainage area.— 24,200 square miles.

Records available.— June 1903 to April 1905, October 1921 to September 1935, June 1903 to September 1921, comparable records at Newport, Wash., 6 miles below present site.

Average discharge.— 32 years, 26,010 second-feet, corrected for storage in Pend Oreille Lake).

Extremes.— Maximum discharge during year, 83,500 second-feet June 9-11 (gage height, 17.13 feet; about 2,058.0 feet at Weather Bureau gage on highway bridge at Priest River); minimum, 6,380 second-feet Oct. 1 (gage height, 4.74 feet; about 2,045.0 feet at Weather Bureau gage on highway bridge at Priest River).

1903-35: 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 flood marks referred to Newport gage (estimated discharge, 217,000 second-feet).

Remarks.— Records excellent. 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. Part of monthly-discharge table corrected for natural storage in Pend Oreille Lake. Gage-height record collected in cooperation with the U. S. Weather Bureau.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,550	8,980	14,800	13,000	14,300	13,000	14,300	28,000	77,200	62,500	25,800	13,000
2	6,550	9,420	14,800	13,000	14,300	13,000	14,300	29,200	78,600	61,100	25,800	13,000
3	6,550	9,640	14,800	12,500	14,300	12,500	13,900	30,400	80,000	59,700	24,700	13,000
4	6,750	9,860	14,800	12,500	14,300	12,500	13,900	31,100	80,700	58,500	24,100	12,500
5	6,750	9,660	14,300	12,500	14,300	13,000	13,900	31,700	82,100	56,900	23,500	12,500
6	6,750	11,000	14,300	12,100	14,300	12,500	13,400	32,900	82,800	55,500	22,400	12,100
7	6,910	11,800	14,300	12,100	14,300	13,000	13,900	34,900	82,800	54,100	22,400	11,200
8	6,910	12,500	14,300	12,500	14,300	12,500	14,300	36,800	82,800	53,400	21,900	11,000
9	6,750	13,400	13,900	12,500	14,300	12,100	13,900	37,500	83,500	52,000	21,900	10,700
10	6,910	13,900	13,900	13,000	14,300	12,100	13,900	38,800	83,500	50,600	20,200	10,500
11	6,910	13,900	13,400	13,000	14,300	12,100	13,900	40,100	83,500	49,200	20,200	10,100
12	6,910	13,900	13,000	12,500	14,300	12,500	14,300	41,500	82,800	47,800	19,700	10,100
13	6,910	13,400	13,400	11,600	13,900	12,500	14,300	42,200	82,800	46,400	19,200	10,100
14	6,910	13,900	13,000	10,300	13,900	12,500	15,300	42,900	82,800	45,700	18,100	9,640
15	6,910	13,900	13,000	10,400	13,400	12,500	15,700	43,600	82,800	44,300	18,100	9,420
16	7,290	13,900	13,000	10,400	13,900	13,400	15,700	44,300	82,100	42,200	17,600	9,200
17	7,100	13,900	13,000	10,400	13,400	13,400	16,200	45,000	81,400	41,500	17,100	9,420
18	7,100	13,900	13,000	10,500	13,400	13,400	17,100	45,000	80,700	40,100	16,100	9,200
19	7,100	14,300	13,000	9,420	13,900	13,900	17,600	45,000	80,000	38,800	15,600	9,200
20	7,290	14,300	13,000	9,640	13,400	13,900	18,100	45,200	78,600	37,500	16,200	8,980
21	7,290	14,300	13,000	10,300	13,000	14,300	18,600	50,600	77,200	36,200	15,700	8,980
22	7,490	14,300	13,000	11,000	13,000	14,300	19,700	52,700	75,500	34,900	15,700	8,760
23	7,900	14,800	13,400	11,600	13,400	13,900	21,300	54,800	74,400	34,200	14,800	8,540
24	8,110	14,300	13,400	12,100	13,400	13,900	21,900	56,500	73,000	32,900	14,800	8,320
25	8,540	14,800	13,900	12,100	13,400	13,900	23,000	61,800	71,600	31,700	14,800	8,320
26	9,420	14,800	13,900	12,500	13,400	14,300	23,500	65,300	70,200	31,100	14,300	8,110
27	9,640	14,800	14,300	13,000	13,400	14,300	24,700	67,400	68,800	29,800	14,300	7,900
28	9,640	14,800	13,900	13,400	13,000	14,300	25,800	70,200	66,700	28,600	13,900	7,900
29	9,860	14,800	13,900	13,900	—	13,400	26,300	72,500	65,300	28,600	13,900	7,900
30	9,420	14,800	13,900	13,900	—	14,300	26,900	73,700	63,200	27,500	13,400	7,690
31	9,420	—	13,400	14,300	—	14,800	—	75,100	—	26,900	13,400	—

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	9,860	6,550	7,563	465,000	+38,380	503,400	8,187	0.338	0.39
November.....	14,800	8,980	13,200	785,400	+110,600	896,000	15,060	.622	.69
December.....	14,800	13,000	13,710	843,000	-43,350	799,600	13,000	.537	.62
Calendar year 1934	91,200	6,550	31,840	23,050,000	-652,400	22,400,000	30,940	1.28	17.34
January.....	14,300	9,420	12,000	737,800	+24,650	762,400	12,400	.512	.59
February.....	14,300	13,000	13,800	766,200	-28,050	738,200	13,290	.549	.57
March.....	14,800	12,100	13,290	817,200	+28,350	845,600	13,720	.567	.65
April.....	26,900	13,400	17,650	1,050,000	+260,300	1,310,300	22,020	1.91	1.02
May.....	75,100	26,000	47,610	2,927,000	+726,500	3,654,000	59,430	2.46	2.64
June.....	83,500	63,200	77,220	4,637,000	-154,400	4,483,000	75,340	3.11	3.47
July.....	62,500	26,900	43,230	2,658,000	-565,000	2,093,000	34,040	1.41	1.63
August.....	26,800	13,400	18,420	1,133,000	-272,400	860,600	14,000	.579	.67
September.....	13,000	7,690	9,909	589,600	-103,600	486,000	8,168	.338	.38
Water year 1934-35	83,500	6,550	24,050	17,410,000	+19,980	17,430,000	24,080	.995	13.52

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

(International gaging station)

Location.- Water-stage recorder, lat. 48°59', long. 117°21', in lot 2, sec. 11, T. 40 N., R. 43 E., three-quarters of a mile below Z Canyon and 10 miles below Meteline Falls.

Drainage area.- 25,200 square miles.

Records available.- October 1928 to September 1935; November 1908 to September 1910, October 1912 to September 1928 for station at Meteline Falls.

Average discharge.- 23 years (1912-35), 28,790 second-feet, corrected for storage in Pend Oreille Lake.

Extremes.- Maximum discharge during year, 85,900 second-feet June 13 (gage height, 36.77 feet); minimum, 6,320 second-feet sometime Jan. 18 to Feb. 4 (gage height, 10.63 feet, from recorded range of stage).

1912-35: Maximum discharge, 139,000 second-feet June 16, 1913 (gage height, 41.2 feet, Meteline Falls gage); minimum, 2,500 second-feet Dec. 12, 1919 (gage height, -2.4 feet, Meteline Falls gage).

Remarks.- Records excellent except those for Jan. 15, Jan. 19 to Feb. 3, which were estimated on basis of records at Priest River and are good. Numerous small diversions from upper tributaries for irrigation. No artificial regulation of any consequence. Part of monthly table corrected for natural storage in Pend Oreille Lake. This is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

10.7	6,510	13.0	12,180	18.0	28,320	23.0	43,900	30.0	65,200
11.0	7,130	14.0	14,950	19.0	31,900	24.0	46,900	32.0	71,200
11.5	6,260	15.0	16,100	20.0	34,900	25.0	50,000	34.0	77,200
12.0	9,510	16.0	21,400	21.0	37,900	26.0	53,100	36.0	83,300
12.5	10,830	17.0	25,420	22.0	40,900	28.0	59,300	38.0	89,500

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,710	10,000	15,500	13,300	15,000	13,800	15,200	30,700	77,500	66,400	28,800	13,600
2	6,710	9,770	15,200	13,300	15,100	13,600	15,200	31,500	76,700	65,200	28,200	13,300
3	6,920	9,770	15,200	13,300	15,200	13,600	15,000	32,500	80,200	65,800	27,500	13,000
4	6,920	10,000	15,200	13,300	15,200	13,300	15,000	33,700	81,400	65,300	26,800	13,000
5	6,920	10,600	15,500	13,300	15,000	13,600	15,000	34,300	82,400	60,800	26,400	12,400
6	6,920	10,800	15,200	13,000	15,000	13,600	15,000	35,600	83,900	59,300	26,100	12,200
7	6,920	11,400	15,200	12,700	15,000	13,300	14,700	36,400	84,600	58,100	24,400	11,900
8	7,130	12,200	15,000	13,000	15,000	13,600	15,000	38,200	85,200	56,800	23,600	11,600
9	6,920	12,700	15,000	13,300	15,000	13,300	15,200	39,400	84,900	55,600	23,500	11,400
10	6,920	13,600	14,400	13,000	14,700	13,000	15,200	40,600	85,200	54,000	22,600	11,100
11	7,130	14,100	14,400	12,700	14,700	12,700	15,500	41,500	85,200	52,500	21,800	10,300
12	7,130	14,400	14,100	13,000	14,700	12,700	15,800	42,700	85,500	51,200	21,000	10,600
13	7,130	14,400	14,100	13,000	14,700	13,000	16,100	43,900	85,500	50,000	20,600	10,300
14	7,130	14,400	14,100	13,300	14,700	13,600	16,100	44,800	85,200	48,800	19,900	10,300
15	7,130	14,400	13,800	11,000	14,400	13,800	16,800	46,400	85,200	47,500	18,800	10,000
16	7,350	14,400	13,600	10,000	14,400	13,800	17,400	46,000	84,900	46,300	18,400	9,770
17	7,350	14,400	13,800	10,000	14,400	14,100	17,800	46,900	84,600	44,800	18,400	9,510
18	7,350	14,700	13,600	11,600	14,100	14,400	18,400	47,800	83,900	43,300	18,100	9,510
19	7,130	14,700	13,300	9,000	14,100	14,700	19,200	48,300	83,300	42,100	17,400	9,250
20	7,350	15,000	13,300	7,500	14,100	15,000	20,300	50,300	82,100	40,600	17,400	9,250
21	7,570	15,000	13,600	10,000	13,800	15,000	21,800	51,900	81,100	39,700	16,800	9,250
22	7,790	15,000	13,600	11,000	13,800	15,000	22,600	53,700	79,900	38,500	16,400	9,000
23	8,020	15,000	13,800	12,000	13,800	15,200	23,300	55,900	78,100	37,300	16,100	9,000
24	8,260	15,200	13,800	12,500	13,800	15,200	24,700	57,800	76,600	36,400	15,500	8,750
25	8,750	15,200	13,800	13,000	13,800	15,000	25,400	60,500	75,100	35,200	15,200	8,500
26	9,000	15,200	14,100	13,300	13,800	14,700	26,500	63,800	73,900	34,000	15,000	8,500
27	9,510	15,200	14,400	13,700	13,800	15,000	27,500	66,700	72,400	33,100	15,000	8,500
28	10,000	15,500	14,100	14,000	13,800	15,000	28,500	69,700	70,900	32,200	14,700	8,250
29	10,000	15,500	14,400	14,300	-	15,000	29,500	72,100	69,100	31,300	14,400	8,020
30	10,000	15,500	14,100	14,700	-	14,700	30,400	73,900	67,600	30,700	14,100	8,020
31	10,000	-	13,300	15,000	-	15,000	-	76,000	-	29,600	13,800	-

Month	Observed				Corrected for storage				
	Discharge in second-feet			Run-off in acre-feet	Gain or loss in storage in Pend Oreille Lake (acre-feet)	Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October.....	10,000	6,710	7,744	476,200	+38,380	514,600	8,369	0.332	0.38
November.....	15,600	9,770	13,500	809,300	+110,600	919,900	15,450	.613	.68
December.....	15,600	13,300	14,270	877,300	-43,350	834,000	13,560	.538	.62
Calendar year 1934	94,400	6,710	35,490	24,250,000	-652,400	23,590,000	32,590	1.29	17.55
January.....	15,000	7,500	12,450	765,800	+24,650	790,400	12,850	.510	.59
February.....	15,200	13,800	14,460	803,100	-28,050	775,050	13,950	.554	.58
March.....	15,200	12,700	14,110	887,400	+26,350	913,750	14,540	.577	.67
April.....	30,400	14,700	19,470	1,159,000	+260,300	1,419,000	23,250	.946	1.06
May.....	76,000	30,700	48,800	3,000,000	+725,500	3,725,000	60,600	2.40	2.77
June.....	85,500	67,600	80,470	4,788,000	-154,400	4,634,000	77,880	3.09	3.45
July.....	66,400	29,800	46,700	2,871,000	-565,000	2,306,000	37,500	1.49	1.72
August.....	28,800	13,800	19,260	1,219,000	-272,400	946,600	15,390	.611	.70
September.....	13,600	8,020	10,300	612,600	-103,600	509,000	8,554	.339	.38
Water year 1934-35	85,600	6,710	26,210	18,250,000	+19,980	18,270,000	25,230	1.00	13.60

## East Fork of Rock Creek near Philipsburg, Mont.

Location.- Staff gage, lat. 46°8', long. 113°22', in sec. 5, T. 4 N., R. 14 W., about 6 miles southwest of Georgetown Lake.

Records available.- June to September 1935.

Extremes.- Maximum discharge during period, 269 second-feet June 15 (gage height, 3.06 feet); minimum, 17 second-feet Sept. 24-30 (gage height, 0.80 foot).

Remarks.- Records fair.

Rating table for 1935 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 4-14)

0.8	17	2.0	111
1.0	27	2.2	136
1.2	39	2.4	161
1.4	54	2.6	190
1.6	70	2.8	221
1.8	89	3.0	253

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	116	31	21
2									-	111	31	21
3									-	106	29	21
4									84	100	29	21
5									100	94	29	20
6									116	84	29	20
7									142	84	27	20
8									168	79	26	20
9									190	74	26	20
10									205	66	25	20
11									221	62	25	20
12									237	58	25	20
13									237	58	25	19
14									253	54	25	19
15									253	50	24	19
16									253	48	24	19
17									221	48	24	19
18									190	48	23	19
19									154	46	23	18
20									154	46	23	18
21												
22									142	47	23	18
23									135	42	23	18
24									128	39	23	17
25									128	39	23	17
26									116	37	22	17
27									106	37	22	17
28									106	37	22	17
29									106	35	22	17
30									111	34	21	17
31									116	32	21	17
									-	32	21	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year .....												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						-	-	-	-	-		
May.....						-	-	-	-	-		
June 4-30.....						4,372	253	84	162	8,670		
July.....						1,845	116	32	59.5	3,660		
August.....						766	31	21	24.7	1,520		
September.....						566	21	17	18.9	1,120		
The period.....						-	-	-	-	14,970		

## Nevada Creek near Finn, Mont.

Location.- Staff gage, lat. 46°48'30", long. 112°48'30", in NE¼ sec. 13, T. 12 N., R. 10 W., 6 miles west of Finn.

Records available.- May 1934 to September 1935.

Extremes.- Maximum discharge during period, 246 second-feet Apr. 12; maximum gage height, 4.18 feet Mar. 13; minimum discharge, 5.0 second-feet several times Sept. 22-25 (gage height, 0.78 foot).

1934-35: Maximum discharge, that of Apr. 12; maximum gage height, that of Mar. 13, 1935; minimum discharge, 5.0 second-feet several times Sept. 22-25, 1935 (gage height, 0.78 foot).

Remarks.- Records good except those for period of ice effect, Nov. 27-30 and Apr. 1-7, which are fair. Some diversions above gage.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Apr. 7

0.4	1.6
.6	3.0
.8	6.3
1.0	12
1.2	22
1.4	39
1.6	63
1.6	92

Table for Apr. 8 to Sept. 30

0.6	1.0	1.6	92
.8	5.6	2.0	121
1.0	14.3	2.2	154
1.2	27	2.4	190
1.4	44	2.6	227
1.6	67	2.8	266

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	14						32	51	25	12	6.0
2	11	14						32	47	22	11	5.6
3	12	14						27	41	25	11	5.6
4	12	13					10	26	35	28	9.9	5.6
5	11	14						27	34	35	9.4	6.0
6	11	14						30	36	35	9.4	6.4
7	12	13						34	34	25	8.6	7.1
8	11	14					20	32	34	26	8.6	6.4
9	11	13					29	29	33	24	8.3	6.0
10	12	13					38	31	40	20	7.9	5.6
11	11	12					60	29	38	20	7.9	5.6
12	11	12					146	29	39	19	7.9	5.6
13	13	12					99	28	43	17	7.9	5.6
14	16	12					62	26	46	17	7.1	5.3
15	13	12					84	22	50	16	7.1	6.0
16	13	12					79	20	42	15	7.1	6.0
17	13	12					51	23	38	15	7.5	6.0
18	13	13					46	21	32	14	7.1	6.4
19	13	14					47	24	32	14	7.9	6.0
20	12	13					44	24	29	14	7.9	5.6
21	12	13					54	27	27	14	7.9	5.6
22	14	13					46	44	22	14	8.3	5.3
23	13	13					44	78	23	11	7.5	5.3
24	14	12					36	78	23	13	7.1	5.0
25	16	13					39	86	22	14	7.1	5.3
26	15	12					33	72	26	14	6.7	5.6
27	14						35	65	26	13	6.7	6.4
28	13						29	56	24	11	6.4	6.7
29	13	10					28	52	26	11	6.0	7.1
30	13						33	45	28	11	6.0	6.0
31	14	-					-	47	-	11	5.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	303	16	11	12.7	780
November.....	375	14	-	12.5	744
December.....	-	-	-	-	-
Calendar year .....					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	1,261	146	-	41.7	2,480
May.....	1,198	36	20	38.6	2,390
June.....	1,021	51	22	34.0	2,030
July.....	561	35	11	18.1	1,110
August.....	246.8	12	5.6	7.96	490
September.....	176.7	7.1	5.0	5.99	350
Water year .....					

Flathead River at Flathead, British Columbia  
(Formerly Flathead River near Trail Creek, Mont.)  
(International gaging station)

Location.- Staff gage, lat. 49°, long. 114°29', at highway bridge 0.2 mile (revised) north of international boundary, 0.2 mile northwest of Flathead, British Columbia, and 7 miles northwest of Trail Creek, Mont.

Drainage area.- 450 square miles.

Records available.- March 1929 to September 1935 (no records during winters).

Extremes.- Maximum discharge observed during year, 8,080 second-feet May 23 (gage height, 6.18 feet); minimum observed, 170 second-feet Oct. 7-11, Apr. 9, 10 (gage height, 1.08 feet). Smaller discharge may have occurred during winter, when gage was not read.

1929-35: Maximum discharge observed, 10,600 second-feet June 17, 1933 (gage height, 6.90 feet); minimum observed, 65 second-feet Apr. 9, 1929 (gage height, 0.76 foot). Probably not actual minimum.

Remarks.- Records good. No records Dec. 19 to Mar. 31. Records computed and four 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.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

1.0	149	2.2	830	4.0	3,070
1.2	208	2.4	1,000	4.5	3,990
1.4	286	2.6	1,190	5.0	5,040
1.6	390	2.8	1,400	5.5	6,220
1.8	523	3.0	1,620	6.0	7,580
2.0	670	3.5	2,280	6.5	8,980

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	192	403				201	983	6,170	2,150	566	270
2	175	201	379				205	908	5,260	1,920	530	270
3	175	205	362				205	906	5,020	1,860	523	262
4	175	246	334				185	1,040	4,380	1,790	496	262
5	172	266	324				195	1,660	4,950	1,740	469	262
6	172	1,120	305				195	2,060	4,070	1,670	442	254
7	170	1,050	296				182	1,790	4,250	1,510	422	254
8	170	1,080	286				175	1,660	4,300	1,470	418	250
9	170	1,230	286				170	1,590	4,760	1,390	403	246
10	170	1,030	278				170	1,870	4,440	1,270	396	246
11	170	822	270				182	1,820	4,700	1,200	390	242
12	172	717	262				192	1,560	4,440	1,150	390	238
13	175	566	254				208	1,750	4,190	1,090	379	231
14	175	530	254				242	1,900	4,190	1,040	373	231
15	175	537	250				258	1,990	4,320	1,020	368	227
16	175	537	246				238	2,430	3,690	1,000	368	223
17	175	566	254				238	2,490	3,420	957	362	219
18	175	552	246				262	2,930	3,370	914	356	219
19	175	537	-				262	3,830	3,240	890	345	216
20	178	523	-				305	4,150	3,090	748	354	212
21	182	523	-				410	5,420	3,020	686	329	208
22	188	509	-				442	6,970	2,880	717	324	208
23	189	496	-				462	7,750	2,690	717	315	208
24	201	459	-				496	6,640	2,560	701	310	208
25	206	482	-				595	4,950	2,420	701	305	208
26	208	469	-				797	4,820	2,140	678	296	208
27	201	455	-				830	4,740	2,110	640	286	205
28	195	448	-				732	4,740	2,110	625	273	201
29	192	429	-				748	4,800	2,080	610	278	201
30	188	429	-				914	4,980	2,030	595	278	201
31	188	-	-				-	5,700	-	581	274	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	5,611	208	170	181	0.40	0.46	11,100
November.....	17,216	1,230	192	574	1.28	1.43	34,200
December 1-18.....	5,289	403	246	294	.65	.44	10,500
Calendar year .....							
January.....	-	-	-	-	-	-	-
February.....	-	-	-	-	-	-	-
March.....	-	-	-	-	-	-	-
April.....	10,676	914	170	366	.79	.88	21,200
May.....	100,815	7,750	906	3,250	7.22	8.32	200,000
June.....	110,770	6,170	2,030	3,690	8.20	9.15	220,000
July.....	35,970	2,150	581	1,100	2.44	2.81	67,600
August.....	11,601	566	274	374	.53	.96	25,000
September.....	6,890	270	201	250	.51	.57	13,700
.....							

## CLARK FORK BASIN

Flathead River near Columbia Falls, Mont.

Location.- Water-stage recorder, lat. 48°29', long. 114°5', 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 1935.

Extremes.- Maximum discharge during year, 20,800 second-feet May 24 (gage height, 10.34 feet); minimum, 700 second-feet Sept. 11 (gage height, 1.92 feet).  
1910-17, 1929-35: Maximum discharge, 29,500 second-feet June 20, 1916 (gage height, 9.8 feet, former site and datum); minimum, 350 second-feet Nov. 10, 1911, and Feb. 5-16, 1914 (gage height, 0.70 foot, former site and datum).

Remarks.- Records fair except those for estimated periods Jan. 5-27 and Feb. 5-17, 28-28, which are poor. No records Mar. 1-13, Mar. 22 to May 14. Discharge estimated because of ice Jan. 28 to Feb. 4, Feb. 18-24 and Mar. 14-17.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used May 1 to June 15)

1.0	420	2.4	970	3.8	2,240	6.5	7,300
1.2	460	2.6	1,100	4.0	2,510	7.0	8,700
1.4	515	2.8	1,235	4.2	2,800	7.5	10,210
1.6	580	3.0	1,365	4.6	3,410	8.0	11,820
1.8	660	3.2	1,560	5.0	4,070	9.0	15,420
2.0	745	3.4	1,760	5.5	5,000	10.0	19,450
2.2	850	3.6	1,990	6.0	6,090	11.0	23,950

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	770	880	1,340	970	1,560	-	-	-	11,200	7,830	2,300	1,070
2	745	940	1,300	1,000	1,470	-	-	-	11,200	7,560	2,300	1,070
3	745	1,000	1,270	1,000	1,380	-	-	-	12,800	6,800	2,180	1,070
4	745	1,000	1,240	1,000	1,300	-	-	-	13,900	6,090	2,050	1,040
5	745	1,070	1,200	970	-	-	-	-	13,900	6,090	1,930	1,040
6	745	1,470	1,160	980	1,000	-	-	-	13,900	6,090	1,870	1,040
7	722	3,020	1,130			-	-	-	15,000	6,090	1,760	1,040
8	722	3,900	1,100			-	-	-	14,700	5,860	1,710	1,000
9	722	4,240	1,040			-	-	-	13,600	5,640	1,660	1,000
10	722	3,650	940			-	-	-	13,600	5,320	1,610	970
11	722	3,100	860	980	1,000	-	-	-	13,900	5,000	1,560	970
12	722	2,650	940			-	-	-	13,600	4,800	1,520	940
13	722	2,400	1,070			1,000	-	-	13,600	4,610	1,520	940
14	722	2,240	1,070			1,000	-	-	13,600	4,520	1,430	910
15	722	2,110	1,070			1,000	-	6,320	13,900	4,520	1,430	910
16	745	2,050	1,040	850	940	970	-	6,800	13,600	4,420	1,430	910
17	745	2,050	1,000			970	-	6,110	11,800	4,420	1,380	910
18	745	2,110	970			970	-	11,200	11,500	4,330	1,380	910
19	722	2,110	1,000			970	-	11,600	11,200	4,160	1,380	880
20	722	2,050	970			940	910	12,200	10,800	3,900	1,340	880
21	722	1,930	1,000	850	910	940	910	13,900	10,200	3,820	1,300	880
22	795	1,820	1,040			910	-	16,600	9,900	3,570	1,240	860
23	822	1,760	1,040			880	-	19,400	10,500	3,410	1,200	860
24	822	1,710	1,000			795	-	20,300	9,900	3,250	1,160	860
25	850	1,660	970			-	-	17,800	9,000	3,250	1,160	880
26	1,070	1,610	722	1,870	800	-	-	14,700	8,110	3,250	1,130	880
27	1,100	1,520	680			-	-	13,600	7,830	3,100	1,130	880
28	970	1,470	700			-	-	13,600	7,560	2,880	1,100	850
29	940	1,430	795			-	-	13,900	8,110	2,800	1,100	850
30	910	1,340	910			-	-	13,600	8,400	2,580	1,070	822
31	860	-	970	1,660	-	-	-	12,500	-	2,400	1,100	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	24,553	1,100	722	792	0.600	0.69	48,700
November.....	60,290	4,240	880	2,010	1.24	1.38	119,600
December.....	31,657	1,340	680	1,016	.628	.72	62,590
Calendar year .....							
January.....	32,160	1,930	-	1,037	.640	.74	63,790
February.....	28,315	1,560	-	1,011	.624	.65	56,160
March 14-21.....	7,670	1,000	910	959	.692	.18	15,210
April.....	-	-	-	-	-	-	-
May 15-31.....	226,030	20,300	6,320	13,300	8.21	5.19	448,300
June.....	350,210	15,000	7,560	11,690	7.22	6.06	695,900
July.....	142,560	7,830	2,400	4,592	2.83	3.26	282,400
August.....	46,430	2,300	1,070	1,498	.925	1.07	92,090
September.....	28,092	1,070	822	926	.578	.64	55,720
Water year .....							

## Flathead River at Columbia Falls, Mont.

Location.— Water-stage recorder, lat. 46°23', long. 114°9'30", 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 1935.

Extremes.— Maximum discharge during year, 71,000 second-feet May 24 (gage height, 15.28 feet); minimum, 1,510 second-feet Oct. 11 (gage height 0.80 foot).  
1922-23, 1928-35: Maximum discharge, 102,000 second-feet June 5, 1923 (gage height, 17.3 feet); minimum, 798 second-feet Dec. 8, 1929 (gage height, -0.03 foot).

Remarks.— Records good. No diversions.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

0.8	1,510	2.4	3,720	5.0	10,150	10.0	32,730
1.0	1,720	2.5	4,460	5.5	11,790	11.0	39,060
1.2	1,950	3.0	5,290	6.0	13,550	12.0	45,980
1.4	2,200	3.6	6,230	7.0	17,450	13.0	53,280
1.6	2,470	4.0	7,250	8.0	21,850	14.0	60,870
2.0	3,060	4.5	8,640	9.0	27,000	15.0	68,600

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,720	3,610	3,990	2,840	5,180	2,610	2,470	17,000	54,800	20,900	5,870	2,680
2	1,660	4,660	3,610	2,980	4,960	2,540	2,330	16,200	53,300	18,700	5,670	2,680
3	1,660	4,760	3,720	2,780	4,660	2,470	2,400	15,800	44,600	17,000	5,520	2,610
4	1,660	4,560	3,640	2,760	4,460	2,330	2,400	17,000	40,400	16,600	5,290	2,610
5	1,610	4,660	3,460	2,910	4,270	2,330	2,400	21,400	41,800	17,000	5,070	2,540
6	1,610	6,480	3,380	2,910	4,080	2,200	2,470	28,700	40,400	16,600	4,860	2,540
7	1,610	10,600	3,300	2,760	3,990	2,140	2,400	28,300	37,700	16,200	4,560	2,470
8	1,560	12,800	3,060	2,610	3,550	2,070	2,330	24,800	39,700	15,400	4,460	2,470
9	1,560	13,900	2,760	2,610	3,500	2,070	2,260	22,800	43,600	15,000	4,270	2,400
10	1,560	11,600	2,540	2,540	2,980	2,140	2,260	23,800	43,200	13,900	4,180	2,330
11	1,510	10,200	2,330	2,400	3,300	2,200	2,260	23,300	41,100	13,200	4,080	2,330
12	1,510	8,930	2,910	2,200	3,300	2,260	2,610	20,900	41,800	12,500	3,990	2,260
13	1,560	8,350	3,140	1,950	3,500	2,680	3,550	19,200	41,800	12,100	3,900	2,200
14	1,560	7,620	3,060	1,830	3,300	3,560	4,860	18,700	40,400	12,100	3,810	2,140
15	1,610	7,250	2,910	1,830	3,300	3,900	4,560	20,900	39,700	11,800	3,720	2,140
16	1,610	6,730	2,910	1,780	3,140	3,900	5,520	24,300	35,200	11,800	3,640	2,200
17	1,610	6,730	2,910	1,780	2,980	3,720	6,230	31,000	31,000	11,400	3,550	2,260
18	1,560	6,480	2,760	1,750	3,060	3,640	6,730	36,400	30,400	11,100	3,460	2,200
19	1,560	6,230	2,760	1,720	2,980	3,460	6,990	37,700	30,400	10,200	3,550	2,070
20	1,560	6,230	2,760	1,660	2,910	3,380	8,070	40,400	29,300	9,840	3,380	2,070
21	1,660	5,870	2,760	1,610	2,910	3,220	10,800	47,400	28,100	11,400	3,300	2,010
22	1,890	5,620	3,140	2,200	2,840	3,060	12,500	56,300	28,100	9,880	3,140	1,950
23	2,010	5,400	3,030	2,760	2,640	2,910	12,100	67,800	29,300	6,350	3,060	1,950
24	2,070	5,180	2,910	3,720	2,610	2,910	12,100	67,800	28,100	8,350	3,060	1,950
25	2,540	5,070	2,400	6,990	2,530	3,060	13,200	55,600	24,300	8,350	2,910	1,960
26	5,180	4,860	1,950	9,330	2,400	2,910	16,600	46,700	21,800	8,070	2,910	1,950
27	5,990	4,560	1,950	8,930	2,470	2,760	17,400	43,800	20,900	7,520	2,840	1,890
28	4,860	4,560	2,010	7,250	2,540	2,760	15,800	43,200	20,900	6,990	2,760	1,850
29	4,270	4,190	2,200	6,990	—	2,840	14,700	43,200	21,800	6,730	2,760	1,850
30	3,900	4,060	2,470	6,230	—	2,680	16,200	43,800	23,300	6,480	2,680	1,780
31	3,640	—	2,660	5,520	—	2,610	—	46,600	—	6,110	2,760	—

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	69,870	5,990	1,510	2,254	0.508	0.59	138,600
November.....	201,660	13,900	3,810	6,722	1.51	1.68	400,000
December.....	89,640	3,990	1,950	2,892	.651	.75	177,800
Calendar year 1934.....	4,205,480	68,600	1,510	11,520	2.59	35.22	8,341,000
January.....	108,010	9,230	1,330	3,484	.785	.90	214,200
February.....	93,940	5,180	2,630	3,355	.755	.79	186,500
March.....	87,310	3,900	2,070	2,816	.634	.73	173,200
April.....	216,800	17,400	2,260	7,227	1.63	1.82	430,000
May.....	1,054,800	67,800	15,800	34,030	7.66	8.83	2,092,000
June.....	1,047,400	64,800	20,900	34,610	7.66	8.77	2,077,000
July.....	371,570	20,900	6,110	11,990	2.79	3.11	737,000
August.....	119,210	5,670	2,680	3,845	.866	1.00	236,400
September.....	66,290	2,680	1,780	2,210	.498	.56	131,500
Water year 1934-35.....	3,526,500	67,800	1,510	9,662	2.16	29.53	6,994,000



## CLARK FORK BASIN

## Flathead River near Kalispell, Mont.

Location.- Chain gage, lat. 48°13', long. 114°15', in NE $\frac{1}{4}$  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 1935.

Extremes.- Maximum water surface elevation recorded during year, 2,912.10 feet May 24; minimum, 2,901.12 feet Sept. 23, 30.  
1928-35: Maximum water-surface elevation, 2,913.95 feet May 27, 1928; minimum, that of Sept. 23 and 30, 1935.

Remarks.- Records fragmentary but reliable; used for study of profile between Kalispell and Flathead Lake.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.50	3.85	-	5.00	4.63	1.94	1.96	5.96	11.00	7.67	4.00	-
2	1.50	4.15	3.36	4.98	-	-	1.98	6.30	10.80	7.55	3.93	2.28
3	1.54	4.55	3.32	4.95	4.60	-	2.10	6.71	10.50	7.50	3.74	2.24
4	1.56	-	3.30	-	4.55	1.92	2.18	-	10.10	-	-	2.20
5	1.56	5.10	3.26	-	4.50	1.90	2.40	7.50	10.00	7.47	3.62	2.18
6	1.58	6.00	3.22	4.93	4.45	1.90	-	6.17	9.90	-	3.50	2.14
7	1.60	6.35	-	4.90	4.40	1.88	-	8.20	-	-	3.52	-
8	-	6.30	-	4.88	4.36	1.86	2.56	8.15	10.10	6.92	3.48	-
9	1.62	6.00	3.18	4.86	-	-	2.70	8.08	10.10	6.70	3.45	2.08
10	1.64	5.75	3.10	4.85	4.32	1.84	3.00	6.01	10.10	6.65	3.40	2.00
11	1.64	5.45	3.06	-	4.28	1.86	3.02	-	10.10	6.30	-	1.92
12	1.66	5.30	3.00	-	4.20	-	3.20	-	10.15	6.17	3.32	1.84
13	1.66	5.15	2.90	4.85	4.16	1.88	3.32	7.90	10.00	-	3.26	1.72
14	-	5.00	2.62	4.84	4.06	2.04	-	7.95	-	6.10	3.22	-
15	1.70	4.84	-	4.80	3.80	2.36	3.50	6.10	9.60	-	3.18	-
16	1.74	4.68	2.72	4.76	-	-	3.64	8.50	9.50	6.05	3.12	1.60
17	1.76	-	2.50	4.76	-	2.60	3.75	9.25	-	5.83	3.06	1.62
18	1.78	-	2.39	4.74	3.20	2.69	3.78	-	9.10	5.75	-	1.40
19	1.78	4.40	2.20	-	3.00	2.76	3.85	9.90	9.08	5.53	3.02	1.36
20	-	4.30	2.12	-	2.82	2.58	-	10.30	-	5.58	3.00	1.20
21	-	4.22	1.98	4.70	2.64	2.54	-	10.40	9.06	5.19	2.92	1.14
22	1.80	4.18	-	4.74	2.52	2.50	4.10	10.45	-	5.01	2.84	-
23	1.92	4.10	1.92	-	-	-	4.55	11.30	9.08	4.90	2.68	1.12
24	1.96	-	1.88	4.75	2.40	2.50	4.50	12.10	6.65	4.61	2.70	1.14
25	2.08	4.00	-	4.76	2.26	2.42	4.65	12.00	-	4.75	2.62	1.18
26	2.16	3.91	2.30	-	2.12	2.36	4.63	-	6.35	4.60	2.54	-
27	2.30	3.78	2.82	4.80	2.06	2.32	-	10.90	-	4.51	2.50	-
28	2.42	3.65	3.60	4.78	2.00	2.28	-	10.40	8.30	4.45	2.48	-
29	2.90	3.50	-	4.72	-	2.22	5.20	10.30	7.96	4.40	2.40	-
30	3.14	3.41	4.30	4.69	-	-	5.50	10.40	7.65	4.30	2.36	1.12
31	3.45	-	5.00	4.65	-	1.96	-	10.80	-	4.10	2.30	-

Note.- Add 2,900 feet to obtain elevations above mean sea level, Somers datum.

Flathead River at Demersville, near Kalispell, Mont.

Location.- Wire gage, lat. 48°10', long. 114°16', 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 1935.

Extremes.- Maximum water-surface elevation recorded during year, 2,900.72 feet May 24; minimum, 2,882.50 feet Jan. 19, 20.

1909-12, 1928-35: Maximum water-surface elevation recorded, 2,904.94 feet June 17, 1933; minimum, that of Jan. 19, 20, 1935.

Remarks.- Records fair; used for study of profile between Kalispell and Flathead Lake.

Gage-heights at low stages do not represent true river elevation, but show ground-water elevation instead. River flows through this channel at high stages only.

Elevation, in feet, water years 1933-34 and 1934-35

1933-34

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85.30	86.90	85.52				86.06	86.62	86.50	88.12	-	82.98
2	85.30	86.14	85.34				86.02	86.54	84.48	87.96		82.98
3	85.28	89.30	85.40				85.66	86.54	93.66	87.76	84.21	82.98
4	85.24	89.54	85.30				85.68	95.36	93.48	87.60	84.17	82.95
5	85.24	85.72	85.34				86.02	97.00	93.42	87.40	84.06	82.94
6	85.23	86.00	85.40				86.28	96.78	93.08	87.30	84.04	82.94
7	85.22	87.84	85.36				87.06	96.36	93.37	87.24	84.02	82.94
8	85.20	87.30	85.24				89.00	99.54	94.02	87.03	84.02	82.93
9	85.17	87.18	85.24				89.96	99.35	93.40	86.84	83.96	82.94
10	85.12	87.00	85.50				90.28	97.90	93.10	86.74	83.92	82.95
11	85.11	86.30	85.68				91.06	96.98	93.20	86.64	83.88	82.92
12	85.16	-	85.80				91.50	97.15	93.22	86.40	83.80	82.92
13	85.12	-	85.80				92.44	96.68	92.86	86.30	83.75	82.93
14	85.08	86.48	85.75				92.56	96.26	92.38	86.14	83.66	82.94
15	85.02	86.45	85.70				92.98	96.94	92.06	86.02	83.64	82.95
16	85.00	86.36	85.54				92.28	98.20	91.72	85.66	83.53	82.88
17	85.00	86.26	85.48				91.90	98.56	91.52	85.60	83.51	82.80
18	85.08	86.10	85.38				92.50	98.20	90.46	85.78	83.63	82.78
19	85.12	86.02	85.76				93.00	97.04	90.50	85.60	83.56	82.79
20	85.18	85.90	85.80				93.76	96.38	90.28	85.50	83.50	82.80
21	85.28	85.80	85.90				95.38	95.96	89.98	85.44	83.42	82.82
22	85.32	85.80	87.28				96.42	95.45	89.64	85.31	83.34	82.82
23	84.70	85.80	89.80				97.80	95.28	89.36	85.20	83.28	82.76
24	85.70	85.90	89.92				98.58	95.65	89.04	85.10	83.24	82.76
25	87.48	85.96	87.86				99.04	96.42	88.80	85.00	83.20	82.75
26	87.48	86.10	87.94				99.28	97.35	89.90	84.94	83.17	82.74
27	88.00	85.90	88.20				98.86	97.52	89.00	84.89	83.16	82.74
28	88.98	85.90	87.50				98.80	97.44	88.84	84.76	83.15	82.80
29	91.50	85.86	87.40				98.84	97.38	88.50	84.69	83.10	82.72
30	91.30	85.70	87.14				97.54	97.38	88.26	84.62	83.05	82.68
31	89.84	-	87.20				-	96.62	-	84.54	82.99	-

1934-35

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.68	83.01	83.94	83.30	83.80	82.98	82.90	88.16	96.42	92.28	86.95	83.38
2	82.68	83.10	83.86	83.28	83.70	82.98	82.88	88.20	98.84	91.43	85.83	83.33
3	82.65	83.20	83.79	83.28	83.60	82.90	82.78	88.08	97.97	91.23	85.70	83.35
4	82.64	83.40	83.70	83.26	83.61	82.78	82.76	88.50	96.85	90.93	85.63	83.30
5	82.64	83.34	83.69	83.30	83.60	82.78	82.85	86.20	96.41	90.81	85.51	83.27
6	82.64	84.00	83.68	83.31	83.54	82.76	82.84	90.60	96.92	90.69	85.43	83.24
7	82.64	84.74	83.60	83.26	83.46	82.76	82.84	91.66	96.27	90.57	85.33	83.23
8	82.64	85.62	83.50	83.15	83.38	82.78	82.82	91.07	96.03	90.31	85.21	83.21
9	82.64	86.10	83.42	83.04	83.34	82.80	82.80	90.60	95.81	90.03	85.03	83.14
10	82.63	85.62	83.36	82.92	83.36	82.82	82.79	90.60	95.93	89.71	84.81	83.09
11	82.62	85.10	83.54	82.88	83.30	82.85	82.80	90.77	95.67	-	84.75	83.07
12	82.60	84.98	83.36	82.84	83.28	82.92	82.86	90.60	95.55	89.23	84.68	83.05
13	82.58	84.80	83.48	82.82	83.30	-	83.16	90.10	95.59	89.03	84.63	83.03
14	82.58	84.72	83.44	82.80	83.30	-	83.24	89.90	95.59	88.79	84.69	82.99
15	82.57	84.64	83.34	-	83.32	83.18	83.34	90.09	95.53	-	84.53	82.99
16	82.56	84.50	83.46	-	83.28	83.15	83.50	90.67	95.13	88.61	84.44	82.97
17	82.56	84.52	83.42	-	83.26	83.13	83.84	91.98	95.23	88.47	84.39	82.93
18	82.58	84.56	83.39	-	83.18	83.14	84.00	92.33	94.83	88.09	84.30	82.91
19	82.61	84.52	83.45	82.50	83.16	83.12	84.10	93.82	94.71	87.51	84.23	82.87
20	82.59	84.48	83.48	82.50	83.16	83.08	84.60	94.54	94.55	87.51	-	82.84
21	82.63	84.40	83.50	-	83.15	83.02	85.09	95.42	94.28	87.51	-	82.82
22	82.61	84.34	83.52	-	83.12	83.00	85.94	96.84	94.05	-	-	82.81
23	82.64	84.30	83.36	-	83.06	83.06	86.14	99.09	94.23	87.41	-	82.78
24	82.68	84.29	83.41	-	83.00	83.10	85.14	100.72	93.83	87.09	85.93	82.74
25	82.71	84.28	83.51	83.20	82.98	83.24	86.60	99.00	93.44	86.99	83.89	82.72
26	82.85	84.21	83.62	83.90	82.96	83.05	87.16	97.60	92.84	86.87	83.81	82.70
27	82.82	84.18	83.46	83.38	82.84	83.00	87.80	96.56	92.33	86.79	83.67	82.66
28	83.20	84.12	83.34	83.64	82.90	-	87.90	96.43	92.23	86.71	83.68	82.67
29	83.00	84.01	83.32	84.54	-	82.86	87.50	96.44	92.33	86.53	83.48	82.66
30	82.90	83.92	83.32	84.10	-	82.80	87.74	96.39	92.61	86.17	83.49	82.66
31	82.86	-	83.31	83.96	-	82.85	-	96.96	-	85.95	83.43	-

Note.- Add 2,800 feet to obtain elevations above mean sea level, Somers datum.

## Flathead River at Damon ranch, near Kalispell, Mont.

Location.- staff gage, lat. 48°9", long. 114°9", 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 1935.

Extremes.- Maximum water-surface elevation recorded during year, 2,895.97 feet May 24, 25; minimum, 2,881.96 feet Oct. 14, 15, and 16.  
1909-12, 1928-35: Maximum water-surface elevation, 2,900.94 feet June 17, 1933; minimum, 2,881.50 feet Jan. 20-26, 1930.

Remarks.- Records good; used for study of profile of Flathead River above Flathead Lake.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.08	82.66	83.80	83.10	83.40	83.04	82.89	86.62	94.96	90.69	85.63	83.55
2	82.08	82.69	83.77	83.08	83.40	83.00	82.87	86.61	95.24	90.26	85.58	83.31
3	82.09	82.76	83.72	83.06	83.40	83.00	82.88	86.63	94.79	89.31	85.40	83.26
4	82.13	82.53	83.69	83.06	83.40	82.98	82.84	86.69	94.30	89.76	85.27	83.22
5	82.12	82.86	83.66	83.09	83.40	82.84	82.92	87.35	94.27	89.64	85.12	83.16
6	82.09	82.89	83.60	83.10	83.40	82.91	82.93	88.34	94.26	89.47	85.00	83.11
7	82.08	83.47	83.56	83.09	83.40	82.91	82.92	89.02	93.99	89.34	84.89	83.09
8	82.08	83.98	83.59	83.05	83.36	82.89	82.90	88.70	94.00	89.12	84.79	83.07
9	82.07	84.37	83.51	83.04	83.30	82.91	82.82	88.50	94.56	88.94	84.72	83.06
10	82.04	84.34	83.47	83.04	83.26	82.90	82.82	88.75	94.41	88.72	84.66	83.01
11	82.01	84.20	83.45	82.94	83.26	82.84	82.82	88.81	94.22	88.54	84.60	82.97
12	82.01	84.08	83.42	82.92	83.31	82.98	82.80	88.66	94.22	88.53	84.51	82.96
13	82.00	84.02	83.37	82.84	83.32	82.92	82.90	88.49	94.21	88.09	84.50	82.98
14	82.01	84.00	83.37	82.80	83.23	82.84	83.03	88.34	94.21	87.95	84.40	82.91
15	81.96	83.97	83.38	82.76	83.14	83.02	83.07	88.52	94.10	87.80	84.32	82.85
16	81.97	83.96	83.38	82.70	83.08	83.06	83.31	88.98	93.79	87.71	84.20	82.83
17	82.04	83.98	83.38	82.66	83.13	82.98	83.43	89.76	93.26	87.59	84.15	82.83
18	82.01	84.03	83.38	82.60	83.18	83.01	83.48	90.65	92.99	87.45	84.14	82.80
19	82.06	84.10	83.35	82.52	83.15	83.06	83.59	90.97	92.89	87.30	84.07	82.77
20	82.05	84.03	83.29	82.50	83.12	83.03	83.80	91.55	92.74	87.13	83.97	82.76
21	82.06	84.00	83.32	82.50	83.14	82.97	84.26	92.19	92.48	86.94	83.93	82.69
22	82.09	83.98	83.23	82.54	83.16	82.97	84.74	93.25	92.34	86.79	83.84	82.70
23	82.16	83.96	83.22	82.58	83.10	83.01	84.88	94.78	92.28	86.62	83.79	82.66
24	82.20	83.95	83.19	82.74	83.04	83.04	84.92	95.30	92.15	86.51	83.75	82.65
25	82.17	83.94	83.12	83.04	83.07	83.06	84.94	95.79	91.79	86.52	83.71	82.60
26	82.32	83.96	83.12	83.06	83.00	83.02	85.53	94.08	91.39	86.33	83.67	82.52
27	82.58	83.88	83.11	83.34	83.01	83.00	86.35	93.73	91.10	86.21	83.61	82.50
28	82.56	83.94	83.10	83.40	83.01	82.98	86.12	93.78	90.87	86.08	83.56	82.48
29	82.54	83.90	83.10	83.46	-	83.02	86.10	93.82	90.79	85.93	83.48	82.43
30	82.54	83.87	83.10	83.48	-	82.90	86.32	93.93	90.90	85.81	83.44	82.44
31	82.55	-	83.12	83.46	-	82.90	-	94.40	-	85.69	83.39	-

Note.- Add 2,800 feet to obtain elevations above mean sea level, Somers datum.

## Flathead River near Holt, Mont.

Location.- Staff gage, lat. 48°6', long. 114°6', in NE¼ sec. 22, T. 27 N., R. 20 W., at Kellier ranch, near Holt. Zero of gage at mean sea level, Somers datum.

Records available.- April 1909 to July 1912, June 1928 to September 1935.

Extremes.- Maximum water-surface elevation during year, 2,892.52 feet June 3; minimum, 2,881.95 feet Oct. 18-19.  
1909-12, 1928-35: Maximum water-surface elevation, 2,897.35 feet May 29-30, 1928 (from flood mark); minimum, 2,881.24 feet Jan. 25-28, 1930.

Remarks.- Records fair; used for study of profile between Kalispell and Flathead Lake.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.13	82.45	83.59	82.88	82.91	82.80	82.70	85.26	92.30	89.72	85.40	83.00
2	82.13	82.45	83.57	82.88	82.95	82.78	82.68	85.40	92.40	89.56	85.32	83.26
3	82.11	82.47	83.55	82.86	82.97	82.76	82.66	85.46	92.52	89.30	85.20	83.20
4	82.09	82.61	83.51	82.84	82.99	82.74	82.66	85.58	92.46	89.12	85.10	83.18
5	82.07	82.55	83.47	82.82	83.01	82.72	82.66	85.62	92.38	88.98	85.02	83.14
6	82.05	82.59	83.43	82.84	83.01	82.72	82.64	86.32	92.44	88.74	84.88	83.10
7	82.03	82.77	83.39	82.82	82.99	82.70	82.64	86.72	92.30	88.66	84.82	83.04
8	82.05	82.97	83.35	82.80	82.99	82.70	82.62	86.80	92.24	88.48	84.78	83.00
9	82.05	83.27	83.31	82.84	82.97	82.68	82.62	86.86	92.32	88.32	84.74	82.96
10	82.07	83.35	83.25	82.82	82.97	82.66	82.62	87.02	92.36	88.18	84.70	82.92
11	82.05	83.39	83.21	82.78	82.95	82.68	82.64	87.18	92.32	88.02	84.66	82.90
12	82.05	83.41	83.19	82.74	82.95	82.70	82.64	87.22	92.30	87.84	84.50	82.88
13	82.03	83.45	83.19	82.80	82.97	82.71	82.66	87.22	92.30	87.68	84.42	82.84
14	82.03	83.49	83.17	82.68	82.97	82.69	82.68	87.24	92.26	87.52	84.34	82.82
15	82.01	83.53	83.17	82.66	82.95	82.69	82.72	87.34	92.28	87.38	84.18	82.80
16	81.99	83.57	83.15	82.64	82.95	82.71	82.79	87.47	91.13	87.24	84.14	82.78
17	81.97	83.59	83.13	82.62	82.93	82.71	82.89	87.91	91.97	87.12	84.10	82.74
18	81.95	83.61	83.11	82.60	82.91	82.71	82.97	88.29	91.77	87.00	84.04	82.70
19	81.96	83.63	83.07	82.58	82.89	82.69	83.05	88.47	91.61	86.82	83.98	82.66
20	81.97	83.63	83.03	82.56	82.87	82.71	83.16	88.37	91.45	86.64	83.90	82.66
21	81.97	83.65	83.15	82.54	82.87	82.73	83.33	89.41	91.29	86.56	83.86	82.64
22	81.99	83.65	83.13	82.54	82.87	82.75	83.65	89.81	91.13	86.48	83.80	82.62
23	81.99	83.67	83.09	82.56	82.87	82.75	83.85	90.89	90.99	86.34	83.74	82.60
24	81.99	83.69	83.03	82.60	82.85	82.77	83.95	91.53	90.83	86.26	83.70	82.56
25	82.03	83.69	82.97	82.64	82.85	82.77	84.09	91.61	90.69	86.14	83.52	82.52
26	82.07	83.67	82.95	82.66	82.83	82.79	84.33	91.47	90.43	86.06	83.58	82.50
27	82.25	83.67	82.93	82.76	82.83	82.79	84.65	91.51	90.25	-	83.52	82.48
28	82.21	83.65	82.91	82.80	82.83	82.77	84.85	91.63	90.05	85.89	83.46	82.44
29	82.25	83.63	82.91	82.84	-	82.75	84.89	91.71	89.97	85.70	83.42	82.42
30	82.27	83.59	82.91	82.86	-	82.73	85.03	91.83	89.89	85.54	83.38	82.40
31	82.35	-	82.89	82.90	-	82.71	-	92.00	-	86.46	83.32	-

Note.- Add 2,800 feet to obtain elevations above mean sea level, Somers datum.

## CLARK FORK BASIN

Flathead Lake at Somers, Mont.

Location.- Water-stage recorder, lat. 48°4', long. 114°13', in NE¼ sec. 26, T. 27 N., R. 21 W., at steamboat dock at Somers.

Records available.- April 1922 to September 1935.

Extremes.- Maximum water-surface elevation during year, 2,891.98 feet June 4; minimum, 2,881.80 feet Oct. 18.  
1922-35: Maximum water-surface elevation, 2,896.26 feet June 19, 1933; minimum, 2,881.20 feet Dec. 10, 1929.

Remarks.- Records excellent.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.05	82.32	83.50	82.86	82.86	82.77	82.68	84.79	91.52	89.50	85.38	83.28
2	82.05	82.34	83.48	82.85	82.88	82.76	82.67	84.95	91.73	89.32	86.27	83.23
3	82.05	82.38	83.44	82.82	82.91	82.75	82.65	85.10	91.90	89.12	85.16	83.17
4	82.04	82.41	83.38	82.82	82.94	82.69	82.64	85.25	91.85	88.94	85.09	83.16
5	82.04	82.46	83.37	82.83	82.95	82.68	82.65	85.38	91.89	88.77	85.02	83.07
6	82.02	82.48	83.34	82.83	82.95	82.68	82.67	85.58	91.90	88.63	84.93	83.02
7	82.01	82.56	83.31	82.80	82.97	82.64	82.63	85.86	91.86	88.48	84.84	83.01
8	82.01	82.68	83.28	82.80	82.97	82.66	82.62	86.13	91.80	88.33	84.74	82.98
9	82.00	82.82	83.25	82.81	82.97	82.67	82.62	86.32	91.77	88.17	84.64	82.94
10	82.00	82.97	83.22	82.78	82.97	82.64	82.62	86.49	91.79	88.03	84.57	82.91
11	81.99	83.10	83.19	82.77	82.95	82.65	82.61	86.63	91.79	87.90	84.50	82.88
12	81.99	83.18	83.16	82.70	82.94	82.66	82.61	86.75	91.78	87.73	84.42	82.85
13	82.00	83.26	83.14	82.70	82.95	82.65	82.60	86.83	91.78	87.56	84.34	82.82
14	81.98	83.32	83.14	82.67	82.94	82.64	82.64	86.90	91.77	87.42	84.31	82.78
15	81.95	83.36	83.12	82.67	82.94	82.67	82.70	86.95	91.76	87.27	84.20	82.78
16	81.92	83.38	83.08	82.65	82.92	82.69	82.76	87.03	91.70	87.15	84.11	82.76
17	81.92	83.43	83.08	82.55	82.92	82.70	82.82	87.21	91.60	87.04	84.04	82.71
18	81.92	83.47	83.07	82.50	82.92	82.73	82.88	87.44	91.54	86.92	84.02	82.67
19	81.93	83.50	83.06	82.50	82.89	82.73	82.96	87.72	91.30	86.78	83.95	82.64
20	81.92	83.54	83.06	82.50	82.88	82.75	83.03	88.00	91.16	86.62	83.88	82.62
21	81.92	83.53	83.10	82.52	82.88	82.73	83.16	88.31	90.99	86.51	83.83	82.60
22	81.95	83.58	83.08	82.53	82.88	82.73	83.32	88.74	90.83	86.42	83.78	82.57
23	81.97	83.57	83.07	82.55	82.85	82.73	83.46	89.26	90.70	86.30	83.73	82.55
24	81.95	83.57	83.06	82.54	82.82	82.76	83.62	89.84	90.58	86.18	83.68	82.53
25	81.97	83.58	82.98	82.54	82.81	82.78	83.74	90.43	90.43	86.10	83.62	82.45
26	82.00	83.57	82.99	82.56	82.79	82.77	83.90	90.74	90.23	86.00	83.55	82.42
27	82.07	83.56	82.91	82.60	82.77	82.77	84.16	90.92	90.03	85.86	83.49	82.42
28	82.13	83.56	82.92	82.66	82.77	82.76	84.32	91.05	89.84	85.77	83.44	82.40
29	82.17	83.52	82.94	82.72	-	82.72	84.48	91.14	89.73	85.68	83.39	82.37
30	82.22	83.52	82.90	82.77	-	82.72	84.63	91.23	89.62	85.55	83.32	82.34
31	82.27	-	82.87	82.83	-	82.69	-	91.36	-	85.42	83.30	-

Note.- Add 2,800 feet to obtain elevations above mean sea level, Somers datum.

## Flathead Lake at Polson, Mont.

Location.-- Water-stage recorder, lat. 47°42', long. 114°9', 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 1935.

Extremes.-- Maximum water-surface elevation during year, 2,891.98 feet June 5; minimum, 2,881.71 feet Oct. 23.

1908-26, 1928-35: Maximum water-surface elevation, 2,896.26 feet June 18, 1933; minimum, 2,881.5 feet Feb. 16-23, 1913, Nov. 24, 1923.

Remarks.-- Records excellent. Twice-daily staff-gage readings used Aug. 3 to Sept. 30.

Elevation, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82.01	82.13	83.48	82.74	82.79	82.74	82.68	84.70	91.37	89.58	85.25	83.28
2	82.00	82.17	83.47	82.73	82.82	82.74	82.64	84.88	91.60	89.28	85.19	83.30
3	81.99	82.18	83.45	82.74	82.85	82.73	82.64	85.00	91.81	89.12	85.16	83.26
4	81.98	82.20	83.45	82.75	82.87	82.76	82.64	85.10	91.86	88.93	85.04	83.20
5	81.93	82.21	83.43	82.72	82.89	82.72	82.58	85.23	91.91	88.76	84.93	83.46
6	81.97	82.24	83.43	82.71	82.90	82.67	82.56	85.47	91.85	88.61	84.84	83.28
7	81.96	82.23	83.42	82.72	82.91	82.66	82.53	85.75	91.80	88.46	84.73	83.06
8	81.94	82.37	83.42	82.73	82.92	82.63	82.72	86.00	91.72	88.33	84.18	83.03
9	81.95	82.52	83.40	82.72	82.91	82.59	82.62	86.19	91.71	88.17	84.14	82.95
10	81.95	82.70	83.37	82.70	82.90	82.58	82.58	86.27	91.72	88.00	84.53	82.93
11	81.95	82.83	83.35	82.70	82.89	82.56	82.56	86.48	91.76	87.85	84.50	82.93
12	81.92	82.94	83.31	82.78	82.88	82.55	82.55	86.67	91.74	87.72	84.41	82.84
13	81.92	83.04	83.29	82.73	82.87	82.57	82.56	86.73	91.71	87.56	84.30	82.66
14	81.94	83.12	83.28	82.68	82.86	82.58	82.66	86.78	91.72	87.42	84.08	82.81
15	81.95	83.20	83.24	82.63	82.86	82.57	82.64	86.82	91.68	87.28	84.13	82.69
16	82.02	83.26	83.20	82.60	82.66	82.60	82.66	86.90	91.68	87.12	84.06	82.64
17	81.94	83.32	83.18	82.66	82.84	82.63	82.74	87.05	91.57	86.99	84.08	82.62
18	81.88	83.36	83.15	82.62	82.84	82.60	82.80	87.27	91.43	86.98	83.96	82.64
19	81.82	83.40	83.10	82.62	82.84	82.61	82.84	87.56	91.27	86.78	83.96	82.64
20	81.81	83.45	83.07	82.62	82.83	82.60	82.88	87.85	91.10	86.72	83.89	82.60
21	81.83	83.47	83.02	82.52	82.82	82.65	82.94	88.15	90.95	86.50	83.87	82.58
22	81.81	83.48	82.98	82.47	82.82	82.68	83.01	88.54	90.79	86.35	83.81	82.60
23	81.77	83.49	82.95	82.47	82.82	82.65	83.16	88.98	90.63	86.24	83.71	82.54
24	81.76	83.49	82.92	82.47	82.83	82.54	83.33	89.64	90.48	86.11	83.65	82.48
25	81.82	83.49	82.95	82.49	82.78	82.60	83.50	90.20	90.36	85.98	83.60	82.70
26	81.96	83.49	82.92	82.52	82.77	82.62	83.70	90.62	90.20	85.91	83.60	82.65
27	82.03	83.49	82.96	82.57	82.76	82.65	84.10	90.82	90.02	85.84	83.60	82.42
28	82.04	83.49	82.90	82.64	82.74	82.65	84.25	90.96	89.82	85.62	83.63	82.39
29	82.06	83.49	82.80	82.67	-	82.77	84.41	91.06	89.66	85.58	83.47	82.39
30	82.11	83.49	82.75	82.72	-	82.73	84.54	91.15	89.50	85.46	83.36	82.38
31	82.12	-	82.75	82.76	-	82.75	-	91.25	-	85.43	83.38	-

Note.-- Add 2,800 feet to obtain elevations above mean sea level, Somers datum.

## Flathead River near Polson, Mont.

Location.- Water-stage recorder, lat. 47°39'30", long. 114°20', in sec. 19, T. 22 N., R. 21 W., at highway bridge at Norrisville, 12 miles below Polson.

Drainage area.- 7,010 square miles.

Records available.- July 1907 to September 1935.

Average discharge.- 27 years (1908-35) 11,370 second-feet.

Extremes.- Maximum discharge during year, 50,200 second-feet June 5 (gage height, 13.03 feet); minimum, 2,220 second-feet Oct. 23 (gage height, 1.57 feet).  
1907-35: 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, 1930 (gage height, -0.1 foot).

Remarks.- Records good. Several small diversions from tributaries above Flathead Lake. Flow somewhat regulated by natural storage in Flathead Lake.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1-6)

1.6	2,265	4.5	6,510	8.5	21,640
1.8	2,470	5.0	7,600	9.0	24,600
2.0	2,650	5.5	8,890	9.5	27,700
2.2	2,900	6.0	10,400	10.0	30,800
2.5	3,355	6.5	11,990	10.5	33,950
3.0	3,920	7.0	13,580	11.0	37,120
3.5	4,640	7.5	16,270	12.0	43,600
4.0	5,500	8.0	18,900	13.0	50,200
				14.0	57,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,900	3,140	6,510	4,060	4,490	4,340	4,200	10,700	46,200	34,600	12,300	5,500
2	2,900	3,140	6,500	4,060	4,490	4,340	4,060	11,300	47,500	34,000	12,300	5,500
3	2,900	3,140	6,090	4,200	4,490	4,340	4,060	11,700	48,900	33,300	12,000	5,500
4	2,900	3,260	6,090	4,200	4,640	4,340	4,060	12,000	49,500	32,100	11,700	5,320
5	2,740	3,260	5,890	4,060	4,640	4,340	3,920	12,300	49,500	30,800	11,000	5,320
6	2,790	3,510	5,890	4,200	4,640	4,200	3,920	13,900	49,500	30,200	11,000	5,140
7	2,790	3,640	5,890	4,200	4,800	4,200	4,060	15,300	48,900	28,900	10,700	4,800
8	2,740	3,920	5,690	4,200	4,800	4,060	4,200	15,300	48,200	28,300	10,400	4,800
9	2,790	4,340	5,690	4,060	4,640	4,060	4,060	16,800	48,200	27,700	10,100	4,640
10	2,790	4,640	5,890	4,340	4,640	3,920	3,920	17,300	48,200	26,500	9,480	4,640
11	2,790	4,960	5,890	4,490	4,640	3,920	3,920	18,400	48,900	25,800	9,480	4,490
12	2,680	5,140	5,890	4,490	4,640	3,920	3,920	19,400	48,900	24,600	9,180	4,340
13	2,740	5,500	5,690	4,500	4,640	3,920	4,060	20,000	48,200	24,000	8,890	4,340
14	2,790	5,500	5,500	3,780	4,640	3,920	4,200	20,000	48,200	23,400	8,340	4,200
15	2,790	5,590	5,500	3,920	4,640	3,920	4,060	20,000	48,200	22,200	8,340	4,200
16	2,900	6,090	5,140	4,200	4,640	3,920	4,200	20,500	48,200	21,600	8,080	4,060
17	2,740	6,300	4,960	3,920	4,640	4,060	4,200	21,100	47,500	20,500	8,080	4,060
18	2,680	6,300	4,960	4,200	4,490	3,920	4,490	22,200	46,900	20,000	7,600	4,060
19	2,580	6,300	4,640	4,200	4,490	4,060	4,640	24,000	45,600	19,400	7,600	4,060
20	2,520	6,300	4,490	3,920	4,490	4,060	4,800	25,800	44,900	19,400	7,600	3,920
21	2,630	6,510	4,640	3,640	4,490	4,200	5,140	27,700	44,200	18,400	7,380	3,920
22	2,520	6,300	4,490	3,640	4,490	4,200	5,320	30,200	43,000	17,800	7,160	3,920
23	2,420	6,510	4,340	3,640	4,490	4,060	6,090	32,100	42,300	16,800	6,720	3,780
24	2,580	6,510	4,490	3,510	4,490	3,920	6,510	35,800	41,000	16,300	6,510	3,640
25	2,580	6,300	4,800	3,640	4,490	3,920	6,940	39,700	40,400	15,800	6,100	3,780
26	2,900	6,300	4,490	3,780	4,490	4,060	7,600	41,600	39,700	15,300	6,510	3,780
27	2,900	6,510	4,640	3,920	4,340	4,060	8,610	43,600	38,400	15,300	6,300	3,640
28	3,020	6,510	4,200	4,200	4,340	4,060	9,180	43,600	37,100	14,300	6,090	3,510
29	3,140	6,300	4,060	4,200	-	4,340	9,780	44,200	36,600	13,900	6,090	3,510
30	3,140	6,300	4,060	4,200	-	4,200	10,100	44,900	36,200	13,900	5,890	3,510
31	3,260	-	3,780	4,340	-	4,340	-	45,600	-	13,100	5,590	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	86,540	3,260	2,420	2,792	0.398	0.46	171,600
November.....	159,320	6,510	3,140	5,277	.753	.84	314,000
December.....	160,350	6,510	3,780	5,174	.758	.86	318,100
Calendar year 1934.....	5,217,040	51,500	2,420	14,290	2.04	27.67	10,350,000
January.....	128,330	4,490	3,510	4,043	.577	.67	249,600
February.....	127,540	4,800	4,340	4,566	.651	.68	253,600
March.....	127,120	4,340	3,920	4,101	.585	.67	252,100
April.....	158,560	10,100	3,920	5,279	.753	.84	314,100
May.....	777,600	46,600	10,700	26,080	3.58	4.13	1,642,000
June.....	1,357,200	49,500	35,200	46,260	6.46	7.21	2,692,000
July.....	698,700	34,600	13,100	22,690	3.21	3.70	1,385,000
August.....	265,220	12,300	5,890	8,555	1.22	1.41	526,100
September.....	129,680	5,500	3,510	4,329	.618	.69	257,600
Water year 1934-35.....	4,172,590	49,500	2,420	11,430	1.63	22.15	8,276,000

## South Fork of Flathead River near Columbia Falls, Mont.

Location.— Water-stage recorder, lat. 48°22'30", long. 114°3', in NE $\frac{1}{4}$  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 1935.

Average discharge.— 12 years (1923-35), 3,705 second-feet.

Extremes.— Maximum discharge during year, 28,700 second-feet May 23 (gage height, 14.87 feet); minimum, 456 second-feet Oct. 12 (gage height, 1.31 feet).

1910-16, 1923-35: 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 excellent except those for periods of ice effect Dec. 11-14, Dec. 18 to Mar. 15, and estimated periods July 21-26, Aug. 30 to Sept. 30, which are fair. No diversions above station. No storage.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.2	400	3.6	2,190	7.5	7,880
1.4	505	4.0	2,640	8.0	8,780
1.6	620	4.5	3,240	9.0	10,740
1.8	740	5.0	3,860	10.0	13,000
2.0	1,000	5.5	4,550	11.0	15,600
2.4	1,140	6.0	5,270	12.0	18,300
2.8	1,440	6.5	6,080	13.0	21,140
3.2	1,780	7.0	6,980	14.0	24,040
				15.0	27,000

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	554	1,780	1,280	968	1,140	1,440	824	6,080	20,600	6,440	1,400	
2	554	2,140	1,250	870	1,040	1,280	836	5,740	19,700	5,580	1,400	
3	538	2,080	1,210	831	1,000	1,180	831	5,580	16,100	5,120	1,380	
4	527	1,980	1,180	812	1,040	1,140	792	6,260	14,300	4,970	1,280	
5	516	1,930	1,140	870	1,070	1,040	779	8,220	15,100	5,120	1,260	670
6	500	2,410	1,100	844	1,040	935	772	11,200	14,300	4,830	1,180	
7	494	2,880	1,070	766	1,000	1,040	824	10,500	13,000	4,690	1,140	
8	485	3,480	1,000	728	935	1,210	624	9,160	14,500	4,410	1,100	632
9	453	3,600	870	722	838	1,260	850	8,600	16,100	4,130	1,070	
10	472	3,240	902	704	818	1,360	870	9,160	15,600	3,990	1,040	593
11	461	2,940	902	638	605	1,280	902	8,420	14,500	3,730	1,000	
12	461	2,580	902	602	968	1,250	1,040	7,700	14,200	3,480	1,000	
13	461	2,410	965	554	1,040	1,480	1,740	7,160	14,800	3,240	968	554
14	472	2,240	1,000	560	1,000	1,650	2,410	7,520	14,300	3,120	935	563
15	472	2,080	1,000	549	1,000	1,700	2,360	8,240	13,000	3,000	902	572
16	478	1,980	1,000	560	1,040	1,700	2,880	9,730	11,000	2,860	902	
17	472	1,680	968	505	1,000	1,610	3,240	12,600	9,930	2,820	902	
18	466	1,830	968	544	1,040	1,520	3,360	14,000	9,730	2,640	902	568
19	466	1,780	935	532	1,000	1,440	3,480	14,000	9,730	2,460	935	
20	461	1,740	935	596	1,040	1,400	4,130	15,300	9,540	2,360	902	544
21	522	1,700	935	656	1,100	1,320	5,270	18,500	9,160		864	533
22	666	1,610	1,040	680	1,070	1,250	5,580	22,500	9,160		844	522
23	704	1,610	968	902	1,070	1,210	5,270	26,100	9,540		812	
24	722	1,570	935	1,100	1,000	1,180	5,120	24,600	8,970	2,100	779	
25	968	1,570	818	1,440	1,000	1,210	5,420	20,000	7,700		766	
26	2,880	1,480	686	1,980	1,100	1,180	6,620	17,000	6,980		753	500
27	3,120	1,440	902	1,980	1,210	1,140	6,800	16,100	6,620	1,740	734	
28	2,410	1,360	968	1,760	1,400	1,100	6,060	15,600	6,440	1,650	722	
29	2,030	1,320	1,000	1,610	-	1,100	5,740	15,100	6,060	1,610	710	
30	1,780	1,280	1,000	1,440	-	1,070	6,080	16,100	7,520	1,520		
31	1,650	-	1,070	1,280	-	1,000	-	18,900	-	1,480	670	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	27,266	3,120	461	879	0.536	0.62	54,070
November.....	61,920	3,600	1,280	2,064	1.26	1.41	122,800
December.....	30,902	1,280	666	997	.608	.70	61,220
Calendar year 1934.....	1,485,143	21,700	461	4,069	2.46	33.71	2,946,000
January.....	28,633	1,980	505	924	.563	.65	56,790
February.....	28,804	1,400	805	1,029	.627	.65	57,130
March.....	39,695	1,700	935	1,280	.780	.90	78,730
April.....	91,726	6,800	772	3,058	1.86	2.08	181,900
May.....	396,370	26,100	5,580	12,750	7.77	8.96	784,200
June.....	358,700	20,600	6,440	11,990	7.31	8.16	715,600
July.....	99,610	6,440	1,480	3,213	1.96	2.26	197,600
August.....	26,892	1,400	-	964	.588	.66	56,290
September.....	17,214	-	-	574	.350	.39	34,140
Water year 1934-35.....	1,210,724	26,100	461	3,317	2.02	27.46	2,401,000



## Stillwater River near Whitefish, Mont.

Location.- Water-stage recorder, lat. 48°19', long. 114°23', in SW $\frac{1}{4}$  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 1935.

Extremes.- Maximum discharge during year, 2,170 second-feet May 26 (gage height, 12.49 feet); minimum, 94 second-feet Sept. 27-29 (gage height 1.43 feet).  
1930-35: Maximum discharge, 2,680 second-feet Apr. 28, 1934 (gage height, 14.47 feet); minimum, 58 second-feet Sept. 5-7, 1931.

Remarks.- Records good except those for periods of ice effect, Dec. 25 to Apr. 1, Apr. 3, which are fair. Some water stored and released for logging operations during summer. No diversions.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used May 6 to June 4)

1.4	92	2.8	251	7.0	985
1.6	109	3.0	278	8.0	1,185
1.8	129	3.2	306	9.0	1,385
2.0	151	3.6	366	10.0	1,695
2.2	174	4.0	430	11.0	1,815
2.4	199	5.0	601	12.0	2,060
2.6	225	6.0	785	13.0	2,295

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	162	162	122	131	132	113	1,260	1,750	709	258	148
2	98	156	156	127	131	138	114	1,280	1,680	709	256	146
3	98	151	156	130	131	138	116	1,280	1,620	673	251	140
4	98	151	156	132	133	138	118	1,260	1,570	673	232	136
5	98	166	151	133	131	133	116	1,280	1,510	637	206	134
6	98	162	151	133	129	140	117	1,340	1,450	619	212	133
7	96	180	161	134	126	133	116	1,470	1,410	619	212	132
8	96	199	146	128	133	133	116	1,600	1,340	601	206	128
9	96	206	136	123	131	129	120	1,680	1,260	583	206	126
10	96	212	128	122	129	136	125	1,760	1,240	566	199	122
11	96	218	134	122	129	119	131	1,750	1,180	549	192	119
12	96	225	168	124	128	125	146	1,750	1,140	549	192	117
13	96	225	140	124	127	134	168	1,700	1,120	515	186	114
14	97	225	130	124	125	140	192	1,680	1,100	481	186	112
15	98	218	128	123	126	146	218	1,640	1,100	464	180	110
16	99	212	126	123	127	151	285	1,570	1,120	447	174	109
17	100	206	124	123	127	146	336	1,560	1,140	430	174	109
18	101	199	123	124	127	146	344	1,560	1,140	414	168	108
19	100	199	124	123	128	146	366	1,640	1,140	406	174	106
20	99	199	124	126	131	146	430	1,750	1,100	382	174	105
21	100	199	124	124	131	146	532	1,790	1,040	366	174	104
22	106	199	128	119	131	140	601	1,860	985	366	168	104
23	113	192	132	127	134	137	637	1,950	945	351	168	103
24	117	192	132	136	140	137	691	2,060	885	351	162	101
25	124	186	131	133	132	146	825	2,170	845	344	156	98
26	168	168	131	131	126	156	1,040	2,220	825	324	156	95
27	180	168	131	129	127	151	1,180	2,220	785	306	156	95
28	180	168	131	129	137	146	1,240	2,170	747	299	151	94
29	174	166	126	129	-	126	1,260	2,070	728	285	146	95
30	168	156	127	129	-	114	1,240	1,950	728	278	146	95
31	168	-	126	129	-	112	-	1,840	-	264	146	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,553	180	96	115	7,060
November.....	5,645	225	151	188	11,120
December.....	4,232	168	123	137	8,390
Calendar year 1934.....	190,467	2,680	88	522	377,800
January.....	3,935	136	119	127	7,800
February.....	3,636	140	125	130	7,310
March.....	4,266	156	112	138	8,460
April.....	13,033	1,260	113	434	25,360
May.....	53,060	2,220	1,260	1,711	105,200
June.....	34,623	1,750	728	1,154	68,670
July.....	14,560	709	284	470	28,680
August.....	5,769	258	146	186	11,440
September.....	3,438	146	94	115	6,820
Water year 1934-35.....	149,740	2,220	94	410	296,900

## Whitefish Creek near Kalispell, Mont.

Location.- Water-stage recorder, lat. 48°19', long. 114°16', 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 1935.

Extremes.- Maximum discharge during year, 905 second-feet June 16-17 (gage height, 3.36 feet); minimum, 4.5 second-feet Oct. 18 (gage height, 0.83 foot).  
1906, 1928-35: Maximum discharge, 1,260 second-feet June 3, 1932 (gage height, 4.26 feet); minimum, that of Oct. 18, 1934.

Remarks.- Records good except those for periods of ice effect, Dec. 10-17, Dec. 27 to Feb. 19, Feb. 25-27, Mar. 5-7, which are fair. Some regulation at Whitefish Lake. No diversions.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet and discharge, in second-feet)

Table for Oct. 1 to Nov. 9

0.8	3
1.0	17
1.2	55
1.4	101
1.6	168
1.8	224

Table for Nov. 10 to Sept. 30

0.8	3	2.2	382
1.0	17	2.4	466
1.2	50	2.6	556
1.4	98	2.8	645
1.6	157	3.0	736
1.8	224	3.2	831
2.0	300	3.4	930

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	106	11	20	90	46	73	83	348	831	622	228	17
2	106	11	20	90	39	73	83	348	856	600	221	16
3	101	11	18	90	50	73	78	357	856	578	217	15
4	101	11	18	90	46	73	78	374	856	543	210	23
5	96	12	17	90	46	73	78	382	856	525	204	204
6	94	12	17	78	39	93	83	459	856	512	197	210
7	94	12	17	59	39	83	78	459	856	503	193	197
8	94	12	17	59	35	73	83	469	831	490	187	50
9	91	12	17	55	68	73	83	469	831	468	180	24
10	89	160	20	59	157	68	58	477	831	455	177	21
11	87	214	129	55	151	73	104	433	831	437	174	157
12	35	210	145	42	132	73	109	433	831	424	167	193
13	8.0	207	135	157	132	73	109	428	831	411	164	187
14	6.5	200	129	154	157	83	104	433	831	395	151	180
15	6.0	197	184	123	132	93	115	442	880	382	59	174
16	5.5	190	164	112	104	88	132	512	905	369	31	170
17	5.0	180	157	76	98	88	164	477	905	361	28	164
18	5.0	167	167	39	101	68	151	525	905	353	28	157
19	5.0	183	160	37	93	86	145	538	880	340	27	151
20	5.0	180	157	55	78	83	161	556	856	336	25	148
21	5.5	177	157	68	78	83	170	600	856	328	24	151
22	6.0	174	154	76	76	83	204	645	831	316	24	31
23	6.0	174	151	86	78	83	204	736	831	308	23	20
24	6.0	167	146	93	78	83	210	807	807	296	23	17
25	7.5	164	145	68	78	66	217	831	783	296	21	15
26	12	160	142	59	63	88	235	856	736	284	21	14
27	13	154	126	59	73	83	246	856	713	272	20	14
28	12	57	112	55	73	88	224	831	668	260	18	13
29	11	24	98	46	-	88	238	831	668	253	18	12
30	9.8	23	120	42	-	83	268	831	668	238	17	9.8
31	11	-	93	35	-	83	-	831	-	235	17	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,239.8	106	5.0	40.0	2,460
November.....	3,496	214	11	117	6,930
December.....	3,124	167	17	101	6,200
Calendar year 1934.....	94,008.8	982	5.0	258	186,500
January.....	2,299	157	35	74.2	4,560
February.....	2,382	157	35	85.1	4,720
March.....	2,518	93	68	81.2	4,990
April.....	4,518	268	72	144	9,580
May.....	17,654	856	348	566	34,620
June.....	24,676	905	660	823	46,940
July.....	12,190	622	235	393	24,180
August.....	3,094	228	17	99.8	6,140
September.....	2,754.8	210	9.8	91.8	5,460
Water year 1934-35.....	79,645.6	905	5.0	218	158,000

## Ashley Creek near Kalispell, Mont.

Location.- Wire-weight gage, lat. 48°11', long. 114°24', in SE¼ sec. 16, T. 28 N., R. 22 W., 4 miles west of Kalispell.

Records available.- April 1931 to March 1933, April 1934 to September 1935.

Extremes.- Maximum discharge during year, 166 second-feet May 24, 25 (gage height, 8.36 feet); minimum, 3.3 second-feet Aug. 29 (gage height, 6.00 feet).  
1931-33, 1934-35: Maximum discharge, 285 second-feet Apr. 26, 1934 (gage height, 9.30 feet); no flow various periods.

Remarks.- Records fair except those for periods of ice effect, Dec. 25 to Jan. 24, Feb. 10, 16, which are poor. Some diversions and natural storage in Smith Lake.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	23	16	13	40	19	26	114	124	40	35	8.2
2	16	26	7.0	14	31	11	21	114	114	38	33	9.5
3	17	26	12	16	29	40	22	114	109	35	35	12
4	16	16	14	16	24	17	24	114	104	34	33	14
5	16	16	14	16	19	23	24	114	76	35	32	14
6	14	15	14	17	24	19	25	114	85	37	34	15
7	14	16	10	19	19	16	23	119	80	37	31	18
8	14	17	8.2	18	17	19	23	119	76	37	31	18
9	15	16	13	17	16	25	21	124	68	37	26	18
10	12	15	12	19	16	21	23	124	64	37	23	19
11	12	14	10	17	13	22	27	130	56	37	17	18
12	12	16	13	18	18	22	26	109	53	37	14	17
13	7.4	16	16	14	20	22	30	114	49	40	12	17
14	12	15	16	13	16	23	28	114	46	37	10	17
15	12	15	12	12	16	31	40	119	43	37	8.6	18
16	14	16	8.0	12	20	28	60	109	40	37	7.8	20
17	14	16	17	12	12	22	60	119	43	37	6.4	16
18	12	14	17	9	19	31	64	124	45	36	6.4	15
19	14	15	16	8	20	25	72	124	43	35	6.4	15
20	12	16	17	7	21	17	60	130	43	36	5.8	15
21	16	16	16	7	19	27	85	142	43	37	6.0	15
22	18	15	11	8	17	23	94	154	40	37	5.0	15
23	18	15	17	16	11	26	94	166	40	37	5.8	14
24	16	16	8.0	32	16	30	99	166	40	40	4.6	14
25	19	14	17	46	17	23	99	166	37	37	4.5	15
26	22	5.0	9	43	19	24	99	166	35	37	4.1	14
27	24	11	9	40	18	24	109	154	34	40	4.0	12
28	22	13	10	40	20	23	109	148	35	40	4.1	12
29	21	11	10	45	-	22	114	142	40	35	3.5	13
30	21	15	10	49	-	21	119	130	40	34	4.4	13
31	22	-	12	46	-	20	-	130	-	35	6.0	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					489.4	24	7.4	15.8	971			
November.....					468	35	5.0	15.6	928			
December.....					392.2	18	7.0	12.7	778			
Calendar year .....												
January.....					657	49	7	21.2	1,300			
February.....					550	40	11	19.6	1,090			
March.....					714	40	11	23.0	1,420			
April.....					1,740	119	21	58.0	3,460			
May.....					4,026	166	109	130	7,990			
June.....					1,743	124	34	58.1	3,460			
July.....					1,143	40	34	36.9	2,270			
August.....					457.4	35	3.5	14.8	907			
September.....					450.7	20	8.2	15.0	894			
Water year 1934-35.....					12,830.7	166	3.5	35.2	25,460			

## Swan River near Big Fork, Mont.

Location.- Water-stage recorder, lat. 48°2', long. 113°59', 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 1935. October 1910 to May 1911 2 miles above Swan Lake.

Average discharge.- 13 years (1922-35) 1,590 second-feet.

Extremes.- Maximum discharge during year, 4,650 second-feet May 25 (gage height, 5.33 feet); minimum, 344 second-feet Oct. 18 (gage height, 2.15 feet).

1922-35: 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.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Jan. 13 to Feb. 5, Sept. 3-30)

2.0	270	3.2	1,210	4.4	2,890
2.2	374	3.4	1,440	4.6	3,210
2.4	503	3.6	1,700	4.8	3,560
2.6	658	3.8	1,980	5.0	3,950
2.8	833	4.0	2,270	5.5	4,950
3.0	1,015	4.2	2,570		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	417	718	586	476	540	462	533	1,910	3,750	2,200	788	455
2	423	726	578	476	533	476	518	1,840	4,150	2,120	779	449
3	404	726	570	476	540	469	489	1,840	4,260	1,890	770	435
4	411	743	556	476	533	462	489	1,770	4,050	1,910	743	442
5	404	743	548	455	503	455	503	1,770	3,750	1,840	734	423
6	404	761	540	476	503	449	518	1,980	3,560	1,760	715	417
7	392	788	526	476	496	435	510	2,200	3,560	1,760	692	417
8	398	797	510	476	483	423	510	2,340	3,470	1,700	675	411
9	398	815	503	469	476	435	518	2,270	3,470	1,670	650	404
10	392	842	499	469	455	435	510	2,200	3,660	1,620	634	398
11	386	851	469	469	503	435	503	2,200	3,660	1,570	610	380
12	386	851	449	489	469	449	526	2,050	3,660	1,490	602	368
13	380	824	449	483	469	469	578	1,980	3,660	1,440	594	380
14	392	806	455	462	455	459	675	1,910	3,750	1,320	570	380
15	386	770	455	462	462	540	779	1,810	3,750	1,250	556	380
16	380	743	455	455	455	563	932	1,810	3,660	1,210	548	374
17	380	718	449	449	449	594	1,060	1,910	3,380	1,210	540	380
18	374	709	455	442	449	594	1,220	2,200	3,050	1,190	540	380
19	374	700	462	417	455	594	1,360	2,500	2,890	1,150	548	374
20	386	692	462	392	455	594	1,490	2,650	2,730	1,090	548	374
21												
22	398	692	489	398	462	586	1,640	2,810	2,650	1,090	548	380
23	423	692	503	398	476	578	1,810	3,050	2,570	1,070	533	374
24	442	675	533	429	476	570	1,910	3,560	2,500	1,070	526	368
25	455	658	540	442	476	556	1,910	4,150	2,500	1,060	518	362
26	489	642	526	476	469	578	1,910	4,550	2,500	1,020	510	368
27												
28	578	642	533	526	449	594	1,910	4,450	2,340	978	496	368
29	658	642	518	548	429	586	1,980	4,150	2,270	978	489	368
30	709	634	518	563	442	578	2,050	3,850	2,120	978	483	362
31	726	626	518	556	-	563	2,050	3,660	2,050	860	476	374
32	709	602	489	556	-	563	1,910	3,470	2,120	824	455	356
33	709	-	489	548	-	556	-	3,470	-	797	455	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	14,163	726	374	457	0.706	0.81	28,090
November.....	21,828	851	602	728	1.13	1.26	43,300
December.....	15,622	586	449	504	.779	.90	30,990
Calendar year 1934.....	438,001	4,550	362	1,200	1.85	25.19	868,700
January.....	14,685	563	392	474	.733	.85	29,130
February.....	13,362	540	429	477	.737	.77	26,500
March.....	16,130	594	423	520	.804	.93	31,990
April.....	33,301	2,050	489	1,110	1.72	1.92	66,080
May.....	82,310	4,650	1,770	2,655	4.10	4.73	163,300
June.....	95,480	4,250	2,050	3,183	4.92	5.49	189,400
July.....	42,106	2,200	787	1,368	2.10	2.42	83,510
August.....	18,328	788	591	691	.813	1.05	36,350
September.....	11,719	455	356	391	.604	.67	23,240
Water year 1934-35.....	379,035	4,550	356	1,038	1.60	21.80	751,800

## Priest Lake at outlet, near Coolin, Idaho

Location.- Staff gage, lat. 48°29'30", long. 116°54', in W $\frac{1}{2}$  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 1935. 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 observed during year, 4.92 feet June 1; minimum, -0.10 foot Oct. 16-18.  
1928-35: Maximum gage height, 5.94 feet May 23, 1932; minimum, that of Oct. 16-18, 1935.

Remarks.- Records good.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-0.05	0.36	1.62	1.64	1.80	1.70	1.68	3.18	4.92	2.98	1.52	0.72
2	-.06	.40	1.62	1.64	1.80	1.71	1.64	3.24	4.90	2.96	1.46	.70
3	-.06	.46	1.62	1.64	1.80	1.70	1.64	3.32	4.88	2.94	1.40	.68
4	-.08	.52	1.62	1.62	1.80	1.68	1.64	3.34	4.86	2.90	1.36	.68
5	-.08	.60	1.62	1.60	1.80	1.67	1.63	3.44	4.80	2.82	1.34	.68
6	-.08	.74	1.62	1.60	1.80	1.66	1.62	3.56	4.80	2.76	1.28	.66
7	-.08	.86	1.60	1.62	1.80	1.65	1.62	3.68	4.76	2.70	1.24	.63
8	-.08	1.04	1.58	1.64	1.78	1.64	1.62	3.92	4.72	2.68	1.23	.60
9	-.08	1.20	1.54	1.64	1.76	1.64	1.62	3.88	4.66	2.64	1.22	.58
10	-.08	1.20	1.54	1.64	1.80	1.64	1.64	3.90	4.52	2.57	1.22	.56
11	-.08	1.20	1.54	1.66	1.80	1.64	1.64	3.94	4.48	2.52	1.20	.54
12	-.08	1.24	1.54	1.66	1.80	1.65	1.66	3.92	4.38	2.43	1.18	.52
13	-.08	1.26	1.53	1.64	1.80	1.66	1.68	3.92	4.32	2.40	1.16	.48
14	-.08	1.22	1.53	1.64	1.80	1.68	1.78	3.88	4.30	2.37	1.12	.46
15	-.08	1.26	1.50	1.63	1.82	1.70	1.88	3.90	4.28	2.28	1.10	.44
16	-.10	1.26	1.50	1.63	1.82	1.70	1.92	3.92	4.26	2.24	1.08	.42
17	-.10	1.34	1.50	1.64	1.78	1.72	1.98	3.94	4.22	2.20	1.04	.42
18	-.10	1.40	1.52	1.64	1.78	1.72	2.04	4.04	4.20	2.16	1.02	.42
19	-.08	1.44	1.54	1.62	1.76	1.74	2.08	4.10	4.09	2.02	-	.42
20	-.06	1.48	1.54	1.66	1.76	1.74	2.12	4.16	3.99	1.96	1.00	.41
21	-.04	1.50	1.56	1.68	1.76	1.74	2.36	4.40	3.94	1.94	.98	.40
22	+0.04	1.50	1.60	1.70	1.76	1.76	2.48	4.50	3.84	1.86	.94	.40
23	.02	1.52	1.60	1.76	1.76	1.78	2.52	4.62	3.72	1.84	.88	.38
24	.10	1.54	1.62	1.78	1.76	1.78	2.60	4.70	3.62	1.82	.86	.36
25	.22	1.62	1.63	1.78	1.76	1.80	2.54	4.78	3.60	1.80	.84	.36
26	.32	1.62	1.63	1.78	1.78	1.80	2.52	4.75	3.44	1.76	.84	.35
27	.34	1.62	1.63	1.80	1.78	1.78	2.50	4.78	3.33	1.72	.80	.34
28	.36	1.62	1.65	1.81	1.70	1.76	2.80	4.76	3.24	1.70	.78	.32
29	.34	1.63	1.64	1.81	-	1.74	3.04	4.76	3.16	1.64	.76	.30
30	.32	1.62	1.64	1.80	-	1.72	3.10	4.86	3.02	1.60	.74	.28
31	.31	-	1.64	1.80	-	1.70	-	4.88	-	1.56	.74	-

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

Location.- Water-stage recorder, lat. 48°29', long. 116°54', in SW¼ sec. 5, T. 59 N., R. 4 W., at southwest end of Priest Lake, 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 587).

Drainage area.- 572 square miles.

Records available.- June 1911 to September 1918 (fragmentary); May 1919 to September 1935.

Average discharge.- 21 years (1913-18, 1919-35), 1,100 second-feet.

Extremes.- Maximum discharge during year, 5,130 second-feet June 1 (gage height, 4.35 feet); minimum, 130 second-feet Oct. 11 (gage height, -0.21 foot).  
1911-35: Maximum discharge, 7,290 second-feet May 30, 1917 (gage height, 6.83 feet); minimum, 120 second-feet Dec. 7, 1929; minimum gage height observed, that of Oct. 11, 1934.

Remarks.- Records good. Stage-discharge relation affected by logs Oct. 24 to May 2. No diversions above station.

Rating table, May 2 to Sept. 30, 1935 (gage height, in feet, and discharge, in second-feet)

0	202	2.4	2,080
0.4	336	2.8	2,630
1.6	530	3.2	3,230
1.2	300	3.6	3,870
1.6	1,150	4.0	4,530
2.0	1,580	4.4	5,220

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	139	199	664	637	706	593	598	2,490	5,040	2,350	616	406
2	142	212	664	630	713	593	585	2,600	5,040	2,280	800	396
3	142	227	657	630	720	592	585	2,630	4,960	2,210	770	387
4	139	234	650	637	720	592	585	2,700	4,970	2,210	740	374
5	139	244	637	644	720	585	579	2,780	4,780	2,090	718	370
6	136	282	618	644	720	585	579	3,000	4,780	2,080	697	353
7	136	326	611	637	713	579	579	3,160	4,700	2,020	676	340
8	136	381	604	618	706	579	573	3,310	4,620	1,950	655	336
9	136	419	598	611	699	573	573	3,390	4,530	1,880	642	328
10	136	450	579	604	692	567	579	3,390	4,360	1,880	629	321
11	136	470	573	604	685	567	604	3,470	4,280	1,820	616	309
12	139	486	573	611	692	573	624	3,470	4,190	1,750	610	306
13	139	498	567	598	692	585	657	3,470	4,110	1,700	584	302
14	139	508	573	579	692	592	692	3,390	4,030	1,640	560	291
15	139	514	573	573	685	611	734	3,390	3,950	1,570	548	288
16	139	525	573	573	671	611	820	3,390	3,950	1,470	530	277
17	142	537	573	587	664	611	880	3,550	3,870	1,440	519	277
18	142	567	579	573	664	619	932	3,630	3,790	1,380	524	274
19	145	592	579	585	667	618	1,050	3,710	3,710	1,340	524	270
20	145	598	592	537	650	618	1,100	3,670	3,630	1,270	519	266
21	163	618	618	543	644	618	1,310	4,030	3,470	1,210	514	266
22	166	630	637	579	650	624	1,460	4,280	3,390	1,160	502	263
23	184	624	644	618	657	624	1,580	4,530	3,230	1,120	486	260
24	196	618	637	637	650	630	1,680	4,700	3,080	1,100	475	260
25	224	657	637	650	637	644	1,800	4,780	3,000	1,050	465	257
26	237	664	644	671	618	650	1,980	4,780	2,680	1,020	455	253
27	234	664	644	678	618	637	2,040	4,700	2,700	978	444	247
28	251	671	630	692	611	650	2,180	4,700	2,560	944	439	247
29	224	664	630	706	-	618	2,230	4,780	2,490	919	429	244
30	218	664	637	706	-	604	2,360	4,670	2,350	886	419	244
31	212	-	637	706	-	604	-	4,960	-	847	415	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	5,075	237	136	164	0.287	0.33	10,070
November.....	14,745	671	199	491	.858	.96	29,240
December.....	19,032	664	567	614	1.07	1.23	37,750
Calendar year 1934.....	476,401	5,780	136	1,305	2.28	30.97	944,900
January.....	19,248	706	537	621	1.09	1.26	38,180
February.....	18,946	720	611	677	1.18	1.23	37,580
March.....	18,735	650	567	604	1.06	1.22	37,160
April.....	52,508	2,360	573	1,064	1.90	2.12	64,480
May.....	115,900	4,960	2,490	3,799	6.54	7.64	229,900
June.....	116,320	5,040	2,350	3,877	6.75	7.58	230,700
July.....	47,564	2,350	847	1,534	2.68	3.09	94,340
August.....	17,720	816	415	572	1.00	1.15	35,150
September.....	9,012	406	244	300	.524	.58	17,880
Water year 1934-35.....	434,803	5,040	136	1,191	2.08	28.27	862,400

## Priest River near Priest River, Idaho

**Location.**— Water-stage recorder, lat. 46°13', long. 116°55', in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 11, T. 56 N. R. 5 W., 500 feet below Saddler Creek, a quarter of a mile below mouth of Lower West Branch, 2 $\frac{1}{2}$  miles north of Priest River, and 3 $\frac{1}{2}$  miles above mouth.

**Records available.**— October 1930 to September 1935; 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, 6,150 second-feet May 24, 25; maximum gage height, 6.50 feet May 25; minimum discharge, 242 second-feet Oct. 6-11 (gage height, 0.74 foot).  
1903-5, 1910-11, 1923, 1929-35: 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 estimated because of ice effect Jan. 13-22, and those affected by backwater from logs Aug. 26 to Sept. 1, which are fair.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 12

0.7	229
1.1	393
1.5	622
1.9	894
2.3	1,172
2.7	1,485

Table for Jan. 23 to Sept. 30

(Backwater from logs Aug. 26 to Sept. 1)

0.7	227	3.9	2,710
1.1	391	4.3	5,180
1.5	614	4.7	5,680
1.9	871	5.1	4,200
2.3	1,165	5.5	4,730
2.7	1,485	5.9	5,290
3.1	1,860	6.3	5,850
3.5	2,270	6.7	6,450

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	251	420	969	894	1,160	949	1,060	3,820	6,000	2,660	1,000	540
2	255	460	935	887	1,160	964	1,050	3,740	6,000	2,710	966	538
3	248	542	928	887	1,160	971	1,090	4,070	6,000	2,600	967	521
4	245	530	921	894	1,160	949	1,130	4,070	5,710	2,490	928	509
5	245	622	894	962	1,130	942	1,160	4,200	5,710	2,380	914	498
6	242	785	867	982	1,130	955	1,130	4,590	5,670	2,380	892	492
7	242	1,030	853	942	1,130	921	1,160	4,870	5,670	2,320	864	482
8	242	1,030	846	928	1,080	921	1,160	5,010	5,430	2,270	837	465
9	242	942	826	894	1,080	906	1,280	5,010	5,290	2,160	817	460
10	242	887	812	887	1,080	892	1,360	5,010	5,150	2,110	796	454
11	242	860	806	887	1,080	892	1,440	5,010	5,010	2,010	784	445
12	248	846	806	887	1,050	842	1,580	4,870	4,870	1,960	770	433
13	265	833	819	880	1,050	1,130	1,760	4,870	4,870	1,910	758	422
14	255	819	840	900	1,020	1,280	1,810	4,730	4,730	1,810	725	422
15	265	819	833	800	986	1,280	1,910	4,730	4,730	1,760	706	417
16	284	826	826	800	978	1,280	1,910	4,870	4,730	1,710	668	417
17	280	833	826	800	971	1,240	1,910	5,010	4,690	1,620	675	401
18	272	887	833	750	964	1,200	1,960	5,150	4,460	1,530	688	401
19	261	928	860	700	957	1,200	2,060	5,150	4,330	1,440	719	401
20	268	976	874	650	957	1,160	2,220	5,290	4,200	1,440	668	391
21	404	976	997	650	964	1,130	2,660	5,430	4,070	1,360	657	361
22	426	997	1,100	800	1,020	1,090	2,860	5,710	3,680	1,320	657	361
23	393	1,070	1,020	1,020	1,050	1,090	2,950	6,000	3,680	1,280	626	361
24	415	1,020	990	1,320	1,020	1,090	2,890	6,150	3,550	1,240	608	372
25	560	1,070	928	1,400	983	1,160	2,950	6,150	3,430	1,240	608	367
26	647	1,070	921	1,400	964	1,130	3,130	6,000	3,250	1,200	600	362
27	548	1,020	908	1,320	964	1,090	3,310	5,850	3,070	1,160	590	357
28	465	1,010	914	1,280	949	1,130	3,430	5,710	2,850	1,130	580	353
29	432	990	914	1,240	-	1,090	3,490	5,710	2,630	1,180	570	353
30	415	963	894	1,200	-	1,130	3,560	5,850	2,710	1,090	560	348
31	404	-	880	1,160	-	1,130	-	6,000	-	1,080	550	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	10,213	647	242	329	0.365	0.42	20,260
November.....	28,061	1,070	420	869	.963	1.07	51,730
December.....	27,840	1,100	606	892	.969	1.14	54,820
Calendar year 1934.....	658,806	6,900	242	1,905	2.00	27.16	1,307,000
January.....	29,851	1,400	650	963	1.07	1.23	59,210
February.....	29,247	1,160	949	1,045	1.16	1.21	58,010
March.....	33,214	1,280	892	1,071	1.19	1.37	65,880
April.....	61,880	3,550	1,060	2,046	2.27	2.53	121,700
May.....	158,430	6,150	3,620	5,111	5.67	6.54	314,200
June.....	156,970	6,000	2,710	4,646	5.04	5.62	270,500
July.....	64,819	2,710	1,050	1,763	1.95	2.25	106,100
August.....	22,798	1,000	560	735	.815	.94	45,220
September.....	12,762	640	348	425	.471	.53	25,310
Water year 1934-35.....	602,496	6,150	242	1,651	1.83	24.25	1,195,000

## Sheep Creek near Northport, Wash.

Location.- Water-stage recorder, lat. 48°56'40", long. 117°46'40", in NE¼ sec. 25, T. 30 N., R. 39 E., at county highway bridge 1 mile above mouth and 1½ miles north of Northport. Zero of gage is 1,300 feet above mean sea level.

Drainage area.- 225 square miles.

Records available.- June 1929 to September 1935.

Extremes.- Maximum discharge during year, 1,640 second-feet May 7 (gage height, 26.42 feet); minimum, probably less than 20 second-feet during period of ice effect in January.

1929-35: Maximum discharge, 2,450 second-feet Apr. 29, 1933 (gage height, 27.46 feet); minimum, probably less than 8 second-feet during period Dec. 25, 1929, to Apr. 7, 1930.

Remarks.- Records excellent except those for periods of ice effect, Dec. 26-31, Jan. 11-27, Feb. 8-11, which are poor, and those for period Apr. 5-24, which were determined on basis of records for Colville River and are fair. Flow partly regulated by flash dam 6½ miles above. No diversions.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

22.5	15	24.5	460
22.7	29	25.0	700
22.9	49	25.5	1,010
23.2	90	26.0	1,360
23.5	145	26.5	1,710
24.0	275	27.0	2,060

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	29	80	62	107	111	112	1,220	610	174	75	40
2	24	31	76	62	118	109	111	1,180	776	209	74	38
3	24	35	76	62	120	109	112	1,120	664	204	71	38
4	24	32	74	64	127	107	115	1,150	598	189	69	37
5	24	34	72	65	135	107	120	1,320	560	177	69	37
6	24	35	71	72	139	105	150	1,600	550	172	68	36
7	24	35	69	71	141	105	160	1,600	536	167	65	35
8	24	34	66	69	140	104	170	1,600	500	167	62	35
9	24	34	68	68	120	102	180	1,560	469	163	61	35
10	25	38	65	65	110	102	200	1,320	435	158	59	34
11	25	44	67	60	120	102	250	1,320	406	149	56	34
12	27	48	69	65	139	100	230	1,080	392	141	55	34
13	27	50	74	60	139	102	340	975	371	133	54	34
14	26	53	76	40	135	105	410	933	374	125	51	34
15	27	55	76	40	129	109	480	975	431	120	49	34
16	27	60	75	40	127	111	480	1,040	447	114	49	34
17	26	64	75	45	123	114	500	1,010	402	107	48	34
18	26	71	75	35	123	118	550	975	356	102	51	34
19	26	74	76	26	121	118	610	1,040	327	98	54	34
20	27	74	76	20	120	118	650	1,040	307	95	51	35
21	30	74	78	20	114	116	750	1,120	285	90	49	32
22	31	75	78	30	111	114	840	1,290	263	87	47	31
23	32	75	75	40	107	114	910	1,400	245	82	45	31
24	35	76	76	50	107	118	950	1,290	231	82	45	31
25	32	84	74	60	107	116	975	1,080	217	82	44	30
26	32	87	70	70	109	112	1,080	928	201	78	42	30
27	32	96	50	80	107	111	1,220	870	189	76	41	30
28	31	84	50	90	111	112	1,220	854	177	75	40	30
29	30	81	50	98	-	112	1,220	828	169	87	40	29
30	28	81	50	102	-	112	1,220	828	167	87	40	29
31	28	-	50	104	-	114	-	822	-	81	40	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	844	33	24	27.2	0.121	0.14	1,670
November.....	1,731	87	29	57.7	.256	.29	3,450
December.....	2,159	80	50	69.6	.309	.36	4,280
Calendar year 1934.....	85,963	1,780	23	236	1.05	14.22	170,500
January.....	1,814	104	20	55.5	.280	.30	3,600
February.....	3,404	141	107	122	.545	.56	6,750
March.....	5,409	118	100	110	.499	.56	6,780
April.....	16,306	1,220	111	544	2.42	2.70	32,540
May.....	34,846	1,600	822	1,124	5.00	5.76	69,120
June.....	11,685	810	167	396	1.76	1.96	23,520
July.....	5,871	209	75	125	.555	.64	7,680
August.....	1,664	75	40	53.7	.239	.28	3,800
September.....	1,007	40	29	33.6	.149	.17	2,000
Water year 1934-35.....	82,920	1,600	20	227	1.01	13.72	164,500



## Kettle River near Ferry, Wash.

(International gaging station)

Location.— Water-stage recorder, lat. 48°58'40", long. 118°46'10", in lot 7, sec. 10, T. 40 N., R. 32 E., 1½ 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 1935.

Extremes.— Maximum discharge during year, 11,100 second-feet May 23 (gage height, 17.23 feet); minimum, not determined, occurred during period of ice effect in January. 1928-35: 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 periods of ice effect, Dec. 27 to Jan. 1, Jan. 13-25, which are poor. Numerous small diversions above station for irrigation. This is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

9.4	115	12.0	1,940	15.0	6,600
9.7	205	12.5	2,550	15.5	7,550
10.0	327	13.0	3,250	16.0	8,500
10.5	595	13.5	4,000	16.5	9,520
11.0	960	14.0	4,800	17.0	10,600
11.5	1,400	14.5	5,670		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	202	301	602	330	688	546	399	4,320	9,310	5,100	952	279
2	202	675	506	409	699	528	389	3,850	8,310	8,500	912	287
3	198	865	435	429	695	528	389	3,850	7,170	7,550	889	255
4	191	723	472	419	709	523	394	4,480	6,500	6,030	920	247
5	185	667	456	409	709	488	414	5,140	7,360	4,970	806	239
6	181	695	394	389	738	483	419	6,030	8,310	4,480	799	235
7	174	912	404	355	723	477	419	6,030	7,930	4,000	745	220
8	171	850	323	323	654	466	424	5,670	7,930	3,780	688	216
9	171	812	283	305	614	456	424	5,490	7,350	3,850	640	209
10	168	745	243	301	595	429	435	5,510	6,790	3,620	602	202
11	168	709	318	296	602	424	477	4,970	6,600	3,180	583	195
12	171	698	429	279	654	429	583	4,640	6,220	2,810	564	188
13	171	674	517	240	681	445	768	4,640	6,790	2,620	540	185
14	168	674	602	190	687	456	888	4,970	6,980	2,360	494	195
15	185	709	621	160	628	477	968	5,490	6,600	2,180	472	220
16	213	658	595	160	621	483	1,060	5,850	6,790	2,000	450	312
17	216	944	558	190	595	483	1,140	5,670	5,850	1,830	440	399
18	213	904	528	180	595	483	1,210	5,850	5,310	1,610	466	409
19	205	858	506	160	589	477	1,450	6,030	4,800	1,500	472	350
20	202	812	488	140	577	461	2,060	6,410	4,800	1,400	517	314
21	213	775	489	190	595	450	3,180	7,740	4,160	1,300	488	287
22	261	738	461	260	608	445	3,250	9,100	3,850	1,190	445	271
23	305	718	461	270	595	456	2,950	10,600	3,700	1,110	409	255
24	323	709	445	280	577	461	2,810	9,510	3,400	1,080	384	239
25	323	709	296	300	534	461	2,880	7,740	3,020	1,100	369	228
26	296	681	179	327	511	429	3,580	6,980	2,740	1,030	360	220
27	283	667	160	394	534	404	4,000	7,170	2,620	944	341	218
28	271	647	190	508	540	419	4,160	7,740	2,480	904	323	213
29	265	602	140	571	—	424	4,160	8,500	2,680	1,150	309	209
30	269	686	280	660	—	414	4,480	3,100	3,400	1,190	296	202
31	271	—	280	674	—	409	—	2,310	—	1,010	292	—

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	6,813	323	168	220	13,610
November.....	21,914	944	301	730	43,470
December.....	12,720	621	160	410	25,230
Calendar year 1934.....	520,950	11,100	81	1,427	1,035,000
January.....	10,096	674	140	326	20,030
February.....	17,516	738	511	626	34,740
March.....	14,314	546	404	462	28,590
April.....	50,160	4,480	389	1,672	99,490
May.....	197,980	10,600	3,850	6,366	392,700
June.....	170,050	9,510	2,480	5,668	337,300
July.....	88,878	6,600	904	2,764	169,300
August.....	16,884	952	292	544	33,450
September.....	7,476	409	185	249	14,830
Water year 1934-35.....	611,281	10,600	140	1,675	1,212,000

## Kettle River near Laurier, Wash.

(International gaging station)

Location.— Water-stage recorder, lat. 48°50'50", long. 118°13', in SW $\frac{1}{4}$  sec. 11, T. 40 N., R. 33 E., 500 feet below Deep Creek and 1 $\frac{1}{2}$  miles southeast of Laurier.

Drainage area.— 3,800 square miles.

Records available.— September 1929 to September 1935.

Extremes.— Maximum discharge during year, 19,300 second-feet May 24 (gage height, 13.03 feet); minimum, 228 second-feet Oct. 11, 12, 16 (gage height, 2.74 feet).

1929-35: 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 for periods of ice effect, Dec. 26-31, Jan. 11 to Feb. 2, Feb. 7-15, which are poor. North Fork regulated by storage above dam at Grand Forks, British Columbia. Numerous small diversions for irrigation and domestic use. This is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.7	210	4.5	1,350	7.0	4,660	9.5	9,670
2.9	305	5.0	1,790	7.5	5,600	10.0	10,800
3.2	470	5.5	2,350	8.0	6,600	11.0	13,380
3.5	650	6.0	3,040	8.5	7,600	12.0	16,320
4.0	990	6.5	3,810	9.0	8,600	13.0	19,320

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	260	500	1,310	822	1,650	1,240	1,100	8,810	15,700	6,400	1,790	602
2	275	786	1,240	892	1,600	1,200	1,020	8,000	14,500	9,930	1,690	578
3	295	1,680	1,130	945	1,800	1,200	1,020	7,800	12,600	10,800	1,690	554
4	295	1,640	1,080	990	1,800	1,160	1,020	8,400	11,000	9,230	1,600	530
5	290	1,470	1,050	990	1,800	1,160	1,060	9,970	11,500	8,000	1,510	512
6	280	1,470	1,020	945	1,560	1,130	1,100	11,300	13,400	7,000	1,470	482
7	270	1,740	990	920	1,600	1,100	1,100	12,000	13,400	6,800	1,390	455
8	265	1,840	920	905	1,550	1,060	1,100	11,300	12,800	6,200	1,350	428
9	280	1,840	808	843	1,450	1,080	1,100	10,800	12,800	6,000	1,270	434
10	255	1,790	724	822	1,250	1,020	1,130	10,800	11,500	6,200	1,240	416
11	250	1,690	731	800	1,300	990	1,200	9,870	11,000	5,400	1,160	410
12	255	1,600	885	750	1,350	990	1,470	9,020	10,600	5,020	1,130	394
13	265	1,560	1,080	700	1,400	1,020	1,940	8,810	11,000	4,460	1,100	382
14	280	1,470	1,200	650	1,450	1,060	2,640	9,020	12,800	4,140	1,060	366
15	250	1,510	1,270	450	1,450	1,100	2,750	9,990	11,000	5,310	990	372
16	250	1,640	1,240	400	1,390	1,130	2,890	10,800	11,300	3,490	945	377
17	275	1,840	1,200	450	1,390	1,160	3,040	10,600	10,100	3,260	945	458
18	305	1,890	1,160	450	1,350	1,160	3,260	10,500	9,230	3,040	945	572
19	320	1,840	1,100	400	1,350	1,200	3,570	10,800	8,200	2,750	945	608
20	315	1,740	1,100	300	1,310	1,200	4,480	11,300	8,200	2,540	990	560
21	330	1,640	1,100	350	1,310	1,160	6,500	12,800	7,800	2,420	1,020	542
22	325	1,600	1,080	450	1,350	1,160	7,600	15,700	7,000	2,290	990	470
23	345	1,560	1,020	550	1,350	1,130	7,000	18,400	6,800	2,000	906	464
24	394	1,560	1,020	600	1,310	1,160	6,400	18,100	6,400	1,600	829	452
25	440	1,560	900	650	1,240	1,160	6,400	14,200	5,800	1,560	750	434
26	428	1,560	800	800	1,200	1,130	7,400	12,000	5,210	1,560	724	428
27	434	1,470	700	1,000	1,200	1,360	8,400	12,000	4,840	1,740	717	413
28	434	1,430	450	1,260	1,240	1,580	8,400	12,800	4,680	1,790	686	397
29	440	1,390	550	1,650	-	1,350	8,400	14,000	4,680	1,740	686	382
30	464	1,550	600	1,650	-	1,430	8,600	14,800	5,400	2,000	633	398
31	464	-	700	1,650	-	1,130	-	15,100	-	2,000	620	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						9,978	464	250	322	19,790		
November.....						46,536	1,890	500	1,551	92,300		
December.....						30,098	1,310	450	971	59,700		
Calendar year 1934.....						1,030,231	20,800	178	2,8.3	2,043,000		
January.....						26,025	1,650	300	807	49,640		
February.....						39,400	1,650	1,200	1,407	78,150		
March.....						36,050	1,560	990	1,163	71,600		
April.....						112,990	8,600	1,020	3,766	224,100		
May.....						358,790	18,400	7,800	11,570	711,600		
June.....						290,600	15,700	4,680	9,883	576,200		
July.....						134,990	10,800	1,580	4,365	267,700		
August.....						32,781	1,790	620	1,089	66,860		
September.....						15,860	608	366	452	27,490		
Water year 1934-35.....						1,131,978	18,400	250	3,101	2,245,600		

## Myers Creek near Myncaster, British Columbia

(International gaging station)

Location.- Water-stage recorder, lat. 49°, long. 119°1'15", 50 feet north of the international boundary and a quarter of a mile south of Myncaster.

Drainage area.- 80 square miles.

Records available.- October 1929 to September 1935; May 1923 to September 1929 in Canadian water-resources papers.

Extremes.-Maximum discharge recorded during year, 26.6 second-feet May 23; minimum, 0.9 second-foot Aug. 14, 15, Sept. 10-12.

1923-35: Maximum recorded discharge, 99 second-feet June 14, 1923; no flow July 16-18, 25, 1926.

Remarks.- Records fair. Discharge determined by weir formula Oct. 1 to Nov. 28, Aug. 24-31, Sept. 1, 6-30. No record during winter. Diversions above station for irrigation. This is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	3.9					-	9.7	17.6	*6.5	2.8	1.2
2	2.1	4.7					-	9.7	16.2	6.9	2.8	*1.3
3	2.0	3.9					6.0	9.7	15.5	5.7	2.4	*1.3
4	1.9	3.4					*6.0	10.7	14.4	*5.6	2.4	*1.4
5	1.8	3.5					*6.0	11.4	*14.1	5.4	2.2	*1.5
6	1.8	4.0					6.0	12.4	*13.4	5.2	1.7	1.6
7	1.9	4.0					*7.4	12.7	*12.7	*5.4	1.7	1.3
8	1.8	3.7					*5.8	13.1	12.4	*5.6	1.6	1.1
9	1.7	3.7					*10.2	13.4	12.1	*5.8	1.5	1.0
10	1.7	3.6					*11.6	14.1	11.7	6.0	1.3	.9
11	1.7	3.5					13.1	14.4	10.7	5.2	1.1	.9
12	1.7	3.5					*11.7	14.4	*11.0	4.6	1.1	.9
13	1.7	3.5					*10.3	14.4	11.4	4.0	1.0	1.0
14	1.7	3.5					9.0	14.4	10.0	3.8	.9	1.4
15	1.8	3.6					*9.3	16.2	13.1	3.5	.9	1.6
16	2.2	3.7					*9.6	19.4	*11.8	3.5	1.3	1.7
17	2.2	3.7					*9.9	19.0	10.4	3.2	1.5	1.4
18	2.2	4.3					*10.2	18.7	9.0	3.0	3.0	1.3
19	2.1	4.4					*10.4	18.3	8.4	3.0	4.3	1.3
20	2.1	4.6					11.0	19.0	8.1	3.0	3.2	1.3
21	2.4	4.3					11.0	20.6	7.5	2.6	2.4	1.3
22	2.6	4.3					10.0	24.1	7.2	2.4	2.2	1.3
23	2.5	4.3					9.7	25.5	7.8	2.4	1.8	1.3
24	2.6	4.3					9.7	24.4	7.5	3.5	1.8	1.3
25	2.6	4.3					9.7	23.0	6.6	3.5	1.6	1.3
26	3.1	3.9					9.7	21.6	6.3	3.0	1.5	1.3
27	3.0	3.9					9.7	20.1	6.0	2.6	1.5	1.4
28	2.8	3.1					9.3	19.4	*5.6	3.2	1.4	1.5
29	2.6	*3.0					9.3	19.4	5.7	3.2	1.4	1.5
30	2.6	*2.8		-			9.7	19.4	*6.1	2.8	1.3	1.4
31	2.8	-		-			-	15.7	-	2.6	1.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....							3.1	1.7	2.2	135		
November.....							4.7	2.8	3.8	228		
December.....							-	-	-	-		
Calendar year .....												
January.....							-	-	-	-		
February.....							-	-	-	-		
March.....							-	-	-	-		
April 1-30.....							13.1	6.0	9.4	524		
May.....							25.5	9.7	16.8	1,030		
June.....							17.6	5.7	10.4	615		
July.....							6.9	2.4	4.1	252		
August.....							4.3	.9	1.8	112		
September.....							1.8	.9	1.3	78		
Water year .....												

\*Estimated.

## Colville River at Meyers Falls, Wash.

Location.- Staff gage, lat. 48°36', long. 118°4', 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 1935.

Average discharge.- 13 years, 231 second-feet.

Extremes.- Maximum observed discharge during year, 1,380 second-feet Apr. 28 (gage height, 4.08 feet); minimum observed discharge, 41 second-feet Aug. 26 (gage height, 0.73 foot).  
1922-35: Maximum observed discharge, 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 periods of ice effect, Dec. 26 to Jan. 1, Jan. 13-27, which are poor. Several 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	138	172	170	367	453	503	1,260	430	213	96	62
2	72	156	172	163	408	453	478	1,200	408	226	99	61
3	72	149	160	195	408	453	478	1,140	430	239	92	59
4	72	149	160	195	430	430	478	1,140	367	226	36	59
5	80	183	149	195	430	430	478	1,080	348	213	96	56
6	72	195	149	207	430	430	503	1,080	330	200	92	61
7	*78	195	160	207	408	430	503	1,080	330	189	92	58
8	72	195	160	220	348	430	503	1,020	297	200	89	54
9	72	183	160	220	348	430	503	1,020	282	200	87	55
10	72	183	149	207	330	430	528	965	267	200	80	53
11	72	160	149	220	330	388	553	910	267	*189	76	61
12	76	160	149	160	367	408	653	910	267	176	76	65
13	83	160	160	140	348	408	763	910	267	164	74	59
14	88	149	172	86	330	453	856	955	267	150	89	57
15	99	149	183	90	330	478	965	903	267	143	30	69
16	89	149	183	95	330	503	910	803	267	126	67	76
17	89	158	183	100	330	503	910	753	267	137	68	70
18	88	149	183	100	330	503	965	753	267	110	80	74
19	88	160	183	90	330	528	1,020	753	282	103	96	76
20	91	160	195	*70	330	528	1,020	703	267	99	96	72
21	101	172	195	85	330	528	1,140	703	267	96	107	68
22	112	172	195	100	348	503	1,260	653	253	86	92	70
23	130	172	207	120	367	503	1,320	653	226	76	98	74
24	158	172	232	140	367	503	1,320	628	226	99	72	72
25	149	*183	220	160	367	503	1,320	603	213	101	68	70
26	160	172	170	240	388	503	1,320	553	200	91	57	70
27	172	172	120	310	430	478	1,320	528	200	96	68	67
28	160	183	130	348	453	478	*1,380	503	188	103	61	74
29	160	172	140	348	-	503	1,320	478	188	107	57	75
30	149	172	*150	348	-	503	1,320	453	188	99	56	76
31	138	-	140	348	-	503	-	453	-	99	62	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,160	172	72	102	6,270		
November.....						4,992	195	136	166	9,880		
December.....						5,230	232	120	169	10,370		
Calendar year 1934.....						114,645	1,040	34	314	227,400		
January.....						5,696	348	70	184	11,300		
February.....						10,312	453	330	368	20,450		
March.....						14,577	528	388	470	28,910		
April.....						26,579	1,380	478	886	52,720		
May.....						26,346	1,260	453	818	50,270		
June.....						8,323	430	188	277	16,510		
July.....						4,554	239	76	147	9,030		
August.....						2,506	107	51	60.8	4,970		
September.....						1,972	76	53	65.7	3,910		
Water year 1934-35.....						113,237	1,380	51	310	224,600		

## Coeur d'Alene River near Cataldo, Idaho

Location.- Water-stage recorder, lat. 47°34', long. 116°18', in sec. 26, T. 49 N., R. 1 E.,  $\frac{1}{2}$  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 1935.

Average discharge.- 16 years, 2,520 second-feet.

Extremes.- Maximum discharge during year, 14,400 second-feet May 6 (gage height, 46.79 feet); minimum discharge, 286 second-feet Oct. 10.

1911-12, 1920-35: Maximum discharge, 55,300 second-feet Dec. 22 or 23, 1933; minimum, 122 second-feet Dec. 4, 1929; minimum gage height, 37.03 feet Sept. 6, 1931.

Remarks.- Records good except those estimated Jan. 20-23, July 29 to Aug. 6, Sept. 20-28, which are fair. No appreciable diversions or regulation above station. Gage-height record and results of eight discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	308	874	1,710	1,600	3,260	1,910	3,020	11,000	6,140	1,210	580	370
2	300	1,060	1,560	1,500	3,200	1,860	2,860	10,400	5,520	1,160	590	355
3	292	1,250	1,450	1,460	3,140	1,900	2,800	9,560	4,780	1,130	570	352
4	288	1,350	1,370	1,410	3,250	1,900	3,080	9,910	4,320	1,040	540	342
5	284	1,590	1,270	1,240	3,260	1,860	3,260	11,500	4,250	994	570	334
6	276	2,290	1,200	2,340	3,080	1,760	3,020	13,900	4,250	1,040	540	329
7	273	2,750	1,130	2,390	2,860	1,710	2,750	12,900	3,970	1,040	520	329
8	273	3,320	1,080	2,190	2,700	1,720	2,920	10,900	3,640	1,020	510	324
9	273	3,440	1,000	2,000	2,490	1,640	2,970	9,690	3,440	1,000	490	320
10	273	2,800	945	1,840	2,290	1,540	3,640	9,800	3,200	938	490	316
11	273	2,290	931	1,820	2,240	1,500	5,020	9,250	2,920	892	485	312
12	276	1,960	1,020	1,720	2,240	1,830	7,190	7,690	2,600	868	465	316
13	296	1,670	973	1,560	2,190	4,250	9,580	7,090	3,020	808	455	312
14	300	1,470	959	1,430	2,020	7,590	11,100	7,490	2,640	790	450	318
15	300	1,330	945	1,330	1,920	7,390	10,900	8,300	2,540	760	445	342
16	329	1,240	924	1,400	1,690	6,050	10,500	8,830	2,390	772	440	374
17	334	1,160	931	1,380	1,610	5,180	9,580	10,100	2,140	730	440	370
18	342	1,180	931	1,280	1,560	4,480	9,580	10,100	2,010	694	450	360
19	338	1,190	973	1,020	1,520	3,900	9,470	9,140	1,890	688	490	347
20	370	1,260	1,140	800	1,530	3,500	11,400	8,830	1,790	694	495	340
21	425	1,370	1,970	800	1,650	3,080	13,400	9,910	1,660	670	450	330
22	637	1,450	5,320	1,200	1,920	2,800	13,400	11,000	1,570	642	406	320
23	626	2,090	5,600	1,700	2,440	2,540	11,100	11,400	1,510	642	396	320
24	648	2,700	4,320	2,190	2,340	2,490	9,250	9,580	1,460	620	396	330
25	1,180	2,800	3,380	4,400	2,140	3,080	9,350	7,890	1,400	648	396	320
26	3,080	2,750	2,970	5,600	2,000	2,750	11,100	6,990	1,340	626	392	310
27	2,390	2,540	2,540	5,180	1,940	2,390	12,300	6,520	1,270	604	383	310
28	1,580	2,240	2,240	4,400	1,920	2,340	11,300	6,520	1,220	593	378	300
29	1,210	1,990	2,090	3,800	-	2,390	10,600	6,520	1,250	600	370	300
30	1,040	1,910	1,940	3,870	-	2,700	11,000	6,590	1,300	560	365	300
31	892	-	1,740	3,380	-	3,080	-	6,520	-	560	365	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	19,706	3,080	273	636	0.521	0.60	39,090
November.....	57,214	3,440	874	1,907	1.56	1.74	113,500
December.....	57,652	6,520	924	1,857	1.52	1.75	114,200
Calendar year 1934.....	1,042,915	22,200	254	2,857	2.34	31.77	2,069,000
January.....	68,630	5,600	800	2,214	1.81	2.09	136,100
February.....	64,310	3,260	1,520	2,297	1.88	1.96	127,600
March.....	93,130	7,590	1,500	3,004	2.46	2.84	184,700
April.....	237,450	13,400	2,750	7,915	6.49	7.24	471,000
May.....	285,770	13,900	6,520	9,218	7.56	8.72	566,800
June.....	81,650	6,140	1,220	2,721	2.25	2.49	161,900
July.....	25,032	1,210	560	808	.662	.76	49,600
August.....	14,312	590	365	462	.379	.44	28,390
September.....	9,901	374	300	330	.270	.30	19,640
Water year 1934-35.....	1,014,658	13,900	273	2,780	2.28	30.93	2,013,000

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

Location.- Water-stage recorder, lat. 47°40', long. 116°46', 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 1935, April 1903 to February 1905 at St. Joe Boom Co.'s gage at mouth of St. Joe River.

Extremes.- Maximum stage recorded during year, 31.72 feet May 9; minimum, 23.15 feet Jan. 22.

1903-35: Maximum stage, 39.05 feet 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 affected 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23.86	25.20	24.70	24.35	24.92	24.03	25.19	31.24	29.97	26.49	26.39	25.33
2	23.86	25.24	24.62	24.23	24.92	24.02	25.13	31.29	29.79	26.47	26.34	25.30
3	23.86	25.33	24.54	24.09	24.90	24.03	25.06	31.29	29.66	26.48	26.33	25.24
4	23.83	25.38	24.46	24.06	24.89	24.01	24.99	31.24	29.50	26.49	26.33	25.18
5	23.83	25.43	24.37	24.11	24.68	23.99	24.98	31.21	29.04	26.49	26.30	25.12
6	23.82	25.42	24.27	24.21	24.83	23.95	24.94	31.29	28.80	26.48	26.26	25.02
7	23.80	25.42	24.16	24.22	24.80	23.89	24.86	31.49	28.61	26.49	26.24	24.98
8	23.79	25.39	24.14	24.26	24.74	23.89	24.84	31.64	28.40	26.48	26.22	24.92
9	23.78	25.36	24.09	24.23	24.66	23.89	24.89	31.71	28.16	26.46	26.20	24.84
10	23.77	25.33	24.06	24.17	24.66	23.87	25.00	31.65	27.96	26.45	26.19	24.78
11	23.77	25.27	24.07	24.19	24.49	23.88	25.19	31.69	27.71	26.46	26.15	24.74
12	23.77	25.17	24.08	24.10	24.59	23.88	25.53	31.43	27.52	26.47	26.11	24.68
13	23.77	25.04	24.06	23.97	24.32	24.15	25.03	31.21	27.34	26.48	26.11	24.56
14	23.74	24.92	24.04	23.86	24.25	25.00	26.68	30.98	27.14	26.50	26.10	24.49
15	23.73	24.83	24.01	23.78	24.16	25.75	27.38	30.80	26.94	26.51	26.02	24.47
16	23.73	24.79	23.98	23.73	24.00	26.17	28.02	30.69	26.72	26.52	25.95	24.43
17	23.72	24.79	23.98	23.64	23.89	26.38	28.55	30.65	26.50	26.49	25.93	24.40
18	23.75	24.79	23.99	23.51	23.78	26.46	28.92	30.64	26.27	26.46	25.91	24.36
19	23.77	24.79	24.06	23.40	23.66	26.43	29.18	30.68	26.20	26.45	25.88	24.34
20	23.78	24.79	24.22	23.29	23.59	26.34	29.42	30.66	26.14	26.43	25.86	24.30
21	23.81	24.79	24.32	23.17	23.54	26.22	29.77	30.65	26.14	26.44	25.65	24.26
22	23.87	24.78	24.72	23.16	23.63	26.06	30.23	30.72	26.20	26.45	25.83	24.25
23	23.97	24.76	25.13	23.25	23.86	25.90	30.62	30.86	26.24	26.46	25.80	24.22
24	24.06	24.79	25.24	23.42	24.02	25.74	30.81	31.02	26.27	26.46	25.73	24.18
25	24.16	24.82	25.21	23.79	24.16	25.72	30.84	31.14	26.30	26.47	25.67	24.09
26	24.43	24.82	25.17	24.20	24.08	25.69	30.83	31.08	26.34	26.46	25.62	24.02
27	24.74	24.82	25.03	24.53	24.06	25.59	30.89	30.92	26.39	26.46	25.56	23.95
28	24.90	24.82	24.63	24.77	24.03	25.48	31.04	30.70	26.45	26.46	25.50	23.91
29	24.96	24.79	24.61	24.65	-	25.55	31.15	30.49	26.48	26.43	25.46	23.86
30	25.04	24.76	24.65	24.91	-	25.28	31.19	30.30	26.50	26.40	25.42	23.81
31	25.11	-	24.50	24.92	-	25.22	-	30.15	-	25.42	25.38	-

## SPOKANE RIVER BASIN

## Spokane River at Post Falls, Idaho

Location.—Water-stage recorder, lat. 47°42', long. 116°58', 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. Zero of gage is 2,000 feet above mean sea level.

Drainage area.—3,380 square miles.

Records available.—January 1913 to September 1935.

Average discharge.—22 years, 6,170 second-feet. Average discharge, including Spokane Valley Farms Co.'s canal, 22 years, 6,250 second-feet.

Extremes.—Maximum discharge during year, 25,500 second-feet May 9 (gage height, 75.47 feet); minimum, 480 second-feet Oct. 3 (gage height, 65.40 feet).

1913-35: Maximum discharge, 50,100 second-feet Dec. 25, 1933; minimum, that of Oct. 3, 1934.

Remarks.—Records good. Discharge for Nov. 25, 27-29, Dec. 1-4, 17, 18, 21-25, Jan. 19-21, Aug. 18 to Sept. 12 determined by comparison with records for 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. .) Flow partly regulated by storage and release of water at Coeur d'Alene Lake. Gage-height record and results of fourteen discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	626	1,030	4,600	6,000	7,550	6,100	8,370	24,000	19,500	2,960	906	1,000
2	646	1,030	4,650	5,900	7,550	6,100	8,250	24,000	19,100	2,500	906	1,000
3	626	1,280	4,500	4,460	7,550	6,100	8,130	24,000	18,500	2,180	912	1,200
4	646	2,130	4,400	3,820	7,550	6,100	8,010	23,800	17,500	2,180	899	1,100
5	724	3,380	4,370	4,280	7,550	6,100	8,010	23,800	16,700	2,200	899	1,200
6	854	4,560	4,280	4,860	7,430	6,000	8,010	23,800	15,900	2,220	899	1,400
7	821	6,100	3,500	5,450	7,320	5,080	7,780	24,500	15,600	2,390	834	1,300
8	724	6,320	2,780	5,790	7,200	4,000	7,780	25,300	15,000	2,770	808	1,350
9	717	6,320	2,780	5,790	7,090	4,090	7,900	25,500	14,500	2,230	814	1,450
10	717	6,320	1,980	5,560	6,980	4,000	8,010	25,300	13,900	1,710	808	1,400
11	710	6,210	1,590	5,690	6,870	4,000	8,370	25,000	13,300	1,560	808	1,350
12	698	6,100	2,150	5,560	6,650	5,370	8,980	24,500	12,900	1,360	899	1,350
13	906	5,680	2,770	5,480	6,650	6,320	10,000	23,800	12,300	1,130	912	1,560
14	854	5,060	2,740	4,950	6,430	7,900	11,300	22,900	11,400	1,130	970	1,500
15	704	4,180	2,740	4,980	6,320	9,610	12,300	22,400	11,400	1,160	1,020	1,200
16	691	2,860	2,720	5,060	6,100	10,400	14,600	22,000	11,000	1,540	1,020	1,160
17	704	2,710	2,700	5,060	5,900	11,000	15,900	22,000	10,500	1,690	1,040	1,150
18	704	3,160	1,700	4,780	5,630	11,100	17,100	22,000	7,200	1,210	1,060	1,090
19	896	3,140	906	4,460	5,480	11,100	17,700	22,000	6,210	951	1,020	1,060
20	1,070	3,140	1,420	4,280	5,260	10,800	18,300	22,000	5,060	834	900	1,160
21	925	3,470	3,500	4,190	5,260	10,500	19,300	22,000	3,660	808	880	1,210
22	710	3,730	6,000	4,280	5,370	10,300	20,800	22,000	2,940	821	1,050	1,130
23	717	3,730	7,500	4,860	5,790	9,870	22,800	22,400	2,940	808	1,150	1,190
24	717	3,820	6,000	5,060	6,100	9,610	22,900	22,900	2,950	814	1,250	1,280
25	730	4,400	8,000	5,560	6,210	9,480	22,900	23,100	2,480	788	1,250	1,520
26	834	4,760	8,010	6,430	6,210	9,480	22,600	23,100	2,140	782	1,300	1,360
27	970	4,700	7,090	6,870	6,210	9,230	22,900	22,400	1,810	782	1,400	1,370
28	990	4,700	7,430	7,550	6,210	8,990	23,600	22,000	2,500	847	1,250	1,320
29	1,000	4,700	7,200	7,320	—	8,730	23,800	22,000	2,760	906	1,100	1,260
30	984	4,660	6,960	7,550	—	8,610	23,800	20,600	2,950	892	1,100	1,280
31	990	—	6,320	7,550	—	8,490	—	20,200	—	899	1,050	—

Discharge of Spokane River and Spokane Valley Farm Co.'s canal at Post Falls, Idaho, water year 1934-35

Month	Discharge in second-feet						Combined run-off	
	River (mean)	Canal (mean)	Combined				Inches	Acre-feet
			Maximum	Minimum	Mean	Per square mile		
October.....	793	0	1,070	626	793			48,780
November.....	4,113	0	6,320	1,030	4,113			244,700
December.....	4,355	0	8,010	906	4,355			287,800
Calendar year 1934	7,926	101	33,500	626	8,027			5,611,570
January.....	5,470	0	7,550	3,620	5,470			336,300
February.....	6,517	0	7,550	5,260	6,517			361,900
March.....	7,888	9.1	11,100	4,000	7,697			456,600
April.....	14,670	66.6	23,900	7,830	14,740			877,200
May.....	23,050	243	25,700	20,500	23,290			1,432,000
June.....	9,810	279	19,800	2,080	10,090			600,300
July.....	1,453	270	3,240	1,050	1,723			105,900
August.....	1,004	259	1,660	1,070	1,263			77,660
September.....	1,246	127	1,700	1,060	1,373			81,710
Water year 1934-35	6,691	106	25,700	626	6,796	1.75	23.75	4,920,000

Note.—Monthly figures showing discharge in second-feet per square mile and run-off in inches are not published, because of 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, lat. 47°39'30", long. 117°26'50", in sec. 13, T. 25 N., R. 42 E., at Cochran Street, Spokane. Zero of gage is 1,700 feet above mean sea level.

Drainage area.— 4,350 square miles.

Records available.— April 1891 to September 1935.

Average discharge.— 44 years, 6,997 second-feet (based on records corrected for storage in Coeur d'Alene Lake).

Extremes.— Maximum discharge during year, 25,400 second-feet May 10 (gage height, 25.38 feet); minimum, 1,010 second-feet Oct. 2 (gage height, 17.41 feet).

1891-1935: 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. Part of monthly-discharge table corrected for storage in Coeur d'Alene Lake, capacity, 770,000 acre-feet between elevation 2,117 and 2,135 feet. Gage-height record collected in cooperation with Washington Water Power Co., which furnished many discharge measurements.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to May 8

17.5	1,110	21.0	7,700
18.0	1,710	21.5	9,100
18.5	2,450	22.0	10,600
19.0	3,250	22.5	14,100
19.5	4,190	24.0	18,000
20.0	5,220	25.0	22,370
20.5	6,400		

Table for May 9 to Sept. 30

17.5	1,230	21.0	8,050
18.0	1,860	22.0	11,200
18.5	2,610	23.0	14,900
19.0	3,480	24.0	18,950
19.5	4,440	25.0	23,500
20.0	5,520	26.0	28,400
20.5	6,730		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,320	1,580	4,860	6,210	7,560	6,230	5,530	22,800	20,300	4,020	1,690	1,760
2	1,260	1,620	4,810	6,030	7,560	6,230	5,530	22,800	19,800	3,770	1,680	1,740
3	1,320	1,610	4,780	5,380	7,540	6,210	5,250	22,800	19,400	3,560	1,670	1,870
4	1,290	2,270	4,710	4,540	7,500	6,220	5,250	22,800	18,500	3,280	1,710	1,900
5	1,300	3,100	4,680	4,450	7,530	6,250	5,250	22,800	17,700	3,290	1,680	1,910
6	1,380	4,000	4,540	4,960	7,490	6,180	5,250	22,800	17,300	3,250	1,650	2,010
7	1,440	5,430	4,190	5,560	7,370	6,080	7,970	23,300	16,900	3,220	1,660	2,070
8	1,360	6,010	3,410	5,960	7,310	4,970	7,970	23,800	16,500	3,680	1,870	2,020
9	1,340	6,090	3,350	5,990	7,260	5,070	7,970	24,900	15,700	3,410	1,560	2,120
10	1,330	6,090	3,120	5,930	7,050	5,030	7,970	24,900	15,300	2,940	1,570	2,130
11	1,350	6,110	2,460	5,900	6,870	5,020	8,530	24,900	14,900	2,630	1,500	2,040
12	1,280	6,040	2,640	5,850	6,920	5,650	8,810	24,500	14,100	2,560	1,530	2,050
13	1,340	5,840	3,260	5,700	6,710	6,270	9,690	24,000	13,800	2,220	1,640	2,070
14	1,530	5,340	3,300	5,390	6,590	7,430	10,900	23,500	13,400	2,150	1,590	2,090
15	1,380	4,650	3,250	5,220	6,440	9,100	12,300	23,000	13,000	2,120	1,710	2,000
16	1,330	3,740	3,230	5,300	6,260	9,990	13,700	22,600	12,300	2,110	1,730	1,890
17	1,330	3,110	3,230	5,300	6,060	10,600	15,200	22,000	11,900	2,100	1,710	1,900
18	1,340	3,540	3,230	5,300	5,860	10,900	16,000	22,600	11,600	2,290	1,650	1,860
19	1,340	3,540	1,810	4,950	5,700	10,900	16,800	22,600	7,860	1,920	1,780	1,790
20	1,540	3,550	1,740	4,820	5,590	10,900	17,200	22,600	6,810	1,780	1,770	1,770
21	1,660	3,650	3,410	4,600	5,500	10,600	18,000	22,100	5,560	1,680	1,580	1,960
22	1,400	4,010	5,610	4,670	5,560	10,300	19,700	22,600	4,480	1,670	1,750	1,890
23	1,370	4,020	7,350	5,050	5,810	9,990	20,600	22,600	4,380	1,660	1,870	1,840
24	1,370	4,160	7,700	5,230	6,090	9,690	21,400	23,000	4,310	1,650	1,960	1,910
25	1,560	4,580	7,780	5,570	6,260	9,690	21,400	23,500	4,110	1,670	1,970	2,050
26	1,450	4,830	7,740	6,200	6,310	9,690	21,400	23,500	3,620	1,620	1,980	1,990
27	1,560	4,870	7,030	6,710	6,280	9,390	21,400	23,000	3,370	1,610	2,090	2,080
28	1,560	4,900	7,600	7,440	6,200	9,390	21,900	22,600	3,380	1,620	2,080	2,080
29	1,610	4,900	7,060	7,520	-	9,100	22,400	21,600	3,760	1,690	1,870	1,990
30	1,600	4,900	6,910	7,400	-	8,810	22,800	21,200	3,970	1,660	1,860	1,980
31	1,600	-	6,460	7,530	-	8,810	-	20,700	-	1,690	1,860	-

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	1,660	1,260	1,414	86,960	+33,880	120,800	1,965	0.452	0.52
November.....	6,110	1,580	4,271	254,100	-9,690	244,500	4,109	.945	1.05
December.....	7,780	1,740	4,675	287,400	-7,080	280,300	4,559	1.05	1.21
Calendar year 1934	34,300	1,260	8,429	6,103,000	-478,300	5,624,000	7,769	1.79	24.24
January.....	7,530	4,340	5,690	349,900	+11,440	361,300	5,876	1.35	1.66
February.....	7,560	5,600	6,609	367,100	-24,330	342,800	6,172	1.42	1.48
March.....	10,900	4,870	8,084	497,000	+32,530	529,500	8,611	1.98	2.28
April.....	22,800	7,970	14,070	837,200	+261,300	1,098,000	18,450	4.24	4.73
May.....	24,900	20,700	23,000	1,414,000	-55,070	1,359,000	22,100	5.88	5.86
June.....	20,300	3,370	11,200	666,600	-169,600	497,000	8,352	1.92	2.14
July.....	4,020	1,610	2,412	148,300	-2,480	145,800	2,371	.545	.63
August.....	2,909	1,500	1,745	107,300	-29,860	77,440	1,259	.289	.33
September.....	2,130	1,740	1,958	116,500	-42,790	73,710	1,239	.285	.32
Water year 1934-35	24,900	1,260	7,090	5,132,000	-1,650	5,130,000	7,086	1.63	22.11



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

Location.—Water-stage recorder, lat. 47°50', long. 117°56', 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.—October 1912 to September 1935.

Average discharge.—23 years, 7,838 second-feet (based on records corrected for storage in Coeur d'Alene Lake).

Extremes.—Maximum discharge during year, 28,100 second-feet May 9 (gage height, 96.95 feet); minimum, 782 second-feet Aug. 5, 6 (gage height, 73.47 feet).

1912-35: Maximum discharge, 48,000 second-feet Dec. 28, 1933 (gage height, 93.10 feet); minimum recorded discharge, 169 second-feet Sept. 30, 1931 (result of stream-flow measurement).

Remarks.—Records excellent. Discharge estimated from record of plant output Oct. 1, 2, Sept. 10-24. Water diverted for irrigation above station. Flow affected considerably by power regulation and by storage in Coeur d'Alene Lake. Mean monthly discharge corrected for storage in Coeur d'Alene and Long Lakes. Capacity of Coeur d'Alene Lake (between elevations 2,117 and 2,135 feet), 770,000 acre-feet. Capacity of Long Lake (between elevations 1,512 and 1,531 feet), 79,600 acre-feet. Gage-height record collected in cooperation with Washington Water Power Co., which furnished many discharge measurements.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

74.0	1,120	76.5	3,500	79.0	7,330	84.0	19,200
74.5	1,480	77.0	4,130	80.0	9,240	85.0	22,100
75.0	1,900	77.5	4,810	81.0	11,400	86.0	25,100
75.5	2,380	78.0	5,630	82.0	13,800	87.0	28,100
76.0	2,920	78.5	6,480	83.0	16,400	88.0	31,200

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,080	2,050	6,060	6,970	9,060	8,110	11,000	24,900	21,200	4,510	2,440	*1,970
2	2,200	1,990	*5,500	7,090	9,790	8,020	10,800	25,000	20,600	4,530	2,510	1,850
3	2,340	2,070	5,630	7,850	*8,560	*8,280	9,940	25,000	20,600	4,690	2,210	2,670
4	2,830	*2,670	5,580	5,240	10,200	9,060	10,200	24,900	19,800	3,370	*1,660	3,030
5	2,540	3,820	5,700	4,910	9,920	8,320	10,700	24,600	19,400	4,220	2,410	2,800
6	1,970	3,930	5,200	*6,420	9,430	7,600	10,200	25,200	17,200	4,510	2,470	2,870
7	*1,480	7,370	5,090	8,540	9,400	7,860	*10,100	25,400	18,700	4,540	2,490	2,700
8	2,350	5,310	4,930	8,090	9,580	6,390	9,760	25,400	17,100	4,520	2,660	*2,110
9	2,580	6,370	*4,230	7,800	8,920	5,060	9,610	26,500	*16,400	3,140	2,560	2,460
10	2,400	7,260	5,590	7,510	*6,510	*6,740	10,200	26,300	16,100	4,740	2,530	2,500
11	2,530	*6,820	2,720	7,350	7,750	7,380	9,980	25,400	15,000	3,100	*1,580	2,540
12	2,560	7,430	2,650	6,920	6,060	7,110	11,400	25,700	15,800	3,500	2,620	2,620
13	2,380	6,590	3,370	*7,020	8,050	8,590	11,800	25,900	14,900	3,080	2,570	2,610
14	*1,430	6,040	4,840	7,160	8,270	10,900	*12,400	24,800	14,600	*2,860	2,760	2,220
15	2,460	6,160	5,040	6,540	6,110	11,800	15,300	23,900	14,200	3,520	2,770	*1,200
16	2,740	5,130	*3,100	5,500	7,890	13,700	15,300	23,500	13,200	3,360	2,800	2,140
17	2,360	3,990	4,190	6,620	*7,600	*12,200	17,200	23,400	13,200	2,530	2,550	2,490
18	2,750	*3,770	4,340	6,710	7,730	14,200	19,700	23,000	12,600	2,480	*1,670	2,800
19	2,660	5,160	3,180	6,320	7,290	13,700	19,000	23,300	9,340	2,420	2,370	2,630
20	2,320	4,610	3,840	*5,770	7,420	13,500	20,300	24,000	7,430	2,950	2,510	2,930
21	*1,410	3,790	2,990	5,920	7,400	12,900	*20,400	22,900	7,030	*2,020	2,990	2,420
22	2,230	4,710	9,760	7,580	7,150	12,500	22,000	23,100	5,450	2,540	3,010	*1,760
23	2,490	5,370	*9,300	8,950	8,500	11,800	23,100	23,400	*4,950	2,800	3,200	2,680
24	2,060	4,710	9,910	8,510	*10,100	11,800	25,000	23,800	4,960	2,750	2,620	2,970
25	1,950	*5,080	9,190	13,500	8,970	11,500	24,700	23,500	4,550	2,650	*1,570	3,010
26	1,820	6,450	9,620	12,600	8,510	12,200	24,200	24,500	4,000	2,550	2,630	3,070
27	1,760	6,090	8,380	*10,300	8,050	12,200	24,300	24,900	4,570	2,320	2,730	2,860
28	*1,380	5,730	8,520	10,300	8,320	12,000	*24,100	25,700	4,250	*1,910	2,810	2,310
29	1,970	5,490	8,770	10,300	-	11,400	25,200	22,800	4,460	2,250	2,780	*1,500
30	1,910	6,080	*8,120	10,100	-	10,900	24,800	21,700	*5,230	2,580	2,630	2,660
31	2,030	-	8,140	10,300	-	*11,500	-	22,000	-	2,440	2,760	-

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	2,830	1,380	2,193	134,800	+33,880	168,700	2,744	0.430	0.50
November.....	8,510	1,990	5,165	307,400	-12,640	294,800	4,954	.776	.87
December.....	9,910	2,650	5,853	359,900	-9,230	350,700	5,704	.894	1.03
Calendar year 1934	36,100	1,100	9,766	7,071,000	-472,100	6,598,000	9,114	1.43	19.40
January.....	13,500	4,910	7,901	485,800	+4,180	490,000	7,969	1.25	1.44
February.....	10,200	6,060	8,467	470,200	+19,130	451,000	8,121	1.27	1.32
March.....	14,200	5,060	10,320	634,600	+34,580	669,000	10,680	1.71	1.97
April.....	25,200	9,610	16,420	977,800	+259,200	1,236,000	20,770	3.26	3.64
May.....	26,500	21,700	24,230	1,490,000	-55,020	1,435,000	23,370	3.66	4.22
June.....	21,200	4,000	12,240	728,200	-164,400	563,800	9,475	1.49	1.66
July.....	4,740	1,910	3,205	197,100	-1,780	195,300	3,176	.498	.57
August.....	3,200	1,580	2,809	154,300	-34,560	119,700	1,947	.305	.35
September.....	3,070	1,200	2,473	147,100	-39,240	107,900	1,813	.284	.32
Water year 1934-35	26,500	1,200	8,407	6,087,000	-2,400	6,084,000	8,404	1.32	17.89

\*Sunday.

## St. Joe River at Calder, Idaho

Location.- Water-stage recorder, lat. 47°16', long. 116°11', 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.- 1,090 square miles.

Records available.- July 1920 to September 1935, April 1911 to September 1912 at station  $2\frac{1}{2}$  miles downstream.

Average discharge.- 16 years, 2,390 second-feet.

Extremes.- Maximum discharge during year, 13,400 second-feet May 23 (gage height, 96.90 feet); minimum, 299 second-feet Oct. 4 (gage height, 73.94 feet).

1911-12, 1920-35: Maximum discharge, 53,000 second-feet (determined from slope between stations upstream) Dec. 23, 1935 (gage height, 92.5 feet); minimum, 96 second-feet Dec. 5, 1928 (gage height, 78.43 feet).

Remarks.- Records good except those estimated because of ice effect or missing gage heights Jan. 19-31, 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 eight discharge measurements furnished by Washington Water Power Co.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

79.0	312	81.5	1,930	83.5	4,580	85.5	8,940
79.5	495	82.0	2,480	84.0	5,470	86.0	10,400
80.0	765	82.5	3,070	84.5	6,480	86.5	12,010
80.5	1,090	83.0	3,780	85.0	7,630	87.0	13,770
81.0	1,470						

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	338	807	1,040	915	1,420	1,090	1,700	8,400	7,510	1,990	730	412
2	330	1,120	939	897	1,400	1,050	1,590	8,010	6,700	1,830	742	421
3	328	1,140	939	915	1,380	1,090	1,680	8,010	6,060	1,720	713	408
4	330	1,170	921	903	1,430	1,110	1,870	8,800	5,860	1,650	673	374
5	361	1,390	873	1,170	1,450	1,070	1,820	10,600	6,060	1,590	707	370
6	360	1,760	837	1,200	1,370	1,040	1,650	12,800	6,270	1,590	622	370
7	367	1,580	730	1,140	1,320	1,020	1,560	10,700	5,960	1,520	585	367
8	348	2,280	690	1,070	1,250	1,060	1,780	9,560	5,760	1,480	580	357
9	325	2,310	673	1,010	1,150	1,000	2,210	9,380	5,380	1,410	565	378
10	320	1,890	644	909	1,090	939	2,820	9,610	5,010	1,340	555	370
11	317	1,620	777	958	1,180	945	3,560	8,010	4,660	1,330	535	344
12	317	1,440	921	927	1,540	1,170	4,750	7,040	4,410	1,240	535	341
13	335	1,320	873	855	1,260	4,010	6,590	7,270	4,250	1,160	510	341
14	351	1,210	845	837	1,150	5,100	7,760	7,880	4,090	1,120	495	341
15	351	1,140	825	831	1,050	3,780	7,760	8,540	3,960	1,090	490	355
16	530	1,070	789	843	958	3,000	9,220	8,540	3,480	1,050	495	472
17	464	1,040	789	807	958	2,580	7,390	10,100	3,200	1,020	500	464
18	381	1,140	771	753	984	2,260	6,920	9,800	3,000	978	535	374
19	367	1,120	783	560	978	2,020	6,700	9,080	2,880	939	617	360
20	351	1,170	997	500	984	1,860	8,800	9,610	2,700	909	540	357
21	495	1,180	1,350	450	1,080	1,710	10,400	11,000	2,580	885	500	351
22	867	1,140	3,540	600	1,180	1,570	8,000	12,900	2,520	861	495	341
23	590	1,810	2,140	900	1,300	1,490	7,040	12,900	2,440	819	464	338
24	590	1,320	1,700	1,300	1,170	1,490	5,960	11,400	2,320	807	446	354
25	1,990	1,370	1,450	2,300	1,040	1,730	6,380	9,660	2,170	855	437	351
26	3,070	1,360	1,330	2,500	990	1,530	8,010	8,670	2,080	825	464	333
27	1,640	1,250	1,210	2,400	1,040	1,430	9,080	7,880	2,000	783	437	330
28	1,120	1,170	1,130	2,000	1,090	1,380	7,880	7,760	1,950	753	416	330
29	897	1,100	1,090	1,800	-	1,510	8,010	7,630	2,070	753	404	328
30	801	1,050	1,040	1,700	-	1,620	8,940	7,630	2,110	713	393	325
31	795	-	984	1,500	-	1,780	-	8,140	-	701	400	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	20,016	3,070	317	646	0.598	0.69	39,700
November.....	40,247	2,310	807	1,342	1.24	1.28	79,830
December.....	33,818	3,340	644	1,091	1.01	1.16	67,080
Calendar year 1934.....	1,052,119	18,600	287	2,883	2.67	36.12	2,087,000
January.....	35,450	2,500	450	1,144	1.06	1.22	70,310
February.....	32,992	1,450	958	1,178	1.09	1.14	65,440
March.....	54,434	5,100	939	1,756	1.63	1.88	108,000
April.....	168,630	10,400	1,660	5,621	5.20	5.80	334,600
May.....	286,190	12,900	7,040	9,232	8.55	9.86	567,600
June.....	119,540	7,510	1,960	3,978	3.68	4.11	236,700
July.....	35,711	1,990	701	1,152	1.07	1.23	70,850
August.....	16,571	742	393	535	.485	.57	32,370
September.....	10,987	472	325	366	.359	.37	21,790
Water year 1934-35.....	854,386	12,900	317	2,341	2.17	29.42	1,695,000

## SPOKANE RIVER BASIN

St. Maries River at Lotus, Idaho

Location.- Staff gage, lat. 47°14', long. 116°37', in sec. 20, T. 45 N., R. 2 W., just below 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 1925.

Average discharge.- 15 years (1920-35), 515 second-feet.

Extremes.- Maximum discharge observed during year, 4,330 second-feet Mar. 13, Apr. 16 (gage height, 7.10 feet); minimum discharge, 39 second-feet Sept. 9-15, 25-28 (gage height, 3.43 feet).

1911-12, 1920-35: Maximum discharge observed, 23,800 second-feet Dec. 22, 23, 1933 (gage height, 12.1 feet); minimum (estimated), 16 second-feet Nov. 21, 1929; minimum gage height, 2.71 feet Nov. 20, 1929.

Remarks.- Records good except those estimated because of ice effect Jan. 18-24, which are poor. No diversions above gage. Gage-height record and results of eight discharge measurements furnished by Washington Water Power Co.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	114	162	173	511	654	746	1,980	784	208	70	44
2	48	180	149	139	511	737	737	1,760	737	188	74	44
3	46	180	152	199	472	637	746	1,560	645	169	77	44
4	46	177	129	208	551	654	784	1,500	543	159	74	42
5	46	220	129	637	511	527	737	1,760	535	139	72	42
6												
7	46	220	117	637	487	443	672	1,980	519	142	67	41
8	46	220	100	637	450	450	637	1,900	503	146	63	41
9	46	188	100	593	450	421	1,500	1,630	472	159	61	41
10	46	180	129	436	398	408	1,830	1,440	443	162	59	39
	46	180	100	368	343	315	1,900	1,440	414	149	59	39
11												
12	46	146	100	338	315	320	2,200	1,320	382	142	56	39
13	46	126	114	309	368	487	2,530	1,200	349	123	56	39
14	50	114	67	309	375	4,330	3,160	1,130	388	117	56	39
15	50	87	103	282	326	3,070	3,070	1,130	349	112	54	39
	54	87	109	257	320	2,550	2,580	1,150	375	106	52	39
16	67	87	114	257	326	1,900	3,990	1,150	338	103	50	48
17	63	87	146	233	320	1,500	3,880	1,440	298	100	50	52
18	79	114	114	210	326	1,260	3,070	1,380	272	97	50	52
19	79	146	129	180	320	1,100	2,880	1,260	242	92	74	48
20	77	216	180	130	338	941	2,880	1,260	238	87	52	46
21	126	401	972	130	450	794	3,070	1,260	229	84	70	44
22	192	309	3,360	200	892	654	3,160	1,380	225	84	61	44
23	142	267	1,440	400	1,440	654	2,700	1,440	203	82	56	44
24	199	320	794	1,200	921	610	2,360	1,380	195	79	54	41
25	343	303	527	2,280	784	1,380	2,120	1,260	184	79	54	39
26	852	292	173	1,900	450	993	2,200	1,150	177	79	52	39
27	292	267	257	1,380	487	842	2,360	1,090	169	79	52	39
28	180	225	212	1,020	487	941	2,120	862	166	77	48	39
29	114	180	212	728	-	892	2,120	842	162	74	48	41
30	100	180	196	559	-	892	2,050	852	225	74	46	42
31	106	-	173	527	-	882	-	832	-	72	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,718	852	46	120	0.286	0.33	7,370
November.....	5,613	401	87	194	.462	.52	11,530
December.....	10,778	3,360	87	348	.829	.96	21,380
Calendar year 1934.....	210,222	6,620	34	576	1.37	18.60	417,000
January.....	16,856	2,280	130	544	1.30	1.50	33,430
February.....	13,919	1,440	315	497	1.18	1.23	27,610
March.....	32,208	4,330	315	1,039	2.47	2.85	63,880
April.....	65,089	3,990	637	2,170	5.17	5.77	129,100
May.....	41,718	1,980	832	1,346	3.20	3.69	82,750
June.....	10,761	784	162	359	.855	.95	21,340
July.....	3,665	308	72	115	.274	.32	7,070
August.....	1,841	82	44	59.4	.141	.16	3,650
September.....	1,270	52	39	42.3	.101	.11	2,520
Water year 1934-35.....	207,534	4,330	39	569	1.35	18.39	411,600

## Hayden Lake at Hayden Lake, Idaho

Location.- Staff gage, lat. 47°46', long. 116°45', 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 1935.

Extremes.- Maximum water-surface elevation observed during year, 2,232.40 feet May 18, 19; minimum, 2,224.45 feet Oct. 20.  
1920-35: Maximum water-surface elevation, 2,240.41 feet Apr. 30 to May 13, 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24.73	24.67	24.86	25.16	27.00	28.02	29.48	31.94	32.04	30.49	28.74	26.98
2	24.70	-	24.85	25.16	27.08	28.06	29.50	31.94	32.00	30.42	28.66	26.93
3	24.69	-	24.85	25.17	27.16	28.09	29.51	31.97	31.94	30.36	28.60	26.88
4	24.67	24.68	24.85	25.18	27.24	28.12	29.54	32.00	31.85	30.30	28.54	26.82
5	24.65	24.70	24.86	25.20	27.31	28.14	29.56	32.06	31.78	30.25	28.46	26.76
6	24.62	24.71	24.86	25.24	27.40	28.18	29.58	32.14	31.74	30.20	28.40	26.68
7	24.61	24.72	24.85	25.27	27.44	28.19	29.60	32.20	31.68	30.15	28.34	26.62
8	24.60	24.73	24.84	25.30	27.48	28.20	29.64	32.25	31.62	30.10	28.28	26.56
9	24.58	24.74	24.82	25.32	27.52	28.22	29.66	32.28	31.56	30.08	28.20	26.52
10	24.56	24.74	24.82	25.32	27.54	28.22	29.68	32.30	31.51	30.02	28.17	26.46
11	24.55	24.72	24.80	25.40	27.57	-	29.70	32.33	31.45	29.95	28.08	26.40
12	24.53	24.71	24.79	25.44	27.60	-	29.76	32.34	31.40	29.90	28.02	26.36
13	24.52	24.70	24.78	25.45	27.64	-	29.82	32.35	31.35	29.84	27.96	26.29
14	24.50	24.70	24.80	25.45	27.68	28.40	29.96	32.35	31.30	29.79	27.90	26.22
15	24.49	24.69	24.82	25.45	27.70	28.66	30.10	32.35	31.26	29.74	27.84	26.18
16	24.49	24.68	24.80	25.46	27.70	28.80	30.24	32.35	31.32	29.68	27.76	26.16
17	24.49	24.68	24.80	25.48	27.70	28.91	30.40	32.38	31.29	29.62	27.70	26.10
18	24.48	24.70	24.82	25.50	27.70	29.00	30.48	32.40	31.26	29.56	27.68	26.04
19	24.47	24.72	24.84	25.50	27.71	29.06	30.58	32.40	31.21	29.50	27.68	26.98
20	24.45	24.73	24.86	25.50	27.71	29.14	30.70	32.38	31.15	29.44	27.61	25.94
21	24.48	24.76	24.88	25.50	27.72	29.20	30.84	32.36	31.09	29.38	27.58	25.92
22	-	24.78	24.90	25.52	27.76	29.24	31.00	32.36	31.03	29.32	27.54	25.87
23	-	24.78	-	25.80	27.80	29.26	31.16	32.34	30.97	29.26	27.47	25.82
24	24.56	24.78	-	25.95	27.84	29.28	31.28	32.32	30.91	29.20	27.40	25.80
25	24.62	24.80	25.06	26.22	27.88	29.34	31.36	32.31	30.84	29.14	27.34	25.78
26	24.69	24.81	25.08	26.40	27.91	29.40	31.44	32.28	30.77	29.08	27.30	25.75
27	24.70	24.82	25.08	26.58	27.94	29.42	31.54	32.25	30.72	29.02	27.24	25.73
28	24.70	24.84	25.10	26.69	27.97	29.44	31.65	32.20	30.66	28.96	27.20	25.70
29	24.69	24.86	25.10	26.80	-	29.46	31.74	32.16	30.60	28.90	27.14	25.68
30	24.68	24.86	25.12	26.88	-	29.46	31.84	32.12	30.54	28.85	27.08	25.67
31	24.67	-	25.16	26.96	-	29.46	-	32.08	-	28.79	27.02	-

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

Location.- Staff gage, lat. 47°43', long. 116°57', 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 1935.

Extremes.- Maximum discharge observed during year, 291 second-feet June 9, 10; maximum gage height, 5.06 feet Aug. 9; no flow Oct. 1 to Mar. 24, Sept. 17-30.  
1911-17, 1919-35: Maximum discharge observed, that of June 9, 10, 1935; maximum gage height, that of Aug. 9, 1935; 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	52	116	261	276	262	254
2						0	52	116	282	276	262	254
3						0	53	153	282	275	262	253
4						0	53	179	263	274	261	251
5						0	53	196	263	273	264	251
6						0	54	228	283	273	261	249
7						0	54	231	284	272	261	245
8						0	54	231	284	271	261	250
9						0	55	231	291	270	264	249
10						0	55	240	291	270	260	247
11						0	55	250	283	270	260	244
12						0	55	249	285	270	260	249
13						0	56	260	284	270	260	247
14						0	56	247	283	270	260	244
15						0	56	248	278	269	259	247
16						0	57	259	282	270	259	242
17						0	57	264	270	270	259	0
18						0	57	268	269	270	259	0
19						0	58	270	280	269	259	0
20						0	58	270	284	268	256	0
21						0	58	270	272	270	258	0
22						0	58	271	271	270	258	0
23						0	58	273	270	269	258	0
24						0	63	274	275	268	258	0
25						15	110	274	276	267	257	0
26						28	118	275	275	267	257	0
27						35	118	279	274	266	257	0
28						51	118	280	274	265	257	0
29						51	118	280	273	264	257	0
30						51	118	280	277	264	256	0
31						52	-	281	-	263	256	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0	0	0
November.....						0	0	0	0	0	0	0
December.....						0	0	0	0	0	0	0
Calendar year 1934.....						36,727	284	0	101	72,840		
January.....						0	0	0	0	0	0	0
February.....						0	0	0	0	0	0	0
March.....						283	52	0	9.1	561		
April.....						7,537	112	52	68.6	4,080		
May.....						8,379	281	113	243	14,950		
June.....						8,359	291	269	279	16,620		
July.....						8,359	276	263	270	16,580		
August.....						8,040	264	256	259	15,950		
September.....						3,815	254	0	127	7,570		
Water year 1934-35.....						38,470	291	0	105	76,310		

## Okanogan River at Okanogan Falls, British Columbia

(International gaging station)

Location.- Staff gage, lat. 49°21', long. 119°35', below falls at Okanogan Falls. Prior to Oct. 2, 1933, gage above falls.

Drainage area.- 2,550 square miles.

Records available.- October 1930 to September 1935; March 1915 to September 1930 in Canadian water-resources papers.

Average discharge.- 20 years, 456 second-feet.

Extremes.- Maximum discharge observed during year, 1,110 second-feet May 24 (gage height, 2.54 feet); minimum, 396 second-feet Oct. 11 (gage height, 1.63 feet).  
1915-35: Maximum observed discharge, 2,680 second-feet June 10, 1928; minimum, 4.6 second-feet Mar. 14, 1931.

Remarks.- Records fair. Discharge estimated Nov. 18, Dec. 25, Jan. 17, Mar. 10, July 18, Sept. 22. Stage-discharge relation slightly affected by ice Jan. 17-23. Some diversion above station for irrigation. Flow regulated by control dam at outlet of Okanogan Lake. This is one of the international gaging stations maintained by Canada under agreement with the United States.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	434	498	498	469	620	607	655	772	1,080	917	757	825
2	423	469	492	457	620	627	648	749	1,070	1,000	772	825
3	423	463	496	480	620	655	655	749	1,050	1,030	794	802
4	407	463	492	492	634	627	655	727	1,040	996	802	802
5	423	480	486	523	627	648	634	794	1,030	988	810	802
6	429	492	498	580	620	655	641	840	1,000	956	794	802
7	423	463	498	580	627	690	648	832	1,010	941	797	802
8	429	523	480	580	620	655	648	840	1,020	956	802	794
9	418	492	480	587	620	662	620	902	980	949	794	779
10	446	517	480	554	620	662	620	840	980	956	802	802
11	396	511	475	600	607	662	613	871	980	949	802	802
12	451	436	450	620	607	720	620	878	980	941	794	794
13	457	492	463	627	594	655	620	878	956	925	794	802
14	440	486	475	620	607	676	627	878	956	917	810	794
15	461	517	480	580	607	690	620	933	949	917	794	772
16	423	523	486	561	600	676	620	949	949	917	794	779
17	434	523	492	550	613	676	620	956	956	878	772	794
18	429	529	463	538	607	683	627	980	949	890	794	802
19	418	542	429	526	655	634	634	920	949	902	794	794
20	423	542	492	520	620	662	655	980	925	878	825	794
21	429	535	523	530	613	655	676	1,010	917	832	825	802
22	423	542	463	545	620	655	655	1,040	917	787	840	802
23	407	517	486	560	620	655	676	1,090	902	772	840	802
24	434	498	463	587	627	655	683	1,110	878	757	825	802
25	457	523	480	607	655	683	683	1,080	871	742	840	794
26	463	498	504	620	620	655	727	1,070	871	676	832	794
27	451	517	492	607	613	655	712	1,060	878	669	832	787
28	463	511	475	607	613	627	720	1,060	871	683	840	787
29	457	492	498	634	-	690	727	1,050	902	690	832	802
30	451	486	480	627	-	655	742	1,080	878	720	832	794
31	457	-	434	627	-	655	-	1,080	-	720	832	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						13,469		463	396	434	26,700	
November.....						15,130		542	483	504	30,000	
December.....						14,923		523	429	481	29,600	
Calendar year 1934.....						236,778		1,160	208	649	470,000	
January.....						17,595		634	457	568	34,900	
February.....						17,326		655	594	619	34,400	
March.....						20,462		720	607	660	40,600	
April.....						19,561		742	613	656	39,000	
May.....						29,058		1,110	727	937	57,600	
June.....						28,694		1,080	871	956	56,900	
July.....						26,851		1,030	669	866	53,300	
August.....						25,057		840	757	808	49,700	
September.....						23,928		825	772	798	47,500	
Water year 1934-35.....						252,174		1,110	396	691	500,000	

## OKANOGAN RIVER BASIN

Osoyoos Lake near Oroville, Wash.

(International gaging station)

Location.— Water-stage recorder, lat. 48°59'15", long. 119°27'15", 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 1935.

Extremes.— Maximum stage recorded during year, 915.13 feet May 30; minimum, 913.07 feet Oct. 1.

1928-35: Maximum stage recorded, 917.23 feet Apr. 28, 1934; minimum, 911.21 feet Oct. 14, 1929.

Remarks.— Records excellent. No records Dec. 21 to Jan. 18. Stage may have been slightly affected by ice at lake outlet during short period in January. 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 is one of the international gaging stations maintained by the United States under agreement with Canada. Gage-height record collected in cooperation with the Dominion Water Power and Hydrometric Bureau.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13.09	13.50	13.66	-	14.18	13.90	13.99	14.19	15.09	14.40	14.13	14.08
2	13.11	13.50	13.63	-	14.17	13.90	13.99	14.21	15.08	14.43	14.12	14.09
3	13.13	13.53	13.64	-	14.15	13.90	13.97	14.23	15.06	14.50	14.12	14.07
4	13.15	13.57	13.63	-	14.12	13.91	13.87	14.27	15.04	14.53	14.10	14.08
5	13.17	13.42	13.62	-	14.11	13.91	13.85	14.32	15.02	14.56	14.08	14.08
6	13.18	13.45	13.62	-	14.10	13.91	13.84	14.38	14.98	14.57	14.07	14.05
7	13.19	13.48	13.61	-	14.08	13.92	13.86	14.44	14.97	14.59	14.06	14.05
8	13.20	13.51	13.61	-	14.04	13.93	13.85	14.49	14.95	14.65	14.06	14.05
9	13.20	13.52	13.60	-	14.03	13.93	13.81	14.55	14.89	14.64	14.07	14.06
10	13.22	13.54	13.58	-	14.02	13.93	13.80	14.68	14.87	14.65	14.06	14.07
11	13.24	13.55	13.57	-	14.02	13.92	13.80	14.60	14.83	14.64	14.04	14.07
12	13.27	13.56	13.58	-	14.01	13.93	13.80	14.62	14.80	14.61	14.03	14.06
13	13.27	13.56	13.58	-	13.99	13.92	13.82	14.63	14.77	14.61	14.04	14.06
14	13.25	13.56	13.59	-	13.99	13.93	13.80	14.65	14.75	14.59	14.02	14.08
15	13.27	13.57	13.58	-	13.96	13.94	13.81	14.68	14.73	14.58	14.00	14.09
16	13.25	13.58	13.57	-	13.95	13.94	13.83	14.71	14.72	14.55	13.99	14.09
17	13.23	13.58	13.57	-	13.93	13.95	13.83	14.74	14.70	14.50	13.99	14.10
18	13.23	13.62	13.57	-	13.93	13.97	13.84	14.78	14.68	14.46	14.01	14.11
19	13.21	13.64	13.56	14.28	13.92	13.97	13.85	14.79	14.66	14.42	14.02	14.12
20	13.20	13.64	13.56	14.23	13.91	13.97	13.88	14.82	14.62	14.37	14.02	14.13
21	13.20	13.65	-	14.21	13.91	13.98	13.92	14.87	14.59	14.32	14.03	14.14
22	13.21	13.66	-	14.20	13.92	13.97	13.94	14.92	14.58	14.30	14.07	14.16
23	13.23	13.66	-	14.19	13.92	13.96	13.98	14.94	14.58	14.28	14.07	14.16
24	13.23	13.66	-	14.19	13.91	13.95	13.99	14.99	14.50	14.27	14.05	14.17
25	13.25	13.66	-	14.20	13.90	13.97	14.01	15.03	14.47	14.24	14.07	14.15
26	13.25	13.66	-	14.21	13.89	13.96	14.07	15.06	14.43	14.20	14.07	14.14
27	13.24	13.66	-	14.22	13.90	13.95	14.08	15.08	14.40	14.18	14.07	14.13
28	13.23	13.66	-	14.22	13.90	13.95	14.09	15.08	14.38	14.18	14.06	14.14
29	13.24	13.65	-	14.22	-	13.94	14.12	15.09	14.38	14.18	14.06	14.14
30	13.25	13.65	-	14.21	-	13.92	14.17	15.11	14.38	14.17	14.07	14.16
31	13.28	-	-	14.20	-	13.91	-	15.11	-	14.17	14.08	-

Note: Add 900 feet to obtain elevations above mean sea level.

## Okanogan River near Tonasket, Wash.

(International gaging station)

Location.— Water-stage recorder, lat. 48°38', long. 119°27'50", 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 1935.

Extremes.— Maximum discharge during year, 14,900 second-feet June 1, 2 (gage height, 14.08 feet); minimum, not determined, occurred during period of ice effect in January.

1929-35: Maximum discharge, 25,400 second-feet Apr. 27, 1934 (gage height, 18.3 feet); minimum, 126 second-feet Sept. 5, 1931 (gage height, 3.43 feet).

Remarks.— Records excellent except those for periods of ice effect, Dec. 27 to Jan. 3, Jan. 12 to Feb. 3, which are poor. Numerous diversions above station for irrigation. 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 is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating tables, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Jan. 18 to Feb. 3)

Table for Oct. 1 to Feb. 3

4.7	730	6.0	1,790
4.9	860	6.5	2,500
5.2	1,070	7.0	2,850
5.5	1,310	7.5	3,450

Table for Feb. 4 to Sept. 30

6.5	1,900	10.0	6,800
7.0	2,380	11.0	8,650
7.5	2,950	12.0	10,600
8.0	3,600	13.0	12,600
9.0	5,100	14.0	14,700

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	754	1,230	2,040	1,500	3,400	2,180	1,620	4,320	14,700	6,270	2,490	1,380
2	754	1,230	1,990	1,700	3,700	2,180	1,620	4,320	14,700	6,620	2,600	1,380
3	748	1,440	1,940	1,800	3,900	2,080	1,590	4,320	14,300	7,160	2,600	1,380
4	760	1,690	1,890	1,990	4,470	2,060	1,590	4,470	13,000	6,800	2,640	1,380
5	760	1,690	1,890	1,890	4,470	2,040	1,560	5,260	12,630	6,270	2,490	1,340
6	754	1,640	1,790	1,740	4,170	1,940	1,560	5,950	13,200	6,100	2,390	1,310
7	772	2,900	1,640	1,690	3,530	1,900	1,560	6,980	13,900	5,760	2,280	1,240
8	768	2,910	1,640	1,690	3,260	1,940	1,560	7,340	14,300	5,590	2,180	1,240
9	853	2,580	1,640	1,640	3,010	1,940	1,560	7,700	14,300	5,930	2,130	1,200
10	881	2,360	1,640	1,540	2,890	1,900	1,520	8,080	13,900	5,930	2,040	1,200
11	888	2,240	1,490	1,490	2,710	1,860	1,480	8,060	13,600	5,590	1,990	1,170
12	930	2,140	1,640	1,400	2,770	1,860	1,520	7,700	12,600	5,420	1,900	1,140
13	923	2,090	1,690	1,300	2,830	1,860	1,590	7,540	12,000	5,100	1,860	1,100
14	909	2,090	2,040	1,200	2,710	1,900	1,660	7,520	12,000	4,940	1,780	1,140
15	909	2,140	2,140	850	2,600	1,940	1,740	6,080	11,600	4,940	1,740	1,140
16	965	2,300	2,090	750	2,440	1,990	1,780	9,220	11,400	4,780	1,700	1,140
17	965	2,630	1,990	600	2,580	1,990	1,820	9,800	10,800	4,780	1,700	1,240
18	965	2,740	1,940	490	2,530	1,940	1,900	9,600	9,800	4,620	1,660	1,340
19	930	2,680	1,890	460	2,280	1,940	1,940	9,600	9,410	4,320	1,700	1,450
20	923	2,630	1,890	430	2,530	1,900	1,990	9,800	9,030	4,170	1,740	1,380
21	916	2,520	1,890	450	2,390	1,900	2,060	10,600	8,460	3,680	1,780	1,310
22	965	2,460	1,890	490	2,490	1,880	2,250	12,000	8,080	3,670	1,660	1,310
23	1,070	2,410	1,890	550	2,490	1,820	2,380	13,400	7,890	3,530	1,620	1,280
24	1,190	2,360	1,840	600	2,440	1,780	2,380	14,100	7,520	3,400	1,560	1,240
25	1,190	2,300	1,790	700	2,530	1,820	2,440	13,600	6,980	3,330	1,520	1,200
26	1,150	2,240	1,300	900	2,280	1,780	2,540	12,600	6,620	3,140	1,520	1,200
27	1,150	2,190	1,500	1,600	2,180	1,740	2,830	12,400	6,270	2,950	1,480	1,200
28	1,190	2,140	1,700	2,600	2,130	1,700	3,140	12,400	6,270	2,890	1,450	1,170
29	1,190	2,090	1,800	2,800	-	1,700	3,400	13,000	6,270	3,010	1,420	1,170
30	1,150	2,040	1,300	3,000	-	1,660	3,740	13,900	6,270	2,860	1,420	1,170
31	1,190	-	1,300	3,200	-	1,660	-	14,300	-	2,710	1,380	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						29,460	1,190	748	950	58,430		
November.....						66,100	2,910	1,230	2,203	131,100		
December.....						54,400	2,140	1,300	1,765	107,900		
Calendar year 1934.....						1,433,395	25,400	514	3,927	2,843,000		
January.....						45,040	3,200	430	1,388	86,370		
February.....						60,900	4,470	2,130	2,889	160,600		
March.....						58,780	2,180	1,660	1,896	116,600		
April.....						60,320	3,740	1,480	2,011	119,600		
May.....						287,760	14,300	4,320	9,283	570,800		
June.....						321,170	14,700	6,270	10,710	637,000		
July.....						146,550	7,160	2,710	4,727	290,700		
August.....						58,510	2,600	1,380	1,861	116,700		
September.....						37,540	1,450	1,100	1,261	74,460		
Water year 1934-35.....						1,244,330	14,700	430	3,409	2,468,000		



## Similkameen River near Nighthawk, Wash.

(International gaging station)

Location.— Water-stage recorder, lat. 48°59'10", long. 119°37', in NW¼ sec. 7, T. 40 N., R. 28 E., ¼ miles below Nighthawk.

Drainage area.— 3,420 square miles.

Records available.— September 1928 to September 1935. Comparable records of mean monthly discharge (including Oroville-Tonasasket Irrigation District Canal) at station near Oroville, May 1911 to September 1928.

Extremes.— Maximum discharge during year, 14,600 second-feet May 31, June 1 (gage height, 11.42 feet); minimum, not determined, occurred during period of ice effect in January.

1928-35: Maximum discharge, 27,200 second-feet Apr. 28, 1934 (gage height, 14.96 feet); minimum, 120 second-feet Jan. 8, 1930 (gage height, 2.05 feet).  
Remarks.— Records excellent except those for periods of ice effect, Dec. 29 to Jan. 1, Jan. 17-31, which are poor. Some regulation at high stage caused by natural diversion into Palmer Lake. Small irrigation diversions above station. This is one of the international gaging stations maintained by the United States under agreement with Canada.

Rating table, water year 1934-35 except periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.7	284	6.0	3,010	9.0	8,200
3.0	374	6.5	3,690	9.5	9,510
3.5	635	7.0	4,440	10.0	10,590
4.0	980	7.5	5,280	10.5	11,990
4.5	1,400	8.0	6,210	11.0	13,400
5.0	1,870	8.5	7,200	11.5	14,900
5.5	2,400				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	467	635	1,040	600	2,820	1,400	891	3,540	14,600	5,450	1,870	739
2	457	728	996	814	3,080	1,310	877	3,400	13,700	6,400	1,970	746
3	446	950	950	935	3,270	1,310	870	3,400	12,300	6,020	1,920	726
4	456	891	972	942	3,540	1,260	849	3,990	11,400	5,450	1,820	694
5	431	849	920	898	3,470	1,180	849	4,590	12,300	5,090	1,770	661
6	421	1,720	765	870	3,270	1,140	856	5,630	13,400	4,750	1,670	635
7	421	2,350	752	849	3,010	1,140	849	6,400	14,000	4,590	1,580	617
8	421	1,770	772	800	2,760	1,130	821	6,600	14,000	4,750	1,490	611
9	416	1,540	738	785	2,580	1,180	821	7,000	13,400	4,910	1,440	592
10	412	1,400	694	700	2,340	1,100	614	7,200	12,300	4,690	1,360	574
11	421	1,260	687	680	2,290	1,060	821	7,000	12,000	4,290	1,310	559
12	431	1,220	786	650	2,400	1,100	898	6,600	11,200	3,990	1,260	543
13	421	1,180	1,050	550	2,340	1,060	972	6,400	10,900	3,840	1,220	538
14	412	1,180	1,180	500	2,180	1,100	1,060	6,800	10,600	3,840	1,140	553
15	421	1,260	1,140	370	2,020	1,180	1,060	7,600	10,300	3,840	1,140	543
16	436	1,490	1,060	370	1,970	1,180	1,140	8,840	10,100	3,760	1,100	623
17	431	1,820	1,010	360	1,870	1,140	1,180	8,820	9,840	3,620	1,100	687
18	436	1,580	998	340	1,820	1,140	1,220	8,620	8,410	3,400	1,100	849
19	436	1,540	980	310	1,770	1,100	1,220	8,620	8,000	3,140	1,140	752
20	436	1,440	965	280	1,720	1,100	1,310	9,070	7,600	3,010	1,180	680
21	467	1,400	980	290	1,670	1,050	1,440	10,300	7,200	2,820	1,100	642
22	548	1,360	980	310	1,620	1,040	1,580	12,600	7,000	2,640	1,040	617
23	629	1,260	950	340	1,580	1,010	1,690	14,000	6,600	2,520	988	588
24	629	1,260	928	370	1,540	1,030	1,820	13,400	6,020	2,520	958	564
25	611	1,220	835	470	1,490	1,030	1,820	12,300	5,640	2,400	935	554
26	586	1,180	635	700	1,400	980	1,820	11,700	5,260	2,240	912	543
27	623	1,140	477	1,000	1,360	958	2,180	11,700	5,260	2,070	863	533
28	629	1,100	452	1,600	1,400	950	2,400	12,300	5,080	2,070	821	528
29	604	1,060	420	1,900	-	958	2,700	13,100	5,260	2,070	800	525
30	598	1,040	420	2,800	-	942	3,140	14,000	5,260	1,970	779	515
31	623	-	470	2,500	-	898	-	14,300	-	1,970	752	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	15,156	629	412	489	0.143	0.16	30,060
November.....	38,621	2,350	635	1,287	.376	.42	76,600
December.....	25,993	1,180	420	839	.245	.28	51,660
Calendar year 1934.....	1,210,604	26,400	388	3,317	.970	13.16	2,401,000
January.....	24,183	2,500	280	779	.226	.26	47,930
February.....	62,580	3,540	1,360	2,235	.654	.68	124,100
March.....	34,206	1,400	898	1,103	.323	.37	67,860
April.....	39,468	3,140	814	1,315	.385	.43	76,260
May.....	269,820	14,300	3,400	8,704	2.55	2.94	535,200
June.....	287,930	14,600	5,080	9,598	2.81	3.14	571,100
July.....	113,910	6,400	1,870	3,875	1.07	1.23	225,900
August.....	58,528	1,970	752	1,243	.363	.42	76,420
September.....	16,510	849	518	617	.180	.20	36,710
Water year 1934-35.....	968,875	14,600	280	2,654	.776	10.53	1,922,000

## Methow River at Twisp, Wash.

Location.- Water-stage recorder, lat. 48°21'40", long. 120°6'50", in sec. 17, T. 33 N., R. 22 E., at highway bridge at Twisp, a quarter of a mile below Twisp River.

Drainage area.- 1,330 square miles.

Records available.- June 1919 to September 1929, October 1933 to September 1935.

Average discharge.- 12 years, 1,201 second-feet.

Extremes.- Maximum discharge during year, 10,400 second-feet June 7 (gage height, 8.06 feet); minimum, 204 second-feet Oct. 12-15 (gage height, 1.84 feet).  
1919-29, 1933-35: Maximum observed discharge, 15,200 second-feet Apr. 24, 25, 1934; maximum observed gage height, 10.4 feet June 5, 1921; minimum observed discharge, 134 second-feet Sept. 4, 5, 1928, Sept. 9, 10, 1929 (gage height, 1.42 feet).

Remarks.- Records excellent except those for Oct. 28 to Nov. 8 based on records for Similkameen River near Nighthawk and Jan. 20-25 (ice effect), which are fair. Water diverted above station for irrigation by two Methow Valley Irrigation District canals, Risley Ditch, and other smaller ditches.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.5	166	3.9	1,760	6.0	5,250
1.8	252	4.2	2,140	6.3	5,900
2.1	365	4.5	2,540	6.6	6,580
2.4	520	4.8	3,010	6.9	7,300
2.7	710	5.1	3,530	7.2	8,060
3.0	930	5.4	4,070	7.6	9,060
3.3	1,170	5.7	4,640	8.0	10,100
3.6	1,430				

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	236	390	745	514	1,050	745	710	2,620	9,060	3,260	1,090	336
2	230	410	710	526	1,010	731	703	2,540	8,050	2,930	1,010	320
3	227	430	703	532	1,050	724	703	2,620	7,060	2,690	938	316
4	224	440	675	526	1,050	724	710	2,930	7,060	2,620	882	305
5	227	460	664	508	1,090	689	710	3,530	8,560	2,620	836	305
6	230	750	654	508	1,090	710	717	4,160	9,840	2,470	766	305
7	230	1,000	654	476	1,090	703	717	4,260	9,840	2,470	710	297
8	230	760	604	484	1,090	675	724	4,260	9,580	2,620	654	294
9	224	508	598	450	1,090	647	731	4,450	8,300	2,400	604	286
10	221	502	574	430	1,090	640	752	4,450	7,560	2,300	560	269
11	215	478	610	440	1,090	634	794	4,760	7,300	2,140	574	262
12	204	490	640	396	1,050	654	890	3,620	6,820	2,140	556	252
13	204	514	661	406	1,050	682	1,050	3,620	7,060	2,470	532	255
14	204	562	668	344	1,010	738	1,130	3,800	6,820	2,770	538	259
15	210	589	654	366	970	759	1,210	4,360	7,060	3,010	526	253
16	221	866	640	398	954	766	1,340	4,840	6,360	3,010	520	316
17	221	882	628	392	922	787	1,380	4,640	5,680	2,770	496	344
18	221	962	622	370	896	787	1,430	4,540	5,360	2,400	502	349
19	218	986	604	316	882	794	1,480	4,640	5,040	2,200	484	340
20	221	930	622	250	866	794	1,580	5,250	4,640	1,940	455	328
21	243	890	647	270	850	780	1,640	6,580	4,450	1,820	440	324
22	249	866	616	300	850	780	1,640	8,800	4,740	1,760	410	316
23	262	866	604	400	836	780	1,580	9,060	4,450	1,880	385	313
24	255	843	592	450	801	780	1,530	7,560	3,990	1,880	410	313
25	344	843	562	500	787	780	1,640	6,580	3,620	1,640	396	301
26	365	815	550	1,010	787	745	1,820	6,580	3,710	1,480	378	305
27	370	815	496	1,430	773	717	2,010	6,580	3,890	1,380	361	301
28	370	780	520	1,380	759	724	2,140	7,550	4,070	1,380	336	297
29	360	759	520	1,300	-	724	2,340	8,300	4,160	1,250	313	290
30	360	766	496	1,170	-	717	2,540	8,300	3,710	1,130	336	283
31	370	-	496	1,090	-	717	-	9,580	-	1,090	374	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	7,994	370	204	258	15,860
November.....	21,234	1,000	390	706	42,120
December.....	18,999	745	496	613	37,680
Calendar year 1934.....	706,060	14,900	171	1,934	1,400,000
January.....	17,924	1,430	250	578	35,560
February.....	26,855	1,090	759	958	53,230
March.....	22,627	704	634	730	44,300
April.....	38,341	2,540	703	1,278	76,050
May.....	184,660	9,580	2,540	5,312	326,600
June.....	187,710	9,840	3,620	6,287	372,300
July.....	67,820	3,260	1,090	2,188	134,500
August.....	17,390	1,090	313	561	34,490
September.....	9,064	349	252	302	17,980
Water year 1934-35.....	600,598	9,840	204	1,645	1,191,000

## Stehekin River at Stehekin, Wash.

Location.- Water-stage recorder, lat. 48°19'50", long. 120°41'40", 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 1935.

Average discharge.- 13 years, 1,390 second-feet.

Extremes.- Maximum discharge during year, 7,820 second-feet June 8 (gauge height, 24.90 feet); minimum not determined, occurred during period Jan. 15-23, when stage-discharge relation was affected by ice.

1910-15, 1927-35: Maximum discharge, 12,100 second-feet June 15, 1933 (gauge height, 26.94 feet); minimum, 56 second-feet Jan. 12, 1930 (gauge height, 18.59 feet).

Remarks.- Records good except those for the period estimated because of ice effect, which are fair. At very high stages small percentage of flow is diverted above gauge by natural sloughs, amount diverted included in records of discharge. No diversion for irrigation. Gauge-height record collected in cooperation with Chelan Electric Co., which furnished many discharge measurements.

Rating tables, water year 1934-35 except period of ice effect (gauge height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Feb. 19

19.0	150	21.5	1,910
19.4	300	22.0	2,530
19.8	490	22.5	3,230
20.2	740	23.0	4,030
20.6	1,020	23.5	4,840
21.0	1,350	24.0	5,750
		24.5	6,780

Table for Feb. 23 to Sept. 30

19.6	410	22.5	3,230
20.0	680	23.0	4,030
20.5	1,060	23.5	4,840
21.0	1,470	24.0	5,750
21.5	1,940	24.5	6,780
22.0	2,530		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	300	1,050	845	526	1,670	631	547	1,940	5,010	2,660	1,600	1,340
2	288	915	803	544	1,850	824	526	1,940	4,350	2,400	1,520	1,260
3	230	824	799	526	1,790	803	519	2,000	3,950	2,460	1,500	1,250
4	272	754	747	520	1,730	589	512	2,280	4,350	2,460	1,420	1,220
5	256	1,400	714	502	1,620	568	498	2,930	5,560	2,600	1,260	1,160
6	260	2,210	688	502	1,560	561	484	3,310	6,570	2,530	1,220	1,100
7	284	1,620	649	484	1,450	547	477	3,230	6,780	2,530	1,220	1,040
8	336	1,400	636	484	1,350	519	477	3,160	6,570	2,400	1,260	1,050
9	468	1,220	610	474	1,300	505	484	3,180	5,190	2,100	1,340	1,060
10	526	1,100	592	446	1,220	484	505	2,860	5,190	2,050	1,420	948
11	550	1,020	630	452	1,180	491	568	2,630	4,840	2,160	1,300	826
12	538	985	694	435	1,140	566	694	2,220	4,640	2,790	1,420	729
13	425	985	656	425	1,100	894	908	2,280	5,190	3,710	1,700	781
14	376	1,180	642	376	1,020	1,000	1,035	2,660	5,190	4,510	1,600	1,410
15	349	1,670	630		985	948	1,060	3,390	4,670	4,840	1,260	1,200
16		1,620	610	330	950	908	1,140	3,550	4,030	4,670	1,060	1,500
17	300	1,450	598		915	884	1,140	3,230	3,710	3,950	1,010	1,060
18	264	1,400	562		882	856	1,140	3,080	3,790	3,650	1,130	860
19	276	1,300	592		889	836	1,130	3,080	3,710	3,310	1,040	813
20	594	1,220	610		846	806	1,380	3,550	3,390	3,080	1,050	764
21	430	1,140	649	280	812	771	1,380	4,910	3,710	3,080	1,100	694
22	415	1,140	649		777	750	1,380	6,150	4,190	3,470	1,100	652
23	400	1,100	623		743	722	1,340	5,010	3,390	3,790	1,100	638
24	400	1,100	612		600	722	1,300	3,950	2,930	3,390	988	610
25	660	1,100	592	3,200	701	701	1,420	3,630	2,860	2,860	948	526
26	550	1,020	568	5,950	687	666	1,650	3,710	3,390	2,340	1,050	484
27	484	985	568	4,190	666	631	1,740	4,190	3,950	2,160	1,180	458
28	474	950	556	3,000	652	617	1,840	5,010	4,350	2,100	1,300	470
29	474	915	556	2,460	-	596	1,890	5,560	4,030	1,840	1,340	519
30	462	880	550	2,060	-	582	2,000	5,370	3,160	1,790	1,420	568
31	532	-	532	1,850	-	561	-	5,750	-	1,790	1,380	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acro-feet
October.....	12,571	660	256	406	1.09	1.26	24,930
November.....	35,653	2,210	754	1,188	3.19	3.56	70,720
December.....	19,780	845	532	638	1.72	1.98	39,230
Calendar year 1934.....	660,359	9,590	256	1,809	4.86	66.02	1,310,000
January.....	32,776	5,950	-	1,057	2.84	3.27	65,010
February.....	31,231	1,850	652	1,115	3.00	3.12	61,950
March.....	21,144	1,000	484	682	1.83	2.11	41,940
April.....	31,809	2,000	477	1,040	2.80	3.12	61,800
May.....	109,620	6,150	1,940	3,536	9.51	10.96	217,400
June.....	132,940	6,780	2,860	4,428	11.9	13.28	265,500
July.....	89,450	4,840	1,790	2,885	7.76	8.95	177,400
August.....	39,386	1,700	948	1,271	3.42	3.94	78,120
September.....	27,022	1,500	458	901	2.42	2.70	53,600
Water year 1934-35.....	582,682	6,780	-	1,596	4.29	58.25	1,156,000

## Lake Chelan at Chelan, Wash.

Location.- Water-stage recorder, lat. 47°50', long. 120°3'40", in lot 3, sec. 15, T. 27 N., R. 22 E., 2 miles west of Chelan. Zero of gage 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 1935.

Extremes.- Maximum water-surface elevation during year, 1,099.83 feet July 13; minimum, 1,089.63 feet Apr. 10, 11.  
1897-99, 1905, 1910-35: Maximum water-surface elevation, 1,099.83 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 collected in cooperation with Chelan Electric Co.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95.96	93.58	95.49	95.75	95.59	91.34	89.68	91.17	96.96	98.93	99.60	98.34
2	95.84	93.58	95.49	95.75	95.47	91.17	89.68	91.29	96.92	98.94	99.54	98.30
3	95.74	93.59	95.50	95.73	95.35	91.01	89.67	91.43	96.85	99.05	99.52	98.23
4	95.62	93.61	95.51	95.73	95.24	90.85	89.67	91.58	96.89	99.09	99.53	98.19
5	95.51	93.77	95.51	95.74	95.13	90.70	89.67	91.72	97.01	99.11	99.51	98.16
6	95.40	93.97	95.51	95.76	95.03	90.54	89.65	92.03	97.19	99.16	99.45	98.09
7	95.30	94.06	95.51	95.73	94.92	90.44	89.64	92.25	97.39	99.29	99.40	98.01
8	95.20	94.13	95.50	95.72	94.79	90.33	89.66	92.50	97.59	99.43	99.35	97.96
9	95.09	94.19	95.48	95.70	94.66	90.20	89.65	92.76	97.65	99.52	99.29	97.81
10	95.01	94.23	95.48	95.68	94.45	90.06	89.64	93.00	97.68	99.59	99.32	97.66
11	94.94	94.26	95.48	95.67	94.26	89.98	89.64	93.19	97.68	99.61	99.24	97.80
12	94.90	94.32	95.48	95.66	94.06	89.91	89.67	93.34	97.69	99.70	99.20	97.69
13	94.75	94.37	95.45	95.63	93.90	89.86	89.68	93.49	97.78	99.79	99.23	97.60
14	94.62	94.46	95.44	95.60	93.70	89.90	89.71	93.68	97.92	99.69	99.27	97.55
15	94.55	94.55	95.44	95.58	93.50	89.89	89.78	93.94	97.99	99.60	99.18	97.51
16	94.44	94.64	95.45	95.55	93.33	89.86	89.88	94.17	98.01	99.64	99.09	97.49
17	94.32	94.74	95.47	95.53	93.15	89.88	89.93	94.45	97.97	99.60	99.04	97.44
18	94.22	94.86	95.49	95.48	92.98	89.85	89.88	94.70	97.93	99.57	98.99	97.34
19	94.10	94.95	95.50	95.43	92.81	89.81	90.03	94.91	97.81	99.58	98.92	97.28
20	94.00	95.00	95.56	95.39	92.66	89.78	90.11	95.16	97.84	99.65	98.86	97.17
21	93.90	95.04	95.66	95.47	92.51	89.77	90.20	95.50	97.87	99.72	98.82	97.08
22	93.86	95.11	95.69	95.51	92.43	89.76	90.25	96.01	98.04	99.72	98.79	97.03
23	93.79	95.17	95.71	95.51	92.28	89.75	90.36	96.43	98.11	99.67	98.84	96.94
24	93.75	95.22	95.74	95.53	92.13	89.74	90.42	96.54	98.19	99.54	98.71	96.85
25	93.61	95.28	95.70	95.53	91.99	89.79	90.50	96.58	98.21	99.57	98.62	96.71
26	93.78	95.30	95.75	95.90	91.81	89.80	90.57	96.63	98.30	99.54	98.58	96.60
27	93.73	95.34	95.74	96.01	91.65	89.76	90.65	96.68	98.45	99.57	98.54	96.50
28	93.69	95.37	95.73	96.01	91.51	89.76	90.77	96.70	98.64	99.59	98.48	96.40
29	93.64	95.39	95.76	95.94	-	89.71	90.90	96.80	98.87	99.55	98.45	96.29
30	93.58	95.44	95.76	95.86	-	89.69	91.05	96.87	98.98	99.57	98.42	96.20
31	93.56	-	95.75	94.72	-	89.69	-	96.98	-	99.62	98.38	-

Note: Add 1,000 feet to obtain elevations above mean sea level.

## Chelan River at Chelan, Wash.

Location.— Water-stage recorder, lat. 47°48'40", long. 119°59'20", in NE¼ sec. 30, T. 27 N., R. 23 E., half a mile above mouth and 2 miles southeast of Chelan. Zero of gage is at mean sea level.

Drainage area.— 950 square miles.

Records available.— November 1903 to September 1935.

Average discharge.— 32 years, 2,082 second-feet.

Extremes.— Maximum mean daily discharge during year, 7,920 second-feet June 1; minimum mean daily discharge, 555 second-feet Nov. 13.

1903-35: Maximum mean daily discharge, 12,300 second-feet 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 portion of run-off. Chelan Electric Co. diverts water at Chelan for power and irrigation, which is included in daily discharge. Flow regulated by operation of power plant. River record collected in cooperation with Chelan Electric Co. Records of diversion furnished by Chelan Electric Co.

## Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,920	1,280	775	922	3,750	3,770	943	867	7,920	3,580	2,250	2,240
2	2,070	1,190	777	926	3,530	3,630	942	875	7,870	2,760	2,270	2,240
3	2,020	995	778	922	*3,580	3,650	942	878	6,650	2,870	2,260	2,240
4	2,170	*785	777	926	3,460	3,410	941	925	5,680	2,540	*1,860	2,240
5	2,270	791	838	922	3,400	3,230	941	944	5,940	2,660	2,060	2,090
6	2,280	781	988	*926	3,330	3,120	891	952	7,370	1,990	2,210	2,240
7	*1,630	781	928	928	3,270	3,000	857	950	7,600	*1,400	2,250	2,240
8	2,030	781	928	916	3,210	2,690	857	952	7,610	1,490	2,250	*2,280
9	2,280	784	796	924	3,890	2,780	857	957	7,660	2,190	2,260	2,240
10	2,280	777	769	923	4,060	2,660	816	953	7,660	2,600	2,260	2,240
11	2,250	*572	934	922	5,400	2,540	854	987	7,700	2,190	2,220	2,240
12	2,250	887	916	930	5,180	2,330	854	*949	6,890	1,830	1,730	2,240
13	2,250	555	1,160	926	4,910	1,540	856	855	6,400	5,450	2,260	2,240
14	*2,140	629	914	922	4,750	1,540	856	949	6,540	*7,590	2,260	2,240
15	2,150	768	776	922	4,530	1,660	856	918	6,610	7,000	2,260	*2,180
16	2,250	778	776	922	4,330	1,570	859	903	6,610	6,140	2,260	2,240
17	2,210	786	778	926	4,230	1,570	854	871	6,620	5,730	2,280	2,240
18	2,210	*779	776	922	4,130	1,570	856	871	6,580	4,610	*2,020	2,240
19	2,210	768	768	922	3,930	1,570	861	*876	6,560	3,640	2,160	2,240
20	2,240	778	768	*920	3,820	1,560	858	870	5,310	3,180	2,030	2,240
21	*1,730	736	777	960	3,710	1,400	858	887	4,310	*2,670	2,000	2,250
22	1,930	750	770	922	3,650	1,240	858	870	3,900	6,370	1,850	2,250
23	2,190	774	*680	942	3,470	1,250	858	2,920	4,030	6,780	1,840	2,250
24	2,160	790	770	922	*3,360	1,250	862	5,590	4,020	4,380	2,040	2,250
25	1,800	776	770	1,600	3,620	1,250	870	5,680	3,170	3,580	2,250	2,250
26	1,790	776	764	3,320	3,930	1,250	862	5,680	2,780	3,280	2,250	2,250
27	1,480	774	1,010	*4,090	3,710	1,490	862	6,600	3,020	2,920	2,240	2,250
28	*1,370	772	929	4,060	3,590	1,240	865	7,280	3,060	*2,470	2,240	2,250
29	1,460	769	922	3,820	-	1,280	864	7,560	3,630	2,660	2,240	2,250
30	1,550	777	926	3,640	-	1,090	864	7,860	4,220	2,280	2,240	2,250
31	1,440	-	922	3,690	-	944	-	7,910	-	2,260	2,240	-

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	2,280	1,370	2,007	123,400	-79,540	43,860	713	0.751	0.87
November.....	1,220	555	787	46,820	+60,310	107,100	1,800	1.89	2.11
December.....	1,180	680	844	51,920	+10,430	62,350	1,014	1.07	1.23
Calendar year 1934	12,300	6.0	2,729	1,976,000	-680	1,975,000	2,728	2.87	33.97
January.....	4,090	916	1,516	93,200	-330	92,870	1,510	1.59	1.83
February.....	5,400	5,210	3,949	219,300	-137,300	82,000	1,476	1.55	1.61
March.....	3,330	944	2,047	126,600	-58,910	66,890	1,068	1.15	1.33
April.....	943	816	872	51,920	+43,030	94,950	1,596	1.68	1.87
May.....	7,910	867	2,490	153,100	+190,600	343,700	5,590	5.88	6.78
June.....	7,920	2,780	5,795	344,900	+65,220	410,100	6,892	7.25	8.09
July.....	7,890	1,400	3,593	220,900	+21,000	241,900	3,934	4.14	4.77
August.....	2,870	1,730	2,155	132,500	-38,380	94,120	1,631	1.61	1.66
September.....	2,260	2,090	2,237	133,100	-70,350	62,770	1,056	1.11	1.24
Water year 1934-35	7,920	555	2,544	1,697,000	+5,800	1,703,000	2,352	2.48	33.59

\*Sunday.

## Railroad Creek at Lucerne, Wash.

Location.— Water-stage recorder, lat.  $48^{\circ}11'40''$ , long.  $120^{\circ}35'50''$ , 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 1935.

Extremes.— Maximum discharge during year, 1,230 second-feet June 8 (gage height, 4.46 feet); minimum, not determined, occurred during period Jan. 14–23, when stage-discharge relation was affected by ice.  
1910–13, 1927–35: 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 June 17 to July 2 (estimated on basis of records for Stehakin River at Stehakin) and those for Jan. 14–23 (estimated because of ice), which are fair. No diversions or regulation. Many discharge measurements furnished by Chelan Electric Co.

Rating table, water year 1934–35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

2.7	30	3.3	204	3.9	625
2.8	46	3.4	252	4.0	725
2.9	71	3.5	308	4.1	850
3.0	99	3.6	370	4.2	940
3.1	127	3.7	445	4.3	1,050
3.2	162	3.8	530	4.4	1,160

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	144	154	91	196	107	88	238	778	410	228	191
2	46	134	154	88	218	107	85	238	675	370	214	183
3	46	116	130	85	228	107	88	252	596	379	218	175
4	44	105	130	82	225	105	88	286	645	385	209	175
5	43	256	134	79	209	99	88	385	852	400	191	170
6	43	319	138	77	200	96	85	450	1,020	392	175	162
7	44	214	134	71	191	96	82	450	1,120	385	175	155
8	48	179	134	71	183	96	82	450	1,120	370	179	152
9	71	155	134	66	170	91	79	450	896	339	187	152
10	91	141	130	64	166	88	79	415	830	327	200	148
11	99	134	130	66	162	88	85	370	767	339	196	134
12	96	134	121	66	162	96	88	339	705	392	191	124
13	82	134	119	66	155	130	110	345	767	513	238	116
14	71	187	116	65	152	141	124	385	852	606	252	175
15	66	345	110	60	144	127	130	464	798	685	196	191
16	68	302	105	65	141	121	144	479	715	715	158	200
17	61	247	105	55	138	121	144	450	590	685	148	158
18	56	218	99	45	134	116	144	415	600	568	158	130
19	54	196	99	40	124	116	152	408	590	522	152	121
20	77	175	105	35	130	110	170	445	530	462	148	119
21	77	162	110	40	127	107	175	540	580	454	148	110
22	74	158	110	60	124	105	175	820	650	498	155	105
23	68	155	107	100	119	105	170	705	530	540	158	99
24	68	148	105	351	116	105	170	549	460	496	144	99
25	121	148	99	893	110	102	183	540	450	438	138	96
26	107	141	96	729	107	99	200	530	530	364	138	91
27	85	138	99	454	107	96	204	549	610	351	155	88
28	79	130	96	327	107	96	214	695	670	320	175	85
29	77	134	93	263	-	95	219	758	620	290	191	88
30	71	134	93	228	-	91	242	779	480	258	200	85
31	89	-	91	209	-	91	-	896	-	258	196	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,168	121	43	69.9	1.09	1.26	4,300
November.....	5,283	345	105	176	2.75	3.07	10,480
December.....	3,540	138	91	114	1.78	2.05	7,020
Calendar year 1934.....	98,658	1,530	43	270	4.22	57.34	195,700
January.....	4,991	893	35	161	2.52	2.90	9,900
February.....	4,353	228	107	155	2.42	2.52	8,630
March.....	3,251	141	88	105	1.64	1.89	6,450
April.....	4,086	242	79	136	2.12	2.36	8,100
May.....	14,994	896	258	484	7.56	8.72	29,740
June.....	21,036	1,120	460	701	11.0	12.27	41,780
July.....	13,490	715	258	435	6.80	7.84	26,760
August.....	5,611	252	138	181	2.83	3.26	11,150
September.....	4,085	200	85	136	2.12	2.36	8,100
Water year 1934–35.....	86,888	1,120	35	238	3.72	50.50	172,300

## Wenatchee Lake near Plain, Wash.

Location.— Water-stage recorder, lat.  $47^{\circ}49'50''$ , long.  $120^{\circ}46'30''$ , in sec. 19, T. 27 N., R. 17 E., on north shore of lake,  $7\frac{1}{2}$  miles northwest of Plain. Prior to Jan. 4, 1935, staff gage at same site and datum. Zero of gage is at mean sea level.

Drainage area.— 277 square miles.

Records available.— January 1932 to September 1935.

Extremes.— Maximum water-surface elevation recorded during year, 1,876.19 feet Jan. 27; minimum, 1,869.41 feet Oct. 8.  
1932-35: Maximum water-surface elevation recorded, 1,876.57 feet June 16, 1933; minimum, that of Oct. 6, 1934.

Remarks.— Records excellent. No diversions or regulation. Gage-height record collected in cooperation with Wenatchee Reclamation District.

Gage height, in feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69.47	71.04	70.69	70.47	72.25	70.37	70.33	71.71	74.03	72.56	70.66	70.21
2	69.46	71.31	70.63	70.41	72.03	70.35	70.30	71.69	73.79	72.29	70.78	70.18
3	69.46	71.48	70.65	70.39	71.92	70.33	70.28	71.69	73.47	72.25	70.73	70.16
4	69.43	71.39	70.56	70.39	71.82	70.32	70.25	71.77	73.36	72.26	70.68	70.13
5	69.43	71.38	70.52	70.38	71.71	70.29	70.23	71.93	73.76	72.22	70.60	70.12
6	69.41	73.21	70.46	70.45	71.61	70.29	70.21	72.26	74.42	72.13	70.52	70.12
7	69.44	72.97	70.43	70.39	71.51	70.29	70.21	72.59	74.90	72.06	70.48	70.11
8	69.48	72.75	70.38	70.34	71.41	70.27	70.20	72.66	75.15	72.02	70.46	70.07
9	69.50	72.41	70.33	70.30	71.30	70.23	70.19	72.67	74.92	71.89	70.45	70.05
10	69.51	71.99	70.28	70.26	71.20	70.21	70.20	72.72	74.60	71.90	70.46	70.03
11	69.51	71.69	70.33	70.26	71.14	70.21	70.23	72.65	74.39	71.81	70.44	70.00
12	69.53	71.41	70.39	70.23	71.08	70.32	70.32	72.40	74.05	71.97	70.43	69.96
13	69.55	71.33	70.36	70.20	71.03	70.56	70.45	72.20	74.02	72.33	70.47	69.92
14	69.57	71.38	70.33	70.15	70.94	70.89	70.61	72.22	74.00	72.73	70.51	69.91
15	69.59	71.55	70.31	70.10	70.87	70.94	70.73	72.43	73.87	73.00	70.47	69.95
16	69.62	72.06	70.29	70.09	70.80	70.88	70.80	72.88	73.52	73.14	70.36	70.12
17	69.65	71.83	70.28	70.08	70.76	70.83	70.84	72.92	73.17	73.08	70.27	70.25
18	69.67	71.71	70.36	70.07	70.73	70.77	70.84	72.74	73.07	72.76	70.32	70.37
19	69.70	71.58	70.45	70.03	70.68	70.75	70.87	72.61	72.99	72.52	70.34	70.29
20	69.73	71.37	70.53	70.03	70.65	70.71	70.99	72.69	72.86	72.28	70.30	70.16
21	69.88	71.25	70.66	70.03	70.63	70.66	71.10	73.14	72.84	72.08	70.25	70.09
22	70.00	71.17	70.74	70.05	70.64	70.61	71.12	73.94	73.15	72.01	70.21	70.03
23	70.37	71.16	70.73	70.20	70.60	70.56	71.10	74.12	73.06	72.05	70.20	69.99
24	71.35	71.10	70.66	70.70	70.84	70.57	71.06	73.71	72.74	72.05	70.16	69.92
25	71.46	71.13	70.61	72.78	70.50	70.60	71.05	73.34	72.52	71.91	70.13	69.87
26	71.25	71.08	70.56	75.32	70.46	70.57	71.16	73.22	72.55	71.62	70.11	69.82
27	71.11	70.99	70.50	76.06	70.42	70.50	71.31	73.37	72.82	71.37	70.11	69.73
28	70.89	70.93	70.46	75.20	70.40	70.45	71.44	73.69	73.14	71.22	70.14	69.72
29	70.77	70.86	70.43	74.03	-	70.41	71.51	74.11	73.23	71.14	70.17	69.72
30	70.61	70.78	70.41	73.22	-	70.39	71.64	74.13	72.99	71.02	70.21	69.73
31	70.70	-	70.45	72.65	-	70.37	-	74.14	-	70.94	70.22	-

Note.— Add 1,800 feet to obtain elevations above mean sea level.

## Wenatchee River below Wenatchee Lake, Wash.

Location.— Water-stage recorder, lat. 47°49'50", long. 120°46'30", in sec. 19, T. 27 N., R. 17 E., on north shore, 2 3/4 miles above outlet of Wenatchee Lake and 7 1/2 miles northwest of Plain. Prior to Jan. 4, 1935, staff gage at same site and datum. Datum of published gage heights is mean sea level. Discharge measurements made at highway bridge half a mile below lake outlet.

Drainage area.— 277 square miles.

Records available.— January 1932 to September 1935.

Extremes.— Maximum discharge recorded during water year 1931-32, 7,550 second-feet Feb. 28 (lake-surface elevation, 1,876.14 feet); minimum, 238 second-feet Feb. 16 (lake-surface elevation, 1,869.64 feet).

Maximum discharge recorded during water year, 1932-33, 8,310 second-feet June 16 (lake-surface elevation, 1,876.57 feet); minimum, 187 second-feet Oct. 12 (lake-surface elevation, 1,869.49 feet).

Maximum discharge recorded during water year 1933-34, 7,550 second-feet Apr. 24 (lake-surface elevation, 1,876.08 feet); minimum, 187 second-feet Sept. 30 (lake-surface elevation, 1,869.49 feet).

Maximum discharge during water year 1934-35, 7,700 second-feet Jan. 27 (lake-surface elevation, 1,876.19 feet); minimum, 165 second-feet Oct. 6 (lake-surface elevation, 1,869.41 feet).

Remarks.— Records good except those for Jan. 1-22, 1932, which were estimated on basis of records for station at Plain, and are poor. No diversions above station. Flow subject to natural regulation in Wenatchee Lake. Gage-height record collected in cooperation with Wenatchee Reclamation District.

Discharge, in second-feet, water year October 1931 to September 1932

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					287	3,990	1,260	2,960	2,490	2,900	874	443
2					279	2,780	1,490	2,900	2,600	2,720	788	394
3					279	1,870	1,680	3,140	2,720	2,540	735	372
4					279	1,310	1,360	3,210	2,900	2,350	742	350
5					279	788	1,360	3,340	2,780	2,170	742	310
6					270	750	1,310	3,340	2,490	1,820	735	310
7					270	604	1,260	3,470	2,440	1,540	712	301
8					270	604	1,220	3,470	2,540	1,490	690	301
9					270	604	1,130	3,730	2,900	1,670	618	292
10					270	604	1,090	3,860	3,730	1,920	584	292
11				450	270	577	1,130	3,860	4,510	2,220	584	292
12					270	577	1,220	3,990	5,060	2,070	584	283
13					270	590	1,440	3,990	5,060	1,920	584	274
14					261	604	1,620	3,860	4,920	1,870	519	279
15					253	604	1,920	3,730	5,900	1,820	519	283
16					258	639	2,270	3,280	5,060	1,820	519	283
17					253	780	2,270	3,080	3,730	1,770	584	283
18					261	906	2,170	3,210	3,140	1,620	655	274
19					261	1,400	1,970	3,280	2,660	1,540	655	265
20					279	1,440	1,870	3,210	2,660	1,560	584	265
21					310	1,490	1,770	3,210	2,900	1,260	584	257
22					298	1,400	1,580	3,140	3,600	1,130	570	257
23				360	305	1,360	1,490	2,840	3,730	1,130	564	250
24				345	325	1,310	1,490	2,380	3,600	1,130	570	250
25				360	345	1,220	1,540	2,070	3,020	1,090	551	257
26				335	675	1,220	1,670	2,070	2,900	1,090	519	257
27				335	5,080	1,260	1,670	2,170	2,780	1,050	532	257
28				305	7,650	1,220	1,970	2,220	2,840	1,090	519	257
29				305	6,050	1,220	2,440	2,170	2,900	1,050	507	250
30				305		1,130	2,560	2,070	2,900	1,030	495	250
31				296		1,130		2,220		1,020	460	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....							
November.....							
December.....							
Calendar year .....							
January.....	12,876	-	-	415	1.50	1.73	25,540
February.....	26,285	7,550	238	906	3.27	3.53	52,140
March.....	35,981	3,990	577	1,161	4.19	4.83	71,370
April.....	49,420	2,660	1,090	1,647	5.95	6.64	98,020
May.....	95,470	3,990	2,070	3,030	11.1	12.80	189,400
June.....	101,460	5,900	2,440	3,382	12.2	13.61	201,200
July.....	51,230	2,900	1,020	1,653	5.97	6.88	101,600
August.....	19,874	674	460	609	2.20	2.54	37,440
September.....	8,688	443	250	290	1.05	1.17	17,280
The period.....							793,900



## Wenatchee River below Wenatchee Lake, Wash.

(Continued)

Rating table, 1932-35 (gage height, in feet, and discharge, in second-feet)

1,869.3	140	1,871.5	1,580	1,875.0	5,900
1,869.5	190	1,872.0	2,070	1,875.5	6,450
1,869.7	261	1,872.5	2,600	1,876.0	7,400
1,870.0	410	1,873.0	3,210	1,876.5	8,150
1,870.3	590	1,873.5	3,860	1,877.0	8,950
1,870.6	810	1,874.0	4,510	1,877.5	9,750
1,871.0	1,130	1,874.5	5,200	1,878.0	10,550

Discharge, in second-feet, water year October 1932 to September 1933

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	618	1,440	532	471	471	639	2,960	2,170	4,250	1,920	551
2	246	618	2,120	485	471	471	639	2,780	2,070	4,120	1,870	513
3	250	670	3,750	471	471	471	645	2,580	3,210	3,990	1,720	453
4	250	551	3,280	495	471	471	668	2,190	4,190	3,860	1,670	453
5	250	544	2,720	519	471	471	690	1,920	4,510	3,860	1,970	471
6	242	532	2,070	532	471	471	682	1,720	4,640	3,990	1,920	477
7	234	538	1,820	551	471	471	682	1,580	4,920	4,380	1,770	469
8	234	564	1,490	584	471	483	690	1,540	4,780	4,640	1,820	477
9	223	584	1,260	690	471	483	698	1,440	3,730	4,640	1,680	471
10	213	558	1,130	772	471	483	698	1,400	3,340	3,990	1,540	454
11	200	577	978	898	471	495	712	1,360	2,960	3,860	1,490	443
12	190	772	922	954	471	507	728	1,310	2,900	3,860	1,440	421
13	234	5,200	914	834	460	507	728	1,310	3,860	3,990	1,560	394
14	320	6,050	842	826	448	495	728	1,310	5,480	4,510	1,360	394
15	519	4,120	802	788	460	501	742	1,310	7,250	4,920	1,310	454
16	489	3,080	768	780	460	513	742	1,260	8,000	5,060	1,260	513
17	454	3,990	712	768	460	519	750	1,260	8,000	5,060	1,220	525
18	399	6,050	698	735	448	532	765	1,560	6,350	4,510	1,190	507
19	360	5,620	698	728	448	532	795	2,020	4,780	3,860	1,130	471
20	362	4,780	675	690	448	532	866	2,020	4,510	3,470	1,050	448
21	416	3,470	653	618	448	532	970	2,070	4,380	3,020	1,020	465
22	507	2,720	632	570	448	532	1,010	2,070	4,380	2,780	962	532
23	675	2,020	611	538	448	551	1,030	2,070	4,250	2,840	930	611
24	682	1,720	611	525	448	570	1,060	2,120	3,990	2,960	882	611
25	618	1,580	597	513	448	584	1,220	2,120	4,250	2,960	618	604
26	625	1,360	597	471	460	590	1,440	2,120	4,380	2,960	758	597
27	645	1,260	597	471	460	611	1,920	2,170	4,510	2,720	698	604
28	554	1,220	577	471	471	632	2,540	2,170	4,640	2,320	646	765
29	570	1,220	558	471	-	639	3,080	2,170	4,640	2,070	625	1,490
30	590	1,360	570	471	-	639	3,080	2,120	4,250	2,020	604	1,440
31	618	-	570	471	-	639	-	2,270	-	1,970	577	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	12,450	662	190	402	1.45	1.67	24,690
November.....	63,846	6,050	532	2,128	7.68	8.57	126,600
December.....	35,632	3,750	558	1,249	4.15	4.78	70,680
Calendar year 1932.....	512,212	7,550	190	1,403	5.06	68.75	1,106,000
January.....	19,210	954	471	620	2.24	2.58	36,100
February.....	12,915	471	448	481	1.65	1.73	25,620
March.....	16,398	639	471	529	1.91	2.20	32,520
April.....	31,628	3,060	639	1,054	3.81	4.25	62,730
May.....	58,050	2,960	1,260	1,873	6.76	7.79	115,100
June.....	135,250	8,000	2,070	4,508	16.3	18.19	268,300
July.....	113,440	5,060	1,970	3,659	13.2	15.22	225,000
August.....	38,900	1,970	577	1,255	4.53	5.22	77,160
September.....	17,168	1,490	394	572	2.06	2.30	34,030
Water year 1932-33.....	554,877	8,000	190	1,520	5.49	74.50	1,101,000

## Wenatchee River below Wenatchee Lake, Wash.

(Continued)

Discharge, in second-feet, water year October 1933 to September 1934

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,130	2,170	914	2,120	1,400	1,130	4,640	3,730	3,210	1,490	720	338
2	1,090	2,170	858	2,070	1,490	1,620	3,990	3,470	2,840	1,490	698	398
3	1,050	6,500	826	2,070	1,540	1,920	3,210	2,900	2,600	1,440	742	377
4	1,050	6,950	810	1,970	1,580	1,970	2,900	2,900	2,440	1,400	653	355
5	1,030	3,020	826	2,120	1,490	1,870	2,660	3,600	2,440	1,400	611	355
6	1,000	2,380	842	2,170	1,440	1,820	2,660	3,470	2,600	1,490	590	345
7	938	2,220	850	2,020	1,400	1,540	2,720	3,340	2,960	1,580	570	340
8	890	1,970	866	1,820	1,360	1,400	3,140	3,140	3,470	1,440	544	335
9	826	1,770	898	1,870	1,310	1,440	3,600	2,660	3,860	1,310	513	310
10	712	1,580	966	1,620	1,220	1,540	3,600	2,490	3,600	1,130	471	296
11	653	1,400	1,580	1,540	1,180	1,490	3,600	2,660	3,600	1,090	438	292
12	597	1,310	2,840	1,490	1,180	1,490	3,730	2,490	3,730	1,050	426	292
13	558	1,260	2,840	1,440	1,130	1,540	3,860	2,720	3,600	970	443	301
14	544	1,180	2,600	1,310	1,090	1,580	4,640	3,020	3,280	1,050	471	325
15	538	1,180	2,490	1,260	1,090	2,020	4,780	3,600	3,080	1,130	471	315
16	584	1,050	2,220	1,180	1,050	2,120	4,920	3,990	2,440	1,180	483	310
17	890	978	1,820	1,180	1,050	2,170	4,780	3,730	2,270	1,560	471	301
18	1,180	914	1,720	1,130	1,040	2,120	4,250	3,280	2,440	1,260	443	287
19	1,670	874	1,720	1,130	1,040	2,070	4,250	2,900	1,970	1,090	471	265
20	1,440	858	1,820	1,260	1,030	2,120	4,510	2,660	1,820	946	483	257
21	1,260	882	2,170	1,360	1,030	2,170	5,620	2,380	1,770	866	483	261
22	1,130	1,310	4,640	1,440	1,010	2,220	7,100	2,320	1,720	780	483	238
23	1,770	1,490	6,800	1,490	994	2,170	6,950	2,440	1,620	728	471	231
24	3,020	1,540	5,750	1,540	994	2,070	7,550	3,020	1,440	735	471	227
25	3,730	1,540	4,380	1,490	978	1,970	7,400	3,860	1,400	772	465	223
26	3,990	1,490	3,470	1,440	962	1,920	6,950	4,380	1,440	866	443	210
27	3,600	1,400	3,080	1,400	1,000	1,970	6,500	4,640	1,400	1,010	443	203
28	3,540	1,180	2,320	1,360	1,090	2,600	6,850	4,780	1,440	1,010	432	197
29	3,080	1,090	2,170	1,310	-	3,600	5,900	4,360	1,400	938	432	193
30	2,840	978	2,120	1,310	-	4,780	4,580	4,120	1,440	850	421	187
31	2,380	-	2,120	1,310	-	5,060	-	3,600	-	780	416	-
Month	Second-foot-days		Maximum		Minimum		Mean		Per square mile		Run-off	
											Inches	Acre-feet
October.....	48,510		3,990		538		1,565		5.65		6.51	96,220
November.....	54,634		6,950		866		1,821		6.37		7.33	108,400
December.....	69,556		6,800		810		2,237		8.08		9.32	137,600
Calendar year 1933.....	615,449		8,000		394		1,686		6.09		82.64	1,221,000
January.....	48,020		2,170		1,130		1,549		5.59		6.44	95,260
February.....	33,168		1,580		962		1,185		4.28		4.46	65,790
March.....	69,500		5,080		1,130		2,113		7.63		8.80	129,900
April.....	141,440		7,550		2,660		4,716		17.0		18.97	280,500
May.....	102,670		4,780		2,320		3,512		12.0		13.63	203,600
June.....	73,320		3,660		1,400		2,444		8.82		9.64	145,400
July.....	34,631		1,580		728		1,117		4.03		4.65	68,690
August.....	15,672		742		416		506		1.83		2.13	31,080
September.....	8,604		388		187		287		1.04		1.16	17,070
Water year 1933-34.....	695,525		7,550		187		1,906		6.88		93.42	1,380,000

Wenatchee River below Wenatchee Lake, Wash.

(Continued)

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	1,180	882	712	2,320	639	611	1,770	4,510	2,720	1,020	532
2	176	1,400	834	668	2,120	625	590	1,770	4,250	2,380	954	513
3	176	1,580	772	653	1,970	611	577	1,770	3,880	2,520	914	501
4	170	1,490	780	655	1,870	604	558	1,820	3,730	2,520	874	483
5	170	1,490	750	646	1,770	584	544	2,020	4,250	2,270	810	477
6	165	3,470	705	698	1,870	584	532	2,320	5,060	2,320	750	477
7	173	3,140	682	653	1,580	584	532	2,780	5,760	2,120	720	471
8	184	2,900	646	618	1,490	570	525	2,780	6,200	2,070	705	448
9	190	2,490	611	590	1,400	544	519	2,780	5,760	1,970	698	438
10	193	2,070	577	564	1,310	532	525	2,840	5,340	1,870	705	426
11	193	1,770	611	564	1,260	532	544	2,780	5,060	1,870	690	410
12	200	1,490	653	544	1,220	604	604	2,490	4,510	2,020	682	388
13	206	1,440	632	525	1,180	780	698	2,270	4,510	2,440	712	366
14	213	1,490	611	495	1,090	1,040	618	2,270	4,510	2,900	742	360
15	220	1,620	597	465	1,030	1,090	914	2,540	4,380	3,210	712	382
16	231	2,120	584	460	970	1,030	970	3,080	3,860	3,340	632	477
17	242	1,920	577	454	938	994	1,000	3,080	3,470	3,340	570	558
18	250	1,770	632	448	914	946	1,000	2,900	3,280	2,900	604	639
19	261	1,670	698	426	874	930	1,030	2,720	3,210	2,600	618	584
20	274	1,440	758	426	850	898	1,130	2,640	3,080	2,380	590	501
21	345	1,360	858	426	834	858	1,220	3,340	3,020	2,170	558	460
22	410	1,260	922	438	842	818	1,220	4,380	3,470	2,070	532	426
23	639	1,260	914	525	810	780	1,220	4,640	3,280	2,120	525	399
24	1,440	1,220	858	890	765	788	1,180	4,120	2,900	2,120	501	366
25	1,540	1,260	818	2,960	735	810	1,180	3,600	2,600	1,970	483	340
26	1,360	1,220	780	6,350	705	788	1,260	3,470	2,660	1,670	471	315
27	1,220	1,130	735	7,550	675	735	1,400	3,730	2,960	1,440	471	274
28	1,040	1,090	705	6,200	660	698	1,540	4,120	3,340	1,510	489	270
29	946	1,020	682	4,510	-	668	1,580	4,640	3,470	1,260	507	270
30	818	954	668	3,470	-	653	1,720	4,640	3,210	1,130	532	274
31	890	-	698	2,780	-	639	-	4,640	-	1,090	538	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	14,717	1,540	165	475	5.98	1.97	29,190
November.....	49,714	3,470	954	1,657	5.98	6.67	98,610
December.....	22,230	922	577	717	2.59	2.99	44,090
Calendar year 1934.....	609,886	7,550	165	1,670	6.03	81.89	1,209,000
January.....	47,361	7,550	426	1,528	5.52	6.36	93,940
February.....	33,852	2,320	660	1,209	4.36	4.54	67,140
March.....	22,956	1,090	532	741	2.68	3.09	45,530
April.....	27,741	1,720	519	925	3.34	3.73	55,020
May.....	94,860	4,640	1,770	3,061	11.1	12.80	188,200
June.....	113,600	6,200	2,600	3,983	14.4	16.07	237,000
July.....	67,610	3,340	1,090	2,181	7.87	9.07	134,100
August.....	20,309	1,020	471	655	2.36	2.72	40,280
September.....	12,825	639	270	428	1.55	1.73	25,440
Water year 1934-35.....	533,695	7,550	165	1,462	5.28	71.74	1,069,000

## Wenatchee River at Plain, Wash.

Location.— Water-stage recorder, lat. 47°45'50", long. 120°39'30", in lot 8, sec. 12, T. 28 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 1935; mean monthly discharge August 1904 to September 1933 published in State Water-Supply Bulletin 5.

Average discharge.— 31 years, 2,251 second-feet.

Extremes.— Maximum discharge during year, 11,500 second-feet Jan. 27 (gage height, 8.90 feet); minimum, 370 second-feet Oct. 6 (gage height, 1.68 feet).

1910-29, 1931-35: Maximum observed discharge, 20,800 second-feet Dec. 13, 1921 (gage height, 11.8 feet, former site and datum); minimum, 250 second-feet Oct. 18, 19, 1925.

Remarks.— Records excellent except for the period Jan. 15-22 which were estimated because of ice effect, and those for the period Apr. 17 to May 5, which were estimated on basis of records for station at Peshastin, all of which are fair. Wenatchee Park Land & Irrigation Co. diverts a maximum of about 12 second-feet from Chiwawa River during irrigation seasons. Natural regulation in Wenatchee Lake. Gage-height record collected in cooperation with Wenatchee Reclamation District.

Rating table, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.5	318	3.3	1,520	5.1	3,760	6.9	6,910
1.8	409	3.6	1,820	5.4	4,240	7.2	7,510
2.1	535	3.9	2,140	5.7	4,740	7.5	8,120
2.4	745	4.2	2,490	6.0	5,250	7.8	8,750
2.7	995	4.5	2,860	6.3	5,790	8.1	9,410
3.0	1,250	4.8	3,280	6.6	6,340	8.4	10,130

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	386	2,100	1,620	1,160	3,920	1,250	1,250	3,400	5,330	4,740	1,820	918
2	389	2,490	1,520	1,160	3,600	1,250	1,210	3,400	7,710	4,240	1,670	884
3	383	2,430	1,430	1,210	3,440	1,210	1,160	3,500	7,110	4,240	1,620	834
4	379	2,200	1,380	1,210	3,200	1,210	1,160	3,500	6,910	4,240	1,570	825
5	373	2,750	1,340	1,160	3,060	1,160	1,160	4,500	7,710	4,240	1,430	801
6	370	5,250	1,300	1,210	2,920	1,160	1,120	5,430	8,970	4,000	1,340	809
7	373	4,740	1,210	1,160	2,600	1,120	1,120	5,610	9,640	3,840	1,300	777
8	373	4,400	1,150	1,120	2,610	1,120	1,080	5,610	10,100	3,760	1,300	753
9	356	3,760	1,120	1,060	2,490	1,080	1,080	5,610	9,640	3,440	1,250	737
10	416	3,130	1,080	1,010	2,370	1,050	1,120	5,610	8,750	3,280	1,250	713
11	438	2,730	1,070	1,040	2,250	1,050	1,210	5,080	8,330	3,280	1,210	665
12	449	2,490	1,120	970	2,140	1,210	1,340	4,740	7,710	3,600	1,210	623
13	434	2,370	1,160	944	2,080	1,660	1,620	4,670	7,710	4,240	1,250	595
14	423	2,550	1,160	876	1,980	2,080	1,820	4,910	7,710	4,910	1,300	658
15	416	3,200	1,120	820	1,870	2,030	1,920	5,610	7,610	5,250	1,250	842
16	413	3,440	1,080	790	1,770	1,920	2,030	6,150	6,720	5,610	1,120	1,040
17	409	3,060	1,060	760	1,720	1,870	2,100	5,970	6,150	5,250	1,050	1,050
18	399	2,920	1,070	750	1,670	1,770	2,100	5,610	5,970	4,740	1,120	918
19	389	2,670	1,080	700	1,620	1,720	2,100	5,430	5,970	4,240	1,120	793
20	461	2,430	1,210	660	1,570	1,670	2,400	5,790	5,610	3,840	1,040	721
21	689	2,310	1,430	740	1,570	1,570	2,500	6,530	5,610	3,600	995	673
22	681	2,200	1,670	820	1,570	1,520	2,500	8,120	6,150	3,520	970	630
23	721	2,200	1,620	1,250	1,520	1,480	2,500	8,540	5,970	3,600	961	589
24	854	2,140	1,520	1,970	1,430	1,480	2,400	7,710	5,250	3,600	910	571
25	2,490	2,140	1,430	5,330	1,380	1,520	2,400	6,910	4,910	3,280	868	553
26	2,670	2,080	1,340	8,970	1,340	1,480	2,600	6,720	5,080	2,800	834	525
27	2,140	1,980	1,250	10,100	1,340	1,380	2,900	6,910	5,430	2,490	825	505
28	1,770	1,870	1,250	8,540	1,300	1,380	3,100	7,510	5,970	2,310	850	495
29	1,520	1,770	1,210	6,910	-	1,380	3,200	8,330	5,970	2,140	893	490
30	1,380	1,670	1,160	5,430	-	1,340	3,400	8,330	5,610	1,980	936	490
31	1,380	-	1,160	4,570	-	1,300	-	8,540	-	1,920	936	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	24,334	2,670	370	785	1.33	1.53	49,270
November.....	81,470	5,250	1,670	2,716	4.60	5.13	161,600
December.....	39,350	1,670	1,070	1,269	2.16	2.48	78,050
Calendar year 1934.....	1,079,935	13,200	370	2,969	5.01	67.91	2,142,000
January.....	74,380	10,100	660	2,399	4.06	4.68	147,500
February.....	60,530	3,920	1,300	2,162	3.66	3.81	120,100
March.....	44,420	2,080	1,050	1,433	2.42	2.79	88,110
April.....	57,600	3,400	1,080	1,920	3.25	3.63	114,200
May.....	184,180	8,540	3,400	5,941	10.1	11.64	365,300
June.....	210,210	10,100	4,910	7,007	11.9	13.28	416,900
July.....	116,220	5,610	1,920	3,749	6.34	7.31	230,500
August.....	36,198	1,820	825	1,168	1.98	2.28	71,800
September.....	21,477	1,050	490	716	1.21	1.35	42,500
Water year 1934-35.....	950,369	10,100	370	2,604	4.41	59.91	1,885,000

## Wenatchee River at Peshastin, Wash.

Location.— Water-stage recorder, lat.  $47^{\circ}34'50''$ , long.  $120^{\circ}37'$ , in SE $\frac{1}{4}$ SW $\frac{1}{4}$  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 1935.

Extremes.— Maximum discharge during year, 15,400 second-feet June 8 (gage height, 9.88 feet); minimum, 487 second-feet Oct. 20 (gage height, 1.83 feet).  
1929-35: 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 site and datum).

Remarks.— Records excellent except those for period Jan. 16-23, which were estimated because of ice and are good. Several diversions for irrigation above station. Slight regulation at mill pond at Leavenworth, and natural regulation in Wenatchee Lake.

Rating tables, water year 1934-35 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 24

1.5	360	4.4	2,930
2.0	540	5.2	4,080
2.5	840	6.0	5,430
3.0	1,260	7.0	7,450
3.7	2,020		

Table for Jan. 26 to Sept. 30

2.0	540	6.0	5,430
2.5	840	7.0	7,550
3.0	1,250	8.0	10,040
3.7	2,020	9.0	12,800
4.4	2,930	10.0	15,700
5.2	4,080		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	522	3,000	2,270	1,720	5,430	1,840	1,840	4,860	11,700	6,450	2,400	1,040
2	513	3,560	2,200	1,670	5,040	1,730	1,730	4,690	10,600	5,650	2,200	1,010
3	513	3,350	2,080	1,760	4,860	1,780	1,780	4,860	9,780	5,630	2,140	975
4	504	3,070	2,020	1,760	4,530	1,720	1,720	4,660	9,780	5,630	2,080	952
5	495	3,950	1,900	1,720	4,380	1,670	1,670	6,240	11,100	5,630	1,900	938
6	487	7,240	1,840	1,720	4,230	1,670	1,670	7,100	15,100	5,250	1,720	952
7	483	6,630	1,720	1,670	4,080	1,670	1,620	7,320	14,200	5,040	1,620	922
8	479	6,230	1,670	1,620	3,780	1,620	1,620	7,320	15,100	5,040	1,620	878
9	461	5,230	1,560	1,560	3,630	1,560	1,620	7,780	14,000	4,890	1,560	840
10	526	4,530	1,560	1,450	3,420	1,500	1,620	7,650	12,800	4,560	1,560	819
11	560	3,930	1,500	1,450	3,280	1,500	1,720	6,680	12,800	4,530	1,560	784
12	560	3,630	1,620	1,400	3,210	1,720	1,960	6,240	11,400	4,690	1,500	744
13	570	3,420	1,670	1,350	3,070	2,400	2,400	6,240	11,100	5,430	1,500	705
14	550	3,780	1,670	1,290	2,930	3,070	2,720	6,660	11,400	6,450	1,620	724
15	540	5,040	1,620	1,210	2,720	3,000	2,790	7,550	10,600	7,100	1,560	952
16	536	5,040	1,620	1,100	2,600	2,790	3,000	8,260	9,520	7,320	1,400	1,120
17	522	4,530	1,560	1,050	2,530	2,720	3,000	9,020	8,750	6,680	1,250	1,270
18	495	4,230	1,560	1,000	2,460	2,900	3,000	7,550	9,500	6,030	1,350	1,100
19	483	3,930	1,560	900	2,400	2,530	3,070	7,320	8,260	5,430	1,400	960
20	491	3,630	1,760	850	2,440	2,460	3,490	7,780	7,780	4,860	1,240	892
21	517	3,420	2,340	900	2,270	2,440	3,630	9,520	7,550	4,530	1,180	833
22	562	3,210	2,790	1,250	2,270	2,200	3,630	12,000	8,750	4,530	1,140	791
23	592	3,140	2,530	2,400	2,200	2,200	3,580	12,200	8,260	4,690	1,110	750
24	1,060	3,070	2,400	3,780	2,080	2,140	3,420	10,600	7,100	4,690	1,070	724
25	3,680	3,000	2,200	9,120	2,020	2,200	3,490	9,520	6,660	4,530	1,030	699
26	4,080	2,950	2,080	13,400	1,960	2,140	3,780	9,260	6,660	3,700	1,040	675
27	3,140	2,790	1,960	14,200	1,960	2,020	4,080	9,780	7,320	3,280	990	657
28	2,530	2,600	1,900	12,000	1,900	2,020	4,380	10,600	6,020	3,140	968	645
29	2,140	2,460	1,840	9,520	-	2,080	4,530	11,700	8,500	2,930	1,010	634
30	1,960	2,340	1,760	7,550	-	2,020	4,660	12,000	7,650	2,660	1,070	628
31	1,960	-	1,720	6,240	-	1,900	-	12,200	-	2,530	1,070	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	33,661	4,080	479	1,068	66,770
November.....	116,910	7,240	2,340	3,897	231,900
December.....	56,520	2,790	1,500	1,888	116,100
Calendar year 1934.....	1,502,481	18,400	479	4,116	2,980,000
January.....	108,660	14,200	850	3,505	215,500
February.....	87,680	5,430	1,900	3,131	175,900
March.....	64,960	3,070	1,500	2,095	126,800
April.....	83,390	4,860	1,620	2,780	165,400
May.....	264,460	12,200	4,690	8,208	504,700
June.....	298,240	15,100	6,660	9,941	591,600
July.....	153,280	7,320	2,530	4,945	304,000
August.....	44,858	2,400	968	1,447	88,970
September.....	28,613	1,270	628	864	50,800
Water year 1934-35.....	1,350,232	15,100	479	3,644	2,638,000

## Yakima River near Martin, Wash.

Location.- Water-stage recorder, lat. 47°19'10", long. 121°20'10", below dam at outlet of Keechelus Lake, 3½ miles northwest of Martin.

Drainage area.- 55 square miles.

Records available.- October 1903 to September 1935.

Average discharge.- 31 years (1904-35), 333 second-feet.

Extremes.- Maximum discharge during year, 1,230 second-feet Jan. 27 (gage height, 6.01 feet); minimum, 1 second-foot Oct. 1-16, 19-23.

1903-35: Maximum discharge, 7,370 second-feet Mar. 25, 1915, when temporary crib dam was washed out; practically no flow when gates in Keechelus Lake Reservoir Dam are closed.

Remarks.- Records excellent except those for extremely low flow, which are poor. Flow over Keechelus Lake reservoir spillway June 14 to July 4. Records include water diverted over reservoir spillway. Flow partly controlled by storage in Keechelus Lake reservoir (capacity at spillway crest 152,000 acre-feet). Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	2	2	310	1,230	199	4	241	231	612	830	859
2	1	2	2	310	1,230	199	4	241	230	543	859	859
3	1	2	2	310	1,230	199	4	241	229	490	859	859
4	1	2	2	310	1,230	157	4	241	228	460	859	859
5	1	2	2	310	1,230	130	4	241	227	471	859	859
6	1	2	2	310	1,230	130	4	241	226	495	802	859
7	1	2	2	284	867	130	4	241	225	532	774	859
8	1	2	2	269	644	130	4	241	224	558	774	859
9	1	2	2	269	500	130	217	241	223	571	774	859
10	1	2	2	269	397	95	515	241	222	597	774	859
11	1	2	2	269	331	4	515	241	221	624	774	862
12	1	2	2	269	289	4	515	241	220	637	774	865
13	1	2	2	226	269	289	4	515	241	219	637	774
14	1	2	2	479	269	289	4	515	241	222	637	774
15	1	2	2	420	269	289	4	318	241	377	637	774
16	1	2	2	397	269	289	4	199	241	521	637	774
17	2	2	2	353	269	289	4	199	241	560	637	774
18	2	2	2	279	269	289	4	199	241	591	637	774
19	1	2	2	241	269	289	4	199	241	601	637	774
20	1	2	2	241	269	289	4	199	241	567	650	746
21	1	2	2	241	269	289	4	199	241	535	678	718
22	1	2	2	241	269	289	4	199	241	524	691	718
23	1	2	2	241	269	289	4	199	241	523	746	718
24	2	2	2	260	418	236	4	199	240	492	746	718
25	2	2	2	310	848	199	4	199	239	442	746	718
26	2	2	2	310	1,050	199	4	224	238	407	774	718
27	2	2	2	310	1,230	199	4	241	237	399	774	718
28	2	2	2	310	1,230	199	4	241	236	568	802	746
29	2	2	2	310	1,230	-	4	241	235	627	802	802
30	2	2	2	310	1,230	-	4	241	234	653	830	859
31	2	2	2	310	1,230	-	4	-	233	-	830	859

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	2	1	1.3	81	+22,620	22,700	369	6.71	7.74
November.....	2	2	2.0	119	+32,300	32,420	545	9.91	11.06
December.....	479	2	188	11,530	+8,700	20,230	329	5.98	6.89
Calendar year 1934	1,500	1	393	284,600	-22,260	262,400	362	6.58	89.36
January.....	1,230	269	481	29,580	+9,800	39,380	640	11.6	13.37
February.....	1,230	199	522	29,000	-14,480	14,520	261	4.75	4.95
March.....	199	4	51.0	3,140	+11,360	14,500	236	4.29	4.95
April.....	515	4	211	12,540	+5,600	15,040	253	4.60	5.13
May.....	241	233	240	14,750	+29,260	44,010	716	13.0	14.99
June.....	653	219	384	22,680	+18,720	41,600	699	12.7	14.17
July.....	830	460	649	39,900	-25,960	15,940	227	4.13	4.76
August.....	853	718	780	47,940	-43,540	4,400	71.6	1.30	1.50
September.....	868	453	661	39,310	-36,180	4,130	69.4	1.26	1.41
Water year 1934-35	1,230	1	346	250,800	+16,100	266,900	369	6.71	90.92

## Yakima River at Cle Elum, Wash.

Location.— Water-stage recorder, lat. 47°11'20", long. 120°56'40", 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 1935.

Average discharge.— 29 years, 1,998 second-feet.

Extremes.— Maximum discharge during year, 7,160 second-feet Jan. 26 (gage height, 7.48 feet); minimum, 131 second-feet Oct. 19 (gage height, 1.84 feet).  
1906-35: Maximum discharge, about 25,600 second-feet Nov. 14, 1906 (gage height, 12.5 feet, from flood marks); minimum, 64 second-feet Nov. 16, 17, 1929 (gage height, -0.31 foot).

Remarks.— Records good. Kittitas High-line Canal diverts water above gage for irrigation. Records of monthly discharge corrected for diversions and for regulation by storage in Keechelus Lake, Kachess Lake, and Cle Elum Lake reservoirs (combined capacity at gate sills 731,000 acre-feet). Records furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	872	410	588	874	5,440	1,300	824	1,260	4,700	2,610	2,020	2,480
2	879	415	480	842	5,440	1,300	803	1,170	4,590	2,180	2,080	2,410
3	865	460	405	984	5,250	1,300	859	1,170	4,240	2,060	2,140	2,480
4	606	618	522	966	5,250	1,220	1,010	1,400	3,990	2,190	2,080	2,480
5	606	749	490	948	5,250	1,010	1,010	1,540	4,000	2,070	2,140	2,480
6	618	1,200	460	930	4,690	971	1,130	1,740	4,330	2,070	2,140	2,550
7	658	1,500	450	882	4,710	932	1,300	1,690	4,630	1,720	2,080	2,480
8	714	1,300	415	802	3,830	932	1,250	1,690	4,830	1,660	2,080	2,550
9	770	1,030	370	749	2,980	932	1,540	1,690	4,470	1,610	2,210	2,550
10	756	662	350	728	2,510	696	1,690	1,690	4,250	1,660	2,210	2,480
11	794	679	356	721	2,420	603	2,070	2,070	4,050	1,720	2,210	2,480
12	600	651	344	679	2,270	782	2,320	2,260	3,800	1,840	2,210	2,480
13	224	630	328	679	2,140	1,010	2,450	2,450	3,570	1,960	2,210	2,480
14	168	564	500	693	2,000	1,260	2,590	2,870	3,500	2,020	2,280	2,550
15	150	552	696	651	1,930	1,260	2,660	3,310	3,500	2,140	2,280	2,480
16	147	516	735	630	1,920	1,090	2,450	3,800	3,440	2,090	2,280	2,340
17	142	618	749	624	1,850	1,090	2,070	3,800	3,280	2,080	2,340	2,080
18	140	665	700	630	1,840	1,050	2,020	3,720	3,220	2,080	2,410	1,780
19	136	610	685	594	1,830	1,010	2,020	3,800	3,070	2,080	2,340	1,660
20	142	460	854	606	1,620	971	1,960	3,880	3,080	2,080	2,340	1,660
21	144	450	1,200	688	1,610	932	1,740	4,320	2,940	2,140	2,340	1,610
22	136	445	1,610	1,400	1,860	859	1,350	4,880	2,950	2,210	2,340	1,610
23	156	450	1,560	3,370	1,840	852	1,010	5,490	2,950	2,140	2,340	1,550
24	408	460	1,500	4,360	1,770	838	1,050	4,900	2,670	2,140	2,410	1,500
25	1,610	510	1,450	6,010	1,560	838	1,090	4,520	2,400	2,140	2,480	1,450
26	1,960	546	1,300	7,000	1,300	817	1,220	4,170	2,270	2,080	2,410	1,450
27	1,810	570	1,200	6,800	1,300	789	1,260	4,180	2,280	2,080	2,410	1,450
28	874	552	957	6,200	1,500	789	1,220	4,470	2,350	2,020	2,410	1,450
29	686	522	930	5,820	-	859	1,260	4,670	2,560	2,020	2,410	1,350
30	612	534	898	5,440	-	859	1,260	4,750	2,570	2,080	2,480	1,200
31	552	-	860	5,440	-	845	-	4,760	-	2,080	2,480	-

Month	Observed			Run-off in acre-feet	Gain or loss in storage* (acre- feet)	Di- verted by Kit- titas Canal (acre- feet)	Corrected for storage and diversions			
	Discharge in second-feet						Run-off in acre-feet	Discharge in second-feet		Run- off in inches
	Maxi- mum	Mini- mum	Mean					Mean	Per square mile	
October.....	1,960	136	582	35,780	+47,860	10,360	94,000	1,529	3.06	3.53
November.....	1,500	410	648	38,570	+145,000	-	183,600	3,086	6.17	6.88
December.....	1,610	328	772	47,450	+65,840	-	113,300	1,843	3.69	4.26
Calendar year 1934	7,410	136	2,245	1,625,000	85,550	212,000	1,753,000	2,422	4.84	65.78
January.....	7,000	594	2,179	134,000	+96,600	-	230,600	3,750	7.50	8.65
February.....	5,440	1,300	2,797	155,300	+39,990	-	115,300	2,076	4.15	4.32
March.....	1,300	782	961	60,290	+39,490	-	99,780	1,625	3.25	3.75
April.....	2,660	803	1,553	92,400	+27,900	597	120,900	2,032	4.08	4.53
May.....	5,490	1,170	3,165	194,600	+90,550	24,470	309,600	5,035	10.1	11.64
June.....	4,830	2,270	3,483	207,200	+10,980	34,930	253,100	4,253	8.51	9.50
July.....	2,610	1,610	2,030	124,800	-77,770	53,800	100,800	1,639	3.28	3.78
August.....	2,480	2,020	2,277	140,000	-138,600	38,680	40,080	652	1.30	1.50
September.....	2,650	1,200	2,052	122,100	-127,300	34,270	29,070	489	0.97	1.09
Water year 1934-35	7,000	136	1,868	1,352,000	+140,800	197,100	1,690,000	2,335	4.67	63.42

\*Lakes Keechelus, Kachess, and Cle Elum

## Yakima River near Parker, Wash.

**Location.**— Water-stage recorder, lat. 46°29'40", long. 120°26'10", in sec. 28, T. 12 N., R. 19 E., below Sunnyside diversion dam, and 1½ miles east of Parker.

**Drainage area.**— 3,560 square miles.

**Records available.**— April 1908 to September 1921, October 1931 to September 1935.

**Extremes.**— Maximum discharge during year, 19,600 second-feet Jan. 26 (gage height, 9.8 feet); minimum, 3 second-feet Oct. 7 (gage height, 0.66 foot).

1908-21, 1931-34: Maximum discharge, 54,300 second-feet Dec. 23, 1933 (gage height, 15.0 feet, from flood marks); practically no flow on several days during latter part of irrigation season as result of diversions.

**Remarks.**— Records good. Water diverted above gage for irrigation of a large area. Flow partly regulated by diversions and by storage in Keechelus Lake, Kachess Lake, Cle Elum Lake, Bumping Lake, and Tieton Reservoirs. Records for river station 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, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	2,290	2,360	3,300	11,400	3,520	1,360	1,820	8,300	2,070	85	228
2	51	2,430	2,360	3,140	11,000	3,600	1,170	1,360	7,720	1,580	136	142
3	14	2,290	2,290	3,220	10,600	3,600	971	1,110	7,160	1,090	156	150
4	12	2,290	2,290	3,140	10,600	3,520	1,080	1,220	6,490	830	209	181
5	12	2,730	2,360	3,050	10,300	3,150	873	1,940	5,850	899	158	153
6	12	5,640	2,290	2,970	9,920	2,860	665	2,940	6,490	890	97	247
7	9	6,660	2,290	2,970	9,970	2,940	665	3,100	7,440	789	46	243
8	8	6,930	2,290	2,890	8,910	2,780	710	2,700	8,010	380	63	212
9	9	6,000	2,290	2,890	8,010	2,700	574	2,630	7,440	175	345	232
10	28	5,280	2,220	2,560	7,440	2,630	567	2,630	6,620	54	320	198
11	21	4,530	2,160	2,580	6,890	2,490	650	2,560	6,100	64	278	153
12	14	4,040	2,160	2,500	6,620	2,340	1,240	2,490	5,730	108	206	147
13	203	3,750	2,160	2,500	6,360	2,630	2,070	2,560	5,490	192	80	206
14	395	3,680	2,160	2,430	5,850	3,680	3,260	2,780	5,160	273	66	330
15	347	3,640	2,160	2,360	5,610	4,040	3,340	3,430	5,380	305	260	491
16	351	3,940	2,290	2,290	5,270	3,600	3,260	4,320	5,160	243	239	643
17	475	3,660	2,290	2,220	4,940	3,260	2,780	4,730	4,840	123	282	629
18	450	3,570	2,220	2,160	4,730	3,020	2,270	4,420	4,320	19	325	438
19	323	3,480	2,220	1,910	4,620	2,780	1,860	4,220	4,420	28	325	286
20	495	3,050	2,430	1,670	4,220	2,630	2,140	4,320	3,660	72	150	184
21	928	2,810	2,970	1,620	4,220	2,270	2,860	4,730	3,430	101	116	150
22	1,010	2,730	5,060	2,030	4,320	2,140	2,490	6,230	3,180	202	123	147
23	1,050	2,660	5,060	6,470	4,320	2,070	1,760	8,010	3,260	216	67	134
24	1,140	2,660	4,740	11,300	4,220	1,940	935	8,010	2,860	195	78	153
25	2,430	2,600	4,740	15,600	4,040	2,000	953	6,890	2,270	216	232	103
26	6,130	2,500	4,530	19,200	3,860	1,820	1,260	8,010	1,640	150	300	147
27	5,280	2,500	4,130	18,700	3,680	1,580	1,820	8,010	1,470	12	400	216
28	4,130	2,500	3,640	16,500	3,600	1,420	2,000	8,010	1,520	123	300	288
29	3,060	2,430	3,570	14,300	—	1,760	1,940	8,600	2,070	150	209	268
30	2,660	2,360	3,570	13,000	—	1,700	1,700	9,670	2,270	123	206	166
31	2,290	—	3,390	11,800	—	1,420	—	9,230	—	90	216	—

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		*Second-feet	*Run-off in acre-feet
October....	1,078	5	270	3,3	483	1,839	+1,032	2,871
November....	3,524	—	—	—	—	3,524	+3,412	6,936
December....	2,932	—	—	—	—	2,932	+1,150	4,082
Calendar year 1934	3,608	—	—	—	—	5,356	-194	5,164
January....	5,913	—	—	—	—	5,913	+1,660	7,573
February....	6,611	—	—	—	—	6,611	-768	5,865
March....	2,642	—	174	52.2	325	3,193	+692	3,885
April....	1,641	35	1,596	159	1,094	4,525	+618	5,143
May....	4,599	45	2,020	94.5	1,309	8,068	+2,298	10,370
June....	4,865	45	1,725	49.3	1,287	7,951	+548	8,499
July....	377	45	1,611	60.6	1,287	3,681	-1,724	1,957
August....	196	45	1,680	68.7	1,266	3,266	-3,196	60
September....	242	40	1,364	53.2	1,132	2,831	-2,798	33
Water year 1934-35	2,856	—	—	—	—	4,499	+248	4,748
								3,437,000

\*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, lat.  $46^{\circ}15'10''$ , long.  $119^{\circ}28'50''$ , in sec. 19, T. 9 N., R. 27 E., at highway bridge at Kiona,  $\frac{3}{4}$  miles below intake of Kiona Canal and 25 miles above mouth.

Drainage area.— 5,520 square miles.

Records available.— August 1896 to March 1915, February 1933 to September 1935.

Average discharge.— 20 years (1896-1914, 1933-35), 4,630 second-feet.

Extremes.— Maximum discharge during year, 18,100 second-feet Jan. 28 (gage height, 12.16 feet); minimum, 1,070 second-feet Aug. 15 (gage height, 3.34 feet).  
1896-1915, 1933-35: Maximum discharge, 71,100 second-feet Dec. 23, 1933 (gage height, 21.57 feet); minimum, 105 second-feet Sept. 11, 1906 (gage height, 2.35 feet).

Remarks.— Records excellent. Water diverted above gage for irrigation of large acreage. Flow partly regulated by diversions and by storage in Keechelus Lake, Kachess Lake, Cle Elum Lake, Bumping Lake, and Tieton Reservoirs. Records furnished by U. S. Bureau of Reclamation.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

3.4	1,130	5.5	3,880	9.0	10,240
3.7	1,450	6.0	4,690	10.0	12,400
4.0	1,800	6.5	5,530	11.0	14,940
4.5	2,430	7.0	6,420	12.0	17,820
5.0	3,120	8.0	8,280		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,400	3,420	3,540	4,200	13,200	4,680	2,650	3,050	10,700	3,420	1,370	1,560
2	1,330	3,270	3,340	4,200	12,700	4,620	2,430	3,120	10,000	3,270	1,330	1,560
3	1,270	3,420	3,270	4,040	12,200	4,520	2,300	2,840	9,440	2,910	1,360	1,560
4	1,270	3,340	3,200	4,040	11,700	4,360	2,170	2,560	8,560	2,450	1,340	1,500
5	1,230	3,420	3,200	4,200	11,500	4,360	2,170	2,560	8,280	2,170	1,350	1,500
6	1,210	3,880	3,200	4,200	11,300	4,040	1,980	3,270	7,710	2,100	1,360	1,450
7	1,180	6,240	3,120	4,360	11,100	3,880	1,860	4,200	8,280	2,100	1,340	1,450
8	1,190	7,530	3,120	4,200	10,700	3,980	1,740	4,520	8,660	2,100	1,240	1,500
9	1,230	7,520	3,200	4,040	9,840	3,720	1,800	4,200	9,040	1,800	1,200	1,500
10	1,250	6,960	3,120	3,880	9,040	3,570	1,680	4,040	8,560	1,560	1,230	1,560
11	1,250	6,240	3,050	3,640	8,280	3,500	1,560	4,200	8,090	1,560	1,430	1,680
12	1,250	5,530	3,050	3,500	7,900	3,420	1,560	4,200	7,710	1,450	1,370	1,680
13	1,190	5,020	3,050	3,500	7,520	3,270	1,980	4,040	7,330	1,370	1,340	1,620
14	1,230	4,850	3,050	3,420	7,140	3,420	2,840	4,200	7,140	1,360	1,280	1,680
15	1,500	4,690	3,050	3,340	6,780	4,520	3,960	4,360	7,440	1,430	1,140	1,800
16	1,450	4,850	3,050	3,270	6,240	5,020	4,200	4,850	7,140	1,440	1,170	1,980
17	1,560	4,850	3,200	3,120	6,060	4,680	4,200	5,880	6,960	1,450	1,310	2,040
18	1,560	4,690	3,120	3,120	5,880	4,360	3,800	6,240	6,420	1,360	1,340	2,040
19	1,680	4,620	3,120	2,980	5,700	4,200	3,340	6,060	6,060	1,320	1,400	2,100
20	1,560	4,620	3,120	2,630	5,700	4,040	3,050	6,060	6,060	1,230	1,400	1,880
21	1,620	4,200	3,200	2,360	5,360	3,880	3,270	6,060	5,530	1,250	1,410	1,740
22	2,100	3,880	3,800	2,560	5,360	3,570	3,860	6,420	5,020	1,370	1,340	1,680
23	2,170	3,720	5,700	3,270	5,360	3,420	3,720	7,710	4,680	1,410	1,340	1,680
24	2,240	3,640	6,060	7,520	5,360	3,340	3,120	9,240	4,680	1,450	1,350	1,620
25	2,240	3,570	6,530	11,700	6,190	3,270	2,430	9,240	4,200	1,450	1,250	1,620
26	3,270	3,570	5,700	14,200	5,020	3,200	2,300	8,660	3,640	1,450	1,410	1,620
27	6,080	3,570	5,360	16,800	4,850	2,840	2,560	9,240	2,980	1,450	1,430	1,620
28	5,880	3,570	5,020	17,900	4,680	2,700	3,050	9,440	2,840	1,370	1,450	1,620
29	5,020	3,570	4,680	17,100	-	2,500	3,270	9,440	2,770	1,330	1,500	1,680
30	4,200	3,420	4,520	15,700	-	2,770	3,270	10,000	3,120	1,440	1,450	1,740
31	3,720	-	4,360	14,400	-	2,700	-	10,700	-	1,440	1,450	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	65,310	6,060	1,180	2,107	129,500
November.....	135,250	7,520	3,270	4,508	268,300
December.....	116,900	6,060	3,060	3,771	231,900
Calendar year 1934.....	1,784,503	10,900	732	4,889	3,540,000
January.....	197,390	17,900	2,360	6,367	391,500
February.....	221,660	13,200	4,860	7,918	439,700
March.....	116,230	6,080	2,500	3,749	250,500
April.....	82,120	4,200	1,560	2,737	162,900
May.....	180,600	10,700	2,560	5,826	358,200
June.....	199,320	10,700	2,770	6,644	395,300
July.....	55,280	3,420	1,230	1,718	105,600
August.....	41,660	1,500	1,140	1,344	82,630
September.....	50,240	2,100	1,450	1,675	99,650
Water year 1934-35.....	1,459,940	17,900	1,140	4,000	2,896,000

## Kachess River near Easton, Wash.

Location.— Water-stage recorder, lat.  $47^{\circ}15'30''$ , long.  $121^{\circ}11'50''$ , 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.— October 1903 to September 1935.

Average discharge.— 32 years, 290 second-feet.

Extremes.— Maximum discharge during year, 1,540 second-feet Jan. 25 (gage height, 5.92 feet); no flow Oct. 18, 19.

1903-35: 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, which are poor. No diversions. Flow regulated by storage in Kachess Lake Reservoir (capacity at crest of spillway, 221,000 acre-feet). Records furnished by U. S. Bureau of Reclamation.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

0.6	3	1.6	40	3.5	435	5.5	1,350
0.8	7	2.0	73	4.0	640	6.0	1,580
1.0	12	2.5	140	4.5	865		
1.3	23	3.0	256	5.0	1,090		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	444	2	4	9	1,430	201	27	3	865	555	1,280	190
2	432	2	3	9	1,430	201	27	3	865	555	1,280	190
3	412	2	4	10	1,380	201	27	199	865	692	1,280	190
4	404	3	4	11	1,380	165	28	360	730	775	1,280	190
5	404	3	3	12	870	140	28	360	640	865	1,280	190
6	404	6	3	12	1,180	140	26	360	640	633	1,280	190
7	393	5	13	12	1,180	140	26	454	640	443	1,280	190
8	386	4	13	12	617	140	221	514	640	492	1,000	190
9	386	3	13	11	256	140	360	514	640	534	324	190
10	386	3	12	10	256	101	360	514	585	662	324	190
11	396	3	11	9	256	24	360	514	730	775	324	190
12	396	3	10	9	256	28	360	514	662	868	324	190
13	386	2	9	9	256	30	360	514	640	932	324	190
14	386	2	9	9	256	32	360	514	640	955	324	190
15	396	2	9	9	256	29	360	514	640	955	324	190
16	306	2	9	9	256	29	146	514	640	888	324	190
17	2	2	9	9	256	28	10	514	640	865	292	185
18	0	2	10	9	256	28	5	730	640	955	242	188
19	0	2	10	9	256	28	4	865	640	1,040	190	158
20	1	2	15	9	256	28	3	955	640	1,180	190	153
21	1	2	26	14	256	28	3	865	640	1,230	190	140
22	1	2	21	76	256	27	3	865	640	1,280	190	140
23	1	2	16	151	256	26	2	865	640	1,280	190	140
24	3	2	15	524	256	24	2	865	576	1,280	190	140
25	3	3	14	1,280	224	24	3	865	555	1,280	190	140
26	3	3	12	1,480	201	26	3	865	555	1,280	190	140
27	2	3	11	1,480	201	28	3	865	555	1,280	190	140
28	2	4	10	1,480	201	27	3	865	555	1,280	190	140
29	2	4	10	940	-	27	3	865	555	1,230	190	140
30	2	4	10	1,480	-	27	3	865	555	1,280	190	140
31	2	-	9	1,430	-	27	-	865	-	1,280	190	-

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	444	0	204	12,520	+3,140	15,660	255	5.98	4.59
November.....	6	2	2.8	187	+28,650	28,700	432	7.55	8.40
December.....	26	3	10.6	653	+18,460	19,110	311	4.86	6.60
Calendar year 1934	1,470	0	379	274,200	-25,280	248,900	341	5.38	72.91
January.....	1,480	9	340	20,890	+18,070	38,960	634	9.91	11.42
February.....	1,430	201	514	28,540	-14,620	13,920	251	3.92	4.08
March.....	201	24	69.0	4,240	+11,480	15,720	256	4.00	4.61
April.....	380	2	104	6,190	+10,680	16,770	282	4.41	4.92
May.....	855	3	808	37,400	+8,230	45,630	742	11.6	13.37
June.....	385	555	652	36,770	-2,950	35,820	602	9.41	10.60
July.....	1,280	443	957	58,530	-48,730	12,050	196	3.06	3.53
August.....	1,280	190	502	30,850	-29,020	1,830	29.8	.468	.54
September.....	190	140	170	10,120	-7,660	2,460	41.3	.645	.72
Water year 1934-35	1,480	0	344	249,200	-2,540	246,600	341	5.33	72.28

## Cle Elum River near Roslyn, Wash.

Location.- Water-stage recorder, lat. 47°14', long. 121°3'30", 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 1935.

Average discharge.- 32 years, 921 second-feet.

Extremes.- Maximum discharge during year, 3,730 second-feet June 8 (gage height, 9.6 feet); no flow Apr. 24 to May 4.

1903-35: Maximum discharge, 18,700 second-feet Nov. 15, 1906 (gage height, 14.05 feet); practically no flow when gates in dam are closed.

Remarks.- Records good. No diversions above station. Flow partly controlled by storage in Cle Elum Lake Reservoir (capacity, 358,500 acre-feet at crest of spillway). Records furnished by U. S. Bureau of Reclamation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1-12

5.0	246	5.6	478
5.2	317	5.8	568
5.4	394	6.0	666
5.6	478		
5.8			

Table for Oct. 13 to Sept. 30

4.0	0	5.5	435	8.0	2,080
4.2	11	6.0	690	8.5	2,550
4.4	37	6.5	980	9.0	3,070
4.7	122	7.0	1,310	10.0	4,170
5.0	232	7.5	1,675		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	491	21	5	6	1,600	530	255	0	3,290	1,640	555	1,950
2	491	21	5	6	1,600	530	263	0	3,180	1,490	510	1,950
3	465	22	5	6	1,640	530	428	0	2,960	1,380	476	1,950
4	435	22	5	6	1,600	366	525	2	2,760	1,340	485	2,000
6	435	10	5	6	1,640	252	515	5	2,860	1,280	505	2,040
6	448	21	5	6	1,640	252	745	5	3,180	1,210	495	2,040
7	500	19	5	6	1,260	252	890	5	3,510	1,180	485	2,040
8	554	16	5	6	1,010	252	890	5	3,730	1,110	975	2,040
9	592	13	5	6	1,010	252	950	9	3,510	1,080	1,490	2,040
10	592	12	5	6	1,010	252	1,010	164	3,160	1,010	1,520	1,910
11	616	11	5	6	1,010	252	1,010	800	3,070	980	1,520	1,950
12	298	11	5	6	950	252	1,010	1,080	2,660	980	1,520	1,950
13	32	9	5	6	920	252	1,010	1,490	2,650	1,010	1,520	2,000
14	32	8	5	6	860	252	1,010	1,680	2,650	1,080	1,560	2,000
15	32	6	5	6	800	252	1,010	2,000	2,500	1,180	1,600	2,000
16	32	6	5	6	800	252	1,010	2,450	2,360	1,280	1,600	1,950
17	32	6	5	6	800	252	1,010	2,550	2,170	1,310	1,640	1,780
18	32	5	5	6	800	252	1,010	2,450	2,260	1,280	1,680	1,580
19	32	5	5	6	800	252	1,010	2,360	1,910	1,240	1,710	1,490
20	32	5	5	6	800	252	1,010	2,360	1,870	1,140	1,750	1,450
21	34	5	6	6	800	252	1,010	2,650	1,830	1,080	1,790	1,420
22	34	5	6	6	800	252	384	3,180	1,870	1,040	1,790	1,380
23	34	5	6	6	800	252	5	3,400	1,870	980	1,790	1,340
24	35	5	6	7	800	252	2	3,180	1,750	980	1,830	1,280
25	20	5	6	729	652	252	0	2,860	1,640	950	1,870	1,280
26	19	5	6	1,520	530	252	0	2,760	1,600	890	1,870	1,280
27	19	5	6	1,560	530	252	0	2,760	1,600	830	1,910	1,280
28	20	5	6	1,600	530	252	0	2,860	1,680	772	1,950	1,240
29	20	5	6	1,600	-	252	0	3,180	1,710	690	1,950	1,140
30	20	5	6	1,600	-	252	0	3,180	1,710	652	1,950	950
31	21	-	6	1,640	-	252	-	3,290	-	602	1,950	-
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		
		Maxi- mum	Mini- mum	Mean				Mean	Per square mile			
October.....		616	19	208	12,770	+22,100	34,870	567	2.81	3.24		
November.....		22	5	10.1	601	+84,150	84,750	1,424	7.05	7.87		
December.....		6	5	5.4	329	+38,680	39,010	634	3.14	3.62		
Calendar year 1934		3,600	5	1,165	843,100	-36,060	807,800	1,116	5.52	75.02		
January.....		1,640	6	335	20,620	+66,730	89,350	1,453	7.19	8.29		
February.....		1,640	530	1,000	55,520	-10,890	44,630	804	3.98	4.14		
March.....		530	252	283	17,380	+16,650	34,030	553	2.74	3.16		
April.....		1,010	0	599	35,650	+14,820	50,470	848	4.20	4.69		
May.....		3,400	0	1,700	104,600	+53,080	157,700	2,565	12.7	14.64		
June.....		3,730	1,600	2,457	146,200	-4,790	141,400	2,376	11.8	13.17		
July.....		1,640	602	1,086	66,780	-5,030	61,750	1,004	4.97	5.73		
August.....		1,950	476	1,427	87,760	-66,050	21,710	353	1.75	2.02		
September.....		2,040	950	1,689	100,500	-84,440	16,060	270	1.34	1.50		
Water year 1934-35		3,730	0	896	648,700	+127,000	775,700	1,071	5.30	72.07		

## Bumping River near Nile, Wash.

Location.- Water-stage recorder, lat. 46°52', long. 121°18', 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 1935.

Average discharge.- 26 years (1909-35), 298 second-feet.

Extremes.- Maximum discharge during year, 1,630 second-feet June 8 (gage height, 4.60 feet); minimum, 2 second-feet Oct. 1-19.

1906, 1909-35: 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 except those below 100 second-feet, which are fair. No diversions. Flow partly regulated by storage in Bumping Lake Reservoir (capacity at crest of spillway, 33,700 acre-feet). Records furnished by U. S. Bureau of Reclamation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 15

0.70	1.5	1.7	56	3.0	442
.90	4.5	2.0	107	3.5	735
1.1	9	2.5	238	4.0	1,091
1.4	25				

Table for Dec. 16 to Sept. 30

0.7	1.5	1.7	61	3.5	773
.9	4.5	2.0	107	4.0	1,150
1.1	10	2.5	243	4.5	1,550
1.4	30	3.0	465		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	14	442	171	262	414	414	26	1,150	578	130	465
2	2	14	442	171	262	414	414	28	995	520	124	465
3	2	14	418	171	262	414	414	28	995	520	124	465
4	2	14	418	226	262	414	414	30	995	520	111	465
5	2	34	418	226	262	414	414	32	1,230	492	109	465
6	2	44	418	226	262	414	414	35	1,470	440	107	465
7	2	252	418	226	262	414	414	38	1,550	440	103	465
8	2	549	418	226	262	414	414	39	1,550	440	98	465
9	2	639	418	226	414	414	414	40	1,390	390	96	465
10	2	639	394	226	414	414	414	41	1,390	368	93	465
11	2	608	394	226	414	414	414	40	1,310	366	84	465
12	2	549	394	226	414	414	414	39	1,230	366	86	465
13	2	549	394	226	414	414	414	38	1,150	390	88	465
14	2	549	394	226	414	414	390	37	1,230	414	80	465
15	2	578	260	226	414	414	390	39	1,150	440	73	465
16	2	578	179	226	414	414	368	39	995	414	73	465
17	2	522	163	226	414	414	368	40	882	366	74	465
18	2	494	150	226	414	414	344	41	845	344	83	465
19	2	468	155	226	414	414	14	41	882	280	80	465
20	4	442	160	226	414	414	15	39	809	262	77	465
21	5	442	174	226	414	414	17	48	809	243	76	465
22	4	442	171	243	414	414	17	465	845	243	74	465
23	6	442	168	230	414	414	16	995	773	226	71	465
24	13	442	166	230	414	414	18	995	705	209	64	465
25	24	442	166	230	414	414	18	995	640	194	158	465
26	20	442	166	280	414	414	18	995	672	166	300	465
27	16	442	166	280	414	414	19	1,070	705	166	321	440
28	16	442	166	262	414	414	21	1,150	739	163	321	414
29	16	442	168	262	-	414	22	1,230	773	152	321	390
30	14	442	168	262	-	414	24	1,230	705	147	321	366
31	13	-	171	262	-	414	-	1,230	-	135	374	-

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 square miles
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	24	2	6.1	375	+14,270	14,640	238	3.50	4.04
November.....	639	14	399	23,740	+12,490	36,230	609	8.98	10.00
December.....	442	150	281	17,250	-2,830	14,420	235	3.46	3.99
Calendar year 1934	1,380	2	394	285,000	-6,120	278,900	385	5.66	76.97
January.....	280	171	235	14,420	+3,800	18,220	296	4.35	5.02
February.....	414	262	371	20,580	-5,120	15,460	278	4.09	4.26
March.....	414	414	414	26,480	-12,630	12,830	209	3.07	3.54
April.....	414	14	248	14,780	-2,000	12,780	215	3.16	3.53
May.....	1,230	26	359	22,080	+23,480	45,560	741	10.9	12.67
June.....	1,550	640	1,019	60,620	-546	60,070	1,010	14.9	16.32
July.....	578	135	335	20,610	-1,160	19,450	316	4.65	5.36
August.....	374	64	139	8,520	-2,730	5,790	94.2	1.39	1.60
September.....	465	366	457	27,170	-20,680	6,490	109	1.60	1.78
Water year 1934-35	1,380	2	394	285,000	-6,120	278,900	385	5.66	76.97

## Tieton River at Tieton Dam, near Naches, Wash.

Location.— Water-stage recorder, lat. 46°39'30", long. 121°7'20", 900 feet (revised) above Wild Cat Creek, 1,200 feet (revised) below Tieton Dam, and 22 miles southwest of Naches. Datum lowered 2.0 feet Dec. 11, 1934.

Drainage area.— 187 square miles.

Records available.— August 1906 to September 1914 (fragmentary), October 1918 to March 1919, April 1925 to September 1935; September 1908 to December 1913, July 1914 to September 1920, May 1925 to September 1933 in State Water-Supply Bulletin 5.

Average discharge.— 16 years (1908-12, 1918-20, 1925-35), 482 second-feet.

Extremes.— Maximum discharge during year, 1,820 second-feet May 25 (gage height, 5.80 feet); minimum, 6 second-feet Oct. 27, Nov. 12.

1908-14, 1918-20, 1925-35: Maximum discharge, 8,450 second-feet Dec. 22, 1933 (gage height, 9.24 feet); no flow Apr. 4-6, 10, 1930.

Remarks.— Records good. No diversions. Flow regulated by storage in Tieton Reservoir (capacity at spillway crest, 198,000 acre-feet). Records furnished by U. S. Bureau of Reclamation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 6

-0.8	5.5	+0.3	77
-.6	10.5	.6	151
-.4	18.0	1.0	251
-.2	27.6	1.5	406
.0	42	2.0	650

Table for Dec. 7 to Sept. 30

1.2	4	2.5	82	4.5	945
1.4	10	2.6	128	5.0	1,280
1.6	20	3.0	220	5.5	1,620
1.8	34	3.5	387	6.0	1,960
2.0	50	4.0	634		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	418	7	42	579	680	114	114	485	1,040	808	1,510	669
2	377	7	42	579	680	114	114	387	1,010	704	1,210	623
3	385	8	65	448	676	114	114	387	1,010	698	1,210	698
4	385	8	64	477	676	114	114	387	798	754	1,210	692
5	385	8	69	477	634	114	114	387	634	846	1,140	698
6	385	8	122	477	584	114	113	218	634	976	1,110	651
7	385	8	245	435	584	113	113	149	634	878	1,210	596
8	385	8	245	387	584	113	59	151	834	808	1,550	517
9	385	8	245	387	584	113	21	168	640	878	1,380	477
10	385	8	245	387	579	113	19	165	640	943	1,380	477
11	385	7	245	323	579	113	28	164	646	1,080	1,350	477
12	389	6	245	292	468	113	8	204	646	1,080	1,280	517
13	389	7	245	288	391	113	48	204	651	1,110	1,250	527
14	389	7	245	279	391	114	110	204	657	1,080	1,550	487
15	385	7	248	279	387	114	110	204	842	1,010	1,550	477
16	377	7	248	279	387	114	111	204	976	1,010	1,510	477
17	377	7	248	279	391	114	111	204	1,010	1,010	1,280	477
18	350	7	248	279	391	114	111	204	1,010	1,110	1,180	477
19	328	7	248	279	170	114	111	204	1,040	1,210	1,010	477
20	328	7	186	279	113	114	111	207	1,010	1,310	976	477
21	328	7	254	279	113	114	111	215	1,010	1,350	1,010	477
22	328	7	210	455	113	114	147	225	1,080	1,380	1,080	477
23	328	7	280	579	113	114	172	217	1,040	1,380	1,110	477
24	247	20	446	579	114	114	478	217	943	1,380	1,180	477
25	8	42	579	579	114	114	738	983	706	1,380	1,210	492
26	7	41	579	579	114	114	848	1,760	548	1,280	1,210	527
27	6	42	579	579	114	114	848	1,760	590	1,350	1,080	517
28	7	42	508	628	114	114	846	1,760	910	1,380	910	487
29	7	42	579	692	-	114	725	1,760	1,040	1,380	846	477
30	7	42	579	692	-	114	634	1,760	943	1,350	814	477
31	7	-	579	692	-	114	-	1,380	-	1,310	814	-

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
	Maxi- mum	Mini- mum	Mean				Mean	Per square mile	
October.....	418	6	286	17,560	+1,350	18,910	308	1.65	1.90
November.....	42	6	14.6	871	+45,370	46,370	779	4.17	4.65
December.....	579	42	288	17,730	+7,700	25,430	414	2.21	2.55
Calendar year 1934	2,790	6	702	508,400	-50,950	457,300	632	3.38	45.86
January.....	692	279	446	27,410	+1,740	29,150	474	2.53	2.92
February.....	680	113	387	21,490	+5,140	24,630	443	2.37	2.47
March.....	114	113	114	7,000	+13,820	20,820	339	1.81	2.09
April.....	846	8	243	14,480	+10,860	25,310	425	2.27	2.53
May.....	1,760	149	546	35,550	+27,890	60,840	989	5.29	6.10
June.....	1,080	548	832	49,530	+22,170	71,700	1,205	6.44	7.18
July.....	1,380	698	1,103	67,840	-27,020	40,820	664	3.55	4.09
August.....	1,380	814	1,164	71,680	-55,160	16,400	287	1.43	1.65
September.....	698	477	629	31,460	-18,530	12,930	217	1.16	1.29
Water year 1934-35	1,760	6	498	350,500	+32,850	393,300	543	2.90	39.42

Tieton River at headworks of Tieton Canal, near Naches, Wash.

Location.- Water-stage recorder, lat. 46°40'10", long. 121°20", 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 1935.

Average discharge.- 26 years (1907-16, 1918-35), 560 second-feet.

Extremes.- Maximum discharge during year, 1,980 second-feet May 26 (gage height, 4.71 feet); no flow Nov. 25 to Dec. 3.

1907-35: Maximum discharge, 8,910 second-feet Dec. 22, 1933 (gage height, 9.70 feet); no flow at times in 1926, 1929, 1931, 1932, 1934.

Remarks.- Records good. Diversions for irrigation by Tieton Canal included in table of monthly discharge. Flow regulated by Tieton Reservoir, 7 miles above gage. Records furnished by U. S. Bureau of Reclamation.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Dec. 23

1.0	1	2.2	129
1.2	6	2.5	210
1.4	18	3.0	390
1.6	37	3.5	640
1.9	74	4.0	955

Table for Dec. 24 to Sept. 30

1.0	1	2.2	146
1.2	6	2.5	245
1.4	18	3.0	485
1.6	37	3.5	820
1.9	77		

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	440	39	0	688	868	158	149	390	900	534	1,160	410
2	390	40	0	688	876	141	143	277	884	425	998	312
3	390	41	1	485	876	128	143	273	892	420	1,010	405
4	386	40	31	576	860	125	143	285	676	456	955	405
5	386	104	106	582	796	120	138	285	458	546	900	420
6	390	158	125	582	740	120	136	147	452	732	876	405
7	390	129	266	582	740	118	136	34	458	626	989	326
8	390	108	266	485	725	113	87	25	452	512	1,160	285
9	390	87	266	485	718	113	46	40	441	546	1,200	192
10	390	77	266	485	718	113	46	31	441	665	1,200	192
11	390	70	266	425	710	108	64	24	436	836	1,130	192
12	399	68	266	375	594	125	102	37	425	812	998	216
13	399	66	266	375	496	170	125	38	436	828	998	253
14	390	63	259	370	480	173	213	42	441	812	1,160	234
15	399	63	249	365	474	164	189	56	588	740	1,160	199
16	390	59	266	360	468	149	164	56	740	725	1,120	196
17	390	55	262	360	463	146	128	40	772	710	1,050	209
18	350	56	269	355	463	143	113	37	604	820	932	202
19	355	58	276	355	227	141	104	38	836	972	812	199
20	355	53	276	350	164	141	102	45	780	1,090	725	199
21	342	49	404	350	167	138	97	71	748	1,200	748	196
22	320	48	305	613	170	138	118	93	820	1,200	836	196
23	351	48	342	812	167	136	120	77	788	1,200	868	199
24	379	24	586	1,110	156	138	400	75	702	1,200	972	209
25	172	0	740	1,160	155	141	702	790	471	1,200	998	227
26	90	0	725	998	155	136	836	1,910	281	1,090	998	277
27	66	0	718	900	158	133	820	1,860	298	1,120	860	273
28	50	0	570	892	161	141	812	1,860	600	1,200	639	253
29	46	0	702	932	-	152	665	1,910	780	1,200	568	253
30	41	0	702	900	-	155	568	1,910	872	1,200	629	265
31	39	-	702	884	-	155	-	1,400	-	1,120	534	-

Month	Observed				Gain or loss in storage*	Dis- charged by Tieton Canal (acre- feet)	Corrected for storage and diversion			
	Discharge in second-feet			Run-off in acre-feet			Run-off in acre-feet	Discharge in second-feet		Run- off in inches
	Maxi- mum	Mini- mum	Mean					Mean	Per square mile	
October.....	440	39	309	19,010	+1,350	-	20,360	531	1.38	1.59
November.....	158	0	53.4	3,180	+45,500	936	49,620	834	3.48	3.88
December.....	740	0	338	20,780	+7,700	631	28,480	473	1.97	2.27
Calendar year 1934	2,770	0	643	465,200	-50,980	108,000	520,100	718	2.99	40.64
January.....	1,160	350	607	37,340	+1,740	-	39,080	636	2.65	3.06
February.....	878	155	491	27,270	+3,140	-	30,410	548	2.28	2.37
March.....	173	108	138	8,470	+15,620	2,290	24,860	400	1.67	1.92
April.....	836	48	253	15,070	+10,850	5,960	31,870	556	2.23	2.49
May.....	1,910	24	458	28,060	+27,290	17,770	73,120	1,189	4.95	5.71
June.....	900	281	616	36,640	+22,170	17,610	76,420	1,284	5.35	5.97
July.....	1,200	420	862	53,000	-27,020	18,660	44,640	726	3.02	3.48
August.....	1,200	529	938	57,670	-55,160	18,840	21,550	347	1.45	1.67
September.....	420	192	289	15,410	-18,530	17,750	14,630	246	1.02	1.14
Water year 1934-35	1,910	0	445	321,900	+32,880	100,400	455,200	629	2.62	35.55

\*Tieton Reservoir.

## YAKIMA RIVER BASIN

North Fork of Ahtanum Creek near Tampico, Wash.

Location.- Water-stage recorder, lat. 46°33'40", long. 120°55'10", 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 1935.

Extremes.- Maximum discharge during year, 292 second-feet Jan. 24 (gage height, 2.02 feet); minimum, 14 second-feet Oct. 5-9 (gage height, 0.26 foot).  
1907-24, 1931-35: Maximum discharge, 755 second-feet 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 Oct. 5-9, 1934.

Remarks.- Records good. Discharge estimated Apr. 2, 3, 5-8, July 7, 8, 22, 23, Aug. 3-6, 8, 17-19, 21-26, 28-31, Sept. 1-3, on basis of information furnished by engineers of U. S. Indian Service. No diversions of importance. No regulation. Records collected in cooperation with U. S. Indian Service.

Rating table, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

0.24	13.0	0.6	44.0	1.3	141
.27	15.1	.7	54.0	1.4	159
.30	17.5	.8	66.0	1.5	178
.36	22.3	.9	79.0	1.6	198
.42	27.5	1.0	93.0	1.7	219
.48	32.9	1.1	108	1.8	241
.54	38.3	1.2	124	1.9	264

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	50	44	52	126	51	58	170	248	85	34	19
2	16	46	44	51	121	50	57	165	226	80	33	18
3	16	42	42	50	119	49	55	168	217	76	32	18
4	15	41	41	49	118	48	54	184	221	75	31	18
5	15	127	39	46	116	46	54	208	237	71	31	18
6	15	143	40	43	113	48	53	219	252	70	30	19
7	14	148	36	42	108	48	53	211	255	67	29	18
8	14	122	34	39	99	42	52	208	248	63	27	18
9	15	99	29	22	93	42	52	213	223	60	25	17
10	15	85	33	33	89	46	54	206	219	60	25	16
11	15	74	37	44	87	43	60	196	211	59	25	17
12	15	67	39	41	85	47	69	184	196	56	24	16
13	15	65	36	40	80	56	85	180	188	54	23	16
14	15	76	36	40	78	61	100	182	182	52	22	18
15	16	85	34	39	71	61	106	196	163	52	24	18
16	17	72	33	39	67	61	113	202	154	50	24	18
17	17	71	33	39	66	61	110	190	145	47	24	18
18	17	71	32	39	66	59	113	184	141	47	23	17
19	17	70	36	39	64	59	126	186	139	42	22	16
20	17	65	61	39	61	58	141	202	131	41	22	16
21	26	62	108	39	60	54	138	232	127	41	22	16
22	24	62	106	40	59	54	131	266	126	40	22	15
23	30	60	93	102	55	53	122	252	118	39	21	15
24	68	58	83	203	51	52	118	234	111	38	21	15
25	85	55	75	266	50	52	126	228	106	37	21	15
26	74	52	71	230	53	50	145	226	106	35	20	15
27	56	51	65	200	51	48	154	223	104	38	20	16
28	46	52	62	174	52	50	152	228	102	36	20	16
29	41	46	60	157	-	58	155	250	98	35	20	15
30	39	47	56	143	-	56	168	250	90	34	19	15
31	45	-	53	134	-	56	-	258	-	33	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	946	85	14	27.3	0.396	0.46	1,680
November.....	2,168	143	41	72.2	1.05	1.17	4,300
December.....	1,591	108	29	51.3	.743	.66	3,160
Calendar year 1934.....	30,199	420	11	82.7	1.20	15.30	59,900
January.....	2,514	266	22	81.1	1.18	1.36	4,990
February.....	2,256	126	50	80.6	1.17	1.22	4,470
March.....	1,619	61	42	52.2	.757	.87	3,210
April.....	2,974	168	52	99.1	1.44	1.61	5,900
May.....	6,502	266	165	210	3.04	3.50	12,900
June.....	5,083	265	90	169	2.45	2.73	10,080
July.....	1,614	85	33	62.1	.755	.67	3,200
August.....	755	34	19	24.4	.354	.41	1,500
September.....	502	19	15	16.7	.242	.27	996
Water year 1934-35.....	28,422	266	14	77.9	1.13	15.33	56,390

South Fork of Ahtamum Creek at Conrad ranch, near Tampico, Wash.

Location.— Staff gage, lat. 46°30'30", long. 120°54'50", in W $\frac{1}{2}$  sec. 23, T. 12 N., R. 15 E., at Conrad ranch, 2 $\frac{1}{4}$  miles above North Fork and 2  $\frac{3}{4}$  miles southwest of Tampico.

Drainage area.— 26 square miles.

Records available.— March 1915 to September 1924 (fragmentary), March 1931 to September 1935.

Extremes.— Maximum discharge observed during year, 121 second-feet Jan. 25 (gage height, 2.05 feet); minimum, 4.5 second-feet Oct. 11, 12 (gage height, 0.73 foot).  
1915-24, 1931-35: Maximum observed discharge, 424 second-feet Dec. 23, 1933 (gage height, 3.10 feet); minimum, 2.6 second-feet Aug. 23, 25, 1931 (gage height, 0.35 foot).

Remarks.— Records good. Discharge estimated Nov. 11-17 by engineers of U. S. Indian Service. Small irrigation diversions above gage. Records collected in cooperation with U. S. Indian Service.

Rating tables, water year 1934-35 (gage height, in feet, and discharge, in second-feet)

Table for Oct. 1 to Jan. 24

0.7	3.8	1.8	98
.8	6.8	2.0	129
.9	11.1	2.2	162
1.0	16.7	2.4	198
1.2	30	2.6	236
1.4	48	2.8	275
1.6	71	3.0	315

Table for Jan. 25 to Sept. 30

0.7	4.9
.8	7.7
.9	12.0
1.0	17.5
1.2	30
1.6	71
2.0	129

Discharge, in second-feet, water year October 1934 to September 1935

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	11	16	18	46	16	21	44	71	21	11	7.4
2	6.0	11	14	18	44	16	22	42	67	21	11	7.1
3	5.4	11	14	18	42	16	21	42	64	20	11	7.1
4	5.1	14	13	17	40	16	21	46	64	20	10	7.1
5	4.8	26	13	17	40	16	20	50	64	19	10	7.1
6	4.8	27	13	17	38	18	20	55	66	18	10	6.8
7	4.8	26	12	16	36	18	20	55	66	18	10	7.1
8	4.8	27	12	13	33	16	20	56	65	16	10	7.1
9	4.8	27	11	12	30	15	20	57	60	16	10	7.1
10	4.8	24	11	14	29	15	20	57	57	16	10	7.1
11	4.8	24	11	14	29	15	20	55	55	15	9.3	7.1
12	4.8	24	12	16	27	19	22	52	50	15	8.9	7.1
13	4.8	23	11	15	26	22	27	48	48	15	8.9	7.1
14	4.8	22	11	14	25	24	33	48	46	14	8.9	7.1
15	5.1	21	11	13	22	24	36	48	45	14	9.3	7.1
16	6.7	20	12	13	21	25	36	50	41	13	8.5	7.1
17	5.7	20	11	14	20	24	36	50	37	12	8.5	7.1
18	5.7	19	11	14	20	24	36	50	35	12	8.5	7.1
19	5.7	20	11	14	20	24	36	50	33	12	8.5	7.1
20	5.7	19	22	14	20	22	38	52	32	12	8.5	6.8
21	11	19	35	25	20	21	40	58	30	11	8.1	6.8
22	9.6	19	49	81	20	20	38	71	30	11	8.1	6.5
23	12	19	44	81	19	23	36	74	27	11	7.7	6.5
24	22	19	35	96	18	22	34	71	27	12	7.7	6.5
25	25	18	30	121	16	20	35	67	26	12	7.7	6.5
26	20	17	28	106	16	19	38	66	26	12	7.7	6.5
27	15	16	25	92	16	19	42	64	24	13	7.7	6.2
28	14	16	23	76	16	19	41	64	23	12	7.4	6.2
29	12	16	23	63	-	21	40	70	22	12	7.4	6.2
30	11	16	22	56	-	21	43	71	22	11	7.4	6.2
31	11	-	19	43	-	22	-	72	-	11	7.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	266.7	25	4.8	8.80	589
November.....	595	28	11	19.8	1,180
December.....	585	49	11	18.9	1,160
Calendar year 1934.....	9,549.2	275	4.2	25.6	18,560
January.....	1,143	121	12	36.9	2,270
February.....	749	46	16	26.8	1,490
March.....	612	25	15	19.7	1,210
April.....	912	43	20	30.4	1,610
May.....	1,754	74	42	56.6	3,490
June.....	1,821	71	22	44.0	2,820
July.....	447	21	11	14.4	887
August.....	275.1	11	7.4	8.87	546
September.....	205.8	7.4	6.2	6.86	408
Water year 1934-35.....	8,865.6	121	4.8	24.3	17,590



## MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages, measurements of flow were made at other points as shown by the following table:

Miscellaneous discharge measurements in Pacific slope basins in Washington and upper Columbia River Basin during the year ending September 30, 1935.

## Chehalis River Basin

Date	Stream	Tributary to -	Locality	Discharge Sec.-ft.
Jan. 23	Skookumchuck River.	Chehalis River..	Northern Pacific Railway bridge at Buxoda, Wash.	*3,540
25	....do.....	....do.....	....do.....	*1,890
28	....do.....	....do.....	....do.....	*1,070

## Lake Washington Basin

Dec. 18	Rock Creek.....	Cedar River.....	Landberg-Issaquah road culvert near Landsberg, Wash.	48.9
Mar. 5	....do.....	....do.....	....do.....	25.1
Aug. 7	....do.....	....do.....	....do.....	4.3

## Nooksack River Basin

Jan. 29	Nooksack River..	Bellingham and Lummi Bays.	Nugents Bridge, at Cedarville, Wash.....	9,650
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## Kootenai River Basin

Nov. 22	Kootenai River..	Columbia River..	Grohman Narrows, 2 miles below Nelson, British Columbia (station of Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada).	14,100
24	....do.....	....do.....	....do.....	13,770
Dec. 12	....do.....	....do.....	....do.....	11,400
Feb. 14	....do.....	....do.....	....do.....	11,100
Mar. 27	....do.....	....do.....	....do.....	9,900
Apr. 18	....do.....	....do.....	....do.....	10,950
May 8	....do.....	....do.....	....do.....	31,550
25	....do.....	....do.....	....do.....	63,640
28	....do.....	....do.....	....do.....	71,840
31	....do.....	....do.....	....do.....	74,080
June 4	....do.....	....do.....	....do.....	81,230
7	....do.....	....do.....	....do.....	85,700
12	....do.....	....do.....	....do.....	92,060
14	....do.....	....do.....	....do.....	93,420
17	....do.....	....do.....	....do.....	93,660
19	....do.....	....do.....	....do.....	96,040
24	....do.....	....do.....	....do.....	98,850
26	....do.....	....do.....	....do.....	98,890
July 3	....do.....	....do.....	....do.....	78,770
5	....do.....	....do.....	....do.....	75,100
24	....do.....	....do.....	....do.....	59,510
Aug. 20	....do.....	....do.....	....do.....	30,150
Sept. 25	....do.....	....do.....	....do.....	14,440
Nov. 23	....do.....	....do.....	Glada, British Columbia (station of Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada).	16,560
Dec. 12	....do.....	....do.....	....do.....	12,710
Feb. 14	....do.....	....do.....	....do.....	11,680
Mar. 27	....do.....	....do.....	....do.....	10,960
Apr. 18	....do.....	....do.....	....do.....	13,050
May 9	....do.....	....do.....	....do.....	38,280
27	....do.....	....do.....	....do.....	80,600
29	....do.....	....do.....	....do.....	85,170
June 5	....do.....	....do.....	....do.....	96,110
8	....do.....	....do.....	....do.....	101,600
11	....do.....	....do.....	....do.....	105,500
18	....do.....	....do.....	....do.....	112,500
21	....do.....	....do.....	....do.....	105,400
25	....do.....	....do.....	....do.....	101,500
27	....do.....	....do.....	....do.....	95,150
July 2	....do.....	....do.....	....do.....	91,710
24	....do.....	....do.....	....do.....	66,150
Aug. 20	....do.....	....do.....	....do.....	32,530
Sept. 25	....do.....	....do.....	....do.....	15,860
Oct. 1	Slocan River ....	Kootenai River..	Near Crescent Valley, British Columbia (station of Dominion Water Power and Hydrometric Bureau, Department of the Interior, Canada).	994
Nov. 23	....do.....	....do.....	....do.....	1,850
Dec. 13	....do.....	....do.....	....do.....	1,310
Feb. 15	....do.....	....do.....	....do.....	1,140
Mar. 28	....do.....	....do.....	....do.....	984
Apr. 19	....do.....	....do.....	....do.....	1,540
May 8	....do.....	....do.....	....do.....	4,280
27	....do.....	....do.....	....do.....	9,210
June 5	....do.....	....do.....	....do.....	11,540
15	....do.....	....do.....	....do.....	14,030
21	....do.....	....do.....	....do.....	11,660
27	....do.....	....do.....	....do.....	9,430
July 25	....do.....	....do.....	....do.....	6,210
Aug. 21	....do.....	....do.....	....do.....	2,330
Sept. 26	....do.....	....do.....	....do.....	1,260

\*Furnished by State Department of Conservation and Development.

Miscellaneous discharge measurements in Pacific slope basins in Washington and upper Columbia River Basin during the year ending September 30, 1935--Continued.

## Coeur d'Alene River Basin

Date	Stream	Tributary to -	Locality	Discharge
Dec. 4	Coeur d'Alene River.	Coeur d'Alene Lake.	Sec. 8, T. 50 N., R. 4 E., 250 feet above Big Creek, and 3 miles north of Prichard, Idaho.	Sec.-ft. 395
4	.....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.	1,040
4	Big Creek.....	Coeur d'Alene River.	Sec. 8, T. 50 N., R. 4 E., 150 feet above mouth, and 3 miles north of Prichard, Idaho.	76.0
4	North Fork of Coeur d'Alene River.	.....do.....	Sec. 8, T. 49 N., R. 2 E., 150 feet above mouth, and 3 miles north of Enaville, Idaho.	190

## Spokane River Basin

June 10	Spokane River....	Columbia River.	Liberty Bridge near Spokane, Wash.....	†13,900
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## Okanogan River Basin

Oct. 8	Palmer Creek.....	Similkameen River.	Highway crossing near Nighthawk, Wash....	**0
Feb. 2	.....do.....	.....do.....	.....do.....	**352
Mar. 14	.....do.....	.....do.....	.....do.....	**52.9
June 1	.....do.....	.....do.....	.....do.....	**86.3
June 19	.....do.....	.....do.....	.....do.....	**568

## Methow River Basin

Oct. 10	Methow Valley Irrigation District Canal.	Left side of Methow River.	Opposite Methow River gaging station at Twisp, Wash.	44.1
June 15	.....do.....	.....do.....	About 1/2 mile below Methow River gaging station at Twisp, Wash.	69.9
15	.....do.....	Right side of Twisp River.	Road crossing 2 miles above Twisp, Wash.	47.8

† Mean of two simultaneous discharge measurements.

\*\* Flow from Palmer Lake to Similkameen River.

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