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of the UNITED STATES

1941

PART 14

PACIFIC SLOPE BASINS IN OREGON
AND LOWER COLUMBIA RIVER BASIN

Prepared under the direction of

GLENN L. PARKER, Chief Hydraulic Engineer

AND OF G. H. CANFIELD AND F. M. VEATCH, District Engineers

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SURFACE WATER SUPPLY OF PACIFIC SLOPE BASINS IN OREGON AND LOWER COLUMBIA RIVER BASIN,
1941

SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1941. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of the flow of streams and of the stage and contents of lakes and reservoirs have been made at about 9,120 gaging stations in the United States and also at many gaging stations in Alaska and Hawaii. In July 1941, 4,850 gaging stations were being maintained by the Geological Survey and cooperating organizations. Miscellaneous discharge measurements were made at many other points.

In the execution of the work many State and private organizations have cooperated, either by furnishing data or by assisting in collecting data. Cooperation of the first kind is acknowledged in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 11.

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-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose 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 runoff is distributed uniformly both as regards time and area.

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

An "acre-foot" is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. 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. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons and represents a runoff of 0.0372 inch from 1 square mile.

"Stage-discharge relation" is an abbreviation for the term "relation between gage height and discharge."

"Control" is a term used to designate a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural section, a reach of the channel, or an artificial structure.

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 records of stage 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 structures in use at gaging stations are shown on plate 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the daily mean gage height to these rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the "shifting-control method," in which correction factors based on individual discharge measurements are used in applying the gage heights to the rating tables.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources, which necessitates the use of the "slope method" in which the slope or fall in a reach of the stream is a factor in the determination of discharge. Information requisite for determining the slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage, and for them the rate of change of stage is used as a factor in the determination of discharge.

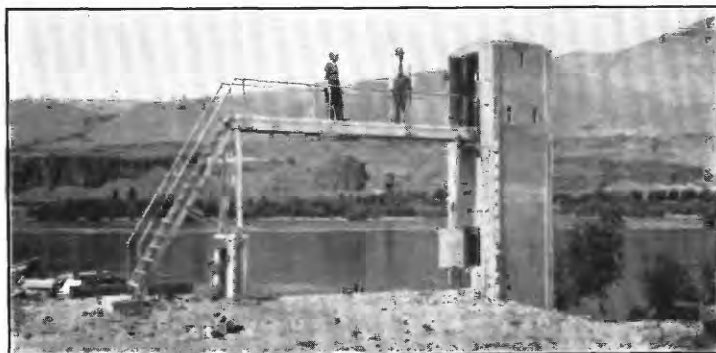
At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, which makes it impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for stations in the same or nearby basins. The days included in the periods of ice effect and the days during the winter period on which discharge measurements were made are indicated in the table by symbols referring to footnotes.

For most of the gaging stations on streams in the area covered by this report the data presented comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and runoff. Skeleton rating tables are published for all stations except those at which the daily discharge for the greater part of the year was determined by the shifting-control method, the slope method, or other special methods.

The description of the station gives the type of gage, its latitude and longitude determined from the best available maps, and information in regard to 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. Under "Extremes" are given 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 (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). Unless otherwise qualified, the maximum discharge corresponds to the crest stage, obtained by use of a water-stage



A. COLUMBIA RIVER NEAR THE DALLES, OREG.
Measuring cable.



B. COLUMBIA RIVER NEAR THE DALLES, OREG.
Gage shelter and stilling well.



C. WILLAMETTE RIVER AT ALBANY, OREG.
GAGING-STATION STRUCTURES.

recorder or a nonrecording gage read at the time of the crest. Likewise the minimum discharge represents the lowest stage, unless otherwise qualified. Selected peak discharges with the times of their occurrence are given below the table of monthly discharge for some stations. This supplementary information is generally omitted for stations having drainage areas of less than 10 square miles or more than 10,000 square miles or if the peak discharges usually exceed the corresponding mean discharges for the day by less than 10 percent.

For stations equipped with nonrecording gages, the table of daily discharge gives the discharge in second-feet corresponding to once-daily readings of the gage or the mean of twice-daily readings. For flashy floods the daily mean discharge is determined from gage-height graphs based on gage readings made once or twice daily or oftener, as stated in the station description. For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the table gives the discharge corresponding to the daily mean gage height. For stations subject to such fluctuation the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day or by using the discharge integrator, an instrument for obtaining the daily mean discharge from a continuous gage-height graph and containing as an essential element a curve representing the stage-discharge relation at the station.

In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the figures given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge and not the momentary discharge when the water surface was at crest stage. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" gives the average flow in cubic feet per second during the month.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For a few of the more important lakes and reservoirs a table showing daily contents is given. A skeleton table of capacity at given stages is usually given in the first report in which data for a station are published but is omitted from succeeding reports.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

Yield at some stations as indicated by monthly means may vary widely from natural yield, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations figures of "second-feet per square mile" and "runoff in inches" are not published unless storage or diversion records are included indicating the extent of the regulation or diversion or unless

satisfactory adjustments can be made for changes in contents of reservoirs or for other changes incident to use and control. Figures of second-feet per square mile and runoff in inches are also omitted if the drainage area includes large noncontributing areas or if the average annual rainfall over the drainage area 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 therefore 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 presents in summary the distribution of the flow past the station. The table of daily discharge affords opportunity for more detailed studies of the variation in flow. As further observations in each succeeding year may be expected to throw new light on data previously published, it should be borne in mind that such data are subject to revision in succeeding water-supply papers.

PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

- Part 1. North Atlantic slope basins (St. John River to York River).
 2. South Atlantic slope and eastern Gulf of Mexico basins (James River to Mississippi River).
 3. Ohio River Basin.
 4. St. Lawrence River Basin.
 5. Hudson Bay and upper Mississippi River Basins.
 6. Missouri River Basin.
 7. Lower Mississippi River Basin.
 8. Western Gulf of Mexico basins.
 9. Colorado River Basin.
 10. The Great Basin.
 11. Pacific slope basins in California.
 12. 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 Geological Survey containing data on the water resources of the United States may be obtained or consulted as explained 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:

East of the Mississippi River:

Albany, N. Y., 526 Federal Building.
 Asheville, N. C., 220 Post Office Building.
 Atlanta, Ga., 5 North Rhodes Center.
 Augusta, Maine, Statehouse.
 Baton Rouge, La., 124 Geology Building, Louisiana State University.
 Boston, Mass., 945 Post Office Building.
 Charleston, W. Va., 408 Union Building.
 Charlottesville, Va., House G, Dawson Row, University of Virginia.
 Chattanooga, Tenn., 442 Post Office Building.
 College Park, Md., Engineering Building, University of Maryland.
 Columbia, S. C., 19 United States Courthouse.
 Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.
 Harrisburg, Pa., 490 Education Building.
 Hartford, Conn., 225 Capitol Building, 410 Asylum Street.
 Indianapolis, Ind., 511 Board of Trade Building.
 Jackson, Miss., 208 Millsaps Building.

Louisville, Ky., 652 Federal Building.
 Madison, Wis., 666 State Office Building.
 Montgomery, Ala., 507 Post Office Building.
 Ocala, Fla., 302 Post Office Building.
 St. Paul, Minn., 808 New Post Office Building.
 Trenton, N. J., 228 Federal Building.
 Urbana, Ill., 14 Post Office Annex, Elm Street.

West of the Mississippi River:

Austin, Tex., 302 West 15th Street.
 Boise, Idaho, 429 Federal Building.
 Denver, Colo., 230 Customhouse.
 Fort Smith, Ark., 6 Post Office Building.
 Helena, Mont., 408 Federal Building.
 Honolulu, Hawaii, 225 Federal Building.
 Idaho Falls, Idaho, 204 Federal Building.
 Iowa City, Iowa, 508 Hydraulic Laboratory, University of Iowa.
 Lincoln, Nebr., 1404 Statehouse.
 Los Angeles, Calif., G-31 United States Post Office and Courthouse.
 Oklahoma City, Okla., 303 Capitol Office Building.
 Portland, Oreg., 606 Post Office Building.
 Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines
 and Metallurgy.
 St. Louis, Mo., 926 New Federal Building.
 Salt Lake City, Utah, 303 Federal Building.
 San Francisco, Calif., 625 Market Street Building.
 Santa Fe, N. Mex., 204 United States Courthouse.
 Tacoma, Wash., 1100 Washington Building.
 Topeka, Kans., 305 Federal Building.
 Tucson, Ariz., 210 Post Office Building.

A list of the Geological Survey publications may be obtained by applying to the Director, 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 Geological Survey

(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information...	1884 to Sept. 1890
12th A, pt. 2	.....do.....	1884 to June 30, 1891.
13th A, pt. 3	.....do.....	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871-93)..	1888 to Dec. 31, 1893.
B 131.....	Descriptions, measurements, gage heights, and ratings.	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11.....	Gage heights (also gage heights for earlier years).	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895-96.
W 16.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River and Missouri River and tributaries.	
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River except Missouri River and tributaries.	1896.
20th A, pt. 4	Monthly discharge (also for many earlier years).	1896.
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 55, 56.....	Descriptions, measurements, gage heights, and ratings.	1901.
W 76.....	Monthly discharge.....	1901.

Note.— Reports containing records for years after 1901 are given in table on page 6.

The table on the following page gives, by years and drainage basins, the numbers of the papers on surface water supply published from 1899 to 1941. The data for any particular station will, in general, be found in the reports covering the years during

Numbers of water-supply papers containing results of stream measurements, 1899-1941

(For basins included see p. 4)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b35, 36	36	36	36	c36, 37	37	37	d37, 38	38, e38	39, f39	39	39	38
1900 g...	47, h48	48, 149	49	49	49	49, 150	50	50	50	51	51	51	51	51
1901 i...	65, 75	65, 75	65, 75	65, 75	65, 75	65, 75	65, 75	65, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902 j...	82, b82, 83	82, b82, 83	83	83	83	83, 84	84	84	84	85	85	85	85	85
1903 k...	97, b97, 98	97, b97, 98	98	98	98	98, 99	99	99	99	100	100	100	100	100
1904 l...	123, 127	123, 127	128	128	128	128, 131	131	131	131	133, 134	134	135	135	135
1905 m...	157, 158	157, 158	159	159	159	159, 160	160	160	160	161	161	161	161	161
1906 n...	183, 185	183, 185	186	186	186	186, 187	187	187	187	188	188	188	188	188
1907 o...	205, 206	205, 206	207	207	207	207, 208	208	208	208	209	209	209	209	209
1908 p...	223, 224	223, 224	225	225	225	225, 226	226	226	226	227	227	227	227	227
1909 q...	262	262	263	263	263	263, 264	264	264	264	265	265	265	265	265
1910 r...	281	282	283	284	285	285	287	288	289	290	291	292	292	292
1911 s...	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912 t...	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913 u...	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914 v...	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915 w...	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916 x...	421	422	423	424	425	426	427	428	429	430	431	432	433	434
1917 y...	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918 z...	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20...	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921...	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922...	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923...	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924...	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925...	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926...	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927...	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928...	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929...	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930...	696	697	698	699	700	701	702	703	704	705	706	707	708	709
1931...	711	712	713	714	715	716	717	718	719	720	721	722	723	724
1932...	726	727	728	729	730	731	732	733	734	735	736	737	738	739
1933...	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1934...	756	757	758	759	760	761	762	763	764	765	766	767	768	769
1935...	771	772	773	774	775	776	777	778	779	780	781	782	783	784
1936...	786	787	788	789	790	791	792	793	794	795	796	797	798	799
1937...	801	802	803	804	805	806	807	808	809	810	811	812	813	814
1938...	821	822	823	824	825	826	827	828	829	830	831	832	833	834
1939...	841	842	843	844	845	846	847	848	849	850	851	852	853	854
1940...	861	862	863	864	865	866	867	868	869	870	871	872	873	874
1941...	881	882	883	884	885	886	887	888	889	890	891	892	893	894
1942...	896	897	898	899	900	901	902	903	904	905	906	907	908	909
1943...	911	912	913	914	915	916	917	918	919	920	921	922	923	924

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

b James River only.

c Gallatin River.

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

e Mojave River only.

f Upper Colorado River 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 Monthly discharge for 1900 in 22d Annual Report, part 4.

i Missalickon and Schuykill Rivers to James River.

j Scioto River.

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

l Tributaries of Mississippi River from east.

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

n Hudson Bay only.

o New England rivers only.

p Hudson River to Delaware River, inclusive.

q Delaware River to Hudson River, inclusive.

r Platte and Kansas Rivers to Colorado River, inclusive.

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

t Below mouth of Gila River.

u Rogue, Umpqua, and Siletz Rivers only.

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

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, the streams and points of measurement listed appearing in the same relative order as the streams and gaging stations in the body of the report. An index of the records obtained prior to 1904 has been published in Water-Supply Paper 119.

Each of the reports on surface water supply for the year 1939, issued as Water-Supply Papers 871 to 884 (see table on p. 6), contains a summary of yearly discharge at gaging stations in the area covered by that report. Gaging stations at which 10 or more complete years of record have been collected are represented. These summaries are available also as separate reprints.

From time to time reports have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which have been revised), as well as some records not contained in the annual series of water-supply papers. The following table gives the numbers and titles of these reports, arranged in alphabetical order by States and drainage basins.

Reports containing compilation of discharge by States and drainage basins		
Water-Supply Paper	Year ending	State or drainage basin and title
STATE		
107	1903	Alabama, Water powers of, with an appendix on stream measurements in Mississippi.
298	1912	California, Water resources of, part 1, Stream measurements in Sacramento River Basin.
299	1912	California, Water resources of, part 2, Stream measurements in San Joaquin River Basin.
300	1912	California, Water resources of, part 3, Stream measurements in the Great Basin and Pacific coast river basins.
447	1918	California, southern, Surface water supply of Pacific slope of.
597-E	1927	California, Surface water supply of Sacramento River Basin.
636-D	1927	California, Surface water supply of San Joaquin River Basin.
636-E	1927	California, southern, Surface water supply of Pacific slope basins in.
637-A	1927	California, Surface water supply of minor San Francisco Bay, northern Pacific, and Great basins in.
74	1900	Colorado, Water resources of.
197	1905	Georgia, Water resources of.
415	1915	Massachusetts, Surface waters of.
230	1906	Nebraska, Surface water supply of.
370	1910	Oregon, Surface water supply of.
850	1937	Texas, Summary of records of surface waters of.
424	1916	Vermont, Surface waters of.
492	1919	Washington, Summary of hydrometric data in.
870	1935	Washington, Summary of records of surface waters of.
469	1921	Wyoming, Surface waters of, and their utilization.
DRAINAGE BASIN		
395	1914	Colorado River (Ariz., Colo., N. Mex., Utah, Wyo.) and its utilization.
617	1927	Colorado River, upper (Colo., Utah), and its utilization.
517	1920	Great Salt Lake Basin, Water, powers of.
618	1925	Green River (Utah, Wyo.) and its utilization.
198	1906	Kennebec River Basin (Maine), Water resources of.
491	1917	Milk River. (See St. Mary and Milk Rivers.)
536	1920	New-Kanawha River Basin (N. C., Va., W. Va.); Surface Water Supply of.
279	1908	Penobscot River Basin (Maine), Water resources of.
1805	1905	Potomac River Basin (D. C., Md., W. Va.)
358	1913	Rio Grande Basin (Colo., N. Mex., Tex.), Water resources of, 1888-1913.
491	1917	St. Mary and Milk Rivers (Mont., Canada), water supply of.
109	1904	Susquehanna River Basin (Pa., Md.), Hydrography of.

Records of discharge have been published also in State reports. Some of these are not contained in the publications of the Geological Survey or are revisions of records previously published in its water-supply papers. The table on following page contains a list of these reports.

State reports containing compilation of records of discharge

State	Year ending	Report	Issued by
Alabama....	1915	Bull. 17, Water powers of Alabama....	Geological Survey of Alabama.
Arkansas....	1928	Stream-gaging Report 1.....	Arkansas Geological Survey.
Connecticut..	1926	Bull. 44, Water resources of Connecticut.	State Geological and Natural History Survey.
Do.....	1933 ^a	5th biennial report.....	Connecticut State Water Commission.
Georgia....	1908	Bull. 16, Water powers of Georgia....	Geological Survey of Georgia.
Do.....	1920 ^b	Bull. 38, Water powers of Georgia....	Do.
Illinois....	1911	Water resources of Illinois.....	Rivers and Lakes Commission.
Do.....	1934	Stream-flow data of Illinois.....	Division of Waterways.
Indiana....	1927	Pub. 72, Surface water supply of Indiana.	Department of Conservation.
Do.....	1930 ^c	Pub. 112, Surface water supply of Indiana.	Do.
Iowa.....	1932	Stream-flow records of Iowa.....	Iowa State Planning Board.
Kansas.....	1919	Surface waters of Kansas.....	Kansas Water Commission.
Do.....	1924 ^d	....do.....	Do.
Do.....	1928 ^e	....do.....	Kansas State Board of Agriculture.
Do.....	1935 ^f	Stream-flow data of Kansas.....	Do.
Do.....	1939 ^g	....do.....	Do.
Kentucky....	1920	Surface waters of Kentucky.....	Kentucky Geological Survey.
Maryland....	1937	Flow data and draft storage curves for major streams in Maryland.	State Planning Commission and Water Resources Commission.
Minnesota...	1912	Water-resources investigation of Minnesota.	State Drainage Commission.
Missouri....	1926	Vol. 20, 2d series, Water resources of Missouri.	Missouri Geological Survey and Water Resources.
Do.....	1939 ^h	Vol. 26, 2d series, Surface waters of Missouri.	Do.
Nebraska....	1914	1st hydrographic report.....	Bureau of Water Power, Irrigation, and Drainage.
Do.....	1928 ⁱ	2d hydrographic report.....	Do.
New Jersey..	1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	1934 ^j	Special Report 5, Surface water supply of New Jersey.	State Water Policy Commission.
New Mexico..	1925	Surface water supply of New Mexico...	Office of the State Engineer.
North Carolina.	1923	Bull. 34, Discharge records of North Carolina streams.	Department of Conservation and Development.
Do.....	1936 ^k	Bull. 39, Discharge records of North Carolina streams.	Do.
North Dakota.	1920	Report to Governor of North Dakota on flood control.	State chief engineer.
Do.....	1927 ^l	Surface water in North Dakota.....	State Planning Board.
Ohio.....	1921 ^m	Bull. 73, Ohio stream flow.....	Engineering Experiment Station, Ohio State University.
Do.....	1939 ⁿ	Bull. 200, Compilation of stream-flow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Oregon.....	1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	1924 ^o	Bull. 7, Water resources of the State of Oregon.	Do.
Do.....	1930 ^p	Bull. 8, Water resources of the State of Oregon.	Do.
Do.....	1936 ^q	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania	1911	Report of the Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	1932 ^r	Stream-flow records of Pennsylvania..	Department of Forests and Waters.
Tennessee...	1924	Bull. 34, Water resources of Tennessee.	Department of Education.
Do.....	1930 ^s	Bull. 40, Surface waters of Tennessee.	Do.
Utah.....	1905	5th biennial report, State Engineer..	Office of the State Engineer.
Do.....	1910	7th biennial report, State Engineer..	Do.
Do.....	1916	10th biennial report, State Engineer..	Do.
Virginia....	1927	Bull. 31, Water resources of Virginia.	Conservation Commission.
Washington..	1933	Bull. 5, Monthly and yearly summaries of hydrometric data.	Department of Conservation and Development.
Wisconsin...	1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do.....	1923 ^t	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

^a Includes records of monthly discharge in second-feet per square mile for years 1912-33.

^b Includes records for years 1907-18.

^c Includes records for years 1927-30.

^d Includes records for years 1919-24.

^e Includes records for years 1924-28.

^f Includes records for years 1928-35.

^g Includes records for years 1935-39.

^h Includes records for years 1927-39.

ⁱ Includes records for years 1914-28.

^j Includes records for years 1928-34.

^k Includes records for years 1899-1936; records of daily and monthly discharge are not included.

^l Includes records for years 1892-1937.

^m Includes all available records prior to 1921.

ⁿ Includes records for years 1902-39.

^o Includes records for years 1914-24.

^p Includes records for years 1924-30.

^q Includes records for years 1930-36.

^r Includes records for years 1928-32.

^s Includes average weekly discharge for years 1920-30.

^t Includes records for years 1914-23.

Note.— In addition to the records contained in the reports listed above, the following States have issued annual or biennial reports in which are contained records of discharge: California, Colorado, Connecticut, Idaho, Indiana, Missouri, Montana, Nebraska, New Mexico, New York (also New York City Board of Water Supply), North Dakota, Oregon, Pennsylvania, Nevada, Washington, and Wyoming.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey. The more recent of these reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier noteworthy floods. The following list gives the numbers and titles of these reports.

Water-Supply
Paper

Title

88	The Passaic flood of 1902.
92	The Passaic flood of 1903.
96	Destructive floods in the United States in 1903.
147	Destructive floods in the United States in 1904.
162	Destructive floods in the United States in 1905.
334	The Ohio Valley flood of March-April 1913.
426	Southern California floods of January 1916.
487	The Arkansas River flood of June 3-5, 1921.
488	The floods in central Texas in September 1921.
520-G	Some floods in the Rocky Mountain region.
636-C	The New England flood of November 1927.
771	Floods in the United States, magnitude and frequency.
773-E	The New York State flood of July 1935.
796-B	Flood on Republican and Kansas Rivers, May and June 1935.
796-C	Flood in La Canada Valley, Calif., January 1, 1934.
796-G	Major Texas floods of 1935.
798	The floods of March 1936, Part 1, New England Rivers.
799	The floods of March 1936, Part 2, Hudson River to Susquehanna River region.
800	The floods of March 1936, Part 3, Potomac, James, and upper Ohio Rivers.
816	Major Texas floods of 1936.
836-A	Stages and flood discharges of the Connecticut River at Hartford, Conn.
838	Floods of Ohio and Mississippi Rivers, January-February 1937.
842	Floods in Canadian and Pecos River Basins of New Mexico, May and June 1937.
843	Floods of December 1937 in northern California.
844	Floods of March 1938 in southern California.
847	Maximum discharges at stream-measurement stations through September 1938.
867	Hurricane floods of September 1938.
869	Flood of August 1935 in Muskingum River Basin, Ohio.

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 daily discharge were collected during the water year October 1940 to September 1941 by agencies other than the Geological Survey. The records for these stations are not contained in the publications of the Geological Survey. Records on many canals, not here listed, have been collected by the Oregon State engineer and the Bureau of Reclamation in connection with the operation of irrigation projects.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
Big Butte Creek, North Fork of.	SW $\frac{1}{4}$ sec. 2, T. 35 S., R. 2 E., 1 mile north of Butte Falls, Oreg.	1928-41	Oregon State engineer.
Big Butte Springs.....	Sec. 17, T. 35 S., R. 3 E., 6 miles east of Butte Falls, Oreg.	1930-41	Do.
Big Marsh Creek.....	NE $\frac{1}{4}$ sec. 20, T. 24 S., R. 7 E., at Hoey Ranch, near Crescent, Oreg.	1924, 1928-41*	Do.
Brown Creek.....	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T. 21 S., R. 8 E., near Lapine, Oreg.	1938-41*	Do.
Butter Creek.....	SE $\frac{1}{4}$ sec. 22, T. 2 N., R. 27 E., at Foley Bridge, 15 miles southwest of Hermiston, Oreg.	1933-41	Do.
Do.....	SE $\frac{1}{4}$ sec. 22, T. 1 N., R. 28 E., 1 mile upstream from Vey Ranch, Oreg.	1921-41	Do.

*Records for some earlier years published in water-supply papers of the Geological Survey.

Records of discharge collected by agencies other than the Geological Survey--Continued

Stream	Location	Period	Collected by
Cable Creek.....	NE $\frac{1}{4}$ sec. 9, T. 5 S., R. 32 E., 6 miles east of Ukiah, Oreg.	1932-41*	Oregon State engineer.
Camas Creek.....	SE $\frac{1}{4}$ sec. 4, T. 5 S., R. 32 E., 200 feet upstream from Cable Creek, near Ukiah, Oreg.	1932-41*	Do.
Charlton Creek.....	Sec. 1, T. 21 S., R. 7 E., near Lapine, Oreg.	1924, 1938-41	Do.
Cultus Creek.....	Sec. 19, T. 20 S., R. 8 E., upstream from Crane Prairie, near Lapine, Oreg.	1938-41*	Do.
Dairy Creek.....	Centerville Bridge, Oreg.....	1940-41	Corps of Engineers, U. S. Army.
Davis Creek.....	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 22 S., R. 8 E., near Lapine, Oreg.	1924, 1938-41	Oregon State engineer.
Deer Creek.....	Sec. 36, T. 20 S., R. 7 E., near Lapine, Oreg.	1938-41*	Do.
Deschutes River.....	NE $\frac{1}{4}$ sec. 14, T. 15 S., R. 12 E., 1,500 feet upstream from dam at Cline Falls, Oreg.	1928-41*	Do.
Do.....	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 21 S., R. 8 E., below Sheep Springs, near Lapine, Oreg.	1938-41	Do.
Evans Creek.....	NE $\frac{1}{4}$ sec. 34, T. 34 S., R. 3 W., at Bybee Springs, near Wimer, Oreg.	1925-27, 1940-41*	Do.
Fish Lake Dam, tunnel at..	SW $\frac{1}{4}$ sec. 3, T. 37 S., R. 4 E., 18 miles east of Lake Creek, Oreg.	1929-41	Do.
Grave Creek.....	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 34 S., R. 4 W., at Fessie Bridge, near Grants Pass, Oreg.	1940-41	Do.
Do.....	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 34 S., R. 5 W., $\frac{1}{4}$ miles west of Placer, Oreg.	1929-30, 1932-41*	Do.
Illinois River, East Fork of.	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 41 S., R. 8 W., 3 miles south of Takilma, Oreg.	1926-32, 1940-41	Do.
Do.....	NW $\frac{1}{4}$ sec. 10, T. 41 S., R. 8 W., below Esterly-Middle Canal, near Takilma, Oreg.	1940-41	Do.
Jumpoff Joe Creek.....	SW $\frac{1}{4}$ sec. 32, T. 34 S., R. 5 W., 7 miles northwest of Merlin, Oreg.	1929-41*	Do.
Little Applegate River....	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 40 S., R. 1 W., below Greeley Creek, 9 miles south of Talent, Oreg.	1940-41	Do.
Little Butte Creek.....	SE $\frac{1}{4}$ sec. 19, T. 56 S., R. 2 E., at Lake Creek, Oreg.	1922-24, 1927-41	Do.
Little Butte Creek, North Fork of.	Sec. 21, T. 36 S., R. 2 E., above Rogue River Valley Canal intake, near Lake Creek, Oreg.	1916-19, 1921-41*	Do.
Little Butte Creek, South Fork of.	NW $\frac{1}{4}$ sec. 21, T. 37 S., R. 4 E., near Lake Creek, Oreg.	1926-41*	Do.
Little Walla Walla River..	George Street, in Milton, Oreg...	1916, 1932-41	Do.
Long Gulch.....	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 41 S., R. 8 W., at Base ranch, 2 $\frac{1}{2}$ miles south of Takilma, Oreg.	1940-41	Do.
Ochoco Creek.....	NE $\frac{1}{4}$ sec. 6, T. 15 S., R. 17 E., below Ochoco Reservoir, 6 miles east of Prineville, Oreg.	1919-41	Do.
Ochoco Reservoir.....	SW $\frac{1}{4}$ sec. 5, T. 15 S., R. 17 E., 6 miles east of Prineville, Oreg.	1918-41	Do.
Ochoco Springs.....	NE $\frac{1}{4}$ sec. 6, T. 15 S., R. 17 E., 6 miles east of Prineville, Oreg.	1920-41	Do.
Rancheria Creek.....	SE $\frac{1}{4}$ sec. 17, T. 35 S., R. 3 E., 10 miles northeast of Lake Creek, Oreg.	1935-41	Do.
Rough and Ready Creek....	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 40 S., R. 9 W., 3 miles west of O'Brien, Oreg.	1940-41	Do.
Salt Creek.....	SE $\frac{1}{4}$ sec. 30, T. 22 S., R. 6 E., at Gold Lake, Oreg.	1939-41	Do.
Sucker Creek.....	SW $\frac{1}{4}$ sec. 30, T. 39 S., R. 6 W., below Grayback Creek, 10 miles southeast of Kerby, Oreg.	1940-41	Do.
Umatilla River, North Fork of.	NW $\frac{1}{4}$ sec. 22, T. 3 N., R. 37 E., 10 miles east of Gibbon, Oreg.	1939-41*	Do.
Wood Creek.....	SE $\frac{1}{4}$ sec. 19, T. 40 S., R. 8 W., 1 mile east of O'Brien, Oreg.	1940-41	Do.

* Records for some earlier years published in water-supply papers of the Geological Survey.

Note.—Records prior to 1936 indicated above as collected by the Oregon State engineer (some in cooperation with Bureau of Reclamation) are contained in bulletins of the State engineer as follows: For 1915-24, in Bulletin 7; for 1925-30, in Bulletin 8; and for 1931-36 (some to December 1936) in Bulletin 9. Records subsequent to 1936 collected by the officer mentioned and all other records here listed have not been published.

The Soil Conservation Service began in 1938 to collect records of run-off from four areas of less than 22 acres each in the vicinity of Newberg, Oreg. These records are available in the files of that organization.

The work in the two States was done under cooperative agreements with the organizations listed below:

Oregon: State engineer, Charles E. Stricklin; Umatilla County Court; and cities of McMinnville and Portland.

Washington: Department of Conservation and Development, John Brooke Fink, director, succeeded by Ed Davis, and Charles J. Bartholet, supervisor of hydraulics; and Columbia and Walla Walla Counties.

Financial assistance was furnished by the Corps of Engineers, U. S. Army, for the operation of 32 gaging stations in Oregon and 4 in Washington.

Financial assistance was also furnished by the Bureau of Reclamation.

Assistance in collecting records was also rendered by the following counties, municipalities, and corporations:

Oregon: Counties of Crook, Deschutes, Jackson, Jefferson, Josephine, Klamath, and Umatilla; city of Eugene; The California Oregon Power Co., Inland Power & Light Co., Pacific Power & Light Co., Portland General Electric Co., and West Coast Power Co.

Washington: Inland Power & Light Co. and Northwestern Electric Co.

DIVISION OF WORK

The stream-gaging work was conducted by the water resources branch of the Geological Survey--Glenn L. Parker, chief hydraulic engineer, Carl G. Paulsen, assistant chief hydraulic engineer, and Rudolph G. Kasel, chief of the division of surface waters. The data for the stations in the two States were collected and prepared for publication under supervision of district engineers as follows: In Oregon, G. H. Canfield, the work being done in collaboration with Charles E. Stricklin, State engineer; in Washington, F. M. Veatch.

The records were reviewed and the manuscript prepared for publication under the direction of B. J. Peterson, engineer in charge, and M. C. Boyer, associate engineer, section of reports.

COLUMBIA RIVER MAIN STEM

Columbia River near The Dalles, Oreg.

Location.- Water-station recorder, lat. 45°39', long. 120°58', in NE¼ sec. 20, T. 2 N., R. 15 E., just upstream from Celilo Falls, 3 miles downstream from Deschutes River, and 11 miles east of The Dalles. Datum of gage is at mean sea level, datum of 1929.

Drainage area.- 237,000 square miles.

Records available.- June 1878 to September 1941. Prior to October 1931, records based on staff gage at The Dalles, supplemented for a few short periods by gage-height records at Umatilla and Cascade Locks. Maximum stages for each year in period 1858 to 1877, from readings of gage at Lower Cascades Landing.

Average discharge.- 63 years, 195,800 second-feet.

Extremes.- Maximum discharge during year, 273,000 second-feet June 10 (elevation, 135.73 feet); minimum observed, 68,700 second-feet Jan. 16, 17 (elevation, 128.6 feet).
1858-1941: Maximum discharge, 1,170,000 second-feet June 6, 1894 (elevation, 106.5 feet on gage at The Dalles, 160.1 feet at present site); minimum observed, 35,000 second-feet Jan. 12, 1937 (elevation, 126.0 feet).

Remarks.- Records excellent except those for December and January, which are good. Storage and diversions for irrigation are only a small part of total run-off. Some regulation by Columbia River Reservoir above Grand Coulee Dam during year, the total increase in contents during the water year ending Sept. 30, 1941, being 5,503,000 acre-feet.

Cooperation.- Recorder inspected and staff gage read twice daily by Corps of Engineers, U. S. Army.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

128.5	66,700	129.5	88,800	131	126,000	133	181,000	135	247,000
129.0	77,300	130	101,000	132	153,000	134	212,000	136	282,000

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100,000	114,000	77,100	95,500	90,500	85,900	121,000	156,000	266,000	189,000	126,000	132,000
2	101,000	116,000	80,000	91,200	87,800	84,600	128,000	165,000	260,000	188,000	128,000	127,000
3	101,000	112,000	92,200	86,600	85,200	90,700	138,000	174,000	266,000	183,000	128,000	124,000
4	100,000	111,000	89,500	83,400	81,800	105,300	149,000	189,000	264,000	180,000	128,000	119,000
5	101,000	112,000	86,900	80,000	81,600	114,000	161,000	204,000	260,000	179,000	128,000	117,000
6	106,000	113,000	84,800	75,100	81,300	117,000	164,000	221,000	257,000	180,000	128,000	118,000
7	106,000	109,000	85,200	75,800	80,600	117,000	163,000	235,000	257,000	179,000	127,000	118,000
8	102,000	107,000	85,700	71,800	78,400	115,000	164,000	242,000	258,000	181,000	127,000	119,000
9	98,500	104,000	84,800	72,300	77,500	114,000	162,000	245,000	261,000	179,000	127,000	119,000
10	96,200	102,000	82,500	71,800	75,000	113,000	158,000	245,000	270,000	174,000	126,000	120,000
11	94,600	101,000	82,000	72,500	80,900	112,000	154,000	247,000	272,000	163,000	126,000	118,000
12	92,600	99,800	81,600	71,200	80,600	109,000	156,000	247,000	267,000	152,000	122,000	118,000
13	91,700	98,500	80,400	69,800	83,000	108,000	158,000	242,000	260,000	141,000	118,000	119,000
14	90,500	96,500	77,700	69,800	87,100	108,000	158,000	243,000	252,000	135,000	116,000	119,000
15	88,100	93,800	76,200	67,000	82,500	106,000	158,000	257,000	248,000	131,000	114,000	119,000
16	86,900	91,400	72,900	68,700	91,000	104,000	157,000	256,000	246,000	127,000	114,000	120,000
17	86,200	89,300	71,400	68,700	87,400	99,500	154,000	259,000	242,000	127,000	118,000	121,000
18	85,700	87,600	71,400	67,000	84,800	96,500	155,000	253,000	238,000	123,000	123,000	124,000
19	85,200	85,000	71,400	74,900	82,500	96,800	151,000	256,000	234,000	118,000	126,000	127,000
20	84,100	83,900	71,000	79,300	81,100	99,800	148,000	262,000	236,000	115,000	127,000	127,000
21	83,200	84,300	71,000	83,400	80,200	105,000	143,000	256,000	242,000	114,000	126,000	129,000
22	81,600	86,400	71,000	85,200	79,300	106,000	139,000	249,000	250,000	112,000	122,000	130,000
23	81,100	86,600	73,100	85,000	78,600	108,000	137,000	245,000	248,000	108,000	118,000	131,000
24	82,000	85,900	77,700	85,200	76,900	110,000	135,000	244,000	242,000	110,000	117,000	130,000
25	85,000	84,600	80,900	86,900	77,700	107,000	133,000	246,000	239,000	110,000	118,000	130,000
26	88,600	83,200	81,600	88,800	80,600	109,000	135,000	250,000	231,000	108,000	118,000	127,000
27	95,300	81,300	82,300	98,100	85,600	107,000	137,000	259,000	218,000	110,000	112,000	125,000
28	92,400	79,300	87,100	92,600	87,400	104,000	140,000	262,000	206,000	114,000	117,000	123,000
29	92,200	77,500	92,400	98,000	-	105,000	144,000	261,000	194,000	116,000	126,000	122,000
30	95,500	76,900	98,500	99,000	-	108,000	148,000	260,000	190,000	119,000	130,000	122,000
31	105,000	-	99,000	94,100	-	114,000	-	256,000	-	123,000	132,000	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				2,876,000	106,000	81,100	92,770	0.391	0.45	5,704,000		
November.....				2,852,800	116,000	76,900	95,090	.401	.45	5,658,000		
December.....				2,529,300	99,000	71,000	81,590	.344	.40	5,017,000		
Calendar year 1940.....				55,098,700	369,000	61,700	150,500	.635	8.65	109,300,000		
January.....				2,503,900	99,000	68,700	80,770	.341	.39	4,966,000		
February.....				2,517,400	92,200	76,900	82,760	.349	.36	4,956,000		
March.....				3,278,800	117,000	84,600	105,800	.446	.51	6,503,000		
April.....				4,448,000	164,000	121,000	148,300	.626	.70	8,822,000		
May.....				7,395,000	266,000	156,000	238,500	1.01	1.16	14,670,000		
June.....				7,363,000	272,000	190,000	246,400	1.04	1.16	14,600,000		
July.....				4,388,000	189,000	108,000	141,600	.597	.69	8,703,000		
August.....				3,813,000	132,000	112,000	123,000	.519	.60	7,663,000		
September.....				3,694,000	132,000	117,000	123,100	.519	.58	7,327,000		
Water year 1940-41.....				47,459,200	272,000	68,700	130,000	.549	7.45	94,130,000		

h Computed from staff-gage reading.

WALLA WALLA RIVER BASIN

South Fork of Walla Walla River near Milton, Oreg.

Location.— Water-stage recorder, lat. 45°50', long. 118°10', in NE¼ sec. 15, T. 4 N., R. 37 E., 1 mile upstream from Pacific Power and Light Co.'s penstock intake and 13 miles southeast of Milton. Altitude of gage, about 2,050 feet (from river-profile map).

Drainage area.— 67-square miles.

Records available.— February to October 1903 (gage heights only), August 1906 to November 1917 (incomplete), May 1931 to September 1940. For records November 1903 to May 1906 (formerly published as available for this station) see those for South Fork of Walla Walla River below Pacific Power & Light Co.'s plant, near Milton, Oreg.

Average discharge.— 17 years, 1908-15, 1931-41, 164 second-feet.

Extremes.— Maximum discharge during year, 432 second-feet Nov. 29 (gage height, 2.08 feet); minimum, 79 second-feet Aug. 15 (gage height, 1.01 feet).

1906-17, 1931-41: Maximum discharge observed, 1,650 second-feet Apr. 14, 1904; minimum discharge, 72 second-feet Feb. 14, 1932.

Maximum stage known, about 6 feet, present site and datum, Mar. 31, 1931.

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

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Feb. 29 to May 5)

Oct. 1 to May 5

May 6 to Sept. 30

0.9	81	1.4	168	1.0	78	1.8	265
1.0	92	1.6	221	1.2	106	2.0	375
1.1	107	1.8	288	1.4	145		
1.2	126	2.0	382	1.6	195		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	98	163	129	125	183	158	173	141	120	84	54
2	91	102	141	120	121	193	168	168	139	117	86	90
3	107	100	141	116	118	188	166	193	132	113	86	103
4	101	95	150	116	114	176	159	188	124	108	86	90
5	91	95	146	114	114	163	156	213	120	104	87	88
6	88	94	139	111	112	160	147	192	132	108	84	87
7	85	106	129	109	112	143	145	184	333	110	84	88
8	86	107	128	107	109	139	147	187	345	102	84	86
9	85	106	123	106	107	1137	152	173	261	98	84	86
10	85	102	116	104	111	1137	1184	166	210	97	83	86
11	86	100	112	104	112	135	a153	161	182	97	86	87
12	86	98	107	104	114	129	a180	161	163	96	87	87
13	86	95	101	104	111	125	a180	182	152	94	84	87
14	88	94	100	107	109	121	a180	163	143	94	84	87
15	88	94	100	106	109	120	f147	152	141	94	82	90
16	88	94	100	104	107	120	145	154	137	94	82	86
17	86	94	101	109	107	123	139	245	134	94	82	86
18	86	96	104	147	106	131	135	285	145	92	81	92
19	86	94	107	186	107	127	133	241	141	91	e1	96
20	86	94	170	154	107	123	129	213	134	86	e3	90
21	89	94	201	143	107	121	131	192	126	88	82	88
22	88	94	204	137	107	125	133	173	120	88	81	87
23	88	94	166	131	107	121	137	163	115	88	e1	86
24	96	95	190	131	112	120	139	154	119	88	81	86
25	94	95	186	163	109	118	141	143	122	87	e3	84
26	91	95	193	196	109	121	141	139	113	86	e6	84
27	95	111	288	178	112	125	145	137	111	91	86	83
28	91	155	215	159	139	133	145	147	120	90	83	82
29	95	356	180	143	-	145	147	141	143	87	82	82
30	100	216	159	135	-	154	155	137	132	86	83	83
31	98	-	141	127	-	154	-	154	-	84	83	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,799	107	85	90.3	1.35	1.55	5,550
November.....	3,364	356	94	112	1.67	1.87	6,670
December.....	4,697	288	100	152	2.27	2.61	9,320
Calendar year 1940.....	56,284	652	80	154	2.30	31.25	111,600
January.....	3,980	196	104	128	1.91	2.21	7,890
February.....	3,134	139	106	112	1.67	1.74	6,220
March.....	4,300	193	119	139	2.07	2.39	8,530
April.....	4,395	160	129	146	2.18	2.44	6,720
May.....	5,474	285	137	177	2.64	3.04	10,860
June.....	4,630	345	111	154	2.30	2.57	9,180
July.....	2,974	120	84	95.9	1.43	1.65	5,900
August.....	2,591	87	81	85.6	1.25	1.44	5,140
September.....	2,617	105	82	87.2	1.30	1.45	5,190
Water year 1940-41.....	44,955	356	81	123	1.84	24.96	89,170

Peak discharge.— Nov. 29 (4 a.m.) 432 sec.-ft.; Dec. 20-21 (11:30 p.m. to 1 p.m.) 382 sec.-ft.; June 7 (7 p.m.) 396 sec.-ft.

a No gage-height record; discharge computed on basis of records for station below Pacific Power & Light Co.'s plant, near Milton.

f Computed on basis of partly estimated gage-height record.

South Fork of Walla Walla River below Pacific Power & Light Co.'s plant, near Milton, Oreg.

Location.- Water-stage recorder, lat. 45°53', long. 118°17', in SE¼NW¼ sec. 26, T. 5 N., R. 36 E., 250 yards downstream from Pacific Power & Light Co.'s power plant, 1½ miles upstream from intake of Milton city power plant, 2 miles upstream from North Fork, and 5.8 miles southeast of Milton. Datum of gage is 1,490.30 feet above mean sea level, datum of 1929 (Pacific Power & Light Co. bench mark).

Records available.- October 1940 to September 1941 in reports of Geological Survey. Records for stations at other sites within a distance of 2 miles downstream having same annual run-off, as follows: November 1903 to May 1906, in reports of Geological Survey; December 1929 to March 1931, July 1931 to September 1936, in reports of State engineer; October 1936 to September 1940, in files of State engineer.

Average discharge.- 11 years (1904-5, 1930-31, 1932-41), 161 second-feet.

Extremes.- Maximum discharge during year, 397 second-feet June 7 (gage height, 2.47 feet); minimum, 65 second-feet (regulated) Aug. 9; minimum daily, 79 second-feet Aug. 3, 9, 10, 14-19.
1903-6, 1929-41: Maximum discharge not determined, probably occurred during floods of May 30-31, 1906, or Mar. 31, 1931; maximum daily discharge, 3,000 second-feet (estimated by Oregon State engineer) Mar. 31, 1931; minimum, 1 second-foot (regulated), June 23, 1940; minimum daily, 64 second-feet Oct. 14, 1930.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Small diversions above station for irrigation; diversion for power is returned to river 100 yards upstream. Some diurnal fluctuation caused by power plant above station.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	e2	97	218	a145	a135	a200	157	170	146	133	80	82
2	84	100	a165	a133	a130	a210	166	168	144	129	81	e8
3	95	101	a165	a125	a125	199	168	191	136	125	79	97
4	105	98	176	a125	a123	187	163	189	133	122	82	e6
5	95	94	a166	a125	122	181	159	230	129	114	82	86
6	90	a97	a158	a120	a120	a165	152	216	137	112	61	85
7	96	a106	143	a118	a120	a158	148	203	348	117	80	86
8	a4	a110	a138	116	a115	a150	150	211	358	107	80	84
9	84	a110	a133	112	a115	a150	157	199	269	105	79	84
10	83	106	131	110	a120	a150	163	189	244	95	79	84
11	82	a103	126	110	a123	a147	161	187	206	95	80	86
12	82	a101	119	110	a123	147	157	185	179	93	81	88
13	83	a100	112	107	a120	145	157	201	169	90	81	86
14	83	a97	112	116	a120	140	157	189	158	88	79	86
15	84	95	110	a110	a116	138	157	179	153	88	79	88
16	84	95	110	a110	a114	a135	154	179	144	86	79	84
17	83	95	104	121	a113	140	150	264	146	85	79	84
18	83	97	107	a160	a113	a145	147	279	160	84	a79	90
19	83	97	110	a180	a114	133	142	257	154	82	79	90
20	83	97	a200	a170	a114	131	142	227	148	82	80	89
21	88	97	a300	a155	a114	128	136	206	141	82	80	a89
22	a84	98	a230	a148	114	130	140	165	134	81	80	a89
23	a84	98	a200	a130	113	128	142	172	128	82	81	89
24	a90	98	a205	a130	a117	124	142	161	129	82	a81	89
25	a88	100	a200	a180	116	124	143	151	134	82	a81	89
26	a96	101	215	a260	118	126	143	142	123	81	61	a88
27	a90	112	a250	a190	a125	130	147	139	120	84	82	a87
28	a88	187	a225	172	a150	136	148	149	128	84	81	a85
29	a90	310	a195	a160	-	147	150	146	149	80	81	a85
30	a95	287	a175	a148	-	154	157	139	139	81	81	86
31	a101	-	a160	a140	-	154	-	154	-	81	81	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,705	108	82	87.3	5,370		
November.....						3,486	310	94	116	6,910		
December.....						5,166	300	104	167	10,250		
Calendar year 1940.....						57,783	667	72	158	114,600		
January.....						4,336	260	107	140	6,600		
February.....						3,562	150	113	120	6,670		
March.....						4,632	210	124	149	9,190		
April.....						4,557	168	138	152	9,040		
May.....						5,859	279	139	189	11,620		
June.....						5,005	358	120	167	9,930		
July.....						2,935	133	80	94.7	5,820		
August.....						2,489	82	79	80.3	4,940		
September.....						2,609	97	62	97.0	5,170		
Water year 1940-41.....						47,142	358	79	129	93,510		

Peak discharge.- Nov. 30 (3 a.m.) 359 sec.-ft.; Apr. 5 (12 m.) 246 sec.-ft.; May 17 (5 p.m.) 359 sec.-ft.; June 7 (7 p.m.) 397 sec.-ft.
a No gage-height record; discharge computed on basis of records for station upstream, near Milton.

Walla Walla River below Freewater, Oreg.

Location.- Water-stage recorder, lat. 45°59', long. 118°23', in NW¼NE¼ sec. 25, T. 6 N., R. 35 E., at McCoy Bridge, 2 miles upstream from Birch Creek and Oregon-Washington line, and 2.5 miles north of Freewater. Datum of gage is 845.28 feet above mean sea level, datum of 1929. Prior to May 17, 1941, staff gage at same site and datum.

Records available.- April to September 1941.

Extremes.- Maximum discharge during period April to September, 610 second-feet June 7 (gage height, 4.10 feet); no flow at times.

Remarks.- Records fair except those below 25 second-feet, which are poor. Many diversions above station for irrigation; Little Walla Walla River, a natural distributary, diverts 3 miles upstream. No regulation.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							a50	0	3.5	1.0		
2							a50	0	1.0	1.0		
3							51	0	1.0	.5		
4							49	0	1.0	5		
5							45	17	.5	0		
6							40	32	6.0	0		
7							36	21	467	0		
8							34	29	490	0		
9							12	23	314	0		
10							21	6.0	194	0		
11							49	a1.0	125	0		
12							47	a.5	71	0		
13							34	15	36	0		
14							31	12	15	0		
15							34	1.0	5.5	0		
16							22	0	3.5	0		
17							14	76	17	0		
18							2.5	249	65	0		
19							.5	213	59	0		
20							0	152	40	0		
21							0	95	20	0		
22							0	62	14	0		
23							0	33	6.0	0		
24							0	11	2.0	0		
25							0	1.0	1.5	0		
26							0	.5	1.0	0		
27							0	.5	1.0	0		
28							0	.5	1.0	0		
29							0	2.0	1.5	0		
30							0	1.0	2.0	0		
31							-	3.0	-	0		
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April.....							622.0	51	0	20.7	1,230	
May.....							1,057.0	249	0	34.1	2,100	
June.....							1,965.0	490	.5	65.5	3,900	
July.....							3.0	1.0	0	.10	6.0	
August.....							0	0	0	0	0	
September.....							0	0	0	0	0	
The period.....							-	-	-	-	7,240	

a No gage-height record; discharge estimated by approximate extrapolation or on basis of statements of gage observer.

North Fork of Walla Walla River near Milton, Oreg.

Location.- Water-stage recorder, lat. 45°54', long. 118°18', in NW¼NE¼ sec. 22, T. 5 N., R. 36 E., at bridge half a mile upstream from confluence with South Fork of Walla Walla River and 4.5 miles southeast of Milton. Datum of gage is 1,405.89 feet above mean sea level, datum of 1929. Prior to May 17, 1941, at site 100 yards downstream, at different datum.

Records available.- October 1940 to September 1941 in reports of Geological Survey; December 1929 to September 1936 in reports of State engineer; October 1936 to September 1940 (unpublished) in files of State engineer.

Average discharge.- 11 years (1930-41), 39.5 second-feet.

Extremes.- Maximum discharge during year, 500 second-feet June 7 (gage height, 4.16 feet), from rating curve extended above 150 second-feet; minimum, 2.6 second-feet Aug. 10-12 (gage height, 2.20 feet).

1929-41: Maximum daily discharge observed, 970 second-feet Feb. 28, 1940, probably exceeded by flood of Mar. 31, 1931, when gage was washed out; minimum, 1 second-foot Aug. 8-19, 1936, Aug. 7-11, 1940.

Remarks.- Records fair except those for period May 17 to July 12, which are poor. Diversions above station for irrigation; no regulation.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	11	74	35	31	33	23	16	30	38	3.2	7.4
2	6.0	12	51	29	31	38	24	17	29	a36	3.4	9.8
3	7.4	12	42	27	27	40	28	22	27	a35	3.6	14
4	12	12	46	26	26	36	29	25	26	a33	3.7	13
5	11	12	41	24	24	35	30	35	24	31	3.6	10
6	8.6	12	36	22	24	32	27	42	30	27	3.3	9.5
7	7.4	12	33	21	24	31	26	37	292	36	3.2	8.8
8	6.8	14	29	19	24	29	25	45	288	26	5.0	9.1
9	6.6	16	27	18	23	23	45	166	18	2.9	7.8	
10	6.2	17	23	18	23	27	27	43	120	14	2.6	7.8
11	6.2	16	20	18	24	26	31	40	102	11	2.6	7.8
12	6.2	15	17	17	27	25	33	40	85	11	2.7	8.1
13	6.4	14	14	17	25	23	33	47	69	5.4	2.7	8.1
14	6.2	15	15	16	25	21	32	52	61	7.1	2.6	8.1
15	6.0	12	12	20	24	21	31	47	55	5.0	2.7	8.8
16	6.0	12	12	19	24	20	30	42	51	4.0	3.0	8.8
17	5.8	12	12	23	23	20	28	73	44	5.0	3.3	7.8
18	5.4	13	12	33	23	22	27	110	55	4.7	3.2	9.5
19	5.4	13	12	50	21	21	24	101	a52	4.7	3.3	12
20	5.4	13	14	54	21	20	23	80	a49	4.7	3.4	11
21	7.0	14	24	52	21	19	20	66	a45	4.2	3.3	10
22	6.6	14	23	47	20	19	18	54	a42	4.0	3.3	9.8
23	6.2	14	25	41	20	20	17	43	39	4.0	3.4	9.1
24	6.8	17	30	40	21	19	16	37	35	4.0	3.8	8.8
25	8.6	24	35	45	21	19	16	34	37	4.0	3.6	8.1
26	9.0	26	40	73	21	18	16	30	33	4.0	4.5	7.8
27	10	36	62	66	21	16	16	29	31	4.0	5.7	8.1
28	11	92	66	57	24	20	14	29	33	4.0	6.2	8.1
29	11	214	67	48	-	20	14	30	41	3.7	5.7	7.4
30	11	130	52	41	-	22	14	26	39	3.6	5.4	7.8
31	11	-	42	36	-	23	-	34	-	3.3	5.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	254.6	12	5.4	7.57	466
November.....	844	214	11	28.1	1,670
December.....	1,046	86	12	33.7	2,070
Calendar year 1940.....	16,706.8	599	1	45.6	33,130
January.....	1,055	73	17	34.0	2,090
February.....	663	31	20	25.7	1,520
March.....	765	40	18	24.7	1,520
April.....	716	33	14	23.9	1,420
May.....	1,369	110	16	44.2	2,720
June.....	2,030	292	24	67.7	4,030
July.....	599.4	38	3.3	12.9	792
August.....	112.1	6.2	2.6	3.62	222
September.....	272.2	14	7.4	9.07	540
Water year 1940-41.....	9,506.8	292	2.6	26.0	18,860

Peak discharge.- Nov. 29 (9 a.m. to 12 m.) 269 sec.-ft.; June 7 (5 p.m.) 500 sec.-ft.
 a No gage-height record; discharge computed on basis of records for South Fork of Walla Walla River near Milton.

WALLA WALLA RIVER BASIN

17

Mill Creek near Walla Walla, Wash.

Location.- Water-stage recorder, lat. 46°00', long. 118°07', in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 6 N., R. 37 E., 4 miles downstream from city of Walla Walla diversion dam, 4 $\frac{1}{2}$ miles upstream from Blue Creek and 11 $\frac{1}{2}$ miles southeast of Walla Walla. Datum of gage is 2,000 feet above mean sea level, unadjusted.

Records available.- August 1913 to September 1917, April to September 1938, October 1939 to September 1941.

Extremes.- Maximum discharge during year, 542 second-feet Nov. 29 (gage height, 15.80 feet); minimum, 23 second-feet Aug. 1 (gage height, 14.08 feet).
1913-17, 1938, 1939-41: Maximum discharge observed, 1,120 second-feet May 13, 1917 (gage height, 4.09 feet, site and datum then in use); minimum observed, 16 second-feet Oct. 11-15, 1939.

Remarks.- Records excellent except those for periods of shifting control, which are good. City of Walla Walla diverts about 22 second-feet 4 miles above the gage for municipal supply.

Rating table, water year 1940-41, except periods of shifting control (gage height, in feet, and discharge, in second-feet)

14.1	24	14.7	110	15.3	288
14.3	44	14.9	158	15.5	378
14.5	72	15.1	216	15.7	483

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	39	108	71	66	56	44	48	56	60	32	27
2	32	43	83	60	61	60	48	45	53	54	28	30
3	43	39	72	54	58	60	49	56	50	54	27	35
4	38	37	72	53	54	58	53	54	48	54	28	30
5	28	37	69	50	53	58	53	90	46	49	28	29
6	26	35	64	49	52	54	50	88	53	51	26	28
7	25	43	60	48	50	52	48	81	213	54	26	30
8	25	49	60	44	49	50	46	88	254	45	26	27
9	24	53	60	44	49	49	48	85	179	42	26	27
10	24	49	57	44	50	48	50	79	133	38	26	27
11	24	44	53	44	52	46	56	72	104	36	26	28
12	24	40	49	44	54	44	56	69	87	35	27	31
13	25	37	45	44	53	43	54	78	74	35	26	31
14	25	36	43	45	45	40	53	72	64	31	26	33
15	25	35	40	49	52	40	60	66	61	31	26	34
16	25	35	39	49	50	39	52	66	57	31	26	30
17	25	35	39	57	48	42	49	159	64	30	25	28
18	24	36	40	146	48	44	46	236	78	30	25	33
19	24	34	42	182	46	42	44	176	78	28	26	31
20	24	35	75	147	45	39	43	138	74	27	26	30
21	28	35	150	119	44	38	39	110	68	27	26	29
22	26	33	119	102	43	40	39	90	61	27	25	28
23	26	32	113	87	43	42	39	78	54	26	25	27
24	32	34	119	87	44	39	39	68	53	26	26	26
25	32	35	126	106	43	39	39	60	53	26	26	26
26	28	36	135	155	42	38	39	57	48	26	26	26
27	33	48	254	138	42	39	39	56	46	31	28	25
28	30	112	188	113	46	39	39	58	50	31	26	25
29	36	387	133	94	-	42	39	53	68	26	26	25
30	40	168	104	83	-	44	42	50	64	26	26	25
31	40	-	85	72	-	44	-	61	-	26	26	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	692	43	24	28.5	1,770
November.....	1,711	387	32	57.0	3,390
December.....	2,696	254	39	87.0	5,350
Calendar year 1940.....	28,795	596	24	78.7	57,180
January.....	2,483	182	44	80.1	4,920
February.....	1,392	66	42	49.7	2,760
March.....	1,408	60	38	45.4	2,790
April.....	1,395	60	39	46.5	2,770
May.....	2,587	236	45	53.5	5,130
June.....	2,391	254	46	79.7	4,740
July.....	1,111	60	26	35.8	2,200
August.....	816	32	25	26.3	1,620
September.....	661	36	25	28.7	1,710
Water year 1940-41.....	19,743	387	24	54.1	39,160

Note.- Shifting-control method used Oct. 3 (12 m.) to Nov. 28, Sept. 18 (6 a.m.)-30.

Mill Creek at Walla Walla, Wash.

Location.- Water-stage recorder, lat. $46^{\circ}04'40''$, long. $118^{\circ}17'00''$, in NE $\frac{1}{4}$ sec. 22, T. 7 N., R. 36 E., at bridge, 0.9 mile downstream from Yellowhawk Creek diversion and 1.0 mile east of Walla Walla. Prior to June 11, 1941, staff gage at same site but at datum 0.60 foot higher. Gage readings from staff gage have been reduced to present datum.

Drainage area.- 87 square miles.

Records available.- April to September 1941.

Extremes.- Maximum discharge during period, 362 second-feet June 8 (gage height, 2.32 feet, from graph based on gage readings); minimum, 1.0 second-foot (regulated) June 14 (gage height, 1.00 foot).

Remarks.- Records fair except those below 3.0 second-feet, which are poor. Staff gage read once or twice daily Apr. 11 to June 10. Some regulation at Yellowhawk Creek diversion, 0.9 mile upstream. Yellowhawk Creek diverts water to reduce flood peaks in city of Walla Walla and for irrigation during irrigation seasons. City of Walla Walla diverts water for municipal supply. Other small diversions above station for irrigation.

Rating table, period April to September 1941 (gage height, in feet, and discharge, in second-feet)

1.1	3.0	1.5	29	2.1	175
1.2	5.0	1.6	42	2.3	335
1.3	10	1.7	56		
1.4	15	1.9	100		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	7.0	9.0	10	3.4	3.8
2							-	6.0	7.0	9.0	3.6	4.4
3							-	8.5	7.5	9.0	3.8	6.6
4							-	15	7.5	17	4.2	12
5							-	21	7.0	9.0	5.5	12
6							-	42	7.5	8.0	5.5	11
7							-	50	139	14	4.0	12
8							-	43	259	7.0	3.8	12
9							-	34	162	7.0	2.6	11
10							-	20	106	6.5	2.4	11
11							16	20	49	4.8	2.6	11
12							16	22	46	4.8	3.8	11
13							16	15	16	4.4	2.6	12
14							14	39	5.7	4.6	2.6	12
15							8.5	26	16	4.4	2.6	12
16							7.0	18	16	4.4	2.2	11
17							7.0	66	16	4.0	2.2	12
18							7.0	278	28	4.0	2.0	14
19							6.5	194	20	4.0	2.0	15
20							6.0	162	8.5	4.2	2.2	14
21							6.0	118	9.0	4.6	2.6	13
22							4.8	106	9.0	4.2	3.2	12
23							4.8	88	9.5	4.4	3.0	12
24							5.5	46	9.5	4.4	3.0	10
25							5.5	16	10	3.8	3.0	4.6
26							6.0	12	8.5	3.4	3.2	3.6
27							6.5	10	8.5	2.2	3.4	3.0
28							7.0	10	6.5	4.8	3.2	2.8
29							8.0	12	12	3.8	3.4	2.8
30							7.5	9.5	11	3.4	3.6	3.4
31							-	9.5	-	3.0	3.6	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April 11-30						165.6	16	4.8	8.28	328		
May.....						1,521.5	278	6.0	49.1	3,020		
June.....						1,031.2	259	7.0	34.4	2,050		
July.....						181.2	17	2.2	5.87	361		
August.....						98.8	5.5	2.0	3.19	196		
September.....						287.0	15	2.8	9.57	569		
The period.....						-	-	-	-	6,520		

Blue Creek near Walla Walla, Wash.

Location.- Water-stage recorder, lat. 46°03'40", long. 118°07'50", in SE¼NW¼ sec. 25, T. 7 N., R. 37 E., 1 mile upstream from mouth and 10 miles east of Walla Walla. Datum of gage is at mean sea level, unadjusted.

Drainage area.- 17.0 square miles.

Records available.- October 1939 to September 1941.

Extremes.- Maximum discharge during year, 180 second-feet June 7 (elevation, 1,742.3 feet); minimum, 0.8 second-foot Oct. 15, Aug. 22, 23.

1939-41: Maximum discharge, 226 second-feet Feb. 28, 1940; maximum elevation, that of June 7, 1941; minimum discharge observed, 0.1 second-foot Oct. 14, 1939, but may have been less during period of no gage-height record, Oct. 1-11, 1939.

Remarks.- Records fair October to February, good March to September. No diversion or regulation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 3 to Nov. 28)

Oct. 1 to Jan 18, June 8 to Sept. 30

Jan. 19 to June 7

1,740.2	1.0	1,740.9	25	1,740.4	2.5	1,741.1	36
1,740.3	2.0	1,741.1	41	1,740.5	4.2	1,741.3	54
1,740.4	3.3	1,741.3	62	1,740.7	11	1,741.5	76
1,740.5	5.1	1,741.5	88	1,740.9	21	1,742.0	139
1,740.7	13	1,741.7	119				

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	4.1	28	20	14	8.6	4.4	3.1	8.6	16	1.1	1.1
2	2.2	5.6	21	16	12	9.8	4.6	3.1	8.2	13	1.0	1.1
3	2.4	4.9	18	14	11	10	4.6	4.2	7.5	12	1.1	1.4
4	a2.2	4.1	15	12	9.8	9.8	4.9	3.8	6.8	11	1.3	1.6
5	a2.0	3.9	14	12	9.0	9.8	4.9	8.4	6.2	9.3	1.4	1.5
6	1.9	3.6	12	11	8.6	9.0	4.6	8.6	10	10	1.3	1.6
7	1.6	4.6	11	10	8.2	8.6	4.6	7.9	133	5.4	1.1	1.6
8	1.4	7.3	12	9.3	7.5	7.9	4.4	9.0	110	5.1	1.0	1.5
9	1.1	12	10	8.8	7.5	7.5	5.1	9.0	57	4.9	1.0	1.5
10	.9	11	8.8	8.4	7.5	7.2	6.5	7.9	35	4.7	.9	1.5
11	1.0	6.8	8.0	8.0	8.2	6.5	8.2	7.2	28	4.5	.9	1.6
12	.9	5.9	6.8	7.6	9.4	6.2	9.0	6.2	20	3.9	1.0	1.9
13	.9	5.1	16	7.6	9.8	5.6	9.0	7.2	15	3.0	1.1	2.1
14	.9	4.7	23	8.4	9.8	5.4	8.6	6.4	13	2.8	1.0	2.2
15	.8	4.3	5.4	8.4	9.8	4.9	7.5	6.8	11	2.7	.9	2.2
16	.9	4.1	4.5	8.4	9.8	4.6	7.2	6.8	9.3	2.4	.9	1.8
17	.9	4.1	5.1	13	9.0	4.6	6.5	31	13	2.3	.9	1.8
18	.9	4.5	5.1	40	8.6	5.4	5.9	51	17	2.2	.9	3.1
19	1.0	4.3	5.1	47	8.2	4.6	5.4	33	19	2.0	.9	2.8
20	1.0	4.3	6.2	37	7.9	4.4	4.9	26	20	2.0	.9	2.7
21	1.7	4.5	11	32	7.5	4.2	4.6	22	19	1.9	.9	2.4
22	1.4	4.1	14	29	6.8	4.9	4.2	19	16	1.9	.8	2.3
23	1.4	4.1	16	27	6.8	5.1	4.0	16	11	1.8	.8	2.2
24	2.0	5.1	18	29	7.5	4.9	3.6	9.9	10	1.8	.9	2.1
25	2.0	6.2	24	29	7.2	4.6	3.2	7.9	8.8	1.7	.9	2.0
26	1.9	6.8	22	28	6.8	4.6	3.1	7.2	6.8	1.7	1.0	2.0
27	2.3	9.3	60	26	6.8	4.4	2.9	6.5	5.9	1.6	1.2	2.2
28	2.0	23	50	24	7.5	4.4	2.8	7.5	7.6	1.6	1.3	2.1
29	2.8	77	38	20	-	4.4	2.6	6.8	14	1.6	1.3	2.0
30	3.6	40	30	18	-	4.4	2.6	6.2	17	1.4	1.2	2.2
31	4.1	-	24	16	-	4.2	-	10	-	1.1	1.2	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				52.1	4.1	0.8	1.68	0.099	0.11	103		
November.....				289.3	77	3.6	9.64	.567	.65	1,074		
December.....				542.0	60	4.5	17.5	1.03	1.19	1,580		
Calendar year 1940.....				4,906.2	152	.6	13.4	.788	10.73	9,727		
January.....				584.9	47	7.6	18.9	1.11	1.28	1,180		
February.....				242.5	14	6.8	8.66	.809	.53	481		
March.....				190.5	10	4.2	6.15	.562	.42	378		
April.....				154.4	9.0	2.6	5.15	.303	.34	306		
May.....				365.6	51	3.1	11.8	.694	.80	725		
June.....				681.7	133	5.9	22.1	1.30	1.45	1,310		
July.....				137.3	16	1.1	4.43	.261	.30	272		
August.....				32.1	1.4	.8	1.04	.061	.07	64		
September.....				58.1	3.1	1.1	1.94	.114	.13	115		
Water year 1940-41.....				3,310.5	133	.8	9.07	.534	7.25	6,570		

a No gage-height record; discharge computed on basis of weather records.

Yellowhawk Creek at Walla Walla, Wash.

Location.- Water-stage recorder, lat. $46^{\circ}04'20''$, long. $118^{\circ}16'55''$, in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 7 N., R. 36 E., 0.8 mile downstream from the diversion of Garrison Creek, 1 mile downstream from point of diversion from Mill Creek, and 1.1 miles east of Walla Walla. Prior to July 1, 1941, staff gage at site 300 feet downstream at different datum.

Records available.- April to September 1941.

Extremes (regulated). Maximum gage height observed during period, 4.00 feet, site and datum then in use, June 7 (discharge not determined); minimum discharge, 2.4 second-feet Sept. 16 (gage height, 0.50 foot); minimum daily, 5.5 second-feet July 31.

Remarks.- Records excellent except those for period April to June, which are fair. Staff gage read once or twice daily Apr. 12 to June 30. Yellowhawk Creek diverts flood waters from Mill Creek, which is subject to regulation at flood-control dam on Mill Creek. Many small diversions above station for irrigation. City of Walla Walla diverts water from Mill Creek for municipal supply.

Rating tables, period April to September 1941 (gage height, in feet, and discharge, in second-feet)

Apr. 12 to June 30				July 1 to Sept. 30			
1.8	31	2.4	88	0.6	3.6	1.2	36
2.0	44	2.6	113	.8	8.5	1.4	60
2.2	64	2.8	140	1.0	19	1.6	89

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	53	64	56	6.6	15
2							-	42	57	53	8.8	21
3							-	44	52	49	9.4	21
4							-	54	49	57	10	13
5							-	63	36	40	12	12
6							-	63	51	39	11	12
7							-	52	146	65	9.4	12
8							-	61	82	38	8.2	12
9							-	70	70	31	7.6	11
10							-	84	77	27	7.9	11
11							-	76	98	23	8.2	12
12							64	63	85	22	10	11
13							64	56	75	19	12	16
14							52	64	64	17	12	15
15							59	52	53	15	12	16
16							59	61	40	14	12	13
17							53	53	48	12	13	13
18							56	49	69	8.9	12	17
19							56	57	64	7.6	12	19
20							52	44	71	7.3	13	18
21							46	39	66	6.4	11	16
22							42	39	49	5.8	7.8	15
23							44	43	50	6.1	8.5	14
24							44	46	49	6.1	9.8	15
25							44	57	48	6.1	12	20
26							36	56	42	6.1	13	19
27							37	54	48	6.7	16	20
28							36	44	44	13	13	20
29							36	49	49	8.9	13	19
30							36	54	64	7.3	13	19
31							-	69	-	5.5	13	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April 12-30							926	64	36	48.7	1,840	
May.....							1,689	84	39	64.5	3,360	
June.....							1,858	146	36	61.9	3,690	
July.....							675.8	65	5.5	21.8	1,340	
August.....							356.2	15	6.6	10.8	667	
September.....							466	21	11	16.5	924	
The period.....							-	-	-	-	11,810	

Garrison Creek at Walla Walla, Wash.

Location.- Water-stage recorder, lat. 46°04'25", long. 118°17'10", in NE¼ sec. 22, T. 7 N., R. 36 E., 30 feet downstream from county bridge, 0.8 mile downstream from Yellowhawk Creek diversion and 0.9 mile east of Walla Walla. Prior to June 27, 1941, staff gage at same site but at datum 0.38 foot higher. Staff gage readings have been reduced to present datum.

Records available.- April to September 1941.

Extremes.- Maximum discharge observed during period, 14 second-feet May 29, June 7 (gage height, 2.16 feet); no flow May 10.

Remarks.- Records fair. Staff gage read once or twice daily Apr. 11 to June 26. Some regulation at Yellowhawk Creek diversion from Mill Creek, 0.8 mile upstream. Yellowhawk Creek diverts water to reduce flood peaks in city of Walla Walla and for irrigation during irrigation seasons. Garrison Creek in turn diverts water from Yellowhawk Creek for irrigation.

Rating table, period April to September 1941 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 9 to Sept. 30)

1.47	0.01	1.8	2.2
1.5	.04	1.9	4.0
1.6	.39	2.0	6.9
1.7	1.0	2.1	11

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	3.8	3.2	4.8	1.1	3.4
2							-	3.2	2.2	4.3	1.4	3.8
3							-	3.8	1.9	3.6	1.4	3.8
4							-	5.6	1.9	4.0	1.5	4.0
5							-	3.2	1.5	2.6	1.9	3.6
6							-	1.3	2.3	2.2	1.5	3.8
7							-	2.6	6.9	2.6	1.2	4.3
8							-	2.8	2.5	2.2	1.0	4.3
9							-	1.4	5.3	1.8	1.3	4.0
10							-	1.2	5.6	1.6	2.2	4.3
11							2.6	2.0	6.2	1.5	3.2	4.3
12							2.8	1.0	5.6	1.2	6.2	4.3
13							2.6	1.1	6.6	1.0	4.0	4.8
14							2.5	1.2	5.0	1.0	2.6	4.5
15							2.5	1.4	4.8	1.0	2.2	4.8
16							2.5	1.9	4.5	1.2	2.6	4.3
17							2.2	.8	4.0	1.5	2.5	5.0
18							2.2	.9	5.6	1.3	2.3	5.3
19							2.0	1.8	5.3	1.1	3.0	5.6
20							1.6	1.2	5.9	1.1	2.7	5.3
21							1.3	.9	5.6	.9	1.6	4.5
22							1.2	.6	4.5	.7	1.9	5.0
23							1.1	4.0	4.3	.7	2.6	4.5
24							1.1	4.0	4.0	.7	2.6	4.0
25							1.6	.9	4.0	1.0	3.4	3.6
26							1.4	.7	3.8	.9	3.6	3.6
27							1.4	.8	3.4	1.0	3.4	3.2
28							1.4	3.8	4.3	1.3	3.0	2.8
29							1.9	8.0	5.3	.6	3.2	2.3
30							2.6	1.8	4.8	.6	3.4	2.3
31							-	3.6	-	.7	3.4	-
Month	Second-foot-days						Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....							-	-	-			
February.....							-	-	-			
March.....							-	-	-			
April 11-30							38.4	2.8	1.1	1.92	76	
May.....							71.3	8.0	.6	2.30	141	
June.....							129.8	6.9	1.5	4.33	287	
July.....							50.7	4.8	.6	1.64	101	
August.....							77.9	6.2	1.0	2.51	155	
September.....							123.3	5.6	2.3	4.11	245	
The period							-	-	-	-	975	

Touchet River near Dayton, Wash.

Location.- Water-stage recorder, lat. 46°16'45", long. 117°54'05", in NW 1/4 sec. 11, T. 9 N., R. 39 E., 250 feet upstream from city of Dayton's water-supply headworks, 1,000 feet upstream from Hatley Creek, three-quarters of a mile downstream from Wolf Creek, 3 miles upstream from South Fork, and 4 miles southeast of Dayton. Datum of gage is 1,768.3 feet above mean sea level (river-profile survey). May 9-26, 1941, staff gage at same site and datum. Prior to May 9, 1941, staff gage at same site, but at datum 0.25 foot lower. Gage readings prior to May 9, 1941 have been reduced to present datum.

Records available.- April to September 1941.

Extremes.- Maximum discharge during period, 490 second-feet July 6 (gage height, 3.64 feet); from rating curve extended above 200 second-feet; minimum, 38 second-feet Aug. 14, 17 (gage height, 1.85 feet).

Remarks.- Records good except those for periods of no gage-height record, which are poor. Staff gage read once or twice daily Apr. 14 to May 26. No regulation. Small diversions above station for irrigation.

Rating table, period April to September 1941 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 5 to June 17)

1.9	42	2.2	83	2.7	196
2.0	53	2.3	103		
2.1	66	2.5	147		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							a77	81	72	79	42	42
2							a80	76	69	81	42	46
3							a81	83	66	81	46	48
4							a83	81	61	64	46	46
5							a83	124	58	57	42	46
6							a82	109	64	83	42	44
7							a80	99	151	97	40	44
8							a79	105	156	76	40	42
9							a80	105	142	71	40	42
10							a82	99	120	65	40	42
11							a85	a99	103	62	42	44
12							a85	99	89	60	40	42
13							a84	111	81	56	40	44
14							83	99	74	53	40	44
15							81	95	76	51	40	47
16							81	97	71	50	39	44
17							83	166	82	48	39	44
18							76	181	101	47	42	51
19							74	142	99	47	40	53
20							72	135	99	44	40	50
21							71	133	101	44	39	47
22							71	118	97	44	40	46
23							69	107	91	42	40	44
24							71	99	87	42	40	44
25							68	a92	81	42	40	42
26							71	85	72	42	42	42
27							74	83	71	50	44	44
28							71	83	81	53	42	44
29							68	83	97	48	42	42
30							68	79	83	44	42	42
31							-	81	-	44	42	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						2,313	85	68	77.1	4,590		
May.....						3,229	181	76	104	6,400		
June.....						2,695	156	58	89.8	5,350		
July.....						1,767	97	42	57.0	3,500		
August.....						1,275	46	39	41.1	2,530		
September.....						1,342	53	42	44.7	2,660		
The period.....						-	-	-	-	25,030		

a No gage-height record; discharge interpolated or computed on basis of records for Mill Creek near Walla Walla.

Touchet River near Touchet, Wash.

Location.- Water-stage recorder, lat. 46°05'25", long. 118°39'40", in NE¼ sec. 15, T. 7 N., R. 33 E., 100 feet downstream from county road bridge, 3¼ miles north of Touchet and 4¼ miles upstream from mouth. Prior to July 3, 1941, staff gage at same site but at datum 0.90 foot higher. Staff gage readings have been reduced to present datum.

Drainage area.- 726 square miles.

Records available.- April to September 1941.

Extremes.- Maximum discharge during period, 391 second-feet May 17 (gage height, 4.58 feet, from floodmark); minimum, 22 second-feet Aug. 17, 18 (gage height, 1.79 feet).

Remarks.- Records excellent except those for period of staff-gage record, which are good, and those for periods of no gage-height record, which are poor. Staff gage read once or twice daily Apr. 9 to July 2. Many large diversions above station for irrigation. No regulation.

Rating table, period April to September 1941 (gage height, in feet, and discharge, in second-feet)

1.8	23	2.2	72	2.6	150	3.2	288	4.0	590
2.0	42	2.4	109	2.9	215	3.5	381	4.5	846

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							a96	79	129	129	32	28
2							a135	90	109	a118	31	30
3							a132	94	102	107	32	35
4							a120	105	94	138	34	36
5							a113	105	87	121	34	36
6							a108	176	88	100	34	35
7							a104	156	388	197	31	34
8							a100	144	633	142	28	35
9							105	154	395	105	28	35
10							117	133	291	94	27	34
11							144	123	233	85	26	34
12							142	117	189	76	27	35
13							135	117	171	68	28	36
14							129	148	142	58	27	38
15							121	125	146	52	24	38
16							117	111	135	42	23	44
17							113	197	129	36	23	41
18							109	595	195	35	22	42
19							102	403	222	35	23	49
20							94	310	200	35	23	51
21							90	255	178	32	25	49
22							87	220	161	31	25	46
23							81	189	140	30	24	42
24							81	159	129	27	24	40
25							79	138	125	27	25	39
26							74	121	113	27	26	39
27							72	107	100	26	28	38
28							78	107	96	47	31	38
29							76	123	131	53	28	39
30							76	133	150	42	28	38
31							-	113	-	34	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	3,130	144	72	104	6,210
May.....	5,147	595	79	166	10,210
June.....	5,402	635	87	180	10,710
July.....	2,149	197	26	69.3	4,260
August.....	549	34	22	27.4	1,690
September.....	1,154	51	28	38.5	2,290
The period.....	-	-	-	-	35,360

a No gage-height record; discharge interpolated or computed on basis of records for Asotin Creek near Asotin and Mill Creek near Walla Walla.

UMATILLA RIVER BASIN

Umatilla River above Meacham Creek, near Gibbon, Oreg.

Location.- Water-stage recorder, lat. 45°43', long. 118°20', in SW¼ sec. 21, T. 3 N., R. 38 E., 0.8 mile downstream from Ryan Creek, 2½ miles upstream from Meacham Creek, and 2½ miles northeast of Gibbon. Datum of gage is 1,855.25 feet above mean sea level, datum of 1929.

Drainage area.- 125 square miles.

Records available.- June 1939 to September 1941. April 1933 to June 1939, at site 1 mile downstream.

Extremes.- Maximum discharge during year, 1,360 second-feet Nov. 29 (gage height, 5.08 feet); minimum, 38 second-feet Oct. 16-20.

1933-41: Maximum discharge, 2,120 second-feet Apr. 12, 1936 (gage height, 2.95 feet, site and datum then in use); minimum, 28 second-feet Sept. 27, 1935, Jan. 9, 1937 (site and datum then in use).

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

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 27)

Oct. 1 to Nov. 28				Nov. 29 to Sept. 30			
2.0	51	2.6	187	2.0	47	2.6	157
2.2	82	2.9	255	2.2	75	2.9	253
2.4	119	3.2	370	2.4	111	3.2	370
						4.0	745
						4.5	1,020

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	64	350	186	187	334	208	177	183	150	48	46
2	45	72	260	142	150	446	218	169	169	140	48	59
3	62	74	225	128	134	397	232	208	174	137	48	90
4	72	71	218	122	128	338	212	199	160	137	51	69
5	57	69	212	115	122	298	196	242	147	119	50	63
6	48	68	199	107	119	257	174	232	157	117	47	57
7	44	77	177	105	122	232	166	212	220	122	46	56
8	43	96	160	98	115	225	160	222	222	103	45	54
9	41	102	152	94	113	228	169	202	202	94	44	52
10	41	102	154	90	115	215	166	189	388	89	43	51
11	41	96	122	90	122	199	189	174	306	82	47	51
12	40	89	109	90	132	180	186	172	250	77	51	51
13	40	84	1100	90	128	166	180	205	215	74	47	51
14	40	80	493	86	126	152	174	189	186	69	46	51
15	40	76	485	96	122	140	174	169	180	66	44	52
16	38	76	480	92	119	134	163	166	160	64	44	52
17	38	77	477	105	117	137	152	330	154	62	44	51
18	38	86	475	228	115	166	142	510	189	59	43	60
19	38	82	78	290	113	157	134	464	189	57	43	63
20	38	84	109	272	111	150	128	402	205	56	44	63
21	43	84	253	236	107	142	128	334	189	54	45	60
22	41	80	239	208	107	142	128	275	169	52	45	57
23	41	79	228	183	107	134	126	236	147	52	44	57
24	50	84	242	192	117	128	126	205	147	51	43	56
25	51	93	246	253	119	124	128	177	154	51	45	54
26	50	102	242	438	119	128	128	180	134	50	48	52
27	60	160	433	370	119	140	137	154	128	56	51	51
28	56	397	397	283	150	157	134	174	132	66	46	51
29	58	1,050	302	232	-	180	134	177	166	56	45	51
30	64	600	242	196	-	199	142	169	160	52	44	51
31	64	-	199	174	-	202	-	189	-	50	46	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,463	72	38	47.2	0.378	0.44	2,900
November.....	4,354	1,050	64	145	1.16	1.30	8,640
December.....	6,038	433	75	195	1.56	1.80	11,980
Calendar year 1940	74,013	1,270	34	202	1.62	22.01	146,800
January.....	5,393	438	90	174	1.39	1.60	10,680
February.....	3,425	157	107	122	0.976	1.02	6,790
March.....	6,224	446	124	201	1.61	1.85	12,350
April.....	4,550	232	126	162	1.30	1.44	9,620
May.....	7,083	510	154	228	1.82	2.11	14,050
June.....	6,763	660	128	225	1.80	2.01	13,390
July.....	2,464	150	60	78.5	0.686	0.75	4,890
August.....	1,425	51	43	46.0	0.568	0.62	2,830
September.....	1,682	90	48	56.1	0.449	0.50	3,340
Water year 1940-41	51,144	1,050	38	140	1.12	15.22	101,500

d Doubtful gage-height record; discharge computed on basis of records for station at Pendleton.

Umatilla River at Pendleton, Oreg.

Location.- Water-stage recorder, lat. 45°40', long. 118°48', in NE $\frac{1}{4}$ sec. 10, T. 2 N., R. 32 E., at Pendleton, 2 $\frac{1}{2}$ miles upstream from McKay Creek. Datum of gage is 1,062.54 feet above mean sea level, datum of 1929.

Drainage area.- 637 square miles.

Records available.- February 1891 to July 1892, May 1903 to June 1905, October 1934 to September 1941. May 1921 to September 1934 at site about 2 $\frac{1}{2}$ miles downstream.

Average discharge.- 18 years (1923-1941), 427 second-feet.

Extremes.- Maximum discharge during year, 3,230 second-feet Nov. 30 (gage height, 3.82 feet); minimum, 27 second-feet Aug. 16, 21.

1891-92, 1903-5, 1921-41: Maximum discharge, 13,500 second-feet, Apr. 1, 1931 (gage height, 8.8 feet, revised site and datum then in use), computed on basis of records for stations at Umatilla, near Yoakum and Birch Creek at Reith; minimum, 7 second-feet Aug. 14, 1924.

Flood of May 30-31, 1906, reached a stage of 11.0 feet, present site and datum (discharge not determined but somewhat greater than that of Apr. 1, 1931).

Revision.- The gage height of 10.7 feet Apr. 1, 1931, published with the maximum discharge in Water-Supply Paper 904, is referred to datum in use Apr. 6, 1931 to Sept. 30, 1934.

Remarks.- Records good except those for periods of shifting control, which are fair. Small diversions above station for irrigation; no regulation.

Rating tables, water year 1940-41, except periods of shifting control (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 29

Nov. 30 to Sept. 30

0.6	66	1.3	365	2.2	1,020	0.6	38	1.6	445	2.9	1,660
.8	134	1.6	535	2.5	1,350	.8	87	1.9	655	3.3	2,280
1.0	218	1.9	750	3.0	2,010	1.0	160	2.2	895		
						1.3	280	2.5	1,170		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	79	1,350	458	445	504	391	233	305	350	42	45
2	43	82	929	374	421	879	427	266	295	315	42	60
3	43	a92	735	320	380	954	452	295	280	290	51	102
4	56	109	655	290	346	897	452	310	256	310	53	107
5	69	109	625	271	320	791	403	356	238	256	56	96
6	61	109	566	247	310	719	363	346	242	220	47	87
7	50	109	497	224	305	683	320	310	711	224	38	54
8	48	130	415	212	290	626	300	325	1,320	199	35	79
9	50	150	368	194	280	610	300	320	1,100	174	38	76
10	48	174	320	182	280	588	341	300	895	154	36	76
11	43	187	275	174	295	510	374	280	711	136	38	79
12	50	178	238	166	350	464	363	256	552	130	49	82
13	56	170	212	166	350	415	352	255	458	116	47	79
14	50	158	178	174	350	374	341	315	365	107	42	79
15	50	150	158	190	325	341	350	255	368	93	38	79
16	50	150	147	190	320	310	315	261	356	84	36	76
17	50	146	140	595	315	290	300	325	350	79	42	68
18	48	154	136	895	305	315	275	695	415	74	35	90
19	48	162	140	719	300	320	256	655	459	74	35	93
20	53	166	207	687	290	310	242	610	484	65	36	93
21	58	183	445	632	280	290	233	531	504	56	30	93
22	56	170	490	580	275	285	220	464	464	47	33	93
23	53	162	471	524	275	285	212	391	391	51	36	87
24	58	170	490	497	295	266	199	356	352	51	40	84
25	63	205	545	535	320	252	190	290	391	51	38	82
26	61	232	545	823	320	242	199	256	368	47	56	76
27	63	280	1,140	863	325	247	212	233	350	51	60	74
28	72	656	1,100	767	356	261	203	256	320	60	56	71
29	69	2,010	871	655	-	295	203	300	352	65	49	71
30	72	2,310	663	673	-	341	203	275	346	58	47	71
31	76	-	559	497	-	358	-	290	-	49	47	-
Month	Second-foot-days			Maximum		Minimum		Mean		Run-off in acre-feet		
October.....	1,712			76		43		55.2		3,400		
November.....	9,142			2,310		79		305		18,150		
December.....	15,590			1,350		136		503		30,920		
Calendar year 1940	165,368			3,610		10		452		328,000		
January.....	13,677			895		166		441		27,150		
February.....	9,943			445		275		319		17,740		
March.....	13,991			954		242		451		27,750		
April.....	8,971			452		190		299		17,790		
May.....	10,630			695		233		343		21,060		
June.....	13,938			1,320		238		465		27,650		
July.....	4,016			350		47		130		7,970		
August.....	1,322			60		30		42.8		2,650		
September.....	2,432			107		45		51.1		4,920		
Water year 1940-41	104,370			2,310		30		286		207,000		

a No gage-height records; discharge computed on basis of records for stations near Gibbon and at Yoakum.

Note.- Shifting-control method used Oct. 1 to Nov. 27, Jan. 25 to Apr. 4, June 7 to July 5.

UMATILLA RIVER BASIN

Umatilla River at Yoakum, Oreg.

Location.-- Water-stage recorder, lat. 45°41', long. 119°02', in SW¼ sec. 2, T. 2 N., R. 30 E., at highway bridge, half a mile northeast of Yoakum station and 2½ miles downstream from abandoned Furnish Reservoir.

Drainage area.-- 1,280 square miles.

Records available.-- May 1903 to August 1916 (flow slightly regulated by storage in Furnish Reservoir 1910-16), October 1934 to September 1941. June 1915 to September 1934 at site above Furnish Reservoir, 5 miles upstream.

Average discharge.-- 35 years, 650 second-feet.

Extremes.-- Maximum discharge during year, 3,060 second-feet Nov. 30 (gage height, 4.94 feet); minimum, 43 second-feet Oct. 1, 2.

1903-41: Maximum discharge, 20,000 second-feet May 30, 1906 (gage height, about 15.0 feet, datum then in use, from floodmarks), from rating curve extended above 6,600 second-feet on basis of records for station near Umatilla; minimum, 12 second-feet Aug. 10-12, 1908.

Remarks.-- Records good except those for periods of no gage-height record, which are fair. Divisions above station for irrigation. Flow regulated to some extent by mills at Pendleton and, since 1927, by McKay Reservoir.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Apr. 3 to May 17)

0.8	59	1.7	322	3.0	1,090
1.0	98	2.0	452	3.5	1,510
1.2	151	2.3	610	4.0	2,000
1.4	213	2.6	790	4.5	2,530

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	79	1,390	510	466	466	424	397	438	411	363	216
2	45	83	950	429	434	912	438	411	438	372	363	184
3	48	a88	766	394	406	1,060	447	415	429	372	367	172
4	68	108	694	351	376	968	457	420	397	372	376	134
5	83	106	664	330	355	882	438	415	372	342	376	113
6	72	106	654	306	342	818	402	376	347	342	372	106
7	64	113	568	291	334	754	363	330	804	380	359	100
8	61	123	500	272	330	718	322	330	1,740	359	367	96
9	59	151	462	254	318	700	326	330	1,460	367	372	98
10	57	a175	429	240	306	688	359	322	1,180	376	372	126
11	54	197	389	230	306	634	393	334	920	402	363	123
12	54	a188	351	223	347	666	393	314	748	402	326	134
13	56	a178	310	216	363	530	393	347	610	393	322	131
14	53	a170	272	223	359	461	389	367	510	376	322	131
15	49	a155	a250	240	355	447	367	355	490	372	310	106
16	51	a155	h233	247	351	411	355	347	438	367	322	92
17	51	a152	a210	1,040	334	376	342	384	434	376	334	85
18	51	163	a200	1,140	330	367	334	730	510	283	330	106
19	49	a170	207	778	318	367	314	784	598	216	314	118
20	53	a175	276	754	310	367	302	730	664	283	216	113
21	53	a190	471	700	299	363	299	640	688	318	181	113
22	54	a180	535	640	295	363	283	540	634	310	184	113
23	54	a170	520	574	291	367	276	471	540	265	184	108
24	63	a180	525	530	299	342	276	434	466	197	191	108
25	66	220	610	550	330	306	314	393	592	197	197	100
26	66	a250	566	604	342	306	330	342	505	178	263	98
27	70	a320	1,150	590	347	299	347	314	443	213	272	98
28	73	a740	1,270	772	351	318	338	334	420	338	233	96
29	70	a2,150	965	670	-	355	347	393	429	363	227	92
30	75	2,500	754	580	-	406	376	389	438	372	223	92
31	77	-	634	510	-	429	-	369	-	372	216	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,844	83	45	59.5	3,660		
November.....						9,735	2,500	79	324	19,310		
December.....						17,775	1,390	200	573	35,260		
Calendar year 1940.....						215,793	4,180	29	590	428,000		
January.....						15,678	1,140	216	506	31,190		
February.....						9,594	466	291	345	19,030		
March.....						16,406	1,060	299	529	32,540		
April.....						10,744	457	276	358	21,310		
May.....						13,077	784	314	422	25,940		
June.....						18,682	1,740	347	623	37,060		
July.....						10,286	411	178	332	20,400		
August.....						9,237	376	181	298	18,320		
September.....						3,502	216	85	117	6,950		
Water year 1940-41.....						136,560	2,500	45	374	270,900		

Peak discharge.-- Nov. 30 (2 a.m.) 3,060 sec.-ft.; Jan. 17 (11 p.m.) 2,410 sec.-ft.
a No gage-height record; discharge computed on basis of records for stations near Gibbon and at Pendleton.
h Computed from staff-gage reading.

Umatilla River near Umatilla, Oreg.

Location.- Water-stage recorder, lat. 45°54', long. 119°20', in W $\frac{1}{2}$ sec. 21, T. 5 N., R. 28 E., 1 $\frac{1}{2}$ miles downstream from West Division main canal of Umatilla project and 2 miles upstream from Umatilla and mouth. Datum of gage is 330.57 feet above mean sea level, datum of 1929.

Drainage area.- 2,290 square miles.

Records available.- October 1903 to September 1941.

Average discharge.- 38 years, 491 second-feet.

Extremes.- Maximum discharge during year, 2,720 second-feet Nov. 30 (gage height, 4.94 feet); minimum, 0.3 second-feet Mar. 30, 31 (gage height, 1.63 feet).

1903-41: Maximum discharge observed, 19,600 second-feet May 31, 1906 (gage height, 11.0 feet); no flow at times.

Remarks.- Records good except those for period of shifting control, which are fair. Many diversions above station for irrigation; Brownell Canal diverts below station. Flow regulated by McKay and Cold Springs Reservoirs.

Rating tables, water year 1940-41, except period of shifting control (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Jan. 17				Jan. 18 to Sept. 30			
2.1	10	3.5	605	1.6	0.1	2.8	107
2.3	24	3.9	1,030	1.8	2.2	3.1	255
2.5	52	4.3	1,600	2.1	10.3	3.5	590
2.8	130	4.7	2,280	2.3	21	3.9	1,030
3.1	280			2.5	41	4.3	1,600

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	49	1,680	481	318	190	11	13	56	18	13	32
2	15	170	1,040	374	233	450	11	13	65	16	13	84
3	15	168	790	308	256	767	11	13	44	15	13	123
4	14	154	672	256	225	789	11	13	37	14	13	101
5	14	154	614	232	195	723	11	17	36	14	19	60
6	14	158	578	200	175	680	24	15	31	15	28	44
7	14	158	533	180	161	630	15	14	76	15	14	47
8	14	154	472	158	151	571	13	14	1,160	15	13	41
9	14	150	398	142	142	542	12	13	1,290	15	13	36
10	15	170	350	134	138	552	12	13	844	15	18	39
11	15	175	308	124	142	571	12	13	552	14	14	42
12	15	170	256	124	151	552	12	13	325	14	14	34
13	15	162	215	120	180	495	12	14	237	14	13	31
14	14	162	185	120	175	432	12	14	101	14	13	29
15	14	158	274	120	166	325	12	20	39	14	15	27
16	14	150	343	120	161	290	13	17	26	14	13	26
17	14	154	315	184	151	255	12	16	38	14	13	22
18	14	158	329	1,420	146	237	12	17	33	14	13	30
19	13	158	301	767	134	333	12	269	95	20	13	79
20	13	154	274	600	130	318	12	213	225	15	13	74
21	13	150	515	552	126	262	12	119	311	14	15	98
22	13	154	498	504	115	243	12	58	262	14	17	101
23	13	134	430	441	111	195	12	26	125	14	14	96
24	13	154	398	397	111	126	12	15	63	14	15	92
25	14	158	398	365	138	50	12	14	65	14	34	87
26	14	154	481	441	161	17	12	14	81	14	311	76
27	13	158	635	670	161	13	12	15	46	14	364	69
28	13	170	1,190	650	161	9	12	19	37	14	90	69
29	13	672	946	504	-	.4	12	32	29	13	52	60
30	14	2,320	740	397	-	.4	12	44	21	13	36	48
31	14	-	605	341	-	3	-	47	-	13	31	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	431	15	13	13.9	855
November.....	7,500	2,520	49	243	14,480
December.....	16,543	1,660	185	554	32,810
Calendar year 1940.....	129,093	3,530	11	353	256,000
January.....	11,426	1,420	120	369	22,660
February.....	4,663	318	111	167	9,250
March.....	10,619.8	788	11	343	21,060
April.....	372	24	.4	12.4	738
May.....	1,147	269	13	37.0	2,280
June.....	6,327	1,290	21	211	12,550
July.....	450	20	13	14.5	893
August.....	1,268	364	13	40.9	2,520
September.....	1,755	123	22	58.5	3,480
Water year 1940-41.....	62,302.8	2,520	.4	171	123,600

Note.- Shifting-control method used July 1 to Aug. 25.

McKay Creek near Pilot Rock, Oreg.

Location.- Water-stage recorder, lat. 45°33', long. 118°46', in NE¼ sec. 23, T. 1 N., R. 32 E., 400 feet downstream from county road bridge, three quarters of a mile upstream from maximum flow line (altitude, 1,322 feet) of McKay Reservoir and 6 miles northeast of Pilot Rock. Datum of gage is 1,335.85 feet above mean sea level, datum of 1929 (Pacific Power and Light Co. bench mark). Prior to Apr. 9, 1941, water-stage recorder, at site 400 feet upstream. Datum of gage was 1,340.24 feet above mean sea level, datum of 1929 (Pacific Power and Light Co. bench mark).

Drainage area.- 178 square miles.

Records available.- May to August 1921, October 1926 to September 1941 (1927-29 incomplete).

Average discharge.- 13 years (1926-27, 1929-41), 77.4 second-feet.

Extremes.- Maximum discharge during year, 840 second-feet June 7 (gage height, 4.00 feet); no flow at times.

1921, 1926-41: Maximum discharge, 6,000 second-feet Apr. 1, 1931 (gage height, 10.4 feet, site and datum then in use); no flow at times.

Remarks.- Records fair. Many small diversions above station for irrigation; none between station and McKay Reservoir.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a0	3.8	320	82	77	82	49	24	56	81	2.2	1.8
2	a0	6.4	237	66	75	108	49	25	65	68	1.9	1.7
3	a0	11	194	57	75	125	55	30	71	57	1.8	26
4	a0	12	177	50	77	133	56	30	69	49	1.4	24
5	a0	13	151	45	73	139	56	30	61	44	1.6	19
6	a0	14	138	42	66	148	a51	24	65	37	1.4	19
7	a0	16	117	38	64	157	h46	22	528	37	1.2	23
8	a0	19	94	33	62	133	a40	27	552	30	1.0	23
9	a0	22	82	31	62	128	h33	29	378	22	1.0	25
10	a0	a24	64	28	62	122	h46	27	267	22	1.0	20
11	a0	a27	50	26	62	112	h56	28	196	21	1.4	22
12	a0	a30	40	25	62	105	h74	30	147	18	1.3	23
13	a0	a33	32	25	62	96	a68	40	122	12	1.4	25
14	a0	a35	27	25	62	80	h61	42	103	8.9	1.4	26
15	a0	a37	25	25	62	69	h41	36	96	8.4	1.3	29
16	a0	39	24	24	62	66	h48	33	85	6.7	1.4	28
17	a0	39	21	26	61	66	h51	40	83	7.2	.6	27
18	a0	55	18	59	61	66	h45	74	125	8.4	.8	36
19	a0	72	18	233	60	64	44	76	172	7.8	.7	53
20	a0	70	20	225	60	60	40	67	236	6.7	1.0	54
21	a0	70	66	200	58	54	36	61	207	5.2	1.8	50
22	a0	66	57	178	56	54	32	54	172	5.2	1.8	45
23	a0	64	55	163	55	54	28	48	138	5.2	1.6	40
24	a1.0	77	59	157	58	55	25	44	130	6.7	1.4	36
25	1.9	112	100	157	60	54	24	38	130	6.7	1.8	31
26	2.2	120	94	163	56	54	24	30	130	6.2	6.2	27
27	2.2	249	225	154	60	50	25	29	117	5.2	.2	25
28	2.4	520	204	139	62	49	24	34	110	5.2	.1	23
29	2.8	662	167	122	-	49	22	45	106	4.2	.2	21
30	3.0	465	129	106	-	50	22	45	94	3.2	.5	20
31	3.2	-	103	87	-	49	-	48	-	2.7	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	18.7	3.2	0	0.60	37
November.....	2,981.2	662	3.8	99.4	5,910
December.....	3,108	320	16	100	6,160
Calendar year 1940.....	33,973.7	1,340	0	92.8	67,390
January.....	2,795	233	24	90.2	5,540
February.....	1,772	77	55	63.3	3,510
March.....	2,631	187	49	84.9	5,280
April.....	1,273	74	22	42.4	2,580
May.....	1,210	76	22	39.0	2,400
June.....	4,810	552	56	160	9,540
July.....	607.8	81	2.7	19.6	1,210
August.....	42.2	6.2	.1	1.36	84
September.....	838.8	54	1.8	28.0	1,660
Water year 1940-41.....	22,087.7	662	0	60.5	45,790

Peak discharge.- Nov. 29 (2 p.m.) 640 second-feet; June 7 (1:30 p.m.) 840 second-feet.

a No gage-height record; discharge interpolated or computed on basis of information furnished by watermaster.

h Computed from staff-gage readings.

McKay Reservoir near Pendleton, Oreg.

Staff gage, lat. 45°36', long. 118°48', at dam in SE¼ sec. 34, T. 2 N., R. 32 E., 4 miles south of Pendleton. Gage readings are elevations above mean sea level (surveys of Bureau of Reclamation). Records available, October 1930 to September 1941. Maximum contents observed during year, 34,250 acre-feet Apr. 1 (elevation, 1,281.0 feet); minimum observed, 5,464 acre-feet Oct. 8. Maximum contents observed during period 1930-41, 71,300 acre-feet May 1, 1938 (elevation, 1,320.0 feet); minimum observed, 3,051 acre-feet Oct. 1, Nov. 1, Dec. 1, 1935 (elevation, 1,217.6 feet).

Reservoir is formed by gravel-fill dam with concrete facing completed in 1926; storage began in 1927. Capacity, 73,660 acre-feet between elevations 1,182 feet (floor of trash-rack structure) and 1,322 feet (top of spillway gates). Dead storage not known. Water is used for irrigation of lands along Umatilla River near Echo, Stanfield, and Hermiston. Gage read to nearest foot or half-foot on first day of each month, occasionally at other times; readings furnished by Bureau of Reclamation.

Elevation and contents, water year October 1940 to September 1941

Month	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 1.....	-	†5,776	-
Nov. 1.....	-	†8,227	+2,451
Dec. 1.....	1,241.5	11,650	+3,453
Calendar year 1940.....	-	-	+3,690
Jan. 1.....	-	†18,330	+6,650
Feb. 1.....	1,267.0	24,980	+6,650
Mar. 1.....	1,273.5	29,100	+4,120
Apr. 1.....	1,281.0	34,250	+5,150
May 1.....	1,278.5	32,490	-1,760
June 1.....	1,277.0	31,460	-1,030
July 1.....	-	†30,460	-1,000
Aug. 1.....	1,274.0	29,450	-1,010
Sept. 1.....	-	†17,930	-11,520
Oct. 1.....	-	†16,800	-1,130
Water year 1940-41.....	-	-	+11,024

† Interpolated.

McKay Creek near Pendleton, Oreg.

Location.- Water-stage recorder, lat. 45°37', long. 118°48', in sec. 34, T. 2 N., R. 32 E., just upstream from irrigation diversion dam, a quarter of a mile downstream from McKay Dam, and 4 miles south of Pendleton.

Records available.- November 1918 to September 1923, October 1924 to September 1941 (diversions by irrigation canal at gage not included since 1932).

Average discharge.- 20 years (1919-23, 1924-27, 1928-41), 86.4 second-feet (unadjusted).

Extremes.- Maximum daily discharge during year, 307 second-feet Aug. 7-10 (gage height, 1.29 feet); no flow Oct. 1 to Apr. 6, Sept. 2-9, 14-30.
1918-41: Maximum discharge observed, 3,250 second-feet Feb. 10, 1921 (gage height, 4.4 feet, site and datum then in use), from rating curve extended above 1,110 second-feet; no flow at times.

Remarks.- Records fair. Diversions above station for irrigation. Flow completely regulated since 1927 by McKay Reservoir.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Apr. 8-18, June 30 to July 26)

0.0	0	0.6	73	1.2	264
.2	10	.8	120		
.4	37	1.0	183		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	214	31	10	298	140
2							0	183	31	22	298	52
3							0	149	31	46	293	0
4							0	137	31	46	293	0
5							0	71	31	62	293	0
6							0	16	31	115	293	0
7							10	14	20	137	302	0
8							h21	14	1.5	146	307	0
9							21	14	1.5	183	307	47
10							22	37	1.5	230	307	47
11							22	51	1.5	269	293	46
12							23	73	1.5	269	256	49
13							23	49	2.4	269	256	52
14							24	.9	3.7	269	251	45
15							24	22	4.4	274	256	0
16							24	47	4.4	283	274	0
17							31	18	4.4	278	274	0
18							42	.9	3.7	195	274	0
19							40	.9	2.7	173	251	0
20							66	.9	2.7	247	162	0
21							82	.9	3.0	260	143	0
22							82	.9	3.0	260	143	0
23							82	18	3.0	169	143	0
24							102	37	3.0	137	143	0
25							166	37	2.7	134	140	0
26							166	37	2.7	118	152	0
27							166	37	2.4	214	159	0
28							166	37	2.4	283	159	0
29							202	37	2.4	298	159	0
30							239	37	4.4	298	159	0
31							-	34	-	298	159	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3	0	0	0	0		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1940.....						30,931.8	364	0	84.5	61,340		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						0	0	0	0	0		
April.....						1,845	239	0	61.5	3,660		
May.....						1,424.4	214	.9	45.9	2,830		
June.....						270.9	31	1.5	9.03	537		
July.....						5,992	298	10	193	11,880		
August.....						7,187	307	140	232	14,260		
September.....						478	140	0	15.9	948		
Water year 1940-41.....						17,197.3	307	0	47.1	34,120		

h Computed from staff-gage reading.

Note.- No gage-height record Oct. 1 to Apr. 7, Apr. 9-13, Sept. 3-8, 15-30; discharge computed on basis of information furnished by watermaster.

Birch Creek at Rieth, Oreg.

Location.- Water-stage recorder, lat. 45°39', long. 118°53', in SE¼ sec. 13, T. 2 N., R. 31 E., a quarter of a mile upstream from mouth and half a mile southwest of Rieth.

Drainage area.- 291 square miles.

Records available.- May 1921 to September 1923, April 1927 to September 1941 (incomplete prior to October 1929).

Average discharge.- 12 years (1929-41), 27.6 second-feet.

Extremes.- Maximum discharge during year, 542 second-feet June 24 (gage height, 3.85 feet); no flow at times.

1921-23, 1927-41: Maximum discharge, 1,640 second-feet Jan. 29, 1928 (gage height, 6.00 feet, site and datum then in use), from rating curve extended above 300 second-feet; no flow at times.

Remarks.- Records fair. Several small diversions above station for irrigation.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		60	25	26	40	42	0	73	49	h0.4	0
2	-	0	55	22	26	66	40	0	78	35	.4	2.6
3	-	0	53	22	26	73	39	1.0	76	36	.4	5.5
4	-	0	54	21	26	70	38	2.1	71	22	.4	3.8
5	-	0	58	21	24	78	35	2.1	59	13	.5	4.5
6	-	0	59	21	24	84	30	1.7	51	10	.5	5.5
7	-	0	58	21	23	85	19	0	189	10	.5	5.5
8	-	0	53	21	23	86	6.5	0	383	6.8	h.5	4.8
9	-	0	45	20	23	90	5.0	0	258	3.0	.5	5.2
10	-	0	42	18	22	90	8.0	0	189	.6	.5	6.1
11	-	0	38	18	23	85	9.2	1.7	146	.3	.5	6.1
12	-	0	34	18	25	79	10	.3	114	.3	.5	11
13	-	0	30	16	25	73	16	7.4	106	.3	.5	10
14	-	0	25	16	25	67	18	40	89	.3	.5	9.6
15	-	0	23	17	25	64	11	55	90	.2	h.5	9.6
16	-	0	23	18	24	57	9.2	47	82	.2	.4	9.6
17	-	0	22	34	24	55	9.2	53	76	.2	.3	8.5
18	-	0	22	24	23	56	4.7	77	67	.1	.2	12
19	-	0	21	22	23	57	4.1	83	96	.2	.1	13
20	-	0	22	22	23	55	5.6	77	124	.2	.1	15
21	-	0	21	23	22	61	5.8	64	121	.2	h.1	13
22	-	0	21	24	22	50	2.9	55	109	.3	.1	14
23	-	0	21	25	22	49	.6	51	95	.3	.1	16
24	-	0	21	25	24	39	1.1	45	81	.4	.1	14
25	-	0	22	26	26	34	.4	43	108	.4	.1	15
26	-	0	22	26	27	32	.8	33	96	.3	0	15
27	-	5.0	22	27	29	26	0	28	85	.3	0	14
28	-	9.0	24	29	30	30	0	35	71	.3	0	14
29	-	32	25	29	-	35	0	48	66	.3	0	13
30	-	63	26	29	-	43	0	52	62	.4	0	11
31	0	-	26	27	-	43	-	57	-	.4	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	109.0	63	0	3.63	216
December.....	1,049	60	21	33.8	2,080
Calendar year 1940.....	9,823.6	317	0	26.8	19,490
January.....	707	34	16	22.8	1,400
February.....	655	30	22	24.5	1,360
March.....	1,842	90	26	59.4	3,650
April.....	367.1	42	0	12.2	728
May.....	959.3	83	0	30.9	1,900
June.....	3,313	383	51	110	6,570
July.....	191.3	49	.1	6.17	379
August.....	8.7	.5	0	.28	17
September.....	285.1	16	0	9.50	565
Water year 1940-41.....	9,516.5	383	0	26.1	18,860

Peak discharge.- June 8 (5:30 a.m.) 446 second-feet; June 24 (9:30 p.m.) 542 second-feet.

h Computed from staff-gage readings.

Note.- No gage-height record Oct. 1 to Nov. 27, Apr. 2, 3, 17, Aug. 2-7, 9-14, 16-20, Aug. 22 to Sept. 2, Sept. 11; discharge interpolated or computed on basis of information furnished by water-master.

Principal diversions from Umatilla River between Pendleton and Umatilla, Oreg.

The following canals divert water from Umatilla River between Pendleton and Umatilla, Oreg.:

Furnish Canal, from right bank of Umatilla River in sec. 36, T. 3 N., R. 29 E., Umatilla project feed canal, from right bank of Umatilla River in SW $\frac{1}{4}$ sec. 22, T. 3 N., R. 29 E., to feed Cold Springs Reservoir of Bureau of Reclamation. Western Land Canal (formerly published as Western Land & Irrigation Co.'s canal), from left bank of Umatilla River in NE $\frac{1}{4}$ sec. 21, T. 3 N., R. 29 E.; gage is 1 mile downstream from intake. Allen Canal, from right bank of Western Land Canal, half a mile downstream from head gate of that canal. Maxwell Canal, from right bank of Umatilla River in SW $\frac{1}{4}$ sec. 28, T. 4 N., R. 28 E., and at times receives water from Cold Springs Reservoir. West Division main canal, from left bank of Umatilla River in SW $\frac{1}{4}$ sec. 28, T. 5 N., R. 28 E. Brownell Canal, from right bank of Umatilla River 2 miles downstream from West Division main canal diversion and 1 $\frac{1}{2}$ miles upstream from mouth of Umatilla River.

Water diverted by all these canals is used for irrigation of lands on both sides of Umatilla River near and below Echo except that diverted by West Division main canal, which is applied to lands along Columbia River in vicinity of Irrigon.

Several smaller canals also divert water between Pendleton and Umatilla, but no records for them were obtained.

Records of monthly discharge of the canals, published as a group, are available from March 1926 to September 1941; records for some of the canals published separately prior to 1926.

Diversions, in acre-feet, water year October 1940 to September 1941

Month	Furnish Canal	Umatilla project feed canal	Western Land Canal	Allen Canal	Maxwell Canal	West Division main canal	Brownell Canal
October.....	0	119	936	1,070	2,460	6,160	0
November.....	0	8,930	41	170	1,610	125	0
December.....	0	11,860	0	123	904	0	0
January.....	0	14,490	708	123	597	0	0
February.....	0	13,550	0	111	519	0	0
March.....	1,220	8,200	2,880	506	512	2,330	0
April.....	7,290	2,940	9,020	1,030	1,620	5,050	869
May.....	8,210	3,290	11,180	1,070	2,340	8,190	908
June.....	7,540	8,270	9,830	954	2,430	10,220	1,050
July.....	7,570	603	9,270	1,200	2,610	9,490	1,150
August.....	5,310	0	10,630	816	1,860	8,860	1,180
September...	950	0	5,210	94	1,320	9,510	1,070
Water year 1940-41.	38,090	72,242	57,905	7,267	19,142	60,235	6,227

Note.- No gage-height record for months of little or no flow and for a few days and short periods at other times; discharge interpolated or computed on basis of information furnished by water-master.

John Day River at Prairie City, Oreg.

Location.- Staff gage, lat. 44°27', long. 118°43', in NE¼ sec. 10, T. 13 S., R. 33 E., at power plant, upstream from outlet of Prairie power canal, three-quarters of a mile southwest of Prairie City. Datum of gage is 3,492.06 feet above mean sea level, datum of 1929.

Records available.- October 1926 to September 1941. October 1916 to September 1917 (gage heights only) and March 1925 to September 1926, at site below outlet of Prairie power canal.

Average discharge.- 16 years (1925-41), 99.8 second-feet, including flow of Prairie power canal.

Extremes.- Maximum discharge observed during year, 370 second-feet June 7 (gage height, 2.84 feet); minimum observed, 3.4 second-feet July 19-21, 25.

1926-41: Maximum discharge, 1,550 second-feet Mar. 19, 1932 (gage height, 4.7 feet), from rating curve extended above 500 second-feet; minimum, 2 second-feet Dec. 8, 21, 22, 1932, Aug. 10, 1934.

Remarks.- Records fair. Gage read twice daily. Diversions above station for irrigation and for power. (See record for Prairie power canal at Prairie City.)

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	20	63	14	24	75	78	118	158	25	9.9	28
2	30	28	56	13	24	73	79	146	162	21	13	40
3	22	25	50	18	22	68	78	182	180	19	13	49
4	18	20	45	25	21	62	77	186	153	20	11	34
5	12	18	39	21	21	61	75	187	153	18	9.1	28
6	8.7	27	39	18	21	60	63	160	240	15	8.0	23
7	7.7	31	34	19	22	56	60	139	329	15	7.1	22
8	7.7	30	35	19	21	57	61	153	267	13	7.1	20
9	5.2	31	30	19	22	59	58	128	226	11	8.0	17
10	7.1	30	22	17	22	50	68	113	199	8.0	6.8	16
11	6.4	28	12	16	31	52	60	113	160	5.5	9.1	16
12	7.4	39	12	14	38	52	59	143	141	4.8	9.1	16
13	6.4	20	8.0	18	25	57	53	291	128	5.0	8.3	14
14	6.4	22	10	25	28	47	51	270	118	4.3	9.5	14
15	6.8	21	12	23	25	46	41	232	107	4.3	13	13
16	6.1	22	10	18	20	46	46	213	109	4.8	12	13
17	6.1	25	24	22	22	50	42	232	127	4.6	12	12
18	6.4	28	35	44	21	60	38	211	191	4.1	13	14
19	5.5	20	27	69	22	51	37	169	180	3.7	15	14
20	5.2	21	30	57	22	53	29	144	131	3.9	14	17
21	5.2	22	50	42	20	50	27	125	103	3.7	13	16
22	5.2	21	35	34	23	48	19	99	81	5.2	12	13
23	5.2	19	34	29	23	47	19	104	64	7.1	16	12
24	7.7	20	32	32	35	41	20	127	70	4.1	17	12
25	12	20	37	45	37	39	20	156	68	3.9	20	11
26	13	17	31	57	26	40	18	165	63	9.1	22	9.1
27	36	22	105	31	32	44	19	162	61	13	25	8.7
28	24	49	61	27	34	56	20	187	61	11	23	9.1
29	20	98	38	22	-	63	23	171	50	17	23	8.7
30	23	88	55	22	-	66	27	276	38	11	34	9.1
31	20	-	27	24	-	71	-	247	-	13	28	-
Month	River only				River and Prairie power canal							
	Maximum	Minimum	Mean	Runoff in acre-feet	Maximum	Minimum	Mean	Runoff in acre-feet				
October.....	36	5.2	11.6	715	96	54	67.0	4,120				
November.....	96	17	29.3	1,750	164	69	91.0	5,420				
December.....	103	8.0	34.7	2,140	172	50	97.9	6,020				
Calendar year 1940	371	3.2	45.8	33,295	455	5.5	97.4	70,740				
January.....	69	13	27.5	1,690	135	59	92.1	5,660				
February.....	38	20	25.3	1,410	105	85	91.5	5,090				
March.....	75	39	54.8	3,370	142	106	122	7,500				
April.....	79	18	45.2	2,690	147	77	112	6,670				
May.....	291	99	173	10,610	367	177	247	15,170				
June.....	329	38	137	8,170	407	104	208	12,390				
July.....	25	3.7	9.95	512	84	29	46.0	2,850				
August.....	34	6.8	14.2	876	92	42	52.4	3,220				
September.....	49	8.7	17.5	1,040	118	68	80.5	4,790				
Water year 1940-41	329	3.7	48.4	35,070	407	29	109	78,890				

John Day River at Picture Gorge, near Dayville, Oreg.

Location.- Water-stage recorder and concrete control, lat. 44°31'20", long. 119°37'30", in sec. 20, T. 12 S., R. 26 E., on John Day Highway, 0.7 mile upstream from Rock Creek Bridge and 7 miles northwest of Dayville. Datum of gage is 2,232.10 feet above mean sea level, datum of 1929.

Records available.- April 1926 to September 1941.

Average discharge.- 15 years, 343 second-feet.

Extremes.- Maximum discharge during year, 1,290 second-feet May 14 (gage height, 6.71 feet); minimum, 28 second-feet July 25, 28 (gage height, 1.50 feet).
1926-41: Maximum discharge, 6,000 second-feet Mar. 19, 1932 (gage height, 14.0 feet), from rating curve extended above 2,300 second-feet; minimum, 1 second-foot several days in August and September 1930, Aug. 8, 9, 1936.

Remarks.- Records good except those for period of ice effect, which are fair. Many diversions above station for irrigation.

Rating table, water year 1940-41, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.4	20	3.5	309
1.6	37	4.0	413
1.9	65	5.0	675
2.2	99	6.0	1,005
2.5	137	7.0	1,420
3.0	216		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	202	402	317	424	1,040	910	834	946	307	105	177
2	154	214	385	267	420	1,120	974	1,140	837	275	101	194
3	201	221	368	1260	409	1,020	963	1,230	830	256	94	284
4	179	223	357	1294	393	900	921	1,280	750	220	95	301
5	171	220	353	317	385	851	886	1,230	654	197	94	271
6	158	221	345	305	387	844	830	1,130	675	185	86	239
7	148	238	337	294	391	812	765	1,020	1,060	172	84	230
8	141	247	327	288	389	851	738	1,060	1,160	157	73	225
9	138	260	313	282	389	890	729	984	1,020	144	69	214
10	132	254	286	275	415	865	780	900	907	124	65	202
11	133	252	243	265	492	865	777	854	798	105	73	197
12	130	252	b180	268	588	868	732	921	717	88	114	194
13	128	239	b150	253	536	851	684	1,160	675	69	115	194
14	127	230	b120	300	487	780	663	1,280	648	61	109	190
15	125	234	b130	345	451	747	621	1,190	597	55	106	187
16	125	230	b160	331	428	738	609	1,050	554	54	100	169
17	121	232	b170	327	420	765	609	1,020	563	56	93	157
18	119	239	b250	343	420	830	591	1,110	678	52	95	154
19	118	243	b270	468	420	844	541	974	744	50	114	163
20	116	227	286	501	435	812	504	858	690	48	120	171
21	118	230	349	482	440	768	472	765	612	44	109	204
22	118	232	335	440	446	747	431	693	541	40	110	195
23	116	223	325	411	458	732	400	672	475	36	111	192
24	129	216	317	411	554	699	378	661	446	34	103	189
25	147	223	323	577	600	675	378	660	446	28	106	187
26	169	223	389	612	536	678	391	657	435	29	121	179
27	177	223	744	615	521	705	409	615	404	37	130	174
28	192	250	645	516	663	744	422	645	393	65	141	168
29	192	307	496	463	-	812	435	795	374	69	145	164
30	196	428	431	428	-	890	460	750	345	89	154	158
31	201	-	383	428	-	882	-	924	-	99	184	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,542	201	116	147	9,010		
November.....						7,235	428	202	241	14,350		
December.....						10,169	744	120	328	20,170		
Calendar year 1940.....						137,542.2	2,950	4.9	376	272,800		
January.....						11,883	812	258	383	23,570		
February.....						12,897	663	395	461	25,580		
March.....						25,625	1,120	675	827	50,530		
April.....						19,005	974	378	653	37,690		
May.....						29,082	1,280	615	938	57,680		
June.....						20,004	1,160	345	667	39,680		
July.....						3,267	307	28	105	6,480		
August.....						3,319	184	65	107	6,580		
September.....						5,924	301	154	197	11,750		
Water year 1940-41.....						152,948	1,280	28	419	303,400		

b Stage-discharge relation affected by ice.

f Computed on basis of partially estimated gage-height record.

John Day River at Service Creek, Oreg.

Location.— Water-stage recorder, lat. 44°48', long. 120°00', in NE¼ sec. 18, T. 9 S., R. 23 E., a quarter of a mile downstream from Service Creek and three-quarters of a mile southwest of Service Creek post office. Datum of gage is 1,635.83 feet above mean sea level, datum of 1929.

Records available.— October 1929 to September 1941.

Average discharge.— 12 years, 1,305 second-feet.

Extremes.— Maximum discharge during year, 6,270 second-feet June 8 (gage height, 8.30 feet); minimum, 134 second-feet Dec. 15 (gage height, 0.94 foot).

1929-41: Maximum discharge, 28,900 second-feet Mar. 19, 1932 (gage height, 16.75 feet); from rating curve extended above 11,000 second-feet; minimum, 20 second-feet Sept. 6, 1931.

Remarks.— Records good except those for periods of doubtful or no gage-height record, which are fair. Many diversions above station for irrigation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.0	144	3.0	840	6.0	3,150
1.5	250	3.5	1,120	7.0	4,340
2.0	400	4.0	1,440	8.0	5,780
2.5	600	5.0	2,200		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	a440	1,970	1,160	1,370	3,540	3,410	3,160	3,590	1,450	315	447
2	275	a450	1,600	825	1,370	4,920	3,790	4,890	3,390	1,290	300	495
3	309	a467	1,430	632	1,360	4,550	3,760	4,920	3,200	1,560	292	591
4	344	491	1,310	710	1,260	3,890	3,480	5,140	3,100	1,470	280	660
5	372	471	1,350	875	1,200	3,480	3,460	4,670	2,710	1,230	282	835
6	344	439	1,430	901	1,160	3,550	3,260	4,250	2,500	1,050	282	695
7	324	435	1,450	860	1,180	3,350	2,960	3,780	3,700	1,170	272	609
8	298	479	1,240	815	1,190	3,390	2,820	3,660	5,730	1,070	252	555
9	282	564	1,120	770	1,160	3,600	2,770	3,620	4,710	912	236	531
10	272	591	1,010	740	1,180	3,480	2,960	3,260	4,020	800	226	515
11	265	564	720	690	1,380	3,240	3,090	3,060	3,480	700	231	491
12	260	545	479	640	1,680	3,080	2,890	3,280	3,060	636	268	467
13	255	527	540	676	1,700	2,930	2,650	4,000	2,790	578	300	451
14	252	439	d240	730	1,490	2,620	2,640	4,780	2,600	519	312	451
15	250	390	d194	840	1,380	2,390	2,470	4,180	2,450	475	315	451
16	248	407	d240	825	1,250	2,340	2,480	3,610	2,450	471	295	459
17	245	439	d285	820	1,170	2,380	2,400	3,370	2,250	421	260	421
18	243	503	d578	880	1,160	2,690	2,290	4,140	2,490	296	248	421
19	233	547	785	1,090	1,180	3,010	2,090	3,940	3,290	365	245	428
20	233	487	810	1,370	1,200	2,890	1,950	3,400	3,220	350	275	447
21	233	432	1,800	1,450	1,200	2,720	1,880	3,050	3,020	309	288	483
22	231	459	1,640	1,400	1,230	2,580	1,820	2,610	2,600	282	265	479
23	233	507	1,430	1,290	1,250	2,570	1,800	2,650	2,250	262	288	455
24	262	479	1,430	1,290	1,440	2,420	1,860	2,580	2,100	248	312	432
25	268	463	1,480	1,440	1,900	2,290	1,990	2,580	2,160	236	278	421
26	300	507	1,340	2,970	1,820	2,320	2,100	2,460	2,200	226	321	404
27	400	523	3,060	2,430	1,630	2,460	2,280	2,250	1,940	233	400	386
28	a393	596	3,340	1,890	1,780	2,710	2,420	2,240	1,740	252	396	372
29	a460	1,430	2,240	1,630	-	2,960	2,470	2,610	1,680	309	424	365
30	a450	2,580	1,690	1,430	-	3,240	2,660	2,670	1,610	368	400	354
31	a440	-	1,480	1,310	-	3,360	-	2,860	-	368	390	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	9,224	460	251	298	18,500
November.....	17,669	2,580	390	589	35,050
December.....	39,691	3,340	194	1,280	78,730
Calendar year 1940.....	527,583	11,800	27	1,441	1,046,000
January.....	35,379	2,970	632	1,141	70,170
February.....	35,270	1,900	1,160	1,367	75,910
March.....	94,940	4,920	2,290	3,053	186,500
April.....	75,680	3,780	1,800	2,623	156,100
May.....	107,690	5,140	2,240	3,480	214,000
June.....	86,030	5,730	1,610	2,868	170,600
July.....	19,986	1,560	226	645	39,640
August.....	9,248	424	226	298	18,540
September.....	14,751	860	354	492	29,260
Water year 1940-41.....	551,758	5,730	194	1,512	1,094,000

a No gage-height record; discharge computed on basis of records for stations at McDonald Ferry and on North Fork of John Day River at Monument.

d Doubtful gage-height record.

John Day River at McDonald Ferry, Oreg.

Location.- Water-stage recorder, lat. 45°35', long. 120°25', in NW¼ sec. 11, T. 1 N., R. 19 E., at McDonald Ferry, half a mile downstream from Rock Creek and 10 miles east of Klondike. Datum of gage is 392.27 feet above mean sea level, datum of 1929.

Drainage area.- 7,580 square miles.

Records available.- December 1904 to September 1941.

Average discharge.- 36 years (1905-41), 1,869 second-feet.

Extremes.- Maximum discharge during year, 6,290 second-feet June 9 (gage height, 5.32 feet); minimum, 206 second-feet Oct. 1, 2 (gage height, 1.58 feet).
1904-41: Maximum discharge, 24,900 second-feet Mar. 20, 1932 (gage height, 10.6 feet), from rating curve extended above 14,000 second-feet; minimum, 4 second-feet Aug. 31, 1931 (gage height, 0.68 foot).
Maximum stage known, 12.8 feet, probably occurred in 1894 (discharge, 33,000 second-feet, estimated).

Remarks.- Records good except those for periods of ice effect, and doubtful or no gage-height record, which are fair. Diversions above station for irrigation.

Rating table, water year 1940-41, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.6	215	4.0	3,160
2.0	470	4.5	4,230
2.5	915	5.0	5,440
3.0	1,520	5.5	6,790
3.5	2,260		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	206	400	2,230	1,720	1,520	1,920	3,630	2,530	2,780	1,730	324	442
2	220	393	2,130	1,450	1,440	3,440	3,610	2,990	3,610	1,590	372	442
3	237	407	1,700	1,150	1,450	5,040	3,960	4,960	3,610	1,460	365	470
4	249	428	1,510	968	1,440	4,850	3,960	5,020	3,340	1,490	337	562
5	270	463	1,350	825	1,410	4,050	3,720	5,320	3,300	1,530	324	604
6	306	492	1,280	936	1,350	43,700	3,630	4,520	2,930	1,390	300	835
7	351	500	1,330	1,060	1,300	43,740	3,490	4,460	2,690	1,190	282	796
8	358	470	1,410	1,020	1,260	43,460	3,160	3,980	3,370	1,140	276	702
9	357	449	1,320	978	1,260	3,680	2,970	3,740	5,880	1,100	276	630
10	312	470	1,180	915	1,260	3,890	2,880	3,780	4,920	1,050	259	588
11	294	a570	1,060	885	1,250	3,820	3,050	3,400	4,290	905	248	570
12	276	a588	978	835	1,290	3,550	3,240	3,200	3,740	806	237	545
13	264	a560	815	806	1,520	3,380	3,060	3,400	3,300	720	237	522
14	254	545	648	786	1,770	3,240	2,820	4,300	2,930	657	237	500
15	248	538	500	796	1,720	2,910	2,650	4,990	2,730	604	254	485
16	242	500	449	855	1,550	2,620	2,530	4,480	2,550	545	288	478
17	237	435	372	1,490	1,450	2,550	2,570	3,590	2,580	522	300	478
18	237	414	379	1,880	1,340	2,550	2,480	3,570	2,400	492	300	478
19	237	449	492	1,420	1,280	2,760	2,360	4,180	2,570	470	282	463
20	242	500	666	1,250	1,250	3,180	2,180	4,230	3,280	442	372	456
21	254	554	bl,070	1,440	1,250	3,100	2,020	3,680	3,320	407	288	449
22	242	530	1,130	1,630	1,280	2,970	1,940	3,260	3,200	379	276	465
23	232	478	2,240	1,630	1,280	2,780	1,860	2,970	2,750	344	318	492
24	254	485	1,730	1,550	1,300	2,760	1,800	2,760	2,430	312	288	508
25	242	538	1,530	1,620	1,370	2,640	1,850	2,650	2,260	282	276	485
26	232	522	1,630	1,670	1,660	2,450	1,950	2,650	2,260	264	330	463
27	232	515	1,720	2,740	1,950	2,410	2,070	2,570	2,380	254	344	442
28	254	530	2,780	2,970	1,800	2,530	2,200	2,400	2,080	254	306	435
29	324	554	4,000	2,310	-	2,760	2,410	2,310	1,890	248	386	414
30	407	622	2,620	1,940	-	3,050	2,480	2,570	1,790	248	414	407
31	400	-	2,070	1,700	-	3,340	-	2,880	-	248	435	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	8,449	407	206	273	16,760
November.....	14,899	622	393	497	29,550
December.....	44,589	4,000	372	1,432	86,040
Calendar year 1940.....	566,293	11,600	14	1,547	1,123,000
January.....	43,105	2,970	786	1,390	86,500
February.....	40,000	1,950	1,250	1,429	79,540
March.....	98,920	5,040	1,920	3,191	196,200
April.....	82,410	3,960	1,800	2,747	165,500
May.....	111,940	5,320	2,310	3,611	222,000
June.....	91,160	5,680	1,790	3,039	180,300
July.....	23,073	1,730	248	744	45,760
August.....	9,531	435	237	307	18,900
September.....	15,604	835	407	520	30,950
Water year 1940-41.....	583,480	5,880	206	1,599	1,157,000

a No gage-height record; discharge computed on basis of records for station at Service Creek.

b Stage-discharge relation affected by ice.

c Doubtful gage-height record; discharge computed on basis of records for station at Service Creek.

Prairie power canal at Prairie City, Oreg.

Location.- Staff gage, lat. 44°27', long. 118°42', in sec. 11, T. 13 S., R. 33 E., upstream from county road bridge over canal and 1 mile south of Prairie City.

Records available.- May 1925 to September 1941.

Average discharge.- 16 years, 44.4 second-feet.

Extremes.- Maximum discharge observed during year, 80 second-feet May 22, 25, 27, 28 (gage height, 2.80 feet); no flow Nov. 12.

1925-41: Maximum discharge, 92 second-feet May 5, 1939; no flow at times.

Remarks.- Records fair. Canal diverts from John Day River in SE $\frac{1}{4}$ sec. 7, T. 13 S., R. 34 E. Water is used by power plant at Prairie City and is returned to river below station on John Day River at Prairie City. Staff gage read twice daily.

Cooperation.- Gage read by employee of West Coast Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	58	66	53	66	67	68	73	71	59	42	59
2	66	57	66	46	66	68	68	74	72	53	41	71
3	58	57	65	56	66	67	68	73	72	50	44	59
4	60	57	65	67	66	66	68	72	72	448	42	68
5	60	60	66	66	66	66	68	73	72	445	38	68
6	59	60	67	67	67	66	68	71	75	43	34	64
7	58	58	66	66	66	66	67	71	73	40	35	63
8	57	62	67	66	66	66	67	70	70	38	36	62
9	56	62	66	66	67	66	69	73	72	34	39	62
10	55	60	65	64	67	66	68	74	70	32	35	64
11	53	61	55	66	55	69	68	74	68	28	41	64
12	53	30	62	64	66	70	67	75	69	26	48	62
13	53	60	42	66	66	66	69	76	71	26	40	60
14	53	64	46	67	65	67	70	73	71	31	37	60
15	53	64	40	66	66	68	70	70	72	28	30	59
16	51	64	60	65	65	67	70	70	72	28	30	60
17	50	66	67	66	65	69	68	73	74	28	30	61
18	50	66	65	67	66	68	68	71	71	33	30	62
19	49	63	66	66	67	68	65	72	70	35	27	62
20	52	65	66	66	66	68	66	72	72	33	32	73
21	51	66	67	66	66	68	60	71	71	30	32	67
22	50	65	65	65	65	66	58	78	71	30	33	64
23	50	64	65	66	66	64	68	77	71	31	32	63
24	64	67	67	67	67	67	67	75	75	34	33	65
25	60	65	66	67	67	67	66	80	71	25	35	61
26	60	65	65	66	67	67	65	79	71	30	36	60
27	50	66	69	66	67	67	66	77	69	39	41	59
28	54	66	66	66	68	66	65	79	65	37	42	59
29	60	69	66	66	-	68	64	78	65	39	52	60
30	59	66	66	67	-	68	64	78	66	36	58	60
31	58	-	66	66	-	69	-	75	-	46	56	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,716	66	49	55.4	3,410		
November.....						1,852	68	30	61.7	3,670		
December.....						1,958	69	40	63.2	3,880		
Calendar year 1940.....						18,880	71	2	51.6	37,450		
January.....						2,004	67	46	64.6	3,970		
February.....						1,853	68	65	66.2	3,680		
March.....						2,081	70	64	67.1	4,130		
April.....						2,006	70	58	66.9	3,980		
May.....						2,297	80	70	74.1	4,560		
June.....						2,129	78	65	71.0	4,220		
July.....						1,117	59	25	56.0	2,220		
August.....						1,183	58	27	58.2	2,350		
September.....						1,889	73	59	65.0	3,750		
Water year 1940-41.....						22,067	80	25	60.5	43,820		

d Doubtful gage-height record; discharge interpolated.

Strawberry Creek above South Fork, near Prairie City, Oreg.

Location.- Water-stage recorder, lat. 44°20', long. 118°39', in SW $\frac{1}{4}$ sec. 20, T. 14 S., R. 34 E., 100 feet upstream from South Fork of Strawberry Creek and $\frac{1}{2}$ miles south of Prairie City.

Records available.- October 1930 to September 1941.

Average discharge.- 11 years, 10.6 second-feet.

Extremes.- Maximum discharge during year, 73 second-feet May 14 (gage height, 1.97 feet); minimum, 3.2 second-feet Oct. 22.
1930-41: Maximum discharge, 150 second-feet June 9, 1933 (gage height, 2.44 feet), from rating curve extended above 85 second-feet; minimum, 1.4 second-feet several days in each of the years 1931, 1934, 1935, and 1937 and Nov. 19, 1939.

Remarks.- Records good. No diversion above station; some natural regulation by Strawberry Lake.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	4.6	5.1	4.4	3.6	3.8	9.2	26	50	23	8.9	6.0
2	4.4	4.6	5.4	4.2	3.6	4.0	8.2	28	48	22	8.6	6.9
3	4.2	4.6	5.4	4.2	3.6	4.0	8.2	33	46	20	9.6	6.9
4	4.2	4.4	5.4	4.2	3.4	3.8	9.2	36	47	19	8.2	6.9
5	4.0	4.6	5.4	4.2	3.4	3.8	7.8	36	46	19	8.2	6.9
6	4.0	4.6	5.4	4.4	3.4	3.8	7.5	36	48	18	7.8	6.9
7	4.0	4.8	5.4	4.4	3.4	3.6	7.2	36	51	18	7.8	6.6
8	3.8	4.6	5.4	4.4	3.4	3.6	7.2	34	51	17	7.8	6.6
9	3.8	4.6	4.8	4.2	3.4	3.6	7.5	33	48	16	7.8	6.6
10	3.8	4.6	4.8	4.2	3.6	3.6	7.5	34	46	16	7.5	6.6
11	3.6	4.6	4.8	4.2	3.6	3.8	7.5	40	43	15	7.8	6.6
12	3.6	4.6	4.6	4.2	3.4	3.8	7.5	53	46	15	7.5	6.6
13	3.6	4.6	4.6	4.2	3.4	3.8	7.2	66	51	14	7.2	6.6
14	3.6	4.6	4.6	4.2	3.4	3.8	7.2	68	54	13	7.2	6.3
15	3.6	4.6	4.6	4.0	3.4	3.8	7.5	62	54	12	7.2	6.3
16	3.6	4.6	4.6	4.0	3.4	3.8	7.5	58	54	12	7.2	6.3
17	3.6	4.6	4.4	4.0	3.2	4.0	7.5	53	51	12	6.9	6.3
18	3.4	4.6	4.6	4.0	3.2	4.4	7.5	60	51	12	6.9	6.3
19	3.4	4.6	4.4	4.0	3.2	4.6	7.5	46	50	11	6.9	6.3
20	3.4	4.6	4.8	4.0	3.2	4.6	7.2	42	48	11	6.6	6.3
21	3.4	4.6	4.8	4.0	3.2	4.6	7.5	41	45	11	6.6	6.0
22	3.2	4.6	4.8	3.8	3.2	4.6	8.2	42	41	10	6.3	6.0
23	3.4	4.6	4.8	3.8	3.2	4.6	8.9	50	38	10	6.3	6.0
24	6.3	4.6	4.8	3.8	3.2	4.4	10	59	36	10	6.0	6.0
25	5.4	4.6	4.8	4.0	3.2	4.4	12	68	36	10	6.0	6.0
26	5.4	4.6	4.8	3.8	3.2	4.4	13	68	34	10	6.0	6.0
27	4.8	4.6	4.8	3.8	3.2	4.6	14	62	32	9.7	6.0	6.0
28	4.8	4.8	4.6	3.8	3.6	5.4	15	59	29	9.7	6.0	5.7
29	4.8	5.1	4.6	3.8	-	6.3	17	56	26	9.3	6.3	5.7
30	4.8	5.1	4.6	3.8	-	6.9	20	51	24	9.3	6.0	5.4
31	4.6	-	4.4	3.8	-	7.8	-	51	-	8.9	5.7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						126.5	6.3	3.2	4.08	251		
November.....						139.2	5.1	4.4	4.64	276		
December.....						150.3	5.4	4.4	4.85	298		
Calendar year 1940						4,139.5	69	2.7	11.3	8,210		
January.....						125.8	4.4	3.8	4.06	250		
February.....						94.2	3.6	3.2	3.36	187		
March.....						136.0	7.8	3.6	4.39	270		
April.....						277.2	20	7.2	9.24	550		
May.....						1,477	68	26	47.6	2,930		
June.....						1,324	54	24	44.1	2,650		
July.....						422.9	23	8.9	15.6	859		
August.....						219.8	8.9	5.7	7.09	456		
September.....						189.6	6.9	5.4	6.32	376		
Water year 1940-41						4,682.5	68	3.2	12.8	9,290		

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

North Fork of John Day River near Dale, Oreg.

Location.— Water-stage recorder, lat. 45°00', long. 118°57', in SE $\frac{1}{4}$ sec. 35, T. 6 S., R. 31 E., three-eighths of a mile downstream from Desolation Creek and $\frac{1}{4}$ miles north-east of Dale. Datum of gage is 2,775.85 feet above mean sea level, datum of 1929.

Drainage area.— 525 square miles.

Records available.— October 1929 to September 1941.

Average discharge.— 12 years, 310 second-feet.

Extremes.— Maximum discharge during year, 2,520 second-feet May 1 (gage height, 6.84 feet); minimum daily, 20 second-feet Dec. 14.
1929-41: Maximum discharge, 4,990 second-feet May 14, 1932 (gage height, 8.4 feet); minimum, 6 second-feet Nov. 3, 1936 (gage height, 1.40 feet).

Remarks.— Records fair prior to May 1 except those for periods of ice effect, which are poor; good after May 1. Small diversions above station for irrigation and mining, which cause diurnal fluctuation at low stages.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	123	238	60	125	232	680	2,080	1982	468	116	102
2	74	126	191	*60	120	275	735	2,060	915	440	103	136
3	119	123	173	50	118	265	735	2,130	1,010	484	100	240
4	102	100	173	70	123	240	685	1,790	880	440	100	219
5	88	80	171	80	147	232	705	1,570	810	352	99	176
6	77	93	178	70	153	215	618	1,380	885	354	92	142
7	69	100	165	70	121	208	595	1,240	1,800	436	86	129
8	62	123	165	60	117	228	613	1,190	1,610	354	82	132
9	59	115	153	50	118	250	745	1,110	1,420	315	78	119
10	58	102	96	50	121	252	805	1,100	1,280	288	74	110
11	55	100	72	50	125	252	730	1,190	1,150	264	77	107
12	56	83	45	50	125	248	670	1,390	1,060	246	103	107
13	54	46	25	60	114	230	640	1,670	988	231	97	110
14	52	60	*20	70	112	213	650	1,420	920	216	82	109
15	52	70	25	70	93	218	715	1,200	968	198	80	109
16	51	80	30	70	90	218	675	1,100	850	183	74	109
17	50	100	60	70	115	232	626	1,240	830	176	70	100
18	48	110	60	80	129	302	555	1,200	1,020	164	68	102
19	45	100	110	100	136	311	508	1,030	1,060	154	70	125
20	46	90	140	110	121	290	504	940	1,050	146	78	118
21	48	120	240	121	115	275	504	920	925	134	78	110
22	48	180	210	118	114	272	543	940	835	129	74	102
23	50	100	190	118	116	268	595	972	740	123	82	95
24	61	99	200	121	133	280	695	1,020	710	118	83	92
25	119	114	170	180	128	252	775	960	800	110	84	86
26	119	103	160	145	120	285	835	890	687	109	109	84
27	107	104	300	123	128	356	1,020	845	620	123	146	83
28	96	140	220	120	145	445	1,040	855	610	150	125	84
29	94	220	180	110	-	515	1,090	880	606	164	100	82
30	107	262	150	100	-	613	1,170	1,890	525	148	118	78
31	115	-	120	130	-	670	-	1,960	-	127	119	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,242	119	45	72.3	4,450
November.....	3,306	262	46	110	6,560
December.....	4,450	300	20	144	8,830
Calendar year 1940.....	105,707	1,690	20	289	209,700
January.....	2,756	180	50	88.9	5,470
February.....	3,424	153	90	122	6,790
March.....	9,112	670	208	294	18,070
April.....	21,446	1,170	504	715	42,540
May.....	38,162	2,130	845	1,231	75,690
June.....	28,556	1,800	525	952	56,640
July.....	7,374	484	109	238	14,630
August.....	2,847	146	66	91.8	5,650
September.....	3,499	240	78	117	6,940
Water year 1940-41.....	127,174	2,130	20	348	252,300

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for station at Monument.

f Computed on basis of partly estimated gage-height record.

Note.— Stage-discharge relation affected by ice Nov. 14-23, Dec. 12 to Jan. 20, Jan. 28 to Feb. 1.

North Fork of John Day River at Monument, Oreg.

Location.— Water-stage recorder, lat. 44°49', long. 119°26', in E₁ sec. 1, T. 9 S., R. 27 E., just downstream from entrance to canyon, three-quarters of a mile west of Monument.

Drainage area.— 2,520 square miles.

Records available.— March 1925 to September 1941.

Average discharge.— 15 years (1925-27, 1928-41), 920 second-feet.

Extremes.— Maximum discharge during year, 4,890 second-feet June 7 (gage height, 6.70 feet); minimum daily discharge, 70 second-feet Dec. 14.

1925-41: Maximum discharge, 22,000 second-feet Mar. 18, 1932 (gage height, 14.8 feet), from rating curve extended above 9,000 second-feet; minimum, 6 second-feet sometime in period Nov. 2-13, 1936, when recorder was not operating.

Remarks.— Records good except those for periods of ice effect, which are fair. Several small diversions above station for irrigation.

Rating tables, water year 1940-41, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 20				Dec. 21 to Sept. 30			
1.5	70	3.5	1,060	1.7	135	3.6	1,200
1.8	134	4.0	1,520	2.0	225	4.0	1,540
2.2	252	4.5	2,040	2.4	400	4.5	2,070
2.6	430			2.8	620	5.0	2,560
3.0	680			3.2	900	5.0	3,920

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	218	1,380	750	928	3,020	2,360	3,040	2,440	1,030	214	245
2	118	242	1,190	450	855	3,310	2,500	3,360	2,250	963	197	273
3	139	260	998	400	893	2,970	2,410	3,480	2,230	1,140	187	466
4	184	252	980	500	837	2,430	2,260	3,280	2,030	1,090	187	546
5	165	216	1,060	570	802	2,400	2,300	2,970	1,820	942	194	428
6	149	193	1,190	550	754	2,430	2,050	2,640	1,730	886	187	350
7	132	215	996	530	7809	2,280	1,890	2,320	3,790	872	169	301
8	120	262	852	500	7809	2,410	1,840	2,400	3,890	816	156	261
9	111	360	778	470	7764	2,500	1,830	2,170	3,200	655	150	277
10	108	290	558	440	868	2,290	2,070	2,020	2,720	588	150	257
11	105	275	7347	410	998	2,110	2,040	2,030	2,350	534	163	245
12	103	271	300	400	1,130	2,020	1,840	2,240	2,080	494	184	233
13	103	212	2100	440	1,010	1,810	1,740	2,900	1,940	460	204	233
14	103	142	70	480	921	1,570	1,680	2,970	1,780	415	208	241
15	100	159	90	500	858	1,520	1,700	2,470	1,820	395	200	233
16	100	193	110	499	747	1,500	1,650	2,190	1,650	370	158	253
17	98	245	180	504	728	1,570	1,560	2,230	1,610	346	152	229
18	98	303	390	582	747	1,940	1,460	3,010	1,980	328	142	233
19	98	260	500	823	h774	1,980	1,340	2,500	2,310	305	138	249
20	94	196	600	921	7740	1,960	1,300	2,200	2,290	281	140	277
21	98	202	1,500	942	795	1,740	1,260	2,030	2,030	253	145	261
22	98	253	1,360	893	795	1,710	1,270	1,920	1,780	253	150	241
23	103	223	1,140	844	837	1,570	1,320	1,850	1,540	218	200	225
24	122	232	1,280	928	1,100	1,510	1,420	1,860	1,460	211	160	214
25	149	252	1,230	1,310	1,300	1,500	1,520	1,810	1,660	200	169	204
26	255	271	1,220	2,170	1,000	1,550	1,600	1,820	1,500	194	229	197
27	212	275	3,190	1,430	928	1,710	1,780	1,500	1,320	208	249	187
28	193	637	2,150	1,190	1,350	1,920	1,830	1,500	1,360	261	269	184
29	187	1,980	1,470	1,020	-	2,070	1,860	1,840	1,240	293	229	184
30	187	2,080	1,220	907	-	2,220	1,990	1,700	1,130	301	208	178
31	206	-	1,030	935	-	2,250	-	2,100	-	245	237	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,132	235	94	135	8,200		
November.....						11,169	2,080	142	372	22,150		
December.....						29,357	3,190	70	947	58,230		
Calendar year 1940.....						361,421	8,120	30	987	716,800		
January.....						23,298	2,170	400	752	48,210		
February.....						25,137	1,350	728	898	49,860		
March.....						63,760	3,310	1,300	2,056	126,400		
April.....						53,760	2,560	1,260	1,793	106,700		
May.....						72,230	3,450	1,500	2,330	143,300		
June.....						60,780	3,890	1,130	2,026	120,600		
July.....						15,529	1,140	194	501	30,800		
August.....						5,727	269	138	185	11,360		
September.....						7,905	546	178	264	15,680		
Water year 1940-41.....						372,794	3,880	70	1,021	739,500		

* Winter discharge measurement made on this day.

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

Note.— Stage-discharge relation affected by ice Dec. 12-21, Jan. 1-15.

Middle Fork of John Day River at Ritter, Oreg.

Location.- Water-stage recorder, lat. 44°53', long. 119°08', in NW¼ sec. 8, T. 8 S., R. 30 E., at bridge half a mile south of Ritter.

Drainage area.- 526 square miles.

Records available.- October 1929 to September 1941.

Average discharge.- 12 years, 184 second-feet.

Extremes.- Maximum discharge during year, 774 second-feet June 7 (gage height, 4.39 feet); minimum observed, 14.3 second-feet Dec. 14, discharge measurement (ice effect).
1929-41: Maximum discharge 4,000 second-feet Mar. 19, 1932 (gage height, 7.78 feet), from rating curve extended above 1,200 second-feet; minimum, 1.0 second-foot Dec. 10, 1932.

Remarks.- Records good except those for period of ice effect, which are poor. A few small diversions above station for irrigation.

Rating table, water year 1940-41, except period of ice effect (gage height, in feet, and discharge, in second-feet)

1.8	15	3.0	186
2.0	28	3.4	295
2.3	60	3.8	455
2.6	106	4.3	715

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	63	220	91	119	673	575	560	505	162	47	54
2	42	66	186	70	113	685	595	611	425	152	42	68
3	59	74	175	53	111	575	560	638	394	164	41	140
4	54	64	168	73	104	464	520	590	346	154	41	113
5	50	55	171	94	101	425	505	540	306	134	44	88
6	44	56	171	98	106	442	460	482	320	124	38	70
7	38	63	158	96	115	446	419	437	691	115	33	63
8	35	99	144	99	111	510	398	450	622	110	29	60
9	34	88	132	99	110	565	402	410	520	98	30	55
10	32	84	96	91	120	515	445	390	450	89	33	53
11	32	83	63	82	144	486	428	406	390	83	31	50
12	32	82	b40	78	175	473	386	473	342	78	40	52
13	32	52	b20	82	150	419	366	560	312	74	46	55
14	31	61	*b15	91	136	362	354	545	292	69	37	53
15	31	76	b20	84	122	342	358	460	292	66	33	54
16	31	78	b25	74	115	338	350	419	262	63	33	53
17	30	74	b50	83	117	390	330	428	262	59	32	50
18	32	77	b70	83	122	510	306	468	326	56	27	52
19	30	71	b100	96	122	515	280	398	370	52	29	61
20	29	64	b140	113	126	478	265	362	370	49	39	61
21	31	77	b240	120	134	437	259	338	306	46	30	55
22	31	74	212	110	144	424	259	326	265	42	40	52
23	31	70	188	108	158	414	274	320	238	40	35	48
24	33	66	205	119	210	378	298	334	230	41	33	47
25	68	71	177	138	220	378	312	316	265	38	39	45
26	74	59	158	171	196	398	326	286	232	38	50	44
27	59	78	289	146	193	442	354	265	210	50	61	42
28	56	219	230	132	315	491	362	292	203	73	58	42
29	55	382	171	119	-	535	370	326	191	77	48	41
30	59	292	158	111	-	550	406	338	177	61	53	40
31	61	-	134	124	-	555	-	482	-	50	70	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						1,291	74	29	41.6		2,560	
November.....						2,818	352	52	93.9		5,590	
December.....						4,326	269	15	140		8,580	
Calendar year 1940.....						70,853	1,580	5	194		140,500	
January.....						3,128	171	53	101		6,200	
February.....						4,009	315	145	145		7,950	
March.....						14,618	685	338	472		28,990	
April.....						11,523	595	259	384		22,860	
May.....						13,250	638	265	427		26,280	
June.....						10,117	691	177	337		20,070	
July.....						2,505	164	38	80.8		4,970	
August.....						1,241	70	27	40.0		2,460	
September.....						1,761	140	40	59.7		3,490	
Water year 1940-41.....						70,587	691	15	193		140,000	

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Fox Creek at gorge near Fox, Oreg.
(The lower part of this stream is named Cottonwood Creek)

Location.- Water-stage recorder, lat. 44°37', long. 119°16', in NW¼ sec. 17, T. 11 S., R. 29 E., at head of gorge, 6 miles southwest of Fox.

Records available.- October 1930 to September 1941.

Average discharge.- 11 years, 16.9 second-feet.

Extremes.- Maximum discharge during year, 122 second-feet (regulated) May 1 (gage height, 2.15 feet); practically no flow Oct. 1-23, 1930-41; Maximum discharge, 800 second-feet Mar. 18, 1932 (gage height, 4.55 feet), from rating curve extended above 180 second-feet; no flow at times.

Remarks.- Records fair except those for periods of ice effect, which are poor. Several diversions above station for irrigation.

Rating table, water year 1940-41, except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.4	0	1.0	7.3	1.9	79
.6	.6	1.3	22.4	2.1	115
.8	2.8	1.6	46		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	17	b8.0	13	104	46	89	36	14	1.1	0.8
2	0	1.0	15	b5.0	13	97	55	93	30	16	.7	2.0
3	0	.2	13	b4.0	12	82	49	97	25	21	.6	3.8
4	0	.1	10	b5.0	10	44	49	87	21	14	.6	3.9
5	0	.1	9.2	b6.0	8.8	44	49	65	18	10	.6	2.8
6	0	.1	8.1	5.7	11	40	42	52	22	8.1	.6	2.2
7	0	.2	8.8	5.0	11	36	36	46	53	7.0	.5	2.1
8	0	.1	8.1	5.0	10	33	36	51	47	5.5	.4	1.7
9	0	.1	6.8	6.3	10	27	38	46	39	4.3	.4	1.7
10	0	.6	b5.0	8.5	13	28	45	39	30	3.8	.3	1.6
11	0	1.1	b4.0	9.2	21	27	46	32	25	4.6	.5	1.7
12	0	.9	b3.0	8.1	23	26	40	32	22	3.2	.5	2.0
13	0	.8	b2.0	7.0	f12	23	35	46	24	3.6	.7	1.6
14	0	.6	*b1.7	10	f8.8	22	30	59	22	2.8	.7	1.8
15	0	1.0	b2.0	14	f11	24	29	54	21	2.5	.6	1.8
16	0	1.4	b2.5	12	f8.8	24	30	43	18	2.2	.8	1.5
17	0	2.1	b2.5	6.5	f10	21	30	48	20	2.2	.6	1.3
18	0	2.0	b6.0	12	9.6	25	26	64	28	2.1	.5	1.7
19	0	2.0	b7.0	23	17	28	24	64	36	1.7	.4	2.5
20	0	1.2	b12	34	27	27	21	47	32	1.3	.4	2.2
21	0	1.4	b30	30	29	25	20	38	25	1.2	.4	1.7
22	0	2.0	19	21	25	27	12	36	19	1.1	.3	1.5
23	0	2.2	10	17	22	28	17	28	15	.9	.4	1.4
24	.4	2.0	14	16	43	24	17	25	17	.9	.4	1.3
25	.1	2.4	11	41	47	21	17	22	22	1.0	.5	1.2
26	.2	b2.0	17	48	31	22	19	17	23	1.4	.6	1.2
27	.1	2.4	72	26	28	23	21	17	18	2.2	.6	1.1
28	.1	9.2	47	16	54	28	21	23	16	3.4	.7	1.1
29	.1	22	19	11	-	32	20	32	17	2.4	.8	1.2
30	.1	29	14	12	-	41	25	31	16	1.8	.7	1.1
31	.1	-	b11	12	-	40	-	38	-	1.8	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1.2	0.4	0	0.04	2.4
November.....	90.3	29	.1	3.01	179
December.....	407.7	72	1.7	13.2	809
Calendar year 1940.....	5,453.9	253	0	14.9	10,820
January.....	444.9	48	4.0	14.4	882
February.....	539.0	54	8.8	19.2	1,070
March.....	1,075	104	21	34.6	2,130
April.....	947	55	12	31.6	1,880
May.....	1,461	97	17	47.1	2,900
June.....	757	53	15	25.2	1,500
July.....	148.0	21	.9	4.77	294
August.....	17.7	1.1	.3	.57	35
September.....	53.9	3.9	.8	1.80	107
Water year 1940-41.....	5,940.7	104	0	16.3	11,790

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

f Computed on basis of partly estimated gage-height record.

Deschutes River below Snow Creek, near Lapine, Oreg.

Location.- Water-stage recorder, lat. 43°49', long. 121°46', in NW¼ sec. 28, T. 20 S., R. 8 E., 50 feet downstream from Snow Creek, upstream from flowline of Crane Prairie Reservoir, and 17 miles northwest of Lapine. Altitude of gage, about 4,448 feet (from reservoir surveys by Bureau of Reclamation).

Records available.- November 1937 to September 1941.

Extremes.- Maximum discharge during year, 89 second-feet Oct. 24 (gage height, 1.38 feet); minimum, 55 second-feet Apr. 23 to May 3, June 5, 6, 8-17, July 1, 3, 5, 1937-41; Maximum discharge, 291 second-feet July 27, 1938 (gage height, 1.96 feet); minimum, that of Apr. 23 to May 3, June 5, 6, 8-17, July 1, 3, 5, 1941.

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

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	85	81	b74	66	61	59	55	57	57	59	63
2	85	85	81	b72	66	61	59	55	57	57	59	63
3	85	85	81	72	66	59	59	55	57	57	59	61
4	85	85	81	72	66	59	61	61	57	57	59	61
5	85	85	78	74	66	59	63	61	55	57	59	61
6	85	85	78	72	*66	59	61	61	55	57	57	61
7	85	85	78	72	66	59	63	61	57	57	57	61
8	85	85	78	72	64	59	61	61	55	57	59	61
9	85	85	78	72	66	59	63	61	55	57	61	63
10	85	85	78	70	66	59	63	61	55	57	59	63
11	85	85	76	70	66	59	63	59	55	57	61	63
12	85	85	76	70	64	59	61	59	55	57	61	63
13	85	85	b76	70	64	57	61	59	55	57	59	63
14	85	83	b74	70	63	57	59	59	55	57	61	63
15	85	81	b74	70	63	57	59	59	55	57	59	63
16	85	81	74	70	63	59	59	59	55	61	61	63
17	85	81	74	72	63	59	57	59	55	59	61	63
18	87	81	78	72	63	59	57	59	59	59	63	63
19	87	81	74	70	63	59	57	59	59	61	61	63
20	87	81	78	70	63	59	57	57	57	59	61	63
21	87	81	74	70	63	59	57	57	57	59	61	64
22	87	78	74	70	63	59	57	57	55	59	61	64
23	87	78	74	70	63	59	55	57	57	59	61	63
24	87	78	74	70	63	59	55	57	57	59	61	63
25	85	78	74	70	59	59	55	57	57	59	61	63
26	85	*78	76	68	59	59	55	57	57	59	61	63
27	85	78	74	66	59	59	55	57	57	59	61	64
28	85	78	74	66	59	61	55	57	57	59	61	64
29	85	81	74	66	-	59	55	57	57	59	61	64
30	85	81	74	66	-	59	55	57	57	59	61	64
31	85	-	74	66	-	59	-	57	-	59	61	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,649	87	85	85.5	5,250
November.....	2,463	85	78	82.1	4,890
December.....	2,362	81	74	76.2	4,680
Calendar year 1940.....	29,886	92	74	81.7	59,270
January....., 1940	2,174	74	66	70.1	4,310
February.....	1,781	66	59	63.6	3,530
March.....	1,829	61	57	59.0	3,630
April.....	1,756	63	55	58.5	3,480
May.....	1,807	61	55	58.3	3,580
June.....	1,688	59	55	56.3	3,350
July.....	1,803	61	57	58.2	3,680
August.....	1,867	63	57	60.2	3,700
September.....	1,984	64	61	62.8	3,740
Water year 1940-41.....	24,063	87	55	65.9	47,720

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Deschutes River at Crane Prairie, near Lapine, Oreg.

Location.- Water-stage recorder, lat. 43°45', long. 121°47', in NW¼ sec. 16, T. 21 S., R. 8 E., 200 yards downstream from Crane Prairie Dam and 15 miles northwest of Lapine.

Records available.- January 1914 to June 1917, February 1922 to September 1941.

Average discharge.- 20 years (1914-15, 1922-41), 193 second-feet.

Extremes.- Maximum discharge during year, 360 second-feet July 13, 15, 18 (gage height, 1.84 feet); minimum, 2 second-feet (regulated) Dec. 21 (gage height, 0.25 foot).
1914-17, 1922-40: Maximum discharge, 659 second-feet Aug. 3, 1938 (gage height, 2.58 feet); minimum, that of Dec. 21, 1940.

Remarks.- Records good except those for periods of backwater from aquatic vegetation or debris on control, which are fair. No diversion above station; flow partly regulated since Nov. 4, 1922 by Crane Prairie Reservoir (see p. 52).

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	52	9	6	7	4	5	229	259	238	223	128
2	144	9	10	6	7	5	5	223	259	238	223	138
3	144	9	10	5	7	5	5	206	253	238	223	128
4	144	9	10	6	7	5	5	189	244	238	223	126
5	144	9	10	7	7	5	5	150	244	238	223	126
6	141	9	10	7	7	5	5	150	244	244	223	124
7	141	9	10	7	7	5	4	142	244	244	223	124
8	141	9	10	7	6	5	4	126	244	303	223	124
9	141	9	10	7	6	5	4	126	244	336	223	124
10	141	9	10	7	6	5	4	124	244	336	209	124
11	141	9	9	7	6	5	4	124	247	336	165	124
12	141	7	8	7	6	5	4	124	247	339	145	124
13	141	8	8	7	6	5	5	124	247	356	128	124
14	141	9	8	7	6	5	5	124	247	356	126	124
15	139	7	8	7	6	5	5	142	247	356	124	124
16	139	8	7	7	5	5	5	198	244	356	122	122
17	139	8	7	7	6	5	5	187	244	356	122	122
18	137	8	14	7	6	5	5	160	241	356	140	122
19	137	7	14	7	5	5	5	152	238	339	128	122
20	137	7	14	7	4	5	5	203	238	281	124	122
21	137	7	11	7	4	5	14	223	238	281	124	119
22	134	10	5	7	4	5	25	223	238	281	124	119
23	134	12	5	7	4	5	25	223	238	275	124	119
24	141	11	5	7	4	5	25	247	238	223	124	119
25	137	10	5	7	4	5	25	262	238	223	124	119
26	137	10	5	7	4	5	30	262	238	223	124	119
27	132	10	5	7	4	5	38	262	238	223	124	119
28	134	9	5	7	4	5	85	262	238	223	122	119
29	137	7	5	7	-	5	226	259	238	223	122	119
30	139	8	5	7	-	5	226	259	238	223	122	119
31	137	-	6	7	-	5	-	259	-	223	122	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,318	146	132	139	8,560		
November.....						306	52	7	10.2	607		
December.....						259	14	5	8.4	514		
Calendar year 1940.....						46,276	474	5	126	91,780		
January.....						213	7	6	6.9	422		
February.....						156	7	4	5.6	309		
March.....						154	5	4	5.0	305		
April.....						813	226	4	27.1	1,610		
May.....						5,954	262	124	192	11,810		
June.....						7,299	259	238	243	14,480		
July.....						8,745	356	223	282	17,350		
August.....						4,896	223	122	158	9,710		
September.....						3,686	138	119	123	7,310		
Water year 1940-41.....						36,799	356	4	101	72,990		

Note.- Backwater from aquatic vegetation or debris on control Oct. 1 to Apr. 28, Aug. 11 to Sept. 30; discharge computed on basis of 10 discharge measurements and gage heights.

Deschutes River below Wickiup Reservoir, near Lapine, Oreg.

Location.— Water-stage recorder, lat. 43°41', long. 121°41', in NE¼ sec. 7, T. 22 S., R. 9 E., about 2,000 feet downstream from Wickiup Dam (under construction, 1938-41), and 9 miles west of Lapine.

Records available.— June 1938 to September 1941.

Extremes.— Maximum discharge during year, 819 second-feet July 19 (gage height, 4.45 feet); minimum, 457 second-feet Dec. 13, Mar. 23.

1938-41: Maximum discharge, 1,340 second-feet Aug. 4, 1938 (gage height, 6.15 feet); minimum, that of Dec. 13, 1940, Mar. 23, 1941.

Remarks.— Records good. Flow regulated by Crane Prairie Reservoir (see p. 52); no regulation at Wickiup Reservoir in 1941.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	633	580	471	471	469	475	460	684	731	684	649	561
2	629	473	471	471	469	475	464	680	728	687	649	583
3	629	471	471	471	469	471	462	670	728	691	653	563
4	629	469	471	471	469	471	464	670	702	687	653	555
5	623	476	480	473	469	471	464	623	702	687	649	555
6	620	475	476	471	471	469	462	598	705	687	649	552
7	617	478	476	471	471	469	462	604	702	713	649	549
8	617	475	476	471	469	469	462	586	702	739	656	549
9	617	475	476	471	473	469	466	577	698	784	673	549
10	613	475	476	469	473	467	464	577	698	792	649	549
11	613	473	473	469	475	467	462	577	695	784	626	552
12	613	473	473	469	473	467	462	580	695	784	595	552
13	610	471	473	471	469	467	462	580	695	804	577	552
14	607	473	480	476	467	464	462	577	695	807	574	552
15	607	471	473	471	467	464	462	577	695	811	569	552
16	607	471	473	471	467	464	460	636	636	815	566	549
17	607	471	473	476	467	464	460	653	620	815	566	549
18	604	471	480	471	467	462	460	613	705	815	601	552
19	601	471	476	476	467	462	460	607	728	815	577	546
20	604	471	480	471	467	459	460	626	687	750	577	546
21	607	471	480	471	467	459	460	673	687	716	574	544
22	601	469	476	471	467	459	471	677	684	716	569	544
23	601	473	476	471	469	459	471	677	684	713	569	544
24	617	478	476	471	469	459	469	691	680	673	566	544
25	604	473	476	473	467	459	469	720	687	653	569	544
26	604	473	480	475	467	460	469	720	687	656	569	544
27	601	473	476	469	467	460	475	720	680	663	569	541
28	601	475	475	469	469	460	476	724	680	669	566	541
29	607	475	475	469	-	460	629	728	680	653	563	541
30	607	471	475	469	-	460	684	728	680	653	563	541
31	610	-	471	469	-	460	-	728	-	653	563	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	18,960	633	601	612	37,610
November.....	14,294	580	469	476	28,350
December.....	14,734	480	471	475	29,220
Calendar year 1940.....	230,846	1,030	469	631	457,900
January.....	14,605	475	469	471	28,970
February.....	13,130	475	467	469	26,040
March.....	14,401	475	459	465	28,560
April.....	14,313	684	460	477	28,390
May.....	20,081	728	577	648	39,830
June.....	20,776	731	620	693	41,210
July.....	22,559	815	653	728	44,750
August.....	18,597	673	563	600	36,890
September.....	16,495	583	541	550	32,720
Water year 1940-41.....	202,945	815	459	555	402,500

Deschutes River at Pringle Falls, near Lapine, Oreg.

Location.— Water-stage recorder, lat. 43°44', long. 121°37', in SW¼ sec. 23, T. 21 S., R. 9 E., half a mile upstream from bridge at Pringle Falls and 7 miles northwest of Lapine.

Records available.— December 1915 to June 1917, June 1922 to September 1941.

Average discharge.— 18 years (1923-41), 710 second-feet.

Extremes.— Maximum discharge during year, 800 second-feet June 18, July 13-19 (gage height, 1.58 feet); minimum, 452 second-feet Jan. 1, Apr. 8, 13-21 (gage height, 1.18 feet).
1915-17, 1922-41: Maximum discharge, 1,290 second-feet Aug. 4, 1938 (gage height, 2.88 feet); minimum, 341 second-feet sometime during period when recorder was stopped, Feb. 1-14, 1932.

Remarks.— Records good. No diversion above station. Flow regulated since 1922 by Crans Prairie Reservoir (see p. 52).

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	630	581	467	464	458	454	458	684	722	673	646	558
2	620	470	467	467	458	464	458	684	717	673	640	576
3	620	470	467	464	455	464	458	682	717	673	640	563
4	620	467	467	464	455	461	458	688	717	673	640	550
5	620	470	474	467	458	461	458	610	700	678	640	550
6	615	470	470	467	461	458	455	590	695	678	635	545
7	615	474	470	467	461	458	465	595	700	706	640	541
8	615	470	470	467	461	458	452	576	695	722	646	541
9	610	477	470	461	464	458	461	568	695	766	662	541
10	610	470	470	461	467	458	458	568	695	772	640	541
11	610	470	467	461	467	458	455	568	690	772	625	541
12	610	474	464	461	464	458	455	572	690	772	590	537
13	610	470	467	464	458	458	455	572	690	794	568	537
14	600	470	474	467	458	455	455	572	690	800	563	537
15	600	470	467	464	458	455	455	572	690	800	558	537
16	600	470	467	461	458	455	455	630	656	800	554	537
17	600	470	467	467	458	455	452	651	610	800	554	537
18	600	470	474	464	458	458	452	610	684	800	586	537
19	600	467	470	464	458	458	452	595	728	800	568	537
20	600	467	474	461	458	455	452	615	684	744	563	537
21	600	467	474	461	458	455	452	668	684	712	568	537
22	600	464	470	461	458	455	467	673	678	712	558	537
23	600	467	470	461	458	455	470	673	678	712	558	537
24	605	477	470	464	458	455	467	690	678	678	554	537
25	605	470	470	467	458	455	467	717	684	651	554	537
26	605	467	474	464	458	455	467	717	684	651	554	537
27	595	467	474	458	458	455	480	722	678	662	558	533
28	600	470	467	455	461	458	480	728	673	656	554	533
29	610	470	467	455	-	458	635	728	673	646	554	529
30	610	467	467	455	-	458	684	728	673	646	554	529
31	615	-	467	455	-	458	-	728	-	646	550	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						18,850	630	595	608	37,390		
November.....						14,203	581	464	473	28,170		
December.....						14,553	474	464	469	28,870		
Calendar year 1940.....						232,540	1,010	464	635	461,200		
January.....						14,339	467	455	463	28,440		
February.....						12,860	467	455	459	25,510		
March.....						14,186	464	455	458	28,140		
April.....						14,178	684	452	473	28,120		
May.....						19,934	728	568	643	39,540		
June.....						20,648	728	610	688	40,950		
July.....						22,268	800	646	718	44,170		
August.....						18,274	662	550	589	36,260		
September.....						16,226	576	529	541	32,180		
Water year 1940-41.....						200,519	800	452	549	397,700		

Note.— No gage-height record Oct. 1-3, Nov. 26 to Dec. 1, Dec. 3-26; discharge computed on basis of records for station below Wickiup Reservoir.

Deschutes River at Benham Falls, near Bend, Oreg.

Location.- Water-stage recorder, lat. 43°56', long. 121°25', in SE¼ sec. 9, T. 19 S., R. 11 E., 50 yards upstream from head of Benham Falls, 1½ miles downstream from dam site for proposed Benham Falls Reservoir, and 10 miles southwest of Bend.

Records available.- March 1909 to September 1913, August 1920 to September 1921, February 1924 to September 1941. July 1906 to February 1909, April to September 1914 at West Ranch, 7 miles upstream.

Average discharge.- 24 years (1906-13, 1924-41), 1,331 second-feet.

Extremes.- Maximum discharge during year, 1,200 second-feet July 16, 17 (gage height, 1.08 feet); maximum gage height, 2.84 feet Dec. 15, ice jam; minimum daily discharge, 720 second-feet Dec. 15.

1906-13, 1920-21, 1924-41: Maximum discharge, 5,000 second-feet (estimated) Nov. 27, 1909 (gage height not determined); minimum, 690 second-feet Feb. 8, 9, 1933 (gage height, -0.14 foot).

Remarks.- Records excellent except those for period of shifting control, which are good, and those for periods of ice effect, which are fair. Small diversions above station for irrigation. Some regulation since 1922 by Crane Prairie and Crescent Lake Reservoirs (see p. 52).

Rating table, water year 1940-41, except periods of ice effect or shifting control (gage-height, in feet, and discharge, in second-feet)

0.2	790	0.8	1,030
.4	865	1.0	1,120
.6	945		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	965	973	853	837	841	865	861	1,040	1,170	1,100	1,010	865
2	973	953	857	b800	837	873	861	1,050	1,170	1,100	998	885
3	973	873	865	b860	833	877	861	1,060	1,180	1,100	990	897
4	969	853	861	b885	833	885	853	1,060	1,140	1,100	994	881
5	965	857	857	b860	837	889	853	1,090	1,110	1,090	990	873
6	961	857	853	b830	841	881	853	1,050	1,100	1,100	985	873
7	957	853	849	b820	845	873	853	1,070	1,100	1,090	985	873
8	957	853	845	b820	837	869	857	1,080	1,090	1,120	981	869
9	957	853	849	b820	841	869	857	1,050	1,080	1,140	990	865
10	957	857	837	b818	853	869	861	1,040	1,080	1,180	1,010	857
11	957	857	818	818	873	873	857	1,040	1,080	1,180	1,010	853
12	957	853	763	818	869	873	857	1,030	1,080	1,180	994	853
13	957	846	b740	818	849	869	853	1,020	1,060	1,180	949	845
14	957	841	b730	829	841	861	841	1,010	1,060	1,180	925	845
15	953	841	b720	825	837	857	833	1,020	1,060	1,190	913	845
16	953	841	769	825	837	857	825	1,030	1,060	1,200	901	849
17	953	837	945	833	829	857	818	1,080	1,030	1,200	885	841
18	953	833	921	833	829	861	822	1,100	1,010	1,180	893	841
19	953	*825	933	837	*829	869	825	1,050	1,070	1,180	917	841
20	953	822	865	833	833	877	818	1,050	1,110	1,180	906	841
21	957	825	853	833	833	873	818	1,070	1,100	1,120	893	841
22	957	825	861	833	837	865	818	1,110	1,100	1,070	893	829
23	957	814	865	833	845	849	829	1,100	1,080	1,060	889	833
24	961	833	881	837	857	849	829	1,100	1,080	1,060	877	837
25	973	841	881	853	853	853	825	1,110	1,070	1,030	877	837
26	969	837	893	857	845	849	825	1,140	1,070	1,010	873	833
27	965	837	905	837	841	845	829	1,140	1,070	1,010	869	829
28	965	849	869	833	845	845	841	1,150	1,080	1,020	869	829
29	969	853	841	833	-	853	857	1,160	1,100	1,010	861	825
30	973	853	841	829	-	857	994	1,160	1,100	1,020	857	825
31	969	-	837	833	-	857	-	1,170	-	1,020	861	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						29,795	973	953	961	59,100		
November.....						25,544	973	814	851	50,670		
December.....						26,177	933	720	844	51,920		
Calendar year 1940.....						394,964	1,550	720	1,079	785,400		
January.....						25,630	865	800	833	51,250		
February.....						23,580	873	829	842	46,770		
March.....						26,799	869	845	864	53,180		
April.....						25,364	994	818	846	50,350		
May.....						33,430	1,170	1,010	1,078	66,310		
June.....						32,670	1,170	1,010	1,069	64,800		
July.....						34,400	1,200	1,010	1,110	68,530		
August.....						26,844	1,010	857	930	57,210		
September.....						25,510	897	825	850	50,600		
Water year 1940-41.....						337,963	1,200	720	926	670,400		

a Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- Shifting-control method used June 21 to Sept. 30.

DESCHUTES RIVER BASIN

Deschutes River below Lava Island, near Bend, Oreg.

Location.- Water-stage recorder, lat. 44°00', long. 121°22', in SW¼ sec. 23, T. 18 S., R. 11 E., three-quarters of a mile downstream from Lava Island, 1 mile downstream from intake of Arnold Canal, and 6 miles southwest of Bend.

Records available.- March 1926 to September 1941.

Average discharge.- 15 years, 1,049 second-feet.

Extremes.- Maximum discharge during year, 1,110 second-feet Jan. 3 (gage height, 0.89 foot); minimum, 594 second-feet Jan. 3 (gage height, 0.04 foot) caused by ice jam upstream.
1926-41: Maximum discharge, 1,780 second-feet Jan. 3, 1928 (gage height, 1.55 feet); minimum, that of Jan. 3, 1941.

Remarks.- Records excellent except those for periods of no gage-height record, which are fair. Arnold Canal diverts water above station for irrigation. Flow regulated by Crescent Lake and Crane Prairie Reservoir (see p. 52).

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 1 to Sept. 30)

0.3 700
.6 880
.9 1,120

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	854	900	802	776	789	808	770	888	1,070	976	952	789
2	860	900	808	745	782	815	755	896	1,060	968	944	808
3	860	820	815	808	782	822	763	912	1,020	968	936	815
4	854	805	808	834	782	828	745	920	1,010	976	928	808
5	854	810	808	802	752	834	740	944	992	968	928	796
6	848	810	802	782	789	828	740	944	984	976	928	796
7	848	805	796	776	789	822	740	944	976	976	912	796
8	848	805	796	776	789	815	745	944	968	984	912	789
9	854	810	796	776	789	815	745	920	968	1,010	920	782
10	854	810	782	776	802	815	745	904	968	1,020	888	782
11	848	810	763	776	822	822	740	904	968	1,050	888	776
12	854	805	750	776	815	822	745	896	960	1,050	904	776
13	848	800	730	770	802	815	740	896	952	1,050	880	776
14	848	795	715	782	789	815	735	888	944	1,050	860	776
15	848	795	700	782	789	808	730	936	944	1,060	841	756
16	841	795	880	750	787	782	725	960	944	1,060	828	745
17	848	792	860	750	785	770	720	1,000	936	1,060	815	745
18	848	789	841	756	755	763	720	1,020	896	1,060	822	745
19	848	789	834	776	750	802	725	992	944	1,050	841	745
20	848	782	815	789	750	815	725	964	992	1,050	841	745
21	848	782	808	782	750	815	720	992	960	1,020	815	763
22	848	782	815	782	776	808	720	968	960	976	815	770
23	848	776	815	782	802	796	725	968	960	960	808	770
24	854	789	828	789	808	796	730	960	952	952	802	770
25	860	796	834	802	808	796	725	968	952	952	802	770
26	850	789	841	808	802	796	725	992	952	968	796	770
27	845	763	854	789	802	789	725	1,000	952	968	796	770
28	845	756	822	782	802	789	730	1,000	952	976	796	770
29	855	763	796	782	-	796	740	1,010	968	968	789	770
30	870	789	796	782	-	796	828	1,040	976	968	782	763
31	885	-	796	782	-	789	-	1,090	-	976	782	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						26,421	885	841	852		52,410	
November.....						24,012	900	756	800		47,630	
December.....						24,806	880	700	803		49,400	
Calendar year 1940.....						354,471	1,340	700	968		703,100	
January.....						24,220	834	745	781		48,040	
February.....						22,069	822	750	788		43,770	
March.....						24,982	834	763	806		49,550	
April.....						22,182	828	720	739		43,960	
May.....						29,680	1,090	888	957		58,870	
June.....						29,080	1,070	896	969		57,880	
July.....						31,046	1,060	952	1,001		61,680	
August.....						26,551	952	782	856		52,660	
September.....						23,232	815	745	774		46,080	
Water year 1940-41.....						308,361	1,090	700	845		611,600	

Note.- No gage-height record Oct. 25 to Nov. 17, Dec. 13-16, Feb. 16-18; discharge computed on basis of records for station at Benham Falls, near Bend, and station below Bend.

Deschutes River below Bend, Oreg.

Location.- Water-stage recorder, lat. 44°05', long. 121°18', in SE¼ sec. 20, T. 17 S., R. 12 E., half a mile downstream from North Canal Co. dam and 2 miles north of Bend.

Records available.- October 1914 to September 1941.

Average discharge.- 27 years, 658 second-feet.

Extremes.- Maximum discharge during year, 1,270 second-feet Dec. 15 (gage height, 3.23 feet); minimum, 8.5 second-feet July 5 (gage height, 0.83 foot).
1914-41: Maximum discharge, 2,500 second-feet Dec. 7, 1921 (gage height, 3.9 feet); minimum, 1 second-foot Aug. 25, 1930.
Maximum discharge known near this site since 1905, 4,820 second-feet Nov. 27, 1909.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Six large canals divert water above station. Flow regulated by hydroelectric plant at Bend, and since 1922 by Crescent Lake and Crane Prairie Reservoirs (see p. 52).

Rating tables water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 15				Dec. 16 to Sept. 30			
1.6	125	2.3	475	1.0	19	1.8	200
1.8	190	2.6	705	1.2	47	2.0	289
2.0	285	2.8	870	1.4	84	2.3	475
				1.6	134		

Note.- Same as preceding table above 2.3 feet.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	169	520	572	602	753	761	558	118	-	61	22	18	22
2	176	505	641	729	769	777	275	105	52	13	18	32	
3	176	475	853	721	802	777	212	100	f20	16	18	78	
4	190	454	844	844	794	810	153	110	18	18	19	96	
5	199	454	853	802	802	844	126	115	16	11	20	102	
6	194	461	828	785	802	844	126	102	f22	12	18	115	
7	183	512	802	785	810	828	112	123	16	12	22	120	
8	172	a520	802	794	802	819	112	123	16	23	18	110	
9	176	a525	810	785	802	802	107	105	17	28	22	105	
10	176	a560	828	785	761	802	110	91	19	f20	19	107	
11	166	a585	802	785	610	729	107	93	26	f16	28	102	
12	166	a590	769	794	618	558	107	93	18	17	19	100	
13	186	a597	721	794	602	558	105	93	16	22	16	102	
14	176	a585	721	802	418	535	102	89	16	24	18	110	
15	158	a585	673	745	490	354	91	78	17	22	20	110	
16	152	a585	870	342	475	425	93	100	18	26	20	102	
17	155	a585	836	279	490	392	89	112	18	29	23	102	
18	140	a580	853	255	572	398	93	98	f17	19	18	102	
19	125	a580	836	535	753	602	98	74	f27	23	f31	93	
20	137	f572	836	810	753	737	96	59	57	26	26	91	
21	152	572	512	802	745	745	93	40	16	27	17	96	
22	131	588	326	802	761	745	91	18	16	20	20	107	
23	120	610	326	794	802	729	96	15	14	29	28	102	
24	131	572	354	802	810	745	105	16	14	22	24	98	
25	122	625	681	819	810	761	89	28	20	17	18	105	
26	146	633	879	819	802	745	93	40	13	19	20	f107	
27	134	602	879	810	794	729	100	32	26	22	22	f112	
28	128	412	862	794	769	729	100	22	26	22	24	112	
29	140	340	810	785	-	737	98	f18	220	18	22	105	
30	155	528	819	794	-	737	131	a33	40	20	17	107	
31	290	-	810	745	-	737	-	f66	-	28	18	-	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	5,021	290	120	162	9,960
November.....	16,302	633	340	543	32,330
December.....	23,008	879	326	742	45,640
Calendar year 1940.....	152,305	1,120	17	416	302,100
January.....	22,739	844	255	734	45,100
February.....	19,971	810	418	713	39,610
March.....	21,491	844	354	693	42,630
April.....	3,868	558	89	129	7,670
May.....	2,309	123	15	74.5	4,580
June.....	892	220	13	29.7	1,770
July.....	643	29	11	20.7	1,280
August.....	641	31	16	20.7	1,270
September.....	2,952	120	22	98.4	5,560
Water year 1940-41.....	119,837	844	11	328	237,700

a No gage-height record; discharge computed on basis of records for stations at Benham Falls, near Bend, and diversions.

f Computed on basis of partly estimated gage-height record.

DESCHUTES RIVER BASIN

Deschutes River near Madras, Oreg.

Location.- Water-stage recorder, lat. 44°43', long. 121°14', in NE¼ sec. 13, T. 10 S., R. 12 E., 1 mile downstream from Pelton dam site, 4 miles upstream from Shitike Creek, and 9 miles northwest of Madras. Altitude of gage, about 1,404 feet (from river-profile map).

Records available.- October 1923 to September 1941.

Average discharge.- 18 years, 4,120 second-feet.

Extremes.- Maximum discharge during year, 5,500 second-feet Mar. 3 (gage height, 3.09 feet); minimum, 3,030 second-feet Aug. 20 (gage height, 1.48 feet).
1923-41: Maximum discharge, 11,300 second-feet Apr. 20, 1938 (gage height, 5.99 feet); minimum, 2,950 second-feet Aug. 25, 1940 (gage height, 1.43 feet).

Remarks.- Records excellent except those for period of no gage-height record, which are fair. Large diversions in upper river basin for irrigation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.5	3,060	2.4	4,370
1.9	3,470	2.7	4,850
2.1	3,910	3.0	5,350

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,370	3,440	3,820	4,040	4,080	4,310	5,080	3,610	3,400	3,260	3,090	3,160
2	3,390	3,700	3,840	3,980	4,090	4,870	4,740	3,620	3,440	3,220	3,090	3,270
3	3,390	3,680	3,970	3,970	4,080	5,400	5,110	3,640	3,410	3,200	3,100	3,220
4	3,370	3,620	4,120	3,980	4,080	5,150	4,770	3,630	3,400	3,190	3,090	3,260
5	3,390	3,670	4,120	4,120	4,080	4,980	4,450	3,940	3,540	3,180	3,090	3,270
6	3,390	3,660	4,140	4,090	4,060	4,910	4,430	3,820	3,540	3,180	3,090	3,260
7	3,400	3,720	4,080	4,060	4,060	4,850	4,240	3,730	3,350	3,160	3,100	3,250
8	3,390	3,730	4,040	4,040	4,090	5,010	4,100	3,670	3,350	3,150	3,110	3,250
9	3,360	3,720	4,040	4,030	4,140	5,110	4,120	3,610	3,320	3,140	3,110	3,250
10	3,360	3,720	4,030	4,000	4,160	5,150	4,140	3,640	3,360	3,120	3,110	3,250
11	3,360	3,760	4,020	3,960	4,100	5,200	4,140	3,620	3,330	3,120	3,140	3,250
12	3,360	3,760	3,960	3,970	4,140	5,300	4,140	3,640	3,320	3,120	3,140	3,250
13	3,340	3,740	3,820	4,020	4,240	5,100	3,980	3,620	3,320	3,120	3,120	3,250
14	3,360	3,740	3,790	4,040	4,260	5,490	3,910	3,580	3,290	3,120	3,120	3,230
15	3,350	3,730	3,720	4,030	4,000	5,470	3,880	3,620	3,230	3,120	3,120	3,250
16	3,300	3,730	3,760	3,920	3,920	5,450	3,860	3,660	3,230	3,140	3,110	3,250
17	3,300	3,730	3,960	3,670	3,910	5,470	3,850	3,700	3,250	3,150	3,110	3,220
18	3,300	3,720	4,140	3,700	3,880	4,800	3,780	3,610	3,270	3,150	3,110	3,220
19	3,300	3,720	4,100	3,670	3,980	5,010	3,730	3,530	3,290	3,150	3,120	3,220
20	3,290	3,760	4,160	3,960	4,080	5,300	3,680	3,510	3,270	3,120	3,120	3,200
21	3,300	3,760	4,160	4,140	4,080	5,130	3,610	3,470	3,230	3,120	3,140	3,190
22	3,320	3,740	3,800	4,150	4,090	4,990	3,570	3,480	3,300	3,140	3,150	3,190
23	3,320	3,740	3,920	4,200	4,140	5,010	3,570	3,440	3,260	3,110	3,190	3,220
24	3,360	3,840	3,880	4,230	4,210	5,030	3,560	3,500	3,250	3,110	3,150	3,200
25	3,340	3,790	3,850	4,210	4,270	4,910	3,570	3,500	3,220	3,100	3,180	3,190
26	3,320	3,850	4,180	4,210	4,450	4,980	3,580	3,400	3,200	3,100	3,190	3,190
27	3,350	3,850	4,270	4,210	4,370	4,980	3,570	3,330	3,190	3,120	3,160	3,190
28	3,330	3,880	4,180	4,350	4,270	5,040	3,550	3,300	3,190	3,120	3,160	3,200
29	3,350	3,920	4,200	4,260	-	5,210	3,580	3,290	3,180	3,110	3,140	3,190
30	3,360	3,790	4,230	4,160	-	5,230	3,580	3,290	3,330	3,100	3,120	3,190
31	3,400	-	4,150	4,140	-	5,210	-	3,320	-	3,100	3,120	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						103,760	3,400	3,290	3,347	205,800		
November.....						112,210	3,920	3,440	3,740	222,600		
December.....						124,440	4,270	3,720	4,014	246,800		
Calendar year 1940.....						1,433,820	5,520	3,110	3,917	2,844,000		
January.....						125,550	4,350	3,670	4,050	249,000		
February.....						115,310	4,450	3,880	4,118	228,700		
March.....						155,100	5,400	4,310	5,003	307,600		
April.....						119,840	5,110	3,550	3,995	237,700		
May.....						110,350	3,940	3,290	3,560	218,900		
June.....						98,780	3,440	3,180	3,293	195,900		
July.....						97,340	3,260	3,100	3,140	193,100		
August.....						96,890	3,190	3,090	3,125	192,200		
September.....						96,730	3,270	3,160	3,224	191,900		
Water year 1940-41.....						1,556,300	5,400	3,090	3,716	2,690,000		

a No gage-height record; discharge computed on basis of records for station at Moody, near Biggs.

Deschutes River at Moody, near Biggs, Oreg.

Location.- Water-stage recorder, lat. 45°37', long. 120°54', in SE¼ sec. 26, T. 2 N., R. 15 E., at Moody, 1½ miles upstream from mouth and 5 miles southwest of Biggs. Datum of gage is 167.43 feet above mean sea level, datum of 1929.

Drainage area.- 10,500 square miles.

Records available.- July 1906 to September 1941. October 1897 to December 1899 at site near Moro, 10 miles above mouth.

Average discharge.- 36 years (1898-99, 1906-41), 5,751 second-feet.

Extremes.- Maximum discharge during year, 6,400 second-feet Jan. 19 (gage height, 3.11 feet); minimum, 3,510 second-feet July 25, 26 (gage height, 2.11 feet).
1897-99, 1906-41: Maximum discharge, 43,600 second-feet Jan. 7, 1923 (gage height, 10.2 feet), from rating table extended above 15,000 second-feet; minimum, 3,380 second-feet Sept. 16-19, 1931 (gage height, 2.06 feet).

Remarks.- Records excellent except those for periods of no gage-height records, which are fair. Many diversions in upper river basin for irrigation.

Cooperation.- Water-stage recorder inspected by agent of Eastern Oregon Land Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

2.1	3,490
2.4	4,210
2.7	5,050
3.1	6,370

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,780	3,900	4,610	4,610	4,840	4,960	5,960	4,180	4,050	3,810	3,530	3,580
2	3,810	3,930	4,460	4,460	4,810	5,110	5,800	4,210	4,060	3,710	3,530	3,690
3	3,830	4,130	4,430	4,430	4,780	5,330	5,610	4,240	4,050	3,690	3,580	3,730
4	3,830	4,080	4,640	4,460	4,720	6,200	5,900	4,270	4,030	3,690	3,580	3,690
5	3,810	4,050	4,690	4,520	4,690	6,000	5,380	4,490	3,980	3,670	3,560	3,710
6	3,610	4,110	4,610	4,610	4,690	5,800	5,140	4,900	3,930	3,640	3,530	3,710
7	3,810	4,080	4,760	4,610	4,690	5,640	5,110	4,690	3,930	3,640	3,530	3,690
8	3,810	4,160	4,690	4,490	4,690	5,640	4,930	4,550	3,900	3,620	3,530	3,670
9	3,780	4,270	4,660	4,490	4,800	5,700	4,900	4,430	3,880	3,600	3,560	3,670
10	3,760	4,150	4,550	4,460	5,100	5,300	4,930	4,350	3,880	3,560	3,560	3,670
11	3,760	4,160	4,490	4,430	5,500	5,900	4,870	4,350	3,900	3,580	3,580	3,670
12	3,760	4,160	4,460	4,410	5,300	5,960	4,370	4,330	3,880	3,580	3,600	3,690
13	3,760	4,160	4,360	4,410	5,100	5,800	4,750	4,430	3,880	3,580	3,580	3,690
14	3,760	4,160	4,160	4,490	5,000	5,730	4,580	4,380	3,850	3,580	3,580	3,690
15	3,760	4,160	4,080	4,490	5,000	5,700	4,520	4,290	3,810	3,580	3,530	3,690
16	3,730	4,130	4,050	4,490	4,900	5,440	4,520	4,320	3,760	3,580	3,530	3,710
17	3,710	4,130	4,210	4,410	4,800	5,110	4,520	4,350	3,780	3,600	3,530	3,710
18	3,710	4,160	4,430	5,290	4,900	5,200	4,460	4,460	3,810	3,600	3,530	3,690
19	3,710	4,130	4,660	5,700	5,000	5,480	4,410	4,350	3,830	3,600	3,560	3,670
20	3,710	4,110	4,610	4,720	5,100	5,800	4,350	4,240	3,830	3,580	3,580	3,690
21	3,710	4,160	4,720	4,960	5,100	5,930	4,270	4,180	3,810	3,560	3,530	3,690
22	3,730	4,130	4,720	4,930	5,000	5,730	4,210	4,130	3,780	3,560	3,560	3,670
23	3,760	4,110	4,320	4,930	5,000	5,600	4,130	4,110	3,810	3,530	3,560	3,670
24	3,830	4,210	4,490	4,990	5,000	5,640	4,130	4,110	3,780	3,530	3,600	3,690
25	3,880	4,290	4,430	5,200	5,000	5,640	4,130	4,160	3,760	3,530	3,600	3,670
26	3,830	4,270	4,430	5,330	4,990	5,540	4,160	4,130	3,730	3,530	3,620	3,640
27	3,780	4,290	4,840	5,320	5,020	5,640	4,160	4,030	3,710	3,530	3,620	3,640
28	3,780	4,410	4,870	5,170	4,960	5,640	4,130	4,030	3,690	3,580	3,600	3,640
29	3,780	4,690	4,720	5,200	-	5,330	4,130	3,980	3,690	3,580	3,600	3,640
30	3,810	5,020	4,750	5,020	-	5,960	4,160	3,930	3,670	3,560	3,580	3,640
31	3,830	-	4,720	4,900	-	6,000	-	3,980	-	3,560	3,560	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	117,120	5,880	3,710	3,778	232,300
November.....	125,970	5,020	3,900	4,199	249,900
December.....	140,720	4,370	4,050	4,539	279,100
Calendar year 1940.....	1,715,260	10,900	3,560	4,667	3,402,000
January.....	148,480	5,830	4,410	4,790	294,500
February.....	138,480	5,600	4,690	4,946	274,700
March.....	176,960	6,200	4,960	5,676	349,000
April.....	141,020	5,960	4,130	4,701	279,700
May.....	132,630	4,900	3,930	4,278	263,100
June.....	115,430	4,080	3,670	3,648	229,000
July.....	111,560	3,810	3,530	3,599	221,300
August.....	110,540	3,620	3,530	3,566	219,300
September.....	110,300	3,730	3,580	3,677	218,800
Water year 1940-41.....	1,568,200	6,200	3,530	4,296	3,111,000

Note.- No gage-height record Feb. 6-25, Mar. 5-11; discharge computed on basis of records for station near Madras.

Reservoirs in Deschutes River Basin above Bend, Oreg.

Crane Prairie Reservoir.-- Staff gage, lat. 43°45', long. 121°47', at dam on Deschutes River in NW 1/4 sec. 18, T. 21 S., R. 6 E., 15 miles northwest of Lapine. Datum of gage is 4,400.0 feet above mean sea level (Bureau of Reclamation bench mark). Records available, November 1922 to September 1941. Maximum contents observed during year, 28,380 acre-feet Apr. 22-25 (gage height, 38.94 feet); no usable contents Oct. 5-31, Aug. 14 to Sept. 30. Maximum contents observed during period 1922-41, 50,830 acre-feet Jan. 10-13, 1924 (gage height, 44.10 feet); no usable contents at times.

Reservoir is formed by earth dam completed by North Canal Co. in 1922; gates were first closed Nov. 22, 1922; reconstructed as rock-faced earth dam with concrete control works by Bureau of Reclamation in 1939-40. Capacity, 55,340 acre-feet between gage heights 24.0 feet (lip of fish screen structure) and 45 feet (crest of spillway). Natural flow passing through reservoir when outlet gates are open prevents withdrawal of storage to elevation of sill of gates. Water used for irrigation near Bend and Redmond. Gage read twice daily.

Crescent Lake Reservoir.-- Staff gage, lat. 43°30', long. 121°58', at head of spillway on dam at lake outlet in sec. 11, T. 24 S., R. 6 E., and auxiliary staff gage at boat dock 100 yards south, 14 miles west of Crescent. Datum of gage is 4,826.0 feet above mean sea level (levels of Deschutes County Municipal Improvement District). Records available, August 1922 to September 1941. Maximum contents observed during year, 23,710 acre-feet May 17 (gage height, 6.68 feet); minimum, 14,360 acre-feet (interpolated) Sept. 30. Maximum contents observed during period 1922-41, 72,460 acre-feet July 15, 1923 (gage height, 19.55 feet); minimum observed, 9,640 acre-feet Oct. 21, 1931 (gage height, 2.75 feet).

Reservoir is formed by dam of earth and logs, completed and storage begun in 1922. Capacity, 86,050 acre-feet between gage heights 0.0 foot (sill of outlet gate) and 23.0 feet (crest of spillway). Dead storage not known; records given herein represent usable contents. Water is diverted from Deschutes River at Bend and used by Deschutes County Municipal Improvement District for irrigation near Tumalo. Gage read once daily, Oct. 19 to Dec. 7, Mar. 2-15, and occasionally Mar. 29 to Sept. 30.

Other reservoirs.-- Only a few very small reservoirs for local irrigation.

Monthly gage height and contents, water year October 1940 to September 1941

Date	Crane Prairie Reservoir			Crescent Lake Reservoir		
	Gage height (feet)*	Contents (acre-feet)	Change in contents during month (acre-feet)	Gage height (feet)*	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	27.61	28	-	-	a18,860	-
Oct. 31.....	24.83	0	-28	5.54	19,590	+730
Nov. 30.....	32.38	6,392	+6,392	5.77	20,420	+830
Dec. 31.....	34.81	13,490	+7,098	-	a21,720	+1,300
Calendar year 1940	-	-	-10,370	-	-	-6,520
Jan. 31.....	-	a19,790	+6,290	-	a22,700	+980
Feb. 28.....	37.68	23,530	+3,750	-	a22,700	0
Mar. 31.....	36.44	26,420	+2,690	6.2	21,980	-720
Apr. 30.....	38.78	27,750	+1,330	-	a22,300	+320
May 31.....	36.95	20,840	-6,910	6.61	23,460	+1,160
June 30.....	34.38	12,120	-8,720	-	a21,740	-1,720
July 31.....	30.10	1,582	-10,538	-	a16,790	-4,950
Aug. 31.....	24.52	0	-1,582	-	a15,750	-1,040
Sept. 30.....	24.37	0	0	-	a14,360	-1,390
Water year 1940-41	-	-	-28	-	-	-4,500

* Time of day variable.

a No gage-height record; contents interpolated.

Cultus River above Cultus Creek, near Lapine, Oreg.

Location.- Water-stage recorder, lat. 43°49', long. 121°48', at road crossing in sec. 20 of T. 20 S., R. 8 E., upstream from flow line of Crane Prairie Reservoir, 2 miles upstream from Cultus Creek, and 18 miles northwest of Lapine. Altitude of gage, about 4,450 feet (from reservoir surveys by Bureau of Reclamation).

Records available.- June 1923 to September 1925, November 1937 to September 1941.

Extremes.- Maximum discharge during year, 43 second-feet Oct. 26, 27 (gage height, 0.72 foot); minimum, 28 second-feet Mar. 22, Apr. 5-10.

1923-25, 1937-41: Maximum discharge, 113 second-feet May 16, 1938 (gage height, 0.99 foot); minimum, that of Mar. 22, Apr. 5-10, 1941.

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

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	41	39	39	38	34	30	34	36	36	38	36
2	41	41	39	39	38	34	30	34	36	36	38	36
3	41	41	41	39	38	34	30	36	36	36	38	36
4	41	41	41	39	36	34	30	36	36	36	38	36
5	41	41	41	38	36	34	28	36	36	36	38	36
6	41	41	41	38	36	34	28	36	36	36	38	36
7	41	41	41	38	36	34	28	36	36	36	38	36
8	39	41	41	38	36	34	28	36	36	36	38	36
9	39	41	41	39	34	34	28	36	36	36	38	33
10	39	41	41	39	36	34	28	36	36	36	38	33
11	39	41	41	39	36	34	30	36	36	38	38	32
12	39	41	41	39	34	34	30	36	33	38	38	32
13	39	41	41	39	34	34	30	36	33	38	38	32
14	39	41	41	38	34	32	30	36	33	38	38	32
15	39	39	39	38	34	32	30	36	33	38	39	33
16	39	39	39	36	34	32	30	36	33	38	39	33
17	39	39	39	38	34	32	30	36	33	38	39	33
18	39	39	39	38	34	30	30	36	33	38	39	33
19	39	39	39	38	34	30	30	36	33	38	39	33
20	39	39	39	38	34	30	30	36	33	38	39	33
21	41	39	39	39	34	30	32	36	33	38	39	33
22	41	39	39	39	34	28	32	36	33	38	39	33
23	41	39	39	39	34	30	32	36	33	38	39	33
24	41	39	41	39	34	30	32	36	33	38	39	33
25	41	39	39	39	34	30	32	36	33	38	39	33
26	43	39	41	39	34	30	34	36	34	38	39	33
27	43	39	39	39	34	30	34	36	34	38	39	32
28	41	39	39	39	34	30	34	36	34	38	39	32
29	41	39	39	39	-	30	34	36	34	38	36	32
30	41	39	39	39	-	30	34	36	36	38	36	33
31	41	-	39	39	-	30	-	36	-	38	36	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,249	43	39	40.3	2,490		
November.....						1,198	41	39	39.9	2,380		
December.....						1,237	41	39	39.9	2,460		
Calendar year 1940.....						16,545	59	36	45.2	32,830		
January.....						1,196	39	36	38.6	2,370		
February.....						978	38	34	34.9	1,940		
March.....						988	34	28	31.9	1,960		
April.....						918	34	28	30.6	1,820		
May.....						1,112	36	34	35.9	2,210		
June.....						1,030	36	33	34.3	2,040		
July.....						1,168	39	36	37.4	2,300		
August.....						1,186	39	36	38.3	2,350		
September.....						1,007	36	32	33.6	2,000		
Water year 1940-41.....						13,257	43	28	36.3	26,500		

Quinn River near Lapine, Oreg.

Location.- Water-stage recorder and wooden control, lat. 43°47', long. 121°50', in NW¼ sec. 1, T. 21 S., R. 7 E., just upstream from flow line of Crane Prairie Reservoir, 150 feet downstream from springs at head of river, and 19 miles northwest of Lapine.

Records available.- June 1922 to September 1925, November 1937 to September 1941.

Extremes.- Maximum discharge during year, 9.5 second-feet July 5, 9 (gage height, 1.64 feet); minimum recorded, 2.0 second-feet Dec. 9 (gage height, 1.53 feet).
1922-25, 1937-41: Maximum discharge, 47 second-feet July 14-16, 1938; minimum recorded, that of Dec. 9, 1940.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. No diversion or regulation above station.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.5	3.5	3.0		4.0		6.0	6.0	8.0	8.5	6.0	4.5
2	7.0	3.5	3.0		4.0		6.0	6.0	7.0	8.5	6.0	4.5
3	6.5	3.5	3.0		4.0		6.0	5.5	7.0	8.5	6.0	4.0
4	6.5	3.5	3.0		4.0		5.5	5.5	7.0	8.5	6.0	4.0
5	6.5	3.5	2.5		4.0		4.5	5.0	6.5	8.5	6.0	4.0
6	6.5	3.5	2.5		4.0		5.0	5.5	6.5	8.5	5.5	4.0
7	5.0	3.0	3.0		4.0		5.0	5.5	6.5	8.5	5.5	4.0
8	5.0	3.5	3.0		4.0		5.5	5.5	6.5	8.5	5.5	4.0
9	4.5	3.0	2.0		4.0		5.5	5.5	6.5	8.0	5.5	4.0
10	4.0	3.5	3.5		4.0		5.0	6.0	7.0	8.0	5.5	4.0
11	4.0	3.5		3.5	4.0		5.0	6.0	8.0	8.0	5.0	4.0
12	4.0	3.0			4.0		5.5	6.0	8.0	8.0	5.0	4.0
13	3.5	3.5			4.0		5.5	6.0	8.0	8.0	5.0	4.0
14	3.5	3.5			4.0		5.5	6.0	8.0	8.0	5.0	4.0
15	3.5	3.5			4.0		5.5	6.5	8.0	8.0	5.0	4.0
16	3.5	3.5		4.0	4.0	5.2	5.5	6.5	7.0	7.0	4.5	4.0
17	3.0	3.5			4.0		5.5	6.5	7.0	6.5	4.5	4.0
18	3.5	3.5			4.0		5.5	6.0	7.0	6.5	4.5	3.5
19	3.5	3.5			4.0		5.5	6.5	6.5	6.5	4.5	3.5
20	3.5	3.5			4.0		5.5	7.0	8.0	6.5	4.5	3.5
21	3.5	3.5		3.5		4.5	5.5	7.0	8.0	6.5	4.5	3.5
22	3.5	3.5					6.0	7.0	8.0	6.5	4.5	3.0
23	3.5	3.5					6.0	8.0	8.0	6.5	4.5	3.5
24	3.5	3.5					6.0	8.0	7.0	6.5	4.5	3.0
25	3.5	3.5					6.0	8.0	7.0	6.5	4.5	2.5
26	3.5	3.5					6.5	8.0	7.0	6.5	4.5	3.0
27	3.5	3.0					6.5	8.0	8.0	6.0	4.5	3.0
28	4.0	3.0					6.5	8.0	8.0	6.0	4.5	3.0
29	3.5	3.0					6.5	7.0	8.0	6.0	4.5	2.5
30	3.5	3.0					6.0	8.0	8.0	6.0	4.5	3.0
31	3.5	-					8.0		6.0	4.5	-	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						134.5	8.5	3.0	4.34	267		
November.....						101.5	3.5	3.0	3.38	201		
December.....						102.0	-	2.0	3.29	202		
Calendar year 1940.....						3,992.5	19	2.0	10.9	7,920		
January.....						124.0	-	-	4.00	245		
February.....						118.0	-	-	4.21	235		
March.....						161.2	-	-	5.20	320		
April.....						170.0	6.5	4.5	5.67	337		
May.....						204.0	8.0	5.0	6.58	405		
June.....						221.0	8.0	6.5	7.37	438		
July.....						226.0	8.5	6.0	7.29	448		
August.....						154.5	6.0	4.5	4.98	306		
September.....						110.0	4.5	2.5	3.67	218		
Water year 1940-41.....						1,826.7	8.5	2.0	5.00	3,620		

Note.- No gage-height record Oct. 1, Dec. 12 to Feb. 5, Feb. 16 to Apr. 2, Apr. 20-27, July 28-31, Aug. 3-17, Aug. 20 to Sept. 16; discharge interpolated.

Odell Creek near Crescent, Oreg.

Location.- Water-stage recorder, lat. 43°33', long. 121°58', in SW¼ sec. 25, T. 23 S., R. 6 E., at outlet of Odell Lake, 3½ miles north of Crescent Lake and 14 miles northwest of Crescent. Datum of gage is 4,778.83 feet above mean sea level, datum of 1929.

Drainage area.- 39 square miles.

Records available.- August 1911 to August 1914 (incomplete), December 1923 to June 1924, May 1933 to September 1941.

Extremes.- Maximum discharge recorded during year, 102 second-feet May 18 (gage height, 0.72 foot); minimum, 17 second-feet Sept. 30 (gage height, 0.29 foot). 1911-14, 1923-24, 1933-41: Maximum discharge, 390 second-feet June 14, 1912, Jan. 4, 1936; minimum, 12 second-feet sometime in period Sept. 7-30, 1934.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversion above station. Flow regulated at times by debris which collects on fish racks or by boards used at outlet of Odell Lake to change lake levels; slightly affected at times by seiches on Odell Lake.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.3	18	0.5	44	0.7	95
.4	28	.6	66		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	46	50	66	52	46	37	47	72	50	30	26
2	34	44	50	61	50	46	36	60	69	50	28	36
3	34	44	50	59	48	46	38	66	66	50	27	34
4	32	40	50	59	46	46	38	72	64	48	27	32
5	32	42	56	61	44	46	44	86	61	46	26	32
6												
8	31	44	54	59	44	46	42	80	64	46	26	31
9	31	48	54	56	42	44	44	86	66	44	26	27
10	31	50	52	52	42	44	46	85	64	44	26	27
11	30	56	50	52	44	48	48	90	64	42	26	26
12	30	56	48	50	48	42	40	77	61	40	27	26
13	30	54	44	48	56	42	42	86	59	58	27	26
14	30	52	42	48	59	40	40	90	61	57	27	26
15	28	50	38	50	56	40	40	90	61	56	26	26
16	28	48	37	54	52	38	42	89	59	54	26	26
17	28	46	36	56	50	38	50	86	56	56	26	26
18	28	48	34	56	48	38	54	86	56	57	25	24
19	30	50	34	64	46	38	55	89	59	57	25	24
20	30	48	40	72	46	38	54	92	66	57	31	23
21	30	46	42	72	46	37	53	86	72	56	31	23
22	31	48	50	69	46	37	52	85	69	54	31	23
23	31	50	59	66	44	37	51	80	64	52	31	21
24	31	46	61	64	44	38	50	80	61	52	30	21
25	31	44	61	61	46	38	49	83	59	51	28	20
26	40	46	64	64	48	37	48	86	56	27	27	21
27	38	48	66	72	48	37	47	86	56	27	27	21
28	38	46	78	72	48	37	46	86	61	30	27	21
29	37	50	88	66	46	37	46	86	61	32	27	19
30	37	50	78	64	46	37	45	80	56	32	26	19
31	40	52	72	59	-	36	46	78	54	31	26	19
32	44	52	75	56	-	36	47	75	52	31	24	18
33	46	-	72	54	-	36	-	75	-	31	23	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,027	46	28	33.1	0.849	0.98	2,040
November.....	1,444	56	40	48.1	1.23	1.38	2,860
December.....	1,680	83	34	54.2	1.39	1.60	3,330
Calendar year 1940.....	19,690	104	19	53.8	1.38	18.77	39,040
January.....	1,862	72	48	60.1	1.54	1.78	3,690
February.....	1,336	59	42	47.7	1.22	1.27	2,650
March.....	1,240	46	36	40.0	1.03	1.18	2,460
April.....	1,372	55	37	45.7	1.17	1.31	2,720
May.....	2,506	92	47	80.8	2.07	2.39	4,970
June.....	1,849	72	52	61.6	1.58	1.76	3,670
July.....	1,158	50	27	37.4	0.99	1.10	2,300
August.....	838	31	23	27.0	0.92	1.00	1,660
September.....	740	36	18	24.7	0.93	0.71	1,470
Water year 1940-41.....	17,050	92	18	46.7	1.20	16.26	35,820

Note.- No gage-height record Apr. 12, 13, Apr. 16 to May 3, May 5, 6, 8-13; discharge computed on basis of weather records and records for Waldo Lake outlet near Oakridge.

Fall River near Lapine, Oreg.

Location.- Water-stage recorder, lat. 43°48', long. 121°34', in SE $\frac{1}{4}$ sec. 31, T. 20 S., R. 10 E., downstream from spillway from ponds at State fish hatchery and 10 miles northwest of Lapine.

Records available.- May to September 1912 (fragmentary) and June 1938 to September 1941 in reports of Geological Survey. October 1923 to September 1924 (at site 3 miles downstream) in report of State engineer.

Extremes.- Maximum discharge during year, 116 second-feet Oct. 4 (gage height, 1.27 feet), caused by release of water from fish hatchery; minimum, 86 second-feet Sept. 30 (gage height, 1.02 feet).

1938-41: Maximum discharge, 157 second-feet Aug. 19-21, 26, Oct. 28, 1938; minimum, that of Sept. 30, 1941.

Remarks.- Records fair. Water diverted above station only to ponds at fish hatcheries, from which water returns to river above station; no regulation.

Cooperation.- Recorder inspected by employees of Oregon State Game Commission.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	108	108	105	102	98	97	97	95	94	94	90
2	113	108	108	a105	102	98	97	97	96	94	94	90
3	112	108	108	a105	102	97	97	97	96	94	94	90
4	112	108	108	a105	102	97	97	97	96	94	94	90
5	112	108	107	105	102	97	97	97	96	94	94	89
6	112	108	106	105	102	97	96	96	95	94	94	89
7	112	108	106	105	101	97	96	96	95	94	94	88
8	112	108	106	104	101	97	96	97	95	94	94	88
9	111	108	106	104	101	97	96	97	95	94	93	88
10	111	108	106	104	101	97	96	97	95	94	93	88
11	110	108	106	104	100	97	96	97	96	94	93	88
12	110	107	106	103	100	97	96	97	95	94	93	88
13	110	108	106	103	100	98	96	96	95	94	93	88
14	a110	108	106	103	100	98	96	96	94	94	93	88
15	109	108	106	103	100	98	96	96	94	94	93	88
16	109	108	106	103	100	97	96	96	94	94	93	87
17	109	108	106	103	100	97	96	96	94	94	92	87
18	109	108	106	103	100	97	96	96	94	94	91	87
19	109	107	106	103	100	97	96	96	94	94	92	87
20	109	108	106	103	99	97	96	96	94	94	91	87
21	109	107	106	102	99	97	96	96	94	94	91	87
22	109	107	105	102	99	97	96	96	94	94	91	87
23	109	107	105	103	99	97	96	96	94	94	91	87
24	109	108	105	103	99	97	96	96	94	94	91	87
25	108	106	106	103	99	97	96	96	94	94	91	87
26	108	106	105	103	99	97	96	96	94	94	91	87
27	108	106	105	103	99	97	96	95	94	94	91	87
28	108	106	105	103	99	97	96	96	94	94	90	87
29	108	108	105	102	-	97	96	96	94	94	90	87
30	108	107	105	102	-	97	96	95	94	94	90	86
31	108	-	106	102	-	97	-	95	-	94	90	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,406	113	108	110	6,760		
November.....						3,226	108	108	108	6,400		
December.....						3,284	108	105	106	6,510		
Calendar year 1940.....						42,199	126	105	115	83,710		
January.....						3,206	105	102	103	6,360		
February.....						2,807	102	99	100	5,570		
March.....						3,012	98	97	97.2	5,970		
April.....						2,865	97	96	96.2	5,720		
May.....						2,922	97	95	96.2	5,910		
June.....						2,838	96	94	94.6	5,630		
July.....						2,914	94	94	94.0	5,780		
August.....						2,859	94	90	92.2	5,670		
September.....						2,634	90	86	87.8	5,220		
Water year 1940-41.....						36,053	113	86	98.8	71,500		

a No gage-height record; discharge interpolated.

Little Deschutes River near Lapine, Oreg.

Location.- Water-stage recorder, lat. $43^{\circ}41'$, long. $121^{\circ}30'$, in SW $\frac{1}{4}$ sec. 2, T. 22 S., R. 10 E., at bridge at former town of Rosland, $1\frac{1}{2}$ miles north of Lapine. Datum of gage is 4,192.81 feet above mean sea level, datum of 1929.

Records available.- September 1910 to October 1913 (incomplete), June to November 1918, August to October 1920, May 1924 to September 1941.

Average discharge.- 17 years (1924-41), 142 second-feet.

Extremes.- Maximum discharge during year, 197 second-feet May 6 (gage height, 2.78 feet); minimum, 18 second-feet Oct. 5 (gage height, 1.02 feet).

1910-13, 1918, 1920, 1924-41: Maximum discharges, 792 second-feet June 13, 1933 (gage height, 6.43 feet); minimum, 8 second-feet Sept. 2, 3, 1931 (gage height, 0.71 foot).

Remarks.- Records good except those for periods of backwater from aquatic vegetation, which are fair, and those for periods of ice effect, which are poor. Small diversions above station for irrigation. Flow regulated since August 1922 by Crescent Lake Reservoir (see p.52).

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	57	79		b63	76	95	86	156	120	72	35
2	23	62	79		b62	56	93	94	147	132	71	41
3	21	65	*71		b61	101	92	112	138	127	70	46
4	19	58	66		b60	106	91	140	131	131	69	59
5	18	56	65		b59	99	92	162	126	130	69	63
6	22	54	64		b59	94	100	188	122	126	67	53
7	25	55	69		b60	95	104	186	121	122	66	46
8	26	*57	69		61	94	95	181	120	117	64	41
9	26	63	62		62	97	94	186	119	110	67	39
10	26	61	61		67	99	95	180	116	107	68	36
11	26	58			69	100	104	172	111	104	75	35
12	26	55			67	95	95	164	107	101	77	36
13	26	54			69	93	87	166	103	98	73	36
14	26	54			63	94	81	170	99	98	67	36
15	26	51			65	90	77	173	100	97	52	36
16	25	49			57	89	76	172	101	96	44	34
17	25	49			60	94	79	169	106	94	39	34
18	24	50			*57	104	80	167	110	94	44	34
19	24	48			58	114	76	169	115	90	44	34
20	25	41			61	109	73	167	123	86	48	33
21	31				59	95	71	159	127	85	52	37
22	28	*b44			63	90	70	148	118	82	48	38
23	29	b50			65	92	70	139	109	79	44	36
24	34	55			67	95	68	143	105	76	44	34
25	35	53			65	90	68	142	101	73	43	34
26	39	60			61	89	71	154	101	74	40	38
27	41	63			65	89	73	153	129	80	37	38
28	40	61			69	92	75	148	139	90	36	35
29	40	67			-	96	76	145	132	92	36	34
30	43	69			-	96	79	150	122	84	34	34
31	50	-			-	97	-	155	-	78	34	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				896		50	18	28.9	1,780			
November.....				1,659		69	40	55.3	3,290			
December.....				1,945		79	-	62.7	3,860			
Calendar year 1940.....				41,182		372	16	113	81,680			
January.....				1,860		-	-	60.0	3,690			
February.....				1,754		59	57	62.6	3,490			
March.....				2,948		114	76	95.1	5,850			
April.....				2,500		104	68	83.3	4,960			
May.....				4,840		188	86	156	9,600			
June.....				3,554		156	99	118	7,050			
July.....				3,073		132	73	99.1	6,100			
August.....				1,694		77	34	54.6	3,360			
September.....				1,165		63	33	38.8	2,310			
Water year 1940-41.....				27,888		188	18	76.4	55,330			

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- Backwater from aquatic vegetation Oct. 1 to Nov. 21, May 21 to Sept. 30; discharge computed on basis of 9 discharge measurements and gage heights.

DESCHUTES RIVER BASIN

Crescent Creek at Crescent Lake, near Crescent, Oreg.

Location.- Water-stage recorder and Parshall measuring flume, lat. 43°30', long. 121°58', in sec. 11, T. 24 S., R. 6 E., 100 yards downstream from dam at outlet of Crescent Lake and 14 miles west of Crescent.

Records available.- January 1911 to July 1915, July 1927 to September 1928 (incomplete), October 1928 to September 1941.

Average discharge.- 16 years (1911-14, 1928-41), 35.7 second-feet.

Extremes.- Maximum discharge during year, 99 second-feet July 2 (gage height, 1.60 feet); no flow at times.

1911-15, 1927-41: Maximum discharge, 313 second-feet July 9, 1929, Aug. 9, 1936; no flow at times.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Flow regulated since 1922 by Crescent Lake Reservoir, storage being released May 1 to Aug. 12 for diversion below station through Deschutes County Municipal Improvement District canal at Bend. No diversion above station.

Rating table, 1940-41 (gage height, in feet, and discharge, in second-feet)

0	0	.7	26
.2	4	1.0	47
.4	11	1.5	89

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0			2.7	f15	49	f76	49	
2				0			2.6	23	49	f98	49	
3				0			2.6	23	f49	96	48	
4				0			2.5	24	45	94	45	
5				0			2.5	24	42	92	44	
6				0			2.4	25	42	89	42	
7				0			h2.4	f31	42	s7	41	
8				0				39	43	s5	40	
9				0				39	42	s5	37	
10				0				40	42	s5	35	0.2
11				0				40	42	s2	34	
12				0				40	42	s2	15	
13				0		2.5		41	42	s3	1.5	
14				0				41	42	s0	1.4	
15				0				43	42	77	1.2	
16				0				43	42	75	1.0	
17				0				43	41	72	.8	
18				0				43	41	f69	.8	
19				0			2.4	43	41	f64	.6	h.8
20				0				43	42	f63	1.0	1.7
21				0				44	42	f61	1.5	1.4
22				0				44	43	s9	1.2	1.0
23				0				45	43	f54	h1.2	.7
24				0				45	42	s3	1.0	.4
25				0				45	59	s1	.8	.2
26				0		h3.0		45	77	s3	.6	0
27				2		3.0		44	77	s3	.4	0
28				h5		2.9		45	76	s2	.2	0
29				2	-	2.9		49	76	s1	.2	0
30				2	-	2.8		49	f76	s0	.2	0
31				2	-	2.8	-	49	-	49	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	93	-	-	3.0	184
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1940.....	11,823	206	0	32.3	25,450
January.....	14	6	0	.5	28
February.....	56	-	-	2.0	111
March.....	79.9	-	-	2.58	158
April.....	72.9	-	-	2.43	145
May.....	1,207	49	15	38.9	2,390
June.....	1,473	77	41	49.1	2,920
July.....	2,220	98	49	71.6	4,400
August.....	497.8	49	.2	16.1	987
September.....	9.8	1.7	0	3.27	19
Water year 1940-41.....	5,723.4	77	0	15.7	11,340

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

Note.- No gage-height record Oct. 1 to Jan. 27, Jan. 29 to Mar. 25, Mar. 27 to Apr. 6, Apr. 8-30, May 2-6, 8-13, July 6-8, 22, Aug. 13-19, 21, 22, Aug. 24 to Sept. 18, Sept. 20-30; discharge interpolated or estimated on basis of information furnished by county watermaster.

Diversions from Deschutes River near Bend, Oreg.

The following five canals, which are equipped with water-stage recorders, are the only diversions from Deschutes River between the gaging stations at Benham Falls and below Bend.

Arnold Canal diverts from right bank at head of Lava Island, in SW $\frac{1}{4}$ sec. 27, T. 18 S., R. 11 E.; water used for irrigation of lands southeast of Bend.

Central Oregon Canal diverts from right bank in NE $\frac{1}{4}$ sec. 13, T. 18 S., R. 11 E., water used for irrigation of lands east of Bend. (Beginning Oct. 1, 1932, record obtained upstream from intake of Pilot Butte Canal.)

Deschutes County Municipal Improvement District Canal diverts from left bank in NE $\frac{1}{4}$ sec. 32, T. 17 S., R. 12 E., at Bend; water used to supplement flow of Tumalo project feed canal for irrigation of lands near Tumalo; water stored at Crescent Lake Reservoir is diverted by this canal.

North and Swalley Canals divert from right bank in NE $\frac{1}{4}$ sec. 29, T. 17 S., R. 12 E.; water used to irrigate lands north of Bend, mostly near Redmond.

Records of monthly discharge of these canals, published as a group, are available from October 1926 to September 1941; records for each canal published separately prior to 1926.

Diversions in acre-feet, water year October 1940 to September 1941

Month	Arnold Canal	Central Oregon Canal	Deschutes County Municipal Improvement District Canal	North Canal	Swalley Canal	Total
October.....	3,590	18,470	2,730	14,370	3,640	42,800
November.....	280	1,150	962	11,210	1,950	15,552
December.....	145	2,610	0	1,440	405	4,798
January.....	182	1,560	0	1,390	434	3,556
February.....	355	2,120	0	1,510	321	4,296
March.....	264	2,140	556	1,370	1,620	5,950
April.....	3,570	17,350	259	14,110	2,960	38,249
May.....	2,510	25,670	0	21,800	5,250	55,230
June.....	3,190	24,350	71	21,360	6,850	55,821
July.....	2,780	25,130	3,700	20,880	7,010	59,500
August.....	169	25,890	1,100	18,170	6,270	50,599
September.....	317	19,350	0	16,640	4,320	40,627
Water year 1940-41..	17,330	164,010	9,378	145,250	41,030	376,998

Tumalo Creek near Bend, Oreg.

Location.- Water-stage recorder, lat. 44°05', long. 121°22', in SE $\frac{1}{4}$ sec. 23, T. 17 S., R. 11 E., a quarter of a mile upstream from diversion dam of feed canal of Tumalo project, 4 miles upstream from mouth, and 4 miles northwest of Bend.

Drainage area.- 57 square miles.

Records available.- October 1906 to April 1908 and October 1910 to April 1913 (winters only), November 1913 to September 1941.

Average discharge.- 26 years (1913-21, 1923-41), 77.3 second-feet, excluding flow of Columbia Southern Canal.

Extremes.- Maximum discharge during year, 218 second-feet May 24 (gage height, 2.13 feet); minimum, 6.7 second-feet Oct. 6.

1906-8, 1911-41: Maximum discharge, 1,420 second-feet about Jan. 8, 1923 (gage height, 4.55 feet), from rating curve extended above 200 second-feet; minimum, 1 second-foot June 28 to July 3, 1940.

Remarks.- Records good except those for period of shifting control, which are fair, and those for period of ice effect, which are poor. Crater Creek Canal diverts flow of tributaries of Soda Creek into head of Tumalo Creek. Columbia Southern Canal diverts from creek above station, canal records good. Records of daily discharge do not include diversion by Columbia Southern Canal.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	58	67	57	53	57	66	133	76	86	57	61
2	57	57	64	57	52	54	66	129	73	84	54	59
3	55	57	64	57	52	53	67	127	74	84	57	73
4	43	55	67	57	52	54	67	116	73	86	54	67
5	11	58	76	56	52	54	56	120	79	61	53	61
6	14	58	71	58	32	53	61	106	93	61	53	57
7	54	61	67	57	52	53	54	108	76	81	53	57
8	55	58	65	54	52	56	61	104	66	72	53	54
9	55	57	62	54	53	57	56	106	61	63	56	53
10	57	57	57	53	54	57	64	118	79	67	56	54
11	55	57	52	53	54	57	64	154	97	66	67	58
12	55	57	47	53	53	58	61	174	106	66	61	57
13	55	57	49	54	53	60	62	164	106	62	54	54
14	55	57	47	54	53	64	54	142	81	66	52	54
15	55	55	45	54	53	61	72	110	68	66	52	56
16	57	57	44	53	56	61	67	144	93	68	52	54
17	57	57	45	54	53	66	64	140	129	73	54	53
18	57	55	47	56	53	66	64	83	161	62	40	57
19	57	58	51	54	53	66	61	70	112	40	54	58
20	57	57	56	54	53	64	64	81	104	58	52	58
21	62	57	58	53	53	64	68	104	101	57	52	57
22	58	55	58	53	53	64	73	129	102	57	51	57
23	58	59	68	53	53	64	79	144	104	56	51	56
24	70	59	57	53	53	66	84	164	97	54	52	56
25	62	57	57	57	52	66	91	156	93	53	52	56
26	61	55	55	54	53	46	99	127	90	61	54	54
27	56	62	56	52	53	13	106	97	90	70	57	54
28	59	68	57	52	56	12	112	81	90	54	52	56
29	59	72	58	52	-	12	122	70	96	58	51	53
30	59	76	57	52	-	12	125	66	83	57	51	53
31	59	-	56	53	-	17	-	79	-	60	52	-

Month	Tumalo Creek					Columbia Southern Canal (run-off in acre-feet)	Combined run-off in acre-feet
	Second- foot days	Discharge in second-feet			Run-off in acre-feet		
		Maximum	Minimum	Mean			
October.....	1,683	70	11	54.3	3,340	149	3,490
November.....	1,793	92	55	59.6	3,560	0	3,560
December.....	1,769	75	44	57.1	3,510	0	3,510
Calendar year 1940.	24,070	194	1	65.8	47,740	8,520	56,260
January.....	1,695	58	52	54.4	3,340	0	3,340
February.....	1,484	56	52	53.0	2,940	0	2,940
March.....	1,607	66	12	51.8	3,190	468	3,660
April.....	2,254	125	61	75.1	4,470	0	4,470
May.....	3,646	174	66	118	7,230	2,200	9,430
June.....	2,745	161	61	91.5	5,440	1,700	7,140
July.....	2,084	86	53	67.2	4,130	0	4,130
August.....	1,679	67	51	54.2	3,330	0	3,330
September.....	1,747	90	53	58.2	3,470	0	3,470
Water year 1940-41.	24,176	174	11	66.2	47,950	4,520	52,470

Note.- Shifting-control method used Oct. 1 to Dec. 9. Stage-discharge relation affected by ice Dec. 10 to Jan. 5.

Squaw Creek near Sisters, Oreg.

Location.- Water-stage recorder, lat. 44°14', long. 121°34', in NW¼ sec. 32, T. 15 S., R. 10 E., just upstream from intake of McCallister ditch and 4 miles south of Sisters.

Drainage area.- 63 square miles.

Records available.- 1913 to 1925 (irrigation seasons only), October 1925 to September 1941. July 1906 to May 1913 at site 700 feet downstream, below intake of McCallister ditch.

Average discharge.- 29 years (1906-18, 1919-20, 1925-41), 101 second-feet.

Extremes.- Maximum discharge during year, 283 second-feet May 24 (gage height, 1.76 feet); minimum daily, 29 second-feet Nov. 22.

1906-41: Maximum gage height, about 9.75 feet (over top of gage), Nov. 22, 1909, site and datum then in use (discharge not determined); minimum discharge, 19 second-feet Dec. 6, 1922.

Remarks.- Records good except those for periods of shifting control, which are fair, and those for periods of ice effect, which are poor. A canal near mouth of Pole Creek, a tributary above station, diverts entire flow of that creek for irrigation of lands near Sisters.

Rating tables, water year 1940-41, except periods of ice effect or shifting control (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 27

Dec. 28 to Sept. 30

0.8	40	0.9	45	1.3	114
.9	50	1.0	56	1.5	180
1.0	62	1.1	71	1.6	217
		1.2	90		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	33	52	51	39	39	44	97	71	117	80	130
2	42	34	50	b49	39	37	44	92	84	133	75	156
3	40	33	50	b48	39	36	43	86	120	133	73	145
4	41	f52	49	b47	39	35	42	82	139	136	68	62
5	40	b52	64	b46	38	35	40	88	159	136	71	60
6	40	32	54	b46	37	35	40	75	170	139	77	56
7	40	37	50	b44	36	35	41	71	142	145	70	53
8	39	35	48	42	36	36	41	70	135	123	104	55
9	39	33	44	39	36	36	42	71	120	117	130	55
10	40	32	42	39	36	36	41	80	153	117	104	56
11	42	32	39	37	37	36	40	109	162	117	126	52
12	42	32	36	37	35	36	40	146	206	109	104	51
13	42	32	39	38	35	36	40	139	206	109	88	45
14	42	32	b58	39	34	36	42	117	166	112	98	50
15	42	30	b37	38	34	37	46	123	139	117	92	50
16	39	32	b37	37	35	37	42	166	145	120	92	55
17	42	32	b37	38	34	39	40	169	142	114	117	58
18	46	31	b39	40	34	39	41	114	162	120	102	53
19	47	42	b43	40	34	38	40	97	123	114	86	52
20	46	35	b46	f40	34	37	41	114	102	114	86	51
21	46	32	b50	40	34	37	43	136	97	114	84	47
22	38	29	b52	39	34	37	48	170	100	109	80	47
23	39	33	b52	39	34	37	53	173	107	92	77	47
24	56	33	b51	38	35	37	56	225	109	82	71	47
25	34	33	b50	44	34	37	59	217	102	84	70	47
26	34	31	*b50	42	37	38	64	180	97	90	58	47
27	32	40	b51	40	35	41	73	152	102	102	66	44
28	32	f68	f52	40	37	42	79	133	109	88	73	44
29	33	116	53	38	-	43	84	114	109	82	80	44
30	32	65	52	39	-	43	90	104	112	90	102	44
31	33	-	50	39	-	43	-	77	-	86	97	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,243	56	32	40.1	2,470
November.....	1,141	116	29	38.0	2,260
December.....	1,456	64	37	47.0	2,590
Calendar year 1940.....	26,558	223	29	72.6	52,590
January.....	1,272	51	37	41.0	2,520
February.....	998	39	34	35.6	1,980
March.....	1,155	43	25	37.6	2,310
April.....	1,479	90	40	49.3	2,950
May.....	3,776	225	70	122	7,490
June.....	3,871	206	71	129	7,680
July.....	3,443	142	80	111	6,540
August.....	2,711	130	66	87.5	5,580
September.....	1,806	156	44	60.2	3,580
Water year 1940-41.....	24,367	225	29	66.8	48,330

* Winter discharge measurement made on this date.

b Stage-discharge relation affected by ice.

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

Note.- No gage-height record Nov. 6-27, Jan. 8-19; discharge computed on basis of discharge measurement Dec. 26, weather records, and records for Tumalo Creek near Bend. Shifting-control method used Oct. 24 to Nov. 5, Aug. 8 to Sept. 30.

Crooked River near Post, Oreg.

Location.- Water-stage recorder, lat. 44°07', long. 120°16', in NE¼ sec. 12, T. 17 S., R. 20 E., half a mile downstream from site of dam for proposed Post Reservoir, 1 mile downstream from North Fork, and 1½ miles southeast of Post. Datum of gage is 3,461.72 feet above mean sea level, datum of 1929.

Drainage area.- 2,160 square miles.

Records available.- November 1908 to August 1911, December 1939 to September 1941.

Extremes.- Maximum discharge during year, 1,820 second-feet Apr. 2 (gage height, 4.07 feet); minimum, 12 second-feet July 21.

1908-11, 1939-41: Maximum discharge recorded, 5,540 second-feet Mar. 26, 1940 (gage height, 6.22 feet); flood of Mar. 1, 1910, reached a stage of 10.5 feet, site and datum then in use, from floodmark by gage observer; minimum, 4.4 second-feet July 12, 1940.

Remarks.- Records good except those for periods of ice effect, which are poor. Several small diversions above station for irrigation. No regulation.

Rating tables, water year 1940-41, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-29)

Oct. 1 to Feb. 28				Mar. 1 to Sept. 30					
1.2	21	2.3	248	1.2	16	2.0	155	3.0	595
1.4	45	2.6	365	1.4	37	2.3	240	3.5	1,050
1.7	98	3.0	610	1.7	86	2.6	360	4.0	1,720
2.0	165								

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	60	106	80	148	1,410	1,400	356	171	61	27	31
2	24	65	115	70	132	1,480	1,540	356	142	57	26	69
3	24	62	106	65	132	1,130	1,140	477	121	62	21	69
4	25	57	104	75	132	930	1,050	448	99	64	21	59
5	26	56	117	85	130	920	1,000	405	84	53	21	50
6	25	57	137	95	143	961	793	342	80	45	20	44
7	25	65	108	90	182	1,070	764	279	123	45	19	41
8	25	94	90	88	188	1,260	793	346	145	48	19	38
9	25	76	75	86	196	1,560	831	311	114	47	19	37
10	25	71	60	90	261	1,270	890	247	92	40	20	37
11	26	69	45	88	432	1,230	755	213	76	35	22	37
12	28	65	*35	85	550	1,230	632	196	67	27	25	37
13	31	58	30	86	385	1,210	602	268	64	22	25	37
14	29	57	26	94	261	920	588	356	62	21	25	38
15	29	58	25	113	*233	822	625	247	64	20	24	38
16	29	71	36	123	198	972	532	199	73	20	21	37
17	30	73	45	111	188	1,260	501	188	76	25	24	37
18	29	69	70	115	188	1,510	460	219	109	22	25	41
19	29	58	80	146	193	1,360	390	188	166	20	46	44
20	30	60	85	193	218	1,080	365	163	140	18	57	44
21	29	65	150	218	236	1,000	360	142	114	16	44	40
22	29	65	150	204	271	1,120	360	125	94	16	41	37
23	30	57	130	178	316	1,050	360	107	78	15	32	36
24	37	67	140	165	542	972	365	94	62	15	29	37
25	48	69	148	190	509	1,080	356	84	65	13	23	36
26	45	65	130	400	400	1,130	351	82	73	15	23	35
27	42	64	201	347	312	1,230	356	67	71	21	23	35
28	42	71	264	227	565	1,320	360	73	69	25	25	37
29	51	74	185	175	-	1,380	342	142	61	32	26	37
30	60	113	158	158	-	1,500	324	210	61	27	29	37
31	65	-	100	158	-	1,190	-	185	-	26	31	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,017	65	24	32.8	2,020		
November.....						2,011	113	56	67.0	3,920		
December.....						3,250	264	25	105	6,450		
Calendar year 1940.....						101,414	4,770	5	277	201,200		
January.....						4,398	400	65	142	8,720		
February.....						7,648	565	130	273	15,170		
March.....						36,157	1,510	822	1,166	71,720		
April.....						19,185	1,540	324	640	36,050		
May.....						7,115	477	67	230	14,110		
June.....						2,816	171	61	93.9	5,590		
July.....						973	64	13	31.4	1,930		
August.....						830	57	19	26.8	1,650		
September.....						1,232	69	31	41.1	2,440		
Water year 1940-41.....						86,632	1,540	13	237	171,800		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 9-24, Dec. 31 to Jan. 12.

Crooked River above Hoffman Dam, near Prineville, Oreg.

Location.- Water-stage recorder, lat. 44°09', long. 120°50', in NE¼ sec. 32, T. 16 S., R. 16 E., 0.9 mile upstream from Hoffman diversion dam and 11 miles south of Prineville. Datum of gage is 2,981.23 feet above mean sea level, datum of 1929. Prior to Mar. 26, 1941, staff gage at same site and datum.

Drainage area.- 2,810 square miles.

Records available.- January 1940 to February 1941 (discharge measurements only), March to September 1941. October 1908 to December 1912, at Stearns Ranch, 5½ miles south of Prineville, below Hoffman and Stearns diversions. January 1913 to September 1914, at Hoffman Ranch, 10 miles south of Prineville, below Hoffman diversion. Records practically equivalent to those at present site except for diversions.

Extremes.- Maximum discharge during year, 1,970 second-feet Apr. 2 (gage height, 4.43 feet); minimum, 8 second-feet July 19, 20.

1908-12, 1913-14, 1940-41: Maximum discharge observed, 9,080 second-feet Mar. 1, 2, 1910 (gage height, 9.4 feet), from rating curve extended above 1,000 second-feet; no flow at times in 1940. Maximum discharge in recent years, 5,260 second-feet Mar. 27 or 28, 1940 (gage height, 6.0 feet, present site and datum).

Remarks.- Records good except those for periods of fragmentary or no gage-height record, which are fair. Diversions above station for irrigation; no regulation. Results of discharge measurements made during period January to August 1940 are given in the following table.

Discharge measurements, January to August 1940

Date	Second-feet	Date	Second-feet
Jan. 18	83	Apr. 25	439
Mar. 7	761	May 6	304
22	1,210	June 21	6.0
28	3,570	Aug. 24	0
29	2,260		

Rating table, Feb. 25 to Sept. 30, 1941 (gage height, in feet, and discharge, in second-feet)

1.3	12	1.7	43	2.1	114	2.5	250	3.1	590	3.7	1,120	4.3	1,800
1.5	25	1.9	74	2.3	172	2.8	395	3.4	830	4.0	1,440		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	902	1,180	342	198	38	24	27
2					-	a1,550	f1,780	374	179	37	21	35
3					-	1,300	a1,400	390	146	36	20	39
4					-	1,040	a1,090	494	117	29	22	64
5					-	911	a1,050	449	97	31	21	53
6					-	970	a800	395	91	32	17	46
7					-	1,090	a790	332	91	47	16	40
8					-	1,320	a810	308	106	30	16	38
9					-	1,490	a560	358	140	27	16	36
10					-	1,500	a920	299	108	25	15	39
11					-	1,450	f875	254	85	29	23	39
12			+36		-	1,450	689	225	72	26	17	38
13					-	1,490	620	259	60	22	17	36
14					+288	1,220	598	363	53	16	17	39
15					-	902	598	342	49	14	17	39
16					-	1,040	583	259	47	13	17	39
17					-	1,200	534	217	49	12	17	39
18					-	1,670	494	213	59	10	18	40
19					-	1,660	443	234	60	8	27	41
20					-	1,310	384	202	114	12	42	44
21					-	1,110	368	172	114	13	f72	46
22					-	1,080	358	150	89	12	f34	43
23					-	1,240	363	130	71	10	f26	41
24					-	1,010	365	112	62	10	29	39
25		+17			-	1,090	365	89	53	10	27	38
26					-	f1,120	358	80	46	10	26	43
27					-	1,190	342	76	49	13	27	37
28					304	1,310	358	74	49	14	24	37
29					-	1,350	347	82	44	15	21	37
30					-	1,350	328	140	40	17	22	39
31					-	1,220	-	234	-	25	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year.....					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	38,535	1,670	902	1,243	76,430
April.....	20,046	1,780	328	668	39,760
May.....	7,648	494	74	247	15,170
June.....	2,538	198	40	84.6	5,050
July.....	646	47	8	20.8	1,230
August.....	732	72	15	23.6	1,450
September.....	1,213	64	27	40.4	2,410
The period.....	-	-	-	-	141,500

† Discharge measurement.

a No gage-height record; discharge computed on basis of records for station near Post.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

Crooked River near Culver, Oreg.

Location.- Staff gage, lat. 44°33', long. 121°16', in SW¹/₄ sec. 11, T. 12 S., R. 12 E., just downstream from Cove power plant and 3 miles northwest of Culver. Datum of gage is 1,721.33 feet above mean sea level, datum of 1929 (Pacific Power & Light Co. bench mark).

Drainage area.- 4,330 square miles.

Records available.- October 1917 to September 1941.

Average discharge.- 24 years, 1,401 second-feet.

Extremes.- Maximum discharge observed during year, 2,970 second-feet Apr. 3 (gage height, 2.70 feet); minimum observed, 1,190 second-feet July 12-17, 20-26, 29, July 31 to Aug. 10 (gage height, 0.50 foot).

1917-41: Maximum discharge observed, 7,600 second-feet Apr. 20, 1938 (gage height, 6.20 feet); minimum, 970 second-feet July 12 to Sept. 5, 1921.

Remarks.- Records good. Flow slightly regulated by Ochoco Reservoir. Summer flow above Prineville diverted for irrigation. Springs increase flow about 1,000 second-feet within an area extending a few miles above station. Gage read once daily.

Cooperation.- Gage readings furnished by Pacific Power & Light Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.5	1,190	1.6	1,950
.7	1,310	2.0	2,300
1.0	1,500	2.3	2,370
1.3	1,710	2.7	2,970

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,290	1,310	1,320	1,380	1,430	1,600	2,480	1,500	1,430	1,350	1,190	1,260
2	1,300	1,310	1,320	1,330	1,420	2,280	2,590	1,500	1,420	1,350	1,190	1,270
3	1,300	1,310	1,320	1,330	1,410	2,870	2,270	1,540	1,390	1,280	1,150	1,290
4	1,300	1,310	1,330	1,270	1,400	2,520	2,620	1,570	1,370	1,240	1,190	1,300
5	1,300	1,310	1,320	1,330	1,390	2,300	2,500	1,710	1,360	1,240	1,190	1,300
6	1,300	1,310	1,320	1,360	1,390	2,120	2,390	1,670	1,330	1,240	1,190	1,300
7	1,300	1,310	1,320	1,330	1,370	2,230	2,160	1,610	1,320	1,230	1,190	1,300
8	1,290	1,300	1,330	1,330	1,360	2,320	2,030	1,540	1,330	1,220	1,190	1,300
9	1,290	1,300	1,330	1,360	1,380	2,490	2,070	1,560	1,350	1,220	1,190	1,300
10	1,290	1,300	1,330	1,330	1,440	2,620	2,120	1,500	1,370	1,220	1,190	1,300
11	1,290	1,310	1,320	1,330	1,470	2,670	2,120	1,500	1,350	1,220	1,200	1,290
12	1,290	1,310	1,310	1,350	1,600	2,670	2,100	1,460	1,300	1,210	1,210	1,290
13	1,290	1,310	1,270	1,310	1,690	2,670	1,950	1,420	1,300	1,190	1,210	1,290
14	1,290	1,310	1,260	1,310	1,760	2,670	1,870	1,460	1,290	1,190	1,210	1,290
15	1,290	1,290	1,250	1,330	1,660	2,490	1,790	1,400	1,260	1,190	1,210	1,290
16	1,290	1,300	1,260	1,320	1,540	2,390	1,770	1,530	1,270	1,190	1,210	1,290
17	1,290	1,310	1,300	1,370	1,510	2,300	1,790	1,490	1,260	1,160	1,210	1,290
18	1,290	1,310	1,300	1,370	1,490	2,380	1,770	1,410	1,270	1,200	1,210	1,290
19	1,270	1,310	1,300	1,370	1,470	2,310	1,730	1,410	1,270	1,200	1,210	1,290
20	1,270	1,320	1,320	1,360	1,460	2,660	1,680	1,410	1,300	1,190	1,210	1,290
21	1,270	1,320	1,330	1,390	1,430	2,570	1,560	1,410	1,310	1,190	1,220	1,290
22	1,270	1,320	1,330	1,430	1,500	2,390	1,590	1,390	1,310	1,190	1,250	1,270
23	1,270	1,320	1,360	1,470	1,500	2,390	1,540	1,370	1,310	1,190	1,300	1,290
24	1,290	1,330	1,360	1,460	1,560	2,440	1,540	1,360	1,210	1,190	1,300	1,290
25	1,290	1,330	1,460	1,460	1,610	2,300	1,530	1,360	1,290	1,190	1,270	1,290
26	1,300	1,350	1,460	1,430	1,790	2,340	1,530	1,330	1,270	1,190	1,270	1,290
27	1,300	1,330	1,430	1,430	1,710	2,390	1,510	1,320	1,260	1,210	1,270	1,290
28	1,290	1,320	1,390	1,670	1,600	2,500	1,500	1,310	1,280	1,200	1,270	1,290
29	1,300	1,320	1,430	1,570	-	2,610	1,500	1,300	1,250	1,200	1,270	1,290
30	1,300	1,320	1,470	1,490	-	2,650	1,500	1,310	1,250	1,200	1,270	1,290
31	1,320	-	1,430	1,430	-	2,610	-	1,310	-	1,190	1,270	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	40,020					1,320	1,270	1,291	79,580			
November.....	39,410					1,380	1,290	1,314	78,170			
December.....	42,140					1,690	1,260	1,359	83,680			
Calendar year 1940.....	554,070					5,690	1,170	1,514	1,099,000			
January.....	42,280					1,670	1,270	1,386	86,250			
February.....	42,270					1,790	1,370	1,610	83,840			
March.....	76,500					2,670	1,600	2,468	151,700			
April.....	87,380					2,970	1,500	1,913	113,800			
May.....	44,980					1,710	1,200	1,451	89,220			
June.....	39,360					1,430	1,250	1,312	78,070			
July.....	37,440					1,250	1,190	1,208	74,260			
August.....	37,960					1,300	1,190	1,225	75,290			
September.....	39,710					1,300	1,260	1,290	76,780			
Water year 1940-41.....	536,160					2,070	1,190	1,477	1,069,000			

a No gage-height record; discharge interpolated.

Metolius River near Grandview, Oreg.

Location.- Staff gage, lat. 44°37', long. 121°27', in NE¼ sec. 19, T. 11 S., R. 11 E., at Montgomery Ranch 8 miles northwest of Grandview.

Records available.- October 1921 to September 1941.

Average discharge.- 20 years, 1,420 second-feet.

Extremes.- Maximum discharge observed during year, 1,420 second-feet May 5 (gage height, 0.50 foot); minimum observed, 1,100 second-feet Jan. 1, 2, Sept. 30 (gage height, 0.20 foot).

1921-41: Maximum discharge, 5,730 second-feet Jan. 7, 1923 (gage height, 3.32 feet), from rating curve extended above 2,200 second-feet; minimum, 1,050 second-feet Feb. 17, 1932 (gage height, 0.14 foot).

Remarks.- Records good. Staff gage read once daily. No diversion or regulation above station.

Rating table, water year 1940-41 (gage height, in feet,
and discharge, in second-feet

0.2 1,100
.3 1,200
.4 1,310
.5 1,420

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,180	1,140	1,240	1,100	1,140	1,140	1,180	1,160	1,200	1,180	1,160	1,120
2	1,180	1,140	1,200	1,100	1,140	1,140	1,180	1,160	1,200	1,180	1,160	1,200
3	1,180	1,140	1,200	1,140	1,140	1,140	1,160	1,160	1,200	1,180	al,160	1,160
4	1,160	1,140	1,200	1,140	1,140	1,140	1,160	1,160	1,200	1,180	al,160	1,160
5	1,160	1,140	1,200	1,160	1,140	1,160	1,160	1,420	1,220	1,180	1,140	1,160
6	1,160	1,200	1,200	1,160	1,140	1,160	1,160	1,270	1,240	1,180	1,140	1,160
7	1,160	1,160	1,200	1,140	1,140	1,160	1,160	1,290	1,220	1,180	1,140	1,160
8	1,160	1,180	1,180	1,140	1,140	1,160	1,160	1,270	1,200	1,180	1,140	1,140
9	1,160	1,180	1,160	1,140	1,180	1,160	1,160	1,220	1,200	1,160	1,140	1,140
10	1,160	1,180	1,160	1,140	1,180	1,160	1,180	1,200	1,200	1,160	1,140	1,120
11	1,160	1,180	1,160	1,140	1,180	1,160	1,160	1,200	1,200	1,160	1,180	1,120
12	1,160	1,180	1,160	1,140	1,160	1,180	1,160	1,310	1,200	1,160	1,180	1,120
13	1,160	1,160	1,160	1,140	1,160	1,180	1,160	1,310	1,200	1,160	1,140	1,140
14	1,140	1,140	1,120	1,140	1,160	1,160	1,160	1,290	1,200	1,160	1,140	1,140
15	1,140	1,140	1,120	1,140	1,160	1,160	1,160	1,240	1,200	1,160	1,140	1,140
16	1,140	1,140	1,120	1,140	1,160	1,160	1,160	1,310	1,200	1,180	1,140	1,140
17	1,140	1,140	1,120	1,160	1,140	1,160	1,160	1,310	1,200	1,180	1,140	1,120
18	1,140	1,140	1,160	1,200	1,140	1,160	1,160	1,290	1,200	1,180	1,140	1,120
19	1,140	1,140	1,160	1,180	1,140	1,160	1,160	1,240	1,200	1,180	1,160	1,120
20	1,140	1,130	1,180	1,160	1,140	1,160	1,160	1,200	1,200	1,180	1,160	1,120
21	1,160	1,140	1,220	1,160	1,140	1,160	1,160	1,220	1,180	1,180	1,160	1,120
22	1,160	1,140	1,180	1,160	1,140	1,160	1,160	1,270	1,180	1,180	1,160	1,120
23	1,160	1,140	1,180	1,160	1,140	1,160	1,160	1,270	1,180	1,180	1,140	1,120
24	1,140	1,180	1,180	1,180	1,140	1,160	1,160	1,240	1,180	1,180	1,140	1,120
25	1,140	1,180	1,180	1,180	1,140	1,160	1,160	1,240	1,180	1,180	1,140	1,120
26	1,140	1,160	1,180	1,200	1,140	1,160	1,160	1,240	1,180	1,180	1,140	1,120
27	1,140	1,160	1,180	1,200	1,140	1,160	1,160	1,240	1,180	1,180	1,120	1,120
28	1,140	1,160	1,180	1,200	1,140	1,160	1,160	1,220	1,180	1,180	1,120	1,120
29	1,140	1,130	1,180	1,140	-	1,160	1,160	1,200	1,180	1,160	1,120	1,120
30	1,140	1,270	1,160	1,140	-	1,180	1,160	1,200	1,160	1,150	1,120	1,100
31	1,140	-	1,160	1,140	-	1,160	-	1,200	-	1,160	1,120	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						35,720	1,180	1,140	1,152	70,860		
November.....						34,970	1,130	1,150	1,166	69,360		
December.....						36,340	1,240	1,120	1,172	72,080		
Calendar year 1940.....						453,280	1,640	1,120	1,228	899,100		
January.....						35,800	1,200	1,100	1,165	71,010		
February.....						32,140	1,180	1,140	1,148	63,760		
March.....						35,830	1,160	1,140	1,167	71,170		
April.....						34,960	1,130	1,160	1,132	69,140		
May.....						35,550	1,420	1,160	1,244	76,468		
June.....						35,880	1,240	1,180	1,166	71,170		
July.....						36,370	1,180	1,160	1,173	72,140		
August.....						35,470	1,130	1,120	1,144	70,580		
September.....						33,980	1,200	1,100	1,133	67,400		
Water year 1940-41.....						425,960	1,420	1,100	1,167	844,900		

a No gage-height record; discharge interpolated.

Lake Creek near Sisters, Oreg.

Location.- Water-stage recorder, lat. 44°26', long. 121°44', in SW¼ sec. 24, T. 13 S., R. 8 E., a quarter of a mile downstream from Suttle Lake, 6 miles upstream from mouth, and 13 miles northwest of Sisters. Altitude of gage, about 3,430 feet (from topographic map).

Drainage area.- 20.5 square miles.

Records available.- 1911-13 (occasional readings during summers), April 1915 to September 1941.

Average discharge.- 25 years (1915-18, 1919-41), 49.0 second-feet.

Extremes.- Maximum discharge during year, 85 second-feet sometime during period Dec. 30 to Jan. 29, while clock was stopped (gage height, 1.69 feet); minimum, 1.0 second-foot (estimated), regulated, Nov. 4, 5 (gage height, 0.00 foot); minimum daily, 8 second-feet Nov. 5.

1911-13, 1915-41: Maximum discharge, 302 second-feet Jan. 10, 1923 (gage height, 2.58 feet), from rating curve extended above 150 second-feet; minimum, that of Nov. 4, 5, 1940; minimum daily, that of Nov. 5, 1940.

Remarks.- Records good except those for periods of no gage-height record, which are poor. No diversion above station; occasional regulation by Suttle Lake.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	26	25		a30	40	29	41	31	22	20	22
2	24	26	26		a35	30	30	41	33	24	23	18
3	23	26	23		h37	30	40	44	50	25	21	17
4	22	a11	20		a37	31	42	38	50	25	20	16
5	24	a8	24		a55	31	41	a52	50	23	20	19
6	24	26	22		a32	31	37	a46	31	24	19	18
7	24	34	24		a29	33	37	a47	33	21	18	18
8	23	48	23		a29	30	36	49	31	19	20	16
9	23	45	22		50	28	39	52	28	18	20	17
10	22	37	24		32	25	32	54	27	18	21	16
11	22	32	25		a33	34	37	52	28	18	23	16
12	22	29	24		a32	35	35	52	29	18	21	16
13	22	27	a22		a32	38	33	56	29	19	20	a17
14	22	24	a20		a32	35	36	53	32	19	19	a18
15	22	22	a19	a23	a32	28	40	46	31	20	20	a21
16	22	a23	a18		a34	a27	42	46	31	19	19	20
17	22	a23	a18		a33	a30	40	46	29	22	19	20
18	22	a22	a19		a31	32	37	37	27	25	20	18
19	22	a26	a21		a30	32	33	35	29	28	22	21
20	23	a24	a22		a31	30	26	35	31	27	27	22
21	24	a23	a24		a31	26	26	35	28	26	26	20
22	24	a21	a26		a31	34	29	36	28	25	26	20
23	24	a23	a27		a30	32	31	43	28	25	26	19
24	25	a23	a26		a29	29	34	44	31	25	a26	19
25	25	a22	a25		a28	28	35	43	29	26	a26	19
26	25	a22	h24		a28	28	37	41	28	24	a27	26
27	25	25	a25		28	29	34	43	32	23	26	22
28	25	24	a27		31	30	35	38	26	21	22	21
29	22	27	28	h23	-	31	35	33	26	21	20	19
30	23	26	a28	23	-	31	37	33	24	21	19	22
31	24	-	a27	25	-	27	-	31	-	19	21	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					718	25	22	23.2	1,420			
November.....					775	48	8	25.8	1,540			
December.....					728	28	18	23.5	1,440			
Calendar year 1940.....					12,235	85	8	33.4	24,260			
January.....					715	-	-	23.1	1,420			
February.....					879	37	28	31.4	1,740			
March.....					955	40	25	30.8	1,890			
April.....					1,054	42	26	35.1	2,090			
May.....					1,342	56	31	43.3	2,660			
June.....					830	33	24	29.3	1,750			
July.....					690	28	18	22.3	1,370			
August.....					676	27	18	21.8	1,340			
September.....					573	26	16	19.1	1,140			
Water year 1940-41.....					9,985	56	8	27.4	19,800			

h Computed from staff-gage reading.

a No gage-height record; discharge computed on basis of records for Tumalo Creek near Bend and Squaw Creek near Sisters and information furnished by watermaster.

White River below Tygh Valley, Oreg.

Location.- Water-stage recorder, lat. 45°14', long. 121°06', in NW¼ sec. 8, T. 4 S., R. 14 E., just below Pacific Power & Light Co.'s plant at White River Falls and ¼ miles east of Tygh Valley.

Drainage area.- 393 square miles.

Records available.- October 1917 to September 1941.

Average discharge.- 24 years, 405 second-feet.

Extremes.- Maximum discharge during year, 1,080 second-feet Nov. 29 (gage height, 3.65 feet); minimum, 48 second-feet (regulated) Jan. 11, 16, June 11, 30, Aug. 13, Sept. 7, 8; 1917-41: Maximum discharge, 13,300 second-feet Jan. 6, 1923 (gage height, about 13.3 feet), from rating curve extended above 5,000 second-feet; minimum, 10 second-feet (regulated) Dec. 11-14, 1919, Aug. 9, 1931. Minimum daily discharge, that of Aug. 31, 1941.

Remarks.- Records good except those for period of no gage-height record, which are fair. Diversions above station for irrigation. Low-water flow partly regulated by power plant.

Cooperation.- Water-stage recorder inspected by employees of Pacific Power & Light Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.5	67	1.6	210	2.8	650
.8	90	2.0	330	3.2	840
1.2	135	2.4	480		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	139	386	174	266	285	282	163	234	104	82	76
2	101	134	317	170	260	323	291	166	218	103	82	96
3	109	128	288	174	252	320	272	174	203	104	87	85
4	110	122	297	172	243	314	266	176	193	107	88	92
5	104	122	304	178	240	310	266	320	186	107	87	90
6	100	123	330	182	237	307	263	300	186	108	84	81
7	97	131	288	176	232	304	260	269	184	107	83	77
8	99	188	266	172	229	304	257	257	186	103	84	76
9	95	166	243	163	249	317	266	234	178	103	85	76
10	95	145	205	163	354	310	269	215	166	101	84	82
11	96	141	191	154	390	304	252	213	156	99	84	91
12	97	134	178	158	337	297	240	215	149	100	90	98
13	98	128	a164	155	300	285	234	224	145	100	82	98
14	98	122	a155	168	278	272	229	218	141	99	81	99
15	97	125	a150	163	260	269	234	210	139	98	81	114
16	97	125	a150	158	249	260	229	205	135	98	81	122
17	96	128	a150	196	240	263	218	243	139	97	78	120
18	96	132	a160	469	234	263	210	260	142	94	77	115
19	96	123	a170	488	229	263	203	246	136	97	78	114
20	96	123	224	354	221	257	193	243	145	96	78	117
21	97	123	254	304	215	249	198	234	134	92	76	109
22	97	118	221	282	213	260	200	215	130	91	74	106
23	96	116	198	269	213	260	180	210	127	89	73	102
24	135	131	210	266	218	252	174	234	125	87	75	99
25	143	172	206	362	215	246	170	226	121	84	73	94
26	117	145	208	456	210	246	166	213	115	85	80	93
27	108	145	237	365	213	252	165	237	112	86	78	93
28	107	266	221	323	234	272	165	246	112	86	76	88
29	114	747	208	294	-	294	166	226	111	84	76	87
30	122	569	203	272	-	314	164	213	106	84	73	85
31	148	-	196	269	-	297	-	257	-	84	71	-
Month	Second-foot-days			Maximum		Minimum		Mean		Run-off in acre-feet		
October.....	3,262			148		95		105		6,470		
November.....	5,211			747		116		174		10,340		
December.....	6,950			386		150		225		13,840		
Calendar year 1940.....	101,467			1,470		77		277		201,500		
January.....	7,652			488		154		247		15,180		
February.....	7,031			390		210		251		13,950		
March.....	8,772			323		246		283		17,400		
April.....	6,690			261		164		223		13,270		
May.....	7,085			320		163		225		14,010		
June.....	4,554			234		106		152		9,030		
July.....	2,976			105		84		96.0		5,900		
August.....	2,481			90		71		80.0		4,920		
September.....	2,875			122		76		95.8		5,700		
Water year 1940-41.....	65,549			747		71		180		130,000		

a No gage-height record; discharge computed on basis of records for West Fork of Hood River near Dec.

Klickitat River Basin

Klickitat River near Glenwood, Wash.

Location.- Water-stage recorder, lat. 46°05'30", long. 121°15'30", in SE $\frac{1}{4}$ sec. 14, T. 7 N., R. 12 E., half a mile downstream from Dairy Creek, 5 miles north of Glenwood, and 7 miles upstream from Trout Creek. Datum of gage is about 1,703 feet above mean sea level, datum of 1929.

Drainage area.- 360 square miles.

Records available.- December 1910 to September 1941 (1920-29 incomplete). October 1909 to December 1910, at site 1 mile upstream.

Average discharge.- 24 years (1909-20, 1928-41), 822 second-feet.

Extremes.- Maximum discharge during year, 1,540 second-feet May 17 (gage height, 4.19 feet); minimum, 317 second-feet Nov. 19, 22.

1909-41: Maximum discharge, 9,870 second-feet Dec. 22, 1933 (gage height, 7.9 feet, present datum), from rating curve extended above 2,000 second-feet; minimum, 204 second-feet Nov. 28, 1931.

Remarks.- Records good except those for periods of no gage-height record, which are fair. All of the low flow of Hellroaring Creek, a tributary of Big Muddy River, is diverted for irrigation. No regulation.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	358	370	553	365	442	684	1,240	1,240	726	498	385	330
2	352	361	498	340	436	748	1,390	1,200	719	498	370	425
3	361	348	486	356	430	698	1,290	1,140	705	516	370	350
4	362	358	498	390	430	670	1,240	1,100	698	504	370	395
5	343	338	579	376	426	644	1,240	1,150	698	528	365	430
6	343	338	618	580	430	631	1,150	1,050	698	546	365	420
7	343	415	640	375	425	631	1,160	980	691	534	375	380
8	343	420	504	365	420	650	1,150	929	684	493	360	370
9	338	390	464	380	436	677	1,200	879	644	492	415	360
10	370	366	415	350	447	677	1,160	871	664	486	420	385
11	390	370	385	330	462	670	1,130	912	698	480	405	390
12	366	352	360	345	456	664	1,090	1,060	726	475	405	370
13	361	343	350	355	430	644	1,090	1,100	712	475	380	365
14	366	343	350	360	415	612	1,090	1,010	677	466	390	360
15	362	346	345	360	410	612	1,140	946	624	510	375	370
16	348	348	350	350	405	638	1,070	980	586	522	365	380
17	395	352	350	410	405	670	1,010	1,440	586	516	390	375
18	360	346	350	566	405	726	663	1,240	586	498	390	365
19	386	334	385	516	400	712	938	1,110	560	510	385	365
20	400	348	492	480	410	684	929	1,040	540	464	375	365
21	366	348	605	464	410	670	938	1,010	516	480	375	365
22	343	338	624	447	405	664	980	997	528	464	380	355
23	375	334	579	430	410	657	1,060	1,010	522	420	360	360
24	528	352	553	436	410	657	1,090	1,050	504	395	330	360
25	415	352	540	474	400	670	1,120	1,060	480	395	335	360
26	366	343	510	458	405	698	1,160	963	486	400	410	345
27	348	390	474	436	447	740	1,160	895	492	395	360	335
28	338	338	452	425	522	815	1,160	865	492	395	345	330
29	338	963	430	415	-	879	1,200	831	480	400	330	330
30	375	698	420	405	-	954	1,240	792	492	405	325	335
31	390	-	415	425	-	1,010	-	778	-	400	320	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	11,434	526	338	369	1.02	1.18	22,680
November.....	11,821	953	334	394	1.09	1.22	23,450
December.....	14,484	624	345	467	1.30	1.50	28,730
Calendar year 1940.....	254,950	1,880	301	697	1.94	26.34	505,700
January.....	12,562	566	340	405	1.12	1.30	24,920
February.....	11,898	522	400	426	1.18	1.23	23,600
March.....	21,756	1,010	612	702	1.95	2.25	43,160
April.....	33,778	1,390	929	1,126	3.13	3.49	67,000
May.....	31,608	1,440	778	1,020	2.83	3.27	62,690
June.....	18,194	726	480	606	1.68	1.88	36,090
July.....	14,685	546	395	470	1.31	1.51	28,930
August.....	11,575	420	320	373	1.04	1.20	22,860
September.....	11,028	430	350	368	1.02	1.14	21,970
Water year 1940-41.....	204,720	1,440	320	561	1.56	21.17	406,100

Note.- No gage-height record July 11-13, Sept. 5-13, 15-23; discharge computed on basis of records for station near Pitt.

Klickitat River near Pitt, Wash.

Location.- Water-stage recorder, lat. 45°45', long. 120°12', in SW¼ sec. 8, T. 3 N., R. 13 E., 3½ miles south of Pitt, 5 miles upstream from Silvias Creek, and 7 miles upstream from mouth at Lyle. Altitude of gage, 285 feet (from river-profile map).

Drainage area.- 1,170 square miles.

Records available.- October 1935 to September 1941. July 1909 to January 1912 at site 7 miles upstream, published as Klickitat River at Klickitat. October 1928 to September 1935 3½ miles upstream, published as Klickitat River at Pitt.

Average discharge.- 15 years (1909-11, 1928-41), 1,454 second-feet.

Extremes.- Maximum discharge during year, 2,870 second-feet Jan. 18 (gage height, 5.70 feet); minimum, 560 second-feet Sept. 29, 30 (gage height, 3.48 feet).
1909-12, 1928-41: Maximum discharge observed, 21,000 second-feet Dec. 22, 1933 (gage height, 12.5 feet, site and datum then in use), from rating curve extended above 3,000 second-feet; minimum discharge, 466 second-feet Feb. 4, 1937 (gage height, 3.32 feet).

Remarks.- Records excellent. Small diversions above station for irrigation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

3.5	570	4.3	1,200	5.5	2,600
3.7	680	4.6	1,620		
4.0	910	5.0	1,990		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	615	662	855	846	1,580	1,690	1,760	1,830	1,080	790	632	585
2	610	638	664	750	1,460	1,990	2,110	1,630	1,020	702	620	668
3	615	626	830	750	1,400	1,870	1,870	1,560	1,010	798	615	632
4	610	610	838	798	1,350	1,750	1,870	1,820	1,000	762	615	626
5	600	605	894	790	1,290	1,690	1,830	1,630	1,000	768	610	680
6	595	605	1,050	782	1,270	1,580	1,810	1,520	991	766	600	662
7	600	662	928	774	1,240	1,580	1,750	1,290	982	790	600	610
8	600	745	878	750	1,250	1,520	1,750	1,500	964	743	620	595
9	600	637	822	738	1,460	1,520	1,750	1,240	937	726	632	595
10	605	644	758	716	1,760	1,520	1,810	1,800	946	722	650	626
11	644	632	701	694	1,930	1,520	1,690	1,210	982	715	662	626
12	615	626	662	687	1,810	1,460	1,690	1,340	1,020	708	632	615
13	605	605	644	694	1,690	1,390	1,630	1,460	1,040	701	626	605
14	605	600	632	715	1,580	1,320	1,630	1,580	991	715	620	610
15	605	590	658	708	1,460	1,310	1,630	1,250	955	736	620	615
16	595	595	600	708	1,380	1,300	1,630	1,250	910	768	615	615
17	610	600	626	1,020	1,310	1,340	1,520	1,630	894	774	620	605
18	644	600	687	2,140	1,280	1,400	1,460	1,750	910	758	626	600
19	632	585	722	2,380	1,200	1,400	1,410	1,520	886	758	620	600
20	632	585	1,140	1,990	1,160	1,320	1,400	1,410	878	760	610	600
21	658	595	1,290	1,810	1,130	1,280	1,400	1,350	846	715	605	590
22	595	585	1,200	1,630	1,100	1,300	1,410	1,350	838	729	605	590
23	600	576	1,190	1,520	1,100	1,260	1,520	1,350	846	697	600	585
24	514	605	1,180	1,580	1,100	1,220	1,520	1,400	846	644	580	585
25	722	600	1,140	2,060	1,070	1,210	1,580	1,410	828	638	675	585
26	658	596	1,220	2,350	1,030	1,250	1,580	1,320	790	638	650	585
27	615	626	1,460	1,950	1,080	1,250	1,580	1,240	614	650	605	575
28	610	722	1,200	1,750	1,260	1,340	1,550	1,190	798	626	585	570
29	610	1,370	1,090	1,580	-	1,400	1,630	1,150	798	626	575	570
30	638	1,210	1,020	1,460	-	1,520	1,630	1,140	790	638	570	570
31	674	-	937	1,460	-	1,580	-	1,090	-	638	570	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	19,391	814	595	626	0.535	0.62	36,460
November.....	19,983	1,370	575	666	.569	.64	39,640
December.....	20,586	1,460	600	632	.797	.92	57,290
Calendar year 1940.....	470,556	6,000	575	1,286	1.10	14.96	935,400
January.....	39,557	2,350	697	1,244	1.06	1.23	76,480
February.....	37,680	1,930	1,030	1,346	1.15	1.20	74,740
March.....	45,110	1,990	1,210	1,455	1.24	1.43	89,470
April.....	49,520	2,110	1,400	1,651	1.41	1.57	96,220
May.....	42,940	1,750	1,090	1,385	1.18	1.36	85,170
June.....	27,564	1,060	790	919	.785	.88	54,670
July.....	22,262	798	626	718	.614	.71	44,160
August.....	18,965	662	570	612	.523	.60	37,620
September.....	18,175	690	570	606	.519	.58	36,060
Water year 1940-41.....	369,033	2,350	570	1,011	.864	11.74	732,000

f Computed on basis of partly estimated gage-height record.

Hood River near Hood River, Oreg.

Location.- Water-stage recorder, lat. 45°42', long. 121°31', in SE¼ sec. 36, T. 3 N., R. 10 E., at Powerdale, a quarter of a mile upstream from Pacific Power & Light Co.'s plant and three-quarters of a mile south of town of Hood River. Datum of gage is 106.23 feet above mean sea level, datum of 1929.

Drainage area.- 329 square miles.

Records available.- March 1913 to September 1941.

Average discharge.- 28 years, 1,042 second-feet (including flow of Pacific Power & Light Co.'s conduit).

Extremes.- Maximum discharge during year, 4,510 second-feet Nov. 29 (gage height, 5.22 feet); minimum, 13 second-feet Oct. 8-10; minimum daily (including discharge of Pacific Power & Light Co.'s conduit), 165 second-feet Aug. 5.

1913-41: Maximum discharge, 34,000 second-feet Jan. 6, 1923 (gage height, 11.1 feet); minimum, 3 second-feet Aug. 9, 1926 (gage height, 1.45 feet); minimum daily (including discharge of Pacific Power & Light Co.'s conduit), that of Aug. 5, 1941.

Remarks.- Records good. Diversions above station for irrigation. Daily discharge regulated by pondage at sawmill at Dee and by Pacific Power & Light Co.'s conduit, which diverts water around gage.

Cooperation.- Water-stage recorder inspected by employees of Pacific Power & Light Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.9	13	2.2	198	4.0	2,030
1.2	30	2.6	370	4.6	3,150
1.5	52	3.0	670		
1.8	99	3.5	1,260		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	218	350	208	589	466	211	43	53	42	42	45
2	22	104	572	161	568	639	176	34	34	42	46	72
3	22	80	544	140	490	496	169	33	33	42	45	50
4	19	30	546	128	440	444	164	166	32	46	44	65
5	22	20	822	144	422	382	172	908	34	42	44	57
6	25	30	878	149	376	409	264	549	38	38	43	48
7	20	346	570	120	356	338	204	326	38	42	47	52
8	13	950	449	98	321	332	170	236	44	43	44	44
9	13	436	351	102	412	340	384	172	34	40	40	52
10	16	233	310	74	517	300	180	110	32	40	36	50
11	38	188	206	62	510	251	132	102	32	40	42	58
12	28	112	159	70	442	226	100	198	36	121	50	50
13	28	72	115	64	398	186	91	108	253	113	49	54
14	32	44	110	74	342	154	72	90	89	50	49	60
15	19	56	143	89	306	141	112	66	58	54	46	69
16	18	31	84	101	278	149	97	83	52	48	44	43
17	22	45	86	427	240	144	76	641	54	47	42	41
18	20	75	87	1,690	224	203	58	658	57	50	47	52
19	26	54	120	1,340	200	288	52	460	55	48	45	44
20	36	56	546	952	178	243	60	334	55	48	44	41
21	36	54	505	744	160	171	64	258	60	44	47	a56
22	22	28	420	601	149	224	52	190	55	46	47	a49
23	26	28	350	481	152	210	46	144	46	48	48	38
24	318	112	352	450	179	180	36	156	52	44	48	32
25	80	218	396	904	176	143	34	100	44	45	all 4	42
26	28	140	404	1,330	155	140	49	58	44	48	a46	44
27	68	383	494	1,010	181	142	62	100	44	50	a58	a39
28	29	1,150	437	798	275	178	48	123	46	44	42	a28
29	13	3,180	368	666	-	210	34	66	42	44	38	a47
30	112	1,260	300	580	-	281	30	36	50	42	40	a41
31	198	-	257	590	-	224	-	78	-	44	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,393	318	13	44.9	2,760
November.....	9,693	3,180	20	323	19,230
December.....	11,811	878	84	381	23,430
Calendar year 1940.....	172,600	4,830	13	472	342,300
January.....	14,347	1,690	62	463	28,460
February.....	9,016	569	149	322	17,890
March.....	8,234	659	140	266	16,330
April.....	3,399	394	30	113	6,740
May.....	6,626	908	33	214	13,140
June.....	1,576	233	32	52.5	3,130
July.....	1,535	121	38	49.5	3,040
August.....	1,464	114	36	47.2	2,900
September.....	1,463	72	28	48.8	2,900
Water year 1940-41.....	70,557	3,180	13	193	139,900

a No gage-height record; discharge computed on basis of records for West Fork of Hood River near Dee and Pacific Power & Light Co.'s conduit near Hood River.

Combined discharge, in second-feet, of Hood River and Pacific Power & Light Co.'s conduit
near Hood River, Oreg., water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	408	668	1,240	675	1,070	946	691	352	503	299	182	288
2	403	564	1,040	641	1,050	1,120	656	355	460	304	183	410
3	409	516	1,020	610	970	976	647	400	443	311	189	322
4	387	452	1,030	598	920	904	625	470	425	327	178	477
5	369	449	1,280	605	882	862	652	1,380	414	302	165	467
6	368	465	1,290	622	856	867	744	1,010	447	305	167	353
7	360	805	1,050	590	816	818	664	810	458	310	183	323
8	355	1,360	929	554	801	812	616	716	430	276	211	281
9	340	903	831	560	852	820	712	655	394	249	216	307
10	351	703	759	544	997	780	660	590	373	244	220	410
11	461	658	686	532	990	731	612	584	372	235	225	393
12	408	582	637	537	922	706	580	687	365	218	255	448
13	423	542	589	525	878	666	571	595	393	243	211	454
14	382	505	578	534	822	634	552	568	375	285	203	471
15	379	511	551	555	786	621	592	532	332	320	231	485
16	368	486	521	571	758	628	577	552	338	347	223	448
17	380	489	532	597	720	624	556	1,130	342	340	227	402
18	412	545	542	2,160	704	683	536	1,150	397	315	218	399
19	417	499	595	1,790	680	768	527	950	417	288	210	390
20	438	494	1,000	1,430	658	723	502	824	472	277	206	408
21	419	505	985	1,220	640	651	487	748	389	260	202	405
22	387	466	900	1,080	629	704	470	680	366	261	196	395
23	388	463	830	961	632	690	464	624	355	223	224	386
24	793	572	832	930	659	660	435	620	351	201	220	358
25	525	693	866	1,380	651	623	404	584	339	193	287	359
26	429	620	884	1,810	627	620	410	527	334	180	330	360
27	417	853	964	1,480	661	622	391	580	314	199	300	340
28	378	1,600	917	1,280	755	658	362	592	314	197	262	328
29	391	3,590	848	1,150	-	690	367	529	308	185	225	343
30	569	1,730	773	1,060	-	761	359	487	313	197	218	335
31	668	-	735	1,070	-	704	-	552	-	181	227	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						13,160	793	340	425		26,100	
November.....						23,289	3,590	449	776		46,190	
December.....						26,235	1,290	521	846		52,040	
Calendar year 1940.....						296,261	5,240	199	815		591,600	
January.....						28,951	2,160	525	934		57,420	
February.....						22,386	1,070	627	800		44,400	
March.....						23,072	1,120	620	744		45,760	
April.....						16,421	744	359	547		32,570	
May.....						20,833	1,380	352	672		41,320	
June.....						11,553	503	308	385		22,920	
July.....						8,062	347	180	260		15,990	
August.....						6,794	330	165	219		13,480	
September.....						11,547	485	281	385		22,900	
Water year 1940-41.....						212,303	3,590	165	582		421,100	

West Fork of Hood River near Des, Oreg.

Location.- Water-stage recorder, lat. 45°36', long. 121°38', in SE¼ sec. 1, T. 1 N., R. 9 E., a quarter of a mile upstream from Dead Point Creek, half a mile upstream from mouth, and 1 mile northwest of Des. Datum of gage is 902.1 feet above mean sea level, datum of 1929.

Drainage area.- 96 square miles.

Records available.- September 1913 to February 1916 (incomplete), June 1932 to September 1941.

Extremes.- Maximum discharge during year, 4,030 second-feet Nov. 29 (gage height, 7.16 feet); minimum, 93 second-feet Aug. 22 (gage height, 1.37 feet).
1913-16, 1932-41: Maximum discharge, 12,900 second-feet Dec. 22, 1933 (gage height, 12.4 feet), from rating curve extended above 5,000 second-feet; minimum, that of Aug. 22, 1941.

Remarks.- Records good. Diversions above station for irrigation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 28

Nov. 29 to Sept. 30

1.5	109	3.0	585	1.4	97	3.0	585	5.0	1,840
1.7	145	4.0	845	1.7	147	3.5	845	5.7	2,440
2.0	209	4.5	1,185	2.0	216	4.0	1,135		
2.5	365	5.0	1,840	2.5	317	4.5	1,460		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	336	715	343	537	487	554	206	303	175	107	132
2	136	292	575	315	537	605	315	206	281	173	105	145
3	139	222	590	294	491	523	324	246	275	173	111	130
4	136	195	551	281	451	482	316	329	263	168	108	184
5	129	183	740	284	432	470	354	384	285	166	104	194
6	123	190	700	294	420	461	397	640	272	164	107	141
7	120	476	556	260	404	440	354	505	281	166	110	126
8	120	587	487	262	393	448	336	448	286	155	111	118
9	117	560	428	238	408	440	351	408	246	147	113	120
10	122	405	376	227	509	416	343	360	235	145	110	166
11	157	369	336	221	506	390	380	764	255	141	111	166
12	130	303	302	214	466	371	303	386	240	138	110	221
13	147	262	291	214	438	343	284	323	232	145	104	230
14	138	239	260	324	408	323	272	333	208	160	108	243
15	130	217	240	240	362	306	316	306	191	168	111	263
16	129	202	232	268	367	300	300	360	194	160	107	230
17	132	220	230	436	343	310	284	744	204	147	105	196
18	136	265	230	1,290	326	378	275	730	221	145	103	185
19	138	233	278	1,020	313	420	266	810	252	138	103	201
20	139	225	366	757	303	378	253	623	291	134	104	204
21	141	228	547	625	291	346	252	467	235	156	101	184
22	129	204	491	526	364	333	246	416	221	128	101	180
23	141	195	467	470	384	368	240	382	204	121	111	169
24	309	283	452	448	310	343	280	560	198	116	103	168
25	195	393	470	790	310	329	221	328	198	113	125	149
26	163	343	474	1,110	194	326	219	306	191	113	132	147
27	138	580	542	862	313	333	216	378	184	116	128	136
28	132	1,550	509	700	354	354	211	378	182	114	116	132
29	138	2,380	467	800	-	371	208	333	177	113	105	145
30	285	1,030	420	537	-	390	204	310	180	113	103	139
31	316	-	382	542	-	354	-	346	-	110	104	-

Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October				4,707	316	117	152	9,340
November				13,404	2,380	183	447	26,590
December				13,877	740	230	448	27,520
Calendar year 1940				154,549	3,690	111	422	306,600
January				14,884	1,290	214	480	29,520
February				10,970	537	284	388	21,560
March				12,208	605	300	394	24,210
April				8,626	397	204	288	17,110
May				12,898	884	206	416	25,580
June				6,918	303	177	231	13,720
July				4,401	175	110	142	8,730
August				3,879	132	101	109	6,700
September				5,134	263	118	171	10,180
Water year 1940-41				111,300	2,380	101	305	220,800

Peak discharge.- Nov. 29 (1 a.m.) 4,030 sec.-ft.

Pacific Power & Light Co.'s conduit near Hood River, Oreg.

Location.- Venturi meter, lat. 45°42', long. 121°30'. in NE¼ sec. 36 T. 3 N., R. 10 E., at Pacific Power & Light Co.'s plant on Hood River, half a mile southeast of town of Hood River.

Records available.- October 1922 to September 1941. October 1913 to September 1914 and January 1916 to July 1922 at site in tailrace of former plant.

Average discharge.- 19 years (1922-41), 350 second-feet.

Extremes.- Maximum discharge observed during year, 490 second-feet frequently in May, and Sept. 2; no flow occasionally when power plant was shut down.
1913-14, 1916-41: Maximum discharge observed, 511 second-feet Dec. 30, 1932.

Remarks.- Records excellent. Discharge determined from hourly readings of Venturi meter checked by occasional discharge measurements. Pacific Power & Light Co.'s conduit diverts from Hood River in SE¼ sec. 11, T. 2 N., R. 10 E., just below Neal Creek. Water is diverted around the station on Hood River near town of Hood River and returned to river in NE¼ sec. 22, T. 3 N., R. 10 E.

Cooperation.- Hourly readings of Venturi meter and record of daily electrical output furnished by Pacific Power & Light Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	387	450	392	467	460	480	490	509	450	257	140	243
2	381	460	470	480	480	480	480	321	426	262	137	338
3	397	426	475	470	480	480	472	337	410	239	141	272
4	368	422	480	470	480	480	431	304	358	251	134	412
5	347	429	457	461	460	480	480	472	380	260	121	410
6	343	435	408	473	420	458	480	465	409	267	124	305
7	340	459	480	470	480	480	460	484	420	265	136	273
8	342	412	480	456	480	480	446	480	366	253	167	257
9	327	467	490	458	440	480	326	453	360	209	176	255
10	355	470	449	470	450	480	480	490	341	204	184	360
11	423	470	480	470	480	480	480	482	340	195	183	335
12	382	470	478	467	450	480	480	439	349	97	205	398
13	395	470	474	461	480	480	480	487	160	130	162	400
14	350	462	465	460	480	480	480	478	265	235	154	411
15	360	455	408	466	450	480	480	466	274	266	185	416
16	350	455	437	470	480	479	480	489	286	299	179	405
17	358	444	446	470	480	480	480	486	288	293	105	361
18	392	470	455	475	480	480	478	490	340	265	171	347
19	391	465	475	454	480	480	475	490	362	240	165	346
20	402	468	459	480	480	480	442	490	417	229	162	367
21	383	451	480	480	480	480	425	490	329	216	155	349
22	345	438	450	480	480	480	418	490	311	215	149	346
23	362	435	480	480	430	480	418	480	309	175	176	348
24	475	460	480	480	480	480	399	464	299	167	172	326
25	445	475	480	480	475	480	370	454	295	148	173	317
26	401	480	480	480	472	480	361	469	290	132	284	316
27	349	470	480	467	480	480	323	480	270	149	242	301
28	347	449	480	480	480	480	314	469	268	153	220	300
29	373	409	480	480	-	480	335	453	266	141	187	296
30	457	473	473	480	-	480	329	451	263	145	178	294
31	470	-	479	480	-	480	-	474	-	137	183	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					11,767	475	327	380	23,340			
November.....					13,699	480	409	453	26,970			
December.....					14,423	480	392	465	26,610			
Calendar year 1940.....					125,729	480	110	344	249,400			
January.....					14,615	480	454	471	28,990			
February.....					13,367	480	440	477	26,610			
March.....					14,637	480	458	479	29,430			
April.....					13,022	480	314	434	25,830			
May.....					14,206	480	304	458	28,180			
June.....					9,977	480	120	333	19,790			
July.....					6,627	299	97	211	12,650			
August.....					5,330	264	121	172	10,670			
September.....					10,084	413	237	336	20,000			
Water year 1940-41.....					141,764	490	97	388	281,800			

WHITE SALMON RIVER BASIN

White Salmon River at Husum, Wash.

Location.- Water-stage recorder, lat. 45°47'50", long. 121°29'15", in SW¼ sec. 30, T. 4 N., R. 11 E., at Husum, 500 feet upstream from Rattlesnake Creek.

Drainage area.- 300 square miles.

Records available.- September 1909 to October 1919 and October 1929 to October 1941 (discontinued) in Reports of Geological Survey. November 1919 to September 1920 (monthly discharge) in State Water-Supply Bulletin 5.

Average discharge.- 23 years (1909-20, 1929-41), 950 second-feet.

Extremes.- 1940-41: Maximum discharge during water year, 1,230 second-feet May 18 (gage height, 3.49 feet); minimum, 435 second-feet Aug. 24, 25 (gage height, 1.17 feet). 1909-19, 1929-41: Maximum discharge, 10,800 second-feet Dec. 22, 1933 (gage height, 11.0 feet); minimum, 340 second-feet Dec. 30, 1930 (gage height, 0.64 foot).

Remarks.- Records excellent except those for period of shifting control, which are good. Many diversions near Trout Lake for irrigation. Springs a few miles above station greatly increase flow.

Rating table, water year 1940-41 except period of shifting control (gage height, in feet, and discharge, in second-feet)

1.2	441	1.7	560	2.5	820
1.4	485	2.0	646	3.0	1,040

Discharge, in second-feet, 1940-41

1940-41

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	504	563	824	687	896	900	999	724	734	599	480	495
2	502	544	710	665	872	976	1,040	710	714	579	478	512
3	499	519	669	649	856	976	1,030	742	680	574	476	507
4	497	516	665	637	840	940	1,050	788	649	565	476	516
5	492	507	710	634	824	914	1,100	945	625	560	476	555
6	487	499	836	628	820	884	1,110	981	634	552	469	532
7	480	542	804	622	796	880	1,100	936	634	542	462	514
8	476	587	724	613	796	876	1,060	892	625	537	467	509
9	471	557	674	604	808	872	1,090	868	607	534	469	504
10	471	552	651	593	856	866	1,080	856	587	529	469	514
11	497	519	596	582	896	856	1,040	844	582	526	469	516
12	483	509	571	571	880	840	994	872	587	522	469	522
13	471	499	547	560	856	820	981	860	590	526	467	519
14	471	492	526	552	836	804	968	832	584	524	464	534
15	467	490	512	552	816	788	968	792	587	519	467	555
16	452	487	499	555	792	780	954	796	599	524	462	544
17	458	483	504	665	776	804	909	1,120	604	526	460	552
18	467	478	522	1,020	770	856	880	1,230	631	516	460	512
19	462	469	539	1,090	759	892	860	1,080	662	512	458	509
20	458	467	694	1,010	748	868	836	994	714	509	456	512
21	487	462	816	958	742	848	812	945	700	509	443	507
22	464	456	940	914	734	844	804	904	684	504	441	499
23	467	454	836	880	731	840	780	896	665	499	437	495
24	557	460	852	868	728	828	745	824	646	487	435	487
25	526	464	868	958	720	820	720	796	634	485	439	480
26	499	464	872	1,010	707	820	720	752	631	485	462	474
27	485	485	864	972	734	828	717	773	628	487	469	458
28	474	544	816	936	816	852	731	792	637	485	485	456
29	479	927	790	868	-	884	724	770	625	485	487	449
30	526	1,020	752	864	-	932	724	756	616	485	487	443
31	571	-	720	864	-	954	-	745	-	483	487	-

Note.- Shifting-control method used Jan. 18 to Mar. 15.

1941

Day	Oct.	Day	Oct.	Day	Oct.
1	443	5	447	9	485
2	441	6	441	10	537
3	445	7	447	11	565
4	456	8	462	12	579

Monthly discharge, in second-feet, 1940-41

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1940.....	15,079	571	452	486	29,910
November.....	15,995	1,020	454	533	31,750
December.....	21,772	872	499	702	43,180
Calendar year 1940.....	310,585	2,150	452	849	616,000
January 1941.....	23,601	1,090	552	761	46,810
February.....	22,405	896	707	800	44,440
March.....	26,844	976	780	866	53,240
April.....	27,526	1,110	717	918	54,600
May.....	26,795	1,230	710	864	53,180
June.....	19,095	734	582	636	37,870
July.....	16,169	599	483	522	32,070
August.....	14,426	487	435	465	28,610
September.....	15,161	555	443	505	30,070
Water year 1940-41.....	244,868	1,230	435	671	485,700
October 1-12, 1941.....	5,748	579	441	479	11,400

White Salmon River near Underwood, Wash.

Location.- Water-stage recorder, lat. 45°45'00", long. 121°31'30", in NW¼ sec. 14, T. 3 N., R. 10 E.; 1,000 feet downstream from Northwestern Electric Co.'s Condit power plant and 2 miles north of Underwood and mouth.

Drainage area.- 384 square miles.

Records available.- March 1915 to September 1930, September 1935 to September 1941. October 1912 to February 1913 at site at Condit Dam, 1 mile upstream.

Average discharge.- 21 years (1915-30, 1935-41), 1,025 second-feet.

Extremes.- Maximum discharge during year, 1,750 second-feet (regulated) Jan. 19 (gage height, 5.09 feet); minimum, 26 second-feet (regulated) Oct. 22 (gage height, 0.81 foot); minimum daily, 278 second-feet (regulated) Nov. 21. 1915-30, 1935-41: Maximum discharge, 9,700 second-feet Dec. 29, 1917 (gage height, 9.5 feet, datum then in use, relation to present datum unknown); practically no flow at times when power plant is shut down.

Remarks.- Records good. Many diversions near Trout Lake for irrigation. Flow regulated by power plant.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

2.7	270	4.0	820
3.0	365	5.0	1,660
3.6	555		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	449	557	†769	786	1,160	1,020	1,080	801	†708	650	438	436
2	586	479	804	765	†939	†1,200	1,060	698	804	550	536	564
3	530	†474	693	670	1,050	1,020	1,120	790	778	640	†438	536
4	521	609	750	714	975	1,030	1,160	†884	676	567	482	555
5	590	445	828	†509	950	1,020	1,180	1,090	682	578	504	556
6	†431	524	850	800	958	1,020	†1,240	1,070	612	†a545	450	622
7	417	566	878	671	942	1,000	1,240	945	669	a535	474	†450
8	462	617	†888	586	889	962	1,050	940	†650	a595	421	506
9	523	644	916	669	†911	†980	1,220	872	674	a575	500	472
10	500	†496	651	529	1,090	998	1,100	866	581	a530	†468	488
11	442	751	620	616	1,090	962	1,100	†823	650	a610	505	549
12	482	466	629	†539	1,120	1,090	1,060	938	614	a505	406	534
13	†492	426	590	886	1,030	858	†1,060	882	590	†a570	496	515
14	498	579	457	560	1,020	850	1,080	874	623	a530	468	†498
15	554	384	†596	560	952	874	1,050	810	†640	524	468	564
16	474	488	562	682	†946	†896	1,090	822	608	470	416	538
17	452	†490	559	980	964	1,110	853	1,250	628	538	†546	580
18	422	562	538	1,220	923	860	950	†1,260	682	632	448	464
19	420	354	586	†1,480	838	941	904	1,230	700	506	450	491
20	†568	612	833	1,250	908	1,010	†890	950	692	†486	456	521
21	652	278	904	1,160	859	929	945	1,020	714	526	447	†538
22	327	622	†755	1,020	754	814	823	944	†709	421	444	492
23	458	436	1,060	1,000	†811	†913	864	902	728	562	444	506
24	606	†568	838	1,000	908	1,060	720	840	678	476	†420	504
25	524	544	972	1,050	778	912	758	†821	655	481	436	522
26	408	492	1,060	†1,320	868	902	772	795	675	422	468	468
27	†498	570	1,080	1,240	791	570	†768	875	576	†524	481	460
28	596	660	892	1,220	932	827	804	832	651	477	508	†483
29	474	1,190	†870	960	-	930	792	790	†654	488	580	667
30	558	1,100	953	1,020	-	†978	820	758	712	508	493	51
31	617	-	753	1,010	-	1,050	-	845	-	502	†446	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	15,511	652	327	500	30,770
November.....	16,771	1,190	278	659	33,260
December.....	23,894	1,080	457	771	47,390
Calendar year 1940.....	349,067	3,160	278	954	692,400
January.....	27,252	1,480	509	879	54,050
February.....	26,356	1,160	754	941	52,240
March.....	29,876	1,200	814	964	59,280
April.....	29,583	1,240	720	986	58,680
May.....	28,195	1,260	698	910	55,920
June.....	19,993	804	576	666	39,680
July.....	16,522	850	421	533	32,770
August.....	14,527	580	406	469	28,510
September.....	15,376	622	423	513	30,500
Water year 1940-41.....	263,836	1,480	278	723	523,300

† Sunday.

a No gage-height record; discharge computed on basis of power-plant records.

Wind River near Carson, Wash.

Location.- Water-stage recorder, lat. 45°44'10", long. 121°48'10", in SW¼ sec. 21, T. 3 N., R. 8 E., three-quarters of a mile upstream from Little Wind River, 1 mile north-east of Carson, and 2½ miles upstream from mouth. Discharge measurements made just downstream from mouth of Little Wind River.

Drainage area.- 224 square miles, including that of Little Wind River.

Records available.- December 1934 to September 1941 (include flow of Little Wind River).

Extremes.- Maximum discharge during year, 5,880 second-feet Nov. 29 (gage height, 10.94 feet); minimum, 156 second-feet Aug. 22, 23 (gage height, 2.52 feet).

1934-41: Maximum discharge, 16,700 second-feet Dec. 29, 1937 (gage height, 17.30 feet), from rating curve extended above 5,000 second-feet on basis of velocity-area studies; minimum, 136 second-feet Nov. 29, Dec. 1, 1936 (gage height, 2.21 feet).

Remarks.- Records good. Flow occasionally affected by Forest Service power plant on Trout Creek. No diversions.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

2.6	165	3.6	365	5.5	985	7.5	2,060
2.8	194	4.0	475	6.0	1,180	8.0	2,490
3.0	227	4.5	530	6.5	1,410	9.0	3,500
3.3	290	5.0	801	7.0	1,700	10.0	4,650

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	184	819	1,580	1,100	1,700	1,080	581	378	519	285	185	253
2	169	714	1,260	885	1,700	1,260	581	378	475	278	184	412
3	175	565	1,180	910	1,640	1,180	550	434	461	272	191	339
4	179	461	1,100	873	1,460	1,100	614	508	434	265	184	392
5	178	406	1,390	855	1,360	1,000	751	1,000	419	283	186	519
6	169	392	1,580	837	1,280	947	837	1,020	434	261	180	434
7	164	778	1,310	766	1,180	910	784	873	419	262	179	365
8	161	1,260	1,140	714	1,340	873	751	766	392	246	178	314
9	157	1,100	1,000	680	1,180	837	731	680	392	242	176	292
10	161	873	910	663	1,360	901	697	614	365	238	173	402
11	186	766	819	630	1,460	748	646	581	365	235	175	475
12	184	646	748	614	1,560	714	614	597	339	233	179	697
13	175	581	680	614	1,260	680	581	534	328	229	176	630
14	175	519	630	597	1,180	646	550	504	326	224	162	630
15	166	461	597	680	1,100	630	550	475	314	220	166	614
16	165	447	560	947	1,020	597	550	572	314	217	165	580
17	171	434	534	2,130	966	581	534	1,680	314	212	164	490
18	176	434	550	4,630	910	855	504	1,640	378	210	164	475
19	169	392	686	3,830	855	910	475	1,360	434	207	162	614
20	168	392	1,960	2,680	801	855	461	1,140	619	207	168	680
21	179	392	2,140	1,980	766	784	461	1,020	434	202	158	565
22	176	365	1,700	1,640	731	754	447	910	392	202	157	490
23	196	352	1,580	1,410	714	748	434	819	365	199	168	447
24	226	392	1,580	1,360	731	697	434	748	352	199	158	406
25	419	490	1,840	2,490	714	663	419	680	352	199	180	378
26	304	504	2,060	2,980	680	646	419	630	339	197	261	552
27	295	634	1,990	2,310	731	630	406	646	314	194	302	326
28	246	1,430	1,770	1,910	837	614	406	663	314	194	365	307
29	276	1,780	1,520	1,640	-	614	392	597	302	182	290	292
30	766	2,470	1,360	1,480	-	614	392	550	292	190	240	285
31	855	-	1,180	1,520	-	597	-	534	-	186	220	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	7,720	855	157	249	1.11	1.28	15,310
November.....	24,249	4,780	352	808	3.61	4.03	49,100
December.....	33,914	2,140	534	1,255	5.60	6.46	77,180
Calendar year 1940.....	363,061	8,870	146	992	4.43	60.27	720,200
January.....	46,335	4,630	597	1,495	6.67	7.69	61,900
February.....	30,798	1,700	680	1,100	4.91	5.11	61,080
March.....	24,875	1,260	581	793	3.54	4.08	48,740
April.....	16,512	837	392	550	2.46	2.74	32,760
May.....	23,531	1,680	378	759	3.39	3.91	48,670
June.....	11,395	819	292	280	1.70	1.89	22,600
July.....	6,960	285	186	224	1.00	1.15	13,780
August.....	6,008	365	157	194	0.86	1.00	11,920
September.....	13,406	697	233	447	2.00	2.23	26,590
Water year 1940-41.....	250,390	4,780	157	686	3.06	41.57	496,600

Sandy River near Marmot, Oreg.

Location.- Water-stage recorder, lat. 45°23', long. 122°08', in NE¼ sec. 24, T. 2 S., R. 5 E., 1 mile southwest of Marmot, 1½ miles upstream from Sandy River Dam of Portland General Electric Co., and 5 miles downstream from Salmon River.

Drainage area.- 262 square miles.

Records available.- August 1911 to December 1915, July 1919 to September 1941. Equivalent records for January 1916 to June 1919 obtained by combining records for Sandy River below dam near Marmot with records for Sandy River Canal near Marmot.

Average discharge.- 30 years, 1,300 second-feet.

Extremes.- Maximum discharge during year, 9,100 second-feet Nov. 29 (gage height, 9.12 feet); minimum, 235 second-feet Aug. 30, 31 (gage height, 2.00 feet).

1911-41: Maximum discharge, 29,200 second-feet Jan. 6, 1923 (gage height, 17.5 feet, site and datum then in use), by computation of flow over dam; minimum, 205 second-feet Sept. 21-24, 1940.

Remarks.- Records good except those for periods of shifting control or no gage-height record, which are fair. No diversion or regulation above station.

Cooperation.- Water-stage recorder inspected by employee of Portland General Electric Co.

Rating table, water year 1940-41, except periods of shifting control (gage height, in feet, and discharge, in second-feet)

2.0	235	3.0	700	5.0	2,320	8.0	6,780
2.3	350	3.5	1,000	6.0	3,920	9.0	9,680
2.6	490	4.0	1,350	7.0	5,110		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	338	700	2,270	836	1,060	886	560	545	1,150	545	290	382
2	334	712	1,760	784	1,010	952	560	555	1,020	535	286	475
3	404	628	1,730	748	934	862	540	659	934	535	310	413
4	400	555	1,660	724	890	806	555	789	865	500	306	628
5	335	515	1,870	745	844	778	596	2,420	826	490	294	5540
6	298	500	1,830	760	820	754	672	1,850	904	495	294	4460
7	274	760	1,490	730	802	712	645	1,450	1,050	476	302	4380
8	263	1,580	1,340	706	766	689	623	1,340	1,110	440	314	4320
9	258	1,200	1,200	700	790	662	672	1,180	1,020	422	306	4300
10	256	968	882	706	880	640	672	1,010	934	413	293	510
11	322	988	952	700	556	618	645	988	880	404	302	623
12	286	934	880	700	514	596	640	1,010	962	400	306	669
13	306	820	802	748	766	575	601	898	814	408	278	669
14	282	718	784	802	724	550	555	1,030	749	431	286	748
15	263	662	706	806	689	540	802	1,000	689	436	294	784
16	256	662	662	844	656	530	826	1,080	678	422	286	684
17	253	662	2,560	640	530	536	836	1,780	689	413	278	806
18	266	892	669	3,560	618	555	836	2,060	708	396	263	545
19	270	820	736	2,810	596	596	850	1,900	802	366	280	545
20	290	796	1,100	1,960	580	570	832	1,620	910	364	280	580
21	318	796	1,160	1,560	570	525	790	1,370	766	354	252	545
22	286	712	970	1,310	580	618	736	1,300	724	360	266	500
23	268	676	927	1,180	566	606	689	1,080	662	334	290	480
24	668	1,110	834	1,110	640	540	640	1,000	840	322	270	460
25	689	1,470	698	1,270	640	540	606	910	618	310	314	431
26	456	1,210	982	1,740	601	525	580	868	590	310	359	445
27	395	2,000	1,330	1,530	662	520	560	1,220	570	322	334	482
28	359	2,500	1,200	1,310	748	530	535	1,260	585	318	306	404
29	362	6,980	1,080	1,180	-	555	530	1,150	570	314	280	390
30	640	3,550	1,000	1,090	-	606	525	1,080	685	310	236	395
31	922	-	916	1,070	-	560	-	1,290	-	302	242	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	11,807	922	256	374	1.43	1.65	23,020
November.....	38,024	6,960	500	1,267	4.84	5.40	75,450
December.....	35,493	2,270	662	1,145	4.37	6.04	70,400
Calendar year 1940.....	375,671	6,960	213	1,026	3.92	55.33	745,100
January.....	37,286	3,560	700	1,202	4.59	5.29	73,920
February.....	20,735	1,060	560	741	2.83	2.94	41,180
March.....	19,553	932	520	631	2.41	2.78	38,780
April.....	19,746	850	425	655	2.51	2.80	39,170
May.....	37,582	2,420	545	1,212	4.63	5.33	74,840
June.....	23,834	1,150	565	796	3.04	3.39	47,370
July.....	18,437	545	302	401	1.53	1.77	24,670
August.....	8,934	359	238	288	1.10	1.27	17,780
September.....	15,293	784	300	510	1.96	2.17	30,330
Water year 1940-41.....	280,559	6,960	238	769	2.94	39.63	556,500

Peak discharge.- Nov. 29 (about 7 a.m., clock stopped) 9,100 sec.-ft.; Jan. 18 (4 p.m.) 3,830 sec.-ft.

A no gage-height record; discharge computed on basis of records for Salmon River above Boulder Creek, near Brightwood.

Note.- Shifting-control method used Oct. 1 to Dec. 12, Sept. 2-30.

Sandy River below Bull Run River, near Bull Run, Oreg.

Location.- Water-stage recorder, lat. 45°27', long. 122°15', in NW¼ sec. 30, T. 1 S., R. 5 E., 1 mile downstream from Bull Run River and 2 miles northwest of Bull Run.

Altitude of gage, 202 feet (from river-profile map).

Drainage area.- 440 square miles.

Records available.- October 1929 to September 1941. April 1910 to September 1914, at site three-quarters of a mile upstream.

Average discharge.- 15 years (1910-11, 1912-14, 1929-41), 2,139 second-feet.

Extremes.- Maximum discharge during year, 21,600 second-feet Nov. 29 (gage height, 12.14 feet); minimum, 115 second-feet Aug. 21 (gage height, 0.90 foot); minimum daily, 316 second-feet Oct. 9.

1910-14, 1929-41: Maximum discharge, 58,000 second-feet Mar. 31, 1931 (gage height, 20.6 feet), from rating curve extended above 15,000 second-feet; minimum, 53 second-feet Oct. 4, 1931 (gage height, 0.53 foot); minimum daily, 128 second-feet Oct. 9, 1936.

Remarks.- Records good. No diversion above station for irrigation; about 50,000 acres diverted annually from Bull Run River by Portland Water Bureau. Flow slightly regulated by Bull Run Lake and Lake Ben Morrow Reservoir of Portland Water Bureau; considerable diurnal fluctuation by Bull Run power plant of Portland General Electric Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	398	1,800	4,310	1,350	2,010	1,320	778	832	1,910	750	416	472
2	444	2,070	3,270	1,470	1,680	1,830	746	956	1,610	720	407	751
3	488	1,540	3,110	1,330	1,770	1,590	890	1,110	1,450	928	396	594
4	576	1,310	3,120	1,340	1,570	1,360	855	903	1,400	408	494	902
5	412	1,070	3,210	1,180	1,450	1,350	800	4,960	1,410	779	332	992
6	370	1,050	3,400	1,680	1,590	1,210	855	3,840	1,460	529	400	731
7	362	1,740	2,670	1,580	1,420	1,280	1,110	2,860	1,820	696	354	628
8	354	4,530	2,170	1,540	1,230	1,020	930	2,510	1,500	574	397	400
9	316	3,530	2,170	1,420	1,080	884	966	2,090	1,750	575	454	430
10	366	2,260	1,790	1,530	1,710	1,110	1,120	1,630	1,490	574	374	768
11	472	2,310	1,640	1,290	1,540	906	1,060	1,500	1,420	514	414	824
12	370	1,900	1,420	1,170	1,430	921	867	1,840	1,350	574	426	1,220
13	417	1,580	1,390	1,500	1,400	959	692	1,420	1,310	413	396	1,950
14	378	1,230	1,100	1,560	1,330	882	1,040	1,620	1,190	595	355	2,300
15	405	1,090	1,130	1,650	1,080	910	1,100	1,690	742	510	360	2,120
16	338	1,110	1,020	1,710	917	670	1,250	1,710	1,000	465	374	1,750
17	362	1,110	1,000	5,670	1,180	1,020	1,400	3,270	1,095	546	350	1,360
18	344	1,510	1,090	8,170	896	866	1,420	4,070	1,080	529	420	1,150
19	368	1,330	1,270	6,450	1,000	825	1,290	3,900	1,310	520	392	1,190
20	341	1,220	2,340	4,420	850	892	1,040	3,040	1,750	476	382	1,250
21	422	1,300	2,710	3,200	921	943	1,330	2,450	1,400	436	336	1,080
22	503	1,110	2,140	2,600	962	907	1,110	1,520	1,010	486	358	923
23	405	1,070	1,930	2,250	688	574	1,040	1,830	1,240	434	320	815
24	1,410	1,810	1,840	2,110	1,090	912	1,050	1,540	1,040	439	416	754
25	1,200	3,140	1,500	2,610	1,080	828	1,030	1,090	959	458	456	662
26	864	2,530	1,950	4,420	969	774	857	1,530	923	397	519	688
27	562	3,760	2,880	3,750	1,040	801	550	1,920	958	445	494	720
28	504	6,580	2,770	2,810	1,270	860	708	2,110	894	452	458	502
29	584	16,100	2,160	2,410	-	770	752	2,050	736	414	423	555
30	910	7,260	2,020	2,110	-	718	742	1,620	881	434	409	543
31	1,570	-	1,960	1,990	-	1,000	-	2,160	-	402	364	54

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	16,815	1,570	316	542	1.23	1.42	33,350
November.....	79,950	16,100	1,050	2,665	6.06	6.76	158,800
December.....	66,480	4,310	1,000	2,145	4.88	5.62	131,900
Calendar year 1940.....	665,390	16,100	208	1,818	4.13	56.26	1,320,000
January.....	78,270	8,170	1,170	2,525	5.74	6.62	155,200
February.....	35,153	2,010	688	1,255	2.85	2.97	69,780
March.....	30,892	1,830	574	997	2.27	2.61	61,270
April.....	29,401	1,420	550	960	2.23	2.49	58,320
May.....	66,171	4,960	832	2,135	4.85	5.59	131,200
June.....	38,178	1,910	736	1,273	2.89	3.23	75,720
July.....	16,472	928	397	531	1.21	1.39	32,670
August.....	12,436	519	320	401	.911	1.05	24,670
September.....	29,044	2,300	400	968	2.20	2.45	57,610
Water year 1940-41.....	499,262	16,100	316	1,368	3.11	42.20	990,200

Salmon River near Government Camp, Oreg.

Location.- Water-stage recorder, lat. 45°16', long. 121°43', in sec. 31, T. 3 S., R. 9 E., near lower end of Red Top Meadows, 4 miles southeast of Government Camp. Datum of gage is 3,446.45 feet above mean sea level, datum of 1929.

Drainage area.- 8.7 square miles.

Records available.- May 1910 to May 1912, April 1926 to September 1941.

Average discharge.- 16 years (1910-11, 1926-41), 39.6 second-feet.

Extremes.- Maximum discharge during year, 254 second-feet Nov. 29 (gage height, 2.26 feet); minimum, 14 second-feet Oct. 22, 23.
1910-12, 1926-41: Maximum discharge, 650 second-feet Dec. 22, 1933 (gage height, 3.61 feet); minimum, 12 second-feet Nov. 21, 1929, Oct. 19, 1930, Nov. 2, 10-12, Nov. 28 to Dec. 4, 1936.

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

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.3	14	1.1	74
.5	23	1.4	109
.8	45	1.7	151

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	21	46	22	28	38	30	23	32	20	16	20
2	18	20	41	22	27	34	29	25	30	19	16	20
3	19	18	50	21	25	30	28	26	28	19	18	20
4	18	18	44	21	24	28	31	35	27	19	17	23
5	17	18	58	21	24	29	31	50	27	19	16	20
6	17	20	45	21	24	29	30	35	30	18	16	17
7	16	26	38	21	24	28	30	32	39	18	16	17
8	16	24	34	21	24	30	28	30	35	18	16	16
9	16	20	32	21	26	28	30	27	32	18	15	16
10	15	19	29	21	26	27	28	26	28	18	15	21
11	16	19	27	21	26	26	27	27	26	18	17	23
12	16	19	24	21	26	26	26	27	26	18	17	f22
13	17	18	23	23	23	24	26	27	26	17	16	21
14	16	18	22	23	23	23	26	32	25	17	16	20
15	16	18	22	22	22	24	30	28	24	17	16	21
16	16	18	21	21	22	24	28	32	24	17	16	f19
17	16	19	21	30	22	26	27	40	26	17	16	f18
18	15	19	24	45	22	28	27	37	26	17	16	17
19	15	18	24	35	22	28	26	38	30	17	16	19
20	16	18	36	29	22	25	26	35	28	16	16	a22
21	16	18	32	27	22	24	26	32	24	16	15	a20
22	14	17	30	26	22	29	26	29	23	16	15	a18
23	17	17	30	24	23	26	24	28	23	16	16	f16
24	31	34	30	25	24	24	24	28	22	16	16	15
25	20	26	27	33	23	24	24	26	22	16	19	15
26	18	22	29	34	22	25	24	28	21	16	19	16
27	17	50	28	29	25	27	23	50	21	16	18	15
28	18	72	25	26	32	29	24	39	22	16	17	16
29	19	146	24	26	-	30	24	32	21	16	16	15
30	29	58	23	26	-	30	23	34	21	16	16	15
31	24	-	23	27	-	30	-	43	-	16	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	853	31	14	17.8	2.06	2.58	1,100
November.....	948	146	17	28.3	3.25	3.62	1,680
December.....	962	58	21	31.0	3.56	4.11	1,910
Calendar year 1940.....	11,671	146	14	31.9	3.67	49.88	23,150
January.....	784	45	21	25.3	2.91	3.55	1,560
February.....	676	32	22	24.1	2.77	2.69	1,340
March.....	351	38	23	27.5	3.16	3.64	1,690
April.....	806	30	23	26.9	3.09	3.45	1,600
May.....	1,001	50	23	32.3	3.71	4.28	1,990
June.....	789	39	21	26.3	3.02	3.37	1,560
July.....	533	20	16	17.2	1.98	2.28	1,060
August.....	506	19	15	16.3	1.87	2.16	1,000
September.....	552	23	15	18.4	2.11	2.56	1,090
Water year 1940-41.....	8,861	146	14	24.3	2.79	37.87	17,580

a No gage-height record; discharge computed on basis of records for station below Linney Creek.
f Computed on basis partly estimated gage-height record.

- Salmon River below Linney Creek, Oreg.

Location.- Water-stage recorder, lat. 45°13', long. 121°52', 200 feet downstream from Linney Creek, 9 miles southeast of Welches, and 11 miles downstream from station near Government Camp.

Drainage area.- 54 square miles.

Records available.- October 1927 to September 1941.

Average discharge.- 14 years, 194 second-feet.

Extremes.- Maximum discharge during year, 1,100 second-feet Nov. 29 (gage height, 3.23 feet); minimum, 44 second-feet Aug. 21, 22 (gage height, 0.35 foot).

1927-41: Maximum discharge, 4,070 second-feet Mar. 31, 1931 (gage height, 5.81 feet), from rating curve extended above 1,500 second-feet; minimum, 37 second-feet Nov. 2, 1936 (gage height, 0.22 foot).

Remarks.- Records good except those for period of no gage-height record, which are fair. No diversion or regulation above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.3	39	1.3	206	2.5	680
.5	60	1.6	302	2.8	945
.7	87	1.9	413		
1.0	136	2.2	536		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	87	309	105	140	180	120	99	159	84	53	56
2	60	77	256	100	138	173	120	102	144	81	54	69
3	68	69	252	98	135	153	115	110	136	80	58	f59
4	63	63	233	98	f132	146	129	136	131	79	57	74
5	57	64	285	100	129	142	131	285	127	77	54	63
6	51	66	255	98	131	144	134	201	134	76	52	f54
7	49	119	212	97	131	138	131	175	157	74	51	52
8	48	151	190	94	127	138	125	182	159	73	50	f49
9	47	107	173	94	136	136	131	144	140	72	51	47
10	46	90	167	98	169	131	127	136	127	72	50	65
11	48	92	144	96	149	129	122	134	120	70	53	80
12	47	87	132	96	140	125	120	140	116	69	56	73
13	49	79	120	100	132	122	116	134	113	56	51	f65
14	48	73	115	105	125	118	112	146	110	65	50	63
15	47	70	102	115	122	116	134	140	107	64	49	72
16	46	70	104	120	119	118	134	146	107	63	47	f61
17	46	74	112	210	116	118	134	193	107	64	48	f66
18	45	80	118	240	113	123	131	215	110	61	46	f54
19	45	73	120	190	110	129	125	212	120	61	46	68
20	47	70	159	170	108	122	122	165	122	f59	48	f63
21	51	66	153	155	108	116	118	166	105	58	45	56
22	48	64	142	145	106	134	113	153	100	59	45	52
23	54	63	142	140	107	125	108	142	98	f58	48	51
24	129	122	142	135	118	116	107	136	96	57	48	49
25	80	129	136	160	110	113	104	131	94	f57	49	49
26	80	104	144	200	108	112	102	134	92	56	54	51
27	56	173	162	180	120	113	99	209	90	57	54	60
28	54	296	142	180	144	116	99	180	90	56	53	48
29	64	236	f131	150	-	122	99	155	90	54	48	47
30	94	441	123	146	-	125	98	153	87	53	f45	48
31	107	-	112	143	-	118	-	206	-	52	45	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,811	129	45	58.4	1.06	1.25	3,590
November.....	3,944	834	63	131	2.43	2.72	7,820
December.....	5,085	309	104	164	3.04	3.50	10,090
Calendar year 1940.....	57,473	834	44	157	2.91	39.60	114,000
January.....	4,137	240	94	133	2.46	2.85	8,210
February.....	3,511	159	105	126	2.31	2.42	6,960
March.....	4,010	180	112	129	2.39	2.76	7,950
April.....	3,535	134	98	118	2.19	2.45	7,050
May.....	4,958	285	99	160	2.96	3.41	9,830
June.....	3,488	159	87	116	2.15	2.40	6,920
July.....	2,027	94	52	65.4	1.21	1.40	4,020
August.....	1,554	58	45	60.1	0.928	1.07	3,080
September.....	1,734	80	47	57.8	1.07	1.19	3,440
Water year 1940-41.....	39,814	834	45	109	2.02	27.42	78,960

f Computed on basis of partly estimated gage-height record.

Note.- No gage-height record Dec. 30 to Feb. 3; discharge computed on basis of records for stations below Linney Creek and above Boulder Creek, near Brightwood.

Salmon River above Boulder Creek, near Brightwood, Oreg.

Location.- Water-stage recorder, lat. 45°22', long. 122°01', in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 2 S., R. 6 E., 1 mile upstream from Boulder Creek, 1 $\frac{1}{2}$ miles south of Brightwood, and 2 $\frac{1}{2}$ miles upstream from mouth. Datum of gage is 1,089.2 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.- 106 square miles.

Records available.- August 1936 to September 1941. October 1912 to March 1913 (gage heights only), at site at fish hatchery below Boulder Creek. August 1913 to September 1914, July 1920 to September 1921, April 1925 to September 1936, at sites at or near Welches, about 5 miles above present site.

Extremes.- Maximum discharge during year, 3,290 second-feet Nov. 29 (gage height, 4.16 feet); minimum, 65 second-feet Oct. 16-20 (gage height, 0.57 foot).
1913-14, 1920-21, 1925-41: Maximum discharge, 13,000 second-feet Mar. 31, 1931 (gage height, 9.80 feet at Welches), from rating curve extended above 4,800 second-feet; minimum, 59 second-feet Nov. 30, Dec. 1, 1936, Sept. 25, 26, 1940.

Remarks.- Records good except those for periods of no gage-height record, which are fair. No diversion or regulation above station.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 28				Nov. 29 to Sept. 30			
0.5	52	1.6	410	0.5	69	1.6	435
.7	92	1.9	565	.7	108	1.9	600
1.0	171	2.2	770	1.0	192	2.2	810
1.3	276	2.7	1,220	1.3	303	2.5	1,060

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	230	714	264	332	324	202	176	366	148	87	98
2	97	185	643	242	326	354	199	179	341	140	87	149
3	124	150	540	227	296	316	192	227	311	135	91	122
4	124	140	529	227	287	291	202	276	284	130	93	170
5	99	145	647	231	276	276	216	1,010	269	125	89	152
6	85	155	639	227	264	268	246	693	284	120	85	132
7	77	260	496	234	260	257	254	512	341	116	83	113
8	72	550	435	236	253	249	224	445	376	113	82	100
9	70	280	386	213	268	242	238	372	337	110	82	93
10	68	160	337	220	316	231	246	324	299	110	80	146
11	70	165	307	220	311	224	234	295	268	107	82	210
12	72	155	290	220	291	216	227	295	249	104	69	210
13	74	150	257	231	272	206	215	272	242	102	53	189
14	74	145	242	249	253	199	210	307	227	100	82	206
15	68	140	227	257	242	192	276	299	213	98	80	220
16	66	140	220	272	234	162	291	324	213	98	60	186
17	65	170	224	924	224	192	303	588	213	100	78	152
18	65	200	234	1,120	216	199	295	721	213	98	76	138
19	65	236	238	834	213	213	291	652	257	98	76	143
20	66	217	363	582	202	205	276	534	291	95	74	166
21	77	217	361	465	199	189	257	440	242	94	74	149
22	77	187	332	399	192	227	239	372	210	95	74	130
23	77	174	315	354	196	227	224	332	100	94	80	120
24	302	398	311	341	231	202	210	303	180	94	85	110
25	224	526	299	404	224	192	199	280	175	94	87	104
26	139	582	328	576	213	189	189	272	170	92	100	104
27	111	722	475	490	227	188	182	426	165	93	98	102
28	99	1,170	412	417	257	189	176	426	160	90	98	98
29	109	3,030	354	368	-	199	176	381	155	88	85	93
30	222	1,170	328	341	-	220	173	350	150	86	82	93
31	314	-	295	332	-	199	-	455	-	85	82	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,342	314	65	108	1.02	1.17	6,630
November.....	11,921	3,030	140	397	3.75	4.18	23,640
December.....	11,692	714	220	377	3.56	4.10	23,190
Calendar year 1940.....	123,175	3,030	59	337	3.18	43.20	244,300
January.....	11,687	1,120	213	377	3.56	4.10	23,160
February.....	7,080	332	192	253	2.39	2.48	14,040
March.....	7,066	354	186	228	2.15	2.48	14,020
April.....	6,639	303	173	228	2.15	2.40	13,560
May.....	12,538	1,010	176	404	3.81	4.40	24,870
June.....	7,410	386	150	247	2.33	2.50	14,700
July.....	3,249	145	65	105	.991	1.14	6,440
August.....	2,504	100	74	84	.792	.91	5,160
September.....	4,196	220	93	140	1.32	1.47	8,330
Water year 1940-41.....	89,626	3,030	65	246	2.32	31.43	177,800

Note.- No gage-height record Nov. 1-18, June 22 to July 31; discharge computed on basis of records for station below Linney Creek.

Lake Ben Morrow Reservoir near Bull Run, Oreg.

Location.— Water-stage recorder, lat. 45°29', long. 122°05', in SW¼ sec. 16, T. 1 S., R. 6 E., at Bear Creek Dam of city of Portland, 8½ miles northeast of Bull Run. Datum of gage is at mean sea level (levels by Portland Water Bureau).

Records available.— October 1928 to September 1941.

Extremes.— Maximum contents during year, 29,540 acre-feet Nov. 29 (elevation, 1,042.55 feet); minimum, 18,150 acre-feet Oct. 2 (elevation, 1,010.66 feet).
1928-41: Maximum contents, 31,600 acre-feet Mar. 31, 1931 (elevation, 1,047.40 feet); minimum after first filling in May 1929, 17,270 acre-feet Sept. 26, 1940 (elevation, 1,007.78 feet).

Remarks.— Lake Ben Morrow Reservoir is formed by concrete dam known as Bear Creek Dam on Bull Run River, completed in March 1929, for water supply of city of Portland. Capacity of reservoir, 26,930 acre-feet at crest of spillway (elevation, 1,036 feet); dead storage, 213 acre-feet at elevation 890 feet (center of outlet valves).

Cooperation.— Water-stage recorder inspected and capacity table furnished by Portland Water Bureau.

Elevation and contents, water year October 1940 to September 1941

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	1,010.67	18,160	-
Oct. 31.....	1,034.85	26,490	+8,330
Nov. 30.....	1,038.19	27,780	+1,290
Dec. 31.....	1,037.08	27,350	-430
Calendar year 1940.....	-	-	-310
Jan. 31.....	1,037.25	27,420	+70
Feb. 28.....	1,036.85	27,260	-160
Mar. 31.....	1,036.80	27,160	-100
Apr. 30.....	1,036.54	27,140	-20
May 31.....	1,037.12	27,370	+230
June 30.....	1,036.59	27,160	-210
July 31.....	1,030.36	24,810	-2,350
Aug. 31.....	1,023.33	22,320	-2,490
Sept. 30.....	1,036.63	27,180	+4,860
Water year 1940-41.....	-	-	+9,020

† Elevation at midnight.

‡ No gage-height record; elevation computed on basis of records for stations on Bull Run River.

Bull Run River below Lake Ben Morrow Reservoir, Oreg.

Location.— Water-stage recorder above crest of spillway and scales indicating number of turns outlet needle valves are open, lat. 45°29', long. 122°05', in SW $\frac{1}{4}$ sec. 16, T. 1 S., R. 6 E., at Bear Creek Dam on Bull Run River, 500 feet downstream from Bear Creek, 1,000 feet upstream from Fivemile Creek, and 8 $\frac{1}{2}$ miles northeast of Bull Run. Datum of gage is at mean sea level (levels by Portland Water Bureau).

Drainage area.— 74 square miles.

Records available.— October 1934 to September 1941. October 1929 to September 1934 at site half a mile downstream.

Average discharge.— 12 years, 534 second-feet.

Extremes.— Maximum discharge during year, 6,670 second-feet Nov. 29 (elevation, 1,042.55 feet); minimum, 75 second-feet Oct. 1-21.

1929-41: Maximum discharge at dam, 16,100 second-feet, Mar. 31, 1931 (elevation, 1,047.40 feet with one valve open 30 turns); no flow part of Oct. 27, 1939.

Remarks.— Records good except those for periods of no gage-height record, which are fair. Daily discharge determined by combining flow through valves near base of dam and that over crest of spillway (elevation, 1,036 feet). No diversion above station. Flow regulated by Bull Run Lake and Lake Ben Morrow reservoir; adjustment applied for storage in Lake Ben Morrow only; flow from Bull Run Lake is not artificially regulated but reaches river through surface and underground channels.

Cooperation.— Water-stage recorder inspected and record of valve openings furnished by Portland Water Bureau.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	a450	1,030	379	536	343	156	136	a400	152	124	99
2	76	a820	732	326	510	542	150	140	a350	138	117	100
3	75	a600	725	277	434	438	148	215	a310	136	117	110
4	75	a450	748	260	371	360	148	287	a270	128	108	114
5	75	a340	800	316	328	318	178	1,480	a250	124	102	102
6	75	h322	908	477	304	299	277	1,050	310	120	104	87
7	75	a500	683	438	304	277	250	706	348	113	111	87
8	75	2,050	568	391	282	255	230	600	343	102	125	87
9	76	1,410	529	365	288	235	227	477	316	101	129	87
10	75	916	413	354	413	215	230	377	288	99	129	90
11	75	840	340	354	401	196	215	321	252	136	111	88
12	75	690	299	354	356	189	200	326	235	129	101	313
13	75	531	266	377	321	174	192	288	230	114	103	792
14	77	432	235	407	288	164	132	284	210	137	109	959
15	75	395	192	434	255	224	230	294	196	152	114	925
16	78	348	182	496	245	366	257	321	187	162	106	676
17	75	354	192	1,720	225	331	288	959	169	163	100	492
18	75	464	217	2,640	205	235	299	1,150	184	160	115	425
19	75	401	294	1,830	198	174	299	934	255	152	128	444
20	75	334	776	1,110	196	172	283	704	470	132	130	470
21	75	348	357	746	187	140	272	524	371	132	123	395
22	76	304	641	590	173	119	250	432	304	132	114	328
23	78	260	529	490	169	126	222	365	260	134	109	294
24	77	503	477	484	205	120	200	a300	225	132	100	282
25	78	916	440	824	235	156	132	h255	227	132	99	230
26	78	718	510	1,590	212	180	169	a230	210	132	99	220
27	79	1,010	332	1,180	215	178	164	h326	182	132	101	210
28	79	2,050	308	500	255	169	152	a480	174	132	100	187
29	79	4,460	620	616	-	160	148	a430	169	130	100	178
30	81	1,760	542	522	-	169	138	a400	160	132	100	174
31	81	-	458	503	-	164	-	a460	-	130	99	-

Month	Observed			Run-off in acre-feet	Change in contents of Lake Ben Morrow Reser- voir, in acre-feet	Adjusted for change in reservoir contents			
	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.....	81	75	76.4	4,700	+8,330	13,030	212	2.86	3.30
November.....	4,460	260	643	50,130	+1,290	51,420	864	11.7	13.05
December.....	1,030	182	543	33,410	-430	32,980	536	7.24	8.35
Calendar year 1940	4,760	45	465	337,480	-310	337,170	464	6.27	83.14
January.....	2,640	260	698	42,940	+70	43,010	699	9.45	10.90
February.....	536	169	290	16,100	-160	15,940	287	3.88	4.04
March.....	542	119	233	14,360	-100	14,260	232	3.14	3.67
April.....	299	133	211	12,580	-20	12,560	211	2.85	3.18
May.....	1,480	136	492	30,260	+230	30,490	496	6.70	7.72
June.....	470	160	262	15,580	-210	15,370	258	3.49	3.89
July.....	163	99	132	8,130	-2,350	5,780	94.0	1.27	1.46
August.....	130	99	111	6,800	-2,490	4,310	70.1	.947	1.09
September.....	959	87	301	17,900	+4,860	22,760	362	5.16	5.76
Water year 1940-41	4,460	75	349	252,880	+9,020	261,900	362	4.89	66.36

a No gage-height record; discharge computed on basis of records for station near Bull Run.

b Computed from staff-gage reading.

Bull Run River near Bull Run, Oreg.

Location.- Water-stage recorder, lat. 45°27', long. 122°07', in SE¼ sec. 25, T. 1 S., R. 5 E., 1½ miles upstream from intake of pipe line for water supply of city of Portland and 5 miles east of Bull Run.

Drainage area.- 102 square miles.

Records available.- January 1895 to September 1941.

Average discharge.- 34 years (1907-41), 730 second-feet.

Extremes.- Maximum discharge during year, 8,290 second-feet Nov. 29 (gage height, 8.15 feet); minimum, 100 second-feet Oct. 10 (gage height, 0.68 foot).
1895-1941: Maximum discharge, 20,600 second-feet Mar. 31, 1931 (gage height, 13.8 feet), by computation of flow over dam; minimum, 63 second-feet Aug. 13-16, 1926.

Remarks.- Records good. No diversion above station. Flow regulated by Bull Run Lake and Lake Ben Morrow Reservoir; adjustment applied for storage in Lake Ben Morrow Reservoir only; flow from Bull Run Lake is not artificially regulated but reaches river through surface and underground channels.

Cooperation.- Water-stage recorder inspected by Portland Water Bureau.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	104	1.6	390	4.0	1,140	5.0	3,070
.9	152	2.0	560	3.5	1,520	6.0	4,410
1.2	240	2.5	815	4.0	1,970	7.0	6,110

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	106	721	1,350	515	690	460	200	194	533	203	142	132
2	109	1,040	974	454	650	660	197	200	462	189	132	160
3	120	804	994	410	569	558	197	299	410	180	134	147
4	120	625	987	386	497	468	200	357	370	172	127	200
5	113	515	1,040	458	454	418	241	1,800	338	163	118	215
6	109	484	1,080	660	418	394	370	1,310	422	155	120	169
7	106	1,020	851	625	418	350	318	899	466	147	125	152
8	104	2,360	744	582	386	322	285	771	462	140	137	140
9	104	1,600	665	553	406	299	306	615	426	134	142	134
10	102	1,080	560	515	566	281	299	515	390	127	142	194
11	140	968	484	506	520	257	274	450	354	151	130	192
12	120	810	430	502	470	240	260	442	314	152	122	460
13	130	645	382	556	430	224	243	386	292	132	122	1,000
14	125	520	350	667	390	212	231	426	267	152	125	1,250
15	120	450	326	630	358	261	310	418	250	166	132	1,160
16	122	408	292	705	330	403	358	454	234	177	127	851
17	116	426	271	2,220	306	438	398	1,200	234	177	120	635
18	113	582	285	2,350	284	406	394	1,430	267	172	127	546
19	111	502	394	2,400	267	221	398	1,120	378	169	142	592
20	116	466	968	1,440	254	206	374	839	610	150	142	587
21	134	488	1,080	1,040	237	180	350	670	474	147	140	492
22	125	430	810	904	224	177	318	560	398	147	130	422
23	134	356	685	670	224	174	288	470	346	147	130	362
24	292	698	605	670	299	189	264	414	310	147	116	315
25	250	1,190	587	1,070	306	215	250	362	299	147	116	281
26	197	948	675	1,920	278	224	228	334	247	147	120	267
27	172	1,370	1,110	1,460	303	218	215	470	271	144	134	247
28	188	2,710	1,040	1,040	362	218	203	610	240	144	127	221
29	160	5,520	804	915	-	212	194	542	231	147	118	208
30	267	2,210	700	680	-	234	189	479	218	147	116	200
31	342	-	605	676	-	212	-	596	-	144	-	-

Month	Observed				Change in contents of Lake Ben Morrow Reservoir, in acre-feet	Adjusted for change in reservoir contents			
	Discharge in second-foot			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-foot		Run off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October.....	342	102	146	9,000	+8,330	17,330	282	2.78	3.18
November.....	5,520	386	1,086	63,420	+1,290	64,710	1,087	10.7	11.94
December.....	1,350	271	714	43,920	-430	43,490	707	6.93	7.99
Calendar year 1940	5,520	87	589	427,460	-310	427,140	588	5.76	78.62
January.....	3,350	386	932	57,280	+70	57,350	933	9.15	10.65
February.....	690	224	389	21,590	-160	21,430	386	3.78	3.94
March.....	660	174	296	18,220	-100	18,120	295	2.89	3.33
April.....	406	189	279	16,590	-20	16,570	278	2.73	3.06
May.....	1,800	194	633	38,940	+230	39,170	637	6.28	7.09
June.....	610	218	350	20,850	-210	20,640	347	3.40	3.79
July.....	203	127	155	9,560	-2,350	7,200	117	1.15	1.33
August.....	142	113	128	7,870	-2,490	5,380	87.5	.868	.99
September.....	1,250	132	398	23,670	+4,860	28,530	479	4.70	5.24
Water year 1940-41	5,520	102	457	330,900	+9,020	339,920	470	4.61	62.54

Peak discharge.- Nov. 8 (7 a.m.) 2,590 sec.-ft.; Nov. 29 (3 a.m.) 8,290 sec.-ft.; Jan. 18 (5 p.m.) 3,640 sec.-ft.

Little Sandy River near Bull Run, Oreg.

Location.- Water-stage recorder, lat. 45°25', long. 122°10', in NE¼ sec. 10, T. 2 S., R. 5 E., three-eighths of a mile upstream from Portland General Electric Co.'s dam and tunnel from Sandy River and 3 miles east of Bull Run. Datum of gage is 710.51 feet above mean sea level, adjustment of 1924 (levels by Portland General Electric Co.).

Drainage area.- 23 square miles.

Records available.- May 1911 to April 1913 (fragmentary), July 1919 to September 1941.

Average discharge.- 22 years (1919-41), 135 second-feet.

Extremes.- Maximum discharge during year, 1,960 second-feet Nov. 29 (gage height, 6.33 feet); minimum, 11 second-feet Aug. 17-23.
1911-13, 1919-41: Maximum discharge, 3,950 second-feet Nov. 20, 1921 (gage height, 9.18 feet), from rating curve extended above 2,000 second-feet; minimum, 6 second-feet Aug. 20, Sept. 16, 17, 1940.

Remarks.- Records fair. No diversion or regulation above station.

Cooperation.- Water-stage recorder graph furnished by Portland General Electric Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.9	11	2.9	96	4.8	725
2.0	18	3.2	144	5.2	970
2.2	27	3.6	240	5.6	1,260
2.4	42	4.0	370		
2.6	59	4.4	530		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	218	232	90	131	88	37	40	115	43	14	26
2	23	193	179	80	115	98	38	45	96	40	14	59
3	47	144	213	72	96	77	38	76	83	36	16	37
4	44	110	190	69	97	68	37	91	74	35	18	130
5	30	90	183	80	80	66	44	433	67	32	16	139
6	24	86	157	95	76	66	66	252	118	30	14	82
7	20	165	126	90	76	69	53	167	135	29	14	26
8	19	349	123	88	54	49	48	157	137	28	14	44
9	18	249	118	90	75	50	56	116	119	26	13	37
10	17	176	95	88	96	48	54	94	102	25	12	92
11	44	172	85	85	82	45	49	85	87	23	13	98
12	38	139	170	81	75	42	48	91	76	23	13	170
13	40	107	85	96	70	40	44	76	69	22	12	181
14	33	87	159	102	64	38	40	110	61	20	12	267
15	28	76	56	106	69	36	64	102	55	20	12	206
16	26	70	54	123	55	35	69	110	52	18	12	137
17	23	87	53	657	54	34	75	261	55	18	12	101
18	21	118	58	550	52	40	83	279	70	18	11	83
19	20	82	72	398	50	54	88	216	91	17	11	91
20	22	86	198	246	48	48	88	163	107	17	11	87
21	44	86	179	181	46	40	78	124	132	17	11	67
22	39	72	137	142	44	57	68	101	176	16	11	56
23	39	68	120	124	45	51	59	83	184	16	14	49
24	216	193	106	142	70	44	54	71	60	16	14	45
25	140	258	96	203	61	40	48	62	59	16	14	41
26	85	168	126	328	55	38	44	58	54	16	18	42
27	62	427	208	224	63	37	40	124	49	16	28	39
28	54	614	172	172	75	36	39	161	50	16	27	36
29	58	1,020	139	140	-	37	36	123	50	16	18	33
30	180	380	124	123	-	46	36	107	47	16	15	33
31	226	-	104	130	-	39	-	148	-	14	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off
						Inches Acre-feet
October.....	1,680	226	17	54.2	2.36	2.72 3,330
November.....	5,117	1,020	69	204	8.87	9.89 12,130
December.....	3,663	232	53	165	5.43	6.28 7,700
Calendar year 1940.....	40,115	1,020	8	110	4.78	64.86 79,560
January.....	5,175	630	69	167	7.26	8.37 10,260
February.....	1,969	131	44	70.3	3.06	3.18 3,910
March.....	1,548	96	34	49.9	2.17	2.50 3,070
April.....	1,821	88	36	54.0	2.35	2.62 3,220
May.....	4,126	433	40	133	5.78	6.67 8,180
June.....	2,359	137	47	78.6	3.42	3.81 4,680
July.....	693	43	14	22.4	.974	1.12 1,370
August.....	447	28	11	14.4	.626	.72 887
September.....	2,533	167	28	85.4	3.71	4.14 5,080
Water year 1940-41.....	32,181	1,020	11	88.2	3.83	52.02 63,820

Peak discharge.- Nov. 27 (5 p.m.) 774 sec.-ft.; Nov. 29 (2 a.m.) 1,860 sec.-ft.

F Computed from partly estimated gage heights.

h Computed from staff-gage reading.

Middle Fork of Willamette River above Salt Creek, near Oakridge, Oreg.

Location.- Water-stage recorder, lat. 43°44', long. 122°26', in SW¼ sec. 22, T. 21 S., R. 3 E., 400 feet upstream from Salt Creek and 2 miles southwest of Oakridge. Datum of gage is 1,202.8 feet above mean sea level (river-profile survey).

Drainage area.- 392 square miles.

Records available.- October 1913 to September 1914, September 1935 to September 1941.

Extremes.- Maximum discharge during year, 3,570 second-feet Jan. 25 (gage height, 4.71 feet); minimum, 220 second-feet Oct. 14-20 (gage height, 1.66 feet).

1913-14, 1935-41: Maximum discharge, 15,100 second-feet Apr. 14, 1937 (gage height, 7.60 feet), from rating curve extended above 5,000 second-feet; minimum, 201 second-feet Nov. 27 to Dec. 2, 1936 (gage height, 1.53 feet).

Maximum stage known, 10.6 feet (date unknown) determined in 1935 from floodmarks.

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

Cooperation.- Water-stage recorder inspected by employees of Forest Service.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.6	203	2.6	660	4.0	2,150
1.9	298	3.0	980	4.5	3,100
2.3	480	3.5	1,480		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	280	794	1,120	762	917	681	529	667	695	534	273	269
2	266	576	699	681	890	738	534	667	647	507	269	667
3	269	476	754	634	826	785	523	962	588	485	269	627
4	262	408	674	614	762	716	534	1,090	546	465	269	439
5	250	491	746	686	716	709	601	1,610	523	439	262	364
6	243	576	618	802	702	674	640	1,610	614	424	259	326
7	237	805	716	746	681	647	601	1,420	1,020	410	256	293
8	234	962	647	695	647	620	564	1,660	962	391	256	287
9	231	971	583	681	653	607	620	1,490	854	373	284	273
10	228	730	554	667	850	594	702	1,300	730	364	318	276
11	226	640	491	653	1,190	588	681	1,210	667	356	276	314
12	225	702	454	647	1,370	582	634	1,150	627	347	266	326
13	223	620	424	723	1,230	576	588	1,070	592	338	266	310
14	220	564	410	971	1,060	552	564	998	540	350	253	294
15	220	518	396	1,060	944	540	594	890	512	350	250	291
16	223	491	391	1,030	834	518	607	826	507	391	246	276
17	220	476	387	1,690	770	512	627	826	518	351	246	276
18	220	470	470	2,200	716	518	653	917	709	330	284	298
19	220	429	546	2,770	681	507	653	908	882	318	269	302
20	228	420	841	1,900	647	491	640	866	944	306	253	338
21	262	439	1,410	1,490	614	480	634	818	834	298	262	334
22	237	420	1,060	1,250	588	480	627	778	738	294	250	310
23	231	396	899	1,090	594	470	634	762	674	291	246	294
24	396	762	866	1,100	681	444	620	738	667	287	246	287
25	420	1,040	944	2,200	653	434	614	688	681	280	253	276
26	347	786	1,670	2,540	627	429	614	640	688	298	269	269
27	306	762	2,810	1,700	607	434	627	594	716	334	302	286
28	294	969	1,710	1,360	614	454	634	594	660	330	262	262
29	460	1,380	1,290	1,150	-	475	667	588	614	298	250	256
30	601	1,500	1,050	1,020	-	480	674	564	570	287	240	253
31	786	-	882	926	-	485	-	770	-	280	237	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	9,067	786	220	292	0.745	0.86	17,980
November.....	20,599	1,600	396	687	1.75	1.95	40,860
December.....	26,897	2,810	387	868	2.21	2.53	53,350
Calendar year 1940.....	296,741	4,540	220	811	2.07	28.15	598,500
January.....	36,440	2,770	614	1,175	3.00	3.46	72,280
February.....	22,064	1,370	588	788	2.01	2.09	43,760
March.....	17,173	738	429	554	1.41	1.63	34,060
April.....	18,434	702	523	614	1.57	1.75	36,560
May.....	29,671	1,660	564	957	2.44	2.81	58,650
June.....	20,489	1,020	507	683	1.74	1.94	40,640
July.....	11,071	534	250	367	.911	1.05	21,960
August.....	8,131	318	237	262	.668	.77	16,130
September.....	9,688	667	253	322	.821	.92	19,160
Water year 1940-41.....	229,694	2,810	220	629	1.60	21.78	455,600

Middle Fork of Willamette River at Eula, Oreg.

Location.- Water-stage recorder, lat. 43°50', long. 122°37', in sec. 18, T. 20 S., R. 2 E., a quarter of a mile southwest of Eula and 8 miles downstream from North Fork. Datum of gage is 861.65 feet above mean sea level, datum of 1929.

Drainage area.- 941 square miles.

Records available.- July 1923 to September 1941.

Average discharge.- 17 years (1923-26, 1927-41), 2,304 second-feet.

Extremes.- Maximum discharge during year, 7,330 second-feet Nov. 29 (gage height, 6.22 feet); minimum, 520 second-feet Oct. 18-20 (gage height, 0.81 foot).

1923-41: Maximum discharge, 55,100 second-feet Feb. 21, 1927 (gage height, 17.0 feet), from rating curve extended above 21,000 second-feet; minimum observed, 450 second-feet Nov. 24, 25, Dec. 5, 6, 1929, Sept. 4-6, 16, 17, 1931.

Remarks.- Records excellent. No large diversions above station. Occasional diurnal fluctuation during periods of low flow caused by logging operations upstream.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	684	1,670	4,040	1,960	2,170	1,540	1,220	1,460	1,640	1,340	696	714
2	642	1,290	2,980	1,800	2,090	1,630	1,320	1,440	1,540	1,270	678	1,710
3	642	1,070	2,440	1,690	1,970	1,660	1,270	1,920	1,420	1,220	672	1,600
4	630	908	2,160	1,640	1,880	1,600	1,260	2,060	1,330	1,170	672	1,200
5	594	1,130	2,280	1,720	1,800	1,600	1,400	3,370	1,280	1,120	654	984
6	576	1,420	2,550	1,930	1,740	1,560	1,580	3,860	1,440	1,070	642	864
7	559	1,610	2,220	1,830	1,700	1,500	1,480	3,270	2,120	1,030	636	808
8	554	2,020	2,000	1,730	1,640	1,440	1,400	3,730	2,050	992	630	770
9	542	2,170	1,810	1,710	1,580	1,400	1,480	3,300	1,860	952	642	732
10	542	1,760	1,660	1,680	1,840	1,380	1,670	2,790	1,720	922	732	732
11	537	1,690	1,520	1,640	2,280	1,340	1,640	2,520	1,580	900	666	829
12	532	1,850	1,390	1,600	2,640	1,320	1,520	2,380	1,500	878	654	829
13	532	1,620	1,270	1,740	2,390	1,300	1,440	2,260	1,400	850	642	822
14	532	1,440	1,220	2,210	2,180	1,250	1,360	2,110	1,350	836	624	796
15	526	1,340	1,160	2,670	2,000	1,250	1,420	1,930	1,260	822	618	806
16	526	1,260	1,140	2,420	1,850	1,210	1,480	1,800	1,240	1,050	606	770
17	526	1,250	1,130	4,160	1,750	1,210	1,560	1,890	1,290	938	600	744
18	520	1,290	1,230	5,310	1,860	1,220	1,600	2,200	1,680	864	678	763
19	520	1,170	1,370	6,630	1,600	1,210	1,560	2,160	2,010	829	678	782
20	537	1,130	1,560	5,100	1,640	1,190	1,540	2,030	2,200	796	636	864
21	648	1,230	2,690	4,010	1,460	1,130	1,500	1,910	1,980	770	656	878
22	588	1,190	2,200	3,270	1,420	1,180	1,460	1,830	1,530	756	612	829
23	548	1,100	1,940	2,770	1,400	1,180	1,460	1,750	1,710	744	606	789
24	834	1,950	1,840	2,580	1,580	1,110	1,440	1,710	1,680	732	612	756
25	992	2,900	1,910	3,910	1,560	1,070	1,420	1,600	1,700	714	648	732
26	843	2,140	3,000	5,320	1,480	1,060	1,420	1,480	1,720	756	702	714
27	750	2,210	6,340	3,950	1,420	1,060	1,400	1,420	1,730	822	829	696
28	732	3,560	4,510	3,230	1,420	1,070	1,420	1,440	1,630	829	702	678
29	1,010	5,480	3,300	2,740	-	1,120	1,440	1,460	1,540	763	642	660
30	1,270	5,970	2,690	2,580	-	1,130	1,460	1,390	1,420	726	624	648
31	1,730	-	2,240	2,200	-	1,160	-	1,740	-	708	612	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				21,198	1,730	520	684	0.727	0.84	42,050		
November.....				66,915	5,970	1,398	1,894	2.01	2.25	112,700		
December.....				69,780	6,340	1,130	2,251	2.39	2.76	138,400		
Calendar year 1940.....				700,377	8,660	488	1,914	2.03	27.69	1,389,000		
January.....				57,430	6,630	1,600	2,820	3.00	3.46	173,400		
February.....				50,040	2,640	1,400	1,787	1.90	1.98	99,250		
March.....				40,070	1,660	1,060	1,293	1.37	1.58	79,480		
April.....				43,620	1,670	1,220	1,454	1.55	1.72	86,520		
May.....				66,210	3,860	1,390	2,136	2.27	2.62	131,300		
June.....				48,810	2,200	1,240	1,627	1.73	1.93	96,810		
July.....				28,169	1,340	708	909	.966	1.11	55,870		
August.....				20,281	829	600	654	.695	.80	40,230		
September.....				25,501	1,710	648	850	.903	1.01	50,580		
Water year 1940-41.....				557,927	6,630	520	1,529	1.62	22.06	1,107,000		

Willamette River at Springfield, Oreg.

Location.- Water-stage recorder, lat. 44°02'45", long. 123°01'40", in S₃₄ sec. 34, T. 17 S., R. 3 W., at highway bridge at Springfield. Datum of gage is 423.47 feet above mean sea level, datum of 1929.

Drainage area.- 2,030 square miles.

Records available.- November 1911 to December 1913, October 1923 to September 1941. June 1919 to September 1928 at site 4 miles downstream published as Willamette River at Eugene; 1894 to 1938 (records of stage by U. S. Weather Bureau) at site at Eugene.

Average discharge.- 23 years (1912-13, 1919-41), 4,834 second-feet.

Extremes.- Maximum discharge during year, 23,700 second-feet Dec. 27 (gage height, 9.57 feet); minimum, 586 second-feet Oct. 18 (gage height, 1.31 feet).

1911-13, 1919-41: Maximum discharge, 73,300 second-feet Feb. 21, 1927 (gage height at Eugene, 17.0 feet); minimum, 500 second-feet Aug. 11, 1926.

Maximum stage recorded by Weather Bureau, 22.0 feet at Eugene, Jan. 25, 1903.

Floods in December 1861 and February 1890 reached about the same stage.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Slight diurnal fluctuation at low flow caused by logging operations in basin of Middle Fork of Willamette River. Small diversions above station.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 26				Dec. 27 to Sept. 30			
1.5	580	3.5	3,360	1.5	775	5.0	6,930
1.6	795	4.0	4,380	1.8	1,040	6.0	9,940
2.0	1,170	5.0	6,930	2.2	1,480	7.0	13,600
2.5	1,780	6.0	9,940	2.6	1,950	8.0	17,700
3.0	2,510	7.0	13,400	3.0	2,510	9.0	22,100
				4.0	4,380		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,020	3,690	8,680	5,330	4,250	2,620	1,820	2,120	4,030	2,260	950	875
2	889	2,810	6,370	4,590	4,100	3,470	2,070	2,080	3,480	2,120	932	2,540
3	929	2,100	5,060	4,060	3,900	3,380	2,120	2,670	3,060	2,030	925	5,670
4	846	1,740	4,360	3,900	3,600	3,220	3,000	3,270	2,740	1,960	932	2,480
5	795	2,060	4,120	4,800	3,550	3,060	3,950	4,940	2,480	1,660	923	1,820
6	763	3,730	4,890	5,300	3,180	2,920	5,500	7,410	2,570	1,760	905	1,530
7	723	3,760	4,430	4,800	3,110	2,720	4,550	6,070	4,400	1,700	852	1,360
8	701	6,100	3,910	4,400	2,890	2,560	3,800	6,340	4,890	1,650	860	1,240
9	673	7,680	3,420	4,150	2,840	2,450	3,200	5,970	4,140	1,580	860	1,150
10	666	6,100	3,060	3,900	3,420	2,380	3,550	5,060	3,510	1,520	925	1,090
11	652	5,010	2,820	3,750	4,310	2,280	h2,270	4,430	3,100	1,460	932	1,210
12	645	5,530	2,540	3,560	4,630	2,250	3,000	4,120	2,820	1,420	896	1,300
13	645	4,610	2,360	4,150	4,540	2,180	2,800	4,080	2,620	1,370	869	1,300
14	638	3,690	2,140	5,100	4,120	2,080	2,460	3,990	2,450	1,350	834	1,200
15	639	3,100	2,010	6,500	3,690	2,020	2,480	3,750	2,300	1,270	826	1,190
16	626	2,720	1,950	7,000	3,360	1,960	h2,580	3,290	2,090	1,370	818	1,200
17	626	2,430	1,900	8,700	3,040	1,900	2,950	3,320	2,150	1,420	792	1,120
18	619	2,370	2,110	11,100	2,840	1,920	3,070	5,480	2,380	1,540	792	1,090
19	626	2,180	2,960	14,800	2,690	1,910	2,900	6,070	3,180	1,260	905	1,120
20	638	1,990	4,360	10,100	2,530	1,950	2,800	5,280	4,140	1,200	869	1,200
21	731	2,300	11,100	8,200	2,420	1,850	2,700	4,500	3,870	1,140	843	1,330
22	820	2,410	7,880	6,600	2,330	1,820	2,550	3,910	3,420	1,130	843	1,250
23	739	2,170	5,700	6,100	2,230	1,810	2,450	3,490	3,040	1,080	826	1,140
24	1,050	3,460	5,160	5,800	2,540	1,810	2,300	3,230	2,890	1,050	809	1,090
25	2,240	7,300	5,450	9,800	2,720	1,720	2,200	2,990	3,180	1,020	834	1,030
26												
27	1,610	5,380	3,250	14,000	2,540	1,890	2,100	2,700	3,180	1,000	914	986
28	1,280	4,560	21,200	10,100	2,480	1,550	2,050	2,480	3,040	1,100	1,080	968
29	1,100	6,990	15,200	7,700	2,510	1,650	2,050	2,450	2,840	1,200	1,070	950
30	1,290	8,990	9,780	5,800	-	1,690	h2,050	2,720	2,570	1,140	941	923
31	1,880	12,500	7,770	6,000	-	1,770	2,130	2,510	2,440	1,050	878	896
	3,460	-	6,590	4,450	-	-	-	3,550	-	1,010	852	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	30,528	3,460	619	985	0.485	0.56	60,550
November.....	129,750	12,600	1,740	4,325	2.13	2.38	287,400
December.....	177,430	21,200	1,900	5,724	2.82	3.25	351,900
Calendar year 1940.....	1,403,395	23,400	509	3,834	1.89	25.71	2,784,000
January.....	203,530	14,800	3,550	6,565	3.23	3.73	403,700
February.....	90,280	4,630	2,280	3,223	1.59	1.65	179,000
March.....	68,750	3,470	1,650	2,218	1.09	1.28	136,400
April.....	84,260	5,600	1,920	2,808	1.38	1.54	167,100
May.....	124,280	7,410	2,080	4,009	1.97	2.28	246,500
June.....	93,000	4,890	2,090	3,100	1.53	1.70	184,500
July.....	43,800	2,260	1,000	1,413	.696	.80	86,880
August.....	27,433	1,080	792	887	.437	.50	54,510
September.....	40,261	3,670	878	1,342	.661	.74	79,860
Water year 1940-41.....	1,113,312	21,200	619	3,050	1.50	20.39	2,208,000

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

Note.- No gage-height record Jan. 4 to Feb. 5, Apr. 4-10, 12-15, 17-28, 30; discharge computed on basis of records for Middle Fork of Willamette River at Bula and Coast Fork of Willamette River at Seginaw.

Willamette River at Albany, Oreg.

Location.- Water-stage recorder, lat. 44°38'20", long. 123°06'20", in SW¹/₄ sec. 6, T. 11 S., R. 3 W., at Albany, just downstream from Calapooya River. Datum of gage is 171.70 feet above mean sea level, datum of 1929.

Drainage area.- 4,840 square miles.

Records available.- November 1878 to April 1882, 1883 to 1888 (fragmentary), January 1892 to September 1941.

Average discharge.- 46 years (1895-1941), 13,540 second-feet.

Extremes.- Maximum discharge during year, 41,200 second-feet Dec. 28 (gage height, 11.86 feet); minimum, 2,080 second-feet Oct. 20; minimum gage height, -0.38 foot Aug. 18, 19. 1878-82, 1892-1941: Maximum discharge, 229,000 second-feet Jan. 14, 1881 (gage height, 32.8 feet); minimum, 1,840 second-feet Sept. 1, 2, 1940 (gage height, 0.01 foot).

Maximum stage known, 36.0 feet Dec. 4, 1861 (discharge, 274,000 second-feet, from rating curve extended above 200,000 second-feet in 1923).

Remarks.- Records good. No regulation. Albany power canal diverts water from South Santiam River into Willamette River above station; small diversions for irrigation.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,320	7,480	27,500	18,800	15,100	8,550	5,020	5,390	7,670	5,730	2,940	2,820
2	2,900	7,950	21,300	15,800	14,700	10,400	5,140	5,350	8,160	5,540	2,830	2,890
3	2,760	6,550	16,600	13,800	14,000	11,600	5,730	5,370	7,320	5,310	2,770	5,150
4	2,690	5,390	14,200	12,500	12,800	10,800	6,610	6,610	6,640	5,060	2,730	6,700
5	2,670	4,780	12,700	12,300	11,800	9,830	7,750	8,710	6,250	4,960	2,790	5,520
6	2,610	5,480	12,800	14,000	11,000	9,080	10,000	12,500	5,900	4,750	2,740	4,470
7	2,480	7,690	13,700	16,700	10,400	8,490	11,600	15,400	8,100	4,580	2,690	4,090
8	2,400	9,700	12,400	16,000	9,850	7,840	10,500	12,900	7,910	4,430	2,560	3,480
9	2,340	14,600	11,200	15,300	9,550	7,430	9,520	13,700	8,430	4,230	2,510	3,260
10	2,270	16,800	10,100	13,000	9,860	7,100	8,810	12,600	7,670	4,190	2,480	3,120
11	2,210	13,900	9,100	12,000	11,100	6,820	9,080	11,000	6,870	3,990	2,520	3,100
12	2,210	13,600	9,290	11,200	12,100	6,580	8,530	10,000	6,320	3,820	2,600	3,400
13	2,210	13,500	7,690	10,700	12,100	6,350	7,870	9,410	5,850	3,740	2,630	3,320
14	2,150	11,300	7,140	10,900	11,400	6,150	7,490	8,190	5,610	3,650	2,530	3,900
15	2,120	9,530	6,850	13,400	10,600	5,950	6,920	8,770	5,320	3,590	2,510	3,760
16	2,170	8,260	6,300	16,200	9,750	5,750	7,050	8,240	5,060	3,480	2,460	3,720
17	2,170	7,480	6,150	12,500	9,110	5,850	7,510	7,860	4,930	3,610	2,390	3,610
18	2,120	6,910	6,420	26,500	8,550	5,800	8,180	8,350	5,020	3,700	2,370	3,480
19	2,100	6,700	7,560	33,700	8,080	5,320	8,380	11,000	5,390	3,570	2,340	3,470
20	2,100	6,550	11,000	40,100	7,670	5,920	8,130	11,400	6,610	3,410	2,440	3,470
21	2,190	6,120	20,000	33,800	7,370	5,950	7,670	10,700	8,050	3,280	2,450	3,740
22	2,400	6,420	29,400	26,600	7,030	5,850	7,240	9,610	7,720	3,120	2,410	3,970
23	2,590	6,400	24,400	21,800	6,770	5,900	6,900	8,660	7,020	3,040	2,450	3,740
24	2,930	6,600	19,600	18,700	6,490	6,020	6,530	7,910	6,530	3,000	2,410	3,540
25	3,610	10,200	17,000	18,100	7,350	5,850	6,250	7,320	6,180	2,950	2,420	3,430
26	4,900	14,600	18,200	22,400	7,670	5,490	5,900	6,790	6,430	2,900	2,510	3,240
27	4,140	12,500	21,000	30,500	7,350	5,140	5,580	6,350	6,350	2,830	2,690	3,200
28	3,730	12,200	35,200	26,300	7,400	4,980	5,540	6,120	6,260	2,960	2,840	3,100
29	3,390	16,500	35,900	21,800	-	4,980	5,370	6,320	6,060	3,150	2,920	2,980
30	3,590	23,000	26,700	18,500	-	5,070	5,390	6,530	5,860	3,080	2,920	2,980
31	4,870	-	22,400	16,300	-	5,140	-	6,320	-	2,940	2,590	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acres-feet
October.....	86,540	4,900	2,100	2,735	0.575	0.66	171,500
November.....	298,690	23,000	4,780	9,953	2.06	2.29	592,200
December.....	506,820	38,200	6,160	16,330	3.37	3.89	1,004,000
Calendar year 1940.....	3,947,930	58,300	1,860	10,790	2.23	30.33	7,830,000
January.....	595,490	40,100	10,700	19,210	3.97	4.57	1,181,000
February.....	277,040	15,100	6,490	9,840	2.04	2.13	549,500
March.....	212,510	11,600	4,980	6,855	1.42	1.63	421,500
April.....	222,560	11,600	5,020	7,419	1.53	1.71	441,400
May.....	277,430	15,400	5,350	8,949	1.85	2.13	550,300
June.....	195,490	8,430	4,930	6,516	1.35	1.50	387,700
July.....	118,590	5,730	2,830	3,825	.790	.91	235,200
August.....	80,260	2,940	2,340	2,589	.535	.62	159,200
September.....	110,950	6,700	2,620	3,698	.764	.85	222,100
Water year 1940-41.....	2,931,560	40,100	2,100	8,168	1.69	22.89	5,913,000

Willamette River at Salem, Oreg.

Location.— Water-stage recorder, lat. 44°56'40", long. 123°02'30", in SW¹/₄ sec. 22, T. 7 S., R. 3 W., 300 feet upstream from highway bridge at Salem. Datum of gage is 113.61 feet (revised) above mean sea level, datum of 1929.

Drainage area.— 7,280 square miles.

Records available.— October 1909 to December 1916, October 1927 to September 1941.

Average discharge.— 21 years, 21,440 second-feet.

Extremes.— Maximum discharge during year, 74,400 second-feet Jan. 19 (gage height, 11.70 feet); minimum, 2,790 second-feet Oct. 20 (gage height, -4.22 feet).

1909-16, 1927-41: Maximum discharge observed, 315,000 second-feet Nov. 25, 1909 (gage height, 30.5 feet); minimum discharge, 2,470 second-feet Aug. 27, 1940 (gage height, -4.45 feet).

Maximum discharge known, 500,000 second-feet Dec. 4, 1861 (gage height, about 39 feet), from rating curve extended above 250,000 second-feet in 1916.

Flood of Feb. 5, 1890, reached a stage of 37.1 feet.

Remarks.— Records good. Many small diversions above station for irrigation; part of flow of Salem Canal, which diverts water from North Santiam River, returns to Willamette River below station through Mill Creek at Salem. No regulation.

Cooperation.— Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 29

-4.3	2,680	0.0	12,300
-4.0	3,120	2.0	19,500
-3.5	3,940	4.0	28,000
-3.0	4,840	6.0	37,300
-2.5	5,850	8.0	49,100
-2.0	6,990	10.0	62,500
-1.0	9,500		

Dec. 30 to Sept. 30

-4.2	3,000	2.0	19,400
-4.0	3,300	4.0	27,610
-3.5	4,120	6.0	37,300
-3.0	5,050	8.0	49,100
-2.0	7,170	10.0	62,600
-1.0	9,690	12.0	76,700
0.0	12,400		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,900	16,100	52,300	32,600	26,300	12,500	8,200	8,000	11,800	7,950	3,700	3,750
2	4,130	16,500	40,600	27,200	25,300	17,000	8,400	8,100	12,900	7,480	3,620	4,050
3	3,800	13,100	31,400	23,600	24,000	20,000	8,810	8,180	11,900	7,150	3,600	7,510
4	3,800	10,400	26,900	21,300	21,900	18,700	9,140	9,450	10,900	6,810	3,620	9,380
5	4,020	8,800	23,800	20,500	20,100	16,600	9,610	14,900	10,200	6,610	3,560	8,940
6	3,910	8,560	25,600	23,300	18,600	15,000	11,700	29,900	9,690	6,390	3,560	7,460
7	3,670	11,200	26,300	27,600	17,400	14,000	15,600	29,800	9,740	6,090	3,480	6,320
8	3,440	19,200	23,500	27,400	16,600	12,900	16,200	26,200	10,800	5,680	3,400	5,530
9	3,510	31,800	20,900	24,700	15,700	12,200	14,700	23,600	12,000	5,530	3,300	4,990
10	3,220	31,400	18,300	22,400	16,400	11,500	13,500	21,500	11,500	5,430	3,270	4,710
11	3,100	26,600	16,200	20,800	18,300	11,000	13,300	18,800	10,600	5,250	3,280	4,670
12	3,040	25,400	14,500	19,500	19,100	10,600	13,000	16,500	9,850	5,090	3,320	5,170
13	2,970	24,400	13,100	18,600	18,800	10,200	12,300	15,500	9,220	4,940	3,400	7,290
14	2,960	20,700	12,000	18,900	19,000	9,860	11,200	14,700	8,780	4,620	3,560	7,920
15	2,920	17,000	11,100	22,100	16,700	9,480	10,400	14,000	8,550	4,690	3,270	7,220
16	2,900	14,500	10,500	27,000	15,400	9,170	10,300	13,100	7,920	4,540	3,200	6,940
17	2,880	13,200	10,000	35,200	14,300	8,880	10,600	12,700	7,780	4,480	3,160	6,790
18	2,840	12,300	10,300	53,600	13,500	8,860	11,200	15,400	7,820	4,650	3,140	6,220
19	2,820	11,900	12,100	71,400	12,600	9,200	11,600	18,700	8,400	4,680	3,100	5,900
20	2,810	11,100	17,100	72,400	11,800	9,770	11,600	19,600	10,400	4,370	3,120	6,360
21	2,840	10,700	38,200	62,600	11,200	9,610	11,200	18,300	12,900	4,210	3,140	7,530
22	2,960	10,800	48,300	45,600	10,800	9,330	10,800	16,400	12,400	4,090	3,160	7,410
23	3,340	10,600	43,500	38,800	10,400	9,720	10,300	14,700	11,200	3,970	3,160	6,830
24	3,910	10,700	34,500	33,000	10,300	9,640	9,770	13,300	10,400	3,900	3,160	6,240
25	3,160	18,000	30,800	31,900	10,900	9,120	9,330	12,200	9,850	3,830	3,210	5,760
26	9,190	24,600	31,300	42,300	11,400	8,730	8,940	11,300	9,740	3,790	3,280	5,430
27	7,710	22,400	41,200	60,600	11,100	8,420	8,600	10,700	9,610	3,750	3,640	5,150
28	6,270	24,300	56,700	46,200	11,200	8,150	8,350	10,400	9,200	3,760	4,040	4,960
29	6,620	34,500	58,200	37,800	-	8,000	8,120	11,000	8,880	3,680	4,410	4,730
30	6,000	57,600	45,600	32,300	-	8,150	7,980	11,300	8,400	3,900	4,280	4,560
31	9,730	-	38,200	28,600	-	8,280	-	10,900	-	3,810	3,830	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	153,170	9,730	2,810	4,296	0.590	0.68	264,100
November.....	567,260	57,600	8,560	18,910	2.60	2.90	1,126,000
December.....	883,000	58,200	10,000	28,450	3.91	4.51	1,761,000
Calendar year 1940.....	6,800,860	97,900	2,480	18,580	2.55	34.74	13,490,000
January.....	1,082,900	72,400	18,600	34,280	4.71	5.43	2,108,000
February.....	448,100	26,300	10,300	16,000	2.20	2.29	888,900
March.....	344,560	20,000	8,000	11,110	1.53	1.76	683,400
April.....	324,650	16,200	7,850	10,820	1.49	1.66	643,900
May.....	479,410	29,900	8,000	15,460	2.12	2.45	950,900
June.....	303,130	12,900	7,780	10,100	1.39	1.55	601,200
July.....	155,670	7,950	3,750	5,022	.690	.80	308,800
August.....	106,780	4,410	3,100	3,445	.473	.55	211,800
September.....	185,710	9,380	3,750	6,190	.850	.95	368,400
Water year 1940-41.....	4,994,240	72,400	2,810	13,680	1.88	25.53	9,905,000

Hills Creek near Oakridge, Oreg.

Location.- Staff gage, lat. 43°42', long. 122°24', in NW¼ sec. 36, T. 21 S., R. 3 E., 1½ miles upstream from mouth and 4½ miles southeast of Oakridge.

Drainage area.- 59 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge observed during year, 442 second-feet Jan. 19 (gage height, 3.14 feet); minimum observed, 15 second-feet Oct. 18-20.

1935-41: Maximum discharge, 2,120 second-feet Apr. 14, 1937 (gage height, 4.02 feet, from floodmark, site and datum then in use), from rating curve extended above 900 second-feet; minimum observed, 12 second-feet Aug. 26 to Sept. 2, 1940.

Remarks.- Records good; they include flow to small diversion about 1,000 feet upstream and return flow from another half a mile upstream. No regulation. Gage read once daily; twice daily when stage is over 2.0 feet.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	10	2.0	158
.9	23	2.3	218
1.1	38	2.6	287
1.4	68	2.9	370
1.7	107	3.2	460

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	120	147	104	126	90	68	85	123	104	32	29
2	26	88	133	93	120	96	73	83	117	96	30	113
3	24	68	93	85	110	93	68	160	104	88	31	123
4	22	55	93	80	99	85	86	160	83	80	31	55
5	24	68	110	83	93	93	70	355	99	75	30	60
6	22	90	104	80	90	86	70	295	110	70	30	53
7	20	101	93	80	85	83	73	263	300	66	29	47
8	19	133	85	76	80	80	67	297	283	61	29	43
9	18	144	78	75	78	90	78	254	205	57	29	40
10	18	110	68	73	85	88	90	210	166	55	40	38
11	17	96	61	72	130	78	90	191	151	53	32	53
12	17	110	56	72	222	75	80	183	126	51	30	55
13	17	93	51	90	183	75	78	153	107	49	29	49
14	17	85	47	117	154	73	75	158	96	47	27	47
15	17	83	45	123	133	68	90	140	90	45	27	45
16	16	80	45	117	113	64	80	123	85	66	26	43
17	16	73	46	191	104	60	85	117	137	51	26	32
18	15	75	57	283	96	64	93	144	191	45	36	43
19	15	78	59	418	90	59	104	166	179	43	32	43
20	15	75	93	287	85	57	101	168	154	42	29	51
21	32	78	197	220	80	55	107	158	137	40	28	53
22	21	66	147	171	78	57	107	147	120	37	27	47
23	19	61	120	149	78	57	104	130	120	35	26	44
24	90	90	110	137	90	55	101	123	117	34	27	42
25	62	154	104	258	89	53	93	107	130	35	29	38
26	59	117	205	292	83	51	88	96	144	45	30	36
27	42	104	297	222	80	53	90	88	177	44	43	36
28	33	120	258	199	75	55	90	85	151	44	32	35
29	59	187	185	156	-	59	93	90	137	42	29	32
30	89	169	151	140	-	59	85	83	123	36	27	30
31	142	-	123	123	-	59	-	151	-	33	26	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,032	142	15	33.3	0.564	0.65	2,050
November.....	2,974	187	55	90.1	1.68	1.87	5,900
December.....	3,461	297	45	112	1.90	2.18	6,860
Calendar year 1940.....	40,313	691	12	110	1.86	25.41	79,970
January.....	4,648	418	72	150	2.54	2.93	9,220
February.....	2,929	222	75	105	1.78	1.85	5,810
March.....	2,172	96	51	70.1	1.19	1.37	4,310
April.....	2,557	107	66	85.2	1.44	1.61	5,070
May.....	4,943	355	83	159	2.69	3.12	9,800
June.....	4,248	300	83	141	2.59	2.67	8,410
July.....	1,669	104	33	53.8	.912	1.05	3,310
August.....	929	43	26	30.0	.508	.59	1,840
September.....	1,483	123	29	49.4	.837	.93	2,940
Water year 1940-41.....	33,039	418	15	90.5	1.53	20.62	65,520

Salt Creek near Oakridge, Oreg.

Location.- Water-stage recorder, lat. 43°44', long. 122°25', in SW¼ sec. 23, T. 21 S., R. 3 E., 0.7 mile upstream from mouth and 2 miles southeast of Oakridge. Datum of gage is 1,245.67 feet above mean sea level, datum of 1929.

Drainage area.- 113 square miles.

Records available.- July 1913 to September 1914, October 1933 to September 1941.

Extremes.- Maximum discharge during year, 500 second-feet Nov. 29 (gage height, 3.05 feet); minimum, 80 second-feet Oct. 19, 20 (gage height, 1.44 feet).
1913-14, 1933-41: Maximum discharge, 2,170 second-feet Dec. 20, 1934 (gage height, 5.92 feet); minimum, 55 second-feet Jan. 8, 1937 (computed on basis of record for Salmon Creek near Oakridge).

Remarks.- Records good. No diversion above station; slight diurnal fluctuation at times.

Cooperation.- Water-stage recorder inspected by employee of U. S. Forest Service.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to July 15

July 16 to Sept. 30

1.4	76	2.3	252	1.5	88
1.6	99	2.6	343	1.7	124
1.8	134	2.9	445	1.9	165
2.0	176			2.1	210

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	161	340	190	193	158	172	230	210	198	103	109
2	94	150	281	179	183	167	178	233	205	186	102	198
3	95	138	247	172	172	165	172	305	188	176	100	180
4	94	123	225	167	165	161	169	317	174	167	100	152
5	90	146	258	167	161	167	172	438	167	166	98	132
6	87	154	278	163	158	161	172	431	210	149	95	120
7	86	193	241	158	154	158	169	393	293	142	93	114
8	85	208	218	154	150	158	165	414	278	136	93	109
9	84	206	200	150	152	154	190	369	258	130	96	102
10	84	183	181	146	172	162	195	340	230	124	96	111
11	85	190	163	142	200	162	188	340	212	121	95	120
12	85	208	150	140	241	150	176	337	205	115	95	122
13	85	181	140	154	225	150	172	317	190	113	91	116
14	82	166	134	181	208	146	169	308	176	110	90	116
15	82	154	134	190	193	a144	193	272	165	136	88	120
16	82	148	132	186	178	a142	193	249	167	184	87	113
17	81	148	132	244	169	a140	193	264	174	140	87	109
18	81	152	146	296	163	a138	193	281	253	130	111	114
19	81	140	144	346	156	a136	188	275	296	128	100	111
20	84	140	178	302	152	a136	181	269	302	122	96	128
21	95	150	236	266	146	a134	178	261	266	116	98	128
22	86	146	215	238	144	144	181	258	241	113	91	118
23	84	136	200	220	148	142	186	256	220	111	90	113
24	124	223	190	208	168	138	193	244	220	109	88	109
25	123	258	186	258	154	132	195	230	241	107	93	105
26	115	212	241	293	146	136	198	212	266	126	103	103
27	104	241	386	261	146	138	205	195	275	129	114	102
28	104	327	314	233	148	148	215	208	247	128	98	100
29	121	424	266	216	-	166	220	202	233	116	91	96
30	142	434	238	206	-	166	220	193	218	111	88	96
31	188	-	215	193	-	161	-	230	-	107	87	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,002	188	81	96.8	0.857	0.99	5,950
November.....	5,558	434	123	195	1.73	1.93	11,620
December.....	6,609	386	132	213	1.88	2.18	13,110
Calendar year 1940.....	73,866	670	78	202	1.79	24.31	146,500
January.....	6,419	346	140	207	1.83	2.11	12,730
February.....	4,735	241	144	169	1.50	1.56	9,390
March.....	4,620	167	132	149	1.32	1.52	9,160
April.....	5,691	220	165	186	1.65	1.84	11,090
May.....	8,864	438	193	286	2.53	2.92	17,580
June.....	6,785	302	165	226	2.00	2.23	13,480
July.....	4,134	198	107	133	1.18	1.36	8,200
August.....	2,967	114	87	95.4	.844	.97	5,870
September.....	3,570	198	95	119	1.05	1.17	7,080
Water year 1940-41.....	63,144	438	81	173	1.53	20.78	125,200

a No gage-height record; discharge computed on basis of recorded range of stage and records for Salmon Creek near Oakridge.

Salmon Creek near Oakridge, Oreg.

Location.- Water-stage recorder, lat. 43°45', long. 122°23', in Sw¹/₄ sec. 7, T. 21 S., R. 4 E., a quarter of a mile upstream from Slide Creek and 4 miles east of Oakridge.

Drainage area.- 117 square miles at cable a quarter of a mile above gage, where all discharge measurements are made.

Records available.- October 1933 to September 1941. February 1913 to September 1914 at site 2 miles downstream, below Flat Creek. October 1914 to October 1919 at site 1 mile downstream.

Extremes.- Maximum discharge during year, 1,510 second-feet Nov. 29 (gage height, 3.97 feet); minimum, 90 second-feet Oct. 17, 18 (gage height, 1.11 feet).
1913-19, 1923-41: Maximum discharge, 6,400 second-feet Jan. 12, 1918, from rating curve extended above 1,600 second-feet; minimum, 63 second-feet Jan. 8, 1937 (gage height, 0.87 foot).

Remarks.- Records excellent except those for period of no gage-height record, which are fair. No regulation above station. Village of Oakridge has diverted water around station in an 8-inch pipe since 1936. Tunnel and control gates that were built to divert part of outflow from Waldo Lake into Salmon Creek Basin were not used during year. Leakage under gates amount to about 3 second-feet.

Cooperation.- Water-stage recorder inspected by employee of U. S. Forest Service.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.1	88	1.9	277	3.0	780
1.3	122	2.2	377	3.4	1,055
1.6	190	2.6	550	3.8	1,370

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	109	198	678	268	293	214	a194	193	223	214	117	136
2	108	168	500	246	287	212	a196	198	214	208	115	283
3	115	151	419	237	271	205	a194	252	204	195	115	226
4	108	142	377	232	258	204	a190	262	195	190	115	185
5	101	190	443	243	249	206	a194	366	190	182	113	160
6	96	204	455	249	243	204	a194	404	220	175	111	144
7	98	226	400	243	234	198	a190	385	274	168	109	136
8	95	243	356	234	226	195	188	419	271	160	108	128
9	94	248	319	232	254	190	223	355	158	158	109	122
10	94	226	290	229	266	188	232	346	240	154	109	128
11	94	246	265	223	280	190	226	322	226	149	113	136
12	94	262	243	220	299	185	212	306	214	144	111	142
13	94	232	229	268	287	182	204	290	204	142	108	134
14	93	217	217	312	268	178	195	274	195	138	104	136
15	93	209	206	342	262	175	209	262	190	140	102	138
16	91	206	204	332	234	170	209	237	190	201	101	132
17	90	209	198	482	223	170	212	255	195	168	101	126
18	91	212	209	566	214	170	214	274	277	149	120	138
19	90	190	204	644	209	165	214	265	322	140	108	136
20	101	185	226	540	204	163	209	262	360	136	102	168
21	115	198	265	460	195	158	204	252	332	132	102	154
22	94	188	258	404	190	163	204	240	306	130	101	144
23	91	175	246	366	198	163	201	232	283	129	101	136
24	154	335	234	339	220	158	198	220	271	126	102	130
25	142	407	229	377	206	158	195	209	274	124	115	126
26	128	329	512	415	201	156	193	198	280	134	130	122
27	115	437	635	377	201	158	193	190	271	135	144	118
28	122	684	451	349	204	195	195	204	252	135	117	117
29	151	1,210	366	322	-	a178	195	206	243	126	108	113
30	180	1,040	329	303	-	a178	195	195	229	122	104	109
31	212	-	293	290	-	a183	-	237	-	118	101	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October.....	3,454	212	90	111	0.949	1.10	6,850
November.....	9,162	1,210	142	305	2.61	2.91	18,170
December.....	9,936	678	198	321	2.74	3.16	19,710
Calendar year 1940.....	95,828	1,210	90	262	2.24	30.47	190,100
January.....	10,344	644	220	334	2.85	3.29	20,520
February.....	6,648	299	190	237	2.03	2.11	13,190
March.....	6,584	214	166	180	1.64	1.77	11,080
April.....	6,074	232	188	202	1.73	1.93	12,050
May.....	8,330	419	190	269	2.30	2.65	16,520
June.....	7,400	360	190	247	2.11	2.35	14,680
July.....	4,723	214	118	162	1.30	1.60	9,370
August.....	3,416	144	101	110	0.940	1.09	6,780
September.....	4,293	283	109	143	1.22	1.36	8,520
Water year 1940-41.....	79,364	1,210	90	217	1.85	25.22	157,400

a No gage-height record; discharge computed on basis of records for Salmon Creek near Oakridge.

Waldo Lake outlet near Oakridge, Oreg.

Location.- Water-stage recorder and artificial control on lake outlet, lat. '43°46', long. 122°03', in NW¼ sec. 7, T. 21 S., R. 6 E., on artificial outlet channel of Waldo Lake, 20 miles east of Oakridge. Altitude of water surface of lake and of gage, 5,410 feet (from topographic map).

Drainage area.- 30 square miles.

Records available.- October 1936 to September 1941.

Extremes.- Maximum discharge during year, 16 second-feet June 19-22 (gage height, 0.61 foot, disregarding peaks of momentary duration caused by seiches); practically no flow, Oct. 1 to Jan. 13, Sept. 19-30 (lake level below weir crest).
1936-41: Maximum discharge, 92 second-feet Mar. 29, 1938 (gage height, 2.15 feet); no flow at times.

Remarks.- Records good except those below 1 second-foot and those for periods of no gage-height record, which are poor. At times seiches on Waldo Lake cause rapid changes in stage at gage several times per hour. Lake not regulated artificially. Diversion tunnel into head of Black Creek, near south end of lake, built about 1914, is not used, but an unmeasured leakage passes control gates, which were probably closed throughout year.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				a0	2.3		0.8	2.5	12	13	2.0	0.2
2							.8	3.2	12	13	1.6	.4
3							1.0	4.6	12	12	1.2	.6
4							1.2	6.0	12	12	1.0	.8
5							1.4	7.7	11	12	1.0	.6
6							1.8	8.7	12	12	.8	.4
7							1.8	9.3	13	11	.7	.2
8							1.8	9.9	13	11	.6	.2
9							2.3	9.9	13	10	.6	.2
10							2.5	9.9	13	9.6	.3	.2
11				a2.5			2.5	10	12	9.3	.3	.2
12							2.5	9.9	12	8.7	.2	.2
13							2.3	10	12	8.3	.1	.2
14							2.3	11	11	7.7	0	.2
15							3.2	11	11	7.4	0	.2
16							3.6	11	11	7.1	0	.2
17							3.8	12	12	6.8	0	.2
18							3.6	14	14	6.5	.2	.1
19							3.4	13	16	6.0	.2	0
20							3.2	13	16	5.7	.2	0
21							3.2	13	16	5.2	.1	0
22							2.9	13	16	4.6	0	0
23							2.7	12	15	4.1	0	0
24							2.5	12	14	3.4	0	0
25							2.5	12	15	3.2	0	0
26							2.3	12	15	3.2	0	0
27							2.3	11	15	3.4	0	0
28							2.3	12	14	3.4	0	0
29							2.3	12	14	3.2	.1	0
30				2.5			2.5	12	14	2.7	.2	0
31				2.5		0.8	-	12	-	2.3	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-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 1940.....	4,491.0	40	0	12.3	0.410	5.58	8,918
January.....	45.0	-	0	1.45	.048	.06	89
February.....	56.0	-	-	e2.0	.067	.07	111
March.....	46.5	-	-	e1.5	.050	.06	92
April.....	71.3	3.8	.8	2.38	.079	.09	141
May.....	319.6	14	2.5	10.3	.343	.40	634
June.....	398	16	11	13.3	.443	.49	789
July.....	227.8	13	2.3	7.35	.245	.28	452
August.....	11.6	2.0	0	.37	.012	.01	23
September.....	5.3	.8	0	.18	.0060	.007	11
Water year 1940-41.....	1,181.0	16	0	3.24	.108	1.47	2,340

a No gage-height record; discharge computed on basis of weather records and records for station on Odell Creek near Crescent.

e Computed on basis of one figure of daily discharge, weather records, and records for station on Odell Creek near Crescent.

North Fork of Middle Fork of Willamette River near Oakridge, Oreg.

Location.- Water-stage recorder, lat. 43°45', long. 122°30', in SW¼ sec. 7, T. 21 S., R. 3 E., 1 mile upstream from mouth and 2½ miles northeast of Oakridge. Datum of gage is 1,029.6 feet above mean sea level (river-profile survey).

Drainage area.- 246 square miles.

Records available.- October 1909 to September 1912 (fragmentary), September 1935 to September 1941. October 1913 to February 1916, at site half a mile upstream, above a small tributary.

Extremes.- Maximum discharge during year, 3,450 second-feet Nov. 29 (gage height, 5.87 feet, from floodmark); minimum, 40 second-feet May 3 (gage height, 0.37 foot); minimum daily, 102 second-feet Oct. 18, 19.

1909-16, 1935-41: Maximum gage height observed, 12.4 feet Nov. 22, 1909, site and datum then in use (discharge not determined); minimum discharge, 26 second-feet (regulated) Oct. 14, 1939.

Remarks.- Records excellent except those for periods of partly estimated gage-height record and those based on staff-gage readings, which are good. Tunnel and control gates that were built to divert part of outflow from Waldo Lake into Salmon Creek Basin were not used during year. Leakage under gates amounts to about 3 second-feet. Occasional diurnal fluctuation during periods of low-flow caused by logpond above station.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	89	1.9	460	3.5	1,380
1.0	152	2.2	615	4.0	1,740
1.3	233	2.6	835	4.5	2,140
1.6	334	3.0	1,070	5.0	2,590

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	h424	g1,130	648	736	407	281	320	407	327	154	174
2	129	h291	g960	588	708	424	323	327	377	308	150	588
3	131	h242	g968	550	654	433	306	407	357	295	152	407
4	131	h207	g791	535	615	420	305	475	334	254	154	302
5	123	h230	g908	582	576	428	338	796	327	274	140	245
6	118	f373	g862	626	566	415	398	906	373	264	140	218
7	114	420	g796	593	540	399	390	855	480	255	136	201
8	110	566	g592	586	505	381	377	879	465	245	134	185
9	110	610	g604	540	490	377	415	796	438	239	134	174
10	108	490	g540	525	571	365	460	708	407	233	147	177
11	106	525	g465	520	571	354	446	642	381	227	140	199
12	106	588	f438	515	664	346	420	562	361	221	145	201
13	106	465	407	598	626	330	394	580	356	207	134	193
14	106	411	381	502	582	320	373	520	320	207	131	190
15	106	381	365	879	540	312	377	475	309	207	134	201
16	104	381	354	830	500	302	394	446	309	230	127	190
17	104	373	342	1,320	460	302	415	500	327	227	125	180
18	102	398	365	1,840	442	305	428	566	424	201	138	188
19	102	354	390	2,150	f424	305	415	550	495	190	138	196
20	108	f534	433	1,610	h415	305	398	510	566	182	129	221
21	145	g407	620	1,280	h396	288	390	485	515	177	131	221
22	121	g386	550	1,100	h396	298	386	461	470	172	125	210
23	112	g365	510	962	h396	295	381	424	438	167	125	196
24	207	g966	475	896	h490	278	365	398	420	162	127	188
25	213	g974	486	1,080	h490	267	354	377	424	160	143	180
26	174	g769	804	1,270	f394	261	346	357	424	160	170	174
27	152	g736	1,530	1,130	386	258	334	346	398	185	201	167
28	154	g1,250	1,190	1,000	390	258	323	373	381	180	164	162
29	242	g2,500	962	890	-	264	327	373	369	164	136	164
30	323	g1,900	835	818	-	267	327	354	342	160	129	152
31	f456	-	720	752	-	267	-	433	-	157	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,561	456	102	147	0.598	0.69	9,050
November.....	18,336	2,500	207	611	2.48	2.77	36,370
December.....	20,712	1,530	342	668	2.72	3.13	41,080
Calendar year 1940.....	192,131	2,770	93	526	2.13	29.04	381,100
January.....	27,984	2,160	515	903	3.67	4.23	55,510
February.....	14,505	736	386	518	2.11	2.19	28,770
March.....	10,230	433	258	330	1.34	1.55	20,290
April.....	11,185	460	281	373	1.62	1.69	22,190
May.....	16,163	908	320	521	2.12	2.44	32,060
June.....	11,976	566	309	398	1.62	1.51	23,760
July.....	6,668	327	157	215	.874	1.01	13,230
August.....	4,362	201	125	141	.573	.66	8,650
September.....	6,434	588	152	214	.870	.97	12,760
Water year 1940-41.....	153,116	2,500	102	419	1.70	23.14	303,700

f Computed on basis of partly estimated gage-height record.

g Computed from graph based on staff-gage readings.

h Computed from staff-gage reading.

Fall Creek above Winberry Creek, near Lowell, Oreg.

Location.- Staff gage, lat. 43°57', long. 122°43', in SE¼ sec. 32, T. 18 S., R. 1 E., 2½ miles upstream from Winberry Creek and 4½ miles northeast of Lowell. Datum of gage is 727.99 feet above mean sea level, datum of 1929.

Drainage area.- 131 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge observed during year, 2,070 second-feet Dec. 27 (gage height, 4.74 feet); minimum observed, 21 second-feet Oct. 19, 20.
1935-41: Maximum discharge, 8,850 second-feet Mar. 19, 1935 (gage height, 8.0 feet, from floodmark), from rating curve extended above 2,600 second-feet; minimum observed, 14 second-feet Dec. 1, 1936.

Maximum stage known, about 11 feet (date unknown), from floodmarks observed in 1935.

Remarks.- Records good. No diversion above station. Gage read once daily; oftener during periods of high water.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.6	20	1.7	185	3.6	1,100
.8	31	2.0	280	4.0	1,400
1.0	49	2.4	442	4.5	1,530
1.2	77	2.8	630		
1.4	113	3.2	840		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	350	710	358	299	149	80	91	310	111	48	74
2	36	205	565	303	270	180	120	86	239	105	47	521
3	34	117	392	273	239	175	102	262	205	104	47	280
4	39	117	336	299	223	167	91	191	177	100	45	159
5	33	164	303	354	207	169	105	680	154	92	46	109
6	30	417	379	630	196	164	235	620	207	89	45	54
7	27	334	310	494	182	152	175	468	590	56	43	72
8	26	625	262	400	172	133	140	530	468	80	42	61
9	25	796	229	358	172	126	159	434	350	79	41	54
10	24	565	202	303	196	122	266	417	273	74	41	54
11	24	918	182	270	202	113	239	262	232	74	41	94
12	23	812	169	239	273	107	196	229	196	72	47	110
13	23	503	149	252	239	102	159	207	177	71	45	86
14	23	346	135	375	213	94	135	205	159	68	41	76
15	22	262	131	590	196	91	149	175	149	65	38	94
16	22	207	126	455	177	89	159	159	137	117	37	86
17	22	169	122	1,150	164	87	334	177	196	86	37	70
18	22	154	131	1,340	162	91	284	425	235	70	38	70
19	21	140	213	1,320	145	94	248	392	371	65	42	70
20	21	126	191	824	133	122	213	314	310	61	36	91
21	87	276	690	625	128	94	185	273	273	58	35	86
22	38	242	434	512	122	100	157	232	239	87	34	76
23	30	196	358	417	117	107	140	185	193	56	36	68
24	169	455	342	379	162	94	126	169	180	54	40	59
25	164	785	346	730	180	89	113	149	169	53	52	57
26	113	494	1,020	694	154	86	109	135	172	52	65	53
27	74	371	1,840	700	149	82	102	128	149	59	55	52
28	56	807	895	565	140	79	94	147	135	66	45	49
29	172	1,600	680	455	-	76	91	159	131	68	41	46
30	188	1,170	545	375	-	60	98	145	122	54	39	45
31	580	-	442	318	-	77	-	459	-	52	37	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,205	580	21	71.1	0.543	0.63	4,370
November.....	13,723	1,600	117	457	3.49	3.80	27,220
December.....	12,931	1,840	122	417	3.15	3.67	25,650
Calendar year 1940.....	100,571	1,900	18	275	2.10	28.56	199,500
January.....	18,557	1,340	239	535	4.08	4.71	32,900
February.....	5,202	299	117	166	1.42	1.48	10,320
March.....	3,491	180	76	113	0.563	0.99	6,920
April.....	4,804	334	80	160	1.22	1.36	9,530
May.....	6,625	800	86	278	2.12	2.45	17,110
June.....	6,895	590	122	230	1.76	1.96	13,680
July.....	2,288	117	52	73.8	0.563	0.65	4,540
August.....	1,329	65	34	42.9	0.327	0.38	2,640
September.....	2,908	521	45	96.9	0.740	0.82	5,760
Water year 1940-41.....	80,999	1,840	21	222	1.69	23.00	160,600

* Gage reading not representative of average for day; discharge computed on basis of weather records and records for station below Winberry Creek.

Fall Creek below Winberry Creek, near Fall Creek, Oreg.

Location.- Staff gage, lat. 43°57', long. 122°47', near center of sec. 2, T. 19 S., R. 1 W., 1½ miles downstream from Winberry Creek, and 2½ miles southeast of Fall Creek. Datum of gage is 637.80 feet above mean sea level, datum of 1929.

Drainage area.- 190 square miles.

Records available.- October to December 1911 (gage heights only), September 1935 to September 1941.

Extremes.- Maximum discharge observed during year, 3,140 second-feet Dec. 27 (gage height, 7.14 feet); minimum observed, 22 second-feet Oct. 16, 18, 19 (gage height, 0.58 foot). 1935-41: Maximum discharge, 8,240 second-feet Mar. 19, 1938 (gage height, 11.1 feet, from floodmark), from rating curve extended above 4,200 second-feet; minimum, 19 second-feet Dec. 1, 1936. Maximum stage known, about 14 feet (date unknown), determined in 1935 from flood-marks.

Remarks.- Records good. No diversion above station. Gage read once daily; oftener during periods of high water.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.5	19	2.0	207	4.2	680
.7	28	2.4	309	4.8	1,320
1.0	49	2.8	423	6.1	2,240
1.3	82	3.2	560	6.8	2,830
1.6	126	3.6	710		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	364	a1,030	511	405	212	98	126	a470	a150	77	110
2	38	266	730	417	a360	266	144	118	358	140	77	646
3	38	160	542	411	320	246	130	309	293	137	77	393
4	40	113	483	417	298	221	123	331	251	a137	77	196
5	35	e250	563	525	282	231	172	1,240	236	a130	75	120
6	a32	504	462	786	272	212	272	782	417	a120	70	92
7	29	485	393	653	246	198	236	654	790	a110	68	72
8	26	664	847	518	231	177	131	894	602	107	63	66
9	26	1,020	306	436	256	172	259	581	462	95	61	59
10	25	758	264	387	347	160	358	436	370	90	59	77
11	25	1,330	236	347	342	152	331	a380	314	87	59	110
12	24	940	212	320	331	140	256	314	272	86	61	107
13	24	702	207	411	320	133	207	287	246	85	57	88
14	24	442	185	608	277	123	194	304	236	82	51	85
15	23	314	181	762	261	120	205	246	198	82	49	104
16	22	293	168	612	246	116	226	277	203	e140	47	87
17	23	256	160	1,920	221	116	342	304	194	101	46	77
18	22	241	198	2,060	207	116	387	602	287	85	46	80
19	22	198	236	1,790	194	137	353	560	442	77	44	76
20	27	194	469	1,130	181	137	a300	462	449	72	41	110
21	e120	405	863	830	168	120	251	417	347	70	41	98
22	e60	325	581	666	160	140	221	314	298	70	41	80
23	43	272	504	556	160	137	194	272	261	70	41	72
24	e250	1,280	429	490	226	120	172	236	272	70	44	66
25	e180	1,020	1,570	1,080	226	113	166	207	241	72	77	61
26	144	662	a2,000	1,390	198	107	144	186	226	a78	77	57
27	80	714	2,830	950	185	101	130	177	207	a100	110	57
28	80	1,300	1,510	746	198	98	123	231	194	92	57	a53
29	189	2,380	1,910	595	-	98	123	226	190	85	46	49
30	325	1,730	746	490	-	98	123	203	164	82	45	47
31	828	-	595	436	-	95	-	662	-	80	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,865	826	22	92.4	0.486	0.56	5,680
November.....	19,610	2,380	113	654	3.44	3.84	36,900
December.....	19,890	2,830	160	642	3.38	3.89	39,450
Calendar year	139,040	2,830	20	380	2.00	27.22	275,800
January.....	23,238	2,060	320	750	3.95	4.55	46,090
February.....	7,122	405	160	254	1.34	1.59	14,130
March.....	4,612	266	95	149	.784	.90	9,160
April.....	6,409	387	98	214	1.13	1.25	12,710
May.....	12,139	1,240	116	392	2.06	2.38	24,080
June.....	9,490	790	164	316	1.66	1.88	18,680
July.....	2,981	150	70	96.8	.508	.58	5,910
August.....	1,823	110	41	58.8	.309	.36	3,690
September.....	3,404	646	47	113	.595	.67	6,750
Water year	113,583	2,830	22	311	1.64	22.23	225,300

a No gage-height record; discharge computed on basis of weather records and records for station above Winberry Creek.

e Gage reading not representative of average for day; discharge computed on basis of weather records and records for station above Winberry Creek.

Little Fall Creek near Fall Creek, Oreg.

Location.- Staff gage, lat. 43°59', long. 122°45', in sec. 25, T. 18 S., R. 1 W., 4 miles northeast of Fall Creek.

Drainage area.- 48 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge observed during year, 732 second-feet Nov. 29 (gage height, 4.14 feet); minimum observed, 12 second-feet Oct. 15, 16 (gage height, 1.22 feet).
1935-41: Maximum discharge, 4,020 second-feet Mar. 18 or 19, 1938 (gage height, 7.0 feet, from floodmark); from rating curve extended above 1,800 second-feet on basis of velocity-area studies; minimum observed, 10 second-feet Dec. 1, 1936, Aug. 26, 27, Aug. 30 to Sept. 1, 1940.

Remarks.- Records good. No regulation or diversion above station. Gage read once daily, oftener during periods of high water or rapidly changing stage.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.2	11	2.8	225
1.4	18	3.2	345
1.6	28	3.6	490
1.9	52	4.0	660
2.2	89	4.4	850
2.5	147		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	96	366	217	187	99	61	54	121	63	30	23
2	16	81	279	192	166	138	68	59	103	61	29	176
3	18	61	237	171	147	130	63	96	96	61	29	76
4	19	48	219	187	138	117	59	225	86	62	29	54
5	17	121	303	255	129	106	63	255	83	59	28	41
6	16	110	219	333	129	96	106	176	125	54	27	40
7	14	255	176	285	117	92	89	171	152	52	27	35
8	13	249	157	231	114	89	86	161	117	52	27	31
9	13	352	147	205	125	81	96	143	103	50	26	28
10	13	267	121	189	147	78	99	125	96	48	26	37
11	12	373	112	161	125	75	61	147	89	47	27	47
12	12	321	104	1150	117	73	76	110	86	46	26	54
13	12	225	94	171	106	70	70	114	81	45	26	50
14	12	164	89	219	103	68	68	94	73	43	24	41
15	12	129	86	217	96	65	70	83	73	43	23	47
16	12	106	83	211	92	63	83	83	78	61	23	41
17	12	99	81	450	89	63	103	134	86	46	23	38
18	12	86	91	494	86	68	103	166	86	43	23	38
19	12	73	110	522	83	78	99	143	129	41	23	37
20	19	78	143	408	78	68	86	125	125	37	22	41
21	28	114	309	330	75	63	81	110	117	37	22	47
22	19	89	219	291	73	75	75	103	99	37	22	43
23	16	81	189	255	78	68	70	96	89	36	22	38
24	99	267	164	231	121	61	65	86	92	35	23	35
25	54	249	147	279	92	59	63	78	89	34	34	34
26	32	181	214	401	89	56	61	75	83	34	32	32
27	26	219	588	342	86	54	59	73	75	45	28	33
28	29	315	429	294	92	54	56	125	73	37	23	29
29	67	700	342	249	-	59	59	99	73	32	22	28
30	103	579	303	219	-	56	56	89	68	32	21	27
31	205	-	255	197	-	54	-	143	-	32	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	962	205	12	31.0	0.646	0.75	1,910
November.....	6,090	700	48	203	4.25	4.72	12,080
December.....	6,376	588	81	206	4.29	4.94	12,660
Calendar year 1940.....	48,032	820	10	131	2.73	37.22	95,290
January.....	8,356	522	150	270	5.62	6.47	16,570
February.....	3,080	187	73	110	2.29	2.39	6,110
March.....	2,376	138	54	76.6	1.60	1.64	4,710
April.....	2,276	106	56	75.9	1.58	1.76	4,510
May.....	3,741	255	54	121	2.52	2.90	7,420
June.....	2,881	152	68	95.0	1.96	2.21	5,650
July.....	1,406	65	32	45.3	.944	1.09	2,700
August.....	788	34	21	25.4	.529	.61	1,560
September.....	1,321	176	23	44.0	.917	1.02	2,620
Water year 1940-41.....	39,622	700	12	109	2.27	30.70	78,580

a No gage-height record; discharge computed on basis of records for Fall Creek below Winberry Creek, near Fall Creek.

Coast Fork of Willamette River at London, Oreg.

Location.— Water-stage recorder, lat. 43°39', long. 123°05', in SW¼ sec. 20, T. 22 S., R. 3 W., 0.6 mile north of London and 11 miles south of Cottage Grove. Datum of gage is 852.65 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.— 69 square miles.

Records available.— September 1935 to September 1941.

Extremes.— Maximum discharge during year, 2,040 second-feet Dec. 26 (gage height, 5.65 feet); minimum, 12 second-feet Oct. 20 (gage height, 0.94 foot).
1935-41: Maximum discharge, 3,820 second-feet Apr. 14, 1937, Mar. 18, 1838; minimum, 10 second-feet on several days in 1936, 1938, 1939, and 1940.

Remarks.— Records good except those for period of no gage-height record, which are fair. No diversion above station; millpond 3 miles upstream may cause slight regulation at times.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.9	10	2.8	430
1.2	27	3.2	600
1.5	57	3.6	790
1.8	108	4.0	1,000
2.1	183	4.4	1,230
2.4	279	4.8	1,470

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	126	195	223	204	155	60	60	158	64	25	50
2	22	88	150	195	a215	201	74	67	128	60	25	239
3	22	64	126	177	a190	161	96	138	108	58	26	125
4	20	52	106	175	a170	138	117	128	94	55	25	61
5	19	177	138	262	a155	126	418	213	86	51	25	45
6	17	150	145	315	a145	110	341	216	108	49	24	36
7	17	337	123	255	a135	102	255	189	123	47	23	32
8	16	414	106	213	a125	92	195	198	108	45	23	29
9	16	450	92	186	a140	86	177	169	94	43	23	26
10	14	276	83	163	a170	83	175	138	85	41	22	33
11	14	201	74	145	a200	81	150	121	78	39	23	37
12	14	175	67	135	a210	76	130	130	76	38	23	34
13	14	142	61	135	a180	73	115	135	73	37	22	31
14	14	112	60	204	163	68	104	117	70	35	21	29
15	14	92	55	248	148	67	104	104	65	34	21	27
16	14	78	55	301	132	63	119	94	70	34	20	27
17	14	71	56	478	123	64	161	148	68	36	20	26
18	13	67	135	550	115	64	140	286	83	32	23	26
19	13	58	158	568	106	70	123	239	123	30	22	29
20	17	65	405	386	100	68	110	189	155	29	20	35
21	32	81	591	297	92	60	98	155	123	28	20	31
22	20	71	322	239	88	68	90	130	104	28	20	27
23	17	65	276	210	94	64	83	110	90	28	21	26
24	178	177	341	235	106	60	78	98	119	27	22	25
25	88	189	474	595	96	57	73	86	112	26	24	24
26	47	135	1,160	627	90	55	70	80	100	26	27	23
27	33	126	1,380	406	88	53	65	76	88	31	28	23
28	34	130	627	308	98	52	63	108	81	31	23	23
29	73	252	454	252	-	53	63	110	76	29	22	22
30	126	272	341	215	-	56	65	96	70	27	20	22
31	207	-	272	189	-	61	-	199	-	26	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	1,183	207	13	59.2	0.554	0.64	2,350
November.....	4,653	430	52	155	2.25	2.51	9,230
December.....	8,608	1,360	55	278	4.03	4.64	17,070
Calendar year 1940.....	54,357	1,380	10	149	2.16	29.30	107,800
January.....	8,885	627	135	287	4.16	4.79	17,680
February.....	3,982	215	88	139	2.01	2.09	7,700
March.....	2,567	201	52	83.5	1.21	1.39	5,130
April.....	3,904	418	60	130	1.88	2.10	7,740
May.....	4,317	286	60	139	2.01	2.33	8,560
June.....	2,916	158	65	97.2	1.41	1.57	5,780
July.....	1,164	64	26	37.5	.543	.63	2,310
August.....	703	28	20	22.7	.329	.38	1,390
September.....	1,223	239	22	40.8	.591	.66	2,430
Water year 1940-41.....	44,025	1,380	13	121	1.75	23.73	87,300

a No gage-height record; discharge computed on basis of records for station near Cottage Grove.

Coast Fork of Willamette River near Cottage Grove, Oreg.

Location.- Water-stage recorder, lat. 43°44', long. 123°03', in SW¼NE¼ sec. 21, T. 21 S., R. 3 W., at bridge on private road, 1 mile downstream from Cottage Grove dam site and 4½ miles south of Cottage Grove. Datum of gage is 695.07 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 108 square miles.

Records available.- January 1939 to September 1941 (records do not include flow in logging flume diverting up to 15 second-feet around gage prior to Aug. 23, 1940).

Extremes.- Maximum discharge during year, 2,850 second-feet (regulated) Dec. 27 (gage height, 9.08 feet); minimum, 4 second-feet (regulated) Aug. 21 (gage height, 1.95 feet); minimum daily, 16 second-feet Oct. 10-20.
1939-41: Maximum discharge observed, 3,260 second-feet Mar. 12, 1939 (gage height, 9.20 feet, site and datum then in use); minimum, that of Aug. 21, 1941.

Remarks.- Records good. No diversion above station. Flow slightly regulated by logpond upstream and by Cottage Grove Reservoir (under construction in 1941).

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 26				Dec. 27 to Sept. 30			
2.5	17	4.0	411	2.2	14	4.5	575
2.5	35	4.5	605	2.5	36	5.0	775
2.7	61	5.0	830	2.8	75	5.6	1,020
3.0	114	5.5	1,060	3.2	160	6.2	1,510
3.3	185	6.0	1,500	3.6	265	7.2	1,810
3.6	274	6.6	1,620	4.0	362		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	180	306	348	281	192	80	77	192	82	33	54
2	23	121	234	299	305	256	103	80	162	77	32	258
3	23	87	191	266	266	221	122	160	135	75	32	202
4	23	70	168	252	235	162	150	150	117	74	33	88
5	22	229	185	357	213	175	560	254	111	66	32	62
6	20	219	218	440	198	155	523	278	138	62	31	48
7	19	394	191	372	135	140	398	235	172	60	30	40
8	18	500	165	311	165	128	305	255	145	59	29	37
9	17	656	146	266	182	120	269	221	131	56	29	34
10	16	411	129	235	246	115	252	182	113	52	28	35
11	16	290	116	210	272	107	216	160	101	48	27	48
12	16	240	106	190	278	101	190	165	97	48	28	43
13	16	183	96	198	258	97	168	175	93	47	28	39
14	16	156	87	286	235	91	150	155	91	46	26	36
15	16	127	83	326	208	89	145	135	86	44	25	37
16	16	108	61	358	190	84	152	122	88	43	24	32
17	16	98	80	595	172	84	205	175	89	45	24	31
18	16	92	158	667	160	86	182	389	99	42	25	31
19	16	83	234	747	148	91	165	355	131	39	26	33
20	16	83	555	523	136	93	142	272	182	37	24	46
21	36	108	1,060	412	128	82	128	221	148	36	19	40
22	26	98	561	342	120	89	117	188	124	35	24	35
23	21	87	444	296	122	86	109	162	113	35	24	32
24	197	258	482	305	145	80	101	140	155	35	24	31
25	136	306	650	704	138	77	95	122	160	34	26	30
26	88	216	1,600	859	128	75	89	111	133	33	31	30
27	47	188	1,980	863	120	72	84	103	117	38	37	30
28	42	191	955	433	131	70	82	131	109	40	28	28
29	74	306	635	358	-	74	80	148	99	37	26	28
30	138	430	512	308	-	79	82	120	91	35	25	27
31	262	-	426	272	-	86	-	198	-	34	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,415	262	16	45.6	0.422	0.49	2,810
November.....	6,507	636	70	217	2.01	2.24	12,910
December.....	12,832	1,980	80	414	3.83	4.42	25,450
Calendar year 1940.....	79,061	2,010	7	216	-	-	156,800
January.....	12,068	859	188	389	3.60	4.16	23,940
February.....	5,364	305	120	192	1.78	1.85	10,640
March.....	3,497	265	70	113	1.05	1.20	6,940
April.....	5,441	560	80	181	1.68	1.87	10,790
May.....	5,623	389	77	181	1.68	1.94	11,150
June.....	3,712	192	86	124	1.15	1.25	7,380
July.....	1,495	82	33	48.2	.446	.51	2,970
August.....	952	37	19	27.5	.255	.29	1,690
September.....	1,525	258	27	50.9	.470	.53	3,020
Water year 1940-41.....	60,331	1,980	16	165	1.53	20.78	119,700

Coast Fork of Willamette River at Saginaw, Oreg.

Location.- Water-stage recorder, lat. 43°50'05", long. 123°02'30", in NW¼ sec. 15, T. 20 S., R. 3 W., at Saginaw, 1 mile downstream from Row River. Datum of gage is 595.47 feet above mean sea level, datum of 1929.

Drainage area.- 529 square miles.

Records available.- October 1923 to September 1941 (1924-27 incomplete).

Average discharge.- 15 years (1925-26, 1927-41), 1,079 second-feet.

Extremes.- Maximum discharge during year, 10,800 second-feet Dec. 27 (gage height, 8.20 feet); minimum, 45 second-feet Oct. 15, 18 (gage height, 0.82 foot).

1923-41: Maximum discharge, 28,600 second-feet Feb. 20, 1927 (gage height, 12.9 feet), from rating curve extended above 15,000 second-feet; minimum observed, 7 second-feet July 31, 1928.

Remarks.- Records good. Small diversions and regulation by log ponds above station.

Pondage at Cottage Grove Reservoir, under construction in 1941, had little effect at this station.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

(Shifting-control method used Nov. 9 to Dec. 26, May 6 to July 25)

Oct. 1 to Dec. 26

Dec. 27 to Sept. 30

0.8	41	3.0	1,460	0.8	62	2.6	1,160	6.0	6,050
1.0	85	3.5	2,070	1.0	110	3.0	1,510	7.0	8,000
1.5	285	4.5	3,560	1.4	300	3.5	2,030	8.0	10,260
2.0	575	5.5	5,290	1.8	560	4.0	2,670		
2.5	960			2.2	850	5.0	4,290		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	136	918	2,080	1,460	1,090	f661	306	354	1,170	444	124	110
2	117	498	1,360	1,220	1,110	a1,060	399	354	888	406	117	1,060
3	104	340	978	1,060	970	a950	432	885	722	373	117	1,240
4	101	262	780	1,000	880	f858	484	820	616	360	117	529
5	91	848	803	1,270	798	760	1,280	1,600	553	318	113	330
6	80	1,350	1,140	1,060	745	672	1,860	1,980	616	294	110	244
7	72	1,990	910	1,610	700	602	1,350	1,430	1,540	272	107	202
8	68	2,720	712	1,530	537	560	1,040	1,610	1,450	261	102	168
9	62	3,660	603	1,140	651	518	910	1,340	1,060	260	102	149
10	60	1,950	523	1,030	388	490	910	1,040	568	234	99	154
11	58	1,530	474	940	1,200	464	850	858	700	212	96	215
12	58	1,910	426	850	1,260	432	730	905	630	213	93	179
13	54	1,360	379	850	1,200	415	f637	1,010	560	202	88	187
14	54	934	346	1,230	1,020	388	f567	978	511	197	98	163
15	49	698	330	1,620	895	380	f560	888	477	192	85	163
16	52	542	320	1,690	775	342	f588	775	444	192	82	154
17	52	462	320	2,960	679	324	805	865	458	197	80	141
18	47	444	444	3,150	623	336	850	2,220	574	192	85	137
19	49	390	900	4,140	574	342	828	2,350	328	173	90	144
20	50	362	1,600	2,680	539	354	738	1,810	1,190	163	93	187
21	95	466	5,380	1,960	511	312	665	1,380	978	144	85	197
22	114	466	2,760	1,670	484	f318	595	1,090	790	137	80	173
23	80	402	1,930	1,510	477	f348	546	865	665	137	06	154
24	460	1,470	1,950	1,280	567	a325	460	730	790	134	85	141
25	662	2,420	2,630	3,060	602	b300	444	623	932	127	104	130
26	310	1,390	5,280	4,540	539	a290	412	546	858	120	113	124
27	191	1,110	9,050	2,670	518	f279	392	497	715	137	149	120
28	165	1,890	4,670	1,940	532	266	360	539	637	154	141	113
29	249	2,570	2,880	1,560	-	289	354	602	567	141	110	110
30	474	3,500	2,200	1,320	-	294	386	525	504	134	99	107
31	1,260	-	1,810	1,140	-	312	-	1,160	-	127	88	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	5,474	1,260	47	177	0.335	0.33	10,860
November.....	39,832	3,680	262	1,294	2.45	2.75	77,080
December.....	55,968	9,050	320	1,905	3.41	3.93	111,000
Calendar year 1940.....	364,189	10,400	25	995	1.63	26.69	722,300
January.....	55,510	4,540	850	1,791	3.39	3.90	110,100
February.....	21,454	1,250	477	766	1.45	1.51	42,550
March.....	14,221	1,050	266	459	.868	1.03	28,210
April.....	20,798	1,860	306	693	1.31	1.46	41,260
May.....	32,330	2,550	554	1,043	1.97	2.27	64,130
June.....	23,301	1,540	444	777	1.47	1.64	46,220
July.....	6,645	444	120	214	.405	.47	13,180
August.....	3,127	149	80	101	.191	.22	6,200
September.....	7,246	1,240	107	242	.457	.51	14,370
Water year 1940-41.....	284,904	9,050	47	761	1.48	20.02	565,100

Peak discharge.- Dec. 21 (4:30 a.m.) 6,930 sec.-ft.; Dec. 27 (5 a.m.) 10,800 sec.-ft.; Jan. 25 (10:30 p.m.) 6,650 sec.-ft.

a No gage-height record; discharge computed on basis of records for stations near Cottage Grove and on Row River near Dorena.

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

WILLAMETTE RIVER BASIN

Row River at Star, Oreg.

Location.- Water-stage recorder, lat. 43°44', long. 122°53', in NW¼ sec. 24, T. 21 S., R. 2 W., half a mile west of Star and 3 miles upstream from Teeter Creek. Datum of gage is 856.16 feet above mean sea level, datum of 1929.

Drainage area.- 211 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge during year, 4,150 second-feet Dec. 27 (gage height, 8.11 feet); minimum, 19 second-feet Oct. 20 (gage height, 1.56 feet).
1935-41: Maximum discharge, 15,000 second-feet Apr. 13, 1937 (gage height, 12.85 feet, site and datum then in use, from floodmark), from rating curve extended above 7,000 second-feet; minimum, 12 second-feet Aug. 29, Sept. 1, 2, 1940.
Maximum stage known, about 18 feet (original site and datum) sometime in February 1927, determined in 1935 from floodmarks.

Remarks.- Records good. No diversion above station; possibly slight regulation at times by log ponds.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating tables, 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 8				Nov. 9 to Sept. 30			
1.5	17	3.4	274	1.8	34	4.0	470
1.7	25	3.8	395	2.0	51	4.5	700
2.0	46	4.2	555	2.3	81	5.0	990
2.3	76	4.6	755	2.6	120	5.5	1,350
2.6	112	5.1	1,050	3.0	190	6.5	2,160
3.0	182			3.5	307	7.5	3,250

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	375	828	462	422	294	119	153	591	222	53	61
2	52	239	560	391	408	391	177	153	447	200	52	716
3	44	160	414	350	356	418	155	422	365	180	53	586
4	42	118	344	359	321	375	190	462	307	169	52	251
5	38	404	394	496	294	327	461	1,080	268	155	49	151
6	34	500	502	711	281	291	640	1,080	356	143	46	109
7	30	799	394	582	266	266	447	772	1,090	133	44	87
8	28	1,010	327	494	242	240	362	870	858	123	44	77
9	26	1,080	274	459	249	222	341	695	625	116	44	68
10	25	695	242	425	378	207	365	524	478	109	42	70
11	24	630	209	394	502	194	347	414	394	101	42	102
12	24	912	188	365	591	184	299	400	327	98	40	91
13	24	610	166	400	528	171	258	550	294	96	39	81
14	22	462	153	721	428	167	226	532	251	88	38	76
15	20	359	141	912	362	146	242	470	229	83	36	80
16	20	281	136	777	310	133	266	397	222	87	36	72
17	20	240	131	1,460	274	128	387	487	222	88	36	66
18	20	233	209	1,640	242	131	436	1,120	352	90	38	
19	20	192	371	1,820	231	130	408	1,190	524	73	47	69
20	22	186	629	1,120	213	134	384	900	700	70	37	85
21	58	264	1,660	822	198	119	347	680	546	66	35	86
22	38	244	804	640	184	133	304	524	422	63	34	74
23	29	207	615	528	194	141	284	411	356	62	35	67
24	240	841	670	560	254	125	235	344	428	60	36	61
25	262	924	936	1,810	261	114	207	289	478	59	43	56
26	127	560	2,200	1,800	238	113	184	247	443	58	52	51
27	79	601	3,170	1,040	229	107	169	224	378	69	73	50
28	83	936	1,620	766	235	107	155	258	324	72	56	47
29	181	1,470	1,010	600	-	112	157	251	299	64	44	45
30	318	1,400	750	498	-	114	177	247	251	60	40	43
31	516	-	578	436	-	116	-	766	-	56	36	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	2,525	516	20	81.5	0.386	0.45	5,010
November.....	16,532	1,470	112	584	2.67	2.98	33,580
December.....	20,625	3,170	131	665	3.15	3.64	40,910
Calendar year 1940.....	154,075	3,550	12	421	2.00	27.15	305,600
January.....	23,847	1,820	359	769	3.64	4.20	47,300
February.....	8,698	591	184	311	1.47	1.53	17,250
March.....	5,848	418	107	189	.896	1.03	11,800
April.....	9,707	640	119	290	1.37	1.53	17,270
May.....	16,932	1,190	153	546	2.59	2.98	33,580
June.....	12,805	1,090	222	427	2.02	2.26	25,400
July.....	3,103	222	56	100	.474	.55	6,150
August.....	1,353	73	34	45.6	.207	.24	2,680
September.....	3,544	716	43	118	.559	.62	7,030
Water year 1940-41.....	124,919	3,170	20	342	1.62	22.01	247,800

Peak discharge.- Dec. 21 (1 a.m.) 2,530 sec.-ft.; Dec. 27 (2 a.m.) 4,150 sec.-ft.; Jan. 25 (6 p.m.) 3,530 sec.-ft.

Row River near Dorena, Oreg.

Location.- Water-stage recorder, lat. 43°49', long. 122°57', in NE¼ sec. 36, T. 20 S., R. 3 W., 1½ miles upstream from Mosby Creek and 3¼ miles northwest of Dorena. Datum of gage is 885.24 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.- 270 square miles.

Records available.- January 1939 to September 1941.

Extremes.- Maximum discharge during year, 5,290 second-feet Dec. 27 (gage height, 8.57 feet); minimum, 29 second-feet Oct. 18, 19 (gage height, 1.44 feet).
1939-41: Maximum discharge observed, 8,770 second-feet Mar. 12, 1939 (gage height, 10.2 feet, site and datum then in use); minimum, 14 second-feet Aug. 29 to Sept. 2, 1940 (gage height, 1.23 feet).

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

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 1-13, 28, 29)

1.4	25	3.0	510	5.5	2,170
1.6	46	3.5	790	6.5	3,020
1.9	101	4.0	1,100	7.5	4,040
2.2	182	4.5	1,430		
2.6	325	5.0	1,780		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	505	1,150	664	530	317	150	195	802	255	66	63
2	66	317	754	550	500	460	211	192	588	229	65	799
3	60	217	566	485	433	475	204	470	465	208	66	820
4	56	173	456	475	392	442	228	550	392	199	63	348
5	52	475	480	632	356	384	500	1,180	338	176	61	195
6	49	692	626	922	338	352	802	1,330	420	188	60	140
7	41	962	500	754	321	315	576	946	1,250	156	58	111
8	39	1,240	415	632	281	281	460	1,050	1,070	148	58	94
9	36	1,540	352	566	289	252	420	668	784	145	56	81
10	34	958	301	525	415	238	446	648	604	140	54	86
11	33	820	259	490	610	221	428	540	485	126	54	126
12	33	1,180	231	433	682	211	370	490	415	124	52	116
13	33	620	204	460	642	201	305	682	361	116	50	104
14	33	593	195	902	520	192	266	676	513	108	46	97
15	30	442	179	1,110	433	179	278	604	261	101	45	101
16	30	343	162	940	379	156	313	515	274	106	45	90
17	30	281	159	1,650	330	153	475	576	278	111	45	79
18	30	274	211	1,820	297	156	545	1,450	415	101	46	77
19	31	228	424	2,160	270	156	510	1,540	610	92	55	79
20	32	214	718	1,580	248	162	465	1,170	844	86	49	106
21	68	297	2,240	1,030	224	145	424	904	664	79	45	108
22	53	293	1,110	908	217	153	370	688	530	75	45	94
23	45	248	814	684	221	170	313	545	438	77	46	81
24	227	937	832	870	289	150	270	456	495	74	46	77
25	370	1,250	1,130	1,970	325	140	245	384	571	72	56	70
26	186	754	2,550	2,170	285	154	224	317	535	70	63	66
27	106	730	4,040	1,330	270	129	204	281	451	63	55	63
28	88	1,200	2,190	976	270	126	192	321	392	92	72	81
29	179	1,730	1,390	766	-	154	188	338	343	79	58	60
30	334	1,650	1,050	632	-	142	211	309	297	74	52	80
31	659	-	832	555	-	145	-	934	-	70	49	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,148	659	30	102	0.378	0.43	6,240
November.....	21,553	1,850	173	716	2.66	2.97	42,760
December.....	26,520	4,040	189	855	3.17	3.65	52,600
Calendar year 1940.....	190,942	4,170	14	522	1.93	26.29	378,900
January.....	29,021	2,170	433	936	3.47	4.00	57,560
February.....	10,387	682	217	370	1.37	1.43	20,560
March.....	6,869	475	126	222	.822	.95	13,820
April.....	10,593	802	150	353	1.31	1.46	21,010
May.....	21,149	1,540	192	682	2.53	2.91	41,950
June.....	15,705	1,250	274	524	1.94	2.16	31,150
July.....	3,738	285	70	121	.448	.51	7,410
August.....	1,710	83	45	55.2	.234	.24	3,390
September.....	4,451	820	60	148	.548	.61	8,830
Water year 1940-41.....	154,824	4,040	30	424	1.57	21.32	307,100

Peak discharge.- Dec. 21 (2 a.m.) 3,170 sec.-ft.; Dec. 27 (4 a.m.) 5,290 sec.-ft.; Jan. 25 (7 p.m.) 3,910 sec.-ft.

WILLAMETTE RIVER BASIN

Mosby Creek near Cottage Grove, Oreg.

Location.- Staff gage, lat. 43°45', long. 122°59', in NW¼ sec. 18, T. 21 S., R. 2 W., 5 miles southeast of Cottage Grove.

Drainage area.- 85 square miles.

Records available.- February 1936 to September 1941.

Extremes.- Maximum discharge during year, 2,020 second-feet Dec. 27 (gage height, 4.3 feet, from floodmark); minimum observed, .7 second-feet Oct. 11, 13-19, 1936-41. Maximum discharge, 5,480 second-feet Mar. 18, 1936 (gage height, 7.8 feet, from floodmark), from rating curve extended above 2,100 second-feet; minimum, 3 second-feet Aug. 15 to Sept. 2, 1940.

Remarks.- Records fair. No diversion or regulation above station. Gage read once daily, oftener during periods of high water.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a19	178	239	185	155	118	45	36	175	74	16	12
2	13	88	165	155	152	179	47	38	139	66	14	205
3	13	57	128	139	141	152	72	121	113	64	16	158
4	12	45	100	134	126	136	235	113	94	52	14	64
5	11	g201	134	317	113	113	380	259	83	48	14	45
6	10	192	182	296	104	96	312	239	104	45	14	29
7	10	435	146	235	92	87	188	213	338	41	12	24
8	8	d470	108	192	85	76	150	259	239	41	12	21
9	8	515	93	161	92	64	134	209	175	34	12	20
10	8	367	78	141	134	60	139	166	136	31	12	24
11	7	238	65	123	172	56	123	126	111	31	12	29
12	6	182	57	111	198	50	106	128	106	29	12	26
13	7	152	49	118	195	48	87	152	87	26	12	24
14	7	114	d45	188	152	45	74	136	79	24	12	24
15	7	90	d41	267	136	43	76	123	70	24	11	21
16	7	67	d38	259	113	41	81	104	68	26	11	19
17	7	59	35	580	99	38	106	141	94	28	11	17
18	7	55	49	658	85	34	106	d460	118	24	12	17
19	7	46	g87	742	79	38	98	d520	150	21	11	21
20	8	46	g336	435	70	41	85	d280	202	19	11	26
21	18	67	g820	312	56	45	72	202	164	19	10	24
22	17	61	g385	220	45	41	62	d141	128	19	10	21
23	11	51	g313	175	52	38	54	d126	111	17	11	19
24	g158	303	g395	209	83	33	60	96	196	17	12	18
25	g122	263	g518	g820	85	29	46	76	216	17	14	16
26	40	172	g1,340	802	96	26	41	72	164	17	16	16
27	23	149	g1,540	255	90	26	38	64	128	19	18	18
28	23	165	718	304	79	25	34	83	118	19	17	14
29	71	287	435	213	-	30	36	87	99	19	14	14
30	114	354	343	179	-	33	45	76	85	17	11	14
31	248	-	239	152	-	38	-	216	-	16	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,037	248	7	33.5	0.394	0.45	2,060
November.....	5,473	515	45	182	2.14	2.39	10,860
December.....	9,300	1,540	35	300	3.55	4.07	18,460
Calendar year 1940.....	57,964	1,710	3	159	1.86	25.33	116,000
January.....	9,077	820	111	293	3.45	3.97	18,000
February.....	3,081	198	45	110	1.29	1.35	6,110
March.....	1,879	179	25	60.6	.713	.82	3,730
April.....	3,118	380	34	104	1.22	1.36	6,180
May.....	5,080	520	36	165	1.82	2.21	10,040
June.....	4,089	353	62	136	1.60	1.79	8,110
July.....	941	74	16	30.4	.358	.41	1,870
August.....	395	18	10	12.7	.149	.17	783
September.....	996	205	12	33.2	.391	.44	1,980
Water year 1940-41.....	44,444	1,540	7	122	1.44	19.43	88,170

a No gage-height record; discharge computed on basis of weather records and records for Row River at Star.

d Doubtful gage-height record; discharge computed on basis of weather records and records for Row River at Star.

g Computed from graph based on gage readings.

McKenzie River at McKenzie Bridge, Oreg.

Location.— Water-stage recorder, lat. 44°11', long. 122°07', in NE $\frac{1}{4}$ sec. 18, T. 16 S., R. 6 E., 1.7 miles east of village of McKenzie Bridge. Datum of gage is 1,418.92 feet above mean sea level, datum of 1929.

Drainage area.— 345 square miles at measuring section, three-quarters of a mile above gage.

Records available.— August 1910 to September 1941.

Average discharge.— 25 years (1910-14, 1915-16, 1918-21, 1923-25, 1926-41), 1,590 second-feet.

Extremes.— Maximum discharge during year, 2,610 second-feet Nov. 29 (gage height, 2.54 feet); minimum, 835 second-feet Oct. 15-20, 22, 23 (gage height, 0.65 foot).
1910-41: Maximum discharge, 18,000 second-feet Jan. 6, 1923 (gage height, 8.3 feet, from floodmarks at former gage at highway bridge), from rating curve extended above 2,400 second-feet; minimum, 805 second-feet Oct. 20, 1931.

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

Cooperation.— Water-stage recorder inspected by employee of U. S. Forest Service.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.8	805	1.7	1,550
1.0	930	2.0	1,810
1.2	1,090	2.3	2,290
1.4	1,280		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	853	988	1,460	1,300	1,470	1,210	1,080	1,020	1,120	1,030	968	978
2	859	930	1,360	1,270	1,450	1,240	1,060	1,020	1,120	1,030	968	951
3	859	904	1,350	1,240	1,410	1,220	1,050	1,040	1,110	1,030	968	884
4	853	891	1,310	1,220	1,370	1,200	1,050	1,140	1,100	1,020	891	978
5	847	937	1,360	1,230	1,350	1,180	1,070	1,710	1,090	1,020	891	872
6	847	944	1,400	1,220	1,330	1,170	1,090	1,530	1,110	1,010	884	859
7	847	1,170	1,350	1,210	1,300	1,180	1,090	1,380	1,110	1,000	884	853
8	847	1,230	1,310	1,200	1,280	1,150	1,090	1,530	1,100	993	884	853
9	841	1,170	1,280	1,190	1,300	1,140	1,130	1,270	1,080	988	884	847
10	841	1,100	1,260	1,180	1,350	1,140	1,140	1,230	1,070	979	878	859
11	841	1,090	1,230	1,180	1,350	1,130	1,120	1,220	1,060	972	884	872
12	841	1,080	1,210	1,180	1,320	1,130	1,110	1,200	1,060	965	878	901
13	841	1,080	1,190	1,240	1,300	1,120	1,100	1,190	1,060	965	872	884
14	841	1,030	1,180	1,290	1,270	1,120	1,090	1,170	1,080	966	868	878
15	835	1,020	1,160	1,290	1,240	1,110	1,100	1,150	1,040	958	865	884
16	835	1,030	1,160	1,300	1,230	1,100	1,100	1,150	1,050	951	865	878
17	835	1,060	1,130	1,480	1,220	1,100	1,090	1,220	1,050	951	865	872
18	835	1,050	1,170	1,990	1,200	1,090	1,090	1,230	1,080	944	865	878
19	835	1,020	1,180	2,060	1,180	1,110	1,080	1,220	1,140	937	859	891
20	841	1,020	1,290	1,790	1,160	1,090	1,070	1,220	1,140	937	889	910
21	841	1,000	1,380	1,650	1,150	1,080	1,080	1,210	1,120	930	859	898
22	835	988	1,310	1,540	1,140	1,090	1,080	1,190	1,110	924	853	884
23	835	979	1,280	1,480	1,150	1,070	1,060	1,170	1,100	924	853	878
24	924	1,120	1,280	1,490	1,180	1,060	1,050	1,150	1,100	917	853	872
25	872	1,130	1,280	1,840	1,150	1,050	1,040	1,140	1,100	917	872	872
26	853	1,090	1,450	1,990	1,140	1,040	1,030	1,130	1,060	910	872	865
27	847	1,200	1,620	1,790	1,130	1,040	1,020	1,130	1,060	924	872	859
28	853	1,420	1,850	1,950	1,140	1,040	1,020	1,150	1,080	910	859	859
29	884	2,330	1,460	1,570	-	1,050	1,020	1,130	1,050	910	853	853
30	972	1,720	1,410	1,520	-	1,040	1,020	1,120	1,040	904	847	853
31	1,030	-	1,340	1,470	-	1,050	-	1,140	-	898	847	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Acres-feet
October.....	26,820	1,030	835	869	2.49	52,800	
November.....	33,747	2,330	891	1,125	3.23	66,040	
December.....	40,740	1,680	1,130	1,314	3.61	80,210	
Calendar year 1940.....	463,805	2,730	835	1,287	3.67	49.99	920,000
January.....	45,050	2,080	1,180	1,453	4.21	4.68	89,360
February.....	35,260	1,470	1,130	1,259	3.65	3.80	69,940
March.....	34,520	1,240	1,040	1,114	3.23	3.72	68,470
April.....	32,160	1,140	1,020	1,072	3.11	3.47	63,790
May.....	37,300	1,710	1,020	1,203	3.49	4.02	73,990
June.....	32,580	1,140	1,040	1,088	3.14	3.61	64,560
July.....	29,711	1,030	898	958	2.79	3.20	58,930
August.....	27,007	868	847	871	2.52	2.91	53,570
September.....	26,265	951	847	876	2.54	2.83	52,100
Water year 1940-41.....	400,930	2,330	835	1,098	3.18	43.22	795,200

a No gage-height record; discharge computed on basis of records for station near Vida.

McKenzie River near Vida, Oreg.

Location.- Water-stage recorder, lat. 44°07', long. 122°28', in NE $\frac{1}{4}$ sec. 5, T. 17 S., R. 3 E., 1 mile upstream from head of Martin Rapids and 5 miles east of Vida. Datum of gage is 855.56 feet above mean sea level, datum of 1929.

Drainage area.- 930 square miles.

Records available.- September 1924 to September 1941. June 1910 to March 1911 (gage heights only), at site at Martin Rapids.

Average discharge.- 17 years, 3,528 second-feet.

Extremes.- Maximum discharge during year, 10,700 second-feet Nov. 29 (gage height, 4.71 feet); minimum, 1,270 second-feet Oct. 20 (gage height, 0.37 foot).

1924-41: Maximum discharge, 47,200 second-feet Feb. 20, 1927 (gage height, 14.2 feet), from rating curve extended above 25,000 second-feet; minimum, 1,260 second-feet Nov. 7, 1930, Sept. 17, Oct. 4, 8, 9, 1931 (gage height, 0.36 foot).

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

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

Cooperation.- Water-stage recorder inspected by employee of Eugene Water Board.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.4	1,300	1.6	3,010	3.5	7,240
.7	1,630	2.0	3,720	4.0	8,600
1.0	2,050	2.5	4,730		
1.3	2,510	3.0	5,950		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,360	2,510	4,820	3,180	3,610	2,700	2,060	2,060	2,650	2,020	1,440	1,500
2	1,350	2,000	3,930	2,980	3,500	3,030	2,120	2,080	2,510	1,960	1,430	2,680
3	1,380	1,780	3,540	2,870	3,310	2,860	2,080	2,430	2,380	1,930	1,430	2,050
4	1,360	1,630	3,380	2,840	3,160	2,700	2,020	2,700	2,280	1,900	1,420	1,750
5	1,350	2,100	3,680	3,130	3,040	2,640	2,200	5,380	2,230	1,860	1,410	1,610
6	1,320	2,350	3,820	3,410	2,980	2,560	2,460	5,150	2,410	1,830	1,400	1,510
7	1,310	3,260	3,400	3,160	2,870	2,480	2,400	4,300	2,720	1,800	1,400	1,460
8	1,310	4,200	3,150	3,040	2,770	2,430	2,340	4,220	2,640	1,760	1,390	1,420
9	1,300	3,760	2,960	3,010	2,870	2,380	2,560	3,760	2,510	1,730	1,420	1,400
10	1,290	2,980	2,790	2,980	3,230	2,340	2,790	3,400	2,400	1,710	1,400	1,440
11	1,290	3,270	2,650	2,960	3,360	2,290	2,700	3,180	2,300	1,700	1,410	1,560
12	1,290	3,200	2,530	2,910	3,310	2,260	2,540	3,040	2,230	1,670	1,420	1,700
13	1,290	2,740	2,460	3,220	3,110	2,230	2,410	2,960	2,170	1,660	1,380	1,660
14	1,290	2,460	2,400	3,830	2,980	2,170	2,300	2,860	2,110	1,640	1,370	1,620
15	1,290	2,370	2,370	4,020	2,840	2,140	2,400	2,690	2,060	1,630	1,370	1,680
16	1,290	2,400	2,350	3,890	2,700	2,110	2,410	2,640	2,050	1,670	1,360	1,610
17	1,280	2,380	2,300	6,080	2,620	2,100	2,480	2,980	2,100	1,630	1,360	1,550
18	1,280	2,460	2,460	8,050	2,540	2,110	2,490	3,270	2,450	1,590	1,370	1,570
19	1,280	2,260	2,650	8,520	2,480	2,140	2,430	3,200	2,890	1,570	1,360	1,610
20	1,300	2,200	3,180	6,280	2,410	2,120	2,410	3,100	3,130	1,570	1,350	1,680
21	1,390	2,280	4,120	5,150	2,350	2,040	2,340	2,940	2,790	1,550	1,370	1,770
22	1,320	2,160	3,450	4,450	2,300	2,100	2,300	2,720	2,570	1,530	1,350	1,660
23	1,310	2,040	3,150	4,020	2,320	2,060	2,260	2,690	2,450	1,530	1,340	1,590
24	1,900	3,120	3,060	3,950	2,610	1,980	2,220	2,610	2,370	1,510	1,360	1,550
25	1,670	3,820	3,060	5,770	2,560	1,980	2,160	2,510	2,380	1,500	1,430	1,510
26	1,440	3,060	4,290	7,030	2,430	1,960	2,140	2,410	2,340	1,500	1,490	1,490
27	1,370	3,380	7,060	5,580	2,430	1,930	2,110	2,380	2,240	1,560	1,550	1,480
28	1,410	4,730	5,320	4,710	2,490	1,960	2,100	2,530	2,170	1,550	1,430	1,460
29	1,720	8,750	4,300	4,220	-	1,990	2,080	2,480	2,120	1,500	1,370	1,460
30	2,240	7,110	3,850	3,870	-	1,980	2,080	2,400	2,060	1,480	1,350	1,410
31	2,990	-	3,470	3,670	-	1,960	-	2,810	-	1,470	1,340	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				44,990	2,990	1,280	1,451	1.56	1.80	89,240		
November.....				92,770	8,780	1,630	3,092	3.32	3.71	184,000		
December.....				105,950	7,060	2,300	3,418	3.68	4.24	210,100		
Calendar year 1940.....				1,074,360	10,300	1,280	2,935	3.16	42.96	2,131,000		
January.....				132,720	8,520	2,840	4,281	4.60	5.31	263,200		
February.....				79,180	3,610	2,300	2,828	3.04	3.17	157,100		
March.....				69,740	3,030	1,930	2,250	2.42	2.79	133,300		
April.....				69,370	2,790	2,020	2,312	2.49	2.77	137,600		
May.....				93,880	5,380	2,060	3,028	3.26	3.75	186,200		
June.....				71,670	3,130	2,050	2,399	2.57	2.87	142,200		
July.....				51,510	2,020	1,470	1,662	1.79	2.06	102,200		
August.....				43,270	1,550	1,340	1,396	1.50	1.73	85,820		
September.....				48,510	2,620	1,400	1,617	1.74	1.94	96,220		
Water year 1940-41.....				903,560	8,780	1,280	2,476	2.66	36.14	1,792,000		

Blue River near Blue River, Oreg.

Location.- Water-stage recorder, lat. 44°11', long. 122°17', near line between secs. 13 and 14, T. 16 S., R. 4 E., 3 miles upstream from North Fork and 3½ miles northeast of Blue River post office.

Drainage area.- 75 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge during year, 2,570 second-feet Jan. 18 (gage height, 4.21 feet); minimum, 20 second-feet Oct. 10-13, 19 (gage height, 1.04 feet).
1935-41: Maximum discharge, 5,800 second-feet Jan. 22, 1938 (gage height, 6.50 feet); minimum, 13 second-feet Sept. 27, 28, Oct. 1, 2, 1938.

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

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.0	14	2.0	403	3.6	1,920
1.2	49	2.4	575	4.0	2,500
1.4	120	2.8	1,000		
1.7	249	3.2	1,390		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	298	645	314	390	324	104	104	163	101	36	82
2	25	179	450	274	352	408	108	101	146	94	34	311
3	30	123	373	250	319	324	101	150	134	91	34	142
4	30	94	324	236	238	269	101	284	123	87	34	97
5	27	163	444	293	264	250	150	1,030	115	84	32	77
6	25	245	456	345	250	223	214	756	134	77	32	60
7	22	592	362	351	236	210	196	550	158	74	32	52
8	22	804	303	356	218	196	179	459	163	71	30	45
9	21	564	280	373	250	184	227	596	146	69	30	41
10	20	363	227	384	340	175	250	324	130	63	28	52
11	20	402	201	379	351	167	227	283	119	63	30	77
12	20	396	184	356	314	158	205	245	115	60	32	138
13	20	308	167	432	278	145	184	215	104	57	28	127
14	21	260	150	557	260	138	163	205	101	55	27	108
15	21	250	142	586	227	130	167	184	94	52	25	104
16	21	264	134	630	210	123	175	179	97	52	25	91
17	21	255	127	1,270	192	123	188	236	101	49	25	77
18	21	241	184	2,040	192	123	205	298	127	47	24	77
19	20	201	245	1,710	167	138	205	308	223	45	25	84
20	22	184	527	1,050	158	123	201	283	245	45	24	130
21	41	179	796	784	150	115	188	250	201	43	22	111
22	30	163	502	585	142	130	171	223	171	43	22	94
23	28	146	408	482	150	119	154	201	150	41	22	80
24	201	440	379	529	201	111	142	179	142	41	27	71
25	115	459	379	1,400	196	108	134	163	142	41	47	63
26	63	334	778	1,400	179	104	127	150	134	41	49	60
27	45	437	1,260	901	188	104	119	142	123	45	47	55
28	52	666	529	652	205	104	111	171	115	43	38	52
29	150	1,080	578	515	-	104	108	158	111	41	32	49
30	319	1,110	463	438	-	101	104	142	104	38	28	47
31	396	-	568	396	-	97	-	179	-	35	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	1,894	396	20	61.1	0.315	0.94	3,760
November.....	12,107	1,950	94	404	5.39	6.00	24,010
December.....	12,645	1,260	127	408	5.44	6.27	25,080
Calendar year 1940	105,954	2,080	15	289	3.85	52.54	210,100
January.....	20,247	2,040	236	653	8.71	10.04	40,160
February.....	8,554	390	142	232	3.17	3.30	13,200
March.....	5,129	408	97	165	2.20	2.54	10,170
April.....	4,908	250	101	164	2.19	2.43	9,730
May.....	6,581	1,030	101	277	3.69	4.26	17,020
June.....	4,131	245	94	138	1.84	2.05	8,190
July.....	1,789	101	36	57.7	0.769	0.89	3,550
August.....	949	49	22	30.6	0.408	0.47	1,880
September.....	2,654	311	41	58.5	1.16	1.32	5,260
Water year 1940-41	81,688	2,040	20	224	2.99	40.51	162,000

Peak discharge.- Nov. 29 (4 p.m.) 2,430 sec.-ft.; Jan. 18 (4:30 p.m.) 2,570 sec.-ft.

WILLAMETTE RIVER BASIN

Mohawk River near Springfield, Oreg.

Location.- Wire-weight gage, lat. 44°06', long. 122°57', in sec. 17, T. 17 S., R. 2 W., 1 mile upstream from mouth and 4½ miles northeast of Springfield.

Drainage area.- 180 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge during year, 2,550 second-feet Jan. 18 (gage height, 9.3 feet, from graph based on gage readings); minimum observed, 23 second-feet Oct. 18 (gage height, 1.11 feet).

1935-41: Maximum discharge observed, 6,480 second-feet Mar. 18, 1938 (gage height, about 18.0 feet, from floodmark); minimum observed, 11 second-feet Sept. 17, 1938.

Remarks.- Records fair. No diversion above station. Possibly some regulation caused by log ponds. Gage read once daily during low-water periods, twice daily at other times.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

		1.0	15	2.6	307	5.0	980						
		1.2	31	3.0	410	6.0	1,300						
		1.5	67	3.5	545	7.0	1,840						
		1.8	118	4.0	685	8.0	2,030						
		2.2	208	4.5	830	9.0	2,430						

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	332	1,010	788	657	873	189	172	302	124	48	61
2	37	206	768	655	573	618	208	170	284	118	49	410
3	49	150	643	615	518	804	218	252	247	118	53	198
4	41	108	545	615	491	437	234	290	234	180	56	114
5	36	320	743	743	450	397	532	629	222	118	52	96
6	41	282	671	920	437	358	532	437	304	101	46	80
7	38	629	573	830	410	345	450	410	287	105	45	69
8	26	728	504	743	384	312	410	384	234	97	41	84
9	26	920	437	687	450	302	345	345	218	90	37	89
10	24	532	371	575	504	297	330	312	198	87	39	67
11	30	772	345	532	478	282	297	292	194	82	45	87
12	26	714	332	491	424	264	270	304	184	78	41	118
13	28	604	310	491	397	280	252	272	179	79	40	131
14	26	384	292	587	371	264	234	272	170	74	38	137
15	31	355	274	573	358	237	247	244	152	70	37	122
16	25	345	264	671	330	230	274	234	198	90	35	105
17	30	237	250	1,330	310	222	314	384	206	82	35	89
18	23	230	345	1,680	304	225	294	314	203	74	34	80
19	25	194	310	2,150	297	284	272	464	234	72	33	92
20	27	213	830	1,500	284	232	254	397	203	63	34	82
21	78	230	2,030	1,170	270	210	242	358	179	59	36	150
22	58	237	1,170	980	264	280	225	324	172	57	37	128
23	48	194	920	860	272	215	215	300	166	54	39	116
24	424	685	743	816	300	222	203	272	177	60	41	97
25	208	629	671	1,080	270	208	198	260	179	57	67	87
26	96	450	1,240	1,470	267	191	191	242	194	59	74	89
27	72	573	2,270	1,110	262	182	184	230	187	64	82	80
28	74	758	1,640	950	304	186	182	345	152	80	72	74
29	128	1,570	1,270	830	-	179	184	262	141	53	64	74
30	166	1,610	1,080	728	-	189	182	267	139	52	47	73
31	2600	-	890	671	-	196	-	358	-	52	45	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acres-feet
October.....	2,572	600	23	85.0	0.461	0.53	5,100
November.....	15,094	1,610	108	503	2.79	3.12	29,940
December.....	23,731	2,270	250	766	4.28	4.90	47,070
Calendar year 1940.....	161,859	2,720	14	442	2.46	53.44	321,100
January.....	27,837	2,150	461	898	4.99	5.75	55,210
February.....	10,836	857	262	380	2.11	2.20	21,100
March.....	8,898	615	179	287	1.69	1.84	17,650
April.....	8,162	532	182	272	1.61	1.69	16,190
May.....	9,786	629	170	316	1.76	2.02	19,410
June.....	6,056	304	139	202	1.12	1.25	12,010
July.....	2,469	184	52	79.6	.442	.51	4,800
August.....	1,440	82	33	46.5	.258	.30	2,880
September.....	3,224	410	59	107	.594	.67	6,390
Water year 1940-41.....	119,905	2,270	23	328	1.82	24.78	237,800

a No gage-height record; discharge computed on basis of records for McKenzie River near Vida and Blue River near Blue River.

Long Tom River near Noti, Oreg.

Location.- Water-stage recorder, lat. 44°03', long. 123°26', in sec. 33, T. 17 S., R. 6 W., an eighth of a mile upstream from railroad bridge, 1 mile downstream from Noti Creek, and 1 1/2 miles southeast of Noti. Datum of gage is 388.78 feet above mean sea level (levels by U. S. Weather Bureau). Prior to Nov. 6, 1940, staff gage at same site and datum.

Drainage area.- 88 square miles.

Records available.- October 1935 to September 1941.

Extremes.- Maximum discharge during year, 1,700 second-feet Jan. 19 (gage height, 12.52 feet); minimum, 11 second-feet Aug. 16, 17.

1935-41: Maximum discharge, 3,970 second-feet Jan. 13, 1936 (gage height, 18.3 feet, from graph based on gage readings); minimum observed, 7 second-feet Sept. 25-27, 1939 (gage height, 0.66 foot).

Remarks.- Records good. No diversion above station; slight diurnal fluctuation caused by log pond above Noti. Staff gage read twice daily, Oct. 1 to Nov. 5.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 5, July 18 to Sept. 30)

Oct. 1 to Jan. 19					Jan. 20 to Sept. 30						
1.0	21	3.0	268	8.0	907	0.7	11	2.0	118	6.0	550
1.3	38	4.0	411	10.0	1,220	1.0	22	3.0	276	7.0	763
1.6	64	5.0	538	12.0	1,590	1.3	40	4.0	417	8.0	907
2.0	113	6.0	640			1.6	67	5.0	544		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	79	226	300	356	212	100	72	62	37	18	20
2	19	67	167	258	388	260	97	74	60	36	16	64
3	23	50	138	230	356	223	118	88	58	36	19	46
4	24	42	130	233	323	193	129	135	55	34	22	28
5	20	68	170	316	301	187	296	388	55	34	19	23
6	20	71	200	429	279	165	377	302	80	33	17	20
7	21	167	180	417	252	156	266	204	56	33	15	18
8	19	301	137	370	231	148	201	172	55	32	14	19
9	18	344	119	310	240	142	177	148	54	30	12	18
10	18	188	104	268	268	136	160	129	50	29	13	18
11	18	167	96	235	284	132	146	118	48	28	16	21
12	16	188	287	215	268	126	151	111	48	28	16	25
13	16	144	280	206	284	122	121	103	48	28	15	30
14	17	109	275	212	216	117	117	98	45	28	15	25
15	19	88	272	252	204	114	111	93	45	25	14	24
16	18	80	71	355	188	110	111	86	46	24	12	21
17	18	72	74	577	179	107	111	119	46	24	11	20
18	18	65	101	1,110	170	125	103	138	52	23	14	20
19	17	58	130	1,520	164	152	98	115	51	22	13	24
20	19	59	485	868	168	147	108	100	61	21	13	43
21	27	73	1,170	613	152	129	89	91	45	20	13	34
22	26	68	641	491	146	125	85	84	46	19	14	26
23	22	60	447	403	147	115	84	80	46	19	13	24
24	121	94	379	480	148	110	82	76	50	19	13	21
25	95	148	403	684	141	107	80	74	51	19	18	20
26	43	119	576	938	158	104	77	69	45	17	20	19
27	34	109	775	649	147	101	77	68	39	19	20	18
28	31	114	611	542	162	98	74	71	42	21	22	17
29	46	355	455	439	-	97	75	70	41	20	19	19
30	48	364	383	365	-	98	76	65	40	19	17	18
31	59	-	352	358	-	104	-	65	-	18	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	1,004	191	16	32.4	0.368	0.42	1,990
November.....	3,911	364	42	130	1.46	1.65	7,760
December.....	9,032	1,170	71	291	3.31	3.82	17,910
Calendar year 1940.....	74,124	1,980	12	203	2.51	31.33	147,000
January.....	14,626	1,520	206	472	5.36	6.18	29,010
February.....	6,240	388	138	223	2.53	2.64	12,380
March.....	4,282	260	97	137	1.56	1.80	8,480
April.....	3,877	377	74	129	1.47	1.64	7,690
May.....	3,608	368	65	116	1.32	1.53	7,160
June.....	1,486	62	39	49.5	0.562	0.63	2,950
July.....	793	37	17	25.6	0.291	0.34	1,570
August.....	487	22	11	15.7	0.178	0.21	968
September.....	743	44	17	24.8	0.282	0.31	1,470
Water year 1940-41.....	50,070	1,520	11	137	1.56	21.17	99,310

Peak discharge.- Dec. 21 (8 a.m.) 1,290 sec.-ft.; Jan. 19 (5 a.m.) 1,700 sec.-ft.

a No gage-height record; discharge computed on basis of records for stations at Smithfield and for Coyote Creek near Crow.

† Computed from partly estimated gage heights.

Long Tom River at Smithfield, Oreg.

Location.- Water-stage recorder, lat. 44°09'22", long. 123°17'15", in NW¼ sec. 27, T. 16 S., R. 5 W., at road crossing 100 feet downstream from Coyote Creek, 1 mile east of Smithfield, and 2½ miles downstream from Fern Ridge Dam. Datum of gage is 320.91 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 263 square miles.

Records available.- August 1939 to September 1941.

Extremes.- Maximum discharge during year, 2,970 second-feet Jan. 20 (gage height, 13.26 feet); minimum, 1 second-foot (regulated) Aug. 7 (gage height, 1.95 feet).
1939-41: Maximum discharge, 4,360 second-feet Feb. 8, 29, 1940 (gage height, 13.69 feet); minimum, that of Aug. 7, 1941.

Remarks.- Records good except those for periods Oct. 1-28, Aug. 12 to Sept. 11, which are fair. A few small diversions above station. Fern Ridge Dam was under construction during year at site 2½ miles above station; practically no storage during year.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	77	622	1,090	867	507	194	122	98	58	19	21
2	24	102	605	905	917	695	209	123	93	50	19	28
3	23	100	464	770	917	736	234	147	89	48	20	56
4	22	80	359	668	828	642	264	167	84	48	20	82
5	24	80	331	702	729	519	373	235	80	46	23	54
6	24	103	380	825	639	465	622	402	83	44	14	36
7	23	178	403	1,020	573	409	828	486	87	42	2	28
8	22	238	375	1,040	523	363	790	390	85	40	13	10
9	22	299	327	945	499	328	572	330	79	39	18	30
10	21	445	286	819	569	301	562	286	75	35	17	10
11	20	522	252	697	715	285	394	224	71	35	14	25
12	19	433	222	579	752	270	335	194	68	33	16	26
13	18	350	197	616	694	253	286	187	67	32	18	29
14	18	292	175	520	585	236	254	180	66	31	18	37
15	18	243	162	597	508	222	232	168	65	31	16	35
16	18	205	148	780	459	212	222	154	64	30	15	31
17	18	176	145	1,010	420	203	222	153	62	28	14	26
18	18	159	175	1,500	387	204	220	190	66	28	14	14
19	18	161	270	2,490	363	223	202	234	72	26	11	13
20	19	134	486	2,910	339	264	186	224	72	24	13	9
21	22	137	1,270	2,330	319	269	172	187	71	22	14	16
22	24	145	2,770	1,660	302	245	161	162	66	23	14	21
23	28	139	2,400	1,260	289	232	153	146	63	22	14	21
24	100	161	1,740	1,080	293	217	146	134	65	22	14	29
25	140	249	1,330	1,150	309	199	140	122	69	22	15	32
26	110	408	1,300	1,580	302	187	134	115	82	21	14	28
27	80	310	1,810	1,890	297	180	128	108	78	21	16	25
28	60	292	2,470	1,660	344	174	124	107	68	19	22	26
29	54	352	2,200	1,280	-	169	121	102	64	21	23	23
30	52	481	1,640	1,080	-	171	121	102	60	21	24	21
31	67	-	1,300	921	-	184	-	103	-	21	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,154	140	18	37.2	0.141	0.16	2,890
November.....	7,081	522	77	235	.894	1.00	13,980
December.....	26,604	2,770	145	858	3.26	3.76	52,770
Calendar year 1940.....	181,713	4,220	10	496	1.89	25.69	360,400
January.....	36,274	2,910	516	1,170	4.45	5.13	71,950
February.....	14,729	917	289	526	2.00	2.08	29,210
March.....	9,564	756	169	309	1.17	1.35	18,970
April.....	8,600	828	121	287	1.09	1.22	17,060
May.....	5,984	456	102	193	.734	.85	11,570
June.....	2,212	98	60	73.7	.280	.31	4,390
July.....	983	58	19	31.7	.121	.14	1,950
August.....	505	24	2	16.3	.062	.07	1,000
September.....	842	82	9	28.1	.107	.12	1,670
Water year 1940-41.....	114,502	2,910	2	314	1.19	16.19	227,100

Note.- No gage-height record Aug. 12-17, 19-22, 24-27. Backwater effect from sandbags on dam below gage Oct. 1 to Dec. 25, Aug. 23 to Sept. 30. For periods Oct. 1-28, Aug. 12-17, 19-22, 24-27, Sept. 8-10, discharge computed on basis of records for stations near Noti and at Monroe and on Coyote Creek near Crow. Shifting-control method used Oct. 29 to Dec. 26, Aug. 23 to Sept. 30.

Long Tom River at Monroe, Oreg.

Location.- Staff gage, lat. 44°18'55", long. 123°17'45", in NE¼ sec. 33, T. 14 S., R. 5 W., at Monroe a quarter of a mile downstream from Shafer Creek. Datum of gage is 262.27 feet above mean sea level, datum of 1929.

Drainage area.- 391 square miles.

Records available.- November 1920 to September 1941 (1925-27 incomplete).

Average discharge.- 18 years (1921-25, 1927-41), 689 second-feet.

Extremes.- Maximum discharge observed during year, 3,590 second-feet Dec. 23; maximum gage height, 11.72 feet Jan. 20; minimum discharge observed, 9 second-feet Aug. 9. 1929-41: Maximum discharge, 18,600 second-feet Jan. 7, 1923 (gage height, 14.4 feet, site and datum then in use), from rating curve extended above 9,000 second-feet; minimum observed, 7 second-feet Sept. 29, Oct. 1, 1939. Maximum stage known, 282.1 feet above mean sea level sometime in February 1890, from floodmarks at bridge at Monroe, corresponding to stage of about 19 feet at present gage (discharge not determined).

Remarks.- Records good. A few small diversions above station. Some fluctuation at low stages caused by pondage at mill dam at Monroe and construction of Fern Ridge Dam above station during year. Gage read once daily; oftener during periods of high water.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
Oct. 1 to Dec. 23 Dec. 23 to Sept. 30

0.3	7	0.9	67	2.0	234	4.0	590	8.0	1,720	5.0	820	10.0	2,395
.5	19	1.2	112	2.5	314	5.0	825	10.0	2,440	6.0	1,070	12.0	3,840
.7	40	1.6	172	3.0	399	6.0	1,100	12.0	3,980	8.0	1,670		

Note.- Same as preceding table below 4.0 feet.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	100	968	1,750	1,210	598	243	150	121	69	23	25
2	28	118	956	1,480	1,350	1,000	281	150	a116	69	23	36
3	26	142	855	1,140	1,530	1,050	302	156	a110	62	21	52
4	24	136	667	970	1,210	918	353	197	a104	59	21	54
5	23	118	542	955	1,060	796	d450	309	a100	57	21	92
6	24	127	574	1,180	945	658	672	435	a98	54	21	62
7	24	169	650	1,390	840	590	955	548	a105	54	19	40
8	23	298	632	1,520	762	522	1,040	566	a110	52	12	35
9	26	475	550	1,430	724	471	955	460	a110	47	9	12
10	24	538	471	1,200	772	431	719	399	92	47	18	27
11	23	705	401	1,040	950	403	566	341	a86	40	16	12
12	21	765	351	885	1,060	381	498	277	a32	40	15	36
13	19	619	311	767	980	302	421	233	a82	38	15	42
14	19	490	266	734	870	334	367	230	a76	35	13	36
15	19	402	247	806	748	309	327	223	a76	36	19	42
16	18	321	218	1,080	653	295	313	207	a76	36	16	40
17	18	279	215	1,610	607	281	305	201	a73	36	15	36
18	19	231	250	2,210	554	281	295	223	a77	33	15	33
19	19	208	351	3,040	518	309	284	254	a85	33	12	19
20	18	212	650	3,510	486	341	267	291	a88	31	12	18
21	23	184	2,010	3,490	464	377	240	284	a88	29	13	16
22	21	190	2,990	2,840	435	358	230	230	a83	27	15	16
23	20	202	3,590	2,130	413	334	204	201	a79	27	15	23
24	43	221	3,090	1,710	413	316	191	181	a79	27	15	19
25	91	376	2,430	1,720	417	295	181	159	a88	25	16	29
26	121	562	2,100	2,120	442	271	172	144	102	23	16	31
27	163	566	2,460	2,400	439	250	165	138	94	25	15	29
28	108	506	2,520	2,410	460	243	156	132	86	25	19	27
29	78	542	3,090	2,060	-	233	153	129	79	23	25	25
30	70	790	2,710	1,620	-	226	147	129	76	23	23	23
31	67	-	2,160	1,390	-	230	-	126	-	23	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,254	163	18	40.5	0.104	0.12	2,490
November.....	10,589	790	100	353	.903	1.01	21,000
December.....	39,675	3,590	215	1,277	3.27	3.76	78,500
Calendar year 1940.....	263,255	5,790	12	719	1.84	25.05	522,800
January.....	52,507	3,510	734	1,694	4.33	4.99	104,100
February.....	21,122	1,350	413	754	1.93	2.01	41,590
March.....	13,408	1,050	226	433	1.11	1.28	26,690
April.....	11,462	1,040	147	362	.977	1.09	22,750
May.....	7,721	586	126	249	.637	.73	16,310
June.....	2,721	121	73	90.7	.232	.26	5,400
July.....	1,212	69	23	39.1	.100	.12	2,400
August.....	536	25	9	17.3	.044	.05	1,060
September.....	991	92	12	33.0	.084	.09	1,970
Water year 1940-41.....	163,098	3,590	9	447	1.14	15.51	323,400

a No gage-height record; discharge computed on basis of records for station at Smithfield.

d Doubtful gage-height record; discharge computed on basis of assumption that gage was read 1 foot too low.

WILLAMETTE RIVER BASIN

Coyote Creek near Crow, Oreg.

Location.— Water-stage recorder and concrete control, lat. 44°01'19", long. 123°15'17", in NE 1/4 sec. 11, T. 18 S., R. 5 W., just upstream from backwater of Fern Ridge Reservoir (under construction in 1941), 1 mile downstream from Spencer Creek, and 5 miles north-east of Crow. Datum of gage is 374.0 feet above mean sea level (Corps of Engineers, U. S. Army bench mark).

Drainage area.— 94 square miles.

Records available.— June 1940 to September 1941.

Extremes.— Maximum discharge during year, 1,550 second-feet Dec. 21 (gage height, 10.61 feet); minimum, 0.7 second-foot Aug. 19-23.

1940-41: Maximum discharge, that of Dec. 21, 1940; no flow at times in August and September 1940.

Remarks.— Records good. Small diversions above station for irrigation; no regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 5 to Dec. 20)

0.3	0.5	2.0	72	7.0	437
.5	2.3	2.5	98	8.0	570
.7	9.5	3.0	128	9.0	750
.9	24	3.5	160	10.0	1,100
1.1	35	4.0	193	11.0	1,940
1.4	49	5.0	264		
1.7	60	6.0	340		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	22	179	285	208	214	43	22	19	5.0	1.7	1.9
2	1.9	28	129	232	224	259	68	22	18	7.0	1.6	5.5
3	1.7	21	99	196	186	230	72	26	17	7.0	1.6	15
4	1.6	17	84	193	162	186	96	39	15	7.0	1.8	11
5	1.7	32	126	246	146	173	219	81	14	6.5	1.8	5.5
6	1.8	55	147	325	135	144	284	70	16	6.0	1.7	3.8
7	1.8	76	136	330	132	153	259	55	17	5.5	1.7	3.0
8	1.8	136	108	274	116	107	184	57	17	5.0	1.5	2.5
9	1.6	260	87	225	135	94	149	47	14	4.5	1.1	2.2
10	1.2	190	77	189	197	86	145	38	12	4.3	1.0	2.1
11	1.0	121	66	164	220	80	114	32	11	4.1	1.0	2.2
12	1.0	88	60	145	214	72	90	30	11	3.8	1.0	2.2
13	.9	71	52	134	185	66	76	36	10	3.6	1.0	3.0
14	.9	57	42	162	164	60	68	36	10	3.6	1.0	3.2
15	.9	49	49	232	145	57	63	30	10	3.4	1.0	3.0
16	.9	40	38	321	128	53	62	26	9.5	3.4	.9	3.0
17	.9	39	41	409	113	50	64	33	10	3.2	.9	2.7
18	.9	34	105	629	103	51	56	68	12	3.0	.8	2.7
19	.9	27	113	853	92	58	49	74	13	2.7	.7	2.5
20	.9	26	361	676	84	58	44	59	13	2.5	.7	2.5
21	1.3	43	1,280	446	76	49	40	49	12	2.3	.7	2.5
22	2.2	35	894	330	70	48	36	40	10	2.2	.7	2.5
23	5.4	28	568	271	68	46	33	34	10	2.1	.7	2.5
24	11	104	398	268	84	41	30	26	12	1.8	.8	2.2
25	29	130	342	413	75	37	28	25	18	1.6	.8	2.1
26	21	108	530	591	69	36	26	22	21	1.9	1.0	1.9
27	9.5	88	1,080	482	74	34	25	21	16	2.2	1.2	1.8
28	7.0	84	880	348	122	33	23	21	13	2.1	1.6	1.6
29	6.6	183	564	277	-	33	22	22	11	2.1	1.8	1.6
30	7.5	233	410	229	-	39	23	21	9.0	2.2	1.7	1.6
31	12	-	559	204	-	46	-	20	-	2.1	1.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	137.4	29	0.9	4.43	0.047	0.05	273
November.....	2,424	260	17	80.8	.860	.96	4,810
December.....	9,404	1,280	38	303	3.22	3.72	18,650
Calendar year	-	-	-	-	-	-	-
January.....	10,079	853	134	325	3.46	3.99	19,990
February.....	3,730	224	68	133	1.41	1.48	7,400
March.....	2,653	259	35	85.9	.914	1.05	5,290
April.....	2,491	284	22	83.0	.883	.99	4,940
May.....	1,184	81	20	38.2	.406	.47	2,350
June.....	400.5	21	9.0	13.4	.143	.16	794
July.....	116.7	8.0	1.6	3.76	.040	.05	231
August.....	37.3	1.8	.7	1.20	.013	.01	74
September.....	99.8	15	1.6	3.33	.035	.04	198
Water year 1940-41.....	32,766.7	1,280	.7	89.8	.955	12.97	64,990

Peak discharge.— Dec. 21 (5 a.m.) 1,550 sec.-ft.; Dec. 27 (6 a.m.) 1,150 sec.-ft.; Jan. 19 (2 a.m.) 919 sec.-ft.

Marys River near Philomath, Oreg.

Location.- Wire-weight gage, lat. 44°31'35", long. 123°20'00", in SW 1/4 sec. 18, T. 12 S., R. 5 W., at bridge 2 miles above Muddy Creek and 2 miles southeast of Philomath.

Drainage area.- 155 square miles, including that of Evergreen Creek above road crossing 1 1/2 miles south of station.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 2,570 second-feet Jan. 18 (gage height, 15.98 feet, from floodmark); minimum observed, 9 second-feet Aug. 21 (gage height, 2.16 feet).

Remarks.- Records good; they include flow of Evergreen Creek at road crossing 1 1/2 miles south, with which overflow from Marys River may at times be mingled. City of Corvallis diverts municipal supply from headwaters; other small diversions above station for irrigation. No regulation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Jan. 18				Jan. 19 to Sept. 30			
2.3	13	5.0	217	2.1	7	6.0	383
2.6	25	6.0	342	2.4	17	7.0	530
2.9	40	7.0	485	2.7	32	8.0	688
3.2	57	8.0	629	3.0	50	11.0	1,220
3.6	84	11.0	1,220	3.5	86	13.0	1,640
4.0	116	13.0	1,640	4.0	132	15.0	2,170
4.5	163	15.0	2,170	5.0	246		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	197	538	621	571	313	134	108	107	48	13	17
2	18	149	397	525	582	327	159	107	100	43	14	36
3	20	111	341	451	515	293	177	130	94	43	14	78
4	23	83	321	422	467	263	203	209	90	40	15	44
5	23	92	350	607	428	249	486	717	58	45	14	32
6	21	92	332	726	400	231	554	473	92	37	14	29
7	22	204	298	739	366	219	467	366	92	37	14	23
8	18	485	271	621	342	204	386	310	85	33	12	22
9	16	564	251	529	352	196	337	297	32	32	15	18
10	16	361	221	451	356	185	299	233	78	31	11	21
11	15	500	199	410	361	180	264	211	69	29	12	26
12	15	464	182	370	363	174	240	196	66	30	12	134
13	15	313	167	361	333	165	219	185	62	24	13	167
14	15	234	165	369	310	159	204	174	62	30	12	100
15	15	184	145	683	285	153	195	162	62	24	11	67
16	15	155	138	810	277	149	199	155	62	25	12	54
17	15	136	137	1,340	263	147	209	191	63	25	12	46
18	17	121	341	2,080	250	180	187	264	64	22	10	42
19	16	110	370	2,120	236	223	172	238	70	18	10	60
20	14	108	1,260	1,600	227	209	161	196	78	18	12	76
21	15	143	1,810	1,200	219	182	151	180	72	19	9	77
22	19	134	1,350	925	205	177	144	163	65	15	12	59
23	23	118	1,010	753	207	170	135	150	59	17	12	48
24	166	236	905	783	215	166	130	140	63	15	11	43
25	117	284	1,020	1,230	211	150	124	130	59	16	17	37
26	67	248	1,280	1,220	201	148	118	124	60	20	18	33
27	44	251	1,380	1,020	209	140	116	122	56	15	22	31
28	38	343	1,150	873	241	138	112	125	51	16	31	35
29	39	748	913	744	-	136	109	123	51	15	24	24
30	69	751	810	645	-	136	108	120	49	14	25	29
31	127	-	744	618	-	134	-	115	-	17	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,073	166	14	34.6	0.223	0.26	2,130
November.....	7,919	751	83	264	1.70	1.90	15,710
December.....	18,786	1,810	137	606	3.91	4.51	37,260
Calendar year	-	-	-	-	-	-	-
January.....	25,870	2,120	361	835	5.39	6.21	51,310
February.....	9,024	882	201	322	2.08	2.17	17,900
March.....	5,395	327	134	190	1.23	1.41	11,570
April.....	6,499	554	108	217	1.40	1.56	12,990
May.....	6,383	717	107	206	1.33	1.53	12,660
June.....	2,149	107	49	71.6	.462	.52	4,260
July.....	815	48	14	26.3	.170	.20	1,620
August.....	452	31	9	14.6	.094	.11	897
September.....	1,558	167	17	51.9	.335	.37	3,090
Water year 1940-41.....	86,414	2,120	9	237	1.53	20.75	171,400

Calapooya River at Holley, Oreg.

Location.- Staff gage, lat. 44°21', long. 122°47', near line between secs. 14 and 15, T. 14 S., R. 1 W., a quarter of a mile southwest of Holley and 4 miles upstream from Brush Creek. Datum of gage is 527.30 feet above mean sea level, datum of 1929.

Drainage area.- 99 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge during year, 2,560 second-feet Jan. 18 (gage height, 5.7 feet, from graph based on gage readings); minimum observed, 20 second-feet Oct. 19, 20 (gage height, 0.70 foot).
1935-41: Maximum discharge, 6,200 second-feet Jan. 4, 1936 (gage height, 9.2 feet, from graph based on gage readings); minimum observed, 13 second-feet (regulated), Sept. 8, 1940.
Maximum stage known, 10.6 feet, probably in February 1927, from floodmarks noted in 1935.

Remarks.- Records good. No diversion above station; slight regulation at times during low-water periods by small dam upstream. Gage read once daily, oftener during periods of high water.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.6	15	1.8	219	4.0	1,280
.8	28	2.1	321	4.5	1,620
1.0	50	2.5	480	5.0	2,000
1.2	80	3.0	710		
1.5	140	3.5	975		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	352	800	472	448	225	112	118	274	125	48	90
2	33	219	615	416	420	570	133	112	234	118	46	380
3	34	150	489	372	376	428	129	199	204	114	48	164
4	37	116	424	388	329	344	133	244	185	110	49	127
5	35	190	480	424	306	295	219	760	172	106	46	104
6	31	250	552	615	277	264	494	615	202	100	45	85
7	27	595	448	552	277	238	348	452	215	96	44	72
8	26	920	376	498	250	216	277	440	216	93	42	66
9	25	785	329	456	221	196	247	368	199	89	42	60
10	24	507	299	432	348	187	267	310	150	85	39	60
11	22	597	264	396	380	180	241	270	167	82	40	84
12	22	660	238	368	329	172	216	247	157	80	44	133
13	22	480	213	368	288	159	196	222	147	78	42	185
14	22	380	204	408	260	152	185	213	140	75	39	152
15	21	321	190	507	241	145	185	193	133	72	37	142
16	21	284	185	851	225	138	177	182	125	77	36	125
17	21	241	174	1,250	210	133	219	202	133	75	35	110
18	21	267	210	1,770	196	142	216	384	174	69	35	98
19	20	213	257	1,550	185	157	207	337	180	67	35	98
20	20	196	658	1,060	177	152	199	291	306	64	34	193
21	56	238	1,100	800	172	136	182	253	231	61	34	159
22	45	210	638	685	162	147	172	228	196	60	34	129
23	38	164	543	579	154	157	159	204	180	60	34	112
24	262	593	472	570	190	136	147	187	169	57	35	100
25	177	592	440	1,120	204	129	140	172	182	57	45	93
26	94	360	935	1,320	177	125	133	162	182	54	80	85
27	65	660	1,580	942	172	118	125	167	157	56	78	82
28	53	660	1,080	735	152	114	120	197	150	61	69	80
29	98	1,960	770	642	-	112	116	228	140	54	61	72
30	202	1,250	685	552	-	120	118	190	133	51	44	69
31	337	-	570	489	-	112	-	291	-	50	39	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,949	337	20	62.9	0.635	0.73	3,870
November.....	14,410	1,960	116	480	4.85	5.41	28,580
December.....	16,178	1,560	174	522	5.27	6.08	32,090
Calendar year 1940.....	120,514	2,160	13	329	3.32	45.26	239,000
January.....	21,587	1,770	368	696	7.03	8.11	42,820
February.....	7,216	448	154	258	2.61	2.71	14,310
March.....	5,899	570	112	190	1.92	2.22	11,530
April.....	5,812	494	112	194	1.96	2.18	11,700
May.....	8,428	760	112	272	2.75	3.17	16,720
June.....	5,461	306	125	182	1.84	2.05	10,830
July.....	2,396	125	50	77.3	.781	.90	4,780
August.....	1,369	80	34	44.2	.446	.51	2,720
September.....	3,509	380	60	117	1.18	1.32	6,960
Water year 1940-41.....	94,214	1,960	20	258	2.61	35.39	186,900

e Gage reading not representative of average for day because of regulation by log pond; discharge interpolated.

Calapooya River at Albany, Oreg.

Location.- Wire-weight gage, lat. 44°37'15", long 123°07'40", in NW¼ sec. 13, T. 11 S., R. 4 W., half a mile downstream from Oak Creek, 1½ miles southwest of Albany, and 3 miles upstream from mouth.

Drainage area.- 362 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 5,250 second-feet Dec. 22 (gage height, 14.75 feet, from floodmark); minimum observed, 10 second-feet (regulated) Oct. 22 (gage height, 1.06 feet).

Remarks.- Records good except those below 100 second-feet, which are poor. A few small diversions above station for irrigation. Diurnal fluctuation caused by ponds at flour mills near Shedd. Gage read once daily during low-water periods, twice daily or oftener at medium and high stages.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.1	11	3.2	275	7.0	1,300
1.4	21	3.6	355	8.0	1,600
1.7	39	4.0	435	10.0	2,520
2.0	68	4.5	550	12.0	3,620
2.4	127	5.0	680	14.0	4,800
2.8	196	6.0	960		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	545	2,560	1,310	1,000	906	137	155	359	200	80	38
2	44	576	1,690	954	1,240	1,370	244	155	347	189	65	57
3	66	419	1,020	800	867	945	255	157	299	185	84	141
4	50	507	1,070	716	660	657	313	209	261	141	22	283
5	33	236	930	800	589	529	415	463	249	118	71	206
6	43	397	1,390	1,280	532	458	727	1,160	228	100	55	144
7	21	492	1,240	1,560	506	407	732	618	253	118	24	107
8	39	1,080	852	1,350	504	371	586	654	257	141	40	100
9	35	1,920	740	900	463	339	449	576	273	115	51	107
10	32	1,720	615	755	711	319	444	467	273	112	50	98
11	31	954	532	683	942	301	411	403	240	107	20	72
12	26	1,360	467	625	716	263	335	369	228	102	28	108
13	30	1,150	413	628	555	267	313	329	209	115	24	136
14	18	779	363	758	492	244	291	303	211	81	19	213
15	24	633	317	1,120	435	228	267	291	81	94	52	211
16	31	465	315	1,230	391	196	267	267	171	92	22	193
17	31	451	307	2,090	315	213	261	259	204	88	55	173
18	24	407	387	3,190	361	215	351	451	213	96	20	162
19	24	407	885	4,330	331	240	313	514	225	91	16	157
20	27	351	1,310	4,010	311	297	279	435	240	89	19	151
21	17	413	4,700	2,440	299	251	275	383	315	68	18	171
22	24	463	4,920	1,600	277	253	253	335	249	89	19	217
23	38	397	2,710	1,240	267	267	247	299	249	73	13	202
24	62	541	1,600	1,110	267	267	219	271	246	74	17	158
25	155	1,980	1,320	1,250	347	228	204	236	226	67	19	155
26	307	1,340	1,660	2,350	323	211	198	228	246	69	12	139
27	169	858	3,640	2,520	335	194	169	209	246	60	44	136
28	132	1,260	3,940	1,580	431	178	173	213	223	26	80	125
29	118	1,530	2,820	1,200	-	176	162	259	189	72	96	96
30	130	2,460	1,720	991	-	195	157	281	180	78	88	118
31	249	-	1,890	956	-	204	-	289	-	41	85	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	2,118	307	17	68.3	0.189	0.22	4,200
November.....	25,881	2,460	256	865	2.38	2.66	51,530
December.....	48,523	4,920	307	1,565	4.32	4.99	96,240
Calendar year	-	-	-	-	-	-	-
January.....	46,306	4,330	625	1,494	4.13	4.76	91,850
February.....	14,497	1,240	267	518	1.43	1.49	28,750
March.....	11,232	1,370	176	362	1.00	1.15	22,280
April.....	9,495	732	137	316	.873	.98	18,630
May.....	11,538	1,160	155	372	1.03	1.19	22,990
June.....	7,190	359	81	240	.663	.74	14,260
July.....	3,091	200	26	99.7	.275	.32	6,130
August.....	1,313	96	12	42.4	.117	.13	2,600
September.....	4,374	283	38	146	.403	.46	8,680
Water year 1940-41	185,558	4,920	12	508	1.40	19.08	368,000

North Santiam River at Detroit, Oreg.

Location.- Water-stage recorder, lat. 44°43', long. 122°08', in NE¼ sec. 12, T. 10 S., R. 5 E., 1 mile east of Detroit. Datum of gage is 1,475.68 feet above mean sea level, datum of 1929.

Drainage area.- 224 square miles.

Records available.- January 1907 to October 1909, October 1928 to September 1941. August 1910 to October 1913 at site above Boulder Creek (records not equivalent).

Average discharge.- 14 years (1907-8, 1928-41), 893 second-feet.

Extremes.- Maximum discharge during year, 2,850 second-feet Nov. 29 (gage height, 4.30 feet); minimum, 254 second-feet (regulated) Oct. 7 (gage height, 0.15 foot); minimum daily, 305 second-feet Oct. 15-18.

1907-9, 1910-11, 1928-41: Maximum discharge, 15,000 second-feet Mar. 31, 1931 (gage height, about 12.0 feet), from rating curve extended above 2,700 second-feet; minimum, that of Oct. 7, 1940.

Remarks.- Records good. No diversion above station; slight diurnal fluctuation caused by power plant at Idanha.

Cooperation.- Water-stage recorder inspected by employees of U. S. Forest Service

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.4	295	2.1	990
.7	364	2.5	1,220
1.1	500	3.0	1,590
1.4	625	3.5	2,020
1.7	770	4.0	2,520

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a340	576	1,320	765	957	803	594	568	730	484	364	398
2	364	476	1,110	715	935	902	607	560	680	476	359	572
3	367	451	1,030	690	890	830	576	638	652	468	359	463
4	351	395	979	652	856	776	580	652	625	460	356	456
5	336	411	1,190	676	803	740	630	1,750	607	449	354	491
6	326	453	1,160	675	786	700	666	1,470	638	453	356	356
7	317	712	1,010	651	765	670	680	1,510	638	446	359	370
8	315	1,010	913	634	725	656	661	1,230	612	498	370	359
9	309	842	830	625	785	638	740	1,090	584	418	378	354
10	311	700	746	620	825	625	750	1,000	572	418	359	384
11	313	675	685	618	825	612	700	1,020	568	411	378	402
12	309	638	638	616	781	589	666	1,070	572	402	364	438
13	309	580	598	705	740	580	638	1,040	556	408	351	418
14	307	536	568	776	705	564	607	935	532	411	356	405
15	305	520	548	792	670	548	643	874	504	408	356	411
16	305	516	532	836	638	540	638	869	520	402	351	411
17	305	536	520	1,190	616	544	620	1,070	544	408	356	398
18	305	568	568	1,770	589	556	612	1,120	616	398	356	396
19	311	540	584	1,780	674	594	594	1,090	685	398	348	424
20	315	524	765	1,450	556	564	580	1,030	695	389	346	464
21	324	512	940	1,260	544	540	564	974	625	354	346	428
22	313	464	874	1,120	536	568	560	935	594	378	346	408
23	315	464	842	1,040	544	564	560	908	572	370	354	392
24	460	720	842	1,030	559	540	562	874	568	361	356	361
25	381	776	842	1,450	572	528	544	814	560	364	392	375
26	346	675	990	1,560	556	528	544	765	540	389	392	370
27	331	808	1,200	1,340	550	532	540	776	536	398	389	361
28	333	1,070	1,090	1,180	638	548	536	781	512	386	384	354
29	364	2,460	998	1,090	-	572	552	745	504	378	356	351
30	460	1,760	924	1,010	-	568	560	715	496	375	348	346
31	593	-	842	982	-	568	-	796	-	372	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	10,645	598	305	343	1.53	1.77	21,110
November.....	21,368	2,450	395	712	3.18	3.56	42,360
December.....	26,665	1,320	520	860	3.84	4.43	52,890
Calendar year 1940.....	280,280	4,380	305	766	3.42	46.56	555,900
January.....	30,266	1,780	616	976	4.36	5.02	60,030
February.....	19,528	957	536	697	3.11	3.24	38,730
March.....	19,087	902	528	616	2.75	3.17	37,880
April.....	18,294	780	536	610	2.72	3.04	36,280
May.....	29,659	1,780	560	987	4.27	4.92	53,830
June.....	17,637	730	498	626	2.62	2.95	34,980
July.....	12,690	484	361	409	1.83	2.11	25,170
August.....	11,185	392	346	361	1.61	1.86	22,190
September.....	12,073	572	346	402	1.79	2.00	23,950
Water year 1940-41.....	229,066	2,450	305	628	2.80	38.04	454,400

a No gage-height record; discharge computed on basis of records for station above Mayflower Creek, near Detroit, and Breitenbush River near Detroit.

North Santiam River above Mayflower Creek, near Detroit, Oreg.

Location.- Water-stage recorder, lat. 44°44', long. 122°15', in NW 1/4 sec. 7, T. 10 S., R. 5 E., 850 feet downstream from axis of Detroit dam site, 0.3 mile upstream from Mayflower Creek, and 5 miles west of Detroit. Datum of gage is 1,192.06 feet above mean sea level (bench mark of Corps of Engineers, U. S. Army).

Drainage area.- 438 square miles.

Records available.- October 1938 to September 1941.

Extremes.- Maximum discharge during year, 10,000 second-feet Nov. 29 (gage height, 9.20 feet); minimum, 440 second-feet Oct. 16-20 (gage height, 3.00 feet).
1938-41: Maximum discharge, 13,600 second-feet Feb. 6, 1940 (gage height, 10.52 feet); minimum, 416 second-feet Sept. 22, 1940 (gage height, 2.94 feet).

Remarks.- Records excellent. No diversion above station; slight diurnal fluctuation caused by power plant at Idanha.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

3.0	440	5.2	2,140	3.1	500	5.5	2,530
3.2	520	5.6	2,640	3.4	640	6.0	3,200
3.6	730	6.0	3,200	3.7	825	7.0	4,980
4.0	990	6.5	4,020	4.0	1,030	7.5	6,000
4.4	1,300	7.6	6,000	4.6	1,450		
4.8	1,680	8.5	8,300	5.0	1,940		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	516	1,620	3,200	1,650	2,170	1,760	1,100	1,110	1,410	864	555	640
2	545	1,530	2,610	1,510	2,090	2,110	1,120	1,090	1,310	877	550	1,280
3	660	1,080	2,340	1,450	1,930	1,840	1,050	1,250	1,250	861	555	590
4	630	920	2,220	1,360	1,780	1,650	1,040	1,710	1,210	825	545	870
5	580	927	2,710	1,440	1,690	1,560	1,180	4,840	1,180	812	536	806
6	530	1,100	2,720	1,530	1,640	1,450	1,330	3,650	1,240	799	532	712
7	504	2,240	2,280	1,490	1,590	1,370	1,310	2,950	1,240	780	532	652
8	492	3,420	2,000	1,480	1,510	1,320	1,280	2,700	1,170	748	532	615
9	480	2,500	1,790	1,470	1,570	1,280	1,390	2,350	1,120	736	585	595
10	476	1,880	1,610	1,470	1,780	1,240	1,450	2,100	1,100	718	540	652
11	472	1,820	1,460	1,480	1,740	1,200	1,340	2,110	1,100	706	545	748
12	464	1,700	1,340	1,490	1,660	1,180	1,270	2,180	1,110	688	555	1,090
13	468	1,470	1,250	1,730	1,540	1,120	1,200	2,090	1,070	688	528	980
14	456	1,280	1,180	1,970	1,450	1,090	1,160	1,830	1,010	682	528	884
15	448	1,170	1,150	2,060	1,360	1,040	1,220	1,660	946	676	524	864
16	444	1,160	1,090	2,110	1,300	1,020	1,230	1,690	960	664	520	838
17	440	1,250	1,060	3,600	1,240	1,020	1,210	2,280	1,000	676	512	773
18	440	1,580	1,160	5,500	1,200	1,050	1,210	2,450	1,190	652	545	766
19	440	1,250	1,210	5,140	1,180	1,150	1,190	2,300	1,420	664	520	918
20	452	1,200	2,120	5,750	1,120	1,080	1,170	2,160	1,620	680	512	1,060
21	516	1,150	2,750	5,070	1,090	1,020	1,150	2,000	1,350	615	512	955
22	480	1,050	2,220	2,650	1,060	1,100	1,120	1,930	1,240	615	504	864
23	488	983	2,000	2,340	1,060	1,100	1,120	1,640	1,160	590	520	806
24	1,300	1,750	1,870	2,340	1,200	1,040	1,110	1,740	1,120	580	524	748
25	1,050	2,160	1,910	3,920	1,170	1,000	1,080	1,620	1,100	590	576	706
26	766	1,710	2,350	4,270	1,120	988	1,080	1,460	1,040	640	640	670
27	640	2,030	3,070	3,360	1,180	988	1,070	1,470	1,020	635	646	646
28	620	3,020	2,670	2,840	1,330	1,030	1,070	1,490	960	605	658	625
29	790	8,180	2,300	2,470	-	1,090	1,080	1,450	946	585	565	605
30	1,380	4,860	2,060	2,240	-	1,060	1,100	1,350	904	580	536	595
31	1,970	-	1,920	2,130	-	1,060	-	1,480	-	570	528	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				19,917	1,970	440	642	1.47	1.69	39,500		
November.....				57,780	5,180	920	1,926	4.40	4.91	114,600		
December.....				61,620	3,200	1,060	1,985	4.53	5.22	122,000		
Calendar year 1940.....				591,050	11,300	432	1,615	3.69	50.19	1,172,000		
January.....				75,270	5,500	1,360	2,428	5.54	6.39	149,300		
February.....				40,730	2,170	1,060	1,455	3.32	3.46	80,790		
March.....				37,966	2,110	988	1,225	2.80	3.22	75,300		
April.....				36,410	1,430	1,040	1,180	2.69	3.01	70,230		
May.....				62,510	4,840	1,090	2,010	4.59	5.29	123,600		
June.....				34,498	1,620	904	1,150	2.63	2.93	69,420		
July.....				21,561	884	570	699	1.57	1.81	42,370		
August.....				16,969	658	504	547	1.25	1.44	35,640		
September.....				25,331	1,280	595	744	1.81	2.02	47,270		
Water year 1940-41.....				487,550	8,180	440	1,336	3.05	41.39	967,000		

Peak discharge.- Nov. 29 (9 a.m.) 10,000 sec.-ft.; Jan. 18 (6:30 p.m.) 8,480 sec.-ft.; May 5 (9:30 a.m.) 8,820 sec.-ft.

North Santiam River at Mehama, Oreg.

Location.- Water-stage recorder, lat. 44°47', long. 122°37', in NW¼ sec. 18, T. 9 S., R. 2 E., at Mehama, half a mile downstream from Little North Santiam River. Datum of gage is 601.78 feet above mean sea level, datum of 1929.

Drainage area.- 665 square miles.

Records available.- July 1905 to March 1907, October 1910 to September 1914, September 1921 to September 1941.

Average discharge.- 25 years (1905-6, 1910-14, 1921-41), 3,154 second-feet.

Extremes.- Maximum discharge during year, 18,400 second-feet Nov. 29 (gage height, 8.43 feet); minimum, 494 second-feet Oct. 19 (gage height, 1.59 feet).
1905-7, 1910-14, 1921-41: Maximum discharge, 62,900 second-feet Nov. 20, 1921, Jan. 6, 1923 (gage height, 17.5 feet); minimum, 400 second-feet Sept. 29, Oct. 13, 1924; minimum daily, 420 second-feet Sept. 18, 1924.

Remarks.- Records good. Slight regulation of low flow by mill dam at Mill City. No diversion above station for irrigation.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.6	500	3.0	2,050	5.0	6,220
1.9	740	3.5	2,880	6.0	9,170
2.2	1,050	4.0	3,840	7.0	12,600
2.6	1,490	4.5	4,950	8.0	16,600

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	677	4,090	5,850	2,640	3,120	2,380	1,380	1,440	2,170	1,140	634	740
2	677	2,380	4,470	2,390	3,020	3,390	1,420	1,440	1,960	1,120	626	2,380
3	1,030	2,230	3,940	2,230	2,740	2,810	1,370	1,690	1,820	1,080	634	1,500
4	1,120	1,830	3,740	2,200	2,490	2,420	1,370	2,060	1,830	1,050	642	1,480
5	930	1,720	4,360	2,390	2,340	2,220	1,530	9,950	1,630	1,010	626	1,370
6	776	1,890	4,840	2,910	2,250	2,060	2,020	6,380	1,680	980	602	1,140
7	695	3,490	3,860	2,780	2,180	1,900	1,800	4,720	1,750	960	594	1,000
8	642	7,340	3,290	2,870	2,050	1,600	1,920	4,150	1,590	930	594	850
9	615	5,490	2,900	2,550	2,060	1,720	1,860	3,490	1,620	890	634	830
10	594	3,880	2,550	2,520	2,440	1,660	1,950	3,020	1,670	860	610	890
11	578	3,940	2,310	2,500	2,420	1,610	1,820	2,830	1,530	840	610	1,060
12	563	3,630	2,080	2,490	2,280	1,540	1,700	2,810	1,520	830	642	1,800
13	563	2,950	1,920	2,710	2,110	1,490	1,610	2,670	1,440	812	566	1,660
14	566	2,540	1,790	3,140	1,950	1,430	1,550	2,420	1,530	803	570	1,490
15	542	2,340	1,720	3,350	1,840	1,330	1,550	2,220	1,250	785	570	1,490
16	528	2,280	1,620	3,450	1,750	1,300	1,680	2,180	1,230	794	563	1,440
17	521	2,300	1,590	6,630	1,660	1,270	1,690	3,120	1,310	803	566	1,260
18	521	2,500	1,650	9,910	1,610	1,330	1,700	3,920	1,490	767	578	1,170
19	514	2,230	1,790	9,230	1,560	1,520	1,690	3,590	1,960	758	578	1,450
20	535	2,080	3,300	6,490	1,500	1,480	1,660	3,250	2,340	740	570	1,820
21	659	2,060	5,360	5,090	1,440	1,380	1,610	2,900	2,180	713	556	1,620
22	659	1,860	3,940	4,200	1,370	1,490	1,570	2,660	1,660	704	563	1,420
23	626	1,730	3,310	3,590	1,370	1,580	1,500	2,460	1,680	686	570	1,260
24	2,790	3,120	3,060	3,450	1,540	1,490	1,480	2,330	1,610	668	594	1,140
25	2,520	4,200	3,000	5,610	1,610	1,410	1,470	2,120	1,560	659	569	1,060
26	1,580	3,210	3,570	7,200	1,530	1,380	1,420	1,940	1,440	731	850	1,010
27	1,220	3,950	5,550	5,440	1,580	1,320	1,410	1,950	1,360	731	850	960
28	1,110	5,980	4,670	4,380	1,760	1,350	1,410	2,180	1,290	713	950	900
29	1,490	15,200	3,860	3,740	-	1,440	1,410	2,200	1,240	677	749	850
30	2,950	9,070	3,430	3,290	-	1,420	1,450	2,000	1,210	659	659	821
31	4,400	-	2,990	3,100	-	1,360	-	2,260	-	642	642	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	33,154	4,400	514	1,070	1.61	1.86	65,820
November.....	112,040	15,200	1,720	3,735	5.62	6.27	222,200
December.....	102,320	5,850	1,690	3,301	4.96	5.72	202,900
Calendar year 1940.....	946,478	17,300	477	2,586	3.89	52.95	1,877,000
January.....	124,450	9,910	2,200	4,015	6.04	6.98	246,800
February.....	55,600	3,120	1,370	1,986	2.99	3.11	110,300
March.....	52,260	3,390	1,270	1,686	2.54	2.92	103,700
April.....	47,990	2,020	1,370	1,600	2.41	2.68	95,190
May.....	92,350	9,950	1,440	2,979	4.48	5.16	185,200
June.....	49,030	2,840	1,210	1,634	2.46	2.74	97,250
July.....	25,535	1,140	642	824	1.24	1.43	50,650
August.....	19,661	950	556	634	1.953	1.10	39,000
September.....	37,861	2,380	740	1,263	1.90	2.12	75,140
Water year 1940-41.....	752,301	15,200	514	2,061	3.10	42.07	1,492,000

Santiam River at Jefferson, Oreg.

Location.— Water-stage recorder, lat. 44°42'50", long. 123°00'40", in SE¼ sec. 11, T. 10 S., R. 3 W., in Jefferson, 350 feet upstream from railroad bridge, 2 miles downstream from confluence of North Santiam and South Santiam Rivers, and 9 miles upstream from mouth. Datum of gage is 199.63 feet above mean sea level. Prior to Oct. 1, 1940, staff gage on railroad bridge pier, 350 feet downstream, at datum 3.00 feet higher.

Drainage area.— 1,790 square miles.

Records available.— July 1905 to July 1906 (gage heights only), October 1907 to September 1916 and October 1939 to September 1941, in reports of Geological Survey. April 1904 to September 1937 (gage heights only, incomplete 1904-7, 1923-28) in reports of U. S. Weather Bureau.

Average discharge.— 11 years (1907-16, 1939-41) 7,279 second-feet.

Extremes.— Maximum discharge during year, 40,200 second-feet Nov. 29 (gage height, 14.15 feet); minimum, 340 second-feet Aug. 22, 23 (gage height, 2.24 feet).

1905-6, 1907-16, 1939-41: Maximum discharge observed, 108,000 second-feet during night of Nov. 22, 1909 (gage height, 18.2 feet, site and datum then in use), from poorly defined extension of rating curve above 54,000 second-feet; minimum observed, 260 second-feet Aug. 15-22, Aug. 24 to Sept. 2, 1940 (gage height, -1.00 foot, site and datum then in use).

Maximum stage known, 19.5 feet (original site and datum) Nov. 21, 1921.

Remarks.— Records excellent. Salem Canal diverts from North Santiam River at Stayton for irrigation and power use, most of this water reaching Willamette River through Mill Creek at Salem. Stayton Canal diverts from North Santiam River at Stayton for irrigation of lands near West Stayton; some return flow reaches North Santiam River above station. Albany power canal diverts from South Santiam River at Lebanon, return flow reaching Willamette River at Albany. No regulation.

Cooperation.— Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

2.2	320	3.2	1,200	4.5	3,100	7.0	8,110	10.0	18,000
2.5	490	3.6	1,750	5.0	3,950	8.0	10,800	11.0	22,500
2.8	740	4.0	2,320	6.0	5,810	9.0	14,100	13.0	33,300

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	740	9,350	16,700	7,640	7,270	4,310	2,190	2,060	4,560	1,920	560	674
2	645	6,870	11,800	6,620	7,110	7,420	2,320	2,100	4,060	1,770	568	3,060
3	721	5,020	9,640	5,990	6,290	6,620	2,340	2,500	3,630	1,680	594	3,700
4	1,060	3,890	9,060	5,730	5,690	5,520	2,340	3,240	3,290	1,640	602	2,780
5	998	3,410	8,630	5,870	5,260	4,650	2,760	13,400	3,040	1,540	636	2,560
6	830	3,990	11,300	7,470	4,910	4,440	4,350	15,900	3,060	1,400	628	2,090
7	883	5,680	9,430	7,660	4,800	4,040	4,380	10,900	3,410	1,290	628	1,670
8	620	14,900	7,980	7,130	4,490	3,700	3,970	9,370	3,410	1,210	620	1,370
9	560	16,800	6,960	6,510	4,460	3,470	2,890	7,980	3,200	1,120	611	1,150
10	511	10,800	6,050	6,240	5,460	3,250	3,630	6,620	2,940	1,010	620	1,080
11	484	9,800	5,380	6,030	5,690	3,080	3,630	5,630	2,720	928	594	1,430
12	458	10,000	4,780	5,830	5,270	2,920	3,390	5,440	2,560	884	611	2,420
13	438	8,110	4,530	5,950	4,860	2,760	3,020	5,060	2,460	851	568	4,110
14	438	6,870	3,920	6,940	4,190	2,600	2,780	4,740	2,300	920	532	3,270
15	432	5,650	3,630	5,440	4,130	2,470	2,750	4,810	2,140	770	504	2,940
16	403	5,230	3,440	5,620	3,850	2,340	2,750	3,950	2,030	750	490	3,020
17	392	4,960	3,250	15,400	3,590	2,230	3,490	4,800	2,130	770	451	2,590
18	381	5,190	3,560	22,300	3,370	2,240	3,440	7,810	2,380	750	432	2,180
19	376	4,720	4,110	27,700	3,170	2,500	3,390	7,660	2,890	692	425	2,290
20	376	4,310	7,160	18,800	2,990	2,580	3,270	6,920	5,190	674	392	3,300
21	438	4,470	17,600	13,900	2,840	2,420	3,150	6,050	4,410	636	366	3,590
22	611	4,170	11,900	11,200	2,730	2,620	2,890	5,400	3,920	602	365	2,890
23	645	3,730	9,300	9,430	2,650	2,990	2,730	4,870	3,370	577	365	2,440
24	2,600	5,310	8,260	8,590	2,990	2,720	2,600	4,440	2,970	560	370	2,100
25	6,070	11,100	7,710	10,800	3,320	2,500	2,460	3,990	2,920	546	403	1,660
26	3,420	9,410	9,140	18,900	3,040	2,340	2,300	3,590	2,750	546	674	1,690
27	2,300	7,740	17,400	14,100	3,050	2,220	2,200	5,610	2,530	611	966	1,610
28	1,820	13,100	15,300	11,100	3,370	2,160	2,140	3,700	2,350	645	1,230	1,390
29	2,020	29,000	11,600	9,370	-	2,230	2,090	4,450	2,170	636	1,150	1,300
30	3,760	26,600	10,100	6,210	-	2,350	2,060	3,970	2,040	594	800	1,170
31	7,660	-	9,040	7,610	-	2,220	-	4,350	-	586	712	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	42,910	7,660	376	1,384	85,110
November.....	261,090	29,000	3,410	8,703	517,900
December.....	268,840	17,600	3,250	6,672	533,800
Calendar year 1940.....	2,168,199	41,500	260	5,924	4,300,000
January.....	315,960	27,700	5,730	10,190	626,700
February.....	121,110	7,270	2,650	4,325	240,200
March.....	100,110	7,420	2,180	3,229	196,600
April.....	88,680	4,380	2,060	2,956	175,900
May.....	178,710	15,900	2,060	5,765	354,500
June.....	91,260	5,190	2,030	3,042	181,000
July.....	29,025	1,920	546	936	57,580
August.....	18,507	1,230	365	597	36,710
September.....	67,654	4,110	674	2,254	134,200
Water year 1940-41.....	1,583,559	29,000	365	4,539	3,142,000

Peak discharge.— Nov. 29 (8 to 9 p.m.) 40,200 sec.-ft.; Jan. 19 (5 a.m.) 30,800 sec.-ft.; May 5 (6:30 p.m.) 20,700 sec.-ft.

Breitenbush River above French Creek, near Detroit, Oreg.

Location.- Water-stage recorder, lat. 44°45', long. 122°08', in NE¼ sec. 36, T. 9 S., R. 5 E., 0.1 mile downstream from Canyon Creek, 1½ miles upstream from French Creek, and 2 miles east of Detroit. Datum of gage is 1,559.64 feet above mean sea level, datum of 1929.

Drainage area.- 108 square miles.

Records available.- June 1932 to September 1941. October 1910 to October 1913 (fragmentary), at site below French Creek; records equivalent except for inflow from French Creek.

Extremes.- Maximum discharge during year, 3,970 second-feet Nov. 29 (gage height, 6.09 feet); minimum, 90 second-feet Oct. 20 (gage height, 0.37 foot).
1932-41: Maximum discharge, 8,100 second-feet Dec. 22, 1933 (gage height, 9.08 feet), from rating curve extended above 4,700 second-feet; minimum, 87 second-feet Sept. 2, 1940 (gage height, 0.36 foot).

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

Cooperation.- Water-stage recorder inspected by employee of U. S. Forest Service.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	480	876	388	583	451	283	315	339	208	117	167
2	142	346	695	356	556	498	283	308	312	203	117	313
3	164	274	640	336	506	427	265	332	302	199	121	199
4	162	232	610	322	463	378	262	475	305	195	118	201
5	135	235	904	342	435	350	292	1,240	299	186	115	188
6	121	271	715	354	423	325	315	854	325	180	113	161
7	112	596	592	353	411	315	325	700	308	176	110	143
8	106	843	520	353	388	305	318	625	277	170	113	130
9	104	830	455	350	407	292	360	552	271	184	142	124
10	100	484	403	360	455	285	350	511	292	161	121	148
11	99	455	360	367	443	274	325	625	305	157	122	180
12	98	423	323	374	407	265	312	655	302	155	124	271
13	103	360	305	447	374	257	292	610	283	150	114	225
14	98	312	283	493	346	246	283	493	257	147	110	206
15	97	283	268	511	325	240	299	419	235	143	108	206
16	95	289	257	534	312	238	299	488	243	145	106	199
17	94	332	254	1,080	295	245	289	670	259	140	105	176
18	93	364	271	1,600	286	245	283	940	325	143	133	176
19	92	318	277	1,350	271	265	271	578	395	148	113	235
20	99	299	550	980	262	246	262	534	411	136	109	257
21	122	283	685	795	257	235	259	516	325	133	106	225
22	106	259	560	680	251	257	262	542	299	130	104	201
23	115	243	494	610	257	254	274	535	277	130	105	188
24	392	523	443	615	260	240	283	511	265	128	108	170
25	280	592	443	1,010	268	235	277	451	259	132	130	157
26	192	459	578	1,100	262	232	289	392	246	135	152	150
27	159	562	740	854	280	238	299	356	240	130	161	143
28	161	999	640	705	325	257	305	360	230	126	166	186
29	222	2,910	552	635	-	295	315	336	222	121	127	130
30	423	1,330	495	578	-	263	318	318	218	120	117	127
31	552	-	431	555	-	274	-	364	-	118	114	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,942	552	92	159	1.47	1.70	9,600
November.....	15,966	2,910	232	533	4.94	5.00	17,750
December.....	15,507	876	254	500	4.63	5.34	30,760
Calendar year 1940.....	159,417	3,690	89	436	4.04	54.89	316,200
January.....	19,417	1,600	322	626	5.80	6.69	38,510
February.....	10,128	583	251	362	3.35	3.49	20,080
March.....	8,347	496	232	289	2.68	3.08	17,750
April.....	8,949	360	259	295	2.73	3.05	17,650
May.....	16,308	1,240	308	526	4.87	5.62	32,350
June.....	6,626	411	218	288	2.67	2.97	17,110
July.....	4,709	208	118	152	1.41	1.62	9,340
August.....	3,721	166	104	120	1.11	1.28	7,380
September.....	5,532	313	124	184	1.70	1.90	10,970
Water year 1940-41.....	122,672	2,910	92	336	3.11	42.24	243,500

Peak discharge.- Nov. 29 (7 a.m.) 3,970 sec.-ft.; May 5 (7 a.m.) 2,360 sec.-ft.

Little North Santiam River near Mehama, Oreg.

Location.- Staff and wire-weight gages, lat. 44°48', long. 122°34', in NW¼ sec. 16, T. 9 S., R. 2 E., 2 miles east of Mehama and mouth of river. Datum of gage is 655.41 feet above mean sea level, datum of 1929.

Drainage area.- 110 square miles.

Records available.- October 1931 to September 1941. July to September 1924 and July to September 1931 at site 4 miles upstream.

Average discharge.- 10 years (1931-41), 699 second-feet.

Extremes.- Maximum discharge observed during year, 8,530 second-feet Nov. 29 (gage height, 10.06 feet); minimum observed, 34 second-feet Aug. 21 (gage height, 2.25 feet).

1924, 1931-41: Maximum discharge, 18,900 second-feet Dec. 22, 1933 (gage height, 14.7 feet, from floodmark), from rating curve extended above 10,000 second-feet; minimum observed, 21 second-feet Sept. 11, 1934, Sept. 27, 28, 1938, Sept. 1, 1940.

Remarks.- Records fair. No regulation or diversion above station. Gage read twice daily, October 1 to May 10; once daily, May 11 to Sept. 30.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 7-28)

2.2	29	4.0	398	6.5	2,140
2.5	58	4.5	630	7.0	2,740
2.8	92	5.0	895	8.0	4,270
3.2	154	5.5	1,190	9.0	6,180
3.6	256	6.0	1,620	10.0	8,200

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	1,380	1,300	551	670	508	207	182	444	152	48	162
2	87	917	994	484	630	978	212	194	402	150	47	944
3	202	680	934	440	551	675	192	333	348	141	45	471
4	282	489	895	466	480	517	197	471	315	134	45	489
5	175	436	1,210	610	432	440	259	4,360	259	128	46	378
6	156	449	1,220	878	394	375	489	2,200	295	120	43	291
7	114	934	961	802	382	344	402	1,050	305	114	40	226
8	97	3,170	730	741	348	312	371	846	319	86	40	175
9	85	1,580	655	710	344	276	355	756	298	97	38	177
10	77	1,080	536	725	508	262	348	585	272	96	38	218
11	71	1,360	462	700	475	235	305	517	238	93	39	741
12	62	1,130	406	650	423	223	275	471	232	92	41	590
13	65	878	359	730	382	207	244	411	215	86	40	551
14	62	730	326	807	344	202	247	402	197	96	39	493
15	56	675	291	812	312	182	259	382	180	95	35	580
16	52	690	291	851	285	173	291	363	173	81	38	493
17	48	650	288	2,640	269	171	305	758	180	86	36	367
18	46	730	302	3,460	241	180	326	1,130	226	72	36	394
19	44	580	337	2,270	223	285	340	956	371	74	36	444
20	46	522	884	1,450	210	250	305	746	1,050	65	37	508
21	82	541	1,320	1,080	197	229	282	675	605	58	36	462
22	122	449	900	895	155	247	247	531	462	58	35	390
23	92	402	783	752	194	275	232	444	367	55	37	326
24	1,370	1,010	680	730	282	266	215	371	329	51	40	278
25	746	1,310	615	1,150	259	256	212	333	295	54	67	232
26	458	934	1,040	1,560	235	229	197	326	223	55	117	210
27	308	1,260	1,430	1,110	278	223	187	322	212	54	238	202
28	260	1,960	1,090	884	340	218	175	471	199	53	199	173
29	449	6,860	851	741	-	215	177	526	189	49	116	154
30	1,270	2,300	752	655	-	207	177	444	180	49	88	143
31	1,630	-	635	650	-	207	-	536	-	50	66	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Acres-feet
October.....	8,675	1,630	44	280	2.55	2.93	17,210
November.....	36,166	6,860	402	1,206	11.0	12.23	71,730
December.....	23,437	1,430	288	756	6.87	7.92	46,490
Calendar year 1940.....	218,977	7,080	21	598	5.44	73.98	434,100
January.....	31,084	3,460	440	1,003	9.12	10.61	61,650
February.....	9,873	670	185	353	3.21	3.34	19,580
March.....	9,369	978	171	302	3.75	3.17	18,580
April.....	8,028	489	173	268	2.44	2.71	15,920
May.....	22,072	4,360	182	702	6.47	7.46	43,780
June.....	9,380	1,050	173	313	2.85	3.17	18,600
July.....	2,656	162	49	85.7	.779	.90	5,270
August.....	1,852	237	35	59.7	.543	.63	3,870
September.....	11,242	944	143	375	3.41	3.80	22,300
Water year 1940-41.....	173,834	6,860	35	476	4.33	58.77	344,800

Diversions from North Santiam River at Stayton, Oreg.

Salem Canal diverts from right bank of North Santiam River in SE $\frac{1}{4}$ sec. 11, T. 9 S., R. 1 W., 1 mile east of Stayton. Water-stage recorder located in SW $\frac{1}{4}$ sec. 10, half a mile west of Stayton, $1\frac{1}{2}$ miles downstream from intake and 0.8 mile downstream from wasteway into Stayton District Canal. Records available, October 1940 to September 1941 in reports of Geological Survey; July 1938 to September 1940, in files of State engineer. Water is diverted into Mill Creek 3 miles northwest of Stayton and enters Willamette River at Salem, partly above and partly below that gaging station. Water is used for development of power at Aumsville, Turner, and Salem, and for irrigation of lands between Stayton and Salem.

Stayton District Canal diverts from North Santiam River in S $\frac{1}{4}$ sec. 11, T. 9 S., R. 1 W., 1 mile east of Stayton, through Gardner-Bennett canal system and power plants; some water may be received also from Salem power canal at wasteway of that canal in SE $\frac{1}{4}$ sec. 10. Water-stage recorder located in NW $\frac{1}{4}$ sec. 15, 0.1 mile downstream from Gardner-Bennett wasteway, and half a mile southwest of Stayton. Records available, October 1940 to September 1941, in reports of Geological Survey; July 1938 to September 1940, in files of State engineer. Water is used for development of power above station, in Stayton, and for irrigation below station, near West Stayton; return flow may reach North Santiam River or Mill Creek.

City of Salem water supply conduit diverts 7 $\frac{1}{2}$ to 15 million gallons of water a day from an infiltration basin in N $\frac{1}{2}$ sec. 13, T. 9 S., R. 1 W., near head of Stayton Island in North Santiam River, 2 miles east of Stayton. Water reaches this basin from river by gravity percolation augmented at times by pumping from shallow wells in adjacent gravel bars. A record of this diversion is obtained by the water department of the city of Salem.

Diversions, in acre-feet, water year October 1940 to September 1941

Month	Salem Canal	Stayton District Canal
October.....	10,720	524
November.....	7,670	853
December.....	5,590	391
Calendar year.....	-	-
January.....	2,080	115
February.....	6,450	17
March.....	5,000	109
April.....	9,860	261
May.....	10,850	157
June.....	12,240	1,090
July.....	11,600	3,910
August.....	12,960	2,360
September.....	11,590	698
Water year 1940-41.....	109,900	10,480

South Santiam River below Cascadia, Oreg.

Location.- Water-stage recorder, lat. 44°24', long. 122°30'. in SE¼ sec. 36, T. 13 S., R. 2 E., 100 feet downstream from bridge at Cascadia ranger station, half a mile downstream from Tollgate Creek, three-quarters of a mile upstream from Deer Creek, and 1½ miles southwest of Cascadia. Gaging cable is 0.7 mile upstream, above Tollgate Creek. Datum of gage is 759.38 feet (revised) above mean sea level, datum of 1929.

Drainage area.- 174 square miles at gaging cable.

Records available.- September 1935 to September 1941. Records do not include the run-off from 3 square miles between cable and gage.

Extremes.- Maximum discharge during year, 4,800 second-feet Nov. 29 (gage height, 8.25 feet); minimum, 39 second-feet Oct. 20 (gage height, 1.60 feet).
1935-41: Maximum discharge, 10,700 second-feet Jan. 22, 1938 (gage height, 12.31 feet); minimum, 23 second-feet Dec. 1, 2, 1936 (gage height, 0.98 foot).

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

Cooperation.- Water-stage recorder inspected by employees of U. S. Forest Service.

Rating table, 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 2-30)

1.6	39	3.0	455	6.0	2,410
1.8	79	3.5	690	7.0	3,380
2.0	126	4.0	970	8.0	4,500
2.3	207	4.5	1,275		
2.6	305	5.0	1,620		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	620	1,400	665	700	597	214	254	494	275	80	158
2	54	423	1,020	585	650	626	237	250	421	261	77	585
3	68	308	858	542	585	630	214	430	381.	244	80	286
4	79	241	765	524	538	524	261	630	349	237	80	220
5	66	364	971	585	488	470	385	2,040	334	220	77	185
6	56	473	1,080	700	466	421	492	1,480	425	210	75	153
7	52	1,070	948	705	438	385	430	1,130	528	198	73	131
8	48	1,520	710	660	405	357	385	1,040	515	158	71	115
9	47	1,180	620	620	470	338	421	853	452	179	71	105
10	45	850	538	600	585	317	452	710	405	170	69	125
11	43	1,080	474	575	585	306	417	625	365	162	73	192
12	43	988	417	556	538	286	381	556	338	153	80	479
13	43	740	373	645	479	272	349	506	320	150	73	434
14	43	610	345	881	438	254	324	456	303	139	71	365
15	43	558	324	965	401	240	373	409	282	134	69	430
16	43	536	314	965	373	230	413	401	286	136	67	349
17	43	522	303	1,960	349	230	470	625	306	125	65	292
18	41	518	421	2,560	331	240	484	831	434	118	65	288
19	41	439	466	2,320	310	286	461	820	635	108	67	276
20	47	419	1,070	1,600	296	272	434	726	710	100	65	417
21	86	447	1,510	1,230	282	240	405	635	570	95	63	345
22	71	391	995	1,010	268	282	377	556	488	95	61	296
23	60	350	848	864	272	278	353	488	425	95	63	258
24	510	991	792	842	342	250	324	430	425	93	75	227
25	312	1,110	760	1,700	317	230	303	385	461	91	102	207
26	173	789	1,330	1,850	289	217	286	357	430	88	128	192
27	124	1,150	2,280	1,360	303	210	272	349	381	93	142	179
28	121	1,580	1,540	1,070	338	210	258	430	349	95	139	164
29	254	3,850	1,130	887	-	214	250	405	324	88	98	153
30	403	2,310	929	776	-	210	247	393	300	84	82	142
31	635	-	770	710	-	207	-	542	-	82	77	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,754	635	41	121	0.695	0.80	7,450
November.....	26,427	3,850	241	881	5.06	5.65	52,420
December.....	26,181	2,280	303	845	4.86	5.60	51,930
Calendar year 1940.....	215,677	3,880	29	589	3.39	46.11	427,800
January.....	31,412	2,560	524	1,013	5.82	6.71	62,300
February.....	11,636	700	268	423	2.43	2.53	23,480
March.....	10,029	826	207	324	1.86	2.14	19,890
April.....	10,672	492	214	356	2.05	2.28	21,170
May.....	19,742	2,040	280	637	3.66	4.22	39,160
June.....	12,426	710	282	414	2.38	2.66	24,650
July.....	4,503	275	82	145	.633	.96	8,930
August.....	2,478	142	61	79.9	.459	.53	4,920
September.....	7,730	585	105	258	1.48	1.65	15,330
Water year 1940-41.....	167,190	3,850	41	458	2.63	35.73	331,600

South Santiam River at Waterloo, Oreg.

Location.- Water-stage recorder, lat. 44°29'55", long. 122°49'20", in NW¼ sec. 28, T. 12 S., R. 1 W., 200 yards downstream from bridge at Waterloo and 2½ miles upstream from Hamilton Creek. Datum of gage is 370.39 feet above mean sea level, datum of 1929.

Drainage area.- 640 square miles.

Records available.- July 1905 to March 1907, October 1910 to December 1911, July 1923 to September 1941.

Average discharge.- 19 years (1905-6, 1923-41), 2,641 second-feet.

Extremes.- Maximum discharge during year, 19,600 second-feet Nov. 29 (gage height, 10.40 feet); minimum, 129 second-feet Oct. 20 (gage height, 2.09 feet).
1905-7, 1910-11, 1923-41: Maximum discharge, 70,000 second-feet Mar. 31, 1931 (gage height, 22.0 feet), from rating curve extended above 31,000 second-feet; minimum, 98 second-feet Sept. 1, 2, 1940 (gage height, 1.98 feet).

Remarks.- Records excellent except those for period of backwater from aquatic vegetation, which are good. No diversion or regulation above station.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating table, water year 1940-41 except period of backwater from aquatic vegetation (gage height, in feet, and discharge, in second-feet)

2.1	132	3.5	1,260	7.0	8,500
2.3	208	4.0	1,980	8.0	11,600
2.5	320	4.5	2,730	9.0	14,800
2.7	486	5.0	3,620		
3.0	730	6.0	8,600		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	258	3,230	5,680	2,830	2,780	1,860	768	796	1,720	866	314	314
2	233	2,080	4,110	2,460	2,620	3,320	835	787	1,510	796	308	2,080
3	248	1,420	3,430	2,220	2,350	2,600	806	1,190	1,340	768	314	1,480
4	376	1,060	3,120	2,200	2,120	2,100	845	1,480	1,200	720	354	1,060
5	341	1,200	3,580	2,360	1,940	1,820	1,160	6,510	1,120	692	320	954
6	277	1,800	4,320	3,140	1,800	1,670	1,950	5,630	1,260	644	308	780
7	233	3,180	3,470	2,980	1,760	1,490	1,650	4,010	1,440	617	289	590
8	204	6,560	2,900	2,760	1,590	1,350	1,470	3,640	1,440	581	283	505
9	192	5,580	2,470	2,550	1,670	1,260	1,390	2,980	1,310	553	264	442
10	179	3,600	2,130	2,460	2,270	1,160	1,610	2,490	1,180	537	253	436
11	167	3,830	1,880	2,390	2,330	1,110	1,390	2,130	1,080	513	258	608
12	164	3,890	1,690	2,270	2,100	1,060	1,270	1,860	1,020	497	289	1,590
13	160	2,980	1,520	2,410	1,880	988	1,130	1,690	967	489	277	1,920
14	160	2,430	1,590	2,980	1,700	935	1,060	1,560	905	465	253	1,420
15	160	2,130	1,300	3,520	1,560	875	1,100	1,430	885	442	243	1,400
16	153	2,000	1,240	3,700	1,440	845	1,190	1,340	816	442	233	1,400
17	146	1,890	1,190	7,530	1,340	816	1,490	1,880	885	435	228	1,100
18	139	1,940	1,350	10,100	1,260	825	1,440	3,070	1,110	406	233	946
19	132	1,850	1,860	10,800	1,160	956	1,390	2,870	1,560	363	238	978
20	139	1,610	3,340	6,900	1,120	998	1,340	2,520	2,590	369	228	1,730
21	248	1,660	6,960	5,200	1,060	885	1,240	2,200	1,960	362	223	1,510
22	355	1,490	4,810	4,230	1,030	956	1,130	1,920	1,600	345	218	1,160
23	270	1,300	3,580	3,560	1,010	1,070	1,060	1,670	1,360	346	218	926
24	1,610	2,630	3,000	3,320	1,240	966	998	1,510	1,300	341	248	866
25	1,760	4,420	2,650	6,510	1,300	895	925	1,340	1,340	334	269	768
26	875	3,070	4,090	7,920	1,160	845	885	1,210	1,270	334	489	692
27	590	3,410	6,530	5,530	1,180	796	835	1,200	1,110	355	537	644
28	505	5,510	6,300	4,420	1,290	778	806	1,460	1,040	362	572	581
29	749	14,800	4,730	3,680	-	778	796	1,650	978	355	458	545
30	1,580	9,340	3,950	3,200	-	806	778	1,420	925	341	248	513
31	2,980	-	3,340	2,920	-	755	-	1,770	-	554	283	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				15,533	2,980	132	503	0.766	0.91	30,910		
November.....				101,790	14,800	1,060	3,320	5.20	5.91	201,900		
December.....				103,180	6,530	1,190	5,630	5.80	6.00	204,700		
Calendar year 1940.....				809,947	14,800	98	2,213	3.46	47.06	1,607,000		
January.....				128,250	10,600	2,200	4,137	6.46	7.45	284,400		
February.....				46,030	2,780	1,010	1,844	2.87	2.67	91,500		
March.....				37,862	3,320	758	1,212	1.29	2.18	74,500		
April.....				34,947	1,950	768	1,165	1.80	2.01	68,790		
May.....				67,223	6,510	787	2,168	3.39	3.91	133,300		
June.....				38,201	2,590	816	1,273	1.99	2.22	75,770		
July.....				16,034	855	334	485	.758	.87	29,880		
August.....				9,329	572	218	301	.470	.54	18,500		
September.....				30,020	2,060	314	1,001	1.66	1.74	59,540		
Water year 1940-41.....				626,849	14,800	132	1,717	2.68	36.41	1,243,000		

Peak discharge.- Nov. 29 (11:30 a.m.) 19,600 sec.-ft.; Jan. 18 (10:30 p.m.) 13,600 sec.-ft.

Note.- Stage-discharge relation affected by aquatic vegetation June 27 to Aug. 29; discharge computed on basis of two discharge measurements and gage heights.

Middle Santiam River near Foster, Oreg.

Location.- Water-stage recorder, lat. 44°28', long. 122°31', in SE¼ sec. 2, T. 13 S., R. 2 E., half a mile upstream from Green Peter Creek and 8 miles northeast of Foster. Datum of gage is 733.44 feet above mean sea level (North Pacific Ry. bench mark).

Drainage area.- 271 square miles.

Records available.- August 1931 to September 1941.

Average discharge.- 10 years, 1,411 second-feet.

Extremes.- Maximum discharge during year, 13,200 second-feet Nov. 29 (gage height, 12.03 feet); minimum, 78 second-feet Oct. 20 (gage height, 1.40 feet).
1931-41: Maximum discharge, 29,500 second-feet Mar. 18, 1932 (gage height, 17.84 feet); minimum, 54 second-feet Dec. 1, 1936 (gage height, 1.25 feet).

Remarks.- Records excellent. No regulation or diversion above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.3	68	3.5	615	8.0	4,980
1.6	102	4.0	870	9.0	6,650
2.0	167	5.0	1,540	10.0	8,550
2.5	278	6.0	2,450	11.0	10,700
3.0	427	7.0	3,600		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	1,750	2,820	1,310	1,500	1,230	392	383	815	440	160	278
2	122	1,060	2,040	1,150	1,400	1,760	421	386	720	417	156	1,390
3	190	735	1,730	1,050	1,250	1,320	398	642	666	398	160	760
4	234	556	1,600	1,040	1,110	1,070	398	1,010	598	380	160	624
5	186	656	2,090	1,330	1,020	966	604	4,340	564	387	154	517
6	151	1,030	2,330	1,780	972	864	530	2,890	611	349	147	398
7	130	2,420	1,790	1,560	918	782	756	2,050	638	337	144	325
8	118	4,230	1,480	1,450	842	720	700	1,800	646	320	139	278
9	109	2,800	1,270	1,370	966	670	690	1,450	606	302	135	246
10	103	1,810	1,100	1,350	1,300	628	720	1,210	566	289	132	283
11	99	1,990	972	1,310	1,240	594	660	1,040	517	278	140	386
12	93	1,870	870	1,250	1,100	564	602	930	492	270	144	1,270
13	96	1,430	788	1,360	998	532	548	846	480	260	135	1,010
14	96	1,190	740	1,680	900	502	510	788	437	251	130	755
15	90	1,090	690	1,840	820	481	528	720	417	246	126	776
16	87	1,060	646	2,010	755	457	568	710	411	239	122	771
17	82	1,030	615	4,740	705	444	620	1,180	453	243	121	589
18	81	1,030	686	6,540	656	467	620	1,630	572	229	118	617
19	80	964	810	5,700	815	552	620	1,480	992	220	119	646
20	94	793	2,160	3,590	585	514	606	1,280	1,430	190	116	1,120
21	194	859	3,000	2,750	556	460	572	1,110	1,020	203	113	820
22	175	735	1,820	2,150	536	525	536	978	815	201	115	642
23	144	656	1,480	1,790	540	544	506	854	710	196	116	536
24	1,220	1,800	1,360	1,790	685	499	474	766	665	190	128	467
25	771	2,210	1,410	4,210	700	464	447	695	560	186	176	411
26	408	1,500	2,340	4,320	633	437	424	642	624	188	289	376
27	286	2,010	4,020	3,080	646	421	401	670	564	194	204	346
28	268	3,010	2,940	2,370	720	411	392	826	528	188	305	317
29	544	9,970	2,200	1,960	-	411	383	859	502	180	207	294
30	1,310	4,640	1,810	1,700	-	411	376	766	470	169	165	278
31	2,070	-	1,520	1,560	-	383	-	876	-	165	151	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	9,765	2,070	80	315	1.16	1.34	19,370
November.....	56,884	9,970	556	1,896	7.00	7.81	112,800
December.....	51,126	4,020	615	1,649	6.08	7.02	101,400
Calendar year 1940.....	433,492	9,970	66	1,184	4.37	59.49	859,700
January.....	71,080	6,540	1,040	2,293	8.46	9.75	141,000
February.....	24,666	1,500	536	891	3.26	3.38	48,920
March.....	20,073	1,760	353	648	2.39	2.75	39,810
April.....	16,412	930	376	547	2.02	2.25	32,550
May.....	35,769	4,340	333	1,154	4.26	4.91	70,950
June.....	19,149	1,430	411	639	2.35	2.63	37,980
July.....	8,085	440	165	261	.963	1.11	16,040
August.....	4,815	305	113	155	.572	.66	9,550
September.....	17,426	1,390	246	581	2.14	2.39	34,560
Water year 1940-41.....	335,250	9,970	80	918	3.39	46.00	664,900

Albany power canal near Lebanon, Oreg.

Location.- Water-stage recorder, lat. 44°32'55", long. 122°54'20", in SW $\frac{1}{4}$ sec. 2, T. 12 S., R. 2 W., an eighth of a mile downstream from spillway and 1 mile north of Lebanon. Datum of gage is 322.90 feet above mean sea level, datum of 1929.

Records available.- April 1926 to September 1941. February to December 1919 at site near Albany.

Average discharge.- 15 years, 217 second-feet.

Extremes.- Maximum discharge during year, 312 second-feet Oct. 31 (gage height, 3.87 feet); minimum, 27 second-feet May 11 (gage height, 0.54 foot).
1919, 1926-41: Maximum discharge, 342 second-feet Nov. 3, 1938; no flow at times.

Remarks.- Records good except those for period of no gage-height record, which are fair. Canal diverts from South Santiam River at Lebanon and discharges into Calapooya River at mouth. Lebanon ditch discharges into canal just below canal intake. Water is used for power and water supply at Albany.

Cooperation.- Recorder inspected by employee of Mountain States Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	176	258	284	191	244	240	258	254	263	254	225	156
2	156	245	241	226	245	245	261	253	261	257	217	158
3	155	234	269	236	247	237	262	268	261	261	200	130
4	158		266	237	254	248	262	263	263	262	203	173
5	208		265	240	257	249	272	240	262	268	200	252
6	185		268	244	259	247	268	240	262	271	192	184
7	159		261	247	257	251	276	252	272	266	171	230
8	142		254	245	253	257	263	266	271	261	158	227
9	132		254	242	252	260	262	262	266	264	161	227
10	122	a249	257	242	256	256	261	295	265	274	174	227
11	120		257	243	252	252	261	229	264	276	170	237
12	118		258	241	251	247	259	279	261	266	183	237
13	112		257	241	246	243	259	261	260	264	191	274
14	112		256	246	249	247	254	264	260	256	180	265
15	112		251	246	249	257	263	260	256	252	170	262
16	111	264	249	245	241	259	271	258	258	268	160	263
17	105	265	249	201	251	259	275	262	263	266	160	260
18	104	271	247	176	261	261	281	265	268	266	155	249
19	103	272	232	190	258	260	280	278	265	262	156	253
20	104	266	170	214	257	274	265	265	260	256	158	268
21	136	264	162	220	253	258	269	260	268	251	154	256
22	208	263	207	224	250	278	271	260	257	249	153	271
23	189	259	208	244	247	297	266	262	259	250	149	268
24	258	253	206	252	252	279	262	268	266	246	163	265
25	291	252	205	229	253	265	260	266	264	242	148	262
26	269	226	197	206	253	260	260	263	270	237	180	260
27	257	237	192	226	253	259	269	263	265	256	160	262
28	246	254	198	247	259	259	256	269	261	234	135	259
29	258	217	219	249	-	258	256	272	259	233	156	260
30	287	218	224	248	-	259	253	266	258	229	157	265
31	264	-	194	247	-	256	-	266	-	227	157	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						5,357	291	103	173	10,630		
November.....						7,506	272	217	250	14,690		
December.....						7,197	269	162	232	14,280		
Calendar year 1940.....						77,856	291	48	213	154,400		
January.....						7,187	252	176	232	14,260		
February.....						7,059	261	241	252	14,000		
March.....						7,960	297	237	257	15,790		
April.....						7,954	288	253	265	15,780		
May.....						8,169	295	229	264	16,200		
June.....						7,918	285	256	264	15,710		
July.....						7,904	274	227	255	15,680		
August.....						5,296	225	135	171	10,500		
September.....						7,140	274	130	238	14,160		
Water year 1940-41.....						86,647	297	103	237	171,900		

a No gage-height record; discharge computed on basis of recorded range of stage.

Luckiamute River near Hoskins, Oreg.

Location.— Water-stage recorder, lat. 44°43', long. 123°30', in NE¼ sec. 11, T. 10 S., R. 7 W., a quarter of a mile downstream from Benton County line and 3½ miles northwest of Hoskins. Datum of gage is 378.7 feet above mean sea level (river-profile survey).

Drainage area.— 34 square miles.

Records available.— May 1934 to September 1941.

Extremes.— Maximum discharge during year, 1,640 second-feet Jan. 18 (gage height, 6.08 feet); minimum, 8 second-feet Aug. 20.

1934-41: Maximum discharge, 5,080 second-feet Dec. 29, 1937; minimum, 7 second-feet Sept. 2-5, 10, 21, 22, 1934.

Remarks.— Records good except those for period July 9 to Aug. 26, which are fair. No diversion or regulation above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 9 to Aug. 26)

0.7	7	2.2	188	4.0	750
1.0	19	2.6	291	4.5	945
1.4	54	3.0	412	5.0	1,160
1.8	111	3.5	576	6.0	1,600

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	95	255	211	236	103	64	45	58	27	13	73
2	12	67	193	190	224	116	66	52	56	27	13	89
3	19	52	195	175	204	108	70	58	53	27	14	48
4	20	44	164	164	188	100	69	146	52	25	14	45
5	16	46	197	277	177	94	142	418	50	24	12	37
6	14	43	190	317	162	92	142	263	53	23	13	31
7	12	111	170	300	148	85	128	195	47	22	12	26
8	12	258	156	260	142	82	114	160	45	21	10	24
9	11	216	139	224	148	79	109	137	43	20	10	23
10	11	152	125	200	150	76	98	120	41	20	10	32
11	15	162	114	181	139	72	92	108	38	19	11	58
12	14	132	106	166	132	67	84	97	35	19	11	250
13	14	111	98	156	125	66	80	92	34	18	10	162
14	13	94	92	152	120	64	76	84	34	18	10	116
15	13	83	84	177	113	61	74	79	33	17	10	95
16	12	73	82	283	108	59	83	79	33	16	9	79
17	18	89	90	1,040	105	81	80	148	35	16	9	68
18	16	62	121	1,520	98	72	142	40	16	9	84	9
19	14	55	121	989	94	135	67	121	52	16	8	92
20	16	70	549	614	90	111	65	109	44	15	8	92
21	19	84	617	441	86	101	60	100	37	14	9	77
22	17	70	428	341	82	101	58	92	35	14	9	67
23	24	67	341	253	89	90	58	84	34	14	9	62
24	108	114	317	355	92	84	56	79	33	14	10	56
25	53	118	341	590	82	80	54	73	36	14	14	52
26	34	111	425	603	79	76	52	69	37	14	22	47
27	27	137	441	454	80	73	51	70	33	14	28	45
28	30	258	366	359	84	70	48	73	32	14	31	43
29	47	715	297	297	-	69	47	69	31	14	20	41
30	101	384	277	253	-	66	46	66	29	14	17	40
31	108	-	241	280	-	62	-	60	-	13	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	848	108	11	27.4	0.806	0.93	1,680
November.....	4,053	715	43	135	3.97	4.43	8,040
December.....	7,322	617	80	256	6.94	8.01	14,520
Calendar year 1940.....	62,511	2,120	8	171	5.03	68.38	124,000
January.....	11,802	1,520	152	381	11.21	12.91	23,410
February.....	3,576	236	79	128	3.76	3.91	7,090
March.....	2,801	135	59	83.9	2.47	2.85	5,160
April.....	2,308	142	46	76.8	2.28	2.52	4,570
May.....	3,488	418	45	113	3.32	3.82	6,980
June.....	1,213	58	29	40.4	1.19	1.33	2,410
July.....	559	27	13	18.0	.529	.61	1,110
August.....	403	31	8	13.0	.382	.44	799
September.....	2,032	250	23	67.7	1.99	2.22	4,030
Water year 1940-41.....	40,200	1,520	8	110	3.24	43.98	79,740

Luckiamute River at Pedee, Oreg.

Location.— Staff gage, lat. 44°44'45", long. 123°25'05", near line between SW $\frac{1}{4}$ sec. 34 and SE $\frac{1}{4}$ sec. 33, T. 9 S., R. 6 W., three-quarters of a mile downstream from Pedee Creek and half a mile southwest of Pedee. Datum of gage is 243.07 feet above mean sea level, datum of 1929.

Drainage area.— 112 square miles.

Records available.— October 1940 to September 1941.

Extremes.— Maximum discharge observed during year, 3,500 second-feet Jan. 16 (gage height, 9.98 feet); minimum observed, 9 second-feet Aug. 16, 16, 23, 24 (gage height, 0.82 foot).

Remarks.— Records good except those for period July to September, which are fair. Small diversions above station for irrigation. Some diurnal fluctuation in summer caused by logponds above station. Gage read twice daily to June 30, once daily thereafter.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.8	8	1.7	79	3.5	428	7.0	1,640
1.0	16	2.0	124	4.0	550	8.0	2,190
1.2	28	2.5	213	5.0	870	9.0	2,830
1.4	45	3.0	315	6.0	1,220	10.0	3,510

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	187	535	562	545	259	134	94	108	51	19	72
2	22	134	428	515	528	294	155	110	104	49	22	172
3	29	100	394	452	481	287	171	127	99	49	28	90
4	35	85	350	419	432	241	180	235	93	47	22	69
5	30	99	421	558	421	231	373	703	93	45	13	64
6	27	87	400	721	394	215	410	481	100	45	21	53
7	24	207	366	482	351	207	337	384	92	43	10	45
8	21	532	337	607	337	195	298	322	55	43	21	41
9	21	528	304	540	355	189	275	286	83	38	22	36
10	21	719	269	495	351	183	245	243	79	36	21	45
11	21	387	237	455	341	174	223	219	74	35	21	66
12	23	309	229	394	322	165	205	204	69	36	10	357
13	20	249	209	377	302	158	192	185	67	34	20	255
14	25	205	195	375	290	153	183	178	66	31	21	192
15	24	178	194	438	271	161	176	169	65	31	22	139
16	19	150	189	535	255	139	183	157	65	27	9	121
17	22	141	171	2,140	249	139	180	249	66	29	19	99
18	27	127	295	3,260	233	185	162	279	69	27	9	90
19	24	114	298	2,210	223	267	155	227	94	26	20	118
20	22	127	1,150	1,440	211	221	143	209	92	28	21	155
21	27	180	1,410	1,060	200	198	132	194	71	24	20	111
22	28	144	978	832	195	202	129	176	66	24	22	98
23	35	132	810	688	195	183	124	162	65	24	9	90
24	211	319	768	718	217	172	119	153	63	20	9	82
25	114	304	849	1,090	194	165	115	141	69	21	24	76
26	62	251	1,090	1,150	187	169	111	135	66	21	22	74
27	46	225	1,120	954	190	158	105	132	62	24	40	66
28	43	359	905	800	204	150	104	139	58	12	37	54
29	59	1,270	740	885	-	151	102	129	55	21	41	64
30	163	727	734	610	-	141	100	127	54	28	28	55
31	172	-	640	607	-	138	-	118	-	21	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,434	211	19	46.3	0.413	0.48	2,840
November.....	8,205	1,270	85	274	2.45	2.72	11,620
December.....	17,023	1,410	171	549	4.90	5.65	33,760
Calendar year	-	-	-	-	-	-	-
January.....	26,440	3,260	375	853	7.82	8.78	52,440
February.....	9,515	545	157	304	2.71	2.83	18,590
March.....	5,855	294	138	189	1.69	1.95	11,620
April.....	5,532	410	100	184	1.64	1.84	10,970
May.....	6,680	703	94	215	1.92	2.22	13,250
June.....	2,223	108	54	76.4	1.682	.76	4,550
July.....	993	51	12	32.0	.286	.33	1,970
August.....	670	57	9	21.6	.193	.22	1,330
September.....	3,059	357	36	102	.911	1.58	6,070
Water year 1940-41.....	86,704	3,260	9	238	2.12	29.36	172,000

Luckiamute River near Suver, Oreg.

Location.— Water-stage recorder, lat. 44°47'00", long. 123°14'00", in SW¼ sec. 18, T. 9 S., R. 4 W., at highway bridge at Helmick State Park, 3 miles downstream from Little Luckiamute River, and 3 miles northwest of Suver. Datum of gage is 171.37 feet above mean sea level, datum of 1929. Prior to Oct. 16, 1940, staff gage at same site and datum.

Drainage area.— 236 square miles.

Records available.— August 1905 to October 1911, July 1940 to September 1941.

Extremes.— Maximum discharge during year, 6,820 second-feet Jan. 19 (gage height, 26.49 feet); minimum, 23 second-feet Aug. 12 (gage height, 1.78 feet).

1905-11, 1941: Maximum discharge observed, 9,970 second-feet Jan. 19, 1911 (gage height, 30.9 feet, site and datum then in use); minimum observed, 23 second-feet Aug. 30 to Sept. 1, 1940, Aug. 12, 1941.

Maximum stage known at present site, 33.5 feet from floodmark, probably on Dec. 29, 1937.

Remarks.— Records good except those for periods of no gage-height record, which are fair.

A few small diversions above station for irrigation; no diversion around station.

Some diurnal fluctuation during periods of low flow caused by millpond above station.

Gage read twice daily prior to Oct. 16.

Cooperation.— Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Jan. 19					Jan. 20 to Sept. 30				
2.0	33	5.0	296	18.0	2,550	1.8	24	8.0	755
2.3	51	6.0	409	21.0	3,320	2.0	37	10.0	1,050
2.6	72	8.0	670	24.0	4,570	2.5	72	12.0	1,400
3.0	103	10.0	985	27.0	7,180	3.0	112	15.0	1,940
3.8	147	12.0	1,340			4.0	206	18.0	2,530
4.0	194	15.0	1,910			5.0	322	21.0	3,520
						6.0	451	24.0	4,570

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	351	1,100	1,140	1,290	525	274	181	198	94	34	53
2	35	269	796	975	1,240	621	310	178	155	90	36	282
3	37	a200	669	858	1,110	578	308	222	175	65	36	241
4	43	a170	655	765	1,020	536	334	261	167	81	43	134
5	48	a142	642	954	933	492	476	1,010	161	93	39	120
6	a45	a145	798	1,520	863	464	915	1,110	168	78	35	103
7	42	a142	584	1,520	786	435	702	776	168	75	39	88
8	37	547	608	1,330	729	413	593	635	152	71	34	78
9	37	939	556	1,130	728	392	546	537	147	66	31	71
10	34	627	465	1,000	795	374	499	470	141	65	33	66
11	34	522	434	876	783	359	448	421	134	62	34	87
12	35	509	395	784	708	343	409	353	124	59	28	256
13	a37	404	360	742	651	326	380	384	119	59	30	520
14	37	333	329	707	617	310	357	334	118	58	35	333
15	37	280	308	784	581	299	338	311	116	53	31	254
16	36	244	294	1,100	547	288	344	296	113	50	34	201
17	32	221	287	2,600	518	281	360	366	109	47	28	146
18	36	208	405	5,060	491	339	326	578	123	46	33	188
19	41	a190	618	6,290	467	612	302	477	130	48	28	150
20	39	a210	1,400	4,350	444	526	294	406	157	42	29	254
21	38	243	3,100	2,710	422	438	267	365	137	46	28	228
22	46	248	2,460	1,980	404	425	252	332	122	40	26	184
23	47	214	1,790	1,620	394	a370	240	300	121	40	34	155
24	151	287	1,600	1,530	428	a345	229	274	112	41	28	142
25	266	542	1,640	1,930	420	a330	220	254	116	40	30	130
26	134	465	1,990	2,540	366	a320	209	239	119	41	43	190
27	91	422	2,390	2,140	396	a310	201	234	115	36	53	110
28	74	569	2,020	1,770	435	a300	195	232	106	40	53	104
29	79	1,570	1,620	1,620	-	294	187	234	101	38	79	101
30	178	1,710	1,410	1,330	-	290	188	225	98	40	55	96
31	309	-	1,390	1,300	-	278	-	212	-	38	49	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,179	309	32	70.3	0.298	0.34	4,320
November.....	12,943	1,710	142	431	1.83	2.04	25,670
December.....	33,231	3,100	287	1,072	4.54	5.24	65,910
Calendar year	-	-	-	-	-	-	-
January.....	54,905	6,290	707	1,771	7.50	8.65	108,900
February.....	18,596	1,290	396	664	2.81	2.93	36,860
March.....	12,116	621	278	391	1.66	1.91	24,030
April.....	10,593	815	187	353	1.50	1.67	21,010
May.....	12,206	1,110	178	394	1.67	1.92	24,210
June.....	4,052	198	98	135	.572	.64	8,040
July.....	1,747	94	36	55.4	.259	.28	3,470
August.....	1,156	63	28	38.3	.162	.19	2,380
September.....	4,958	520	53	165	.699	.78	9,830
Water year 1940-41.....	168,702	6,290	28	462	1.96	26.69	334,600

a No gage-height record; discharge computed on basis of records for stations near Hoskins and at Pades.

Mill Creek at penitentiary annex, near Salem, Oreg.

Location.— Water-stage recorder, lat. 44°52'55", long. 122°58'35", in NE¼ sec. 18, T. 8 S., R. 2 W., at State penitentiary annex 5 miles south of Salem.

Records available.— October 1940 to September 1941 in reports of Geological Survey. November 1938 to September 1940 in files of State engineer.

Extremes.— Maximum discharge during year, 1,980 second-feet Dec. 20 (gage height, 4.69 feet); minimum, 49 second-feet Aug. 31 (gage height, 0.76 foot).

1938-41: Maximum discharge, 2,470 second-feet Mar. 27, 1940 (gage height, 5.13 feet); minimum, 44 second-feet July 13, 1939.

Maximum discharge known, 9,320 second-feet Dec. 29, 1937, computed by velocity-area method on basis of discharge measurement of 7,300 second-feet made that day.

Remarks.— Records fair. Salem power canal diverts water from North Santiam River at Stayton into Mill Creek; some diversions from canal and creek above station for irrigation. Diurnal fluctuation caused by changes at headgates and small power plants above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge in second-feet)

1.5	172	2.8	640
1.7	219	3.1	810
1.9	276	3.4	980
2.2	372	3.7	1,180
2.5	495	4.1	1,440

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	200	325	526	454	354	325	253	239	284	190	181	212
2	202	282	359	391	331	359	303	247	253	200	186	236
3	219	247	468	348	380	291	285	279	241	202	193	214
4	233	227	500	337	351	267	312	300	239	167	205	214
5	227	227	500	426	334	253	391	504	230	147	186	212
6	212	225	508	438	325	239	395	380	247	177	188	200
7	202	315	418	482	315	233	362	315	253	190	179	193
8	190	482	387	387	303	222	322	312	247	190	131	174
9	184	560	376	323	322	212	306	276	247	190	184	181
10	174	426	344	300	362	207	297	259	239	195	197	184
11	190	438	322	279	331	200	267	241	236	190	207	200
12	195	406	303	262	303	190	264	239	236	193	212	209
13	190	340	285	273	282	188	267	233	236	190	217	212
14	188	309	267	325	a275	181	256	239	230	193	205	209
15	172	285	259	414	262	181	256	236	222	177	197	209
16	188	273	253	450	a245	177	282	236	225	172	200	212
17	188	267	256	948	a245	190	309	285	236	167	217	217
18	181	270	402	1,250	a240	253	276	318	233	170	212	214
19	181	259	430	1,230	233	282	259	282	230	174	212	222
20	193	273	810	233	267	241	256	230	167	207	227	227
21	200	306	1,500	630	227	253	156	239	227	165	212	222
22	212	279	900	522	219	300	217	222	219	163	214	217
23	209	262	736	454	225	282	214	212	225	165	212	217
24	331	500	646	430	247	259	212	207	230	167	233	214
25	253	545	585	500	247	253	207	207	227	172	239	207
26	188	402	610	504	236	241	200	200	212	186	222	209
27	165	459	1,130	391	225	239	200	247	209	177	225	209
28	160	526	800	344	225	233	197	279	209	165	239	202
29	177	688	605	309	-	233	193	276	212	181	222	195
30	212	724	580	297	-	259	233	262	212	179	202	195
31	267	-	590	328	-	244	-	279	-	188	158	-
Month				Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet
October.....				6,283		331		160		203		12,460
November.....				11,327		988		225		378		22,470
December.....				17,376		1,500		253		560		34,460
Calendar year 1940.....				136,725		2,390		134		374		271,200
January.....				14,841		1,250		262		479		29,440
February.....				7,857		380		219		281		15,580
March.....				7,512		358		177		242		14,900
April.....				7,932		395		156		264		15,730
May.....				8,306		504		200		268		16,470
June.....				6,956		264		209		232		15,800
July.....				5,549		202		163		179		11,010
August.....				6,344		239		158		205		12,580
September.....				6,238		236		174		208		12,370
Water year 1940-41.....				106,520		1,500		156		292		211,300

Peak discharge.— Dec. 20 (12 p.m.) 1,980 sec.-ft.; Jan. 18 (2 a.m.) 1,540 sec.-ft.
 a No gage-height record; discharge computed on basis of records for station at Salem and unpublished records of diversions at Salem.

Mill Creek at Salem, Oreg.

Location.— Water-stage recorder, lat. 44°56'05", long. 123°01'00", in NE¼ sec. 26, T. 7 S., R. 3 W., 200 feet downstream from 19th Street diversion and 30 feet upstream from State Street bridge in Salem. Prior to Oct. 10, 1940, at site 150 feet upstream at different datum.

Records available.— October 1940 to September 1941 in reports of Geological Survey. July 1933 to September 1940 in files of State engineer.

Extremes.— Maximum discharge during year, 676 second-feet Jan. 18 (gage height, 3.83 feet); minimum, 2.4 second-feet Aug. 31 (gage height, 0.23 foot).

1933-41: Maximum discharge recorded, 776 second-feet Sept. 10, 1940 (gage height, 2.60 feet, site and datum then in use); no flow Oct. 2, 1939.

Remarks.— Records good except those for periods of no gage-height record, which are fair. Salem power canal diverts water into Mill Creek near Stayton; several diversions from Mill Creek, including Shelton flood bypass 1¼ miles upstream, and 19th Street power diversion 200 feet upstream. Diurnal fluctuation caused by power plants above station.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-9, July 4 to Aug. 3, Sept. 1-30)

Oct. 1-9			Oct. 10 to Sept. 30		
1.6	39	0.6	13	1.2	94
1.8	55	.8	35	1.4	129
2.0	74	1.0	62	1.6	165
				1.8	204
				2.0	244
				2.2	283
				2.4	322
				2.6	374
				2.8	443
				3.0	515

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	151	244	204	173	173	106	88	118	8.0	25	104
2	48	124	a200	178	171	204	149	99	101	15	28	111
3	61	99	a200	163	189	164	129	118	95	12	32	76
4	70	75	a220	154	171	125	160	145	89	143	73	86
5	69	67	a225	190	169	116	208	250	78	138	33	76
6	63	67	a235	194	161	99	226	220	96	65	43	76
7	48	133	190	214	176	89	200	169	101	29	32	56
8	40	220	190	176	151	78	174	167	96	47	34	41
9	35	232	182	151	165	78	161	129	96	54	35	41
10	27	196	a165	138	192	67	152	108	86	62	59	43
11	34	198	a145	125	182	59	136	92	88	47	62	55
12	47	182	a130	109	154	50	129	88	89	53	86	70
13	47	158	a120	124	143	48	116	81	86	48	83	80
14	40	129	102	142	133	43	111	89	78	52	73	72
15	36	120	106	192	118	41	111	78	75	36	60	75
16	37	106	97	218	115	34	133	78	75	36	56	78
17	37	116	101	408	106	40	160	111	88	32	120	83
18	29	116	171	532	102	106	131	147	88	36	88	78
19	31	106	194	493	92	140	113	115	83	41	86	83
20	47	116	430	a400	89	125	97	96	86	97	75	89
21	43	143	520	a300	84	113	28	81	81	22	70	83
22	56	129	297	a270	83	160	68	68	72	16	84	76
23	59	104	273	a225	88	145	70	60	75	13	78	75
24	149	220	276	a220	104	116	65	56	80	17	96	73
25	101	240	261	261	106	109	59	52	83	17	115	62
26	46	198	348	257	99	97	52	50	55	26	96	67
27	89	212	425	194	94	88	50	84	19	25	106	62
28	19	244	317	161	84	84	50	124	7.7	13	115	53
29	19	343	273	142	-	83	44	124	7.4	28	101	47
30	56	280	252	133	-	111	89	109	6.4	16	83	50
31	101	-	259	163	-	96	-	124	-	29	78	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,628	149	19	52.5	3,230
November.....	4,824	343	67	161	9,570
December.....	7,138	520	97	230	14,160
Calendar year 1940.....	47,800	561	8	131	94,800
January.....	6,831	532	109	220	13,550
February.....	3,693	192	83	132	7,320
March.....	3,071	204	34	99.1	6,090
April.....	3,474	228	28	116	6,880
May.....	3,425	230	50	111	6,800
June.....	2,289.5	118	6.4	76.3	4,540
July.....	1,272.0	143	8.0	41.0	2,520
August.....	2,203	120	25	71.1	4,370
September.....	2,119	111	41	70.6	4,200
Water year 1940-41.....	41,970.5	532	6.4	115	83,200

a No gage-height record; discharge computed on basis of records for station at penitentiary annex, near Salem, and unpublished records of diversions..

South Yamhill River near Willamina, Oreg.

Location.- Water-stage recorder, lat. 45°03', long. 123°30', in sec. 14, T. 6 S., R. 7 W., a third of a mile upstream from Wallace Bridge, 2 miles upstream from Willamina Creek, and 2 miles southwest of Willamina. Datum of gage is 235.01 feet above mean sea level, datum of 1929.

Drainage area.- 133 square miles.

Records available.- May 1934 to September 1941.

Extremes.- Maximum discharge during year, 5,720 second-feet Jan. 18 (gage height, 5.24 feet); minimum, 12 second-feet Aug. 21.

1934-41: Maximum discharge, 14,000 second-feet Dec. 27, 1937 (gage height, 14.08 feet); minimum, 3 second-feet (regulated) Aug. 22, 1938; minimum daily, 7 second-feet Aug. 22, 1938.

Remarks.- Records good except those for October, June to September, which are fair.

Slight regulation occasionally during summer due to millpond upstream; no diversion above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 22-30)

0.8	12	2.0	580	5.0	2,240
.8	28	2.5	595	6.0	3,190
1.0	64	3.0	650	7.0	4,270
1.5	136	3.5	1,150	8.0	5,430
1.6	250	4.0	1,480		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	448	874	746	850	556	172	130	165	62	20	108
2	16	412	680	658	850	372	169	135	144	56	20	122
3	19	248	645	595	740	360	169	175	138	54	23	84
4	34	178	595	554	660	328	225	240	135	52	26	98
5	39	158	782	1,120	595	300	626	839	130	48	26	88
6	28	141	720	1,300	556	290	554	550	135	46	25	66
7	20	514	631	1,220	478	272	482	440	138	44	21	84
8	18	994	572	1,040	460	262	354	380	135	41	18	36
9	17	784	500	892	636	244	348	332	124	39	18	34
10	16	556	444	768	622	237	312	296	111	36	18	60
11	23	462	400	680	554	225	225	265	104	34	19	71
12	30	380	355	604	510	214	265	244	86	35	17	155
13	26	318	320	568	469	197	244	223	86	33	18	138
14	27	268	293	550	436	188	230	214	84	30	17	180
15	23	234	276	655	404	182	258	197	82	27	17	108
16	19	207	258	868	372	172	279	217	79	26	16	68
17	26	220	262	3,810	344	185	258	784	79	25	18	79
18	38	214	588	4,680	318	408	258	268	91	23	15	73
19	26	178	665	2,710	296	464	230	590	114	23	14	170
20	27	250	2,670	1,620	290	372	217	600	119	24	14	278
21	75	364	1,950	1,380	286	332	197	424	98	23	13	153
22	56	293	1,540	1,080	268	332	188	368	88	23	16	156
23	73	258	1,310	874	268	296	175	316	88	23	17	116
24	352	328	1,600	994	268	272	168	293	77	23	17	98
25	169	412	1,770	2,160	268	268	160	262	101	23	20	66
26	101	364	1,730	1,940	227	240	149	237	98	22	31	77
27	71	487	1,540	1,490	265	227	141	223	79	22	44	71
28	62	660	1,230	1,200	308	210	138	223	75	21	54	64
29	152	1,940	1,040	1,000	-	204	135	210	73	22	34	80
30	469	1,200	1,010	850	-	194	135	197	64	22	54	84
31	460	-	898	904	-	188	-	175	-	20	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	2,557	469	16	62.8	0.623	0.72	5,090
November.....	13,448	1,940	141	448	3.37	3.76	26,670
December.....	28,099	2,670	268	906	6.81	7.86	55,780
Calendar year 1940.....	207,053	8,030	13	566	4.26	57.92	410,700
January.....	39,607	4,580	550	1,273	9.61	11.08	78,560
February.....	12,556	850	227	448	3.37	3.51	24,900
March.....	8,369	464	172	270	2.03	2.34	16,580
April.....	7,553	626	135	252	1.89	2.11	14,980
May.....	10,447	839	130	337	2.63	2.92	20,780
June.....	3,118	165	64	104	.722	.87	6,160
July.....	1,000	62	20	32.3	.243	.28	1,980
August.....	675	54	13	21.8	.164	.19	1,340
September.....	3,080	272	34	103	.774	.86	6,110
Water year 1940-41.....	130,509	4,580	13	388	2.69	36.50	258,800

South Yamhill River near Whiteson, Oreg.

Location.- Water-stage recorder, lat. 45°10'10", long. 123°12'25", in NW¼ sec. 5, T. 5 S., R. 4 W., at Whiteson Bridge on Pacific Highway West, 1 mile downstream from Salt Creek and 1½ miles northwest of Whiteson. Datum of gage is 82.30 feet above mean sea level, datum of 1929.

Drainage area.- 502 square miles.

Records available.- July 1940 to September 1941.

Extremes.- Maximum discharge during year, 12,800 second-feet Jan. 19 (gage height, 37.54 feet); minimum, 18 second-feet Aug. 23 (gage height, 1.11 feet).

1940-41: Maximum discharge, that of Jan. 19, 1941; minimum, that of Aug. 23, 1941.

Remarks.- Records good. Slight regulation during low-water periods from log ponds upstream. Small diversions above station for irrigation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.0	54	3.5	230	8.0	910	16.0	2,485	30.0	7,820
1.5	58	4.0	284	9.0	1,080	18.0	3,010	34.0	10,160
2.0	74	5.0	438	10.0	1,280	20.0	3,580	38.0	13,140
2.5	120	6.0	588	12.0	1,620	22.0	4,200		
3.0	173	7.0	748	14.0	2,030	26.0	5,600		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	798	1,850	2,020	2,200	954	470	312	381	135	31	66
2	43	790	1,410	1,720	2,160	1,030	462	305	354	122	30	319
3	42	631	1,210	1,490	2,040	1,020	452	354	328	113	32	270
4	55	458	1,250	1,350	1,850	952	475	415	305	107	37	200
5	62	355	1,170	1,510	1,620	671	751	1,090	290	103	39	208
6	72	346	1,600	2,970	1,470	810	1,290	1,400	295	96	37	153
7	59	380	1,410	3,250	1,330	764	1,110	1,070	291	94	34	122
8	50	1,250	1,240	2,870	1,210	730	953	915	276	85	30	102
9	45	1,730	1,110	2,360	1,310	694	858	782	265	77	28	81
10	42	1,220	981	1,950	1,590	647	780	692	251	74	33	78
11	40	958	884	1,670	1,570	623	718	620	230	67	28	103
12	43	881	804	1,470	1,490	599	658	568	208	68	26	150
13	57	740	734	1,370	1,340	567	609	530	183	68	22	325
14	50	635	671	1,300	1,230	538	572	495	181	66	22	242
15	48	550	620	1,400	1,140	513	552	472	182	64	24	222
16	46	489	576	1,810	1,060	494	594	445	182	54	22	192
17	48	450	558	3,520	985	482	649	897	173	48	22	186
18	49	475	722	8,830	932	607	604	1,420	176	44	23	129
19	70	446	1,090	12,400	876	949	555	1,230	194	40	22	146
20	61	399	2,820	10,200	830	953	524	1,030	218	39	23	391
21	49	593	5,810	6,300	786	855	488	895	211	40	22	420
22	115	637	5,240	3,600	760	783	455	788	182	39	22	309
23	124	574	3,770	2,600	719	735	434	700	170	37	19	247
24	366	601	3,280	2,150	757	671	411	623	155	35	22	207
25	606	828	3,630	2,930	762	630	392	552	163	37	22	178
26	314	845	4,330	5,210	710	595	374	515	205	35	28	158
27	212	778	4,670	4,670	716	567	350	484	180	37	38	143
28	166	1,050	3,970	3,600	842	538	333	470	154	37	75	130
29	155	2,140	3,050	2,670	-	519	323	455	154	35	94	119
30	453	2,750	2,480	2,210	-	498	330	440	146	33	68	110
31	868	-	2,420	2,060	-	475	-	411	-	34	51	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,456	588	40	144	0.287	0.33	8,640
November.....	24,810	2,750	348	827	1.55	1.84	49,210
December.....	55,342	5,810	558	2,108	4.20	4.84	129,500
Calendar year	-	-	-	-	-	-	-
January.....	103,290	12,400	1,300	3,332	6.64	7.65	204,900
February.....	34,235	2,200	710	1,225	2.44	2.54	67,800
March.....	21,577	1,030	478	699	1.59	1.51	45,000
April.....	17,539	1,290	323	585	1.17	1.30	34,790
May.....	21,603	1,402	305	684	1.35	1.57	42,060
June.....	6,691	381	146	223	.444	.50	13,270
July.....	1,964	135	33	63.4	.126	.15	3,900
August.....	1,025	94	19	33.1	.066	.08	2,030
September.....	5,684	420	66	189	.376	.42	11,270
Water year 1940-41.....	307,916	12,400	19	844	1.68	22.83	610,800

a No gage-height record; discharge computed on basis of records for station near Willamina.

WILLAMETTE RIVER BASIN

Willamina Creek near Willamina, Oreg.

Location.- Water-stage recorder, lat. 45°09', long. 123°30', in N¹/₂ sec. 13, T. 5 S., R. 7 W., 4 miles north of Willamina. Datum of gage is 315.1 feet above mean sea level (river-profile survey).

Drainage area.- 62 square miles.

Records available.- June 1934 to September 1941.

Extremes.- Maximum discharge during year, 2,530 second-feet Jan. 18 (gage height, 7.09 feet); minimum, 10 second-feet Aug. 19, 20 (gage height, 1.18 feet).
1934-41: Maximum discharge, 5,720 second-feet Dec. 27, 1937 (gage height, 8.83 feet); minimum, 9 second-feet Sept. 3, 4, 1934, Sept. 9, 1935, Aug. 8-10, 19, Sept. 22-27, 1939, Aug. 17, 18, 1940.

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

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.1	8.5	2.6	164	5.0	1,075
1.4	16	3.0	255	5.5	1,350
1.7	33	3.5	415	6.0	1,870
2.0	62	4.0	605	6.5	2,040
2.3	107	4.5	825		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	97	240	279	339	138	78	63	80	35	13	73
2	13	86	198	245	321	134	76	71	74	32	14	75
3	18	60	200	225	294	134	76	81	70	32	16	39
4	24	50	177	209	267	127	86	120	65	32	16	50
5	19	46	270	380	245	121	174	238	66	30	14	42
6	15	41	282	446	228	116	160	183	70	28	13	32
7	14	122	235	412	209	111	140	158	65	27	13	27
8	14	252	209	362	203	107	127	142	62	26	12	22
9	13	185	183	321	232	104	120	125	60	24	12	20
10	14	131	164	285	240	100	114	114	55	23	12	28
11	18	134	148	255	223	95	109	102	51	22	12	33
12	15	112	134	232	209	92	102	97	48	23	13	71
13	15	92	121	216	196	87	97	93	47	20	12	52
14	14	80	114	205	187	86	93	90	46	18	12	50
15	14	70	105	240	177	84	95	86	46	17	12	43
16	14	65	100	321	168	81	112	95	45	16	11	39
17	16	68	100	1,760	160	86	109	249	46	16	11	35
18	16	67	140	1,870	152	148	100	235	51	15	11	35
19	14	59	152	1,120	144	146	93	200	54	15	10	37
20	17	72	577	794	134	121	87	154	53	15	10	114
21	30	105	557	601	129	112	82	156	47	14	11	72
22	21	87	426	478	123	112	80	136	45	15	12	55
23	34	80	376	394	123	104	76	123	43	15	12	47
24	95	112	432	390	131	96	74	114	43	15	12	41
25	48	150	469	704	121	95	71	105	53	15	14	36
26	31	127	561	717	118	92	67	100	47	15	26	34
27	24	156	549	597	125	88	66	97	41	14	30	31
28	26	244	464	505	136	86	65	98	40	14	32	30
29	68	537	394	432	-	84	65	90	39	15	20	28
30	111	324	373	378	-	81	65	86	37	14	19	28
31	100	-	321	373	-	80	-	82	-	13	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	897	111	13	22.9	0.466	0.54	1,780
November.....	3,611	537	41	127	2.05	2.29	7,560
December.....	8,791	577	100	264	4.58	5.27	17,440
Calendar year 1940.....	79,293	3,100	9.4	217	3.50	47.56	157,300
January.....	15,744	1,870	205	508	8.19	9.44	31,230
February.....	5,334	339	118	190	3.06	3.20	10,580
March.....	3,250	148	80	105	1.69	1.95	6,450
April.....	2,859	174	65	95.3	1.54	1.71	5,670
May.....	3,282	248	63	125	2.02	2.33	7,700
June.....	1,589	80	37	53.0	.855	.95	3,160
July.....	625	35	13	20.2	.326	.37	1,240
August.....	459	32	10	14.8	.239	.28	910
September.....	1,369	114	20	45.6	.735	.82	2,720
Water year 1940-41.....	48,610	1,870	10	133	2.15	29.15	96,430

North Yamhill River near Pike, Oreg.

Location.- Water-stage recorder, lat. 45°22', long. 123°17', in NE¼ sec. 27, T. 2 S., R. 5 W., 1½ miles downstream from Haskins Creek and 1½ miles west of Pike. Datum of gage is 249.2 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark). Prior to Oct. 23, 1940, staff gage at same site and datum.

Drainage area.- 48 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 2,250 second-feet Jan. 17 (gage height, 5.88 feet); minimum, 8.0 second-feet Aug. 20 (gage height, 0.98 foot).

Remarks.- Records good except those for periods of no gage-height record, which are fair. Occasional diurnal fluctuations caused by small dams upstream; no seasonal regulation. Water supply for city of McMinnville is diverted from Haskins Creek above station, mean annual diversion in water year 1940-41 being 1.31 second-feet.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.0	9	1.9	126	3.0	425	4.2	940	5.5	1,880
1.3	33	2.2	195	3.4	570	4.6	1,180		
1.6	70	2.6	301	3.8	740	5.0	1,460		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	h19	101	178	a200	301	137	55	43	50	23	12	41
2	h19	83	144	h176	279	133	54	45	46	22	12	42
3	h21	67	139	a160	257	130	54	51	45	22	15	25
4	h24	57	118	f144	233	122	67	73	44	22	13	31
5	h21	50	185	314	212	116	130	139	44	20	12	27
6	a17	46	169	390	195	107	116	107	44	20	12	23
7	h15	124	150	351	178	103	107	94	41	19	11	21
8	h15	195	133	f298	169	96	94	83	40	18	11	18
9	h13	126	116	a260	205	92	86	75	40	18	10	17
10	h13	96	101	a230	218	86	80	67	36	16	10	22
11	h18	92	90	a210	202	81	75	62	34	16	10	22
12	h15	86	81	a190	186	76	86	55	32	17	12	34
13	a15	75	75	a150	169	73	75	54	28	16	10	28
14	h15	64	70	h171	167	72	70	67	28	15	10	27
15	h14	57	67	a200	146	69	69	54	33	14	10	26
16	a14	54	64	a280	137	67	83	62	28	14	10	25
17	h15	54	f83	f1,860	128	73	75	195	30	13	10	23
18	h16	60	a100	1,340	120	144	67	181	33	12	9	23
19	h16	46	a110	722	113	133	64	144	36	12	9	46
20	a20	56	a500	520	107	107	60	120	35	11	9	51
21	h31	72	a460	411	103	97	59	103	31	11	10	40
22	h24	57	a370	333	97	96	55	90	29	10	10	33
23	f41	56	f321	290	99	86	54	80	28	11	10	29
24	99	94	397	293	101	81	52	70	28	11	10	27
25	64	90	480	564	96	78	50	60	33	12	15	24
26	51	80	a490	534	92	75	48	63	30	12	18	23
27	45	120	a460	432	113	73	46	57	27	11	22	22
28	44	190	a390	363	128	69	46	60	26	11	19	22
29	73	378	a310	310	-	59	46	55	26	11	15	21
30	107	236	a290	279	-	56	44	54	25	11	15	22
31	97	-	a240	330	-	56	-	51	-	10	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,010	107	13	32.6	0.679	0.78	2,000
November.....	2,964	378	46	96.8	2.06	2.30	5,880
December.....	6,841	500	63	221	4.60	5.30	13,670
Calendar year	-	-	-	-	-	-	-
January.....	12,345	1,880	144	398	3.29	9.56	24,490
February.....	4,540	301	92	162	3.37	3.52	9,000
March.....	2,842	144	55	91.7	1.91	2.20	5,640
April.....	2,066	130	44	68.9	1.44	1.60	4,100
May.....	2,504	195	43	80.8	1.68	1.94	4,970
June.....	1,030	60	26	34.3	.715	.80	2,040
July.....	461	23	10	14.9	.310	.36	914
August.....	379	22	9	12.2	.264	.29	752
September.....	835	51	17	27.8	.679	.65	1,660
Water year 1940-41.....	37,817	1,880	9	104	2.17	29.30	75,020

a No gage-height record; discharge computed on basis of records for Haskins Creek near McMinnville and Willamina Creek near Willamina.

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

Haskins Creek near McMinnville, Oreg.

Location.- Water-stage recorder and wooden control, lat. 45°19', long. 123°22', in NE $\frac{1}{4}$ sec. 13, T. 3 S., R. 6 W., 300 feet upstream from high-water line of McMinnville water-supply reservoir and 11 miles northwest of McMinnville.

Drainage area.- 5.7 square miles.

Records available.- October 1928 to September 1941.

Average discharge.- 13 years, 24.9 second-foot (adjusted for diversion, 1937-41).

Extremes (not adjusted for diversion).- Maximum discharge during year, 174 second-foot Jan. 17 (gage height, 2.72 feet); minimum, 0.4 second-foot Aug. 7, 8 (gage height, 1.17 feet).

1928-41: Maximum discharge, 610 second-foot Mar. 31, 1931 (gage height, 4.00 feet, before control was built); minimum prior to diversion above station, 1.0 second-foot Oct. 8, 1932.

Remarks.- Records good except those below 10 second-foot, which are fair. A small amount of water (about 1 second-foot) is diverted at a point 800 feet upstream into a 12-inch steel pipe, which delivers it into intake of McMinnville water-supply pipe line below reservoir. No regulation.

Cooperation.- Water-stage recorder inspected by employees of city of McMinnville.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-foot)
(Shifting-control method used Oct. 15-24, June 9-20)

1.2	0.7	1.5	8.9	1.8	33	2.4	113
1.3	2.1	1.6	16	2.0	55	2.6	180
1.4	4.7	1.7	24	2.2	82		

Discharge, in second-foot, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	11	19	26	40	17	8.9	5.8	7.5	3.5	1.0	9.6
2	1.2	8.4	15	23	37	17	8.4	6.6	7.5	2.7	1.3	6.2
3	1.9	7.0	15	22	35	17	8.4	7.0	7.0	2.7	1.7	4.4
4	2.3	6.2	12	20	32	15	11	12	7.0	2.7	1.3	4.7
5	1.7	5.8	18	39	29	14	22	19	7.0	2.7	1.2	3.8
6	1.2	5.8	16	45	27	14	18	16	7.5	2.5	1.0	3.0
7	.9	18	14	41	25	14	16	14	6.6	2.7	.9	2.7
8	.8	23	13	37	24	12	14	13	6.6	2.5	.8	2.3
9	.8	15	12	34	24	12	13	12	6.2	2.5	1.3	2.3
10	1.2	12	11	31	25	11	13	11	5.4	2.3	1.9	3.8
11	2.1	11	9.4	28	26	11	12	9.4	4.7	2.5	2.3	3.8
12	1.3	9.4	8.9	25	25	10	11	8.9	4.4	2.5	2.3	6.4
13	1.5	8.4	8.4	24	22	9.4	11	8.4	4.4	2.5	2.1	4.1
14	1.3	7.5	7.9	23	21	9.4	10	7.9	4.1	2.1	1.9	4.1
15	1.0	7.0	7.9	30	20	8.9	11	7.5	4.1	1.5	1.7	4.1
16	1.0	6.6	7.9	36	18	8.9	11	11	4.4	1.7	1.5	3.5
17	1.9	6.6	7.9	124	18	10	11	29	4.4	2.3	1.5	3.0
18	1.2	5.4	14	146	17	19	10	26	4.7	2.1	1.5	3.2
19	1.0	5.0	20	102	16	16	9.4	20	5.4	1.9	1.5	8.9
20	1.7	7.9	64	76	14	13	8.9	18	4.7	2.1	1.5	8.9
21	4.4	8.9	51	59	14	12	8.4	16	4.7	1.5	1.7	6.6
22	3.0	7.9	40	47	13	12	7.9	14	4.4	1.5	1.7	4.4
23	5.8	7.5	38	40	14	11	7.9	12	4.4	1.5	1.7	3.8
24	11	11	47	40	14	11	7.5	11	4.7	1.5	1.9	2.7
25	5.8	10	56	71	13	10	7.0	10	5.4	1.9	2.7	2.5
26	4.4	8.9	59	69	13	10	6.6	9.4	4.4	1.7	3.5	2.5
27	3.8	13	53	59	14	10	6.2	9.4	4.1	1.5	4.4	2.1
28	4.1	25	45	51	17	9.4	6.6	9.4	4.1	1.5	3.0	1.9
29	8.4	41	38	43	-	9.4	6.6	8.9	3.8	1.5	2.3	1.5
30	12	25	35	39	-	8.9	6.2	8.4	3.8	1.3	2.3	1.7
31	11	-	30	43	-	8.9	-	7.9	-	1.2	1.5	-

Month	Observed				Diversion for McMinnville water supply (second-foot)	Adjusted for diversion			
	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.....	12	0.8	3.25	200	0.61	237	3.96	0.677	0.78
November.....	41	5.0	11.5	685	.28	702	11.8	2.07	2.31
December.....	64	7.9	25.6	1,570	1.59	1,670	27.2	4.77	5.80
Calendar year 1940	213	.2	22.4	16,220	1.21	17,100	23.6	4.14	56.50
January.....	146	20	48.2	2,960	1.73	3,070	49.9	8.75	10.09
February.....	40	13	21.7	1,200	2.08	1,320	23.8	4.16	4.35
March.....	18	8.9	11.9	734	2.03	855	13.9	2.44	2.81
April.....	22	6.2	10.3	613	1.70	714	12.0	2.11	2.35
May.....	29	5.6	12.2	752	1.44	856	13.6	2.39	2.76
June.....	7.5	3.8	5.25	312	1.46	399	6.71	1.18	1.32
July.....	3.5	1.2	2.08	128	1.28	207	3.56	.589	.68
August.....	4.4	.8	1.83	112	.62	151	2.45	.430	.50
September.....	9.6	1.5	4.05	241	.92	296	4.97	.672	.97
Water year 1940-41	146	.8	13.1	9,510	1.31	10,460	14.4	2.53	34.48

Molalla River above Pine Creek, near Wilhoit, Oreg.

Location.- Water-stage recorder, lat. 45°01', long. 122°29', near line between secs. 30 and 31, T. 6 S., R. 3 E., 1,700 feet upstream from Pine Creek and 5 miles southeast of Wilhoit.

Drainage area.- 96 square miles.

Records available.- October 1935 to September 1941.

Extremes.- Maximum discharge during year, 3,550 second-feet Nov. 29 (gage height, 5.40 feet); minimum, 30 second-feet Oct. 19, 20, Aug. 21 (gage height, 0.85 foot).
1935-41: Maximum discharge, 10,800 second-feet Dec. 29, 1937 (gage height, 8.95 feet), from rating curve extended above 4,000 second-feet by velocity-area studies; minimum, 19 second-feet Aug. 30 to Sept. 2, 1940.

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

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 4					May 5 to Sept. 30				
0.9	24	2.0	978	4.0	1,700	0.9	24	2.0	290
1.1	49	2.5	1,250	4.5	2,250	1.1	49	2.5	295
1.3	84	3.0	780	5.0	2,980	1.3	83	3.0	830
1.6	153	3.5	1,500			1.6	160	3.5	1,200

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	671	927	384	505	527	175	135	290	122	42	104
2	87	453	558	329	480	678	187	135	266	115	40	395
3	156	537	568	303	422	495	169	211	241	110	45	105
4	130	268	505	296	350	401	154	420	217	105	45	198
5	92	253	690	372	345	341	268	1,950	208	98	45	151
6	73	217	697	448	325	300	335	1,150	227	92	40	142
7	60	718	558	490	307	271	300	517	248	87	39	112
8	52	1,590	480	462	285	246	274	664	241	55	36	94
9	46	1,000	409	428	307	227	260	530	230	51	35	81
10	42	639	356	418	341	211	240	435	211	77	34	120
11	41	627	315	401	329	199	217	375	196	75	35	202
12	39	574	289	384	307	187	202	398	187	74	34	465
13	38	468	284	435	285	173	187	302	175	70	35	329
14	36	354	243	466	264	164	173	255	166	66	34	515
15	35	360	227	525	246	156	199	255	154	62	33	283
16	33	364	214	627	250	145	205	255	151	61	32	234
17	32	396	208	1,470	214	146	214	572	150	59	32	196
18	32	426	227	2,410	202	196	221	622	169	58	31	127
19	31	364	289	1,960	193	225	221	610	276	54	32	214
20	33	333	984	1,170	184	243	217	585	402	53	31	339
21	73	314	1,210	540	175	211	205	445	306	51	30	276
22	78	274	780	645	187	257	193	380	258	60	31	227
23	65	250	515	558	173	225	178	325	227	48	32	196
24	675	620	536	563	227	254	164	290	211	45	39	166
25	440	724	520	1,470	224	250	153	282	196	47	45	142
26	254	536	535	1,600	217	217	143	244	178	47	75	155
27	178	1,010	363	1,100	257	205	136	255	163	45	101	120
28	153	1,590	710	795	303	199	128	294	154	45	130	108
29	251	2,920	674	633	-	193	125	256	148	44	72	95
30	694	1,520	490	550	-	184	126	272	135	44	54	92
31	840	-	418	500	-	173	-	306	-	42	45	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,794	840	31	155	1.61	1.86	9,510
November.....	19,970	2,920	247	666	6.94	7.74	59,810
December.....	15,490	1,210	208	532	5.54	6.59	32,710
Calendar year 1940.....	161,652	4,730	19	442	4.60	62.54	320,600
January.....	22,565	2,410	296	738	7.69	5.88	45,360
February.....	7,597	608	187	222	2.94	5.06	15,650
March.....	7,935	678	146	258	2.89	5.09	15,830
April.....	5,945	333	128	198	2.06	2.50	11,790
May.....	13,594	1,950	133	451	4.70	5.42	27,780
June.....	6,359	402	133	213	2.22	2.48	12,670
July.....	2,115	122	42	65.2	.710	.82	4,200
August.....	1,357	130	30	44.7	.466	.64	2,750
September.....	6,067	465	51	202	2.10	2.35	12,050
Water year 1940-41.....	115,900	2,920	30	318	3.31	44.91	229,900

Peak discharge.- Nov. 29 (6 a.m.) 3,550 sec.-ft.; Jan. 15 (5 p.m.) 2,780 sec.-ft.

Molalla River near Molalla, Oreg.

Location (revised).— Staff gage, lat. 45°10', long. 122°32', in SW¼ sec. 2, T. 5 S., R. 2 E., at bridge 2 miles northeast of Molalla.

Records available.— July 1938 to September 1941 (incomplete). November 1905 to July 1909 at site at Dickey Prairie, in sec. 23, 3 miles (revised) upstream.

Extremes.— Maximum discharge observed during period, 710 second-feet Sept. 2 (gage height, 3.10 feet), from rating curve extended above 260 second-feet; minimum observed, 22 second-feet Aug. 22, 23.
1905-9, 1938-41: Maximum daily discharge, 9,800 second-feet Feb. 5, 1907, from rating curve extended above 1,600 second-feet; minimum observed, that of Aug. 22, 23, 1941.

Remarks.— Records poor. Two small diversions above station for irrigation, and a larger diversion a quarter of a mile upstream into Woodcock Creek for flour mill on Milk Creek.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										210	56	80
2										204	59	e450
3										193	62	276
4										185	65	307
5										177	56	300
6										166	53	254
7										155	51	199
8										150	48	166
9										145	48	138
10										135	46	349
11												
12										130	48	370
13										126	48	e520
14										126	49	492
15										117	43	460
16										112	36	410
17										92	30	335
18										92	27	294
19										85	26	276
20										81	27	402
21										78	27	426
22										74	27	363
23										71	22	314
24										68	22	276
25										68	34	234
26										65	35	204
27										65	81	204
28										65	100	182
29										65	145	171
30										64	81	152
31										62	70	145
										59	59	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						-	-	-	-	-		
May.....						-	-	-	-	-		
June.....						-	-	-	-	-		
July.....						3,485	210	59	112	6,910		
August.....						1,880	145	22	61.0	3,130		
September.....						8,709	520	80	290	17,270		
The period.....						-	-	-	-	27,310		

e Gage reading not representative of average for day; discharge computed on basis of records for stations near Wilhoit and Canby.

Molalla River near Canby, Oreg.

Location.- Water-stage recorder, lat. 45°15', long. 122°41', in NE¼ sec. 9, T. 4 S., R. 1 E., at bridge 1½ miles south of Canby. Datum of gage is 104.56 feet above mean sea level, datum of 1929.

Drainage area.- 323 square miles.

Records available.- August 1928 to September 1941.

Average discharge.- 13 years, 951 second-feet.

Extremes.- Maximum discharge during year, 7,580 second-feet Nov. 29 (gage height, 7.92 feet); minimum, 46 second-feet Aug. 22 (gage height, 1.85 feet).

1928-41: Maximum discharge, 22,300 second-feet Mar. 31, 1931 (gage height, 14.7 feet), from rating curve extended above 13,000 second-feet; minimum, 25 second-feet Sept. 14, 1938; minimum daily, 36 second-feet Sept. 7, 1935.

Remarks.- Records good. A few small diversions above station for irrigation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 29				Nov. 30 to Sept. 30					
2.0	86	3.5	1,140	6.0	4,340	1.8	41	3.0	655
2.3	210	4.0	1,680	7.2	6,290	2.0	76	4.0	1,890
2.6	355	4.5	2,280			2.3	203	5.0	2,920
3.0	565	5.0	2,920			2.6	375	6.2	4,640

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	1,560	2,760	998	1,060	680	345	268	759	256	74	128
2	148	1,050	1,970	885	1,020	1,190	363	274	680	251	76	566
3	238	795	1,650	797	928	977	339	338	615	240	76	401
4	313	633	1,500	778	858	835	327	446	542	230	90	321
5	243	536	1,510	797	788	714	357	2,620	498	214	83	351
6	190	496	1,670	988	732	625	542	2,290	520	193	79	315
7	160	756	1,460	1,060	689	565	505	1,580	558	198	79	256
8	140	2,350	1,280	1,030	625	512	479	1,530	550	189	74	219
9	128	2,330	1,140	935	610	479	446	1,100	512	174	66	193
10	120	1,590	977	895	672	460	434	905	479	165	58	224
11	120	1,430	875	865	655	440	408	768	446	165	66	408
12	128	1,560	778	826	618	414	375	672	427	150	71	618
13	110	1,120	689	865	572	388	351	610	408	146	71	618
14	106	940	640	966	550	369	327	572	375	146	68	528
15	96	840	595	1,090	520	351	357	520	357	142	58	505
16	93	804	550	1,220	486	333	408	498	333	119	58	440
17	93	795	528	2,700	466	321	453	758	339	114	49	376
18	93	930	580	4,080	440	363	460	1,450	363	110	54	333
19	89	804	640	4,190	427	460	453	1,350	408	103	61	394
20	89	716	1,730	2,800	408	466	446	1,140	640	103	56	498
21	117	716	3,440	2,100	398	414	434	977	565	86	56	453
22	170	633	2,360	1,660	375	453	408	826	492	90	51	398
23	160	578	1,610	1,400	369	550	382	706	453	90	54	333
24	1,000	1,080	1,520	1,270	420	505	357	618	408	83	61	297
25	1,200	1,840	1,320	1,710	479	460	327	542	382	83	86	256
26	674	1,480	1,420	2,480	440	434	315	498	363	86	110	235
27	480	1,780	2,040	1,680	460	414	291	528	327	83	155	235
28	392	5,040	1,880	1,520	528	388	280	580	315	90	230	203
29	411	6,200	1,580	1,280	-	382	268	618	297	86	179	198
30	724	4,520	1,390	1,110	-	375	262	558	286	83	132	184
31	1,200	-	1,180	1,070	-	351	-	740	-	76	110	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	9,378	1,200	89	303	0.938	1.08	18,600
November.....	43,482	6,200	496	1,449	4.49	5.01	86,250
December.....	43,462	3,440	528	1,402	4.34	5.00	86,210
Calendar year 1940.....	347,493	6,310	38	949	2.94	40.01	689,100
January.....	46,245	4,190	778	1,492	4.62	5.32	91,730
February.....	16,577	1,060	369	592	1.83	1.91	32,880
March.....	15,668	1,190	321	505	1.66	1.80	31,080
April.....	11,499	542	262	383	1.19	1.32	22,610
May.....	26,760	2,620	268	863	2.67	3.08	53,080
June.....	13,700	759	286	457	1.41	1.58	27,170
July.....	4,344	266	76	140	.433	.50	8,620
August.....	2,591	230	49	83.6	.269	.30	5,140
September.....	10,475	618	128	349	1.08	1.21	20,780
Water year 1940-41.....	244,181	6,200	49	669	2.07	28.11	484,400

Peak discharge.- Nov. 29 (2 p.m.) 7,580 sec.-ft.; Jan. 18 (10 p.m.) 5,260 sec.-ft.

Pudding River near Mount Angel, Oreg.

Location.- Wire-weight gage, lat. 45°03'49", long. 122°49'45", in SE¼ sec. 8, T. 6 S., R. 1 W., at Cline Bridge, 2 miles west of Mount Angel and 4 miles upstream from Little Pudding River. Datum of gage is 119.78 feet above mean sea level, datum of 1929.

Drainage area.- 207 square miles.

Records available.- October 1939 to September 1941.

Extremes.- Maximum discharge observed during year, 2,180 second-feet Nov. 30 (gage height, 18.27 feet); minimum observed, 24 second-feet Aug. 21 (gage height, 0.81 foot). 1939-41: Maximum discharge, 3,590 second-feet Dec. 17, 1939 (gage height, 20.8 feet, from graph based on gage readings); minimum observed, 10 second-feet Aug. 23-26, 1940 (gage height, 0.57 foot).

Remarks.- Records fair. Some small diversions for irrigation above station; no regulation. Gage read twice daily Dec. 10 to Mar. 18, once daily at other times.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 30					Dec. 2 to Sept. 30				
1.2	32	4.0	259	11.0	1,300	0.8	24	3.0	143
1.6	51	5.0	384	13.0	1,820	1.2	39	5.0	411
2.0	75	6.0	522	15.0	1,960	1.6	59	7.0	703
2.6	110	7.0	687	17.0	2,320	2.0	83	9.0	1,020
3.0	152	9.0	975						

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	811	a1,800	977	831	358	240	182	280	110	36	a160
2	64	860	1,400	863	838	a700	253	170	259	97	37	278
3	46	525	1,120	753	720	607	289	205	230	90	39	204
4	100	413	1,140	786	872	482	343	a350	220	89	43	117
5	81	384	1,000	781	628	468	426	1,170	a215	a84	41	110
6	73	328	1,080	a680	569	432	484	1,050	a240	a81	35	98
7	65	313	930	958	564	401	466	770	a230	a75	31	96
8	54	972	854	940	523	369	460	a650	210	a74	28	86
9	46	1,280	791	886	502	a350	424	580	202	70	28	86
10	41	1,080	710	790	558	a330	382	542	190	60	27	88
11	40	978	846	739	a540	310	333	a520	172	87	26	131
12	38	873	853	691	495	293	312	a470	158	56	29	162
13	36	798	530	658	470	272	326	a400	187	54	30	261
14	35	670	492	694	445	251	288	346	156	62	35	234
15	34	596	453	782	414	241	281	326	155	50	31	216
16	34	579	428	857	390	231	286	320	153	46	29	172
17	34	576	404	1,320	372	223	332	334	180	46	28	148
18	33	536	467	1,740	355	246	276	610	167	46	26	125
19	33	470	673	2,170	354	303	272	642	276	46	25	113
20	33	398	1,020	1,790	321	343	253	445	289	44	25	a120
21	34	508	2,030	1,530	304	287	229	414	259	43	24	a270
22	40	452	1,850	1,300	293	313	216	363	235	42	26	a210
23	71	424	1,490	1,110	282	339	201	306	183	41	31	a190
24	438	a397	1,300	1,030	342	313	185	278	181	40	35	a170
25	698	a1,000	a1,100	1,110	369	289	174	269	164	39	47	a150
26	508	a850	1,190	1,190	321	265	166	235	155	39	79	a130
27	358	a900	1,640	1,200	316	242	161	237	148	39	90	a110
28	194	1,040	1,650	1,190	345	255	156	277	a140	37	123	96
29	246	1,510	1,340	914	-	235	153	354	133	37	77	88
30	371	2,180	1,200	846	-	284	182	317	126	a37	75	84
31	581	-	1,080	921	-	255	-	a340	-	37	a90	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,478	668	33	144	0.696	0.80	8,880
November.....	22,490	2,180	213	750	3.62	4.04	44,610
December.....	32,092	2,030	404	1,035	5.00	5.77	63,680
Calendar year 1940.....	218,963	3,230	10	506	2.89	39.33	434,300
January.....	32,856	2,170	688	1,044	5.04	5.81	64,180
February.....	13,143	838	282	469	2.27	2.36	26,070
March.....	10,265	700	223	331	1.80	1.84	20,360
April.....	8,489	484	182	283	1.37	1.53	16,840
May.....	13,332	1,170	152	430	2.08	2.40	26,440
June.....	8,532	289	125	194	0.97	1.05	11,670
July.....	1,762	110	37	56.8	0.274	0.32	3,490
August.....	1,322	123	24	42.6	0.206	.24	2,620
September.....	4,503	278	84	150	0.725	.81	8,930
Water year 1940-41.....	150,064	2,180	24	411	1.99	26.97	297,600

a No gage-height record; discharge computed on basis of records for station at Aurora.

a Gage reading not representative of average for day; discharge computed on basis of records for station at Aurora.

Pudding River at Aurora, Oreg.

Location.— Wire-weight gage, lat. 45°14', long. 122°45', in Sec. 12, T. 4 S., R. 1 W., at highway bridge at Aurora, half a mile upstream from Mill Creek. Datum of gage is 76.79 feet above mean sea level, datum of 1929.

Drainage area.— 493 square miles.

Records available.— October 1928 to September 1941.

Average discharge.— 13 years, 1,040 second-feet.

Extremes.— Maximum discharge observed during year, 4,230 second-feet Dec. 22 (gage height, 14.18 feet); minimum observed, 54 second-feet Aug. 21 (gage height, 0.16 foot). 1928-41: Maximum discharge, 13,800 second-feet Dec. 30, 1937 (gage height, 24.5 feet, from graph based on gage readings), from rating curve extended above 9,000 second-feet; minimum, 37 second-feet Sept. 9, 12, 1935. Maximum stage known, 25.0 feet Jan. 9, 1923 (discharge, 14,500 second-feet, from subsequent rating curve extended above 9,000 second-feet).

Remarks.— Records good except those below 400 second-feet, which are fair. Small diversions above station; slight regulation at times in summer by mills on tributaries. Gage read twice daily Oct. 1 to June 30, once daily thereafter.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.1	49	1.2	177	2.5	408	5.0	960	10.0	2,480
.4	77	1.6	241	3.0	509	6.0	1,210	12.0	3,230
.8	122	2.0	312	4.0	724	8.0	1,810	14.0	4,130

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	960	3,510	1,750	1,540	680	434	282	572	227	68	98
2	117	1,060	2,850	1,510	1,540	1,060	422	265	561	203	67	109
3	106	900	2,130	1,330	1,390	1,240	440	281	488	195	66	206
4	117	724	1,810	1,210	1,240	1,060	442	369	428	182	69	320
5	145	593	1,630	1,210	1,140	912	468	582	394	176	73	234
6	151	520	1,630	1,360	1,060	804	562	1,450	373	172	83	206
7	132	520	1,970	1,540	995	736	713	1,450	384	164	78	189
8	118	540	1,420	1,690	936	669	768	1,160	404	154	71	168
9	105	1,690	1,500	1,540	876	625	702	1,010	377	145	67	140
10	100	1,970	1,180	1,590	876	582	636	540	550	154	63	131
11	94	1,630	1,060	1,240	948	551	593	724	320	126	61	132
12	92	1,420	948	1,140	912	520	551	647	294	125	61	171
13	91	1,240	652	1,060	840	458	509	582	272	116	71	227
14	89	1,060	770	1,140	782	460	468	540	262	112	73	307
15	87	936	702	1,300	724	436	450	520	256	111	64	301
16	87	916	647	1,540	680	412	462	488	244	100	62	301
17	85	747	614	2,060	647	402	520	488	244	95	59	280
18	84	724	636	3,030	614	408	520	753	268	90	58	243
19	83	736	888	4,030	582	478	468	924	290	86	58	216
20	82	658	1,160	4,030	562	593	428	816	327	86	56	227
21	81	625	3,560	3,560	530	562	396	713	400	83	54	325
22	81	702	4,180	2,950	509	498	369	836	399	81	55	314
23	138	669	3,560	2,340	498	562	350	662	329	75	56	267
24	192	658	2,630	1,720	509	593	331	498	308	73	59	236
25	636	1,210	2,270	1,720	604	530	316	458	299	72	61	211
26	782	1,510	1,930	2,160	614	468	301	420	308	73	67	192
27	551	1,330	2,550	2,300	562	462	287	398	286	73	83	174
28	404	1,510	2,910	1,990	582	440	272	420	266	71	106	165
29	335	2,160	2,620	1,660	-	428	262	468	241	72	133	161
30	368	3,270	2,240	1,480	-	428	256	530	234	72	149	147
31	658	-	1,990	1,390	-	448	-	509	-	72	115	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	6,359	782	81	205	0.416	0.48	12,610
November.....	33,288	3,270	520	1,110	2.25	2.51	66,030
December.....	57,757	4,180	614	1,863	3.78	4.36	114,600
Calendar year 1940.....	394,912	8,380	43	1,079	2.19	29.80	753,400
January.....	88,420	4,030	1,080	1,885	3.82	4.41	115,900
February.....	25,282	1,540	496	832	1.59	1.76	46,180
March.....	18,585	1,240	402	599	1.22	1.40	36,900
April.....	13,688	768	258	456	.925	1.03	27,150
May.....	19,798	1,450	262	638	1.29	1.49	39,250
June.....	10,117	572	234	337	.684	.76	20,070
July.....	3,620	227	71	117	.237	.27	7,180
August.....	2,268	149	54	73.2	.148	.17	4,600
September.....	6,567	325	98	213	.432	.48	12,670
Water year 1940-41.....	253,629	4,180	54	695	1.41	19.12	502,900

WILLAMETTE RIVER BASIN

Butte Creek at Monitor, Oreg.

Location.— Staff gage, lat. 45°06', long. 122°45', in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 5 S., R. 1 W., at highway bridge in Monitor, 5 miles upstream from mouth.

Drainage area.— 64 square miles.

Records available.— October 1940 to September 1941 in reports of Geological Survey. January to December 1936 in files of State engineer.

Extremes.— Maximum discharge observed during year, 1,020 second-feet Nov. 29 (gage height, 5.34 feet); minimum observed, 7.3 second-feet Aug. 9, 10, 1936, 1940-41; Maximum discharge observed, that of Nov. 29, 1940; minimum, that of Aug. 9, 10, 1941.

Remarks.— Records fair. Small diversions above station for irrigation. Some diurnal fluctuation caused by mills at Scotts Mills. Gage read twice daily to Mar. 31, once daily thereafter.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	229	383	215	229	127	74	47	143	42	9.1	14
2	17	192	318	196	218	204	71	47	126	39	8.5	122
3	32	146	299	179	190	173	69	76	110	37	9.7	65
4	41	113	330	181	173	160	69	268	98	36	12	46
5	28	96	299	162	160	133	86	436	88	34	10	46
6	23	91	286	209	162	120	129	313	101	30	9.4	40
7	20	194	264	240	143	108	126	286	101	30	8.2	32
8	18	429	234	232	133	99	112	264	94	28	7.6	30
9	17	378	212	216	133	91	108	226	82	26	7.3	28
10	15	322	190	204	143	86	101	173	76	24	7.3	33
11	16	281	165	187	131	82	98	150	71	24	9.7	52
12	14	262	147	176	122	76	88	135	64	23	11	67
13	14	214	151	181	114	72	79	120	63	22	10	70
14	13	189	120	201	108	69	76	112	61	20	9.7	69
15	12	164	108	218	101	65	86	101	66	18	9.1	64
16	12	148	106	a234	96	63	82	94	53	18	8.5	56
17	12	136	103	a440	91	62	79	147	60	20	8.5	50
18	11	166	146	731	86	80	76	218	66	17	8.5	62
19	10	123	166	628	79	96	79	201	75	16	7.9	53
20	11	121	566	411	76	90	78	173	94	16	7.9	66
21	23	133	678	360	74	84	62	162	82	14	8.2	63
22	29	116	400	310	71	101	60	133	71	13	8.5	56
23	22	107	363	271	72	108	57	120	66	13	9.1	60
24	261	167	318	267	90	99	64	108	62	13	10	46
25	164	267	268	346	88	92	62	94	62	12	12	40
26	99	249	302	392	76	88	51	91	66	12	18	37
27	71	244	a340	356	82	85	49	101	61	12	22	37
28	58	339	358	286	92	79	47	106	66	13	38	32
29	74	978	316	267	-	82	46	110	49	12	23	30
30	166	579	293	234	-	76	45	94	48	12	19	28
31	214	-	261	234	-	74	-	181	-	9.7	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	1,523	261	10	49.1	0.767	0.89	3,020
November.....	7,149	978	91	238	3.72	4.16	14,180
December.....	8,466	678	103	273	4.27	4.91	16,770
Calendar year 1940.....	-	-	-	-	-	-	-
January.....	8,740	731	162	282	4.41	5.08	17,340
February.....	3,322	229	71	119	1.86	1.93	6,590
March.....	3,014	204	62	97.2	1.62	1.75	5,980
April.....	2,286	129	46	76.2	1.19	1.33	4,530
May.....	4,862	456	47	167	2.46	2.83	9,640
June.....	2,296	145	49	78.5	1.20	1.33	4,650
July.....	652.7	42	9.7	21.1	.530	.39	1,290
August.....	363.7	38	7.3	11.7	.183	.21	721
September.....	1,460	122	14	48.7	.761	.86	2,900
Water year 1940-41.....	44,123	978	7.3	121	1.89	26.64	87,510

a No gage-height record; discharge computed on basis of records for Molalla River near Canby.

Tualatin River at Gaston, Oreg.

Location.- Water-stage recorder, lat. 45°26'15", long. 123°08'40", in SE¼ sec. 35, T. 1 S., R. 4 W., at highway bridge at Gaston. Datum of gage is 163.18 feet above mean sea level, datum of 1929.

Drainage area.- 45 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 2,300 second-feet Jan. 18 (gage height, 13.04 feet); minimum daily, 13 second-feet Aug. 18-20.

Remarks.- Records fair except those for periods of no gage-height record and periods of variable backwater effect, which are poor. Diurnal fluctuation caused by logponds above station; dam 1 mile below station causes backwater at times. Small diversions above station for irrigation.

Cooperation.- Results of seven discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	154	234	243	345	152	70	54	58	25	16	40
2	24	109	169	209	342	155	69	53	54	23	16	98
3	25	77	147	186	320	150	70	61	51	23	19	52
4	26	57	128	172	289	140	79	67	50	23	17	55
5	29	49	190	258	263	130	133	86	49	22	16	52
6	26	40	320	468	239	121	188	126	51	22	16	47
7	24	84	231	417	216	114	164	108	48	22	15	37
8	23	213	177	345	199	105	138	96	47	21	15	33
9	23	191	138	300	227	102	124	84	47	21	14	28
10	20	120	115	269	257	96	113	77	38	20	14	27
11	20	110	98	245	253	91	102	71	33	20	14	32
12	24	92	89	223	228	84	96	68	31	21	16	34
13	23	78	78	212	205	82	89	67	30	20	14	46
14	27	68	a73	204	190	77	86	64	30	19	14	39
15	25	58	69	249	174	77	82	62	31	19	14	37
16	24	52	66	339	161	71	88	63	31	18	14	35
17	25	51	64	1,060	152	74	90	200	33	18	14	33
18	28	52	96	1,760	142	123	83	247	36	17	13	30
19	28	47	115	961	134	174	76	175	38	17	13	28
20	27	47	620	678	126	147	74	141	35	16	13	74
21	35	72	643	528	120	128	72	114	31	15	14	56
22	36	61	449	437	114	125	68	98	29	14	14	50
23	34	59	377	376	112	111	66	96	29	15	14	43
24	103	77	490	352	118	104	64	80	29	15	15	40
25	83	118	538	567	114	97	63	70	38	16	16	38
26	52	110	590	675	104	93	60	66	33	16	23	36
27	44	114	566	508	129	86	58	54	30	15	24	31
28	40	167	444	417	141	83	56	55	25	15	46	31
29	51	648	366	360	-	80	57	52	25	15	25	27
30	139	370	328	321	-	78	57	51	27	15	19	24
31	151	-	286	355	-	73	-	51	-	14	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,262	151	20	40.7	0.904	1.04	2,500
November.....	3,545	648	40	118	2.82	2.93	7,030
December.....	8,284	643	64	267	5.93	6.85	16,430
Calendar year	-	-	-	-	-	-	-
January.....	13,694	1,760	172	442	9.82	11.32	27,160
February.....	5,414	345	104	193	4.29	4.47	10,740
March.....	3,323	174	71	107	2.38	2.76	6,590
April.....	2,635	168	56	87.8	1.95	2.18	5,250
May.....	2,747	247	51	83.8	1.97	2.27	5,450
June.....	1,117	58	25	37.2	.827	.92	2,220
July.....	572	25	14	18.5	.411	.47	1,130
August.....	526	46	13	17.0	.378	.43	1,040
September.....	1,233	98	24	41.1	.913	1.02	2,450
Water year 1940-41.....	44,352	1,760	13	122	2.71	36.65	87,970

Peak discharge.- Nov. 29 (10:30 a.m.) 804 sec.-ft.; Dec. 21 (1 a.m.) 793 sec.-ft.; Jan. 18 (7 a.m.) 2,300 sec.-ft.; Jan. 28 (9 p.m.) 825 sec.-ft.

No gage-height record; discharge computed on basis of records for station at Dilley, Scoggin Creek near Gaston, and North Yamhill River near Pike.

Note.- Variable backwater effect from Wapato diversion dam 1 mile below station Oct. 1-10, June 10-13, 16-20, July 5 to Sept. 1, Sept. 7-12, 14-30; discharge computed on basis of four discharge measurements and records for station at Dilley, Scoggin Creek near Gaston, and North Yamhill River near Pike.

WILLAMETTE RIVER BASIN

Tualatin River near Dilley, Oreg.

Location.- Chain gage, lat. 45°28'25", long. 123°07'20", in NW¼ sec. 24, T. 1 S., R. 4 W., at county road bridge three-quarters of a mile downstream from Scoggin Creek and 1½ miles south of Dilley. Datum of gage is 151.10 feet above mean sea level (datum of 1929).

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 3,990 second-feet Jan. 18 (gage height, 12.20 feet); minimum observed, 4 second-feet Aug. 21 (gage height, 0.35 foot).

Remarks.- Records fair except those for periods of low flow, which are poor. Diversions above station for irrigation, chiefly in Wapato Lake area. Diurnal fluctuation caused by dam below Gaston.

Cooperation.- Results of six discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	251	586	559	712	307	142	59	114	57	11	30
2	37	241	451	454	678	316	138	55	100	55	15	225
3	41	168	376	431	645	303	135	113	88	53	20	92
4	41	128	341	410	618	300	147	109	84	45	30	74
5	42	105	313	416	564	250	196	230	84	42	12	72
6	40	88	523	595	505	262	317	221	88	41	12	64
7	37	86	454	521	456	248	296	196	84	39	23	48
8	35	346	417	762	416	225	265	177	79	34	22	44
9	35	384	360	677	419	221	217	155	79	34	8	38
10	34	292	307	602	456	206	225	139	75	34	8	35
11	34	244	263	537	480	198	202	125	59	33	24	44
12	40	211	256	485	444	182	181	117	61	16	25	47
13	38	178	206	448	423	179	170	108	59	17	22	51
14	41	146	191	429	386	170	157	102	57	14	17	52
15	38	123	177	429	361	169	155	101	57	14	13	58
16	31	114	163	580	337	156	156	92	57	14	12	51
17	31	109	158	364	317	153	169	174	63	17	12	48
18	38	118	208	3,790	290	233	153	361	59	14	14	48
19	38	100	277	2,600	276	303	147	329	71	11	12	51
20	36	99	678	1,490	258	277	140	277	84	11	6	98
21	49	160	1,140	1,050	290	251	131	218	59	23	4	80
22	58	143	1,020	917	233	244	121	193	57	21	10	68
23	47	135	845	815	225	218	113	158	53	20	9	58
24	191	138	835	735	241	204	110	144	52	15	12	54
25	184	261	908	900	239	189	108	127	75	13	8	51
26	102	259	954	1,100	218	178	102	122	67	11	35	48
27	70	228	994	960	259	173	61	102	61	14	37	41
28	66	328	917	802	239	167	54	110	61	21	65	41
29	82	869	827	774	-	156	61	114	55	17	39	38
30	191	783	726	684	-	155	60	101	49	13	30	38
31	281	-	654	654	-	152	-	108	-	11	17	-

Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....				2,066	281	31	66.6	4,100
November.....				6,871	783	86	222	13,230
December.....				16,536	1,140	159	533	32,800
Calendar year				-	-	-	-	-
January.....				25,690	3,790	410	867	53,340
February.....				10,988	712	218	392	21,790
March.....				6,775	316	152	219	13,440
April.....				4,629	317	54	154	9,180
May.....				4,757	361	55	153	9,440
June.....				2,092	114	49	69.7	4,150
July.....				774	57	11	25.0	1,540
August.....				582	65	4	18.8	1,150
September.....				1,787	225	30	59.6	3,540
Water year 1940-41.....				84,547	3,790	4	232	167,700

Tualatin River at Farmington, Oreg.

Location.— Staff gage, lat. 45°27'00", long. 122°57'00", in SE¼ sec. 29, T. 1 S., R. 2 W., at highway bridge at Farmington, 7½ miles southwest of Beaverton. Auxiliary staff gage at highway bridge 6½ miles downstream, 1 mile northeast of Scholls. Datum of each gage is 100.58 feet above mean sea level, datum of 1929; prior to Oct. 1, 1940, datum of each gage was 2.00 feet higher. All discharge measurements made at Farmington.

Drainage area.— 568 square miles.

Records available.— October 1939 to September 1941.

Extremes.— Maximum discharge observed during year, 6,960 second-feet Jan. 21 (gage height, 28.38 feet); minimum observed, 34 second-feet Aug. 22.

1939-41: Maximum discharge observed, 8,890 second-feet Feb. 8, 1940; maximum gage height observed, 29.2 feet Feb. 9, 1940; minimum discharge observed, that of Aug. 22, 1941.

Maximum stage known, about 37 feet (present datum) at Farmington, Dec. 22 or 23, 1933.

Remarks.— Records for October poor; others good above and fair below 900 second-feet.

Daily discharge ascertained from stage at Farmington, at times using fall in water surface between gages at Farmington and near Scholls as a factor. Stage-discharge relation affected at times by flashboards on low dam 30 miles downstream. Slight regulation by log ponds and dam below Gaston have little effect at this station; considerable pondage between this station and the one near Willamette. Some diversions above station by pumping for irrigation, chiefly at Wapato Lake, near Gaston. Gages read twice daily.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	452	1,730	2,970	3,090	1,080	469	275	356	128	43	77
2	61	460	1,460	2,590	2,940	1,170	475	269	349	127	42	96
3	80	399	1,170	2,060	2,630	1,160	487	275	313	118	49	297
4	82	317	960	1,610	2,610	1,060	472	309	278	107	54	223
5	86	255	845	1,380	2,240	996	517	370	259	109	69	164
6	86	183	940	1,790	2,040	949	848	554	359	102	58	136
7	86	205	1,170	2,310	1,850	879	778	589	259	94	54	115
8	80	298	1,090	2,320	1,620	791	798	496	255	90	52	98
9	72	644	944	2,280	1,440	744	748	462	241	81	52	89
10	72	693	847	2,160	1,620	706	692	409	231	74	46	84
11	71	678	713	2,090	1,580	672	653	365	217	68	44	79
12	71	472	588	1,980	1,690	642	604	330	197	68	50	90
13	76	399	536	1,680	1,440	608	547	301	188	62	51	106
14	77	330	487	1,470	1,330	575	508	287	178	59	52	109
15	78	284	412	1,420	1,240	546	479	278	172	54	50	109
16	76	253	371	1,600	1,160	530	474	274	183	54	45	102
17	76	239	337	2,320	1,090	509	476	267	166	49	44	109
18	76	230	365	3,380	1,040	554	493	602	190	54	42	98
19	76	234	604	4,470	861	714	463	837	198	54	41	102
20	82	225	1,210	6,230	896	842	416	758	227	49	41	105
21	85	229	2,510	6,810	853	818	398	703	241	46	36	167
22	89	304	2,930	6,240	827	756	371	602	198	45	35	174
23	111	322	2,950	5,820	801	752	346	532	171	47	42	144
24	137	324	2,960	4,940	804	695	326	464	170	44	44	120
25	290	413	3,010	4,330	828	642	312	416	169	46	46	109
26	350	553	3,110	3,910	766	607	303	376	181	46	51	98
27	242	547	3,340	3,870	704	581	282	354	181	44	65	92
28	171	578	3,510	3,770	904	547	275	339	164	48	86	90
29	143	793	3,480	3,590	-	524	265	360	139	50	127	88
30	169	1,660	3,340	3,380	-	605	270	363	134	51	119	86
31	324	-	3,140	3,120	-	490	-	361	-	46	92	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,688	350	71	119	0.210	0.24	7,320
November.....	12,862	1,660	183	429	.755	.84	25,510
December.....	51,027	3,510	337	1,646	2.90	3.34	101,200
Calendar year 1940.....	455,777	6,600	37	1,246	2.19	29.84	904,000
January.....	97,650	6,810	1,380	3,150	5.55	6.39	193,700
February.....	40,681	3,090	704	1,453	2.56	2.65	80,690
March.....	22,642	1,170	490	730	1.29	1.46	44,910
April.....	14,339	798	265	478	.842	.94	28,440
May.....	13,189	827	269	425	.746	.86	26,160
June.....	6,482	366	134	216	.360	.42	12,860
July.....	2,118	128	44	68.3	.120	.14	4,200
August.....	1,723	127	35	85.6	.099	.11	3,480
September.....	3,556	287	77	118	.208	.23	7,010
Water year 1940-41.....	269,935	6,810	35	740	1.30	17.65	535,400

Tualatin River near Willamette, Oreg.

Location.- Water-stage recorder, lat. 45°21'05", long. 122°40'35", in SW¼ sec. 34, T. 2 S., R. 1 E., 300 feet upstream from county bridge and 1 mile northwest of Willamette. Datum of gage is 85.61 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army). Prior to June 12, 1941, staff gage at datum 1.02 feet higher.

Drainage area.- 710 square miles.

Records available.- July 1928 to September 1941.

Average discharge.- 13 years, 1,322 second-feet (including flow of Oswego Canal).

Extremes (river only).- Maximum discharge observed during year, 6,190 second-feet Jan. 22 (gage height, 8.74 feet); minimum observed, 11 second-feet Aug. 2, 18, 22, 23 (gage height, 1.50 feet).

1928-41: Maximum discharge, 23,300 second-feet Dec. 23, 1933 (gage height, 17.72 feet, present datum); minimum observed, 2 second-feet Aug. 14-21, 1928 (gage height, 1.27 feet, present datum).

Remarks.- Records of river good to June 12, excellent thereafter; records of Oswego Canal good except those for period of no gage-height record, Jan. 11 to Feb. 7, which are poor. (Flow in canal is only a small part of total flow in winter.) Oswego Canal diverts water from Tualatin River 4½ miles above station for recreational use and development of power at Oswego and returns it to Willamette River below station; also small diversions above station for irrigation. Some regulation in low-water season by flashboards on crest of Oswego Canal diversion dam. Staff gage read twice daily Oct. 1 to June 11.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	223	1,800	3,220	3,610	1,020	493	281	313	97	12	68
2	54	123	1,740	2,910	3,420	1,150	520	281	300	92	12	75
3	47	106	1,400	2,570	3,170	1,180	502	284	287	86	12	110
4	43	81	1,270	2,110	2,890	1,140	498	307	253	82	12	197
5	47	247	1,110	1,850	2,620	1,060	529	371	227	72	13	158
6	46	195	1,060	2,010	2,370	1,020	605	498	244	68	16	117
7	47	208	1,230	2,390	2,100	945	803	580	227	64	17	99
8	44	286	1,290	2,630	1,900	670	849	547	219	54	16	82
9	39	520	1,200	2,650	1,730	726	831	493	208	46	18	68
10	35	675	1,080	2,550	1,660	705	770	443	198	48	17	68
11	33	635	939	2,440	1,670	675	715	399	166	43	15	62
12	30	508	814	2,150	1,620	645	655	355	160	40	15	62
13	31	414	715	1,920	1,540	605	595	320	153	38	15	71
14	34	343	635	1,760	1,430	575	547	294	146	34	15	63
15	34	279	565	1,680	1,330	538	506	281	142	32	15	55
16	37	235	511	1,770	1,250	516	498	272	138	32	14	55
17	40	217	480	2,510	1,170	493	498	294	146	29	13	68
18	40	212	493	3,950	1,100	547	502	435	151	29	12	85
19	39	206	590	4,820	1,030	645	488	715	151	26	12	83
20	42	206	1,220	5,330	963	814	459	770	162	23	12	83
21	45	206	2,820	5,900	909	849	423	695	174	21	12	93
22	45	229	3,220	6,160	561	814	395	595	172	19	12	133
23	59	256	3,280	6,130	825	776	363	506	146	18	12	127
24	142	343	3,240	5,740	814	748	348	443	131	17	12	110
25	193	428	3,280	5,400	814	690	327	379	131	19	12	93
26	296	524	3,400	5,100	808	635	320	341	129	19	12	86
27	253	655	3,710	4,700	792	605	300	320	136	19	13	74
28	176	695	3,790	4,410	631	575	284	310	129	18	16	62
29	138	1,020	3,740	4,180	-	566	275	313	117	15	30	68
30	151	1,620	3,650	3,940	-	529	275	313	104	14	57	57
31	220	-	3,460	3,730	-	502	-	313	-	13	66	-

Month	River only				River and Oswego Canal (combined)					
	Maximum	Minimum	Mean	Runoff in acre-feet	Maximum	Minimum	Mean	Per square mile	Runoff in inches	Runoff in acre-feet
October....	296	30	82.5	5,070	350	99	156	0.220	0.25	9,590
November....	1,520	81	394	23,450	1,630	165	490	.676	.75	25,580
December....	3,790	480	1,862	114,500	3,930	531	1,955	2.75	3.17	120,200
Calendar year 1940	8,090	6	1,354	982,718	8,100	59	1,417	2.00	27.14	1,029,000
January....	6,160	1,680	3,504	215,400	6,170	1,690	3,516	4.95	5.71	216,200
February....	3,610	792	1,615	89,710	3,620	842	1,664	2.33	2.43	91,840
March.....	1,180	493	740	45,480	1,240	581	824	1.16	1.34	50,640
April.....	849	275	506	30,100	951	358	597	.841	.94	35,540
May.....	770	272	411	25,290	877	358	504	.710	.82	30,980
June.....	313	104	179	10,640	404	177	257	.362	.40	15,320
July.....	97	13	39.6	2,430	170	63	98.9	.139	.16	6,080
August.....	66	12	17.3	1,070	133	61	71.2	.100	.12	4,580
September..	197	57	90.7	5,400	273	122	160	.225	.25	9,500
Water year 1940-41	6,160	12	785	568,540	6,170	61	955	1.20	16.34	618,800

Scoggin Creek near Gaston, Oreg.

Location.- Water-stage recorder, lat. 45°27', long. 123°09', in NW¼ sec. 26, T. 1 S., R. 4 W., 500 feet upstream from highway bridge, 1½ miles upstream from mouth, and 1.7 miles northwest of Gaston. Datum of gage is 168.44 feet above mean sea level, datum of 1929. Prior to Oct. 14, 1940, staff gage at same site and datum.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 1,610 second-feet Jan. 18 (gage height, 14.31 feet, from floodmark); minimum, 1.2 second-feet Aug. 22 (gage height, 1.73 feet).

Remarks.- Records good except those for periods of no gage-height record, which are fair. Small diversions by pumping above station for irrigation. Water supply for Hillsboro is diverted from Sein Creek above station; some diurnal fluctuation caused by logponds. Staff gage read twice daily Oct. 6-13.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a7.4	63	119	132	200	98	53	40	37	18	4.7	25
2	a8.5	52	97	121	197	96	51	40	34	17	4.5	58
3	a7.6	40	90	112	184	94	53	44	33	15	5.8	20
4	a7.6	30	81	105	170	94	62	47	33	14	6.3	17
5	a7.4	23	117	137	154	88	94	70	34	13	4.4	17
6	7.4	22	144	232	142	84	102	64	31	12	4.9	9.3
7	a7.4	63	123	237	130	81	96	57	31	11	5.1	7.7
8	7.4	96	106	195	123	78	86	56	29	8.2	4.7	8.2
9	7.2	84	95	165	134	71	82	54	f26	7.7	4.2	8.2
10	7.4	68	85	146	143	69	80	51	h28	7.2	4.4	7.0
11	8.8	61	74	133	140	67	72	45	h26	7.0	4.4	9.3
12	9.7	52	69	124	130	66	70	42	f25	6.8	5.1	11
13	9.4	45	62	117	121	65	65	40	25	7.7	6.3	11
14	10	41	58	114	116	63	63	40	22	6.8	4.7	10
15	8.1	38	54	133	110	59	63	42	24	6.3	2.4	10
16	4.7	33	52	178	105	59	62	42	23	6.3	2.8	9.3
17	6.2	32	51	1,010	99	56	60	122	24	6.3	2.6	10
18	9.4	32	78	f1,460	94	82	58	116	26	6.0	3.4	11
19	8.4	29	90	f880	91	95	55	98	28	5.6	1.8	21
20	8.8	29	471	529	56	86	53	83	26	5.4	3.9	24
21	15	43	460	370	84	80	50	74	21	5.8	3.4	19
22	12	36	292	278	81	84	45	68	22	6.8	1.6	14
23	11	33	229	228	80	77	44	60	22	7.2	2.9	13
24	68	48	316	208	82	73	42	56	22	5.8	3.3	12
25	35	58	349	445	78	68	40	49	26	3.8	3.8	11
26	19	58	364	441	73	66	39	45	24	4.0	11	9.7
27	15	65	355	330	86	65	38	44	21	4.4	17	7.7
28	14	103	273	262	97	60	38	46	17	5.4	18	8.2
29	28	348	208	221	-	58	40	44	18	5.6	12	9.0
30	68	165	180	196	-	58	38	39	19	5.4	9.0	12
31	60	-	152	212	-	54	-	42	-	5.1	9.7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						503.8	68	4.7	16.3	999		
November.....						1,690	348	22	63.0	3,750		
December.....						5,294	471	51	171	10,500		
Calendar year						-	-	-	-	-		
January.....						9,451	1,460	105	305	18,750		
February.....						3,530	200	73	119	6,600		
March.....						2,294	98	54	74.0	4,550		
April.....						1,794	102	38	59.8	3,560		
May.....						1,760	122	39	56.8	3,490		
June.....						777	37	17	25.9	1,540		
July.....						246.6	18	3.8	7.95	489		
August.....						178.1	18	1.6	5.75	353		
September.....						419.6	58	7.0	14.0	832		
Water year 1940-41.....						27,938.1	1,460	1.6	76.5	55,410		

a No gage-height record; discharge computed on basis of records for Gales Creek near Gales Creek.

Gales Creek near Gales Creek, Oreg.

Location.- Staff gage, lat. 45°39', long. 123°16', in SE¼ sec. 23, T. 2 N., R. 5 W., half a mile downstream from Beaver Creek and 4½ miles northwest of Gales Creek post office. Datum of gage is 449.5 feet above mean sea level (river-profile survey).

Drainage area.- 33 square miles.

Records available.- September 1935 to September 1941.

Extremes.- Maximum discharge observed during year, 1,330 second-feet Jan. 18 (gage height, 5.00 feet); minimum discharge, 4 second-feet (estimated), regulated, July 12, 1935-41; Maximum discharge, 3,540 second-feet Dec. 27, 1937 (gage height, 8.10 feet, from floodmark); minimum observed, 3.4 second-feet (regulated) Sept. 28, 1939.

Remarks.- Records good. No diversion above station; slight regulation at times by logpond 3 miles upstream. Gage read twice daily Oct. 1 to Apr. 9, once daily thereafter.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.1	6.4	2.0	70	4.0	780
1.2	10	2.6	160	4.6	1,015
1.4	19	3.0	285	5.0	1,550
1.7	38	3.5	475		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3	46	108	118	193	73	82	37	43	21	11	30
2	17	37	86	108	183	84	86	37	40	22	12	34
3	11	30	84	96	173	84	51	42	38	22.5	13	31
4	11	26	70	90	165	80	68	59	42	20	12	17
5	10	24	117	113	146	78	99	82	43	16	12	16
6	10	23	129	171	140	75	94	70	37	16	11	14
7	9.3	60	117	190	124	70	86	71	36	18	10	13
8	18	69	103	178	113	68	80	63	35	18	10	12
9	8.6	73	86	166	124	64	79	60	32	17	10	12
10	9.3	54	76	139	108	57	79	54	31	17	8.9	19
11	11	45	66	129	113	60	75	51	30	16	11	21
12	11	42	87	118	108	57	65	48	29	12	10	13
13	11	35	56	110	100	54	63	47	29	14	10	19
14	10	34	51	107	96	51	55	45	29	14	10	20
15	9.6	30	47	127	91	51	56	45	28	13	9.6	18
16	9.3	29	45	217	87	46	55	58	27	13	8.9	16
17	11	29	43	955	83	47	63	167	30	12	8.9	16
18	10	27	80	1,200	79	50	56	148	29	13	8.9	20
19	10	26	78	838	76	107	58	126	32	12	8.9	24
20	14	31	395	427	73	107	61	107	29	11	8.9	29
21	18	40	316	310	70	91	48	93	27	13	9.3	24
22	15	36	282	243	66	84	46	79	27	13	9.6	20
23	24	31	181	200	68	79	45	70	28	13	11	19
24	47	40	292	195	69	73	44	65	25	12	10	16
25	29	54	306	387	64	70	42	60	31	12	14	16
26	21	46	299	363	60	65	42	55	24	12	12	16
27	18	58	259	292	52	63	41	54	24	12	26	15
28	16	78	217	246	59	59	36	52	24	12	18	16
29	23	195	185	206	-	55	40	49	23	12	15	14
30	47	146	154	206	-	56	38	47	25	11	13	14
31	47	-	120	195	-	52	-	46	-	11	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	519.4	47	8.6	16.8	0.509	0.69	1,030
November.....	1,513	195	23	50.5	1.55	1.71	3,010
December.....	4,465	395	43	144	4.36	5.03	8,860
Calendar year 1940.....	41,897.7	1,520	3.7	114	3.45	47.21	85,110
January.....	8,272	1,200	90	267	8.09	9.32	16,410
February.....	2,947	193	60	105	3.18	3.32	5,850
March.....	2,155	107	47	69.5	2.11	2.43	4,270
April.....	1,775	99	38	59.2	1.79	2.00	3,580
May.....	2,088	167	37	67.4	2.04	2.35	4,140
June.....	925	43	23	30.8	.935	1.04	1,850
July.....	457	25	11	14.7	.445	.62	907
August.....	356.9	26	8.9	11.5	.348	.40	708
September.....	559	34	12	18.6	.564	.63	1,110
Water year 1940-41.....	26,035.3	1,200	8.6	71.3	2.16	29.34	51,640

a No gage-height record; discharge computed on basis of records for station near Forest Grove.

e Gage reading not representative of average for day; discharge computed on basis of records for station near Forest Grove.

Gales Creek near Forest Grove, Oreg.

Location.- Water-stage recorder, lat. 45°33'10", long. 123°11'10", in E½ sec. 21, T. 1 N., R. 4 W., at bridge 2½ miles southeast of village of Gales Creek and 4½ miles northwest of Forest Grove. Datum of gage is 203.01 feet above mean sea level, datum of 1929. Prior to Sept. 13, 1941, staff gage (Oct. 1-9, 1940) or water-stage recorder at bridge 1.3 miles downstream. Datum of gages was 187.51 feet above mean sea level, datum of 1929.

Drainage area.- 66 square miles (69 square miles at site used prior to Sept. 13, 1941).

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 3,110 second-feet Jan. 18 (gage height, 10.07 feet, site and datum then in use); minimum, 9 second-feet Aug. 20.

Remarks.- Records fair. Small diversions above station for irrigation. Some diurnal fluctuations at low stages caused by logponds above station. Staff gage read once daily Oct. 1-9.

Cooperation.- Results of nine discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	108	209	241	398	168	93	62	59	31	13	61
2	14	78	160	214	380	165	87	64	58	31	15	84
3	18	54	143	192	360	159	91	72	54	32	16	37
4	14	48	125	176	340	150	106	91	51	31	16	31
5	12	42	217	252	310	144	184	156	51	27	14	24
6	14	38	236	402	290	134	193	122	57	25	14	23
7	13	119	192	426	270	130	172	112	52	24	13	19
8	13	197	167	381	250	120	154	104	51	24	12	16
9	13	171	136	327	269	113	160	92	50	22	12	16
10	13	115	119	288	257	107	140	84	47	20	12	22
11	13	94	105	250	242	101	127	77	46	22	14	27
12	13	75	103	235	225	98	118	73	44	22	12	26
13	13	64	98	214	208	90	110	70	42	16	12	25
14	14	80	91	207	195	86	101	67	41	17	12	27
15	14	56	64	264	181	84	100	64	42	18	11	25
16	14	51	77	438	172	80	113	78	42	19	11	23
17	16	50	78	1,950	157	82	112	275	44	17	11	22
18	16	46	145	2,560	150	159	100	265	48	19	11	22
19	16	45	201	1,470	142	180	91	210	49	17	11	36
20	20	57	954	598	134	170	85	174	47	15	11	46
21	25	85	736	662	132	154	82	148	41	16	11	33
22	23	67	531	518	116	152	80	130	40	16	12	26
23	31	65	465	432	122	134	76	113	39	16	12	25
24	110	107	592	408	125	125	78	100	38	16	16	23
25	59	145	611	784	116	120	70	57	42	14	16	22
26	37	132	618	772	113	118	67	83	38	14	19	20
27	31	154	663	601	159	112	62	79	34	14	34	19
28	28	273	465	496	170	107	60	79	36	14	40	19
29	46	471	393	418	-	104	63	72	34	14	22	19
30	108	279	336	374	-	100	64	70	33	13	15	18
31	112	-	288	408	-	94	-	67	-	13	19	19
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				893		112	10	28.8	1,770			
November.....				3,348		471	38	112	6,640			
December.....				9,210		934	77	297	18,270			
Calendar year				-		-	-	-	-			
January.....				17,256		2,560	176	557	34,230			
February.....				5,964		398	118	214	11,670			
March.....				3,850		190	80	124	7,640			
April.....				3,124		193	60	104	6,200			
May.....				3,318		275	62	107	6,580			
June.....				1,350		59	33	46.0	2,680			
July.....				607		32	13	19.6	1,200			
August.....				467		40	11	15.1	928			
September.....				834		84	16	27.8	1,650			
Water year 1940-41.....				50,241		2,560	10	138	99,660			

a No gage-height record; discharge computed on basis of records for station near Gales Creek.

West Fork of Dairy Creek at Banks, Oreg.

Location.- Water-stage recorder, lat. 45°37'25", long. 123°06'50", in SE¼ sec. 25, T. 2 N., R. 4 W., at highway bridge at Banks. Datum of gage is 183.65 feet above mean sea level, datum of 1929.

Drainage area.- 49.2 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 865 second-feet Jan. 19 (gage height, 12.1 feet); minimum daily, 2.4 second-feet Aug. 20.

Remarks.- Records fair. Many small diversions above station for irrigation. No regulation.

Cooperation.- Results of seven discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a5.0	30	64	131	190	81	47	28	32	a12	a5.7	a20
2	h6.4	26	51	114	180	80	46	29	29	a12	a5.6	24
3	h6.4	22	47	104	172	78	45	30	25	a11	a4.5	11
4	h6.4	19	44	97	165	74	48	34	23	a11	a4.3	9.9
5	h6.4	17	56	119	152	72	61	44	22	a10	a4.0	8.8
6	h4.9	16	68	176	141	67	69	42	25	a9.5	h4.4	7.7
7	h6.4	28	58	197	130	64	64	35	22	h8.4	a4.6	7.3
8	h7.3	54	53	185	117	61	60	37	21	a7.4	a4.3	6.8
9	h6.4	55	48	165	122	57	61	31	21	a7.0	a4.0	5.8
10	h4.9	36	43	144	121	56	61	29	20	a6.4	a4.1	6.1
11	a4.9	29	39	128	117	54	57	27	18	h5.8	a4.0	8.2
12	h4.9	25	36	116	112	52	53	25	18	a5.6	h4.2	8.4
13	a5.0	22	34	108	101	49	50	24	16	a6.0	a5.0	8.4
14	h9.6	21	31	106	95	47	47	25	15	a5.5	a5.5	8.4
15	a9.2	20	29	114	90	46	46	24	14	h5.0	a2.5	8.2
16	a8.9	19	28	197	85	45	49	27	14	a5.0	a2.5	8.4
17	8.7	19	29	375	79	45	49	71	15	a4.5	a2.5	8.2
18	10	21	47	774	76	71	44	76	18	h3.7	h3.3	6.0
19	10	19	62	855	69	86	42	63	18	a3.6	h2.6	9.2
20	11	20	265	604	66	82	38	57	19	a3.4	a2.4	11
21	15	30	349	399	63	77	37	49	18	a3.5	a3.0	12
22	15	27	248	290	61	76	35	43	17	h3.6	a3.5	8.4
23	14	24	196	238	60	68	34	39	15	a4.5	a4.0	7.9
24	43	28	280	210	63	63	31	34	14	a4.2	a4.0	7.1
25	31	34	250	255	61	60	31	31	17	h4.0	a5.0	6.8
26	21	31	265	300	56	59	29	29	14	a3.5	h7.5	7.0
27	17	33	279	253	73	56	28	34	12	a3.7	a12	7.0
28	16	50	242	224	78	54	29	33	a12	a3.9	a13	6.0
29	18	130	206	198	-	53	29	36	a13	h4.0	a10	5.5
30	31	86	176	179	-	52	28	29	h13	a4.0	a7	5.3
31	33	-	153	188	-	48	-	35	-	a3.8	a8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	399.7	43	4.9	12.9	0.262	0.30	793
November.....	990	130	16	33.0	.671	.75	1,960
December.....	3,716	349	28	120	2.44	2.81	7,370
Calendar year	-	-	-	-	-	-	-
January.....	7,543	855	97	243	4.94	5.70	14,960
February.....	2,895	190	56	103	2.09	2.19	5,740
March.....	1,933	86	45	62.4	1.27	1.46	3,830
April.....	1,347	69	28	44.9	.913	1.02	2,670
May.....	1,150	76	24	37.1	.754	.87	2,280
June.....	549	32	12	18.3	.372	.41	1,090
July.....	185.5	12	3.4	5.96	.122	.14	368
August.....	151.0	13	2.4	4.87	.099	.11	300
September.....	264.8	24	5.3	8.63	.179	.20	526
Water year 1940-41.....	21,124.0	855	2.4	57.9	1.18	15.96	41,890

a No gage-height record; discharge computed on basis of records for Gales Creek near Gales Creek.
h Computed from staff-gage reading.

East Fork of Dairy Creek at Mountindale, Oreg.

Location.- Water-stage recorder, lat. 45°38'05", long. 123°02'35", in NW¼ sec. 27, T. 2 N., R. 3 W., at damsite three-quarters of a mile north of village of Mountindale. Datum of gage is 183.04 feet above mean sea level, datum of 1929. Prior to Oct. 8, 1940, staff gage at same site and datum.

Drainage area.- 43.0 square miles, including two small streams on left bank which enter creek below station.

Records available.- October 1940 to September 1941 (include flow of two small streams on left bank which enter creek below station).

Extremes.- Maximum discharge during year, 890 second-feet Jan. 18 (gage height, 11.85 feet); minimum, 9 second-feet Aug. 17-22.

Remarks.- Records poor October to March, fair thereafter; they include measured or estimated discharge of two small streams which pass through damsite at station on left bank and enter creek below station. Probably some pumping above station for irrigation; no other known diversion. Diurnal fluctuation at low flow caused by logpond above station. Staff gage read once daily Oct. 2-7.

Cooperation.- Results of nine discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a12	50	104	130	150	75	53	39	42	22	12	f34
2	19	44	86	116	140	75	54	39	40	21	12	f40
3	21	38	79	110	137	73	53	42	36	21	15	f21
4	24	35	70	101	132	72	55	44	36	21	16	20
5	19	33	83	119	125	70	65	54	36	20	13	19
6	19	32	80	136	121	66	62	48	39	19	12	15
7	19	58	77	149	114	65	63	44	36	19	11	13
8	18	82	76	146	104	62	60	44	35	18	11	12
9	18	77	70	136	108	60	62	42	35	18	10	12
10	19	61	65	124	103	59	61	40	33	16	10	17
11	19	53	62	114	99	58	58	39	30	16	11	20
12	19	48	56	106	94	56	56	38	29	16	11	17
13	20	44	55	100	90	55	54	38	29	15	11	17
14	20	41	53	100	88	54	54	38	28	13	10	18
15	19	39	51	114	85	53	54	36	28	13	10	18
16	19	39	50	156	81	52	55	39	28	12	12	16
17	20	39	51	403	76	48	55	71	30	13	9	14
18	21	39	68	775	76	74	51	68	32	13	9	14
19	20	37	70	577	73	77	49	63	33	13	9	21
20	22	39	294	402	71	70	47	61	31	13	9	28
21	27	51	360	302	69	67	45	57	29	13	9	20
22	24	45	257	241	67	66	44	55	28	13	9	17
23	26	42	201	201	68	64	42	52	27	13	a10	16
24	67	49	210	179	69	62	44	48	26	13	a10	13
25	44	52	252	221	66	61	41	45	27	14	h11	12
26	32	49	270	214	63	60	38	44	25	13	a12	12
27	28	56	306	197	75	58	39	45	24	13	a25	13
28	27	62	263	179	73	57	38	49	24	13	a16	12
29	34	171	216	161	-	56	39	46	24	13	a13	12
30	57	130	187	148	-	55	39	42	23	12	h11	12
31	52	-	153	162	-	54	-	54	-	12	a13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	805	67	12	26.0	0.605	0.70	1,600
November.....	1,655	171	32	55.2	1.28	1.43	3,280
December.....	4,289	360	50	137	3.19	3.68	8,480
Calendar year	-	-	-	-	-	-	-
January.....	6,321	775	100	204	4.74	5.47	12,540
February.....	2,618	150	63	93.5	2.17	2.26	5,190
March.....	1,936	77	48	62.5	1.45	1.67	3,840
April.....	1,530	65	38	51.0	1.19	1.32	3,030
May.....	1,464	71	36	47.2	1.10	1.27	2,900
June.....	925	42	25	30.8	.716	.80	1,850
July.....	474	22	12	15.3	.356	.41	940
August.....	360	25	9	11.6	.270	.31	714
September.....	524	40	12	17.5	.407	.45	1,040
Water year 1940-41.....	22,871	775	9	62.7	1.46	19.77	45,350

Peak discharge.- Dec. 21 (2 a.m.) 405 sec.-ft.; Jan. 18 (4 p.m.) 890 sec.-ft.

a No gage-height record; discharge computed on basis of records for Gales Creek near Gales Creek.
h Computed from Staff-gage reading.

WILSON RIVER BASIN

McKay Creek near North Plains, Oreg.

Location.- Water-stage recorder, lat. 45°37'35", long. 123°58'25", in SE¼ sec. 30, T. 2 N., R. 2 W., at bridge 2½ miles north of North Plains. Datum of gage is 172.82 feet above mean sea level, datum of 1929. Prior to Oct. 14, 1940, staff gage at same site and datum.

Drainage area.- 27.6 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge during year, 759 second-feet Jan. 18 (gage height, 8.70 feet); minimum, 1.8 second-feet Aug. 12 (gage height, 0.46 foot).

Remarks.- Records good except those for periods of no gage-height record or shifting control, which are fair. No known diversion above station. No regulation. Staff gage read twice daily Oct. 1-13.

Cooperation.- Results of eight discharge measurements furnished by Corps of Engineers, U. S. Army.

Rating table, water year 1940-41, except period of shifting control (gage height, in feet, and discharge, in second-feet)

0.4	1.4	1.4	14	3.0	53	6.0	207
.6	3.0	1.7	20	3.6	72	7.0	340
.8	5.3	2.0	26	4.0	93	8.0	546
1.1	9.4	2.5	36	5.0	141	8.6	723

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	16	80	79	100	36	22	14	15	6.1	2.6	11
2	4.6	14	62	68	92	41	24	15	13	5.8	2.2	16
3	6.0	12	53	63	88	41	22	17	12	5.6	2.7	8.1
4	6.6	9.8	46	59	81	40	23	17	11	5.4	3.3	8.6
5	5.8	9.3	54	70	74	38	26	26	12	5.3	3.3	7.6
6	4.8	9.1	64	f101	69	34	25	22	14	5.2	2.8	5.8
7	4.3	20	65	f136	61	32	32	20	12	4.8	2.4	5.2
8	4.3	28	60	126	54	30	36	20	11	4.7	2.4	4.5
9	4.3	29	52	104	54	28	39	19	11	4.3	2.1	4.1
10	4.7	23	45	87	54	28	39	17	9.7	4.1	2.2	5.7
11	5.3	20	40	75	54	28	35	16	9.1	4.0	2.2	5.6
12	5.1	17	35	65	55	26	30	16	8.6	4.0	2.0	5.4
13	5.3	15	30	60	48	24	28	15	8.4	4.0	3.3	5.2
14	5.3	14	f27	60	46	22	26	15	8.0	3.7	2.8	5.4
15	4.7	13	a25	63	44	22	26	14	8.1	3.3	2.5	5.2
16	4.5	f12	23	98	41	20	25	15	8.1	f3.1	2.4	4.7
17	5.3	h14	25	415	38	20	25	24	9.4	3.0	2.4	4.3
18	5.6	h15	34	725	37	30	22	24	11	2.9	2.3	4.3
19	5.1	h12	34	605	35	30	21	23	10	2.8	2.4	6.0
20	5.3	f14	212	357	33	30	20	22	9.6	2.7	2.4	5.6
21	6.7	20	318	206	31	26	19	22	8.3	2.6	2.6	4.5
22	6.2	17	190	147	29	30	18	21	f8.3	2.6	2.7	3.9
23	7.0	16	144	116	29	28	17	19	f7.6	2.8	2.7	3.4
24	26	f22	a150	98	29	f28	17	17	6.9	3.1	2.8	3.4
25	15	f24	a155	a140	26	f28	16	15	8.0	3.0	f3.8	3.3
26	9.4	h24	f183	a130	25	28	15	15	7.0	2.8	f8.0	3.4
27	7.4	f30	312	h128	30	27	15	15	6.3	2.7	f8.7	3.6
28	h5.9	47	224	f112	30	26	14	17	6.7	3.0	9.0	3.4
29	f12	173	156	94	-	25	f14	17	6.6	3.1	5.6	3.3
30	20	119	127	83	-	24	15	14	6.5	2.9	4.6	3.6
31	18	-	97	96	-	22	-	19	-	2.8	4.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	236.3	26	4.3	7.62	0.276	0.32	469
November.....	808.2	173	9.1	26.9	.975	1.09	1,600
December.....	3,135	318	23	101	3.66	4.22	6,210
Calendar year	-	-	-	-	-	-	-
January.....	4,765	723	59	154	5.58	6.42	9,450
February.....	1,385	100	25	49.5	1.79	1.87	2,750
March.....	892	41	20	28.8	1.04	1.20	1,770
April.....	705	39	14	23.5	.851	.95	1,400
May.....	552	25	14	18.1	.656	.76	1,110
June.....	233.2	15	6.3	9.44	.342	.38	562
July.....	116.4	6.1	2.6	3.75	.136	.16	231
August.....	106.0	9.0	2.0	3.42	.124	.14	210
September.....	166.1	18	3.3	5.64	.201	.22	329
Water year 1940-41.....	13,158.2	723	2.0	36.0	1.30	17.73	26,090

a No gage-height record; discharge computed on basis of records for East Fork of Dairy Creek at Mountindale.

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

Note.- Shifting-control method used Sept. 10-30.

Oswego Canal near Oswego, Oreg.

Location.- Water-stage recorder, lat. 45°23'30", long. 122°43'10", in NW¼ sec. 20, T. 2 S., R. 1 E., half a mile downstream from point of diversion from Tualatin River, 1 mile upstream from Oswego Lake, and 3 miles southwest of Oswego. Datum of gage is 96.50 feet above mean sea level, datum of 1929. Auxiliary gage at outlet of Oswego Lake for determination of backwater effect of lake on stages at canal gage.

Records available.- October 1928 to September 1941.

Average discharge.- 13 years, 60.8 second-feet.

Extremes.- Maximum discharge during year, 140 second-feet Dec. 28 (gage height, 7.20 feet); minimum, 1 second-foot sometime during period Jan. 11 to Feb. 7, from recorded range of stage.

1928-41: Maximum discharge, 6,000 second-feet Dec. 23, 1933 (gage height, 16.1 feet, site and datum then in use), computed from slope, area, and lake spillway data; practically no flow at times.

Remarks.- Records good except those for period of no gage-height record, which are poor. Oswego Canal diverts water from Tualatin River in NW¼ sec. 20, but diversion dam is in NE¼ sec. 33, about 3 miles downstream.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	86	103	122	a5	58	91	83	91	73	50	67
2	74	88	102	45		59	92	83	91	73	50	68
3	74	87	96	12		60	92	84	89	72	50	71
4	73	84	85	11		59	92	86	86	71	52	76
5	73	82	72	12		58	92	92	84	71	54	74
6	74	80	71	5	3	55	95	96	83	70	56	72
7	74	80	76	2		52	101	98	80	69	56	71
8	73	83	78	2		66	102	97	80	68	56	70
9	73	90	76	2		92	102	95	79	68	56	69
10	70	95	72	2		93	100	93	79	65	55	68
11	69	95	68	a10	45	93	98	91	78	64	55	67
12	69	91	64		73	92	94	89	78	62	54	67
13	69	87	60		71	91	94	87	77	61	53	67
14	69	84	57		68	90	93	86	76	60	53	68
15	70	82	55		66	89	92	86	76	59	53	69
16	70	80	53	a10	83	88	91	86	76	58	53	69
17	70	79	51		61	88	91	88	76	56	54	69
18	70	79	51		56	88	91	94	76	54	55	68
19	70	79	55		52	87	91	105	76	54	54	68
20	70	79	81		55	98	90	107	77	54	52	68
21	70	79	122	a10	54	100	89	104	78	53	51	69
22	70	79	131		58	99	88	103	77	52	50	71
23	72	81	128		51	98	87	99	76	51	49	71
24	76	84	127		50	97	87	96	75	50	49	70
25	79	87	128		51	95	86	93	75	50	50	69
26	84	89	132	-	50	94	85	92	75	50	50	68
27	83	92	138		50	93	84	91	75	50	52	67
28	79	94	139		52	92	84	91	75	50	55	67
29	77	102	138		-	92	83	91	74	50	51	66
30	77	110	135		-	91	83	91	73	50	56	65
31	80	-	129	-	-	91	-	91	-	50	67	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					2,877	84	69	73.5	4,520			
November.....					2,587	110	79	86.2	5,130			
December.....					2,873	139	51	92.7	5,700			
Calendar year 1940.....					23,162	186	0	63.3	45,940			
January.....					425	122	2	13.7	843			
February.....					1,072	73	3	38.3	2,130			
March.....					2,603	100	52	84.0	5,160			
April.....					2,742	102	83	91.4	5,440			
May.....					2,869	107	83	92.5	5,690			
June.....					2,361	91	73	78.7	4,680			
July.....					1,838	73	50	59.3	3,680			
August.....					1,671	67	49	55.9	3,310			
September.....					2,069	76	55	69.0	4,100			
Water year 1940-41.....					25,387	139	2	69.6	50,350			

a No gage-height records; discharge varied from 1 to 50 second-feet as indicated by recorded range in stage (mean discharge for period estimated to complete records for year).

Clackamas River at Big Bottom, Oreg.

Location.- Water-stage recorder, lat. 45°01', long. 121°55', in sec. 26, T. 6 S., R. 7 E., just downstream from Pot Creek at lower end of Big Bottom, half a mile upstream from site of proposed dam, and 28 miles southeast of Estacada.

Drainage area.- 132 square miles.

Records available.- April 1920 to September 1941.

Average discharge.- 21 years, 442 second-feet.

Extremes.- Maximum discharge during year, 1,340 second-feet Nov. 29 (gage height, 3.94 feet); minimum, 189 second-feet Sept. 9, 10 (gage height, 1.53 feet).

1920-41: Maximum discharge, 6,750 second-feet Mar. 31, 1931 (gage height, 8.28 feet), from rating curve extended above 3,500 second-feet; minimum, that of Sept. 9, 10, 1941.

Remarks.- Records fair. No regulation or diversion above station.

Cooperation.- Water-stage recorder graph and results of discharge measurements furnished by Portland General Electric Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-23, Mar. 11 to June 20)

1.5	182	2.8	640
1.8	260	3.1	795
2.2	395	3.6	1,100
2.5	510		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	224	311	546	346	434	384	336	269	311	222	199	214
2	240	269	478	332	430	416	346	266	294	219	199	275
3	246	246	454	322	412	395	328	297	284	216	201	224
4	229	235	446	314	395	378	328	359	278	216	199	214
5	224	235	564	322	384	367	342	806	272	214	196	209
6	216	243	546	314	381	346	364	613	272	211	194	201
7	216	364	470	304	370	350	364	554	272	211	194	196
8	214	486	426	294	364	346	353	514	269	211	196	192
9	214	351	398	287	374	342	395	454	260	209	211	192
10	209	325	367	284	398	359	398	416	254	209	199	201
11	209	311	350	281	398	328	360	406	249	206	201	206
12	209	297	332	278	384	322	346	420	246	206	204	214
13	209	275	314	297	370	314	332	409	240	206	196	206
14	206	263	304	303	356	304	322	381	238	206	194	204
15	206	254	290	308	346	300	328	364	235	204	194	204
16	206	249	284	311	339	290	325	364	238	204	194	204
17	206	257	281	450	328	297	314	430	243	204	194	201
18	204	269	297	660	325	318	308	442	252	204	199	206
19	201	257	308	660	314	336	297	423	266	206	194	224
20	204	254	395	554	308	322	290	395	272	204	199	224
21	214	249	442	510	304	300	281	374	257	204	222	214
22	209	243	402	470	297	322	278	356	246	204	201	214
23	211	239	383	438	297	318	278	346	240	204	199	209
24	287	297	381	438	318	304	275	342	240	204	196	204
25	252	332	392	586	304	297	269	325	238	204	204	201
26	219	300	423	655	297	294	269	314	238	204	211	201
27	209	332	490	559	311	294	266	328	232	201	222	201
28	209	420	438	510	342	311	266	328	229	204	222	199
29	222	1,060	406	470	-	346	269	318	227	201	205	199
30	224	720	369	442	-	342	272	314	224	201	201	196
31	332	-	364	430	-	332	-	336	-	199	201	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	6,950	332	201	224	1.70	1.96	13,790
November.....	9,972	1,060	235	332	2.52	2.81	19,780
December.....	12,364	564	281	399	3.02	3.48	24,520
Calendar year 1940.....	141,804	1,870	201	397	2.93	39.94	281,500
January.....	12,734	660	278	411	3.11	3.59	25,260
February.....	9,880	454	297	353	2.67	2.78	19,600
March.....	10,264	416	290	331	2.51	2.89	20,560
April.....	9,489	395	266	316	2.39	2.67	18,280
May.....	12,233	806	266	395	2.99	3.45	24,260
June.....	7,616	311	224	254	1.92	2.15	15,110
July.....	6,418	222	199	207	1.57	1.81	12,730
August.....	6,245	222	194	201	1.52	1.76	12,390
September.....	6,246	275	192	208	1.58	1.76	12,390
Water year 1940-41.....	110,411	1,060	192	302	2.29	31.11	219,000

Clackamas River above Three Lynx Creek, Oreg.

Location.- Water-stage recorder, lat. 45°07', long. 122°04', in NE¼ sec. 21, T. 5 S., R. 6 E., just downstream from power plant, 500 feet upstream from Three Lynx Creek, and 17 miles southeast of Estacada. Datum of gage is 1,098 feet above mean sea level (levels by Portland General Electric Co.).

Drainage area.- 488 square miles.

Records available.- October 1911 to December 1913, October 1921 to September 1941.

Average discharge.- 22 years (1911-13, 1921-41), 1,806 second-feet.

Extremes.- Maximum discharge during year, 8,010 second-feet Nov. 29 (gage height, 6.69 feet); minimum, about 428 second-feet (regulated) Oct. 20 (stage below inlet pipe); minimum daily, 606 second-feet Oct. 15.

1911-13, 1921-41: Maximum discharge, 34,800 second-feet Mar. 31, 1931 (gage height, 15.5 feet), from rating curve extended above 11,000 second-feet; minimum observed, 375 second-feet Aug. 10, 16, 1924, Sept. 20, 1936; minimum daily, 536 second-feet Oct. 22, 1930.

Remarks.- Records good except those for Oct. 20 and periods of no gage-height records, which are fair. Water diverted from Oak Grove Fork is used in power plant on Clackamas River just above station.

Cooperation.- Gage-height record and results of discharge measurements furnished by Portland General Electric Co.

Rating table, 1940-41 (gage height, in feet, and discharge, in second-feet)

0.8	570	2.5	1,720	4.5	4,020
1.1	700	3.0	2,220	5.0	4,750
1.5	920	3.5	2,760	5.5	5,580
2.0	1,280	4.0	3,360	6.0	6,520

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	655	1,640	2,720	1,340	1,910	1,600	1,240	1,000	1,260	822	642	705
2	710	1,300	2,270	1,360	1,920	2,000	1,260	1,020	1,280	800	642	1,070
3	755	1,070	2,020	1,220	1,820	2,120	1,200	1,090	1,180	838	637	756
4	735	962	1,950	1,200	1,710	1,670	1,210	1,300	1,120	761	664	761
5	691	902	2,330	1,200	1,590	1,530	1,270	4,260	1,120	772	655	720
6	686	914	2,560	1,230	1,530	1,460	1,390	3,230	1,100	745	637	705
7	614	1,570	2,120	1,210	1,480	2,140	1,480	2,540	1,110	755	637	691
8	660	2,510	1,830	1,200	1,430	1,560	1,350	2,240	1,010	750	642	673
9	619	2,140	1,630	1,140	1,440	1,530	1,420	1,970	1,060	720	660	654
10	624	1,520	1,460	1,160	1,640	1,300	1,420	1,750	990	725	632	700
11	624	1,540	1,350	1,150	1,650	1,290	1,340	1,590	976	740	646	788
12	619	1,440	1,250	1,140	1,560	1,240	1,280	1,670	955	710	646	860
13	632	1,260	1,160	1,300	1,480	1,200	1,160	1,630	941	700	637	800
14	614	1,120	1,110	1,460	1,420	1,150	1,190	1,530	927	686	624	805
15	606	1,050	1,060	1,530	1,320	1,100	1,200	1,440	866	632	628	766
16	614	1,030	1,000	1,620	1,260	1,020	1,200	1,440	896	696	619	761
17	614	1,060	1,000	2,740	1,240	1,060	1,200	1,920	934	696	628	740
18	610	1,200	1,060	4,630	1,190	1,170	1,160	2,230	948	696	632	750
19	624	1,110	1,140	4,200	1,170	1,280	1,130	2,180	1,070	696	610	805
20	610	1,090	1,810	3,180	2,150	1,200	1,060	1,920	1,240	678	614	890
21	655	1,050	2,440	2,580	1,110	1,120	1,080	1,780	1,100	660	664	805
22	650	983	2,230	1,070	1,300	1,060	1,060	1,590	1,020	664	619	778
23	655	934	1,820	1,980	1,020	1,280	1,070	1,520	997	664	619	735
24	1,310	1,340	1,750	1,950	1,200	1,220	1,070	1,440	941	660	637	710
25	1,100	1,730	1,700	2,900	1,200	1,200	1,030	1,320	927	660	632	700
26	866	1,480	1,870	3,570	1,100	1,150	997	1,360	902	660	678	691
27	766	1,870	2,270	2,980	1,200	1,120	955	1,380	908	664	715	682
28	745	2,730	2,100	2,470	1,300	1,160	976	1,350	890	660	725	680
29	816	6,360	1,800	2,130	-	1,340	990	1,370	844	660	668	655
30	1,360	8,960	1,690	1,960	-	1,360	997	1,260	844	660	637	646
31	1,810	-	1,530	1,900	-	1,290	-	1,420	-	660	637	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	23,650	1,910	606	763	1.56	1.80	46,910
November.....	49,265	6,360	902	1,642	3.36	3.75	97,720
December.....	53,790	2,720	1,000	1,735	3.56	4.10	106,700
Calendar year 1940.....	586,275	12,300	606	1,602	3.28	44.66	1,163,000
January.....	61,800	4,630	1,140	1,994	4.09	4.71	122,600
February.....	39,110	1,920	1,020	1,397	2.86	2.98	77,570
March.....	40,710	2,000	1,020	1,313	2.69	3.10	80,750
April.....	35,385	1,480	955	1,130	2.42	2.70	70,190
May.....	53,720	4,260	1,000	1,733	3.55	4.09	106,600
June.....	30,336	1,260	844	1,011	2.07	2.31	60,170
July.....	21,941	838	660	708	1.45	1.67	43,520
August.....	19,963	725	610	644	1.32	1.52	39,600
September.....	22,472	1,070	646	749	1.53	1.71	44,870
Water year 1940-41.....	452,142	6,360	606	1,239	2.54	34.44	896,900

Peak discharge.- Nov. 29 (8 a.m.) 8,010 sec.-ft.; Jan. 18 (6:30 p.m.) 5,480 sec.-ft.; May 5 (9 a.m.) 5,580 sec.-ft.

f Computed on basis of partly estimated gage-height record.

Notes.- No gage-height record Feb. 21 to Mar. 2, Mar. 8-30; discharge computed on basis of recorded range of stage and records for stations at Big Bottom and near Cazadero.

Clackamas River near Cazadero, Oreg.

Location.- Water-stage recorder, lat. 46°14', long. 122°16', in NE¼ sec. 11, T. 4 S., R. 4 E., half a mile upstream from backwater from Cazadero Dam of Portland General Electric Co. and 3 miles southeast of Cazadero. Datum of gage is 532.0 feet above mean sea level (levels by Portland General Electric Co.); gage readings have been reduced to elevations above mean sea level.

Drainage area.- 665 square miles.

Records available.- January 1909 to September 1941.

Average discharge.- 32 years, 2,558 second-feet.

Extremes.- Maximum discharge during year, 14,400 second-feet Nov. 29 (elevation, 542.18 feet); minimum, 475 second-feet (regulated) Oct. 20; minimum daily discharge, 662 second-feet Oct. 20.

1909-41: Maximum discharge, 60,800 second-feet Mar. 31, 1931 (elevation, 556.5 feet), by computation of flow over dam; minimum, 410 second-feet Oct. 20, 1925, Sept. 28, 1930, when power plant at Three Lynx was shut down (elevation, 532.03 feet); minimum daily, 557 second-feet Aug. 17, 1930.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Some diurnal fluctuation during low water due to Oak Grove power plant. No diversion or regulation.

Cooperation.- Gage-height record and results of discharge measurements furnished by Portland General Electric Co.

Rating tables, water year 1940-41 (elevation, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 29				Nov. 30 to Sept. 30			
532.8	630	535.0	2,070	539.8	7,310	532.8	555
533.1	770	535.5	2,540	540.0	9,240	533.1	800
533.5	990	536.0	3,070	541.0	11,800	535.5	1,080
534.0	1,300	537.0	4,260			534.0	1,350
534.5	1,550	538.0	5,560			535.0	2,130

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	795	2,350	4,560	1,900	2,580	2,190	1,540	1,280	2,080	1,050	705	880
2	835	1,890	3,580	1,810	2,520	2,650	1,580	1,280	1,950	1,050	705	81,400
3	1,030	1,510	5,100	1,700	2,400	2,450	1,490	1,300	1,750	1,080	780	81,100
4	972	1,310	2,980	1,680	2,550	2,180	1,510	1,480	1,680	978	785	81,000
5	845	1,220	3,400	1,660	2,560	2,000	1,570	1,390	1,570	954	705	995
6	785	1,190	3,520	1,760	2,020	1,890	1,800	4,870	1,690	916	691	900
7	725	1,990	3,160	1,720	1,940	1,790	1,840	3,670	1,690	932	695	895
8	725	4,350	2,710	1,710	1,880	1,690	1,720	3,200	1,570	900	6700	775
9	705	5,310	2,440	1,680	1,890	1,520	1,810	2,730	1,550	878	6700	760
10	870	2,440	2,180	1,620	2,120	1,620	1,840	2,390	1,480	866	6700	932
11	870	2,370	1,980	1,620	2,090	1,550	1,710	2,170	1,880	855	6715	1,100
12	870	2,800	1,880	1,610	2,020	1,500	1,690	2,280	1,340	866	6705	1,280
13	705	1,860	1,680	1,810	1,910	1,450	1,510	2,140	1,310	835	6690	1,160
14	690	1,600	1,580	2,050	1,850	1,410	1,520	2,000	1,270	820	6680	1,100
15	580	1,480	1,510	2,180	1,710	1,400	1,650	1,920	1,200	800	6690	1,090
16	875	1,450	1,480	2,360	1,550	1,290	1,850	1,940	1,200	805	6680	1,080
17	880	1,580	1,410	2,930	1,340	1,280	1,680	2,280	1,220	800	6690	978
18	866	1,600	1,470	7,360	1,550	1,480	1,840	3,480	1,260	792	6695	949
19	870	1,580	1,580	6,590	1,500	1,580	1,580	3,330	1,440	785	6680	1,040
20	662	1,560	2,590	4,790	1,480	1,520	1,470	2,900	1,740	775	6680	1,160
21	745	1,800	3,650	3,330	1,410	1,430	1,620	2,610	1,480	765	6750	1,070
22	750	1,380	2,910	3,180	1,560	1,610	1,480	2,350	1,580	755	6685	984
23	725	1,300	2,590	2,800	1,550	1,550	1,480	2,180	1,510	755	6685	918
24	1,950	2,110	2,460	2,660	1,580	1,540	1,420	2,080	1,960	750	6700	978
25	1,760	2,900	2,340	3,680	1,510	1,460	1,340	1,630	1,220	745	6695	835
26	1,220	2,370	2,550	4,860	1,450	1,430	1,500	1,820	1,180	745	6770	835
27	1,030	3,480	3,290	3,090	1,520	1,420	1,250	2,010	1,180	745	6800	820
28	942	5,040	3,080	3,320	1,700	1,460	1,250	1,980	1,130	730	6800	780
29	1,010	11,400	2,580	2,680	-	1,520	1,250	1,940	1,090	730	6720	775
30	1,690	7,110	2,580	2,680	-	1,630	1,270	1,80	1,070	720	6750	768
31	2,440	-	2,180	2,540	-	1,590	-	2,550	-	705	6750	-
Second-foot-days												
Month												
Maximum												
Minimum												
Mean												
Per square mile												
Run-off												
Inches												
Acres-feet												
October.....	29,112	2,440	662	939	1.41	1.63	57,740					
November.....	77,800	11,400	1,190	2,587	3.89	4.34	153,900					
December.....	78,790	4,560	1,410	2,842	3.82	4.41	156,300					
Calendar year 1940.....	311,590	15,800	650	2,217	3.35	45.39	1,610,000					
January.....	58,530	7,360	1,510	2,865	4.51	4.97	176,200					
February.....	50,780	2,880	1,550	1,814	2.73	2.84	100,700					
March.....	51,550	2,860	1,590	1,856	2.49	2.87	101,800					
April.....	46,170	1,840	1,520	1,539	2.31	2.56	91,580					
May.....	76,750	6,390	1,580	2,477	3.73	4.39	152,300					
June.....	42,560	2,080	1,070	1,419	2.13	2.38	84,480					
July.....	25,831	1,080	705	833	1.25	1.44	51,940					
August.....	22,126	820	660	714	1.07	1.24	45,890					
September.....	29,158	1,400	760	978	1.46	1.63	57,650					
Water year 1940-41.....	619,077	11,400	662	1,696	2.55	34.62	1,228,000					

Peak discharge.- Nov. 29 (9:30 a.m.) 14,400 sec.-ft.; Jan. 18 (6 p.m.) 6,560 sec.-ft.; May 5 (11 a.m.) 8,800 sec.-ft.

No gage-height record; discharge computed on basis of records for stations at Big Bottom and above Three Lynx Creek.

Oak Grove Fork above power-plant intake, Oreg.

Location.- Water-stage recorder, lat. 45°04', long. 121°57', in SW $\frac{1}{4}$ sec. 3, T. 6 S., R. 7 E., two-thirds of a mile upstream from Kink Creek, 1 mile upstream from intake of power development of Portland General Electric Co., and 24 miles southeast of Estacada.

Drainage area.- 126 square miles.

Records available.- December 1923 to September 1941. May 1909 to December 1923 (incomplete), at site 1 mile downstream, below Kink Creek; records equivalent except for slight inflow from springs and Kink Creek.

Average discharge.- 17 years (1924-41), 452 second-feet.

Extremes.- Maximum discharge during year, 1,010 second-feet Nov. 24 (gage height, 2.93 feet); minimum, 243 second-feet Aug. 20, 22-25, Sept. 28-30 (gage height, 1.68 feet). 1909-41: Maximum discharge, 5,000 second-feet Jan. 7, 1923 (gage height, 5.45 feet), computed from flow at stations on Clackamas River; minimum, 236 second-feet Oct. 15, 16, 18, 1931 (gage height, 1.42 feet).

Remarks.- Records good. Discharge includes flow of Spring Creek, just below gage. No diversion or regulation above station.

Cooperation.- Gage-height record and discharge measurements furnished by Portland General Electric Co.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 29				Nov. 30 to Sept. 30			
1.7	275	2.3	580	1.6	215	2.2	500
1.9	360	2.5	705	1.8	290	2.4	630
2.1	465	2.8	915	2.0	385	2.6	770

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	291	324	513	326	390	385	385	312	375	286	258	270
2	299	307	452	317	380	390	390	312	365	286	262	282
3	311	303	434	312	365	375	385	326	350	286	262	270
4	303	291	418	308	365	365	380	370	345	286	262	282
5	291	291	464	308	360	360	385	610	345	282	262	270
6	287	287	452	308	360	360	385	506	345	278	262	262
7	287	346	424	308	355	355	385	452	350	278	262	268
8	283	405	402	304	350	350	380	424	340	274	262	258
9	279	356	385	304	350	345	385	396	350	270	258	258
10	283	328	365	304	365	350	385	390	322	270	258	270
11	287	328	350	299	355	345	365	375	312	266	258	274
12	287	324	340	299	360	340	360	380	312	266	254	282
13	287	311	326	308	355	335	345	375	308	262	254	266
14	283	303	317	308	350	330	340	365	304	258	250	266
15	283	299	312	308	345	330	350	365	299	258	250	262
16	279	295	312	308	340	330	350	365	299	254	250	258
17	283	303	308	365	335	330	345	418	294	254	246	254
18	283	311	308	429	330	335	335	434	294	254	246	254
19	283	303	312	429	326	360	330	434	308	250	246	254
20	283	303	350	407	326	360	326	412	322	250	243	254
21	287	303	365	385	322	350	322	390	308	250	246	250
22	287	299	350	380	322	365	317	380	304	254	243	250
23	291	295	340	365	322	370	322	365	299	254	243	250
24	356	333	340	365	335	360	317	380	299	250	243	250
25	311	338	345	424	335	360	312	355	299	250	243	246
26	295	324	355	452	326	355	317	350	294	250	250	246
27	291	426	375	418	330	355	312	390	294	254	250	246
28	291	504	365	407	345	355	308	385	290	254	250	243
29	295	880	355	402	-	390	312	380	290	254	250	243
30	324	644	350	390	-	402	312	375	290	254	250	243
31	333	-	335	385	-	390	-	412	-	254	250	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	9,113	356	279	294	2.33	2.69	18,080
November.....	10,664	880	287	355	2.82	3.15	21,150
December.....	11,419	513	308	368	2.92	3.37	22,650
Calendar year 1940.....	152,299	982	279	416	3.30	44.96	302,100
January.....	10,932	452	299	353	2.80	3.23	21,680
February.....	9,709	390	322	347	2.75	2.87	19,260
March.....	11,082	402	330	357	2.83	3.27	21,980
April.....	10,442	390	308	348	2.76	3.08	20,710
May.....	12,153	610	312	392	3.11	3.59	24,110
June.....	9,486	375	290	316	2.51	2.80	18,820
July.....	8,146	286	250	263	2.09	2.40	16,160
August.....	7,823	262	243	252	2.00	2.31	15,520
September.....	7,771	282	243	259	2.06	2.29	15,410
Water year 1940-41.....	116,740	680	243	325	2.58	35.05	235,500

WILLAMETTE RIVER BASIN

Johnson Creek at Sycamore, Oreg.

Location.— Water-stage recorder and concrete control with steel weir for low flows, lat. 45°28'40", long. 122°30'30", in lot 2, SW¼ sec. 13, T. 1 S., R. 2 E., a third of a mile southwest of Sycamore station. Datum of gage is 228.03 feet above mean sea level, datum of 1929.

Drainage area.— 28.2 square miles.

Records available.— June 1940 to September 1941.

Extremes.— Maximum discharge during year, 578 second-foot Jan. 18 (gage height, 5.90 feet); minimum daily, 0.2 second-foot Aug. 2, 21, 22.

1940-41: Maximum discharge, that of Jan. 18, 1941; minimum, 0.2 second-foot Aug. 14-16, 18-22, 1940, Aug. 2, 21, 22, 1941.

Remarks.— Records excellent except those below 3 second-feet, which are fair. Small diversions above station for irrigation; no regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	0.2	2.1	55	4.5	276
.9	1.0	2.4	74	5.0	361
1.1	4.6	2.8	102	5.5	468
1.3	13	3.2	134		
1.5	22	3.6	169		
1.8	37	4.0	211		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	42	98	60	66	52	11	4.2	17	1.9	0.5	1.6
2	.9	41	70	48	56	57	15	4.2	13	1.8	.3	5.3
3	1.6	26	55	41	47	47	13	5.3	11	1.6	.8	2.0
4	1.3	18	62	39	39	39	13	7.9	9.1	1.4	1.0	1.9
5	1.1	13	77	76	34	33	18	30	8.3	1.3	.8	1.6
6	.9	11	94	101	30	28	20	28	8.7	1.2	.7	1.4
7	.8	44	75	139	30	24	19	19	10	1.2	.6	1.3
8	.8	99	63	104	28	21	17	28	9.1	1.1	.7	1.1
9	.8	89	53	77	41	18	15	20	7.9	1.1	.6	.9
10	.8	53	42	59	61	16	14	15	6.6	.9	.6	1.6
11	1.0	36	33	48	57	15	12	12	5.8	.9	.8	1.6
12	.9	28	27	39	49	13	11	16	5.0	.9	.8	al.6
13	1.1	20	22	43	41	11	9.1	11	4.6	.9	.8	al.7
14	.9	16	18	61	35	10	8.7	10	4.2	.8	.7	al.6
15	.8	13	39	71	30	10	10	9.1	3.9	.8	.8	al.4
16	.8	11	98	78	26	9.1	14	9.6	3.6	.7	.8	al.3
17	.7	11	46	314	23	9.1	12	28	3.9	.6	.8	al.1
18	.8	15	26	432	20	18	9.6	32	3.9	.4	.8	al.2
19	.8	12	43	271	18	20	8.7	28	5.0	.3	.6	1.2
20	.8	11	289	149	17	16	7.5	22	5.8	.4	.4	1.3
21	.8	14	261	104	15	13	7.1	17	3.9	.4	.3	1.4
22	.9	12	134	77	14	21	6.6	13	3.6	.4	.2	1.2
23	1.2	11	101	62	14	20	6.2	10	3.0	.6	.4	1.1
24	13	35	80	57	19	17	5.8	9.1	2.7	.7	1.2	1.1
25	9.1	57	67	110	21	16	5.4	7.9	2.5	.4	1.0	1.0
26	5.0	49	95	136	17	14	5.4	7.5	2.4	.5	1.2	.9
27	3.9	92	184	104	18	13	4.2	13	2.1	.4	1.3	.9
28	5.6	80	122	82	25	11	3.6	12	2.1	.5	1.2	.9
29	5.4	322	59	85	-	11	3.9	10	2.2	.4	1.1	.9
30	13	147	87	55	-	13	3.6	8.7	2.1	.4	.9	.9
31	21	-	78	66	-	11	-	25	-	.8	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	95.3	21	0.7	3.07	0.109	0.13	189
November.....	1,430	322	11	47.7	1.69	1.89	2,840
December.....	2,638	289	18	85.1	3.02	3.48	5,230
Calendar year	-	-	-	-	-	-	-
January.....	3,168	432	39	102	3.62	4.18	6,280
February.....	892	66	14	31.9	1.13	1.18	1,770
March.....	626.2	57	9.1	20.2	.716	.83	1,240
April.....	309.4	20	3.6	10.3	.365	.41	614
May.....	475.0	32	4.2	15.3	.543	.62	938
June.....	173.0	17	2.1	5.77	.205	.23	343
July.....	25.5	1.9	.3	.823	.029	.03	51
August.....	23.6	1.3	.2	.761	.027	.03	47
September.....	41.0	3.3	.9	1.37	.049	.05	81
Water year 1940-41	9,895.0	432	.2	27.1	.961	13.06	19,620

a No gage-height record; discharge computed on basis of weather records.

Lewis River near Cougar, Wash.

Location.- Water-stage recorder, lat. 46°03'30", long. 122°12'50", in SE $\frac{1}{4}$ sec. 29, T. 7 N., R. 5 E., 1 mile downstream from Swift Creek and 4 miles east of Cougar. Datum of gage is 576.4 feet above mean sea level (river-profile survey).

Drainage area.- 483 square miles.

Records available.- July 1910 to March 1912 (gage heights only), June 1924 to September 1941. July 1909 to June 1910 at site 1,000 feet upstream from Swift Creek.

Average discharge.- 17 years (1924-41), 2,706 second-feet.

Extremes.- Maximum discharge during year, 11,800 second-feet Nov. 29 (gage height, 9.00 feet); minimum, 566 second-feet Oct. 9 (gage height, 3.07 feet).
1910-12, 1924-41: Maximum discharge, 54,400 second-feet Dec. 21, 1933 (gage height, 15.7 feet, datum then in use), from rating curve extended above 15,000 second-feet; minimum, 454 second-feet Oct. 21, 1931 (gage height, 0.01 foot, datum then in use).

Remarks.- Records good. No diversion or regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

3.1	602	4.5	1,660	7.0	5,800
3.3	715	5.0	2,250	7.5	7,090
3.5	841	5.5	2,950	8.0	8,530
3.8	1,060	6.0	3,750	8.5	10,100
4.1	1,300	6.5	4,680		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	640	1,940	4,480	2,730	3,500	2,380	2,250	1,560	1,770	1,090	758	876
2	630	1,720	3,750	2,820	3,500	2,800	2,380	1,560	1,660	1,060	752	1,170
3	657	1,420	3,500	2,820	3,340	2,730	2,180	1,660	1,610	1,060	776	1,020
4	669	1,300	3,260	2,180	3,180	2,590	2,180	1,770	1,560	1,060	776	1,170
5	652	1,170	4,010	2,180	3,020	2,450	2,520	2,450	1,520	1,020	752	1,300
6	624	1,090	4,200	2,060	2,880	2,380	2,660	2,320	1,560	1,020	739	1,060
7	608	1,540	3,750	2,000	2,730	2,250	2,590	2,060	1,560	1,020	727	946
8	597	2,120	3,420	1,880	2,590	2,180	2,450	1,940	1,470	982	739	876
9	597	2,000	3,020	1,820	2,590	2,120	2,450	1,820	1,420	946	752	841
10	727	1,820	2,730	1,770	2,660	2,060	2,380	1,770	1,580	946	a752	1,130
11	876	1,720	2,520	1,720	2,580	2,000	2,250	1,820	1,340	910	a752	1,210
12	686	1,580	2,250	1,720	2,520	1,940	2,120	2,060	1,340	910	752	1,380
13	709	1,380	2,060	1,820	2,380	1,820	2,000	1,940	1,300	910	733	1,300
14	674	1,250	1,940	1,820	2,250	1,770	2,000	1,770	1,250	910	721	1,470
15	640	1,170	1,820	1,940	2,120	1,720	2,000	1,660	1,210	910	715	1,660
16	613	1,130	1,720	2,180	2,060	1,660	2,000	2,120	1,170	910	715	1,470
17	703	1,090	1,660	3,920	1,940	1,660	1,880	5,170	1,210	946	715	1,380
18	764	1,060	1,770	7,650	1,880	1,660	1,770	4,580	1,580	910	715	1,340
19	703	928	2,060	6,820	1,820	2,120	1,660	3,920	1,580	876	703	1,610
20	727	946	4,480	5,560	1,770	1,940	1,610	3,500	1,610	876	692	1,720
21	815	946	4,200	4,680	1,660	1,880	1,610	3,180	1,380	876	680	1,520
22	709	876	4,200	4,010	1,660	1,940	1,610	2,950	1,300	876	727	1,420
23	772	822	3,920	3,580	1,610	1,880	1,660	2,730	1,300	841	686	1,340
24	1,690	910	4,100	3,420	1,660	1,770	1,660	2,590	1,250	822	686	1,250
25	1,300	1,020	4,290	4,290	1,560	1,770	1,660	2,380	1,210	802	752	1,210
26	946	922	4,380	4,290	1,560	1,720	1,660	2,180	1,170	796	910	1,170
27	822	1,210	4,200	3,920	1,720	1,770	1,720	2,250	1,170	802	922	1,090
28	789	2,920	3,920	3,660	2,060	1,820	1,680	2,250	1,130	796	1,130	1,060
29	946	9,720	3,580	3,340	-	1,940	1,610	2,000	1,130	802	876	1,020
30	1,710	6,050	3,340	3,340	-	2,120	1,610	1,880	1,130	776	776	1,060
31	2,120	-	3,020	3,100	-	2,120	-	1,880	-	770	758	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Inches	Acres-foot
October.....	26,115	2,120	597	842	1.74	2.01	51,800
November.....	53,864	9,720	822	1,795	3.72	4.15	106,800
December.....	101,550	4,480	1,660	3,276	6.78	7.82	201,400
Calendar year 1940.....	900,769	14,500	597	2,461	5.10	69.34	1,787,000
January.....	98,240	7,650	1,720	3,169	6.56	7.56	194,900
February.....	64,810	3,500	1,560	2,315	4.79	4.99	128,500
March.....	63,300	2,800	1,660	2,042	4.23	4.87	128,600
April.....	59,790	2,660	1,610	1,993	4.13	4.80	118,600
May.....	73,720	5,170	1,560	2,378	4.92	5.68	146,200
June.....	41,010	1,770	1,130	1,367	2.38	3.16	81,340
July.....	28,231	1,090	770	911	1.89	2.17	56,000
August.....	35,699	1,130	680	764	1.58	1.82	47,010
September.....	37,069	1,720	841	1,236	2.56	2.85	73,530
Water year 1940-41.....	671,398	9,720	597	1,839	3.81	51.68	1,332,000

a No gage-height record; discharge interpolated.

Lewis River at Ariel, Wash.

Location.- Water-stage recorder, lat. 45°57'10", long. 122°33'45" (revised), in NW¼ sec. 4, T. 5 N., R. 2 E., at Ariel, half a mile downstream from Ariel Dam and power plant and 3 miles upstream from Cedar Creek.

Drainage area.- 733 square miles.

Records available.- July 1922 to September 1941. July to November 1909 at site 3 miles upstream.

Average discharge.- 18 years (1923-41), 4,425 second-feet, adjusted for storage since March 1931.

Extremes (regulated).- Maximum discharge during year, 29,200 second-feet Nov. 29 (gage height, 13.9 feet); minimum, 642 second-feet June 16 (gage height, 1.15 feet), but may have been less during period of doubtful gage-height record, Aug. 29-31; minimum daily, 730 second-feet Aug. 10.

1909, 1922-41: Maximum discharge, 129,000 second-feet Dec. 22, 1933 (gage height, 35.0 feet, from floodmarks), from rating curve extended above 22,000 second-feet and from spillway-gate openings; no flow at times on June 30 and periods July 1-3, 6-9, 1931 (caused by regulation during construction of Ariel Dam); minimum daily discharge, 1 second-foot July 6, 1931.

Remarks.- Records good except those above 20,000 second-feet, those below 2,000 second-feet, and those for periods of doubtful or no gage-height record, which are fair. No diversion. Flow regulated by Lake Merwin Reservoir on Lewis River, lat. 45°57'30", long. 122°33'10", in SW¼ sec. 34, T. 6 N., R. 2 E., at Ariel, completed in 1931; usable storage, 246,000 acre-feet between elevations 165 feet (set by Federal Power Commission) and 235 feet (spillway crest) above mean sea level. Water is used for power.

Cooperation.- Gage-height record collected in cooperation with Inland Power & Light Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,540	2,070	†7,570	4,280	5,540	1,730	2,890	1,960	2,400	1,630	799	a2,100
2	1,960	1,630	6,240	3,950	†5,700	†4,530	2,240	2,140	2,970	1,660	823	a2,600
3	1,810	†1,820	5,860	3,740	4,930	3,950	1,960	1,670	2,650	1,940	†1,170	a3,200
4	1,590	3,190	5,510	3,340	4,730	3,870	2,100	†1,650	2,480	985	864	a3,700
5	1,230	3,030	6,840	†3,550	4,570	3,520	1,500	2,980	2,120	1,650	1,030	a3,620
6	†771	3,300	7,060	3,850	4,310	5,300	†1,580	3,580	2,000	†1,220	906	a3,680
7	945	2,070	6,200	3,560	3,980	3,070	1,700	3,050	1,660	1,360	884	a3,700
8	1,850	1,850	†5,610	3,230	3,510	3,030	2,840	2,880	†1,190	1,350	944	a3,500
9	1,920	1,990	4,660	3,170	†3,850	†2,790	2,960	2,760	2,240	1,360	950	a2,550
10	1,580	†2,100	4,410	3,070	3,760	2,790	3,110	2,600	2,080	1,370	†730	a2,500
11	1,900	2,730	3,940	3,070	4,000	2,730	3,050	†2,330	1,860	1,320	1,060	a1,900
12	1,860	2,420	†2,710	†2,010	3,690	2,290	2,770	2,640	1,820	1,010	848	a2,050
13	†2,200	2,270	3,420	3,620	3,270	2,860	†2,650	2,640	1,720	†760	879	a3,450
14	2,730	2,420	3,290	3,090	3,220	2,670	2,920	2,550	1,470	1,190	985	†3,280
15	2,320	2,470	†2,860	3,490	2,980	1,580	2,840	2,360	†1,150	1,260	1,060	3,700
16	1,880	2,720	3,490	4,760	†3,010	†2,120	2,630	2,370	1,840	1,100	828	3,730
17	1,850	†2,320	3,280	9,530	2,560	3,380	2,440	7,690	2,020	967	†785	3,190
18	1,750	3,200	3,340	15,900	3,210	3,330	2,070	†7,030	1,970	848	1,150	3,250
19	1,610	3,120	3,190	†12,100	2,170	2,800	2,080	5,720	1,920	814	1,340	3,170
20	†1,660	2,950	4,010	8,120	2,940	2,780	†2,100	5,220	2,020	†914	1,210	3,560
21	2,090	1,980	7,080	7,710	2,480	2,860	3,150	4,660	2,400	859	1,330	†3,190
22	2,500	3,100	†6,870	6,600	1,900	2,260	3,220	4,140	†1,900	944	1,280	3,360
23	2,510	3,510	6,140	5,840	†2,190	†1,760	3,030	3,640	2,100	776	973	2,880
24	2,220	†2,070	6,240	5,580	3,340	3,040	2,260	4,010	1,950	1,010	†1,520	†2,150
25	2,780	3,240	7,160	7,870	2,730	3,370	1,790	†2,780	1,660	939	1,580	†2,500
26	2,360	2,910	7,190	†3,080	2,600	3,070	1,480	3,040	1,790	748	1,400	†2,580
27	†1,810	2,250	7,410	6,840	2,920	2,530	†1,510	3,200	1,550	†698	1,590	†2,560
28	3,170	3,240	6,450	6,230	2,660	2,330	2,220	3,310	1,300	1,000	1,690	†1,440
29	3,120	21,100	†5,990	5,560	-	1,870	1,800	3,280	†1,250	912	†1,860	2,270
30	2,930	10,400	5,870	5,150	-	†1,640	2,390	2,390	1,450	912	†1,750	3,050
31	2,370	-	4,660	5,350	-	2,720	-	2,610	-	901	†1,890	-

Month	Observed				Change in contents in Lake Merwin in acre-feet	Adjusted for change in reservoir contents			
	Discharge in second-feet			Run-off in acre-feet		Run-off in acre-feet	Discharge in second-feet		Run-off in inches
	Maximum	Minimum	Mean				Mean	Per square mile	
October.....	3,170	771	2,030	124,300	-39,800	85,000	1,382	1.89	3.18
November.....	21,100	1,630	3,415	203,200	+44,100	247,300	4,156	5.87	6.33
December.....	7,570	2,960	5,378	330,700	0	330,700	5,378	7.34	3.46
Calendar year 1940	25,300	594	3,928	2,851,000	-600	2,851,000	3,927	5.56	72.91
January.....	15,900	2,910	5,614	345,200	+400	345,600	5,621	7.87	3.84
February.....	5,700	1,900	3,459	192,100	-4,300	187,800	3,382	4.61	4.80
March.....	4,530	1,580	2,797	172,000	+2,300	174,300	2,855	3.97	4.48
April.....	3,220	1,480	2,362	140,600	+15,000	155,600	2,615	3.57	3.98
May.....	7,690	1,650	3,319	204,100	+2,400	206,500	3,758	4.58	5.26
June.....	2,970	1,150	1,900	113,000	-800	112,200	1,688	2.87	2.87
July.....	1,840	748	1,113	68,720	+800	69,520	1,131	1.64	1.78
August.....	1,850	730	1,183	71,600	-15,000	56,500	919	1.25	1.44
September.....	3,730	1,540	2,948	175,400	-23,200	152,200	2,558	3.49	3.69
Water year 1940-41	21,100	730	2,958	2,141,000	-18,100	2,123,000	2,933	4.00	54.31

† Sunday.

a No gage-height record; discharge computed on basis of records of power output at Ariel.

d Doubtful gage-height record; discharge computed on basis of records of power output at Ariel.

Notes.- Reservoir contents based on elevations at midnight.

East Fork of Lewis River near Heisson, Wash.

Location.- Water-stage recorder, lat. 45°50', long. 122°28', in N¹/₂ sec. 17, T. 4 N., R. 3 E., just upstream from Basket Creek, 1¹/₂ miles northeast of Heisson and 20 miles upstream from mouth. Datum of gage is 366.8 feet above mean sea level (river-profile surveys).

Drainage area.- 124 square miles.

Records available.- September 1929 to September 1941.

Average discharge.- 12 years, 706 second-feet.

Extremes.- Maximum discharge during year, 7,670 second-feet Nov. 29 (gage height, 8.81 feet); minimum, 52 second-feet Aug. 20 (gage height, 0.33 foot).
1929-41: Maximum discharge, 12,600 second-feet Dec. 22, 1933 (gage height, 12.3 feet), from rating curve extended above 12,000 second-feet; minimum, 29 second-feet Nov. 3, 1935 (gage height, 0.04 foot).

Remarks.- Records excellent except those below 200 second-feet, which are good. No diversion or regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.5	67	2.0	388	5.0	2,040
.7	89	2.5	525	6.0	3,130
1.0	130	3.0	741	7.0	4,880
1.3	194	3.5	1,010	8.0	6,800
1.6	280	4.0	1,310		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	955	1,520	716	845	631	288	199	407	156	73	304
2	86	768	1,160	694	818	741	296	207	373	178	74	614
3	98	603	1,100	583	716	624	298	323	346	173	93	459
4	132	488	956	525	648	544	315	326	321	153	87	1,160
5	109	414	1,100	583	583	488	420	792	312	154	76	1,400
6	84	352	1,040	766	525	453	488	741	341	144	77	818
7	73	669	900	766	506	414	488	553	304	138	61	528
8	87	1,100	845	692	470	388	453	506	285	132	64	382
9	65	1,010	716	648	488	364	436	420	275	128	63	326
10	92	792	646	603	583	346	398	370	269	124	62	595
11	258	692	563	583	603	329	361	335	238	121	64	741
12	178	583	506	544	553	309	335	341	220	121	71	998
13	173	506	470	563	585	288	312	304	216	116	65	792
14	144	436	436	583	470	278	298	301	207	107	62	845
15	121	382	394	524	456	268	341	288	203	101	62	792
16	108	352	354	872	407	258	349	407	199	97	63	669
17	112	370	358	2,130	382	252	321	1,380	216	94	62	544
18	111	394	414	3,260	358	512	307	1,370	282	91	59	488
19	97	355	488	2,380	344	506	296	1,100	373	88	57	583
20	97	373	1,440	1,600	326	453	278	845	420	91	55	544
21	151	420	1,400	1,280	309	398	268	669	338	85	58	470
22	135	373	1,130	1,010	268	488	258	544	296	86	59	414
23	146	352	982	845	301	436	262	470	285	86	59	364
24	1,040	436	855	845	358	407	541	414	255	85	71	326
25	642	544	1,160	1,380	326	382	227	367	285	86	148	598
26	388	525	1,370	1,560	307	361	218	349	236	82	212	288
27	280	1,010	1,600	1,280	315	338	209	401	218	82	304	265
28	236	2,490	1,340	1,040	379	329	207	525	216	84	398	236
29	379	2,420	1,100	372	-	326	203	436	212	84	225	297
30	1,160	2,330	982	766	-	338	199	398	201	77	158	245
31	1,160	-	518	818	-	301	-	470	-	73	135	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acre-feet		
October.....				7,968	1,160	65	257	2.07	2.39	15,800		
November.....				22,531	5,420	352	851	6.86	7.68	50,540		
December.....				22,252	1,600	355	911	7.35	8.47	56,040		
Calendar year 1940.....				237,695	6,030	39	649	5.25	71.28	471,600		
January.....				31,289	3,260	525	1,009	8.14	9.38	62,080		
February.....				13,126	945	296	471	3.80	3.95	25,130		
March.....				18,560	741	232	405	3.27	3.76	24,890		
April.....				9,360	488	199	312	2.52	2.81	18,570		
May.....				18,121	1,370	199	620	4.19	4.63	31,980		
June.....				6,286	420	199	276	2.23	2.49	16,440		
July.....				3,459	188	73	112	.903	1.04	6,860		
August.....				3,187	308	55	103	.631	.96	6,320		
September.....				16,635	1,400	227	555	4.48	4.99	35,000		
Water year 1940-41.....				175,824	5,420	55	482	3.89	52.73	348,800		

Cowlitz River at Packwood, Wash.

Location.- Water-stage recorder, lat. 46°36'40", long. 121°40'45", in SE $\frac{1}{4}$ sec. 16, T. 13 N., R. 9 E., half a mile upstream from Skate Creek and half a mile northwest of Packwood.

Drainage area.- 287 square miles.

Records available.- September 1929 to September 1941. July 1911 to December 1919 at site 1 mile upstream, published as Cowlitz River at Lewis, Wash.

Average discharge.- 20 years, 1,564 second-feet.

Extremes.- Maximum discharge during year, 9,150 second-feet Nov. 29 (gage height, 8.58 feet); minimum, 172 second-feet Oct. 9; minimum gage height, 2.97 feet Oct. 5. 1911-19, 1929-41: Maximum discharge, 36,600 second-feet Dec. 21, 1933 (gage height, 13.0 feet), from rating curve extended above 12,600 second-feet; minimum, 160 second-feet Nov. 21, 1929 (gage height, 2.10 feet).

Remarks.- Records good. No diversion or regulation.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	291	827	2,220	774	1,280	1,180	1,670	1,510	1,280	912	515	515
2	233	745	1,960	724	1,120	1,260	1,720	1,560	1,220	920	464	582
3	233	661	1,960	681	1,070	1,080	1,410	1,220	1,220	936	468	720
4	217	589	1,780	661	992	984	1,180	1,130	1,260	858	458	790
5	194	545	2,150	634	936	889	1,100	1,160	1,260	858	453	842
6	206	503	2,080	621	865	827	1,070	1,030	1,410	920	497	745
7	229	774	1,720	608	827	797	1,080	936	1,360	904	539	576
8	217	904	1,560	576	767	820	1,070	865	1,150	797	582	527
9	229	702	1,410	569	638	827	1,080	842	1,170	760	654	557
10	873	614	1,220	576	724	790	1,060	928	1,360	745	641	1,170
11	609	563	1,060	582	695	760	976	1,400	1,620	717	614	873
12	390	497	952	589	654	731	920	2,490	1,720	717	621	774
13	469	458	858	647	614	688	912	1,960	1,560	774	576	767
14	469	442	790	647	582	647	968	1,610	1,310	842	587	1,090
15	421	447	731	641	551	627	1,110	1,310	1,080	928	551	1,310
16	375	464	675	641	527	634	984	1,780	960	984	527	1,130
17	533	466	647	1,280	509	675	889	3,620	968	960	533	1,000
18	563	466	647	3,100	492	767	820	2,560	1,120	873	601	897
19	563	447	695	2,280	481	717	812	2,020	1,100	790	608	873
20	668	437	1,560	1,780	469	654	865	1,780	1,070	695	563	942
21	731	405	1,510	1,460	464	601	976	1,720	936	709	545	745
22	545	356	1,510	1,260	458	814	1,150	1,840	1,010	621	475	688
23	582	346	1,360	1,100	464	589	1,310	2,020	1,020	557	521	654
24	944	431	1,260	1,020	475	569	1,310	2,280	889	533	426	634
25	767	458	1,160	1,050	447	589	1,360	2,020	804	509	503	601
26	647	421	1,080	1,050	431	661	1,360	1,720	812	576	503	551
27	545	918	1,030	960	601	774	1,310	1,410	842	582	437	458
28	486	2,960	1,000	920	1,020	920	1,260	1,310	842	582	492	416
29	527	6,740	960	858	-	1,020	1,460	1,220	834	895	416	416
30	782	3,100	928	834	-	1,220	1,620	1,100	850	601	385	601
31	928	-	858	968	-	1,220	-	1,220	-	557	447	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	15,466	944	194	499	1.74	2.00	30,680
November.....	27,626	6,740	346	921	3.21	3.58	54,800
December.....	39,361	2,220	647	1,270	4.43	5.10	78,070
Calendar year 1940.....	438,792	6,740	194	1,200	4.18	56.85	870,400
January.....	30,091	3,100	569	971	3.38	3.90	59,680
February.....	19,293	1,260	431	699	2.40	2.50	38,270
March.....	25,131	1,260	569	811	2.63	3.26	49,850
April.....	34,822	1,720	812	1,160	4.04	4.51	69,070
May.....	49,271	3,620	842	1,590	5.54	6.38	97,730
June.....	34,017	1,720	804	1,130	3.94	4.41	67,470
July.....	23,312	984	509	752	2.62	3.02	46,240
August.....	16,190	654	365	522	1.62	2.10	32,110
September.....	22,344	1,310	416	745	2.60	2.90	44,320
Water year 1940-41.....	336,924	6,740	194	923	3.22	43.66	668,300

Cowlitz River near Mayfield, Wash.

Location.- Water-stage recorder, lat. 46°30'40", long. 122°36'50", in NE¼ sec. 24, T. 12 N., R. 1 E., 1 mile upstream from Mill Creek, 2 miles downstream from Winston Creek, and 2½ miles west of Mayfield. Datum of gage is 226.6 feet above mean sea level, datum of 1929.

Drainage area.- 1,400 square miles.

Records available.- April 1934 to September 1941. August 1910 to November 1911 at site 2½ miles upstream, published as Cowlitz River at Mayfield, Wash.

Extremes.- Maximum discharge during year, 17,700 second-feet Nov. 29 (gage height, 14.96 feet); minimum, 908 second-feet Oct. 8 (gage height, 7.41 feet).
1910-11, 1934-41: Maximum discharge, 36,900 second-feet Nov. 6, 1934 (gage height, 20.1 feet), from rating curve extended above 18,000 second-feet; minimum, 766 second-feet Nov. 30, Dec. 1, 1936 (gage height, 7.18 feet).
Flood of December 1933 is known to have exceeded that of Nov. 6, 1934.

Remarks.- Records excellent. No diversion or regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

7.7	1,170	9.0	2,850	12.0	9,920
8.0	1,490	9.5	3,680	13.0	11,600
8.3	1,850	10.0	4,570	14.0	14,600
8.6	2,250	11.0	6,530		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,110	3,800	9,180	4,250	5,020	3,830	3,680	3,650	3,960	2,380	1,460	1,340
2	1,070	3,360	7,340	3,960	5,170	4,620	4,640	3,530	3,750	2,590	1,390	1,630
3	1,030	2,870	6,620	3,710	4,900	4,590	4,480	3,480	3,600	2,350	1,410	1,790
4	1,040	2,500	6,420	3,600	4,610	4,210	4,050	3,360	3,530	2,320	1,450	2,570
5	998	2,240	6,730	3,610	4,350	3,890	3,960	3,700	3,460	2,250	1,360	2,930
6	964	2,040	8,920	3,650	4,140	3,650	4,080	3,760	3,630	2,220	1,300	2,560
7	932	2,120	7,890	3,540	3,920	3,420	3,940	3,480	3,890	2,250	1,300	2,080
8	924	2,870	6,970	3,390	3,730	3,310	3,870	3,290	3,780	2,220	1,350	1,770
9	932	2,950	6,240	3,310	3,660	3,240	3,850	3,070	3,480	2,080	1,380	1,660
10	964	2,630	5,560	3,290	3,680	3,190	3,890	2,930	3,340	2,010	1,420	1,900
11	1,790	2,440	5,000	3,290	3,510	3,070	3,710	2,960	3,440	1,950	1,470	2,750
12	1,630	2,250	4,550	3,240	3,360	2,960	3,510	3,920	3,680	1,920	1,460	2,310
13	1,850	2,100	4,100	3,310	3,200	2,850	3,340	4,940	3,750	1,900	1,440	2,120
14	1,600	1,960	3,800	3,480	3,070	2,720	3,260	4,430	3,530	1,950	1,350	2,500
15	1,370	1,690	3,530	3,490	2,930	2,630	3,460	3,920	3,170	2,010	1,320	3,460
16	1,250	1,880	3,320	3,510	2,820	2,560	3,610	3,870	2,680	2,100	1,320	3,680
17	1,170	1,940	3,150	4,900	2,690	2,570	3,370	7,250	2,800	2,180	1,320	3,290
18	1,310	2,010	3,090	10,300	2,620	3,030	3,170	10,500	3,010	2,180	1,320	2,960
19	1,480	1,950	3,170	11,100	2,540	3,140	3,010	8,480	3,390	2,040	1,320	2,900
20	1,490	1,830	4,730	8,790	2,480	2,950	2,900	7,130	3,540	1,980	1,320	3,060
21	1,730	1,980	5,970	7,320	2,400	2,720	2,870	6,340	3,310	1,850	1,320	2,790
22	1,680	1,860	5,310	6,340	2,350	2,720	2,980	5,950	3,010	1,850	1,310	2,520
23	1,440	1,790	5,690	5,650	2,320	2,680	3,150	5,750	2,930	1,740	1,320	2,320
24	2,180	1,930	5,550	5,170	2,400	2,540	3,340	5,710	2,850	1,620	1,320	2,180
25	3,200	2,330	5,470	5,360	2,360	2,450	3,340	5,690	2,690	1,650	1,220	2,070
26	2,330	2,330	5,470	5,890	2,250	2,440	3,370	5,210	2,540	1,490	1,380	1,970
27	1,890	2,570	5,610	5,360	2,560	2,480	3,420	4,920	2,480	1,500	1,490	1,880
28	1,690	4,210	5,280	4,940	3,110	2,630	3,340	4,730	2,500	1,510	1,560	1,770
29	1,660	14,400	5,000	4,620	-	2,850	3,320	4,370	2,460	1,510	1,490	1,680
30	2,310	13,400	4,860	4,410	-	3,200	3,480	4,010	2,440	1,500	1,320	1,740
31	3,530	-	4,640	4,460	-	3,420	-	3,870	-	1,480	1,230	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	48,424	3,530	924	1,562	1.12	1.29	96,050
November.....	94,550	14,400	1,790	3,152	2.25	2.51	187,500
December.....	169,620	9,180	3,090	6,472	3.91	4.61	336,400
Calendar year 1940.....	1,665,814	20,900	924	4,551	3.25	44.25	3,304,000
January.....	151,260	11,100	3,240	4,879	3.48	4.02	300,000
February.....	92,170	5,170	2,250	3,292	2.35	2.45	182,800
March.....	96,560	4,620	2,440	3,115	2.22	2.57	191,500
April.....	106,390	4,640	2,870	3,546	2.53	2.83	211,000
May.....	148,800	10,500	2,930	4,781	3.42	3.94	294,000
June.....	96,920	3,960	2,440	3,227	2.30	2.57	192,000
July.....	60,280	2,390	1,480	1,945	1.39	1.60	119,600
August.....	42,420	1,560	1,220	1,368	.977	1.13	84,140
September.....	70,120	3,660	1,340	2,337	1.67	1.86	139,100
Water year 1940-41.....	1,176,814	14,400	924	3,224	2.30	31.98	2,354,000

Cowlitz River at Castle Rock, Wash.

Location.- Water-stage recorder, lat. 46°16'30", long. 122°55'00", in SE¼ sec. 10, T. 8 N., R. 2 W., at highway bridge in Castle Rock, 2½ miles downstream from Toutle River and 14 miles upstream from mouth. Datum of gage is 19.73 feet above mean sea level, datum of 1929.

Drainage area.- 2,210 square miles.

Records available.- December 1926 to September 1941.

Average discharge.- 14 years, 8,454 second-feet.

Extremes.- Maximum discharge during year, 26,400 second-feet Nov. 29 (gage height, 14.07 feet); minimum, 1,360 second-feet Oct. 9 (gage height, 5.97 feet).
1920-41: Maximum discharge observed, 139,000 second-feet Dec. 23, 1933 (gage height, 31.6 feet, present datum), from rating curve extended above 65,000 second-feet; minimum discharge, 998 second-feet Nov. 7, 8, 1935.

Remarks.- Records good. No diversion or regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

6.0	1,400	7.1	3,170	10.0	10,100
6.2	1,700	7.5	3,910	11.0	13,400
6.5	2,170	8.0	4,980	12.0	17,800
6.8	2,660	9.0	7,290	13.0	21,500

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,600	6,180	14,700	7,210	8,280	26,490	4,820	4,790	5,800	3,080	1,900	1,910
2	1,850	8,680	11,300	6,830	8,440	27,620	5,870	4,710	5,270	3,030	1,880	2,680
3	1,540	4,650	9,990	6,070	7,880	7,420	6,080	4,710	4,940	3,000	1,900	2,780
4	1,580	3,870	9,380	5,820	7,890	6,700	5,380	4,870	4,790	2,880	1,920	3,400
5	1,540	3,870	10,100	5,840	6,800	6,100	5,580	5,360	4,690	2,860	1,870	4,480
6	1,480	3,080	14,900	6,660	6,430	2,660	6,100	5,840	4,860	2,800	1,790	4,260
7	1,430	3,310	12,800	6,650	6,120	5,270	5,940	5,360	5,180	2,780	1,760	3,440
8	1,890	4,630	10,800	6,190	8,780	4,900	5,700	5,030	5,380	2,780	1,780	2,900
9	1,390	5,120	9,740	5,770	5,660	4,710	5,610	4,880	4,980	2,640	1,760	2,510
10	1,490	4,420	8,600	5,540	5,910	4,680	2,680	4,360	4,670	2,560	1,790	2,990
11	1,670	3,990	7,600	5,580	5,610	4,420	5,410	4,200	4,650	2,490	1,840	3,680
12	2,490	3,680	6,860	5,250	5,360	4,260	5,120	4,860	4,860	2,440	1,880	3,460
13	2,070	3,300	6,220	5,330	5,030	4,080	4,790	6,340	4,920	2,880	1,840	5,190
14	2,060	3,030	5,660	5,580	4,770	3,950	4,680	6,220	4,790	2,880	1,790	3,480
15	1,960	2,860	5,260	6,100	4,840	3,890	4,860	5,590	4,840	2,630	1,740	4,460
16	1,780	2,760	4,900	6,340	4,340	5,220	5,380	5,500	3,980	2,470	1,740	5,080
17	1,680	2,780	4,870	11,000	4,260	3,720	5,250	9,980	3,800	2,560	1,740	4,790
18	1,840	3,020	4,990	20,800	4,020	5,070	4,770	15,100	3,910	2,610	1,780	4,840
19	1,880	2,920	4,890	20,000	3,850	5,730	4,440	12,600	4,630	2,640	1,740	4,800
20	1,880	2,830	9,480	18,400	3,740	5,340	4,220	10,400	5,010	2,430	1,740	4,820
21	2,080	3,240	11,700	12,300	3,680	4,690	4,090	9,040	4,670	2,550	1,730	4,360
22	2,510	3,020	10,200	10,500	3,530	4,480	4,080	5,280	4,160	2,580	1,730	3,880
23	2,040	2,780	9,470	9,180	3,460	4,380	4,800	7,810	3,980	2,280	1,740	3,460
24	2,920	2,050	9,680	8,590	3,610	4,080	4,380	7,680	3,830	2,120	1,780	3,190
25	2,440	3,660	9,990	9,410	3,760	3,870	4,480	7,420	3,700	2,080	1,730	2,960
26	5,530	3,700	10,500	10,900	3,460	3,740	4,460	6,980	3,480	1,980	1,850	2,880
27	2,780	4,360	11,100	9,800	3,280	5,700	4,680	6,690	3,310	1,980	2,110	2,690
28	2,990	2,780	10,000	9,680	2,850	3,780	4,620	6,600	3,260	1,980	2,630	2,640
29	2,900	22,100	8,920	7,860	-	4,020	4,460	6,240	3,240	1,930	2,410	2,460
30	2,860	22,100	8,360	7,370	-	4,020	4,220	5,640	3,190	1,920	2,040	2,860
31	2,890	-	8,030	7,460	-	4,650	-	5,410	-	1,630	1,860	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	87,340	5,290	1,390	2,172	0.968	1.13	135,600
November.....	180,110	22,100	1,760	5,004	2.25	2.53	297,700
December.....	279,980	14,700	4,670	9,081	4.09	4.71	565,500
Calendar year 1940.....	2,595,870	36,400	1,390	7,093	3.21	43.68	5,149,000
January.....	264,040	20,800	2,230	5,537	3.86	4.45	524,900
February.....	144,910	8,440	3,460	3,175	2.34	2.44	287,400
March.....	149,490	7,850	3,700	4,892	2.18	2.22	296,600
April.....	148,970	6,100	4,080	4,966	2.28	2.21	298,500
May.....	207,820	15,100	4,200	6,704	3.03	3.20	412,200
June.....	131,970	5,500	3,190	4,396	1.99	2.22	261,600
July.....	75,890	3,080	1,930	2,448	1.11	1.28	150,500
August.....	87,780	2,630	1,790	1,868	0.843	0.97	114,800
September.....	102,900	5,080	1,910	3,480	1.55	1.78	204,100
Water year 1940-41.....	1,781,660	22,100	1,390	4,661	2.21	29.99	3,584,000

a No gage-height record; discharge computed on basis of records for station near Mayfield.

Clear Fork of Cowlitz River near Packwood, Wash.

Location.- Water-stage recorder, lat. 46°40'50", long. 121°34'30", in NE¼ sec. 29, T. 14 N., R. 10 E., three-quarters of a mile upstream from mouth and 7 miles northeast of Packwood.

Drainage area.- 56 square miles.

Records available.- August 1907 to September 1917 (October 1913 to September 1917, gage heights only); August 1930 to September 1941.

Average discharge.- 16 years (1907-12, 1930-41), 239 second-feet.

Extremes.- Maximum discharge during year, 1,610 second-feet Nov. 29 (gage height, 6.02 feet); minimum, 42 second-feet Oct. 9, Aug. 22, 23.
1907-17, 1930-41: Maximum discharge, 3,030 second-feet Dec. 22, 1933 (gage height, 11.7 feet), from rating curve extended above 1,200 second-feet; minimum, 30 second-feet Nov. 2, 1935, Nov. 29, 30, Dec. 1, 1936.

Remarks.- Records good. No regulation. Small diversion a few hundred feet above gage for fish hatchery.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	104	329	116	159	141	278	216	174	95	48	66
2	48	90	316	107	151	159	281	192	172	89	47	64
3	52	79	355	102	145	145	229	155	174	83	46	76
4	48	70	300	102	139	135	201	172	172	87	48	125
5	47	66	378	104	132	126	192	165	172	83	49	130
6	45	64	357	98	126	119	182	163	189	82	47	90
7	43	93	300	93	125	116	176	153	192	82	47	75
8	43	93	287	92	121	119	176	143	155	75	45	64
9	42	79	249	90	118	121	182	137	147	71	44	64
10	53	72	216	89	115	119	176	147	163	69	44	145
11	76	89	189	88	111	113	163	224	192	68	45	111
12	54	64	170	89	107	110	155	397	198	64	48	99
13	71	58	149	93	102	105	147	293	187	62	45	96
14	58	58	139	93	98	102	151	229	149	62	44	164
15	53	58	126	92	93	99	178	198	128	62	44	229
16	49	60	116	92	90	98	159	226	118	60	44	163
17	50	66	116	202	89	102	141	408	116	60	43	134
18	49	66	115	484	87	115	132	375	130	64	43	123
19	48	62	116	346	83	110	125	306	143	58	44	119
20	53	62	200	269	82	104	125	281	161	55	48	115
21	66	60	189	226	80	101	137	284	125	54	44	101
22	56	56	203	196	79	102	155	300	126	53	42	92
23	56	55	185	178	79	96	178	313	123	62	45	87
24	al28	62	176	165	79	92	180	346	113	53	44	79
25	107	68	163	167	76	92	182	293	104	53	48	76
26	80	64	153	170	73	99	194	232	107	52	64	71
27	88	114	153	155	96	110	198	201	101	51	54	66
28	64	453	139	145	113	126	169	192	98	51	62	66
29	69	1,030	135	137	-	147	208	178	96	50	51	64
30	107	467	134	134	-	172	226	163	95	49	49	80
31	125	-	123	143	-	178	-	178	-	48	47	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,955	128	42	63.1	1.13	1.30	3,880
November.....	3,662	1,030	55	129	2.30	2.56	7,660
December.....	6,254	378	115	202	3.61	4.15	12,400
Calendar year 1940.....	62,276	1,030	42	170	3.04	41.34	123,500
January.....	4,657	484	68	150	2.68	3.09	9,240
February.....	2,946	169	73	105	1.68	1.98	5,850
March.....	3,671	178	92	118	2.11	2.44	7,280
April.....	5,398	261	125	180	3.21	3.68	10,710
May.....	7,310	408	137	236	4.21	4.85	14,500
June.....	4,309	198	95	144	2.57	2.86	8,550
July.....	2,000	95	48	64.5	1.15	1.33	3,970
August.....	1,465	64	42	47.3	1.845	.97	2,810
September.....	3,033	229	64	101	1.80	2.01	6,020
Water year 1940-41.....	46,562	1,030	42	128	2.29	31.10	92,970

a No gage-height record; discharge computed on basis of records for Cowlitz River at Packwood.

Lake Creek near Packwood, Wash.

Location.- Water-stage recorder, lat. 46°35'55", long. 121°34'15", in sec. 21, T. 13 N., R. 10 E., 600 feet downstream from outlet of Packwood Lake and 6 miles east of Packwood.

Drainage area.- 18.8 square miles.

Records available.- September 1911 to September 1924, September 1930 to September 1941.

Average discharge.- 24 years, 98.7 second-feet.

Extremes.- Maximum discharge during year, 157 second-feet May 25 (gage height, 2.67 feet); minimum, 19 second-feet Oct. 9.
1911-24, 1930-41: Maximum discharge, 1,400 second-feet Dec. 22, 1933 (gage height, 5.9 feet); minimum, 19 second-feet Dec. 1, 1936, Oct. 9, 1941.
Maximum stage recorded, 6.0 feet (datum then in use) Dec. 18, 1917.

Remarks.- Records good. No diversions. Natural regulation in Packwood Lake.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-17)

Oct. 1 to Mar. 31				Apr. 1 to Sept. 30			
1.6	28	2.2	81	1.6	28	2.2	74
1.8	41	2.4	113	1.8	40	2.4	104
2.0	59			2.0	55	2.6	142

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	45	117	52	50	42	41	71	80	76	40	46
2	27	41	98	50	50	42	46	71	77	76	39	50
3	28	37	93	48	48	41	46	73	77	74	39	58
4	29	34	92	48	47	41	46	72	77	74	39	83
5	27	31	98	48	46	40	47	76	81	74	a40	94
6	26	29	110	49	45	39	49	74	91	74	a39	79
7	24	34	96	48	45	38	48	68	106	77	a39	62
8	22	40	87	47	44	37	47	65	102	74	a37	52
9	20	38	81	45	43	37	47	59	93	71	a36	47
10	23	34	74	45	43	36	47	57	94	68	a36	59
11	35	33	68	44	43	35	46	70	111	64	a38	60
12	34	30	63	43	42	34	45	113	134	62	40	57
13	39	28	59	44	41	34	43	126	144	62	38	58
14	37	26	55	44	40	34	43	120	132	63	36	79
15	33	26	53	45	40	34	47	108	111	66	36	98
16	29	25	50	45	38	34	47	104	99	68	36	87
17	28	26	48	45	37	33	46	132	90	68	34	79
18	28	26	48	45	37	33	46	140	98	68	34	70
19	29	26	51	70	37	37	45	124	106	67	34	65
20	29	26	63	68	36	36	44	111	108	63	34	60
21	33	26	68	63	35	35	44	106	98	59	34	55
22	33	25	71	59	34	35	44	113	96	58	34	58
23	36	24	70	56	34	35	46	126	96	54	37	49
24	64	27	68	54	36	34	46	144	90	53	38	47
25	66	29	65	54	35	34	48	153	83	51	41	45
26	54	28	62	58	34	33	52	136	81	49	48	43
27	45	32	63	55	39	33	54	118	79	47	48	41
28	38	53	60	52	40	33	56	102	76	46	53	41
29	37	144	57	50	-	33	60	91	74	45	48	40
30	41	146	56	49	-	34	65	81	74	43	43	44
31	47	-	55	50	-	35	-	79	-	42	40	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,072	66	20	54.6	1.84	2.12	2,130
November.....	1,129	146	24	39.0	2.07	2.31	2,330
December.....	2,199	117	48	70.9	3.77	4.55	4,560
Calendar year 1940.....	27,677	206	20	75.6	4.02	54.76	54,900
January.....	1,605	70	43	51.8	2.76	3.17	3,180
February.....	1,140	50	34	40.7	2.16	2.26	2,280
March.....	1,114	42	35	35.9	1.91	2.20	2,210
April.....	1,431	65	41	47.7	2.54	2.83	2,840
May.....	3,083	153	57	99.5	5.29	6.10	6,120
June.....	2,858	144	74	95.3	5.07	5.65	5,670
July.....	1,936	77	42	62.5	3.32	3.83	3,840
August.....	1,208	53	34	39.0	2.07	2.39	2,400
September.....	1,798	98	40	59.9	3.19	3.66	3,670
Water year 1940-41.....	20,613	153	20	56.5	3.01	40.77	40,900

a No gage-height record; discharge computed on basis of records for Clear Fork of Cowlitz River near Packwood.

Cispus River near Randle, Wash.

Location.- Water-stage recorder, lat. 46°26'50", long. 121°51'35", in NW¼ sec. 18, T. 11 N., R. 8 E. (unsurveyed), 500 feet upstream from bridge to Tower Rock ranger station, 4 miles downstream from North Fork and 8 miles southeast of Randle. Datum of gage is 1,221.4 feet above mean sea level (river-profile survey).

Drainage area.- 323 square miles.

Records available.- October 1910 to February 1912, September 1929 to September 1941.

Average discharge.- 13 years (1910-11, 1929-41), 1,255 second-feet.

Extremes.- Maximum discharge during year, 3,110 second-feet Nov. 29 (gage height, 5.82 feet); minimum, 251 second-feet Oct. 9 (gage height, 2.68 feet).
1910-12, 1929-41: Maximum discharge, 20,000 second-feet Dec. 22, 1933 (gage height, 12.7 feet), from rating curve extended above 8,000 second-feet; minimum, 183 second-feet Dec. 30, 1936; minimum gage height, that of Oct. 9, 1940.

Remarks.- Records good except those for periods of shifting control, which are fair. No diversion or regulation.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	295	675	1,610	974	1,150	1,010	1,280	974	1,030	591	371	409
2	279	627	1,390	916	1,140	1,100	1,390	949	974	570	359	465
3	295	576	1,290	877	1,100	1,050	1,250	932	932	565	375	451
4	288	523	1,290	839	1,040	982	1,230	924	916	565	367	560
5	276	488	1,560	810	982	924	1,210	1,070	893	560	359	621
6	266	470	1,730	774	949	885	1,160	998	909	570	352	513
7	263	694	1,560	740	916	847	1,140	957	949	570	371	447
8	260	747	1,390	707	870	839	1,110	932	893	554	391	399
9	254	669	1,270	694	854	832	1,160	901	839	523	395	383
10	285	609	1,140	694	839	825	1,120	870	847	523	395	533
11	395	576	1,030	688	825	810	1,050	949	870	513	391	518
12	305	533	949	682	788	781	982	1,240	901	503	387	474
13	308	606	885	720	761	767	940	1,220	877	508	369	465
14	305	498	832	727	727	740	940	1,080	825	549	352	518
15	288	483	781	727	694	720	998	998	761	587	348	609
16	279	488	740	713	675	713	957	1,060	727	604	352	570
17	319	498	713	934	675	754	909	2,790	720	609	352	560
18	367	503	720	2,110	656	825	862	2,740	747	576	348	523
19	367	474	761	1,920	644	810	832	2,240	767	523	344	545
20	379	465	1,490	1,610	627	767	803	1,980	767	493	340	549
21	371	451	1,610	1,390	615	747	796	1,850	700	508	344	528
22	305	420	1,670	1,260	604	754	825	1,730	682	483	367	513
23	308	408	1,560	1,150	598	733	885	1,610	682	447	399	493
24	650	442	1,560	1,070	609	713	940	1,610	656	412	367	460
25	565	456	1,560	1,150	592	707	957	1,500	621	383	395	447
26	442	438	1,500	1,140	592	720	998	1,340	615	379	447	433
27	395	506	1,390	1,070	632	767	965	1,290	609	403	399	408
28	379	913	1,290	1,020	847	862	957	1,250	598	395	429	395
29	399	2,880	1,210	982	-	965	974	1,140	609	412	391	383
30	619	2,110	1,140	940	-	1,070	982	1,070	598	395	371	387
31	727	-	1,060	998	-	1,130	-	1,070	-	379	363	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	11,233	727	254	362	1.12	1.29	22,280
November.....	20,124	2,880	412	671	2.08	2.32	39,920
December.....	38,681	1,730	713	1,248	3.86	4.45	76,720
Calendar year 1940.....	391,528	4,000	254	1,070	3.31	45.07	776,700
January.....	31,026	2,110	682	1,001	3.10	3.57	61,540
February.....	22,051	1,150	592	798	2.44	2.54	43,740
March.....	26,149	1,130	707	844	2.61	3.01	51,870
April.....	30,632	1,390	796	1,021	3.16	3.53	60,760
May.....	41,264	2,790	870	1,331	4.12	4.75	81,850
June.....	23,514	1,030	598	784	2.43	2.71	46,640
July.....	15,647	609	379	505	1.56	1.80	31,040
August.....	11,580	447	340	374	1.16	1.33	22,970
September.....	14,556	621	383	485	1.50	1.68	28,870
Water year 1940-41.....	286,457	2,880	254	785	2.43	32.98	568,200

Note.- Shifting-control method used Nov. 9-28, Mar. 11 to May 10, May 17 to Sept. 30.

Tilton River near Cinebar, Wash.

Location.- Water-stage recorder, lat. 46°34'35", long. 122°31'15" in SW¼ sec. 26, T. 13 N., R. 2 E., 1,000 feet downstream from Cinebar Creek, 2 miles southeast of Cinebar and 2½ miles upstream from mouth. Datum of gage is 397.6 feet above mean sea level (river-profile survey). Prior to Apr. 18, 1941, staff gage at same site and at datum 2.93 feet higher.

Drainage area.- 158 square miles.

Records available.- February to September 1941.

Extremes.- Maximum discharge during period, 1,600 second-feet May 17 (gage height, 6.75 feet); minimum, 70 second-feet Aug. 20-22 (gage height, 3.58 feet).

Remarks.- Records fair prior to Apr. 18 and good thereafter except those for periods of no gage-height record, which are poor. Staff gage read once or twice daily Feb. 13 to Apr. 18. No diversion or regulation.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					a779	a646	276	176	366	207	90	140
2					a842	a716	322	176	329	186	90	234
3					a790	785	306	235	296	183	112	314
4					a734	661	291	236	279	183	121	811
5					a670	530	a591	355	263	172	104	697
6					a616	487	a378	390	348	160	94	518
7					a550	446	466	355	366	160	88	366
8					a488	a416	408	322	348	150	85	279
9					a484	a353	408	293	329	150	85	248
10					a500	355	408	263	296	140	82	356
11					a466	338	372	248	263	140	82	406
12					a416	322	a334	263	248	140	90	366
13					372	306	a292	234	234	140	88	366
14					372	291	306	249	220	130	82	764
15					a350	a281	322	243	220	121	79	1,140
16					a328	a272	322	396	307	121	78	933
17					306	282	306	1,270	220	112	76	871
18					291	427	276	1,280	314	112	73	763
19					281	466	262	933	494	112	72	753
20					276	408	248	753	541	112	70	871
21					262	355	235	591	472	112	70	697
22					a261	390	222	494	406	112	70	568
23					a259	360	222	429	348	104	80	472
24					291	348	210	386	312	104	84	406
25					276	322	198	348	296	102	88	366
26					248	306	198	329	263	99	112	329
27					372	291	198	366	248	98	121	296
28					577	276	196	472	248	96	172	263
29					-	a287	186	406	234	94	160	248
30					-	a299	176	566	220	91	112	307
31					-	276	-	366	-	88	112	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....							
November.....							
December.....							
Calendar year							
January.....	-	-	-	-	-	-	-
February.....	12,469	842	248	445	2.82	2.93	24,710
March.....	12,290	788	262	396	2.61	2.89	24,370
April.....	9,695	466	176	288	1.82	2.03	17,110
May.....	13,218	1,280	176	426	2.70	3.11	26,220
June.....	9,226	541	207	308	1.95	2.17	18,300
July.....	4,040	207	88	130	.823	.95	8,020
August.....	2,910	172	70	93.9	.594	.69	5,780
September.....	15,175	1,140	140	506	3.20	3.57	30,100
The period.....	-	-	-	-	-	-	184,600

a No gage-height record; discharge computed on basis of records for Cowlitz River near Mayfield, Cowlitz River at Packwood, and Cispus River near Randle.

Toutle River near Silver Lake, Wash.

Location.- Water-stage recorder, lat. 46°20', long. 122°44', in SE 1/4 sec. 19, T. 10 N., R. 1 E., at highway bridge, half a mile downstream from confluence of North and South Forks and 5 miles northeast of Silver Lake. Datum of gage is 407.3 feet above mean sea level (river-profile survey).

Drainage area.- 472 square miles.

Records available.- October 1919 to December 1923, September 1929 to September 1941. September 1909 to August 1912 at site 2 miles downstream, published as Toutle River near Castle Rock, Wash.

Average discharge.- 17 years (1909-11, 1919-21, 1922-23, 1929-41), 1,871 second-foot.

Extremes.- Maximum discharge during year, 8,410 second-foot Nov. 29 (gage height, 7.90 feet); minimum, 325 second-foot Aug. 19, 20, 23 (gage height, 1.70 feet). 1909-12, 1919-23, 1929-41: Maximum discharge observed, 35,600 second-foot Mar. 2, 1910; maximum gage height recorded, 22.7 feet Dec. 23, 1933; minimum discharge, 240 second-foot Nov. 21, 1929 (gage height, 1.67 feet).

Remarks.- Records good. No diversion or regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-foot)

1.8	365	2.7	860	4.5	2,720
2.0	480	3.0	1,120	5.0	3,540
2.2	560	3.5	1,580	6.0	5,750
2.5	740	4.0	2,100	7.0	7,800

Discharge, in second-foot, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	383	1,830	2,970	1,780	2,100	1,680	978	859	1,300	877	374	544
2	378	1,830	2,530	1,630	2,040	1,630	954	880	1,160	558	374	1,100
3	401	1,810	2,810	1,580	1,880	1,630	988	992	1,120	640	435	1,080
4	428	1,010	1,990	1,480	1,730	1,480	1,000	978	1,080	518	435	1,340
5	396	880	2,700	1,580	1,630	1,340	1,280	1,480	1,080	595	401	1,680
6	370	810	3,190	1,730	1,530	1,440	1,480	1,480	1,080	595	374	1,390
7	349	1,800	2,880	1,630	1,480	1,210	1,300	1,500	1,120	575	374	1,100
8	341	1,830	2,530	1,630	1,390	1,180	1,210	1,500	1,160	555	374	888
9	333	1,480	2,100	1,480	1,440	1,100	1,210	1,180	1,110	545	370	798
10	370	1,260	1,880	1,440	1,630	1,050	1,160	1,100	1,080	530	361	1,110
11	460	1,120	1,730	1,390	1,390	1,010	1,100	1,070	1,080	525	361	1,120
12	408	1,000	1,580	1,340	1,340	868	1,050	1,210	924	515	375	1,040
13	450	904	1,440	1,440	1,260	928	1,000	1,160	944	505	361	1,040
14	438	631	1,340	1,530	1,210	888	968	1,120	888	500	353	1,280
15	388	795	1,280	1,630	1,160	868	1,160	1,110	845	480	349	1,440
16	365	775	1,210	1,680	1,180	845	1,260	1,340	810	475	349	1,300
17	370	817	1,180	2,980	1,070	831	1,210	3,140	824	490	337	1,180
18	370	898	1,210	2,970	1,080	1,390	1,120	3,030	922	405	333	1,190
19	361	803	1,340	4,250	1,010	1,340	1,060	2,620	1,110	465	389	990
20	374	831	2,740	3,110	960	1,210	1,000	2,810	1,260	455	341	1,680
21	490	992	2,450	2,580	998	1,100	980	1,840	1,080	445	335	1,340
22	465	838	2,210	2,270	895	1,100	928	1,730	960	460	329	1,180
23	435	782	2,100	2,040	880	1,060	904	1,630	888	445	370	1,080
24	1,360	668	2,480	1,840	1,010	1,000	898	1,530	852	455	378	858
25	1,100	1,050	2,720	2,520	1,040	980	873	1,590	860	455	410	866
26	761	960	2,600	2,800	944	938	859	1,340	824	415	545	831
27	616	1,840	2,600	2,390	1,300	920	868	1,390	775	410	682	768
28	665	2,700	2,480	2,210	1,440	920	868	1,680	747	410	1,160	733
29	634	7,800	2,270	1,990	-	944	868	1,390	747	408	705	691
30	1,370	4,880	2,100	1,880	-	1,010	852	1,300	719	388	580	691
31	1,750	-	1,840	1,990	-	978	-	1,340	-	378	515	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	17,851	1,730	333	556	1.18	1.36	34,220
November.....	42,893	7,800	775	1,443	3.06	3.41	85,670
December.....	65,880	5,190	1,160	2,109	4.47	5.15	129,700
Calendar year 1940.....	610,695	10,300	327	1,669	3.54	48.10	1,211,000
January.....	65,690	5,970	1,340	2,119	4.49	5.18	130,300
February.....	36,738	2,100	880	1,312	2.78	2.89	79,870
March.....	34,992	1,830	831	1,189	2.39	2.76	69,410
April.....	31,348	1,440	862	1,045	2.21	2.47	65,370
May.....	45,697	5,140	889	1,481	3.14	3.62	91,040
June.....	29,289	1,300	719	978	2.07	2.31	58,080
July.....	16,498	877	378	500	1.06	1.22	30,740
August.....	15,340	1,160	389	430	.921	1.06	26,460
September.....	32,730	1,680	644	1,091	2.31	2.58	64,920
Water year 1940-41.....	431,420	7,800	389	1,182	2.80	34.00	855,800

South Fork of Toutle River at Toutle, Wash.

Location.- Water-stage recorder, lat. 46°19'20", long. 122°41'45", (revised), in SW¼ sec. 28, T. 10 N., R. 1 E., half a mile southwest of Toutle, 1½ miles upstream from mouth, and 3 miles downstream from Johnson Creek. Datum of gage is at mean sea level (river-profile survey).

Drainage area.- 116 square miles.

Records available.- October 1939 to September 1941.

Extremes.- Maximum discharge during year, 3,880 second-feet Jan. 18 (elevation, 455.39 feet); minimum, 76 second-feet Oct. 9 (elevation 451.51 feet).
1939-41: Maximum discharge, 5,820 second-feet Dec. 15, 1939 (elevation, 456.50 feet); minimum, 68 second-feet Aug. 18, 19, 1940 (elevation, 451.46 feet).

Remarks.- Records good. No diversion or regulation.

Rating table, water year 1940-41 (elevation, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 1 to May 7, June 24 to Aug. 26, Sept. 19-30)

451.6	91	452.5	378	454.5	2,450
451.8	133	453.0	685	455.0	3,220
452.0	186	453.5	1,140		
452.2	252	454.0	1,750		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	655	897	525	740	532	205	172	315	161	90	246
2	90	611	765	472	732	597	205	180	286	155	91	477
3	101	472	732	434	618	495	208	227	267	153	111	418
4	105	413	618	408	544	423	234	228	252	148	105	558
5	93	336	445	450	483	378	347	423	244	143	97	708
6	84	302	915	544	450	341	418	434	259	135	91	558
7	79	523	816	495	428	315	403	359	267	131	91	444
8	78	701	740	450	388	294	393	383	256	129	95	369
9	76	577	626	418	439	279	341	323	241	126	95	319
10	93	444	544	408	444	263	319	290	221	124	90	423
11	129	383	477	403	408	252	282	271	211	122	88	434
12	99	332	423	398	385	234	267	279	208	122	91	406
13	117	290	378	439	359	221	244	244	195	115	86	393
14	105	267	350	477	336	214	234	244	189	113	84	418
15	95	237	323	538	319	201	290	248	186	111	84	483
16	88	234	311	583	298	198	311	388	180	111	86	439
17	93	252	294	1,570	282	195	294	1,370	189	109	84	418
18	93	259	355	3,060	271	356	271	1,200	234	109	85	413
19	88	252	452	1,850	256	403	256	889	275	107	81	519
20	93	275	1,270	1,300	245	328	241	678	298	105	81	544
21	129	315	953	1,000	234	286	230	544	252	103	81	477
22	107	259	834	816	227	294	221	461	227	105	81	423
23	113	252	799	678	227	271	208	403	214	103	90	378
24	518	332	1,080	640	275	248	205	359	206	103	90	341
25	311	336	1,240	1,150	271	234	198	319	217	99	110	319
26	217	323	1,230	1,230	244	227	189	311	192	97	145	302
27	166	565	1,140	1,000	369	221	183	332	177	97	265	282
28	153	1,190	924	834	403	217	177	398	177	95	444	263
29	203	2,450	808	701	-	214	174	341	177	95	234	244
30	595	1,280	708	633	-	230	172	311	169	93	177	244
31	701	-	597	685	-	208	-	341	-	91	163	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	5,103	701	76	165	1.42	1.64	10,120
November.....	15,117	2,450	234	504	4.34	4.85	29,980
December.....	22,024	1,270	294	710	6.12	7.06	43,580
Calendar year 1940.....	182,115	3,890	68	498	4.29	58.40	351,200
January.....	24,619	3,060	398	794	6.84	7.89	48,830
February.....	10,676	740	227	381	3.28	3.42	21,180
March.....	9,199	597	195	297	2.56	2.95	18,250
April.....	7,720	418	172	257	2.22	2.48	15,310
May.....	12,930	1,370	172	417	3.59	4.15	25,650
June.....	6,794	315	169	226	1.95	2.17	13,450
July.....	3,610	161	91	116	1.00	1.16	7,160
August.....	3,685	444	51	119	1.03	1.18	7,310
September.....	12,262	708	244	409	3.53	3.93	24,320
Water year 1940-41.....	133,729	3,060	76	366	3.16	42.88	265,800

Elokomin River near Cathlamet, Wash.

Location.- Water-stage recorder, lat. 46°13'10", long. 123°20'30", in SE¼ sec. 31, T. 9 N., R. 5 W., 2 miles northeast of Cathlamet and 4 miles upstream from mouth. Prior to June 25, 1941, staff gage at same site but at datum 1.0 foot higher. Staff-gage readings have been reduced to present datum.

Drainage area.- 66 square miles.

Records available.- October 1940 to September 1941.

Extremes.- Maximum discharge observed during year, 3,400 second-feet Jan. 17 or 18 (gage height, 8.0 feet, from floodmark on gage); minimum discharge, 31 second-feet Aug. 18-20 (gage height, 2.12 feet).
Maximum stage known, 17.2 feet in December 1933, from information by local residents.

Remarks.- Records good October to June, excellent July to September, except those for period of no gage-height record, which are poor. Staff gage read once or twice daily Oct. 10 to June 25. No diversion or regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

2.2	39	3.5	305	6.0	1,640
2.4	62	4.0	456	7.0	2,460
2.7	113	4.5	661		
3.0	177	5.0	939		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a35	570	550	348	392	265	131	84	135	71	37	176
2	a38	474	440	316	377	278	131	89	125	66	39	265
3	a40	345	474	302	336	252	133	115	117	64	79	296
4	a60	283	408	292	322	231	131	154	116	61	52	487
5	a50	244	661	359	292	218	208	247	111	60	42	326
6	a40	229	686	374	273	201	236	206	135	58	39	224
7	a38	359	510	377	260	184	236	172	123	58	38	172
8	a36	349	440	350	247	177	199	170	123	56	36	141
9	a36	342	392	325	249	168	189	137	115	54	36	135
10	137	292	350	297	265	161	172	129	102	52	35	187
11	218	206	313	283	249	152	166	117	94	52	35	199
12	131	247	276	265	229	146	160	117	91	51	37	172
13	172	221	262	252	216	139	139	109	87	49	34	172
14	105	201	236	262	206	131	135	107	84	47	33	224
15	56	184	221	278	199	127	149	102	84	44	33	216
16	80	170	208	333	189	123	152	236	80	43	33	215
17	71	170	206	1,960	179	133	146	678	89	42	33	206
18	76	160	211	2,460	172	255	131	491	91	42	32	196
19	74	139	218	1,340	166	311	123	377	100	42	32	231
20	170	168	529	908	169	255	119	316	113	42	31	211
21	239	179	529	686	156	221	111	278	98	41	32	189
22	166	148	491	529	148	221	107	239	96	41	33	168
23	159	146	423	474	146	196	107	201	92	41	40	152
24	300	283	423	474	191	184	104	184	79	42	37	141
25	214	286	423	764	156	172	98	170	94	50	45	133
26	183	270	550	661	159	163	92	163	94	42	57	125
27	137	440	592	529	270	152	86	161	76	41	64	117
28	131	820	529	456	300	148	86	196	74	42	121	109
29	224	1,480	474	408	-	148	86	184	74	41	70	105
30	661	849	440	368	-	135	86	150	a72	39	63	135
31	592	-	392	408	-	133	-	146	-	37	96	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	4,678	661	35	161	2.29	2.64	9,280
November.....	10,303	1,480	139	343	5.20	5.81	20,440
December.....	12,859	686	206	415	6.29	7.25	25,510
Calendar year	-	-	-	-	-	-	-
January.....	17,438	2,480	252	563	8.53	9.33	34,580
February.....	6,503	392	146	232	3.52	3.66	12,900
March.....	5,780	311	123	186	2.82	3.26	11,460
April.....	4,110	236	86	137	2.08	2.32	8,150
May.....	6,425	878	84	207	3.14	3.62	12,740
June.....	2,953	135	72	98.4	1.49	1.66	5,860
July.....	1,511	71	37	48.7	.736	.85	3,000
August.....	1,424	121	31	45.9	.695	.80	2,820
September.....	5,835	487	106	194	2.94	3.29	11,670
Water year 1940-41.....	79,819	2,460	31	219	3.32	44.99	168,300

a No gage-height record; discharge interpolated or computed on basis of records for North River near Raymond and Naselle River near Naselle.

Youngs River near Astoria, Oreg.

Location.- Water-stage recorder, lat. 46°04', long. 123°47', in NW 1/4 sec. 27, T. 7 N., R. 8 W., 50 feet upstream from crest of Youngs River Falls, 2 1/2 miles southwest of Olney, and 3 miles southeast of Astoria. Datum of gage is 62.64 feet above mean sea level, datum of 1929.

Drainage area.- 32 square miles.

Records available.- January 1934 to September 1941. March 1916 to September 1917 (gage heights only), at site 3 miles upstream. August 1927 to December 1933, at site 1 mile upstream.

Extremes.- Maximum discharge during year, 2,070 second-feet Nov. 28 (gage height, 9.28 feet); minimum, 5.3 second-feet Aug. 19, 20.

1927-41: Maximum discharge, 2,300 second-feet Nov. 24, 1927 (gage height, 6.52 feet, site and datum then in use), from rating curve extended above 2,000 second-feet; minimum, 3.7 second-feet Sept. 22, 23, 1938.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. No diversion or regulation above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	5.2	2.6	53	6.0	780
1.0	10	5.0	97	7.0	1,050
1.4	18	5.5	151	8.0	1,450
1.8	29	4.0	230		
2.2	44	5.0	450		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	255	285	197	225	122	58	38	45	21	7.4	41
2	7.9	234	200	163	302	121	55	39	43	20	7.9	70
3	6.4	155	252	141	255	105	55	50	40	20	12	80
4	6.4	180	173	159	195	98	60	128	37	18	10	118
5	7.9	100	317	190	160	89	120	195	36	17	8.7	91
6	7.4	85	287	299	137	82	170	158	43	16	7.9	63
7	6.9	219	217	243	120	76	140	131	41	16	7.4	48
8	6.5	246	193	193	111	70	120	111	88	16	6.9	89
9	6.2	254	158	163	124	68	110	93	40	14	6.2	87
10	12	192	131	139	127	61	100	80	36	14	6.6	67
11	36	197	116	121	130	56	90	67	31	13	6.5	75
12	19	145	109	110	115	52	85	61	29	13	6.6	69
13	20	121	89	118	108	49	75	57	29	12	6.6	65
14	19	102	81	105	97	47	70	58	27	12	6.2	84
15	14	67	73	166	90	45	55	54	26	11	6.3	77
16												
17	9.8	71	66	1,210	75	49	80	541	25	10	6.5	86
18	11	63	106	1,100	71	170	70	337	40	9.6	5.8	64
19	21	55	244	558	67	225	64	226	56	9.6	5.6	128
20	123	73	728	370	64	152	60	166	47	9.5	5.3	101
21	108	109	435	263	59	128	55	130	58	9.1	5.6	76
22	57	80	375	200	65	105	52	105	34	9.1	5.8	64
23	99	71	334	163	54	108	50	58	31	9.1	11	55
24	198	69	366	162	72	94	47	76	29	8.9	5.6	50
25	108	116	412	720	67	83	44	57	28	5.6	12	46
26	72	95	505	633	61	75	42	52	27	5.2	25	44
27	54	296	400	418	131	71	40	57	25	5.2	59	40
28	50	835	300	279	130	65	39	55	24	5.0	45	37
29	79	933	244	218	-	70	32	55	24	5.0	25	34
30	428	445	259	185	-	65	37	51	22	7.9	20	85
31	263	-	243	217	-	61	-	48	-	7.6	29	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,878.6	425	5.2	60.6	1.99	2.18	5,780
November.....	1,921	933	56	197	6.15	8.82	11,740
December.....	7,755	726	66	250	7.61	8.99	12,340
Calendar year 1940.....	61,478.6	2,140	5.0	168	5.25	71.45	121,900
January.....	9,350	1,210	105	302	9.44	10.87	18,550
February.....	3,283	302	66	117	3.66	3.79	6,470
March.....	2,725	223	44	87.9	2.75	2.17	5,410
April.....	2,302	170	37	73.6	2.30	2.57	4,580
May.....	3,552	541	38	115	3.59	4.13	7,050
June.....	1,016	56	22	33.9	1.06	1.18	2,020
July.....	374.4	21	7.6	12.1	.378	.44	745
August.....	389.1	59	5.3	12.6	.394	.45	778
September.....	1,893	125	34	63.1	1.97	2.20	3,750
Water year 1940-41.....	40,306.1	1,210	5.3	110	3.44	46.85	79,960

Peak discharge.- Nov. 28 (8 p.m.) 2,070 sec.-ft.; Dec. 20 (1 a.m.) 1,190 sec.-ft.; Jan. 17 (11:30 p.m.) 1,210 sec.-ft.; Jan. 25 (1:30 p.m.) 1,180 sec.-ft.

Notes.- No gage-height record Mar. 30 to May 1; discharge computed on basis of records for Wilson River near Tillamook.

NEHALEM RIVER BASIN

Nehalem River near Foss, Oreg.

Location.- Water-stage recorder, lat. 45°42', long. 123°45', in NW¼ sec. 35, T. 3 N., R. 9 W., a quarter of a mile upstream from Cook Creek and 2.2 miles northeast of Foss.
Datum of gage is 32.60 feet above mean sea level, datum of 1929 (Oregon State Highway Department bench mark).

Drainage area.- 667 square miles.

Records available.- October 1939 to September 1941.

Extremes.- Maximum discharge during year, 19,100 second-feet Jan. 18 (gage height, 12.93 feet); minimum, 110 second-feet Aug. 19-23 (gage height, 1.47 feet).
1939-41: Maximum discharge, 28,700 second-feet Dec. 16, 1939 (gage height, 15.69 feet); minimum, 85 second-feet Aug. 20, 21, 1940 (gage height, 1.38 feet).

Remarks.- Records excellent. No known diversion or regulation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.4	90	3.0	880	7.0	5,300
1.7	182	3.5	1,230	8.0	7,150
2.0	300	4.0	1,630	9.0	9,290
2.3	440	5.0	2,590	11.0	14,100
2.6	615	6.0	3,780	13.0	19,300

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	175	1,760	4,520	3,220	3,550	2,130	1,060	667	936	363	143	368
2	156	1,780	3,320	2,620	3,950	2,170	1,030	682	905	350	145	778
3	149	1,440	2,960	2,550	3,730	2,080	1,020	708	831	332	159	706
4	146	1,120	2,610	2,370	3,420	1,970	1,060	869	771	314	169	950
5	143	908	3,460	2,760	3,080	1,880	1,370	1,410	726	300	175	845
6												
7	146	784	3,860	3,770	2,780	1,700	1,770	1,650	712	291	179	680
8	140	1,100	3,740	3,950	2,470	1,570	1,800	1,550	700	283	172	525
9	134	2,140	3,220	3,780	2,260	1,470	1,680	1,400	680	274	156	440
10	127	2,440	2,770	3,590	2,140	1,370	1,600	1,250	634	261	145	381
11	146	2,270	2,390	3,030	2,150	1,260	1,510	1,150	603	253	137	543
12	196	1,910	2,080	2,700	2,090	1,200	1,410	1,060	555	245	130	1,330
13	200	1,620	1,860	2,420	1,970	1,130	1,300	992	501	238	130	1,030
14	204	1,410	1,650	2,240	1,880	1,070	1,200	945	478	230	127	1,020
15	189	1,190	1,490	2,070	1,760	1,010	1,160	908	451	222	124	978
16	182	1,060	1,340	2,270	1,640	987	1,170	873	440	211	118	862
17												
18	166	950	1,230	2,900	1,550	901	1,270	1,060	435	204	118	790
19	166	873	1,210	11,100	1,480	901	1,350	3,730	430	193	118	732
20	169	810	1,370	17,600	1,400	1,440	1,270	3,850	484	186	115	778
21	169	745	1,830	15,800	1,320	2,170	1,160	3,400	641	179	112	1,110
22	296	797	6,040	10,000	1,250	2,300	1,080	2,880	706	175	110	1,210
23												
24	473	1,060	7,560	6,620	1,180	2,180	1,020	2,440	609	169	110	1,050
25	395	1,040	7,210	6,130	1,130	1,960	971	2,080	549	166	110	922
26	452	1,010	5,640	3,960	1,100	1,800	908	1,800	513	166	112	790
27	1,120	1,020	5,480	3,650	1,120	1,620	873	1,860	490	162	118	693
28	889	1,160	5,980	6,330	1,150	1,610	831	1,410	478	162	143	615
29												
30	778	1,110	6,660	7,980	1,120	1,410	784	1,260	451	162	179	861
31	585	1,460	6,430	7,090	1,420	1,310	752	1,170	425	159	267	513
1	456	3,760	5,730	5,690	1,890	1,280	708	1,140	410	156	400	468
2	490	9,220	4,840	4,600	-	1,190	693	1,080	395	156	318	446
3	1,320	6,760	4,190	3,790	-	1,180	686	1,060	381	152	266	440
4	1,640	-	3,700	3,530	-	1,100	-	971	-	146	270	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	11,937	1,640	127	395	0.577	0.67	23,680
November.....	54,677	9,220	745	1,893	2.73	3.05	108,500
December.....	116,340	7,560	1,210	3,753	5.63	6.49	230,800
Calendar year 1940.....	882,419	23,900	88	2,411	3.61	49.22	1,760,000
January.....	158,270	17,600	2,070	5,105	7.65	8.82	313,900
February.....	65,980	3,950	1,100	1,999	3.00	3.12	111,000
March.....	47,058	2,300	901	1,513	2.28	2.62	93,340
April.....	34,484	1,800	686	1,149	1.72	1.92	69,400
May.....	47,002	3,850	667	1,516	2.27	2.62	93,230
June.....	17,323	936	381	577	.865	.97	34,360
July.....	6,860	363	146	221	.331	.38	13,610
August.....	5,081	400	110	163	.244	.28	10,040
September.....	22,534	1,330	358	761	1.13	1.26	44,700
Water year 1940-41.....	577,507	17,600	110	1,582	2.37	32.20	1,146,000

Peak discharge.- Nov. 29 (1:30 a.m.) 11,080 sec.-ft.; Jan. 18 (2 a.m.) 19,100 sec.-ft.

Wilson River near Tillamook, Oreg.

Location.- Water-stage recorder, lat. 45°29', long. 123°43', in NW¼ sec. 18, T. 1 S., R. 8 W., 1 mile upstream from North Fork and 6½ miles east of Tillamook. Datum of gage is 42.13 feet above mean sea level, datum of 1929.

Drainage area.- 162 square miles.

Records available.- July 1931 to September 1941. December 1914 to November 1916 (incomplete), at site three-quarters of a mile downstream.

Average discharge.- 10 years (1931-41), 1,218 second-feet.

Extremes.- Maximum discharge during year, 11,900 second-feet Jan. 18 (gage height, 11.68 feet); minimum, 76 second-feet Oct. 9.

1914-16, 1931-41: Maximum discharge, 30,000 second-feet Dec. 21, 1933 (gage height, 19.28 feet, site and datum then in use), from rating curve extended above 15,000 second-feet; minimum observed, 59 second-feet Sept. 22, 1938.

Remarks.- Records excellent. No diversion or regulation above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.1	68	3.0	815	6.0	3,680
1.4	121	3.5	1,180	7.0	4,520
1.8	230	4.0	1,820	8.0	6,070
2.2	380	4.5	2,090	9.0	7,510
2.6	575	5.0	2,590	10.0	9,050

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	1,580	1,910	992	1,380	732	407	290	372	209	104	446
2	82	1,210	1,460	887	1,520	815	384	296	344	203	108	841
3	88	922	1,420	815	1,390	776	394	344	328	197	126	642
4	102	732	1,220	776	1,200	708	407	534	316	194	119	887
5	95	619	1,950	1,320	1,040	648	744	1,110	312	188	108	765
6	86	542	2,120	2,090	956	608	1,040	1,010	328	182	104	602
7	80	848	1,660	1,770	841	564	915	854	308	176	102	470
8	77	1,560	1,400	1,520	765	526	789	720	296	170	98	394
9	77	1,450	1,160	1,330	822	490	720	630	290	167	98	352
10	150	1,170	992	1,180	867	461	642	558	258	162	97	579
11	293	1,030	880	1,050	928	438	586	505	254	157	97	1,390
12	182	901	782	957	796	416	536	470	240	154	98	1,240
13	197	782	702	880	738	394	495	434	237	149	93	1,040
14	162	684	642	815	690	380	470	416	230	144	90	1,060
15	137	614	597	957	642	364	475	389	224	142	90	950
16	123	553	548	1,520	597	348	515	531	218	137	86	828
17	130	542	528	7,460	564	352	506	2,110	224	135	85	720
18	135	500	642	8,990	531	841	470	1,900	265	132	83	758
19	128	448	776	4,280	500	1,200	438	1,400	372	128	83	1,210
20	173	520	3,050	2,830	475	999	416	1,100	407	126	82	1,460
21	376	636	2,330	2,090	448	841	394	908	344	121	82	1,160
22	332	553	1,960	1,640	430	796	380	782	316	121	80	929
23	395	510	1,780	1,370	430	690	364	684	296	121	86	776
24	1,250	672	1,940	1,430	470	630	348	614	282	119	96	666
25	782	915	2,050	3,240	434	586	332	558	282	119	92	592
26	531	822	2,170	3,270	420	548	316	510	265	119	106	531
27	398	1,120	1,980	2,410	597	510	304	475	248	117	179	470
28	364	2,450	1,710	1,870	678	475	296	475	237	117	420	434
29	461	5,450	1,470	1,530	-	456	290	430	230	115	237	398
30	1,490	2,800	1,340	1,360	-	430	286	402	221	110	188	402
31	1,760	-	1,150	1,360	-	416	-	384	-	106	206	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	10,714	1,760	77	346	2.14	2.46	21,250
November.....	33,135	5,450	448	1,104	6.81	7.61	65,720
December.....	44,517	3,050	526	1,430	8.85	10.17	87,900
Calendar year 1940.....	357,202	11,600	65	976	6.02	82.01	708,500
January.....	63,989	8,990	776	2,064	12.7	14.69	126,900
February.....	21,027	1,520	420	751	4.64	4.83	41,710
March.....	18,438	1,200	348	595	3.67	4.23	36,570
April.....	14,658	1,040	286	489	3.02	3.37	29,070
May.....	21,823	2,110	290	704	4.35	5.01	43,280
June.....	8,554	407	218	285	1.76	1.96	16,970
July.....	4,537	209	106	146	.901	1.04	9,000
August.....	3,713	420	80	120	.741	.85	7,350
September.....	22,950	1,460	352	765	4.72	5.27	46,520
Water year 1940-41.....	267,855	8,990	77	734	4.53	61.49	531,300

Trask River near Tillamook, Oreg.

Location.- Water-stage recorder, lat. 45°27', long. 123°44', in NW¼ sec. 31, T. 1 S., R. 8 W., half a mile upstream from Gold Creek and 6 miles east of Tillamook.

Drainage area.- 152 square miles.

Records available.- July 1931 to September 1941.

Average discharge.- 10 years, 973 second-feet.

Extremes.- Maximum discharge during year, 7,520 second-feet Jan. 18 (gage height, 7.02 feet); minimum, 77 second-feet Oct. 9.

1931-41: Maximum discharge, 20,000 second-feet Dec. 22, 1933 (gage height, 13.00 feet); minimum, 58 second-feet Sept. 26, 27, 1939.

Maximum stage known, about 17 feet, probably occurred during flood of November 1921 or Mar. 31, 1931 (discharge, 30,000 second-feet, from rating curve extended above 12,000 second-feet).

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

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.4	69	2.0	665	4.0	2,640
7	130	2.5	1,000	5.0	2,100
1.0	210	3.0	1,460	6.0	5,710
1.5	400	3.5	2,010	7.0	7,480

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	965	1,380	874	1,060	544	353	275	337	213	106	358
2	84	756	1,050	795	1,080	578	341	287	317	204	110	485
3	100	578	1,060	730	986	566	345	341	298	198	126	392
4	115	470	923	684	909	539	370	440	287	193	117	710
5	104	414	1,350	1,130	840	517	710	776	285	184	110	623
6	88	370	1,520	1,940	776	480	782	678	313	181	106	465
7	84	641	1,220	1,600	710	460	684	600	283	176	102	370
8	80	1,010	1,030	1,300	665	436	605	534	279	170	100	306
9	78	965	874	1,120	776	414	566	480	279	165	98	272
10	98	808	776	993	808	400	517	436	257	162	96	370
11	193	760	878	888	756	378	476	409	247	157	96	456
12	132	628	611	814	699	351	456	391	236	154	100	689
13	144	550	556	756	653	349	427	366	226	152	96	588
14	128	495	506	710	605	333	414	357	220	147	94	598
15	110	445	470	802	566	329	436	337	217	142	92	572
16	104	409	445	986	539	317	480	396	210	137	92	534
17	110	414	436	4,670	512	333	460	1,120	220	135	98	475
18	110	385	539	6,020	490	666	427	1,150	268	132	86	450
19	100	345	544	3,480	465	788	400	944	306	130	86	762
20	126	409	1,690	2,330	445	635	387	808	317	130	84	874
21	220	517	1,510	1,740	422	566	366	698	268	126	86	724
22	184	432	1,350	1,370	409	578	353	611	250	126	86	605
23	249	404	1,270	1,140	409	512	341	550	243	123	92	522
24	665	500	1,480	1,160	440	486	325	495	272	123	90	465
25	432	572	1,650	2,180	414	456	313	456	361	121	100	415
26	313	517	1,760	2,520	400	436	302	432	306	119	121	383
27	247	834	1,690	2,000	506	414	294	409	268	117	316	353
28	220	1,560	1,460	1,580	512	400	287	422	254	115	287	329
29	349	3,820	1,270	1,280	-	387	283	391	240	115	165	309
30	929	2,030	1,180	1,140	-	366	279	361	226	112	144	321
31	1,040	-	1,020	1,110	-	361	-	349	-	108	162	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	7,018	1,040	78	226	1.49	1.72	13,920
November.....	22,992	3,820	345	766	5.04	5.63	45,600
December.....	33,298	1,760	436	1,074	7.07	8.15	66,060
Calendar year 1940.....	293,916	8,470	69	803	5.28	71.92	583,000
January.....	49,742	6,020	684	1,605	10.6	12.17	98,660
February.....	*17,851	1,080	400	638	4.20	4.37	35,410
March.....	14,382	788	317	464	3.05	3.52	28,530
April.....	12,777	782	279	426	2.80	3.13	25,340
May.....	16,298	1,150	276	526	3.46	3.99	32,330
June.....	8,086	361	210	270	1.78	1.98	16,048
July.....	4,567	215	108	147	*967	1.12	9,060
August.....	3,634	316	84	117	*770	.89	7,210
September.....	14,748	874	272	492	3.24	3.61	29,250
Water year 1940-41.....	205,395	6,020	78	563	5.70	50.28	407,400

Nestucca River near McMinnville, Oreg.

Location.- Water-stage recorder, lat. 45°19', long. 123°28', in SW $\frac{1}{4}$ sec. 8, T. 3 S., R. 6 W., half a mile downstream from dam at outlet of Meadow Lake and 13 miles northwest of McMinnville.

Drainage area.- 12 square miles.

Records available.- October 1928 to September 1941.

Average discharge.- 13 years, 44.0 second-feet.

Extremes.- Maximum discharge during year, 540 second-feet Jan. 18 (gage height, 3.49 feet); minimum, 2.0 second-feet Aug. 23.
1928-41: Maximum discharge, 1,480 second-feet Dec. 22, 1933, Dec. 27, 1937 (gage height, 5.1 feet), from rating curve extended above 600 second-feet; minimum, 1.0 second-foot Oct. 11, 1929.

Remarks.- Records fair. No diversion above station. Flow regulated slightly by dam at outlet of Meadow Lake.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.4	1.8	1.6	51
.6	4.6	2.0	92
.8	8.6	2.5	176
1.0	14.0	3.0	310
1.3	29	3.5	545

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	29	57	47	68	34	16	11	14	7.3	2.9	8.0
2	2.4	25	44	40	64	34	15	12	13	6.5	2.9	20
3	2.4	18	42	35	58	33	15	14	12	6.3	2.9	16
4	2.6	12	37	33	54	30	20	22	12	6.1	2.9	15
5	3.0	11	45	57	49	27	45	53	12	5.9	3.0	13
6	3.0	11	49	92	45	25	49	51	12	5.7	2.9	11
7	3.0	26	42	86	41	24	41	42	12	5.6	2.8	9.1
8	3.0	52	39	74	39	22	35	55	11	5.6	2.8	7.8
9	3.2	49	33	64	48	21	31	29	11	5.0	2.6	7.1
10	3.3	36	28	56	55	20	28	25	11	4.8	2.6	9.7
11	4.0	32	24	50	49	19	25	22	9.8	4.6	2.5	12
12	4.1	25	22	45	46	18	23	20	9.1	4.4	2.5	13
13	4.4	21	20	42	42	17	22	18	8.6	4.4	2.5	12
14	4.4	17	17	40	40	16	20	17	8.6	4.1	2.4	12
15	4.3	15	16	49	36	15	21	16	8.2	4.0	2.4	12
16	4.3	13	15	66	34	15	24	18	8.2	3.8	2.3	11
17	4.6	13	15	222	31	16	23	60	8.2	3.6	2.3	9.8
18	4.6	13	26	456	29	38	21	69	9.6	3.3	2.2	9.3
19	4.6	12	37	216	27	43	19	65	11	3.2	2.2	12
20	5.0	14	97	139	25	33	17	45	12	3.2	2.2	18
21	5.7	21	117	104	24	30	16	38	11	3.0	2.2	18
22	5.7	19	98	81	23	30	15	32	9.6	3.0	2.2	15
23	6.3	16	81	67	23	24	14	27	9.1	3.0	2.2	13
24	9.8	21	93	67	25	22	14	23	8.6	3.2	2.2	11
25	12	24	106	114	25	21	13	21	9.3	3.3	2.3	10
26	11	21	122	150	23	20	12	19	9.6	3.2	2.6	9.3
27	9.6	27	112	120	27	19	12	18	8.8	3.2	4.0	8.8
28	9.1	44	92	97	30	18	12	18	8.2	3.0	4.8	8.6
29	11	108	74	80	-	17	12	17	7.8	3.0	5.2	8.0
30	24	80	65	68	-	16	12	16	7.6	3.0	4.8	7.3
31	31	-	56	71	-	16	-	14	-	3.0	4.8	-
Month	Second-foot-days			Maximum	Minimum	Mean	Per square mile	Run-off				
								Inches	Acre-foot			
October.....	208.2			31	2.4	6.72	0.560	0.65	413			
November.....	825			108	11	27.5	2.29	2.56	1,640			
December.....	1,721			122	16	55.5	4.52	5.33	3,410			
Calendar year 1940.....	15,077.7			616	2.0	41.2	3.43	46.73	29,900			
January.....	2,907			435	33	93.8	7.82	9.01	5,770			
February.....	1,080			68	23	38.6	3.22	3.35	2,140			
March.....	733			43	15	23.6	1.97	2.27	1,450			
April.....	643			49	12	21.4	1.78	1.99	1,280			
May.....	878			69	11	28.3	2.36	2.72	1,740			
June.....	302.9			14	7.6	10.1	.842	.94	601			
July.....	121.3			7.3	3.0	4.24	.353	.41	260			
August.....	89.1			5.2	2.2	2.87	.259	.28	177			
September.....	346.8			20	7.1	11.6	.967	1.07	688			
Water year 1940-41.....	9,865.3			435	2.2	27.0	2.25	30.58	19,570			

Siletz River at Siletz, Oreg.

Location.- Water-stage recorder, lat. 44°43', long. 123°53', in NW¼ sec. 11, T. 10 S., R. 10 W., 1½ miles east of Siletz. Datum of gage is 102.32 feet above mean sea level, datum of 1929.

Drainage area.- 202 square miles.

Records available.- November 1905 to May 1912, January 1924 to September 1941.

Average discharge.- 21 years (1906-11, 1925-41), 1,616 second-feet.

Extremes.- Maximum discharge during year, 13,200 second-feet Jan. 18 (gage height, 14.86 feet); minimum, 75 second-feet Oct. 2.

1905-12, 1924-41: Maximum discharge, 34,600 second-feet Nov. 22, 1909, from rating curve extended above 19,000 second-feet; minimum observed, 51 second-feet Dec. 6, 7, 1929.

Maximum discharge known, 40,800 second-feet Nov. 20, 1921 (gage height, 31.6 feet, site and datum then in use), from rating curve extended above 19,000 second-feet.

Remarks.- Records excellent except those for periods of no gage-height record or shifting control, which are fair. No diversion above station. Some diurnal fluctuation caused by logging pond at Valsetz.

Rating table, water year 1940-41, except period of shifting control (gage height, in feet, and discharge, in second-feet)

2.3	75	4.0	885	7.0	9,650
2.6	111	4.8	890	8.0	3,580
2.8	183	5.0	1,180	10.0	5,980
3.2	308	5.5	1,500	12.0	9,780
3.6	460	6.0	1,850	14.0	11,800

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	1,410	2,480	1,480	1,780	890	418	340	448	288	107	485
2	77	1,180	1,880	1,880	1,780	810	408	358	484	217	109	987
3	100	887	1,800	1,140	1,800	780	488	468	400	118	118	480
4	1180	885	1,530	1,450	895	460	580	780	380	808	120	558
5	1110	599	1,820	1,820	1,890	650	989	2,410	362	197	111	558
6	898	552	1,780	8,380	1,190	604	1,180	1,770	400	189	105	588
7	890	1,180	1,550	2,110	1,070	578	978	1,340	385	186	103	801
8	885	2,180	1,880	1,800	1,080	538	846	1,180	347	185	100	888
9	888	2,810	1,820	1,880	1,180	509	798	958	340	178	98	829
10	89	1,880	1,080	1,260	1,140	468	710	888	518	167	98	840
11	138	1,590	896	1,140	1,070	468	645	745	301	162	98	645
12	186	1,580	815	1,080	1,000	448	590	687	160	96	98	8,400
13	180	1,780	780	1,040	988	488	554	655	278	160	98	1,790
14	118	945	715	1,040	868	388	527	894	267	188	90	1,480
15	98	810	680	1,230	818	368	565	580	263	180	87	1,100
16	90	710	650	1,640	765	358	628	872	281	145	84	890
17	180	690	630	8,370	728	368	645	1,570	260	140	84	758
18	143	645	912	11,900	675	590	678	1,750	301	138	88	680
19	109	565	1,070	7,580	655	596	840	1,380	388	138	80	1,080
20	126	626	3,990	4,480	899	740	514	1,170	392	135	78	1,860
21	208	800	4,340	3,030	576	660	488	1,010	382	181	78	1,120
22	186	690	3,080	2,880	545	705	484	880	304	189	78	928
23	230	638	2,480	1,900	545	440	785	990	186	88	88	785
24	1,890	660	2,410	2,270	617	578	480	780	284	124	85	575
25	648	1,080	2,580	4,820	581	545	404	655	312	122	120	586
26	408	978	2,870	4,780	527	518	384	612	290	180	160	518
27	308	1,280	2,910	3,490	558	492	369	886	263	118	168	458
28	978	1,990	2,840	2,770	612	478	388	599	261	112	114	418
29	440	2,070	2,140	2,190	-	454	364	845	244	112	138	378
30	1,380	3,690	1,920	1,910	-	440	347	809	238	115	109	358
31	1,560	-	1,700	1,980	-	438	-	480	-	109	118	-
Month		Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off					
							Inches		Acres-feet			
October.....		8,993	1,550	77	290	1.44	1.66		17,840			
November.....		41,768	7,070	592	1,588	6.77	7.86		81,450			
December.....		56,488	4,340	680	1,821	9.01	10.59		118,000			
Calendar year 1940.....		477,827	17,600	62	1,305	6.46	87.94		947,100			
January.....		86,580	11,900	1,040	2,798	13.8	18.93		171,700			
February.....		26,051	1,780	527	930	4.80	4.80		51,870			
March.....		17,889	968	358	587	8.78	3.18		34,550			
April.....		16,990	1,160	347	666	9.80	3.13		55,700			
May.....		27,408	2,410	340	884	4.88	5.05		56,580			
June.....		9,885	448	235	319	1.58	1.76		18,970			
July.....		4,784	226	109	158	.787	.88		9,430			
August.....		3,998	214	78	106	.525	.61		6,540			
September.....		22,883	2,400	229	785	3.78	4.21		46,890			
Water year 1940-41.....		521,274	11,900	77	880	4.36	59.16		857,600			

Peak discharge.- Nov. 22 (4 a.m.) 9,110 sec.-ft.; Jan. 18 (4 a.m.) 13,800 sec.-ft.

No gage-height record; discharge computed on basis of records for Trask River near Tillamook and Alsea River near Tidewater.

Note.- Shifting-control method used Aug. 26 to Sept. 30.

Alsea River near Tidewater, Oreg.

Location.— Water-stage recorder, lat. 44°23', long. 123°50', in NW¼ sec. 6, T. 14 S., R. 9 W., three-quarters of a mile downstream from Grass Creek, 2.3 miles upstream from Scott Creek, and 3.8 miles southeast of Tidewater. Datum of gage is 48.16 feet above mean sea level, datum of 1929.

Drainage area.— 334 square miles.

Records available.— October 1939 to September 1941.

Extremes.— Maximum discharge during year, 10,600 second-feet Jan. 18 (gage height, 13.40 feet); minimum, 73 second-feet Oct. 16 (gage height, 1.50 feet).
1939-41: Maximum discharge, 15,900 second-feet Feb. 6, 1940 (gage height, 15.93 feet); minimum, 62 second-feet Sept. 1, 1940 (gage height, 1.43 feet).

Remarks.— Records good. No regulation; a few small diversions above station for irrigation.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.5	73	2.6	384	4.5	1,390	8.0	4,240
1.7	110	3.0	555	5.0	1,710	9.0	5,580
2.0	182	3.5	805	6.0	2,400	11.0	8,000
2.3	273	4.0	1,080	7.0	3,250	13.0	11,000

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	1,140	1,630	1,940	1,950	783	445	372	428	210	110	198
2	94	761	1,260	1,710	1,990	964	445	384	408	207	110	976
3	106	514	1,180	1,650	1,810	888	488	488	388	207	117	615
4	110	380	1,130	1,480	1,640	788	596	872	376	202	121	341
5	98	416	1,250	1,960	1,500	745	1,850	4,190	368	193	119	256
6	88	542	1,390	2,480	1,380	685	1,920	2,530	388	188	112	210
7	85	1,310	1,210	2,500	1,260	650	1,400	1,720	376	185	108	165
8	82	2,220	1,060	2,060	1,180	680	1,130	1,370	349	179	104	166
9	80	2,120	932	1,800	1,180	582	976	1,150	338	174	102	156
10	80	1,360	827	1,580	1,170	560	866	988	312	169	100	164
11	80	1,590	745	1,430	1,140	546	778	898	294	164	102	253
12	78	1,600	695	1,310	1,050	519	710	910	284	159	104	1,770
13	78	1,140	645	1,280	976	506	660	745	276	156	104	1,190
14	78	660	600	1,290	926	479	630	705	273	154	100	675
15	76	700	564	1,890	882	466	620	660	266	149	96	488
16	75	596	546	2,690	832	449	645	635	260	144	92	368
17	87	546	546	5,870	794	449	670	888	266	142	90	323
18	96	510	970	9,640	766	591	610	1,130	284	159	86	280
19	87	445	1,350	8,440	720	573	976	95	384	134	90	528
20	90	466	4,580	4,980	700	750	542	849	353	134	87	898
21	159	610	6,480	3,590	675	660	510	750	287	132	88	670
22	169	568	3,710	2,770	650	640	492	690	273	132	90	501
23	161	510	2,860	2,300	645	600	466	635	270	130	92	408
24	1,060	655	2,640	2,860	675	560	449	591	270	130	98	345
25	650	959	2,950	6,530	640	537	428	555	294	130	123	308
26	308	838	3,820	6,100	600	514	416	524	276	128	156	280
27	210	849	4,570	4,070	615	492	400	501	250	125	185	260
28	182	1,040	3,620	3,150	645	475	384	510	237	125	265	247
29	234	3,210	2,790	2,580	-	475	380	492	231	123	172	237
30	528	2,360	2,410	2,220	-	458	380	470	222	121	134	225
31	632	-	2,230	2,060	-	470	-	455	-	114	125	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	6,235	1,060	75	201	0.602	0.69	12,370
November.....	30,815	3,210	360	1,027	3.07	3.43	61,120
December.....	61,190	6,480	546	1,974	5.91	6.61	121,400
Calendar year 1940.....	459,331	13,500	64	1,255	3.76	51.14	911,000
January.....	95,110	9,840	1,280	3,068	9.19	10.59	188,600
February.....	28,961	1,990	600	1,035	3.10	3.23	57,480
March.....	18,711	964	449	604	1.81	2.08	37,110
April.....	20,859	1,920	380	695	2.08	2.32	41,370
May.....	28,521	4,190	372	920	2.75	3.18	56,570
June.....	9,281	428	222	309	.925	1.03	18,410
July.....	4,779	210	114	154	.461	.53	9,480
August.....	3,582	263	87	116	.347	.40	7,100
September.....	13,561	1,770	156	452	1.35	1.51	26,880
Water year 1940-41.....	321,615	9,840	75	881	2.64	35.80	637,900

Lake Creek at Triangle Lake, Oreg.

Location.- Water-stage recorder, lat. 44°10', long. 123°34', in SW $\frac{1}{4}$ sec. 20, T. 16 S., R. 7 W., 500 feet downstream from outlet of Triangle Lake. Datum of gage is 672.41 feet above mean sea level, datum of 1929.

Drainage area.- 50 square miles.

Records available.- August 1931 to September 1941.

Average discharge.- 10 years, 197 second-feet.

Extremes.- Maximum discharge during year, 1,250 second-feet Jan. 19 (gage height, 4.54 feet); minimum, 11 second-feet Aug. 21-23.

1931-41: Maximum discharge, 3,960 second-feet Dec. 22, 1933, Jan. 13, 1936 (gage height, 8.1 feet), from rating curve extended above 2,400 second-feet; minimum, 5.5 second-feet Sept. 30 to Oct. 4, 1939.

Remarks.- Records good. No diversion above station; flow regulated only by natural storage in Triangle Lake.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.5	9.0	1.6	98	3.5	700
.7	16	2.0	177	4.0	950
1.0	33	2.5	312	4.5	1,250
1.3	60	3.0	485		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	83	306	303	340	117	72	52	57	33	14	25
2	21	95	247	265	315	142	71	51	56	31	14	41
3	20	89	191	233	294	153	73	54	53	30	14	69
4	20	73	166	220	273	140	81	68	50	29	14	69
5	19	70	164	239	247	128	113	164	48	28	14	58
6	18	73	162	306	228	119	182	321	48	27	14	49
7	17	95	188	349	210	110	200	282	48	26	14	45
8	16	175	175	343	195	103	175	218	47	25	14	38
9	15	276	155	312	103	98	149	173	46	24	13	33
10	15	270	138	273	198	94	132	144	46	23	13	32
11	14	222	123	242	200	90	117	124	44	21	13	32
12	14	218	110	215	191	88	105	112	42	21	13	41
13	14	202	100	202	179	82	96	103	40	21	13	94
14	14	166	94	200	168	79	89	95	39	21	13	103
15	13	134	86	212	157	78	83	88	38	20	12	92
16	13	112	82	239	147	78	82	81	37	20	12	75
17	13	96	82	410	138	75	82	89	38	19	12	63
18	13	84	92	815	132	81	79	110	38	19	12	57
19	13	76	119	1,190	126	98	76	117	41	19	12	58
20	14	72	244	1,060	121	110	72	112	43	18	12	63
21	18	75	545	770	115	110	89	101	43	17	11	70
22	16	73	624	565	110	105	68	94	41	17	11	70
23	19	70	497	449	108	100	64	84	39	16	11	64
24	35	77	386	424	108	94	61	78	39	16	12	58
25	62	94	337	525	106	88	59	73	39	16	13	53
26	66	110	362	735	103	83	57	69	39	15	15	48
27	57	110	461	740	101	79	56	67	39	15	18	44
28	50	115	497	592	103	76	56	64	37	15	21	41
29	48	195	458	481	-	75	54	62	35	15	24	39
30	54	334	362	410	-	75	53	61	34	14	24	37
31	68	-	343	562	-	73	-	59	-	14	23	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				810	68	13	26.1	0.522	0.60	1,610		
November.....				3,833	334	70	131	2.62	2.93	7,800		
December.....				7,916	624	82	255	5.10	5.89	15,700		
Calendar year 1940.....				67,567.5	1,580	8.5	185	3.70	50.26	134,000		
January.....				13,701	1,190	200	442	8.84	10.19	27,180		
February.....				4,909	340	101	175	3.50	3.65	9,740		
March.....				3,021	153	73	97.5	1.95	2.25	5,990		
April.....				2,725	200	53	90.8	1.82	2.03	5,400		
May.....				3,370	321	51	109	2.18	2.51	6,680		
June.....				1,283	57	34	42.8	.856	.95	2,540		
July.....				644	33	14	20.8	.416	.48	1,280		
August.....				445	24	11	14.4	.288	.33	885		
September.....				1,659	103	25	55.3	1.11	1.23	3,290		
Water year 1940-41.....				44,416	1,190	11	122	2.44	35.04	88,090		

South Umpqua River at Tiller, Oreg.

Location.- Water-stage recorder, lat. 42°56', long. 122°57', in NE¼ sec. 33, T. 30 S., R. 2 W., 0.3 mile upstream from Elk Creek, 0.4 mile downstream from Salt Creek, and 0.4 mile east of Tiller. Datum of gage is 891.8 feet above mean sea level, datum of 1929 (river-profile survey).

Drainage area.- 454 square miles.

Records available.- November 1910 to November 1911, October 1939 to September 1941.

Extremes.- Maximum discharge during year, 5,830 second-feet Dec. 27 (gage height, 8.37 feet); minimum, 41 second-feet Oct. 18 (gage height, 0.91 foot).
1910-11, 1939-41: Maximum discharge observed, 11,400 second-feet Nov. 28, 1910 (gage height, 12.95 feet, site and datum then in use); minimum observed, 20 second-feet Sept. 3, 4, 1911.

Remarks.- Records good. Small diversions above station for irrigation. No regulation.

Cooperation.- Water-stage recorder inspected by employee of U. S. Forest Service.

Rating table, water year 1940-41, except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.9	40	2.0	325	4.0	1,350
1.1	68	2.5	515	5.0	2,150
1.4	131	3.0	735	6.0	3,110
1.7	223	3.5	1,000	7.4	4,580

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	119	820	1,520	855	934	655	318	403	475	485	84	59
2	94	600	1,020	717	928	712	342	399	415	427	81	347
3	86	655	790	645	845	790	325	382	374	388	79	439
4	81	451	650	614	755	755	483	740	339	360	77	197
5	72	342	663	690	690	708	578	1,070	314	325	75	126
6	65	403	717	928	658	636	653	1,180	360	294	73	103
7	59	555	618	852	632	582	582	978	609	273	72	88
8	56	708	539	770	596	539	523	1,110	578	253	72	81
9	53	775	475	770	568	511	627	1,010	503	256	70	73
10	52	663	419	735	661	491	901	852	439	220	68	70
11	50	578	321	708	1,580	475	800	765	395	204	66	75
12	49	1,030	350	854	2,010	463	658	694	347	194	65	86
13	48	775	5310	699	1,500	451	573	636	332	182	65	86
14	46	585	5290	1,080	1,180	427	515	578	309	169	64	77
15	45	467	5510	1,480	967	403	515	511	294	157	62	73
16	44	395	300	1,350	825	384	507	459	287	151	59	68
17	44	346	270	2,620	730	374	591	459	304	148	56	68
18	43	339	564	2,480	672	370	597	532	458	140	59	65
19	41	297	815	3,250	627	353	600	580	699	126	75	73
20	45	280	912	2,390	578	342	564	515	846	121	68	92
21	70	364	1,910	1,810	535	322	523	471	712	114	59	99
22	73	354	1,190	1,470	499	318	483	459	595	109	54	82
23	56	355	967	1,300	495	314	471	415	527	105	53	73
24	94	999	1,360	1,020	614	297	455	451	527	105	52	68
25	230	1,420	2,050	3,040	627	287	435	368	556	101	56	65
26	131	879	2,540	3,630	582	280	427	356	658	96	64	64
27	94	690	4,570	2,260	547	276	415	325	1,080	101	66	68
28	86	775	2,520	1,630	568	280	411	353	800	114	65	59
29	229	2,120	1,630	1,270	-	294	423	388	654	105	58	58
30	407	2,930	1,280	1,070	-	297	439	367	555	92	53	56
31	552	-	994	945	-	322	-	479	-	85	52	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,276	552	41	106	0.233	0.27	6,500
November.....	21,904	2,930	280	730	1.61	1.79	45,450
December.....	32,554	4,570	270	1,060	2.55	2.69	65,160
Calendar year 1940.....	267,795	6,300	24	732	1.61	21.65	531,200
January.....	44,252	3,630	614	1,427	3.14	3.62	87,770
February.....	22,404	2,010	495	800	1.78	1.84	44,440
March.....	13,711	790	276	442	.974	1.12	27,200
April.....	15,717	901	318	524	1.15	1.29	31,170
May.....	18,459	1,180	325	596	1.31	1.51	36,670
June.....	15,421	1,080	287	514	1.13	1.26	30,590
July.....	6,977	483	88	193	.425	.49	11,860
August.....	2,024	54	52	65.3	.144	.17	4,010
September.....	3,029	439	56	101	.222	.25	6,010
Water year 1940-41.....	199,058	4,570	41	545	1.20	16.30	394,800

Peak discharge.- Nov. 29 (9:30 p.m.) 4,580 sec.-ft.; Dec. 27 (3 a.m.) 5,850 sec.-ft.; Jan. 25 (9 p.m.) 5,040 sec.-ft.

b Stage-discharge relation affected by ice.

Umpqua River near Elkton, Oreg.

Location.- Staff gage, lat. 43°35', long. 123°33', in sec. 8, T. 23 S., R. 7 W., 4 miles south of Elkton. Datum of gage is 91.33 feet above mean sea level, datum of 1929.

Drainage area.- 3,680 square miles.

Records available.- October 1905 to September 1941 (incomplete prior to November 1908).

Average discharge.- 36 years, 6,987 second-feet.

Extremes.- Maximum discharge during year, 70,400 second-feet Dec. 27 (gage height, 21.8 feet, from graph based on gage readings), from rating curve extended above 50,000 second-feet; minimum observed, 868 second-feet Oct. 17-20 (gage height, 1.12 feet). 1905-41: Maximum discharge, 172,000 second-feet Feb. 21, 1927 (gage height, 41.0 feet, from floodmark), from rating curve extended above 50,000 second-feet; minimum observed, 640 second-feet July 18, 1926 (gage height, 0.71 foot). Maximum stage known, 45.5 feet sometime in 1861.

Remarks.- Records good. Some diversions for irrigation from streams in South Umpqua River Basin, but low flow probably only slightly affected. Slight diurnal fluctuation caused by gates and racks of fish hatchery at Diamond Lake and by power plant at Winchester ordinarily does not affect discharge at this station. Gage read twice daily.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.0	770	3.0	2,930	7.0	10,900	15.0	39,700
1.5	1,220	4.0	4,340	9.0	17,000	17.0	48,400
2.0	1,730	5.0	6,130	11.0	23,800	19.0	57,300
2.5	2,300	6.0	8,300	13.0	31,500	21.0	66,600

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,760	3,400	11,800	9,300	7,490	4,340	2,300	2,750	2,860	2,890	1,130	985
2	1,370	3,810	7,940	7,600	8,660	5,190	2,360	2,710	3,070	2,580	1,100	1,070
3	1,180	3,220	5,950	6,640	8,540	6,430	2,490	2,720	2,890	2,360	1,080	1,010
4	1,110	3,120	4,760	6,130	7,600	6,030	2,630	3,740	2,570	2,180	1,070	8,000
5	1,080	3,070	4,100	6,230	6,740	5,640	3,600	4,260	2,360	2,070	1,070	2,500
6	1,050	2,490	4,030	10,400	6,130	5,280	9,820	6,130	2,260	1,920	1,050	1,580
7	1,020	2,930	4,580	10,900	5,640	4,840	8,540	6,640	2,260	1,610	1,040	1,310
8	985	3,600	4,030	9,300	5,280	4,420	6,430	5,740	3,060	1,710	1,010	1,200
9	958	5,840	3,740	8,080	5,210	4,100	5,370	6,230	3,670	1,620	994	1,120
10	940	6,330	3,260	7,160	5,740	3,810	4,920	5,740	3,100	1,660	985	1,080
11	922	5,010	2,970	6,530	8,540	3,670	5,190	5,010	2,770	1,930	985	1,040
12	913	4,260	2,670	5,930	14,500	3,530	4,920	4,580	2,490	1,450	1,000	1,060
13	904	5,580	2,410	5,370	15,400	3,400	4,340	4,340	2,320	1,410	967	1,110
14	904	4,920	2,170	5,740	12,100	3,280	3,960	4,180	2,170	1,380	949	1,160
15	886	3,960	2,000	6,840	9,860	3,140	3,530	3,880	2,080	1,370	931	1,130
16	886	3,220	1,980	9,040	7,940	3,000	3,400	3,530	1,980	1,340	922	1,080
17	877	2,750	1,980	13,000	6,840	2,860	3,460	3,330	1,840	1,320	904	1,060
18	868	2,470	2,230	18,000	6,130	2,770	3,960	3,240	2,000	1,330	904	1,020
19	868	2,300	5,370	28,800	5,640	2,770	3,960	3,810	2,400	1,350	904	1,010
20	866	2,200	10,100	23,800	5,280	2,740	3,880	4,420	3,110	1,310	931	1,030
21	813	2,080	44,000	16,400	4,840	2,680	3,600	4,030	3,740	1,250	940	1,040
22	804	2,380	24,200	12,400	4,500	2,580	3,390	3,600	3,740	1,210	922	1,100
23	1,020	2,560	13,900	10,400	4,180	2,630	3,180	3,350	3,330	1,180	922	1,110
24	1,160	2,660	15,800	9,960	4,280	2,490	3,080	3,150	3,260	1,160	904	1,080
25	1,320	4,920	24,900	13,900	4,420	2,380	2,970	3,000	3,320	1,180	886	1,060
26	2,670	7,720	25,700	34,700	4,420	2,250	2,850	2,880	3,600	1,150	904	1,000
27	1,970	5,370	67,100	26,500	4,180	2,190	2,770	2,700	3,810	1,140	940	985
28	1,540	4,480	37,600	16,400	4,100	2,160	2,720	2,490	3,960	1,160	967	967
29	1,660	5,280	20,300	12,400	-	2,170	2,660	2,520	3,670	1,190	994	958
30	1,430	11,800	14,500	9,960	-	2,190	2,680	2,700	3,240	1,220	949	940
31	2,160	-	12,100	8,540	-	2,260	-	2,500	-	1,170	931	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	36,814	2,670	868	1,188	0.323	0.37	73,020
November.....	123,740	11,800	2,080	4,125	1.12	1.25	240,400
December.....	588,140	67,100	1,960	12,520	3.40	3.92	769,900
Calendar year 1940.....	2,362,611	73,200	770	6,455	1.75	23.88	4,686,000
January.....	376,330	34,700	5,370	12,140	3.30	5.80	746,400
February.....	193,660	15,400	4,100	6,916	1.88	1.98	384,100
March.....	107,320	6,430	2,160	3,482	.941	1.08	212,900
April.....	118,930	9,820	2,300	3,964	1.08	1.20	235,900
May.....	119,900	6,640	2,490	3,865	1.08	1.21	237,800
June.....	87,030	3,960	1,940	2,901	.798	.88	172,600
July.....	47,450	2,890	1,140	2,531	.416	.48	94,120
August.....	30,185	1,130	886	974	.265	.31	59,870
September.....	36,405	3,000	940	1,216	.330	.37	72,390
Water year 1940-41.....	1,665,994	67,100	868	4,564	1.24	16.83	3,304,000

Cow Creek near Azalea, Oreg.

Location.- Staff gage, lat. 42°50', long. 123°11', in sec. 4, T. 32 S., R. 4 W., 4 miles northeast of Azalea.

Drainage area.- 76 square miles.

Records available.- April 1926 to September 1941 (incomplete 1926-29 and 1932).

Average discharge.- 11 years (1929-31, 1932-41), 86.9 second-feet.

Extremes.- Maximum discharge during year, 1,890 second-feet Jan. 27 (gage height, 6.70 feet, from graph based on gage readings); minimum observed, 10 second-feet Aug. 17, 22, 23, 29, 30.

1926-41: Maximum discharge observed, 4,000 second-feet Jan. 2, 1933 (gage height, 7.8 feet), from rating curve extended above 320 second-feet by logarithmic plotting; minimum observed, 4 second-feet Sept. 9-19, 1929, Aug. 26-28, 1931, Aug. 21 to Sept. 6, 1934.

Remarks.- Records good except those for periods of rapidly changing stage, which are fair. Staff gage read once daily. Small diversions above station for irrigation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 20 to Dec. 17, July 26 to Aug. 5)

Oct. 1 to Dec. 17			Dec. 18 to Sept. 30		
1.9	16		1.9	15	5.2 281
2.0	24		2.0	21	5.5 370
2.1	35		2.2	44	4.0 550
2.2	47		2.4	78	4.5 750
Note.- Same as follow-			2.6	120	5.0 990
ing table above 2.5 feet.			2.9	197	5.5 1,240

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	36	42	122	192	98	39	45	44	31	11	13
2	14	48	35	107	175	94	42	48	38	30	12	28
3	14	41	31	93	160	90	44	61	35	29	12	17
4	14	36	27	98	144	85	205	111	32	27	12	14
5	14	31	28	100	130	79	224	88	38	25	11	12
6	13	34	30	90	120	75	139	77	39	23	12	12
7	13	56	28	84	113	72	120	85	39	22	12	11
8	13	59	25	79	120	66	102	81	37	21	11	11
9	13	50	23	74	139	65	107	74	32	21	11	11
10	13	45	21	72	213	61	111	68	31	20	11	12
11	12	40	19	70	470	58	98	63	30	19	11	12
12	12	56	17	68	550	56	87	74	28	19	11	13
13	13	45	15	70	301	55	79	85	28	19	12	12
14	13	34	14	120	238	51	74	66	27	18	12	12
15	13	30	13	139	208	50	77	61	26	17	11	11
16	13	25	13	125	178	48	79	58	31	17	11	11
17	13	25	14	155	160	50	81	65	34	17	10	11
18	13	27	238	241	144	48	75	68	39	16	11	12
19	14	24	266	370	134	47	72	61	35	16	16	14
20	17	22	394	246	120	45	66	56	37	15	12	18
21	19	22	510	213	111	45	61	50	31	14	11	14
22	17	25	224	192	105	44	58	47	30	14	10	13
23	18	26	235	186	98	41	55	44	30	13	10	12
24	19	30	670	325	96	39	51	42	68	13	11	12
25	33	39	742	970	94	39	50	42	53	13	11	12
26	22	33	750	772	90	37	47	41	50	13	11	12
27	20	31	1,040	328	87	37	45	42	44	13	12	12
28	19	32	370	258	88	35	44	50	39	12	11	11
29	31	35	293	213	-	38	47	47	35	12	10	11
30	32	54	197	175	-	39	50	42	32	12	10	11
31	30	-	144	160	-	41	-	47	-	12	11	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				562	52	12	18.1	0.238	0.28	1,110		
November.....				1,091	59	22	36.4	.479	.53	2,150		
December.....				6,468	1,040	13	209	2.75	3.17	12,830		
Calendar year 1940.....				45,908.9	2,670	6.3	125	1.64	22.49	91,050		
January.....				6,325	970	68	204	2.68	3.10	12,550		
February.....				4,778	550	88	171	2.25	2.34	9,480		
March.....				1,728	98	35	55.7	.733	.65	3,450		
April.....				2,429	224	39	81.0	1.07	1.19	4,820		
May.....				1,889	111	41	60.9	.801	.92	3,750		
June.....				1,092	68	26	36.4	.479	.53	2,170		
July.....				563	31	12	18.2	.239	.28	1,120		
August.....				350	16	10	11.3	.149	.17	694		
September.....				387	28	11	12.9	.170	.19	768		
Water year 1940-41.....				27,662	1,040	10	75.8	.997	13.55	54,880		

North Umpqua River below Lake Creek, Oreg.

Location.- Water-stage recorder, lat. 43°19', long. 122°11', in NW¼ sec. 13, T. 26 S., R. 5 E., 200 yards downstream from Lake Creek and 30 miles southwest of Crescent. Altitude of gage, 4,090 feet (river-profile map).

Drainage area.- 175 square miles.

Records available.- October 1927 to September 1941.

Average discharge.- 14 years, 357 second-feet.

Extremes.- Maximum discharge during year, 372 second-feet May 7, 8, 11, 14 (gage height, 1.04 feet); minimum, 240 second-feet Sept. 27 (gage height, 0.70 foot).
1927-41: Maximum discharge, 1,190 second-feet June 9, 1933 (gage height, 2.34 feet), from rating curve extended above 700 second-feet; minimum, 206 second-feet Dec. 9, 1931.

Remarks.- Records good. No diversion above station. Flow slightly regulated by Diamond Lake.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	240	0.9	316	1.1	397
.8	277	1.0	356		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	285	300	304	270	324	304	281	308	340	304	289	285
2	285	293	300	281	320	304	270	320	336	304	289	304
3	285	293	296	296	320	300	270	324	332	304	289	293
4	285	289	296	312	320	300	270	332	332	304	285	289
5	281	289	304	312	320	300	270	352	332	300	285	285
6	281	293	300	312	320	300	270	348	336	300	285	281
7	277	293	293	312	316	300	277	352	340	300	285	281
8	277	293	293	312	312	300	277	356	332	300	289	277
9	277	289	289	308	316	300	285	352	332	300	289	277
10	277	289	289	308	324	300	277	352	332	296	285	277
11	277	289	273	304	328	300	289	352	332	296	285	281
12	281	289	266	304	324	300	293	348	328	296	285	281
13	281	289	255	304	320	300	289	360	328	296	281	277
14	281	285	262	308	316	300	289	360	328	296	277	277
15	281	285	277	308	316	296	296	360	324	296	273	273
16	281	281	289	308	316	296	293	360	328	293	273	273
17	281	285	296	316	316	289	289	364	332	289	273	270
18	281	281	304	324	312	277	289	360	356	285	281	270
19	281	281	296	312	312	277	289	348	356	286	281	270
20	281	281	308	320	312	273	289	348	340	293	281	270
21	285	281	312	320	312	277	285	352	332	293	277	251
22	281	270	308	320	312	277	285	352	320	293	273	251
23	281	277	308	320	312	277	296	356	316	293	273	247
24	285	296	308	324	312	277	296	368	328	289	273	247
25	296	289	308	336	308	277	312	364	328	289	281	247
26	296	285	312	332	300	277	304	360	332	296	281	247
27	293	285	316	328	296	277	308	352	328	289	281	244
28	293	293	304	324	300	281	304	356	312	289	277	247
29	281	320	304	324	-	281	312	352	308	285	277	247
30	277	308	308	324	-	281	308	348	304	285	273	247
31	296	-	289	324	-	281	-	348	-	293	273	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	8,780	296	277	283	1.62	1.87	17,410
November.....	8,671	320	277	289	1.65	1.84	17,200
December.....	9,167	316	265	296	1.69	1.95	18,180
Calendar year 1940.....	122,622	485	255	335	1.91	26.06	243,200
January.....	9,719	336	270	314	1.79	2.07	19,280
February.....	8,816	328	296	315	1.80	1.87	17,490
March.....	8,979	304	273	290	1.66	1.91	17,810
April.....	8,662	312	270	289	1.65	1.84	17,180
May.....	10,872	368	308	351	2.01	2.31	21,560
June.....	9,896	356	304	330	1.89	2.10	19,630
July.....	9,131	304	285	295	1.69	1.94	18,110
August.....	8,699	289	273	281	1.61	1.85	17,250
September.....	8,066	304	244	269	1.54	1.71	16,000
Water year 1940-41.....	109,458	368	244	300	1.71	23.26	217,100

North Umpqua River at Toketee Falls, Oreg.

Location.- Water-stage recorder, lat. 43°16', long. 122°25', in T. 26 S., R. 3 E., (unsurveyed), an eighth of a mile downstream from Clearwater River, half a mile upstream from Toketee Falls, and 50 miles east of Hoaglin. Datum of gage is 2,373 feet above mean sea level (from surveys of The California Oregon Power Co.).

Drainage area.- 337 square miles.

Records available.- February 1908 to July 1909, December 1914 to November 1917 (incomplete), July 1924 to September 1941.

Average discharge.- 16 years (1925-41), 842 second-feet.

Extremes.- Maximum discharge during year, 1,000 second-feet Nov. 29 (gage height, 1.63 feet); minimum, 520 second-feet Sept. 27-30 (gage height, 0.72 foot).
1908-9, 1914-17, 1924-41: Maximum discharge, 3,600 second-feet Feb. 20, 1927 (gage height, 4.65 feet), from rating curve extended above 1,600 second-feet on basis of velocity-area studies; minimum, 475 second-feet Nov. 27-28, Dec. 12, 14, 1931.

Remarks.- Records excellent. No diversion above station; regulation at Diamond Lake has little effect.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	510	1.1	720	1.5	970
.9	610	1.3	836		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	575	565	775	670	793	731	660	687	731	670	585	600
2	570	626	731	660	787	731	664	720	714	666	580	592
3	575	605	704	670	775	726	648	758	704	660	580	616
4	570	595	682	627	764	714	654	703	692	648	590	565
5	570	600	709	687	758	709	660	654	698	643	575	575
6	565	600	698	676	753	698	654	823	731	638	575	570
7	560	654	670	676	748	692	654	842	748	632	575	565
8	560	638	660	670	736	692	654	860	726	626	585	560
9	560	626	648	670	748	692	662	848	709	621	595	560
10	560	605	638	670	805	692	676	829	704	616	580	565
11	555	616	621	670	565	692	670	835	698	616	575	570
12	560	632	595	670	854	692	665	829	698	610	575	570
13	555	616	585	692	829	692	665	823	687	610	575	560
14	555	605	580	736	805	687	660	823	682	610	570	560
15	555	600	595	736	793	682	676	793	676	610	565	555
16	555	600	616	742	775	676	670	741	682	616	560	555
17	550	600	616	805	758	676	660	793	692	610	565	560
18	550	600	654	880	753	660	660	781	799	600	580	555
19	550	590	638	956	748	654	654	764	805	595	580	565
20	565	595	682	900	731	648	643	748	793	595	575	565
21	570	590	731	848	726	643	648	742	758	595	570	540
22	555	575	709	817	720	654	648	758	731	595	565	535
23	555	580	698	799	731	643	660	770	714	595	560	530
24	605	704	720	811	736	638	665	787	714	595	565	525
25	590	704	726	900	720	638	682	764	720	590	570	525
26	580	648	763	949	704	638	676	748	736	610	575	525
27	575	682	907	880	704	638	687	731	726	610	570	520
28	560	720	811	842	709	648	692	753	698	595	565	520
29	610	955	770	817	-	648	698	736	687	585	560	520
30	626	897	753	799	-	654	692	736	676	585	555	520
31	670	-	709	787	-	660	-	758	-	590	565	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	17,741	670	550	572	1.70	1.98	35,190
November.....	19,293	935	575	643	1.91	2.13	38,270
December.....	21,424	907	580	691	2.05	2.36	42,490
Calendar year 1940.....	287,339	1,660	550	785	2.33	31.70	569,900
January.....	23,772	956	660	787	2.28	2.62	47,150
February.....	21,331	868	704	762	2.26	2.35	42,310
March.....	20,938	731	638	675	2.00	2.31	41,530
April.....	19,957	698	643	665	1.97	2.20	39,580
May.....	24,287	880	687	783	2.32	2.68	48,170
June.....	21,529	805	676	718	2.13	2.38	42,700
July.....	19,036	670	585	614	1.82	2.10	37,760
August.....	17,740	595	555	572	1.70	1.96	35,190
September.....	16,743	682	520	558	1.66	1.86	33,210
Water year 1940-41.....	243,791	956	520	668	1.98	26.90	483,600

North Umpqua River above Rock Creek, near Glide, Oreg.

Location.- Water-stage recorder, lat. 43°20', long. 123°00', in NW 1/4 sec. 12, T. 26 S., R. 8 W., half a mile upstream from Rock Creek and 5 miles northeast of Glide. Altitude of gage, 770 feet (river-profile map).

Drainage area.- 886 square miles.

Records available.- June 1924 to September 1941.

Average discharge.- 17 years, 2,204 second-feet.

Extremes.- Maximum discharge during year, 10,400 second-feet Jan. 25 (gage height, 8.75 feet); minimum, 635 second-feet Oct. 19, 20 (gage height, 2.15 feet).
1924-41: Maximum discharge, 55,000 second-feet Feb. 20, 1927 (gage height, 20.18 feet), from rating curve extended above 18,000 second-feet; minimum, 521 second-feet Oct. 16, 1931 (gage height, 1.86 feet).

Remarks.- Records good. No diversion above station; regulation at Diamond Lake has little effect.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

2.2	655	3.2	1,300	4.5	2,490	6.0	4,530
2.5	805	3.6	1,620	5.0	3,080	7.0	6,420
2.8	1,000	4.0	1,950	5.5	3,750	8.0	8,530

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	755	9,110	2,500	1,940	2,220	1,640	1,180	1,530	1,550	1,500	761	696
2	755	1,490	2,500	1,740	2,190	1,890	1,220	1,590	1,440	1,940	780	1,740
3	715	1,190	2,780	1,640	2,090	2,090	1,250	1,760	1,360	1,160	745	1,600
4	715	1,130	2,620	1,600	1,980	2,080	1,200	1,950	1,280	1,150	745	1,130
5	595	1,040	1,680	2,010	1,790	1,910	1,460	2,750	1,940	1,100	740	924
6	686	1,370	1,990	2,870	1,780	1,780	1,840	3,230	1,270	1,070	755	847
7	678	1,740	1,740	2,290	1,730	1,630	1,640	2,600	1,650	1,040	780	788
8	668	2,280	1,680	2,130	1,630	1,580	1,560	2,990	1,690	1,010	785	788
9	664	2,840	1,490	2,160	1,620	1,510	1,640	2,740	1,550	972	740	755
10	660	2,190	1,510	2,110	2,030	1,490	1,720	2,370	1,440	944	778	755
11	655	1,700	1,810	2,000	3,190	1,480	1,680	2,160	1,360	917	740	750
12	651	2,100	1,120	1,880	3,690	1,440	1,670	2,070	1,300	904	725	829
13	651	1,680	1,040	1,980	3,100	1,420	1,470	2,060	1,240	891	715	865
14	647	1,400	955	2,440	2,610	1,380	1,400	1,930	1,190	878	710	805
15	647	1,280	1,020	3,520	2,280	1,330	1,380	1,810	1,180	868	700	766
16	645	1,200	1,060	3,240	2,050	1,290	1,400	1,680	1,150	878	691	745
17	643	1,180	1,010	2,600	1,880	1,270	1,480	1,650	1,170	917	685	755
18	639	1,140	1,240	6,090	1,780	1,270	1,490	1,990	1,460	878	715	755
19	639	1,080	1,720	7,460	1,700	1,240	1,470	2,020	1,580	841	740	755
20	647	1,040	955	4,840	1,680	1,220	1,410	1,900	2,190	817	710	766
21	720	2,150	4,690	5,640	1,840	1,160	1,660	1,760	1,920	805	710	811
22	710	1,800	2,810	5,040	1,800	1,170	1,820	1,660	1,690	800	691	778
23	668	1,140	2,880	2,480	1,490	1,190	1,610	1,660	1,560	794	682	745
24	879	2,170	2,540	2,890	1,700	1,180	1,610	1,610	1,560	788	678	755
25	1,200	2,700	3,110	6,010	1,660	1,100	1,690	1,540	1,780	778	691	710
26	924	2,200	4,680	7,520	1,590	1,100	1,800	1,450	1,750	779	720	696
27	805	2,000	8,770	4,550	1,550	1,100	1,690	1,380	1,690	878	761	691
28	778	2,200	4,970	5,400	1,550	1,120	1,690	1,350	1,540	885	755	688
29	1,030	2,680	5,560	2,690	-	1,140	1,310	1,480	1,440	805	691	678
30	1,400	2,480	2,640	2,480	-	1,160	1,560	1,270	1,370	778	678	664
31	1,860	-	2,260	2,280	-	1,160	-	1,520	-	768	668	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	24,393	1,250	659	787	0.888	1.02	48,860
November.....	50,930	3,460	1,040	1,695	1.92	2.14	101,000
December.....	78,008	8,770	955	2,325	2.62	3.02	148,800
Calendar year 1940.....	726,971	9,940	659	1,956	2.24	30.80	1,448,000
January.....	101,040	7,520	1,640	3,229	3.68	4.24	200,400
February.....	55,840	5,690	1,290	1,975	2.22	2.32	109,600
March.....	45,370	9,090	1,100	1,399	1.58	1.82	86,080
April.....	42,430	1,840	1,180	1,414	1.60	1.78	84,150
May.....	55,810	5,230	1,390	1,897	2.14	2.47	116,800
June.....	44,800	2,190	1,130	1,495	1.69	1.88	88,860
July.....	28,622	1,800	766	924	1.04	1.20	56,750
August.....	28,876	778	568	719	.812	.94	46,180
September.....	29,127	1,690	664	838	.946	1.05	46,840
Water year 1940-41.....	559,043	8,770	659	1,659	1.76	23.88	1,199,000

a. No gage-height record; discharge computed on basis of records for stations at Toketee Falls and near Elktion.

b. Computed on basis of partly estimated gage-height record.

c. Computed from staff-gage reading.

UMPUQUA RIVER BASIN

Lake Creek at Diamond Lake, near Fort Klamath, Oreg.

Location.- Water-stage recorder, lat. 43°11', long. 122°10', in SW $\frac{1}{4}$ sec.30, T. 27 S., R. 8 E., 260 feet downstream from outlet of Diamond Lake and 35 miles north of Fort Klamath. Altitude of gage, 5,180 feet (river-profile map).

Drainage area.- 57 square miles.

Records available.- May 1922 to September 1925 (incomplete), October 1926 to September 1941.

Average discharge.- 14 years (1926-29, 1930-41), 46.5 second-feet.

Extremes.- Maximum discharge during year, 79 second-feet Jan. 25 (gage height, 1.53 feet); minimum, 1.0 second-foot (regulated) Sept. 26; minimum daily, 5 second-feet Apr. 2-6. 1922-25, 1926-41: Maximum discharge observed, 146 second-feet June 1, 1925 (gage height, 2.13 feet, site and datum then in use); no flow (result of regulation) Aug. 25-27, 1931.

Remarks.- Records fair October to March; good thereafter. Flow regulated by gates and fish racks at lake outlet and, at times, by collection of moss on racks. No diversions above station.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	23	46	64	69	41	12	31	51	33	38	34
2	27	24	48	63	69	41	5	33	51	31	38	38
3	27	24	45	62	65	41	5	36	50	31	36	38
4	25	24	43	62	63	41	5	37	51	30	35	37
5	25	24	44	64	61	40	5	48	51	30	34	36
6	25	24	44	63	58	39	5	49	51	30	38	35
7	26	25	44	63	58	39	15	54	61	29	39	34
8	25	27	43	61	58	39	10	52	50	28	39	33
9	27	27	44	60	58	39	16	52	53	28	39	32
10	27	27	43	58	60	38	15	50	54	27	38	31
11	29	27	43	58	62	38	27	44	52	27	37	31
12	28	27	43	57	62	38	30	50	50	27	39	31
13	27	26	43	57	62	37	29	48	49	34	39	31
14	27	27	43	58	61	37	31	55	48	33	34	30
15	27	23	42	60	60	36	35	53	48	33	30	30
16	23	27	42	62	58	36	31	56	48	33	30	28
17	24	27	42	64	58	22	30	55	46	30	31	28
18	27	27	45	65	57	13	30	56	49	30	32	27
19	20	27	46	66	57	13	27	54	49	31	33	27
20	22	29	49	65	56	15	31	49	48	38	33	19
21	21	30	52	64	55	18	18	54	46	41	32	7
22	22	30	52	64	54	19	23	53	41	40	31	7
23	23	30	53	64	54	19	32	56	39	38	29	7
24	40	32	53	68	54	18	39	62	51	37	35	8
25	42	34	55	75	49	18	45	60	49	36	34	10
26	38	35	60	77	42	18	38	57	51	36	35	6
27	36	37	66	75	41	18	31	56	38	35	33	7
28	26	39	65	74	41	18	35	55	34	34	31	7
29	8	42	64	72	-	18	31	55	33	36	30	7
30	10	43	65	70	-	18	27	53	33	38	28	7
31	23	-	65	69	-	18	-	53	-	40	31	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	904	42	8	25.9	0.454	0.52	1,590
November.....	968	43	23	28.9	.507	.57	1,720
December.....	1,532	66	42	49.4	.867	1.00	3,040
Calendar year 1940.....	16,639	109	8	45.5	.798	10.86	33,000
January.....	2,004	77	57	64.6	1.13	1.31	3,970
February.....	1,602	69	41	57.2	1.00	1.05	3,180
March.....	885	41	13	28.5	.500	.58	1,750
April.....	719	45	6	24.0	.421	.47	1,430
May.....	1,555	62	31	50.2	.881	1.01	3,080
June.....	1,414	54	33	47.1	.826	.92	2,800
July.....	1,024	41	27	33.0	.579	.67	2,030
August.....	1,059	39	28	34.2	.600	.69	2,100
September.....	703	38	6	23.4	.411	.46	1,390
Water year 1940-41.....	14,167	77	5	38.8	.681	9.25	28,080

Clearwater River above Trap Creek, Oreg.

Location.- Water-stage recorder, lat. 43°15', long. 122°17', in SE¼ sec. 1, T. 27 S., R. 4 E., 150 yards upstream from Trap Creek and 40 miles east of Glide. Altitude of gage, 3,760 feet (river-profile map).

Drainage area.- 40 square miles.

Records available.- October 1927 to September 1941.

Average discharge.- 13 years (1928-41), 140 second-feet.

Extremes.- Maximum discharge during year, 168 second-feet May 24 (gage height, 1.08 feet); minimum, 114 second-feet Sept. 26-29.

1927-41: Maximum discharge, 380 second-feet June 9, 1933 (gage height, 2.02 feet, datum then in use), from rating curve extended above 200 second-feet; minimum, 91 second-feet Nov. 4-6, 27, Dec. 12, 29, 1931, Jan. 3, 1932.

Remarks.- Records excellent. No diversion or regulation above station.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	126	124	128	126	132	132	136	138	127	120	122
2	118	122	122	128	124	130	130	139	136	126	120	130
3	118	121	121	128	124	128	130	146	136	126	120	121
4	118	120	121	127	124	128	132	147	135	126	120	118
5	118	120	127	126	124	128	132	154	135	124	120	118
6	118	120	124	126	126	128	132	146	144	124	120	117
7	118	127	121	124	126	127	132	147	144	122	120	117
8	118	122	121	124	124	127	132	147	135	122	124	116
9	118	121	120	124	126	127	133	144	136	121	122	117
10	118	120	118	122	128	127	132	144	136	121	121	118
11	118	120	118	122	130	128	132	154	138	121	120	118
12	118	121	117	122	128	128	130	159	139	121	120	118
13	118	118	117	124	127	128	130	152	138	121	120	117
14	118	118	117	124	127	128	132	151	135	121	120	117
15	118	118	120	122	127	127	133	147	132	122	120	116
16	117	117	118	122	127	127	132	144	133	124	120	115
17	117	118	121	124	126	128	130	146	135	122	120	115
18	117	117	126	128	127	128	130	143	154	122	120	117
19	117	117	122	128	126	128	130	139	146	121	120	117
20	120	117	138	127	126	127	130	139	138	121	118	117
21	120	115	143	126	126	127	128	143	135	121	118	117
22	118	115	135	126	126	127	130	151	132	121	118	115
23	118	115	133	124	127	127	130	158	132	121	118	115
24	126	122	135	126	126	126	130	163	132	121	118	115
25	120	120	132	130	126	126	132	156	132	121	118	115
26	120	117	136	127	124	127	132	147	133	122	120	114
27	118	120	138	124	126	127	133	141	133	121	118	114
28	122	121	133	124	127	128	135	144	128	121	118	114
29	122	132	132	124	-	128	136	139	127	121	117	114
30	124	128	132	124	-	128	136	139	127	121	117	115
31	130	-	130	124	-	128	-	141	-	120	117	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	3,696	130	117	119	2.98	3.44	7,350
November.....	3,605	132	115	120	3.00	3.35	7,150
December.....	3,912	143	117	126	3.15	3.64	7,760
Calendar year 1940.....	49,274	190	115	135	3.38	45.83	97,740
January.....	3,879	130	122	125	3.12	3.61	7,690
February.....	3,531	130	124	126	3.15	3.28	7,000
March.....	3,968	132	126	128	3.20	3.68	7,850
April.....	3,948	136	128	132	3.30	3.67	7,830
May.....	4,545	163	136	147	3.68	4.25	9,010
June.....	4,077	154	127	136	3.40	3.79	8,090
July.....	3,786	127	120	122	3.05	3.52	7,510
August.....	3,702	124	117	119	2.98	3.44	7,340
September.....	3,507	130	114	117	2.92	3.26	6,960
Water year 1940-41.....	46,146	163	114	126	3.15	42.91	91,520

South Fork of Coquille River at Powers, Oreg.

Location.- Water-stage recorder, lat. 42°54', long. 124°04', in SE $\frac{1}{4}$ sec. 12, T. 31 S., R. 12 W., half a mile northeast of bridge at Powers and three-quarters of a mile upstream from Woodward Creek. Altitude of gage, 200 feet (river-profile map).

Drainage area.- 169 square miles.

Records available.- October 1928 to September 1941. September 1916 to September 1926 at site $\frac{1}{4}$ miles upstream.

Average discharge.- 22 years (1916-26, 1929-41), 699 second-feet.

Extremes.- Maximum discharge during year, 14,300 second-feet Dec. 20 (gage height, 13.80 feet), from rating curve extended above 9,000 second-feet; minimum, 28 second-feet Aug. 23, 24 (gage height, 1.41 feet).

1916-26, 1928-41: Maximum discharge, 25,300 second-feet Oct. 31, 1924 (gage height, 17.5 feet, site and datum then in use), from rating curve extended above 12,000 second-feet; minimum, 12 second-feet Sept. 22-25, 27-30, 1939.

Remarks.- Records good. No regulation above station. Small diversions for irrigation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 20						Dec. 21 to Sept. 30					
1.6	27	3.0	435	7.0	4,200	1.4	27	3.5	825	8.0	5,450
1.8	48	3.5	765	8.5	6,100	1.7	64	4.0	1,200	10.0	8,200
2.1	93	4.0	1,140	10.5	8,950	2.0	120	5.0	2,050	11.0	9,700
2.4	163	5.0	2,000			2.5	270	6.0	3,070		
2.7	276	6.0	3,020			3.0	500	7.0	4,200		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	1,070	788	900	982	1,460	190	255	199	116	45	35
2	81	688	532	715	1,100	1,700	181	251	187	110	43	166
3	104	625	540	660	938	1,170	310	396	175	112	44	190
4	79	465	502	780	802	908	1,490	648	166	107	45	110
5	58	540	788	1,780	694	729	3,510	1,660	161	99	43	77
6	60	554	780	1,910	660	622	2,190	1,270	172	95	42	63
7	52	1,550	632	1,980	628	533	1,390	960	196	91	40	53
8	48	1,780	534	1,600	680	480	1,030	840	187	90	39	49
9	46	1,980	453	1,220	1,340	415	915	701	172	84	40	44
10	44	1,980	381	975	2,150	391	772	603	161	80	39	45
11	40	998	333	772	2,120	360	654	550	148	78	38	49
12	38	892	299	634	1,860	328	561	500	141	77	37	77
13	37	758	263	579	1,530	302	495	455	143	75	37	82
14	36	599	242	870	1,220	278	450	410	138	74	37	64
15	35	477	223	1,530	998	259	490	368	129	70	36	56
16	34	381	215	1,750	818	243	516	346	122	67	35	49
17	32	370	427	2,280	887	243	687	440	120	66	34	45
18	31	429	3,820	5,850	622	251	667	694	127	64	32	42
19	30	359	2,810	4,320	567	290	615	615	175	63	32	60
20	42	364	8,890	2,310	495	306	544	528	196	61	30	88
21	97	560	6,830	1,600	445	259	485	450	159	57	30	84
22	70	566	3,510	1,340	410	247	430	400	151	84	30	69
23	62	489	3,100	1,370	400	232	391	355	143	54	29	60
24	1,470	502	6,880	3,990	420	212	355	319	143	53	29	51
25	625	554	5,160	6,860	400	206	319	290	143	51	30	49
26	313	459	9,270	4,500	373	196	298	262	146	50	37	45
27	204	399	7,020	2,510	364	190	274	240	141	53	45	43
28	207	359	3,280	1,700	415	181	255	259	136	53	42	40
29	348	665	1,960	1,320	-	175	266	247	127	51	37	38
30	441	1,040	1,450	1,050	-	190	298	225	120	49	32	38
31	986	-	1,130	870	-	208	-	219	-	48	31	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	5,833	1,470	30	188	1.11	1.28	11,570
November.....	21,862	1,980	359	728	4.31	4.81	43,340
December.....	72,642	9,270	215	2,343	13.9	15.99	144,100
Calendar year 1940.....	319,431	9,270	15	873	5.17	70.30	633,600
January.....	60,525	6,860	579	1,952	11.6	13.32	120,000
February.....	24,098	2,130	364	861	5.09	5.30	47,800
March.....	13,562	1,700	175	437	2.59	2.98	26,900
April.....	21,008	3,510	181	700	4.14	4.62	41,670
May.....	15,756	1,660	219	508	3.01	3.47	31,250
June.....	4,624	199	120	154	.911	1.02	9,170
July.....	2,252	116	48	72.6	.430	.50	4,470
August.....	1,140	45	29	36.8	.218	.25	2,280
September.....	1,962	190	35	65.4	.387	.43	3,890
Water year 1940-41.....	245,254	9,270	29	672	3.98	53.97	486,400

Peak discharge.- Dec. 20 (7 p.m.) 14,300 sec.-ft.; Dec. 26 (3 p.m.) 12,600 sec.-ft.; Jan. 18 (4 p.m.) 8,360 sec.-ft.; Jan. 25 (3 p.m.) 8,780 sec.-ft.

Middle Fork of Coquille River near Myrtle Point, Oreg.

Location.- Water-stage recorder, lat. 43°02', long. 124°05', in S $\frac{1}{2}$ sec. 26, T. 29 S., R. 12 W., a third of a mile downstream from Indian Creek and $\frac{3}{4}$ miles southeast of Myrtle Point. Datum of gage is 41.20 feet above mean sea level, datum of 1929.

Drainage area.- 305 square miles.

Records available.- October 1930 to September 1941.

Average discharge.- 11 years, 720 second-feet.

Extremes.- Maximum discharge during year, 17,000 second-feet Dec. 20 (gage height, 20.35 feet, from floodmark), from rating curve extended above 9,000 second-feet; minimum, 23 second-feet Oct. 19, 20 (gage height, 2.15 feet).

1930-41: Maximum discharge, 22,600 second-feet Jan. 2, 1933 (gage height, 22.5 feet), from rating curve extended above 9,000 second-feet; minimum daily, 1 second-foot July 16, 17, 1931.

Maximum stage known, 25.8 feet, probably Oct. 31, 1924.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Logponds above station not used to regulate discharge during year. No diversion above station.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 16						Dec. 23 to Sept. 30					
2.1	21	4.0	202	7.0	1,060	2.2	22	4.0	195	8.0	1,540
2.5	38	4.5	295	8.0	1,540	2.5	36	5.0	393	10.0	2,800
3.0	73	5.0	400	9.0	2,110	3.0	71	6.0	665	12.0	5,520
3.5	127	6.0	665			3.5	124	7.0	1,060		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	535	1,140	1,300	822	642	157	236	202	181	43	30
2	60	389	802	1,080	1,060	1,140	147	228	184	166	41	251
3	62	398	634	930	886	886	190	456	167	160	41	302
4	58	321	540	1,060	763	704	521	471	163	153	43	105
5	51	336	580	1,760	668	592	1,930	718	154	142	42	100
6	45	391	h530	2,180	595	508	1,760	902	173	130	39	76
7	39	359	490	1,770	515	459	1,090	738	234	123	37	63
8	36	1,210	440	1,420	508	413	752	700	205	116	36	56
9	34	1,810	390	1,130	721	378	623	609	187	108	38	50
10	31	1,130	350	910	1,300	356	559	530	170	102	40	49
11	30	778	320	752	1,720	333	466	480	160	94	39	63
12	29	950	295	654	1,580	315	443	147	86	37	68	
13	28	798	270	568	1,300	288	367	400	144	83	34	66
14	27	585	250	763	1,070	268	335	365	144	83	33	55
15	26	456	240	1,590	886	253	363	330	134	78	32	52
16	25	378	h246	1,990	728	236	431	310	124	75	30	50
17	25	342	400	1,640	612	228	806	390	123	70	30	46
18	24	372	3,000	2,810	556	228	770	676	153	73	30	44
19	23	323	2,700	5,590	610	232	620	596	187	67	28	59
20	30	326	11,000	2,230	456	230	510	510	272	65	26	204
21	60	579	8,000	1,600	417	204	438	445	217	60	26	154
22	47	672	4,000	1,260	389	204	386	395	195	57	26	108
23	36	538	2,870	1,070	369	204	346	350	179	55	26	87
24	535	668	14,850	1,980	393	184	314	312	266	53	25	74
25	391	782	4,500	4,740	391	173	286	278	325	52	27	66
26	235	634	9,000	4,710	356	170	264	251	314	51	32	62
27	158	522	9,500	2,620	344	164	243	232	274	53	44	57
28	135	472	5,000	1,740	346	161	225	255	247	58	41	54
29	239	884	3,000	1,300	-	156	230	266	223	53	34	50
30	246	1,720	2,100	1,020	-	156	272	230	200	49	28	47
31	387	-	11,590	830	-	161	-	219	-	46	26	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	3,226	535	23	104	0.341	0.39	6,400
November.....	20,168	1,810	321	672	2.20	2.46	39,980
December.....	79,027	11,000	240	2,549	8.56	9.64	156,700
Calendar year 1940.....	286,093	11,000	8	782	2.56	34.88	567,400
January.....	52,967	4,740	568	1,709	5.60	6.46	105,100
February.....	20,261	1,720	344	724	2.37	2.47	40,190
March.....	10,621	1,140	156	343	1.12	1.30	21,070
April.....	15,866	1,980	147	529	1.73	1.93	31,470
May.....	13,320	902	219	430	1.41	1.62	26,420
June.....	5,857	325	123	195	.639	.71	11,620
July.....	2,742	181	46	88.5	.290	.33	5,440
August.....	1,054	44	25	34.0	.111	.13	2,090
September.....	2,593	302	30	86.4	.283	.32	5,140
Water year 1940-41.....	227,692	11,000	23	624	2.05	27.76	451,600

f Computed on basis of partly estimated gage-height record.

h Computed from staff-gage reading.

Note.- No gage-height record Dec. 4, 5, 7-15, 17-22, 25-30, May 13-17; discharge computed on basis of weather records, recorded range of stage, and records for South Fork of Coquille River at Powers.

North Fork of Coquille River near Myrtle Point, Oreg.

Location.— Water-stage recorder, lat. 43°06', long. 124°04', in NW¼ sec. 36, T. 28 S., R. 12 W., a quarter of a mile downstream from East Fork and 4½ miles northeast of Myrtle Point. Datum of gage is 10.94 feet above mean sea level, datum of 1929.

Drainage area.— 276 square miles.

Records available.— October 1930 to September 1941. October 1928 to September 1930 at site 3½ miles downstream.

Average discharge.— 12 years (1929-41), 868 second-feet.

Extremes.— Maximum discharge during year, 8,030 second-feet Dec. 21 (gage height, 32.31 feet); minimum, 28 second-feet Oct. 19, 20 (gage height, 1.81 feet).

1928-41: Maximum discharge, 10,400 second-feet Jan. 3, 1933 (gage height, 35.7 feet); minimum, 14 second-feet Sept. 3, 1938.

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

Remarks.— Records fair. No diversion above station. Flow slightly regulated by logging ponds above station.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 21					Dec. 22 to Sept. 30				
1.7	22	5.0	340	20.0	3,700	2.1	45	6.0	490
2.0	37	6.0	436	24.0	4,960	2.5	75	8.0	820
2.5	68	8.0	837	28.0	6,360	3.0	110	10.0	1,180
3.0	106	10.0	1,220	32.0	7,900	4.0	205	13.0	1,750
3.5	153	13.0	1,845			5.0	335	16.0	2,490
4.0	208	16.0	2,570						

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	788	2,180	1,740	1,210	650	221	256	279	223	84	61
2	75	646	1,440	1,430	1,230	1,210	227	212	251	234	81	575
3	68	388	1,120	1,200	1,070	903	269	464	220	223	81	1,220
4	60	319	1,070	1,410	953	742	445	572	232	213	81	407
5	60	509	1,040	1,990	856	679	1,320	677	212	197	80	206
6	58	882	1,260	3,560	801	608	2,200	1,310	209	184	78	182
7	54	966	1,080	2,790	749	565	1,160	883	210	174	75	123
8	48	1,670	909	2,010	591	520	794	769	261	168	72	116
9	44	2,610	790	1,570	783	485	692	650	264	158	72	104
10	38	2,100	695	1,320	1,120	455	662	565	236	149	74	104
11	36	1,330	623	1,170	1,620	428	586	519	135	144	74	120
12	36	1,780	562	1,050	1,320	402	512	536	152	140	72	203
13	35	1,670	509	1,010	1,070	370	463	530	167	156	70	289
14	34	1,080	468	1,040	935	326	428	460	203	131	66	206
15	34	790	441	1,460	842	336	426	460	186	128	64	174
16	34	659	447	2,070	750	320	474	413	157	120	62	163
17	32	583	462	2,200	698	310	639	456	173	116	60	125
18	32	661	1,380	2,800	642	317	602	774	152	120	59	115
19	28	588	2,430	5,420	624	341	624	737	195	111	58	160
20	35	433	3,560	4,180	575	378	463	607	309	94	70	306
21	122	681	7,750	2,710	540	324	421	533	289	86	62	316
22	112	869	6,220	1,930	506	302	386	472	183	83	59	234
23	90	709	4,370	1,530	488	299	359	416	206	78	48	160
24	718	718	4,320	2,830	557	282	346	360	516	80	51	166
25	984	972	4,970	4,980	548	266	346	347	842	93	56	147
26	367	839	5,670	6,380	506	250	317	320	567	92	69	136
27	227	722	7,700	5,010	454	230	288	293	461	93	106	126
28	170	704	6,480	3,230	486	238	272	310	380	97	112	120
29	270	1,540	4,560	2,190	-	230	275	371	330	97	93	116
30	428	3,360	3,090	1,560	-	230	316	356	253	91	78	108
31	644	-	2,280	1,340	-	235	-	295	-	87	69	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	5,043	984	28	163	0.591	0.68	10,000
November.....	31,466	3,360	319	1,049	3.80	4.24	62,410
December.....	79,829	7,730	441	2,575	9.33	10.76	158,300
Calendar year 1940.....	345,808	7,730	18	945	3.42	46.61	685,900
January.....	75,110	6,380	1,010	2,423	8.78	10.12	149,000
February.....	22,661	1,620	484	809	2.93	3.05	44,930
March.....	13,251	1,210	230	427	1.55	1.78	26,240
April.....	16,423	2,200	221	547	1.98	2.21	32,570
May.....	16,123	1,310	212	520	1.88	2.17	31,980
June.....	8,230	842	156	274	.993	1.11	16,320
July.....	4,139	234	78	134	.486	.56	8,210
August.....	2,238	112	48	72.2	.262	.30	4,440
September.....	6,568	1,220	51	219	.793	.89	13,030
Water year 1940-41.....	281,051	7,730	28	770	2.79	37.87	557,400

Peak discharge.— Dec. 21 (10 a.m.) 8,030 sec.-ft.; Dec. 27 (9 a.m.) 7,880 sec.-ft.; Jan. 26 (11 a.m.) 6,590 sec.-ft.

Rogue River above Bybee Creek, Oreg.

Location.- Water-stage recorder, lat. 42°56', long. 122°26', in NE¼ sec. 26, T. 30 S., R. 3 E., 700 feet upstream from Bybee Creek and 2 miles northeast of Union Creek. Altitude of gage, about 3,465 feet (river-profile map).

Drainage area.- 118 square miles.

Records available.- January 1930 to September 1941.

Average discharge.- 11 years, 450 second-feet.

Extremes.- Maximum discharge during year, 1,080 second-feet Nov. 29 (gage height, 3.19 feet); minimum, 224 second-feet Sept. 30 (gage height, 1.02 feet).
1930-41: Maximum discharge, 4,460 second-feet June 9, 1933 (gage height, 7.68 feet), from rating curve extended above 2,000 second-feet; minimum daily, 180 second-feet (estimated) Jan. 7, 1937 (gage height affected by ice).

Remarks.- Records good except those for periods of ice effect, which are fair. No diversion or regulation above station.

Cooperation.- Water-stage recorder inspected by employee of The California Oregon Power Co.

Rating tables, water year 1940-41, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 29				Nov. 30 to Sept. 30			
1.1	240	2.0	530	1.0	220	2.0	505
1.4	320	2.3	660	1.2	262	2.3	635
1.7	415	2.6	795	1.4	310	2.6	790
				1.7	395		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	256	398	481	350	368	493	465	541	398	328	251	269
2	252	350	416	b340	368	497	465	550	383	322	251	444
3	258	314	386	b365	359	462	440	612	371	318	251	315
4	252	290	377	b355	353	437	497	680	359	312	251	267
5	250	320	426	350	353	434	493	745	356	305	249	253
6	248	335	402	335	362	420	489	662	386	302	247	247
7	245	412	365	328	362	416	493	671	402	298	247	242
8	245	371	347	325	368	420	477	735	377	292	247	240
9	245	335	330	322	368	437	509	658	359	290	262	238
10	242	308	318	320	448	445	505	635	350	285	247	240
11	240	311	308	322	545	458	465	671	344	283	247	249
12	240	320	295	322	513	473	443	676	347	280	247	253
13	240	314	b300	338	451	485	454	612	335	278	244	242
14	240	308	b330	356	420	462	473	568	328	274	244	242
15	238	*305	b360	374	395	448	497	529	320	274	242	240
16	240	308	b380	362	383	448	473	509	330	283	240	235
17	240	314	b320	362	374	458	448	521	338	276	240	236
18	238	311	412	398	371	469	430	505	448	269	249	238
19	238	293	362	*448	371	444	420	469	434	267	253	249
20	250	293	477	416	365	423	420	454	402	284	251	260
21	275	285	658	389	365	412	430	462	371	262	251	247
22	245	278	521	377	369	423	454	477	353	262	242	240
23	250	280	493	371	356	412	477	489	347	260	240	238
24	341	374	509	380	448	398	493	554	344	258	240	236
25	282	374	485	430	406	395	505	477	350	258	253	234
26	262	329	509	409	392	402	513	444	389	267	249	234
27	252	350	545	350	389	420	541	409	426	262	249	232
28	272	398	454	365	420	444	545	451	368	262	240	230
29	350	750	420	353	-	458	568	426	347	258	235	230
30	374	690	398	350	-	454	554	409	335	255	238	228
31	426	-	377	350	-	456	-	448	-	253	238	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-foot
October.....	8,228	426	238	265	2.25	2.59	16,320
November.....	10,618	750	278	354	3.00	3.35	21,060
December.....	12,761	658	295	412	3.49	4.02	25,310
Calendar year 1940.....	157,841	1,230	238	431	3.65	49.76	313,100
January.....	11,272	448	320	364	3.08	3.55	22,360
February.....	11,059	545	353	395	3.35	3.49	21,940
March.....	13,708	497	395	442	3.75	4.32	27,190
April.....	14,421	568	420	481	4.08	4.55	28,600
May.....	17,049	745	409	550	4.66	5.37	33,820
June.....	10,897	448	320	367	3.11	3.47	21,810
July.....	8,657	328	253	279	2.36	2.75	17,170
August.....	7,643	262	238	247	2.09	2.41	15,150
September.....	7,551	444	228	252	2.14	2.38	14,980
Water year 1940-41.....	133,964	750	228	367	3.11	42.23	265,700

* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Rogue River above Prospect, Oreg.

Location.- Water-stage recorder, lat. 42°47', long. 122°30', in NE $\frac{1}{4}$ sec. 19, T. 32 S., R. 3 E., $\frac{1}{8}$ miles upstream from intake of diversion of The California Oregon Power Co., 2 miles northwest of Prospect, and 3 miles upstream from Mill Creek. Altitude of gage, about 2,620 feet (river-profile map).

Drainage area.- 332 square miles.

Records available.- July 1907 to February 1912 (incomplete), October 1923 to September 1941.

Average discharge.- 19 years (1910-11, 1923-41), 692 second-feet.

Extremes.- Maximum discharge during year, 1,780 second-feet Jan. 25 (gage height, 3.24 feet); minimum, 286 second-feet Oct. 16-20 (gage height, 1.34 feet).

1907-12, 1923-41: Maximum discharge, 9,300 second-feet (estimated) Nov. 22, 1909 (gage height, about 7.0 feet, site and datum then in use); minimum observed, 200 second-feet Nov. 20, 1931 (gage height, 1.07 feet).

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

Cooperation.- Water-stage recorder graph furnished by The California Oregon Power Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.3	270	2.2	765
1.5	350	2.6	1,090
1.8	500	3.0	1,600

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	326	592	618	573	737	610	702	780	639	530	330	322
2	318	494	681	536	765	848	709	780	606	512	330	618
3	318	440	806	673	730	802	687	920	586	494	330	512
4	318	390	566	566	688	768	730	1,020	560	478	330	372
5	310	395	618	548	667	744	744	1,200	548	467	326	346
6	306	478	639	518	667	709	709	1,120	580	450	322	334
7	302	560	560	506	681	695	737	1,060	653	440	318	322
8	298	560	524	494	653	702	730	1,230	606	430	318	322
9	298	512	494	489	660	716	772	1,080	566	420	336	322
10	294	456	462	459	840	730	780	1,020	548	415	322	318
11	294	430	430	500	1,230	744	737	1,040	536	405	318	334
12	294	472	372	512	1,190	768	695	1,040	548	395	314	334
13	290	456	354	548	984	780	688	976	524	390	310	322
14	290	440	382	730	864	751	695	896	506	386	310	318
15	290	420	467	744	788	716	744	825	494	377	306	318
16	286	415	524	681	730	702	716	788	494	390	306	314
17	286	410	445	681	695	709	681	788	518	382	302	310
18	286	415	580	760	674	723	653	788	681	368	314	306
19	286	390	666	1,060	646	695	632	737	674	359	334	314
20	290	386	674	960	625	653	625	702	660	354	322	346
21	342	377	1,150	864	612	625	625	695	586	350	334	334
22	306	350	904	810	612	632	653	716	554	346	310	322
23	302	359	618	795	639	632	689	744	548	342	310	310
24	415	467	843	856	788	606	716	912	536	342	306	306
25	332	573	872	1,270	730	599	730	780	542	338	326	302
26	338	484	944	1,310	681	606	730	709	612	350	322	298
27	322	467	1,290	992	646	618	765	653	751	354	330	298
28	322	612	968	856	695	660	780	688	625	350	314	294
29	426	1,050	832	772	-	681	795	695	566	342	306	294
30	472	1,250	761	723	-	688	802	639	554	334	306	294
31	530	-	674	695	-	695	-	702	-	338	306	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	10,138	530	286	327	0.995	1.14	20,100
November.....	15,080	1,230	350	503	1.52	1.69	29,910
December.....	20,813	1,690	354	671	2.02	2.33	41,280
Calendar year 1940.....	248,494	2,850	286	679	2.05	27.85	492,900
January.....	22,431	1,310	489	724	2.18	2.51	44,490
February.....	20,817	1,230	612	747	2.25	2.34	41,490
March.....	21,787	848	599	703	2.12	2.44	43,210
April.....	21,430	802	625	714	2.15	2.40	42,510
May.....	26,723	1,230	639	862	2.60	2.99	53,000
June.....	17,421	751	494	581	1.75	1.95	34,550
July.....	12,228	530	334	394	1.19	1.37	24,250
August.....	9,870	338	302	318	0.958	1.11	19,580
September.....	10,056	618	294	355	1.01	1.13	19,950
Water year 1940-41.....	208,892	1,310	286	572	1.72	23.40	414,300

Rogue River below South Fork of Rogue River, near Prospect, Oreg.

Location.- Water-stage recorder, lat. 42°42', long. 122°36', in NW¼ sec. 16, T. 33 S., R. 2 E., at bridge 6 miles southwest of Prospect. Altitude of gage, about 1,708 feet (river-profile map).

Drainage area.- 643 square miles.

Records available.- April 1929 to September 1941.

Average discharge.- 12 years, 1,502 second-feet.

Extremes.- Maximum discharge during year, 3,570 second-feet Jan. 25 (gage height, 3.29 feet); minimum, 560 second-feet (regulated) Oct. 28, Aug. 14 (gage height, 0.08 foot); minimum daily, 770 second-feet Oct. 9.

1929-41: Maximum discharge, 12,600 second-feet Mar. 19, 1932 (gage height, 8.7 feet), from rating curve extended above 5,700 second-feet; minimum gage height and minimum daily discharge not determined, as stage falls too low at times to be recorded.

Remarks.- Records good. Small diversions above station for irrigation. Considerable diurnal fluctuation caused by power plant 4 miles above station.

Cooperation.- Water-stage recorder graph furnished by The California Oregon Power Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.4	745	2.0	2,030
.7	950	2.5	2,560
1.0	1,160	3.0	3,180
1.5	1,870		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	838	1,370	1,680	1,340	1,640	1,600	1,440	1,580	1,450	1,190	875	859
2	852	1,260	1,450	1,260	1,680	1,650	1,440	1,610	1,400	1,180	875	1,200
3	838	1,120	1,340	1,260	1,600	1,590	1,400	1,940	1,380	1,150	894	1,180
4	866	1,010	1,280	1,280	1,530	1,530	1,440	2,070	1,330	1,130	887	943
5	617	985	1,310	1,280	1,510	1,520	1,500	2,580	1,310	1,100	862	873
6	a810	1,090	1,440	1,240	1,610	1,460	1,440	2,300	1,340	1,100	866	845
7	a800	1,160	1,300	1,210	1,480	1,420	1,460	2,160	1,580	1,070	852	845
8	a780	1,190	1,200	1,180	1,440	1,420	1,450	2,860	1,420	1,070	845	851
9	a770	1,200	1,140	1,170	1,420	1,440	1,520	2,460	1,350	1,050	880	831
10	a780	1,090	1,100	1,160	1,650	1,460	1,570	2,240	1,300	1,040	866	824
11	a800	1,050	1,070	1,150	2,310	1,470	1,610	2,280	1,290	1,010	838	852
12	771	1,120	985	1,170	2,320	1,480	1,420	2,300	1,280	1,010	852	873
13	804	1,100	922	1,180	2,040	1,490	1,410	2,130	1,240	999	831	859
14	797	1,070	901	1,420	1,840	1,460	1,410	2,010	1,210	978	824	852
15	797	1,050	978	1,460	1,740	1,430	1,460	1,870	1,180	957	824	810
16	797	1,030	1,120	1,400	1,640	1,410	1,420	1,790	1,180	985	824	804
17	797	1,030	1,050	1,490	1,580	1,420	1,410	1,760	1,210	978	824	797
18	778	1,030	1,240	1,640	1,820	1,430	1,380	1,750	1,420	964	845	790
19	790	985	1,280	2,140	1,480	1,400	1,350	1,640	1,450	950	845	790
20	810	971	1,310	1,970	1,440	1,370	1,320	1,580	1,380	929	838	852
21	908	964	2,020	1,800	1,390	1,320	1,350	1,570	1,300	943	852	831
22	838	929	1,730	1,730	1,420	1,320	1,340	1,600	1,240	922	810	804
23	838	929	1,590	1,700	1,420	1,320	1,370	1,640	1,210	922	790	804
24	1,040	1,060	1,630	1,880	1,620	1,500	1,420	1,880	1,190	908	845	790
25	999	1,320	1,740	2,610	1,620	1,270	1,450	1,670	1,230	894	824	784
26	873	1,130	1,830	2,820	1,460	1,290	1,450	1,580	1,290	915	824	784
27	845	1,080	2,530	2,230	1,420	1,300	1,500	1,490	1,520	943	845	790
28	852	1,180	1,920	1,950	1,460	1,350	1,540	1,510	1,370	908	831	784
29	999	1,700	1,700	1,800	-	1,410	1,580	1,580	1,300	908	810	778
30	1,070	2,400	1,590	1,620	-	1,400	1,600	1,480	1,260	694	804	778
31	1,150	-	1,460	1,610	-	1,420	-	1,520	-	873	831	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	26,504	1,150	770	855	1.33	1.53	52,570
November.....	34,603	2,400	929	1,153	1.79	2.00	66,650
December.....	43,946	2,530	901	1,414	2.20	2.54	86,970
Calendar year 1940.....	531,637	4,690	770	1,453	2.26	30.75	1,054,000
January.....	49,210	2,820	1,150	1,587	2.47	2.85	97,610
February.....	45,080	2,320	1,390	1,610	2.50	2.61	89,410
March.....	44,150	1,650	1,270	1,424	2.21	2.55	87,570
April.....	43,340	1,600	1,320	1,445	2.25	2.51	85,960
May.....	58,140	2,860	1,480	1,875	2.92	3.35	115,300
June.....	39,550	1,520	1,180	1,318	2.05	2.29	78,450
July.....	30,870	1,190	873	996	1.55	1.79	61,230
August.....	26,099	894	790	942	1.31	1.51	51,770
September.....	25,437	1,200	778	948	1.32	1.47	50,460
Water year 1940-41.....	466,829	2,860	770	1,279	1.99	27.01	925,900

a No gage-height record; discharge computed on basis of records for stations above Prospect and at Dodge Bridge, near Eagle Point.

Rogue River at Dodge Bridge, near Eagle Point, Oreg.

Location.- Water-stage recorder, lat. 42°32', long. 122°50', in SE¼ sec. 17, T. 35 S., R. 1 W., at Dodge Bridge, 0.6 mile downstream from Reese Creek and 4½ miles northwest of Eagle Point. Datum of gage is 1,273.66 feet above mean sea level, datum of 1929.

Records available.- October 1938 to September 1941.

Extremes.- Maximum discharge during year, 11,300 second-feet Jan. 25 (gage height, 5.76 feet); minimum, 653 second-feet (regulated) Aug. 23 (gage height, 1.03 feet); minimum daily, 840 second-feet Aug. 23.

1938-41: Maximum discharge, 13,300 second-feet Mar. 26, 1940 (gage height, 6.31 feet); minimum, 611 second-feet (regulated) Aug. 6, 14, 29, Sept. 9, 1940 (gage height, 0.99 foot); minimum daily, 830 second-feet Sept. 1, 1940.

Remarks.- Records excellent except those for periods of no gage-height record, which are good. Many small diversions above station for irrigation; most of the flow of Big Butte Creek is diverted near Butte Falls. Some diurnal fluctuation caused by power plant about 30 miles above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.2	840	2.6	2,880	4.5	7,290
1.5	1,200	3.0	3,640	5.0	8,760
1.8	1,600	3.5	4,730		
2.2	2,200	4.0	5,950		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,070	1,710	2,310	1,980	2,610	2,070	1,670	1,780	1,720	1,420	924	984
2	1,040	1,920	1,940	1,760	2,630	2,150	1,710	1,800	1,630	1,370	924	1,240
3	1,020	1,660	1,710	1,740	2,380	2,120	1,660	2,150	1,570	1,300	924	1,450
4	1,020	1,370	1,610	1,760	2,250	2,020	1,700	2,440	1,530	1,320	924	1,080
5	996	1,290	1,670	1,950	2,140	2,020	2,000	2,930	1,470	1,260	924	1,010
6	996	1,380	1,880	1,950	2,100	1,950	1,940	2,970	1,630	1,280	912	972
7	996	1,500	1,700	1,840	2,090	1,890	1,860	2,630	1,740	1,200	912	936
8	960	1,760	1,660	1,770	2,010	1,860	1,830	3,400	1,680	1,180	912	936
9	948	1,770	1,480	1,730	1,960	1,840	2,000	3,120	1,570	1,160	912	924
10	960	1,560	1,400	1,670	2,480	1,860	2,390	2,790	1,500	1,160	912	924
11	996	1,420	1,360	1,660	6,260	1,860	2,060	2,720	1,430	1,120	912	924
12	948	1,570	1,240	1,640	4,730	1,860	1,900	2,720	1,430	1,100	912	948
13	984	1,530	1,180	1,630	3,620	1,880	1,820	2,680	1,410	1,090	912	948
14	960	1,400	1,180	2,040	3,140	1,830	1,770	2,500	1,370	1,080	876	948
15	960	1,330	1,200	2,610	2,630	1,770	1,780	2,810	1,360	1,040	888	948
16	960	1,300	al,280	2,480	2,560	1,740	1,770	2,150	1,360	1,040	876	924
17	972	1,290	al,300	3,060	2,390	1,740	1,760	2,100	1,460	1,060	888	912
18	948	al,260	al,600	3,520	2,280	1,770	1,740	2,170	1,540	1,030	900	912
19	948	al,220	al,600	4,800	2,180	1,740	1,700	2,040	1,700	1,010	924	924
20	960	al,170	al,100	3,660	2,070	1,730	1,630	1,920	1,630	1,010	924	996
21	1,070	al,200	3,720	3,140	2,010	1,660	1,640	1,880	1,580	984	912	972
22	1,010	al,170	2,670	3,060	1,950	1,630	1,630	1,880	1,450	972	888	984
23	996	al,140	2,280	3,040	1,960	1,610	1,630	1,880	1,430	972	840	960
24	1,180	al,220	2,700	4,410	2,260	1,610	1,660	2,060	1,400	960	864	936
25	1,320	al,640	3,740	7,460	2,170	1,560	1,680	1,920	1,430	960	876	936
26	1,120	al,500	4,800	6,960	2,020	1,530	1,670	1,800	1,500	972	876	924
27	1,090	al,360	6,910	4,390	1,960	1,640	1,700	1,700	1,680	1,010	912	912
28	1,030	al,450	3,680	3,480	1,960	1,670	1,740	1,710	1,680	960	888	888
29	1,240	al,800	2,880	2,990	-	1,630	1,760	1,640	1,570	960	676	924
30	1,320	3,170	2,600	2,670	-	1,600	1,820	1,740	1,500	948	864	888
31	1,420	-	2,220	2,460	-	1,670	-	1,770	-	936	888	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	32,438	1,420	948	1,046	64,340
November.....	45,060	3,170	1,140	1,502	89,320
December.....	69,810	6,910	1,180	2,252	138,600
Calendar year 1940.....	761,886	10,200	830	2,082	1,511,000
January.....	89,230	7,460	1,630	2,878	177,000
February.....	70,900	6,260	1,950	2,532	140,600
March.....	55,310	2,160	1,530	1,784	109,700
April.....	33,620	2,390	1,630	1,787	106,400
May.....	69,380	3,400	1,700	2,238	137,600
June.....	45,980	1,880	1,360	1,633	91,200
July.....	33,794	1,420	936	1,090	67,030
August.....	27,876	924	840	889	55,290
September.....	29,104	1,450	888	970	57,730
Water year 1940-41.....	622,602	7,460	840	1,705	1,235,000

Peak discharge.- Dec. 27 (1 a.m.) 9,460 sec.-ft.; Jan. 25 (8 p.m.) 11,300 sec.-ft.

a No gage-height record; discharge computed on basis of records for stations below South Fork, near Prospect, and at Raygold, near Central Point.

Rogue River at Raygold, near Central Point, Oreg.

Location.- Water-stage recorder, lat. 42°26', long. 122°59', in sec. 18, T. 36 S., R. 2 W., at Raygold, just downstream from dam and powerhouse of The California Oregon Power Co., half a mile downstream from Bear Creek, and 6 miles northwest of Central Point. Datum of gage is 1,121.78 feet above mean sea level, datum of 1929.

Drainage area.- 2,020 square miles.

Records available.- August 1905 to September 1941.

Average discharge.- 36 years, 2,705 second-feet.

Extremes.- Maximum discharge during year, 14,100 second-feet Jan. 25 (gage height, 7.28 feet); minimum, 682 second-feet (regulated) July 15 (gage height, 0.17 foot); minimum daily, 895 second-feet Aug. 16.

1905-41: Maximum discharge, 91,500 second-feet Feb. 21, 1927 (gage height, 24.8 feet, from floodmark), from rating curve extended above 36,000 second-feet; minimum not determined; minimum daily, 616 second-feet Sept. 6, 1931.

Remarks.- Records good. Many diversions above station for irrigation. Diurnal fluctuation caused by power plant just above station.

Cooperation.- Water-stage recorder inspected by employees of The California Oregon Power Co.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.4	835	1.5	1,820	3.0	3,880	5.0	7,920
.7	1,070	2.0	2,420	3.5	4,750	6.0	10,400
1.0	1,320	2.5	3,100	4.0	5,720		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,160	1,740	2,650	2,330	2,810	2,410	1,810	1,950	2,020	1,650	934	966
2	1,090	2,240	2,150	2,080	3,040	2,520	1,900	1,960	1,910	1,530	950	1,210
3	1,130	2,040	1,910	1,960	2,710	2,500	1,840	2,340	1,800	1,450	956	1,570
4	1,100	1,550	1,750	2,010	2,510	2,370	1,850	2,710	1,720	1,410	958	1,280
5	1,090	1,390	1,750	2,280	2,410	2,370	2,320	3,300	1,640	1,320	958	1,120
6	1,110	1,450	2,010	2,370	2,320	2,280	2,320	3,420	1,670	1,300	956	1,070
7	1,020	1,570	1,840	2,120	2,320	2,190	2,200	3,030	2,200	1,230	934	1,050
8	1,050	1,930	1,690	2,020	2,220	2,140	2,200	4,290	2,120	1,210	942	1,010
9	1,030	1,600	1,580	1,950	2,160	2,120	2,360	4,030	1,920	1,190	942	1,010
10	1,020	1,620	1,510	1,890	2,690	2,110	3,780	3,460	1,780	1,170	966	982
11	1,010	1,590	1,440	1,830	7,100	2,110	2,810	3,310	1,640	1,130	934	1,010
12	998	1,730	1,360	1,830	7,870	2,060	2,420	3,180	1,580	1,110	926	1,040
13	1,050	1,760	1,280	1,830	5,220	2,060	2,290	3,100	1,520	1,120	950	1,030
14	974	1,590	1,210	2,150	4,150	2,020	2,260	3,610	1,470	1,100	942	1,010
15	962	1,530	1,230	2,780	3,620	1,970	2,140	3,030	1,450	1,070	918	1,010
16	998	1,440	1,380	2,710	3,240	1,930	2,160	2,680	1,400	1,070	895	966
17	1,010	1,390	1,410	3,480	3,000	1,900	2,190	2,580	1,510	1,050	910	966
18	974	1,360	1,960	3,620	2,790	1,940	2,140	2,680	1,660	1,080	934	950
19	982	1,340	2,720	6,160	2,650	1,920	2,060	2,550	1,960	1,030	950	966
20	950	1,290	2,820	4,430	2,500	1,930	1,960	2,340	1,880	1,030	966	1,030
21	1,080	1,340	4,520	3,700	2,360	1,820	1,920	2,210	1,710	982	958	1,050
22	1,050	1,290	3,240	3,670	2,280	1,790	1,840	2,110	1,620	990	958	1,030
23	1,040	1,250	2,690	3,590	2,250	1,780	1,800	2,060	1,600	974	918	1,010
24	1,130	1,300	3,100	4,900	2,720	1,750	1,760	2,170	1,570	998	918	990
25	1,370	1,860	4,830	7,440	2,670	1,680	1,780	2,100	1,620	982	942	966
26	1,180	1,740	5,350	9,360	2,420	1,680	1,790	1,960	1,810	966	942	950
27	1,130	1,570	9,380	5,540	2,320	1,680	1,790	1,840	2,520	1,010	982	934
28	1,060	1,600	4,900	4,200	2,260	1,700	1,840	1,810	2,140	1,060	990	926
29	1,190	1,730	3,590	3,500	-	1,730	1,840	2,020	1,930	1,010	934	926
30	1,330	3,450	3,000	3,070	-	1,720	1,970	1,950	1,810	974	958	926
31	1,410	-	2,680	2,810	-	1,790	-	2,010	-	950	950	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	33,698	1,410	974	1,087	66,840
November.....	49,830	3,450	1,250	1,661	98,840
December.....	82,950	9,380	1,210	2,676	164,500
Calendar year 1940.....	909,788	15,200	812	2,486	1,804,000
January.....	103,610	9,360	1,830	3,342	205,500
February.....	86,610	7,870	2,160	3,093	171,800
March.....	61,970	2,520	1,680	1,999	122,900
April.....	63,340	3,780	1,760	2,111	125,600
May.....	81,780	4,290	1,810	2,638	162,200
June.....	53,180	2,520	1,400	1,773	105,500
July.....	35,178	1,650	950	1,135	69,770
August.....	28,233	990	895	945	58,080
September.....	30,954	1,570	928	1,032	61,400
Water year 1940-41.....	712,381	9,380	895	1,952	1,413,000

Peak discharge.- Dec. 27 (5:30 a.m.) 12,070 sec.-ft.; Jan. 25 (10:30 p.m.) 14,130 sec.-ft.; Feb. 12 (3:00 a.m.) 9,430 sec.-ft.

f Computed on basis of partly estimated gage-height record.

Rogue River at Grants Pass, Oreg.

Location.- Water-stage recorder, lat. 42°26', long. 123°19', in NW¼ sec. 20, T. 36 S., R. 5 W., at filter plant 0.6 mile east of Pacific Highway bridge at Grants Pass.
Datum of gage is 888.28 feet above mean sea level, datum of 1929.

Records available.- January 1939 to September 1941.

Extremes.- Maximum discharge during year, 18,100 second-feet Jan. 26 (gage height, 9.60 feet); minimum, 704 second-feet (regulated) Oct. 9 (gage height, 0.53 feet); minimum daily, 820 second-feet Aug. 3, 4, 6-8.

1939-41: Maximum discharge, 29,700 second-feet Feb. 26, 1940 (gage height, 13.4 feet); minimum, 560 second-feet (revised), regulated, Aug. 8, 1940 (gage height, 0.30 foot); minimum daily, 637 second-feet Aug. 8, 1940.

Remarks.- Records excellent except those for periods of no gage-height records, which are good. Many diversions from Rogue River and tributaries above station, the largest of which is at Savage Rapids Dam of Grants Pass Irrigation District, 5 miles upstream. Flow regulated slightly by Fish Lake and Emigrant Gap Reservoirs and by pools above dams at Raygold and Savage Rapids.

Cooperation.- Water-stage recorder inspected by employees of Grants Pass Water Department.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.7	820	2.6	2,880	5.0	6,880
1.0	1,060	3.0	3,450	6.0	8,980
1.4	1,480	3.5	4,210	7.0	11,300
1.8	1,890	4.0	5,030	8.0	13,800
2.2	2,370	4.5	5,910		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,400	1,800	2,880	2,710	3,360	2,590	1,890	1,870	2,240	1,640	854	1,130
2	1,450	2,320	2,930	2,410	3,750	2,720	1,950	1,890	2,110	1,460	827	1,380
3	1,280	2,410	2,060	2,260	3,300	2,680	1,960	2,190	1,960	1,360	820	1,810
4	1,180	1,850	1,890	2,250	3,030	2,580	2,010	2,630	1,870	1,320	820	1,660
5	1,160	1,620	1,850	2,500	2,850	2,540	2,680	3,190	1,780	1,240	827	1,330
6	1,150	1,580	2,060	2,600	2,720	2,480	2,720	3,480	1,760	1,180	820	1,190
7	1,110	1,680	2,000	2,500	2,700	2,380	2,440	3,030	2,210	1,120	820	1,140
8	1,100	2,070	1,820	2,370	2,650	2,300	2,440	3,920	2,350	1,100	820	1,080
9	1,060	2,130	1,710	2,250	2,570	2,270	2,410	4,080	2,030	1,060	890	1,050
10	1,050	2,110	1,650	2,170	3,200	2,260	3,920	3,440	1,940	1,040	890	1,020
11	1,080	1,800	1,580	2,090	8,650	2,260	3,060	3,170	1,670	1,020	883	1,040
12	1,040	1,790	1,470	2,060	10,000	2,230	2,650	3,160	1,540	979	876	1,060
13	1,060	1,980	1,380	2,080	6,530	2,210	2,440	3,060	1,520	979	883	1,090
14	1,040	1,800	1,270	2,250	5,060	2,170	2,320	3,510	1,460	962	876	1,080
15	1,060	1,670	1,320	2,220	4,350	2,090	2,240	3,090	1,430	954	855	1,080
16	1,070	1,620	1,400	3,300	3,870	2,050	2,240	2,680	1,410	938	855	1,050
17	1,080	1,530	1,530	3,990	3,520	2,000	2,200	2,580	1,540	922	855	1,060
18	1,040	1,480	1,780	4,610	3,320	2,030	2,180	2,700	1,670	922	869	1,040
19	1,040	1,480	3,220	8,140	3,130	2,070	2,080	2,570	2,080	906	890	1,060
20	1,010	1,420	3,480	5,730	2,890	2,070	1,960	2,370	1,990	898	922	1,030
21	1,100	1,440	5,550	4,630	2,750	1,960	1,880	2,210	1,840	863	930	1,200
22	1,190	1,440	3,860	4,420	2,620	1,910	1,790	2,080	1,720	869	938	1,140
23	1,120	1,390	3,080	4,480	2,560	1,890	1,720	2,050	1,670	848	906	1,130
24	1,200	1,430	3,690	6,690	2,910	1,870	1,680	2,120	1,660	827	898	1,090
25	1,520	1,870	5,860	9,370	3,010	1,820	1,670	2,170	1,680	834	938	1,060
26	1,410	2,000	6,970	13,000	2,710	1,790	1,700	2,010	1,840	841	962	1,030
27	1,250	1,770	12,400	7,250	2,570	1,760	1,670	1,810	2,320	862	997	997
28	1,210	1,700	6,290	5,340	2,520	1,740	1,680	1,910	1,320	814	1,060	970
29	1,290	1,810	4,320	4,340	-	1,560	1,760	2,140	2,010	853	997	962
30	1,450	3,220	3,480	3,780	-	1,600	1,870	2,140	1,810	862	1,040	962
31	1,540	-	3,100	3,400	-	1,790	-	2,180	-	841	1,040	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	36,700	1,540	1,010	1,184	72,790
November.....	54,220	3,220	1,590	1,807	107,500
December.....	97,260	12,400	1,270	3,137	192,900
Calendar year 1940.....	1,011,480	19,600	637	2,764	2,006,000
January.....	128,640	13,000	2,060	4,150	255,200
February.....	103,030	10,000	2,520	3,680	204,400
March.....	65,670	2,720	1,560	2,118	130,300
April.....	55,210	3,820	1,870	2,174	129,300
May.....	81,520	4,080	1,870	2,630	161,700
June.....	55,530	2,520	1,410	1,851	110,100
July.....	31,464	1,640	827	1,015	62,410
August.....	27,838	1,060	820	898	55,220
September.....	34,021	1,810	962	1,134	67,480
Water year 1940-41.....	781,103	13,000	820	2,140	1,549,000

Peak discharge.- Dec. 27 (7 a.m.) 15,500 sec.-ft.; Jan. 26 (1:30 a.m.) 18,100 sec.-ft.

a No gage-height record; discharge computed on basis of records for Rogue River at Raygold, near Central Point.

f Computed on basis of partly estimated gage-height record.

Reservoirs in Rogue River Basin, Oreg.

Fish Lake Reservoir.— Staff gage, lat. 42°23', long. 122°21', in SW¼ sec. 3, T. 37 S., R. 4 E., at reservoir outlet, 18 miles east of Lake Creek. Datum of gage is at mean sea level (irrigation district datum). Drainage area, 17 square miles. Records available, December 1915 to September 1941. Maximum contents observed during year, 6,627 acre-feet July 8 (elevation, 4,823.74 feet); minimum observed, 740 acre-feet Sept. 1 (elevation, 4,805.19 feet). Maximum contents observed during period 1915-41, 7,975 acre-feet June 20, 1938 (elevation, 4,827.09 feet); no usable contents at times.

Reservoir is formed by rock-faced earth dam, completed in fall of 1915; storage began in November 1915. Capacity, 7,527 acre-feet between elevations 4,799 feet (bottom of outlet tunnel) and 4,826 feet (spillway channel, incomplete). Water is diverted during summer from Fourmile Lake in Klamath River Basin through Cascade Canal into Fish Lake. Water is used to irrigate lands near Medford. Gage read once daily by employee of Medford Irrigation District.

Emigrant Gap Reservoir.— Staff gage, lat. 42°10', long. 122°36', in SE¼ sec. 20, T. 39 S., R. 2 E., at Emigrant Gap Dam of Talent Irrigation District, on Emigrant Creek, 6 miles southeast of Ashland. Datum of gage is at mean sea level (levels by Talent Irrigation District). Records available, December 1924 to September 1941. Maximum contents observed during year, 8,342 acre-feet Feb. 11 (elevation, 2,173.5 feet); minimum observed 351 acre-feet Oct. 1 (elevation, 2,099.0 feet). Maximum contents during period 1924-41, 8,748 acre-feet Feb. 20, 1927 (elevation, 2,175.2 feet); no usable contents at times.

Reservoir is formed by concrete arch dam, completed in 1924 by Talent Irrigation District; storage began in December 1924. Capacity, 8,342 acre-feet between elevation 2,070 feet (16-inch sluice pipe) and 2,173.5 feet (crest of spillway). Dead storage negligible. Water is used for irrigation of lands near Talent. Gage read one to five times weekly by employee of Talent Irrigation District.

Monthly elevation and contents, water year October 1940 to September 1941

Date	Fish Lake Reservoir			Emigrant Gap Reservoir		
	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	4,805.20	742	-	-	a340	-
Oct. 31.....	4,808.90	1,675	+933	-	a460	+120
Nov. 30.....	4,811.60	2,452	+777	-	a950	+490
Dec. 31.....	-	a2,962	+510	-	a4,495	+3,545
Calendar year 1940	-	-	-593	-	-	+2,435
Jan. 31.....	-	a3,334	+372	2,168.8	7,285	+2,790
Feb. 28.....	4,815.20	3,575	+241	2,171.7	7,926	+641
Mar. 31.....	4,815.88	3,799	+224	2,172.6	8,132	+206
Apr. 30.....	-	a3,994	+195	-	a8,227	+95
May 31.....	4,817.96	4,504	+510	2,172.15	8,028	-199
June 30.....	4,822.90	6,302	+1,798	2,173.00	8,224	+196
July 31.....	4,813.95	3,174	-3,128	-	a4,806	-3,418
Aug. 31.....	4,805.35	776	-2,398	-	a2,348	-2,458
Sept. 30.....	4,807.54	1,313	+537	-	a1,518	-830
Water year 1940-41	-	-	+571	-	-	+1,178

† Hour of gage reading not known.

a Interpolated.

South Fork of Rogue River above Imnaha Creek, near Prospect, Oreg.

Location.- Water-stage recorder, lat. 42°42', long. 122°27', in NE¼ sec. 18, T. 33 S., R. 4 E., 300 yards upstream from Imnaha Creek, 400 yards upstream from South Fork diversion dam, and 6 miles southeast of Prospect.

Drainage area.- 52 square miles.

Records available.- October 1931 to September 1941.

Average discharge.- 10 years, 119 second-feet.

Extremes.- Maximum discharge during year, 528 second-feet May 8 (gage height, 3.38 feet); minimum, 38 second-feet Oct. 12-18 (gage height, 0.96 foot).

1931-41: Maximum discharge, 1,140 second-feet Dec. 3, 1938 (gage height, 4.52 feet); minimum, 27 second-feet Oct. 1-21, 1931.

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

Cooperation.- Water-stage recorder graph furnished by The California Oregon Power Co.

Rating table, water year 1940-41, except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.9	34	1.6	109	2.5	275
1.1	49	1.9	157	2.8	350
1.3	69	2.2	215	3.2	465

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	121	142	71	98	110	94	120	127	91	56	50
2	44	97	114	70	98	110	91	126	120	89	56	70
3	44	81	98	70	96	104	89	197	112	88	56	60
4	44	69	91	69	91	98	86	197	106	86	55	53
5	43	65	102	69	90	97	86	276	104	84	54	51
6	41	66	121	68	91	94	86	253	124	81	54	49
7	41	81	98	67	90	93	89	229	145	80	54	48
8	40	91	90	67	88	94	89	465	124	79	54	48
9	40	77	84	67	86	94	93	312	114	76	54	47
10	39	70	77	67	109	94	97	243	106	75	53	47
11	39	67	74	66	142	96	93	239	103	73	52	47
12	38	79	69	65	135	96	90	235	98	71	52	47
13	38	76	668	64	126	96	89	227	97	70	52	47
14	38	71	668	68	121	94	89	235	93	69	51	46
15	38	67	65	67	115	91	91	199	91	69	49	45
16	38	65	64	68	110	90	90	177	90	69	49	44
17	38	64	61	70	108	90	89	175	91	69	49	44
18	38	65	67	84	104	91	86	171	126	67	52	44
19	39	61	66	103	102	90	85	162	124	66	51	44
20	40	60	69	97	98	88	84	152	112	65	50	44
21	43	59	88	91	97	88	84	145	103	64	49	44
22	42	57	85	90	96	86	85	143	98	62	47	43
23	42	56	81	96	96	88	86	143	96	61	47	43
24	51	69	84	91	108	85	93	139	93	61	47	43
25	50	88	84	116	98	84	98	132	98	60	47	42
26	46	75	86	142	96	84	100	126	112	59	48	42
27	45	70	104	121	94	85	106	118	120	60	48	42
28	a47	77	91	112	100	86	112	122	109	60	47	42
29	a52	121	85	108	-	88	116	142	100	59	47	42
30	a55	215	81	100	-	89	118	158	97	57	47	41
31	a75	-	76	97	-	90	-	130	-	56	47	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				1,353	75	38	44.0	0.845	0.97	2,700		
November.....				2,390	215	56	79.3	1.52	1.70	4,720		
December.....				2,633	142	61	84.9	1.63	1.88	5,220		
Calendar year 1940.....				34,184	315	38	93.4	1.80	24.43	67,800		
January.....				2,592	142	64	83.6	1.61	1.85	5,140		
February.....				2,823	142	56	103	1.95	2.06	5,720		
March.....				2,863	110	84	92.4	1.78	2.05	5,680		
April.....				2,754	118	84	92.8	1.78	1.99	5,520		
May.....				5,867	465	118	189	3.65	4.20	11,640		
June.....				3,233	145	90	108	2.08	2.31	6,410		
July.....				2,176	91	56	70.2	1.35	1.56	4,320		
August.....				1,574	56	47	50.8	.977	1.13	3,120		
September.....				1,399	70	41	46.6	.896	1.00	2,770		
Water year 1940-41.....				31,747	465	38	87.0	1.67	22.70	62,960		

a No gage height record; discharge computed on basis of recorded range of stage and records for Middle Fork of Rogue River.

b Stage-discharge relation affected by ice.

c Computed on basis of partly estimated gage-height record.

Imnaha Creek near Prospect, Oreg.

Location.- Staff gage, lat. 42°42', long. 122°27', in NE¼ sec. 18, T. 33 S., R. 4 E., 400 yards upstream from mouth and 6 miles southeast of Prospect.

Drainage area.- 26 square miles.

Records available.- September 1931 to September 1941.

Average discharge.- 10 years, 38.8 second-feet.

Extremes.- Maximum discharge observed during year, 53 second-feet May 8 (gage height, 1.06 feet); minimum discharge, 16 second-feet Oct. 12-18.
1931-41: Maximum discharge observed, 237 second-feet Mar. 19, 1932 (gage height, 2.10 feet); minimum discharge, 11 second-feet Dec. 14, 1931 (gage height, 0.46 foot).

Remarks.- Records fair except those above about 20 second-feet, which are poor. Staff gage read once weekly; discharge for intervening days computed on basis of records for stations on South Fork of Rogue River and power canal. No diversion or regulation above station.

Cooperation.- Gage readings furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	30	32	27	46	41	31	h29	36	30	20	19
2	18	26	28	h26	48	41	30	31	35	30	20	25
3	h18	23	25	26	45	40	h29	40	34	h29	20	23
4	18	21	23	26	44	37	28	40	33	h29	19	21
5	18	20	h25	26	42	36	28	47	h32	29	19	20
6	17	20	29	25	h41	h35	28	45	38	28	19	19
7	17	h22	26	25	41	35	28	44	42	28	h19	19
8	17	25	24	25	40	35	28	h53	37	27	19	19
9	17	23	23	h24	40	35	29	49	h55	27	19	19
10	h17	21	22	24	46	35	h29	44	34	h25	19	19
11	17	20	22	24	52	35	h29	44	33	25	19	h19
12	16	23	h21	23	52	34	28	44	h32	24	19	19
13	16	21	21	22	h52	h33	28	43	31	24	19	19
14	16	h20	21	24	50	32	28	43	30	23	h18	19
15	16	20	21	23	48	31	28	h41	29	23	18	18
16	16	19	20	h24	46	30	28	40	28	23	18	18
17	h16	19	20	26	45	30	h28	40	28	h23	18	18
18	16	19	21	33	44	31	27	39	33	23	19	h18
19	17	18	h22	43	44	30	27	38	h32	22	h19	18
20	18	18	23	h42	h43	h30	27	37	31	22	19	18
21	19	h18	29	41	43	30	27	37	30	22	h19	18
22	18	18	27	40	43	30	27	h37	30	21	18	18
23	19	18	27	h40	45	30	27	36	29	21	18	18
24	21	21	28	40	43	29	h27	35	29	h21	18	18
25	20	23	29	45	41	29	28	35	30	21	18	h18
26	19	21	h29	52	40	29	28	34	h31	21	18	18
27	18	20	32	50	h39	h29	29	34	35	21	18	18
28	18	h20	30	49	40	29	29	35	32	21	h18	18
29	19	27	29	48	-	29	29	h38	31	20	18	18
30	19	40	29	h47	-	29	29	38	31	20	18	18
31	h20	-	28	46	-	30	-	37	-	h20	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	550	21	16	17.7	0.681	0.79	1,090
November.....	654	40	18	21.5	.538	.94	1,300
December.....	786	32	20	25.4	.977	1.12	1,560
Calendar year 1940.....	11,867	90	16	32.4	1.25	16.98	23,540
January.....	1,036	52	22	33.4	1.28	1.48	2,050
February.....	1,241	52	39	44.3	1.70	1.78	2,460
March.....	1,008	41	29	32.5	1.25	1.44	2,000
April.....	846	31	27	28.2	1.08	1.21	1,680
May.....	1,227	53	29	39.6	1.52	1.76	2,430
June.....	971	42	28	32.4	1.25	1.39	1,930
July.....	743	30	20	24.0	.923	1.06	1,470
August.....	578	20	18	18.6	.715	.83	1,150
September.....	567	25	18	18.9	.727	.81	1,120
Water year 1940-41.....	10,208	53	16	28.0	1.08	14.61	20,240

h Gage read on this day.

South Fork power canal near Prospect, Oreg.

Location.- Water-stage recorder, lat. 42°43', long. 122°24', in E½ sec. 12, T. 33 S., R. 3 E., 1 mile downstream from head gate at diversion dam and 5 miles southeast of Prospect. Datum of gage is 3,357 feet above mean sea level (levels by The California Oregon Power Co.).

Records available.- April 1932 to September 1941.

Extremes.- Maximum discharge during year, 159 second-feet May 8 (gage height, 3.40 feet); minimum, 3 second-feet Jan. 25, Feb. 16.

1932-41: Maximum discharge, 175 second-feet May 31, June 17, 1933, Feb. 6, 1940; no flow at times.

Remarks.- Records good. This canal, completed in March 1932, diverts water from South Fork of Rogue River 200 feet below mouth of Imnaha Creek for use at power plant in W½ sec. 1, T. 33 S., R. 3 E., from which water may be wasted into Middle Fork of Rogue River or mingled with flow of other diversions in Main power canal.

Cooperation.- Water-stage recorder graph furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	103	122	95	138	145	123	147	149	115	74	63
2	52	105	119	92	136	146	120	150	146	112	73	82
3	52	94	117	91	132	139	116	157	139	110	72	79
4	51	81	109	89	127	132	113	156	130	108	73	68
5	50	77	121	90	126	131	115	157	127	104	72	65
6	49	77	139	87	127	128	112	154	139	102	71	62
7	48	99	120	86	124	126	119	155	144	100	70	62
8	48	106	108	86	120	127	116	158	141	97	71	60
9	48	92	100	86	121	126	127	153	139	96	75	59
10	48	83	95	84	137	127	129	150	135	94	70	61
11	48	82	89	83	147	126	123	149	128	92	70	62
12	47	97	84	82	147	127	116	150	125	91	70	61
13	46	93	80	82	147	127	115	153	120	89	68	59
14	46	88	79	89	146	123	117	154	117	87	68	58
15	46	84	78	87	146	119	121	154	114	86	67	58
16	46	81	77	89	136	118	118	154	116	86	66	57
17	46	80	76	96	145	119	116	154	117	86	66	56
18	46	81	86	115	144	122	112	154	139	84	69	56
19	46	77	84	134	141	121	110	152	143	84	67	57
20	49	77	87	134	136	116	109	152	136	82	66	59
21	53	73	112	130	132	113	109	151	128	82	67	57
22	50	71	106	128	128	112	111	151	121	80	64	56
23	51	70	102	128	133	112	113	150	118	80	62	55
24	67	87	107	132	143	108	121	149	118	80	62	53
25	64	105	106	140	136	107	128	148	125	79	63	53
26	56	90	112	149	132	108	129	146	133	80	64	52
27	56	86	131	148	130	108	135	145	143	80	64	52
28	59	94	120	147	136	112	141	149	132	80	61	52
29	67	114	112	146	-	116	145	151	124	77	60	51
30	79	122	107	143	-	114	146	151	118	76	60	50
31	84	-	100	137	-	121	-	150	-	75	59	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	1,650					84	46	53.2	3,270			
November.....	2,669					122	70	89.0	5,290			
December.....	3,185					139	76	103	6,320			
Calendar year 1940.....	30,236					158	0	82.6	59,990			
January.....	3,405					149	82	110	6,750			
February.....	3,793					147	120	135	7,520			
March.....	3,776					146	107	122	7,490			
April.....	3,624					146	109	121	7,190			
May.....	4,704					158	145	152	9,530			
June.....	3,903					149	114	130	7,740			
July.....	2,774					115	75	89.5	5,500			
August.....	2,084					75	59	67.2	4,130			
September.....	1,775					82	50	59.2	3,520			
Water year 1940-41.....	37,341					158	46	102	74,050			

Middle Fork of Rogue River near Prospect, Ore.

Location.- Water-stage recorder, lat. 42°44', long. 122°24', in NE¼ sec. 1, T. 33 S., R. 3 E., 1,000 feet downstream from diversion dam and intake of Middle Fork power canal and 4½ miles southeast of Prospect. Altitude of gage, 2,620 feet (river-profile map).

Drainage area.- 57 square miles.

Records available.- May 1925 to September 1941 (include flow of Middle Fork power canal).

Average discharge.- 16 years, 166 second-feet.

Extremes.- Maximum combined discharge of river and canal during year, 450 second-feet Nov. 29 (river gage height, 2.67 feet); minimum combined daily discharge, 94 second-feet Oct. 18, 19.

1925-41: Maximum discharge, 1,300 second-feet Mar. 19, 1932 (gage height, 4.55 feet, present datum); minimum, 72 second-feet Aug. 24 to Sept. 5, 1931.

Remarks.- Records good. Flow regulated since Nov. 19, 1931, by head gates at diversion dam of power canal which diverts water around station; practically no storage above diversion dam.

Cooperation.- Water-stage recorder graph furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	165	207	138	170	147	144	185	195	146	109	111
2	102	142	176	134	168	145	140	198	173	142	109	161
3	103	127	169	131	160	140	136	262	164	140	109	121
4	102	117	161	129	152	138	132	249	162	138	109	110
5	101	117	187	130	149	137	136	284	161	136	108	106
6	99	117	183	128	149	134	129	247	198	134	108	104
7	99	139	168	125	145	133	134	287	207	132	108	101
8	99	134	147	125	140	133	130	368	183	130	109	102
9	99	128	138	125	139	134	142	300	167	128	109	102
10	98	121	132	124	166	135	143	279	160	127	109	104
11	98	121	126	123	186	135	136	297	182	125	108	106
12	98	130	121	122	184	136	133	296	167	124	108	104
13	98	122	120	122	179	137	133	265	167	122	106	103
14	97	120	119	132	179	133	138	249	162	121	106	102
15	97	117	118	128	174	133	148	225	155	118	106	101
16	97	117	118	132	167	134	144	215	154	118	105	101
17	96	117	117	161	165	137	140	219	152	118	105	100
18	94	117	135	173	162	137	136	206	200	117	106	101
19	94	113	127	197	168	134	127	195	182	116	105	101
20	98	114	146	185	153	131	130	192	167	115	106	104
21	102	112	201	178	146	127	129	198	155	114	105	102
22	97	109	169	177	139	129	141	213	149	114	104	100
23	99	109	153	174	143	127	143	223	149	114	104	99
24	134	136	162	176	151	126	154	228	149	113	105	98
25	115	139	152	206	143	126	160	215	160	113	105	98
26	106	125	170	210	139	128	160	208	197	114	108	98
27	104	127	190	195	138	130	174	194	181	115	107	98
28	108	143	171	186	141	135	181	200	165	116	105	98
29	120	264	160	180	-	137	181	201	165	113	104	97
30	123	273	151	174	-	137	181	192	148	110	105	97
31	139	-	143	169	-	145	-	191	-	109	104	-
Month				Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off			
									Inches	Acres-feet		
October.....				3,219	139	94	104	1.82	2.10	6,380		
November.....				4,034	273	109	134	2.35	2.63	8,000		
December.....				4,697	207	117	152	2.67	3.08	9,320		
Calendar year 1940.....				56,389	335	94	154	2.70	36.79	111,800		
January.....				4,781	210	122	154	2.70	3.12	9,480		
February.....				4,384	186	138	157	2.75	2.98	8,700		
March.....				4,189	147	125	134	2.35	2.72	8,270		
April.....				4,355	131	127	144	2.53	2.93	8,600		
May.....				7,258	368	165	234	4.11	4.74	14,400		
June.....				5,036	207	148	168	2.95	3.29	9,990		
July.....				3,792	146	109	122	2.14	2.47	7,520		
August.....				3,300	109	104	106	1.86	2.15	6,550		
September.....				3,120	151	97	104	1.82	2.04	6,190		
Water year 1940-41.....				52,125	368	94	143	2.51	34.01	103,400		

Note.- No gage-height record for river station Oct. 16, June 23-26, July 8, 9, or for canal station Jan. 17-18; discharge computed on basis of records for South Fork of Rogue River near Prospect, Main power canal below all feeders, near Prospect, and weather records.

Middle Fork power canal near Prospect, Oreg.

Location.- Water-stage recorder, lat. 42°44', long. 122°24', in NE¼ sec. 1, T. 33 S., R. 3 E., 1,000 feet downstream from head gate at diversion dam and 4½ miles southeast of Prospect. Datum of gage is about 2,632 feet above mean sea level (levels by The California Oregon Power Co.).

Records available.- November 1931 to September 1941.

Extremes.- Maximum discharge during year, 166 second-feet June 18 (gage height, 3.19 feet); minimum, 0.5 second-foot May 9.
1931-41: Maximum discharge, 196 second-feet Feb. 3, 1935 (gage height, 3.50 feet); no flow at times.

Remarks.- Records excellent. This canal, completed in November 1931, diverts water from Middle Fork of Rogue River into Main power canal to supplement flow of Rogue River above Prospect diversion dam.

Cooperation.- Gage-height record furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	102	125	140	135	104	136	137	129	127	143	108	108
2	101	133	148	132	104	136	136	130	138	140	108	118
3	102	126	147	129	111	135	133	132	148	138	108	116
4	101	116	146	127	124	134	130	132	154	136	108	109
5	100	116	149	128	124	134	133	133	154	132	107	106
6	98	116	149	126	124	132	126	50	154	131	107	104
7	98	128	151	124	123	131	129	.7	148	129	107	100
8	98	129	146	124	122	131	126	.6	148	128	105	100
9	98	125	137	124	122	132	128	.5	147	126	108	100
10	97	119	131	123	113	133	120	32	147	126	108	101
11	97	119	125	122	93	133	119	98	153	124	107	103
12	97	127	120	121	93	134	119	128	160	123	107	101
13	97	120	119	121	93	135	122	128	160	121	104	100
14	96	118	118	129	93	131	128	128	166	120	104	99
15	96	116	117	126	93	131	124	127	160	117	104	99
16	96	116	117	129	93	133	108	127	149	116	104	99
17	95	116	116	a146	101	135	108	127	148	116	104	96
18	93	116	126	a127	110	135	116	127	147	115	106	99
19	93	112	124	104	110	133	123	127	128	114	104	99
20	96	112	128	104	110	130	125	127	127	113	104	101
21	100	111	137	104	122	126	105	127	138	113	104	100
22	96	108	142	104	137	128	106	127	144	113	103	98
23	98	108	148	104	132	126	127	126	143	113	103	97
24	114	126	147	104	121	125	128	126	143	112	104	96
25	112	132	148	104	120	124	128	126	149	112	104	97
26	105	123	144	104	126	126	128	127	147	113	107	96
27	103	124	136	104	134	128	128	126	127	114	106	97
28	106	136	136	104	135	132	128	126	126	114	104	96
29	116	144	136	104	-	134	128	127	140	112	103	96
30	117	135	139	104	-	134	129	127	145	109	104	96
31	121	-	139	104	-	137	-	127	-	108	103	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				3,138		121	93	101	6,220			
November.....				3,652		144	108	122	7,240			
December.....				4,206		151	116	136	8,540			
Calendar year 1940.....				43,915.8		155	.5	120	87,080			
January.....				3,645		146	104	118	7,230			
February.....				3,187		137	93	114	6,520			
March.....				4,084		137	124	132	8,100			
April.....				3,725		137	105	124	7,590			
May.....				3,375.8		133	.5	109	6,700			
June.....				4,345		160	126	145	8,620			
July.....				3,741		143	108	121	7,420			
August.....				3,269		103	103	105	6,480			
September.....				3,029		118	96	101	6,010			
Water year 1940-41.....				43,396.8		160	.5	119	86,070			

a No gage-height record; discharge computed on basis of records for South Fork power canal, Red Blanket Creek power canal, and Main power canal below all feeders, near Prospect, Oreg.

Red Blanket Creek near Prospect, Oreg.

Location.- Staff gage, lat. 42°47', long. 122°26', in NE¼ sec. 23, T. 32 S., R. 3 E., 3 miles northeast of Prospect.

Drainage area.- 40 square miles.

Records available.- May 1925 to September 1941. Prior to October 1928, in NE¼ sec. 34, T. 32 S., R. 3 E.

Average discharge.- 16 years, 98.8 second-feet.

Extremes.- Maximum daily discharge during year, 190 second-feet May 8; minimum daily, 47 second-feet Oct. 15-18.

1925-41: Maximum discharge observed, 1,200 second-feet Mar. 11, 1928; minimum observed, 34 second-feet Sept. 3, 4, 25, Oct. 9, 16, 1931.

Remarks.- Records fair for days when gage was read, poor for other periods. One diversion above station for irrigation. Gage read once weekly; discharge for intervening days computed on basis of records for South Fork of Rogue River near Prospect and Red Blanket power canal.

Cooperation.- Gage readings furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	h96	120	86	99	88	85	92	113	86	h80	64
2	51	91	100	82	98	89	86	h94	108	84	59	86
3	52	80	92	h80	97	88	85	110	104	82	58	74
4	h51	70	88	80	94	86	h85	110	101	h79	57	65
5	50	66	90	80	91	85	87	140	99	75	56	h61
6	49	68	h93	79	91	82	84	135	h101	77	55	61
7	49	76	87	75	h90	h79	85	130	115	75	56	60
8	49	h83	82	77	89	79	84	190	105	74	h56	59
9	49	76	77	76	88	80	86	h176	97	73	56	58
10	49	72	74	h76	108	80	87	165	h92	72	55	58
11	h49	70	70	76	125	81	h83	160	91	h71	55	60
12	48	74	68	76	120	83	80	160	90	69	56	h61
13	48	h70	h66	77	114	83	78	158	h90	68	55	59
14	48	68	65	84	h110	h81	79	160	88	67	55	57
15	48	h66	65	86	103	81	80	150	86	66	h55	56
16	47	65	64	h88	97	80	78	h141	86	65	54	54
17	47	65	64	h107	94	81	77	139	88	65	53	52
18	h47	65	85	121	92	82	h75	137	106	h64	52	53
19	48	63	82	140	89	80	75	135	104	63	52	h53
20	50	62	h85	134	87	78	74	133	h95	63	52	55
21	54	60	92	125	h85	h75	74	131	92	62	52	53
22	50	h59	86	117	84	75	74	131	89	62	h52	52
23	50	59	91	118	84	77	76	h131	86	61	52	51
24	64	76	90	h118	90	76	78	124	85	61	52	51
25	h57	85	88	132	88	76	h79	118	89	h61	54	50
26	54	74	92	150	85	76	82	112	94	60	56	h50
27	52	72	h136	130	84	76	84	107	h100	62	56	50
28	54	78	114	117	h84	h79	86	110	95	61	54	50
29	66	h120	102	110	-	81	88	120	91	61	h52	50
30	68	165	94	104	-	82	90	h119	89	60	52	49
31	78	-	90	h99	-	83	-	117	-	60	53	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acres-feet
October.....	1,628	78	47	52.5	1.31	1.51	3,230
November.....	2,294	165	59	76.5	1.91	2.13	4,550
December.....	2,690	136	64	86.8	2.17	2.50	5,340
Calendar year 1940.....	31,670	210	44	86.5	2.16	29.43	62,820
January.....	3,103	150	76	100	2.50	2.89	6,150
February.....	2,660	125	84	95.0	2.38	2.47	5,280
March.....	2,502	89	75	80.7	2.02	2.33	4,960
April.....	2,445	90	74	81.5	2.04	2.27	4,850
May.....	4,135	190	92	133	3.32	3.84	8,200
June.....	2,869	118	85	95.6	2.39	2.67	5,690
July.....	2,112	86	60	68.1	1.70	1.96	4,190
August.....	1,691	60	52	54.5	1.56	1.57	3,350
September.....	1,712	86	49	57.1	1.43	1.59	3,400
Water year 1940-41.....	29,841	190	47	81.8	2.04	27.73	59,190

h Gage read on this day.

Red Blanket power canal near Prospect, Oreg.

Location.- Water-stage recorder, lat. 42°45', long. 122°27', in SE¼ sec. 27, T. 32 S., R. 3 E., 200 yards downstream from head gate and diversion dam and 2 miles east of Prospect. Datum of gage is 2,612 feet above mean sea level (surveys of The California Oregon Power Co.).

Records available.- November 1931 to September 1941.

Extremes.- Maximum discharge during year, 101 second-feet Dec. 21 (gage height, 3.22 feet); minimum, 44 second-feet Aug. 23.

1931-41: Maximum discharge, 116 second-feet Nov. 6, 1932; no flow for part of day Sept. 24, 25, 1932.

Remarks.- Records excellent. This canal, completed in October 1932, diverts water from Red Blanket Creek into Main power canal to supplement flow of Rogue River above Prospect diversion dam.

Cooperation.- Water-stage recorder graph furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	89	89	88	90	87	82	91	84	79	54	52
2	54	87	89	84	89	87	83	93	88	77	54	80
3	56	77	88	83	91	87	82	85	92	76	54	71
4	54	68	84	82	92	87	82	85	91	75	54	59
5	53	67	88	83	91	86	85	85	92	74	54	57
6	52	71	93	80	91	84	82	85	94	73	53	56
7	52	79	88	79	91	83	84	85	96	70	53	56
8	52	85	81	78	89	82	82	85	94	69	54	54
9	52	78	78	78	88	83	86	85	92	69	55	54
10	51	71	75	78	92	83	88	85	89	67	54	54
11	51	70	72	77	92	84	86	85	88	67	53	56
12	50	74	70	77	90	85	80	85	88	64	54	56
13	50	71	68	79	90	85	77	85	86	62	53	54
14	50	68	67	88	90	85	78	85	84	61	50	53
15	50	67	67	88	89	83	80	85	82	61	50	49
16	50	67	66	89	89	82	80	84	82	62	49	48
17	50	67	66	95	89	83	79	85	83	63	50	48
18	50	67	82	90	89	85	77	85	92	61	50	50
19	50	64	61	80	88	82	76	84	91	59	50	50
20	52	64	82	85	89	82	74	84	89	58	50	52
21	58	63	75	90	88	79	74	84	85	58	48	50
22	52	61	82	90	86	79	74	84	82	57	48	50
23	52	60	68	90	83	79	76	85	82	57	48	48
24	69	74	88	91	84	77	80	85	81	56	48	48
25	62	80	87	92	86	76	82	85	84	56	49	48
26	56	71	87	91	85	76	82	84	89	57	50	48
27	54	70	87	91	86	76	85	84	94	59	50	48
28	58	75	86	90	86	79	88	84	88	56	48	48
29	70	88	91	90	-	80	89	84	85	55	48	48
30	70	89	93	90	-	79	90	84	82	54	48	47
31	80	-	92	89	-	81	-	84	-	54	48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,714	80	50	55.3	3,400
November.....	2,182	89	60	72.7	4,330
December.....	2,527	93	66	81.5	5,010
Calendar year 1940.....	24,105	98	8	65.9	47,820
January.....	2,655	95	77	85.6	5,270
February.....	2,483	92	83	88.7	4,920
March.....	2,544	87	76	82.1	5,050
April.....	2,443	90	74	81.4	4,860
May.....	2,638	93	84	85.1	5,230
June.....	2,629	96	81	87.6	5,210
July.....	1,965	79	54	63.4	3,900
August.....	1,581	55	48	51.0	3,140
September.....	1,592	80	47	53.1	3,160
Water year 1940-41.....	26,953	96	47	73.8	53,470

Main power canal below all feeders, near Prospect, Oreg.

Location.- Water-stage recorder, lat. 42°45', long. 122°28', in SW¹/₄ sec. 28, T. 32 S., R. 3 E., 0.8 mile downstream from outlet of Red Blanket power canal, 1 mile east of Prospect, and 1.6 miles upstream from diversion dam on Rogue River. Datum of gage is 2,599.0 feet above mean sea level, datum of 1929.

Records available.- November 1931 to September 1941.

Extremes.- Maximum discharge during year, 403 second-feet June 6; maximum gage height, 4.25 feet Dec. 6; minimum discharge, 170 second-feet Oct. 1 (gage height, 2.58 feet). 1931-41: Maximum discharge, 423 second-feet June 22, 1936; no flow at times.

Remarks.- Records good. Main power canal, completed in November 1931, carries water diverted from South and Middle Forks of Rogue River and Red Blanket Creek into Rogue River above Prospect diversion dam.

Cooperation.- Water-stage recorder graph furnished by The California Oregon Power Co.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	208	327	363	325	337	346	361	378	371	339	240	223
2	208	334	370	314	336	346	369	385	383	330	238	284
3	212	304	365	309	339	337	348	376	380	325	240	265
4	207	271	349	303	353	329	339	376	368	317	238	235
5	202	262	344	308	348	325	342	375	365	309	240	229
6	200	271	312	300	349	319	332	293	397	304	240	223
7	196	316	355	298	348	312	344	241	401	300	236	216
8	197	336	336	298	339	337	337	241	394	293	241	212
9	196	308	319	300	339	353	354	242	390	268	247	209
10	194	284	305	296	353	353	348	270	383	284	240	215
11	194	284	285	292	341	354	336	339	380	280	236	222
12	193	316	271	288	337	356	319	376	378	276	235	219
13	192	303	265	292	337	359	319	378	375	271	230	214
14	192	290	262	317	334	349	327	378	364	266	225	211
15	191	280	259	316	329	342	329	378	354	265	222	205
16	191	274	258	317	322	341	308	376	353	265	219	205
17	189	274	256	346	337	342	304	376	354	266	219	204
18	189	274	300	341	346	348	308	376	380	262	222	205
19	189	264	295	324	346	342	316	376	366	268	219	209
20	196	262	300	330	342	334	312	376	356	256	218	215
21	212	256	211	330	351	329	290	375	353	254	218	211
22	196	252	207	329	363	327	290	378	349	253	212	205
23	198	250	215	329	358	327	320	378	342	253	208	202
24	252	300	220	334	358	320	336	376	344	262	208	201
25	241	332	218	344	353	317	346	375	359	250	212	200
26	218	300	221	353	351	317	348	375	370	253	215	198
27	212	292	228	351	358	325	356	371	364	258	218	196
28	222	320	218	349	354	336	363	371	349	256	209	194
29	254	364	215	346	-	348	371	371	349	250	208	194
30	266	361	215	341	-	346	375	370	348	244	209	193
31	292	-	285	336	-	356	-	370	-	241	209	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				8,501	292	189	210	12,890				
November.....				8,661	364	250	295	17,580				
December.....				8,614	370	207	278	17,090				
Calendar year 1940.....				96,402	394	0	263	191,200				
January.....				9,966	353	288	321	19,760				
February.....				9,658	363	322	345	19,160				
March.....				10,472	359	312	338	20,770				
April.....				10,037	375	290	335	19,910				
May.....				11,019	385	241	355	21,860				
June.....				11,059	401	342	369	21,940				
July.....				8,518	339	241	275	16,900				
August.....				6,971	247	208	225	15,830				
September.....				6,414	284	193	214	12,720				
Water year 1940-41.....				108,060	401	189	296	214,400				

South Fork of Big Butte Creek near Butte Falls, Oreg.

Location.- Water-stage recorder, lat. 42°32', long. 122°33', in SW⁴ sec. 11, T. 35 S., R. 2 E., just downstream from Ginger Creek and 1 mile east of Butte Falls.

Records available.- September 1910 to October 1911, August to October 1915, October 1917 to September 1922, March 1925 to September 1941. August 1922 to March 1925 at site at Butte Falls.

Average discharge.- 25 years (1910-11, 1917-41), 154 second-feet.

Extremes.- Maximum discharge during year, 294 second-feet Jan. 25 (gage height, 1.25 feet); minimum, 58 second-feet Aug. 14 (gage height, 0.47 foot).

1910-11, 1915, 1917-41: Maximum discharge, 2,470 second-feet Feb. 20, 1927 (gage height, 4.05 feet), from rating curve extended above 1,600 second-feet; minimum, 39 second-feet Oct. 14, 1931 (gage height, 0.32 foot).

Remarks.- Records good. Diversions above station for irrigation and, since 1927, for Medford municipal supply.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 7 to July 21)

0.4	46	0.7	105	1.0	194
.6	62	.8	132	1.2	271

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	103	96	105	132	110	78	82	105	96	61	67
2	69	121	89	100	132	110	80	87	100	96	61	74
3	71	103	87	98	116	110	78	108	94	96	60	72
4	71	91	84	96	110	108	76	116	91	91	60	69
5	69	84	87	103	108	105	84	138	89	91	63	67
6	67	80	87	98	110	103	82	147	100	89	61	65
7	67	91	80	96	110	98	91	153	113	87	60	65
8	67	91	78	91	103	98	84	229	108	87	61	65
9	65	103	78	89	103	96	103	215	103	87	60	65
10	65	98	74	89	132	91	121	188	98	82	60	65
11	65	91	72	87	215	91	108	172	96	82	60	67
12	65	98	69	87	237	91	105	156	96	80	60	67
13	65	91	67	87	208	91	100	172	89	76	61	67
14	65	87	65	91	188	91	98	191	87	76	60	65
15	65	82	69	98	175	87	94	168	87	74	60	63
16	65	82	72	100	156	87	94	156	87	71	61	63
17	65	78	72	110	144	84	98	159	87	71	61	63
18	65	78	94	113	141	84	96	162	110	71	61	63
19	65	74	94	144	135	87	103	153	108	67	61	63
20	65	78	96	138	121	87	87	144	100	67	61	65
21	67	78	116	132	116	82	87	135	98	67	61	65
22	67	76	108	141	113	82	87	127	91	65	63	63
23	67	74	110	135	116	80	87	121	91	65	61	63
24	72	80	127	135	135	78	82	116	91	65	61	63
25	72	87	144	191	127	78	82	110	94	65	61	63
26	71	82	147	233	118	78	80	105	100	65	61	63
27	71	82	198	194	113	76	80	105	113	67	61	61
28	71	82	162	172	113	76	78	108	103	65	61	61
29	76	89	144	153	-	78	80	116	98	63	61	61
30	78	103	132	141	-	78	82	113	96	63	61	61
31	84	-	118	132	-	78	-	113	-	61	61	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,128	84	65	68.6	4,220		
November.....						2,637	121	74	87.9	5,230		
December.....						3,116	198	65	101	6,180		
Calendar year 1940.....						42,455	431	60	116	84,190		
January.....						3,779	233	87	122	7,500		
February.....						3,827	237	103	137	7,590		
March.....						2,773	110	76	89.5	5,500		
April.....						2,685	121	76	89.5	5,330		
May.....						4,365	229	82	141	8,660		
June.....						2,923	113	87	97.4	5,800		
July.....						2,348	96	61	75.7	4,660		
August.....						1,886	63	60	60.8	3,740		
September.....						1,944	74	61	64.8	3,860		
Water year 1940-41.....						34,411	237	60	94.3	68,270		

South Fork of Little Butte Creek near Lake Creek, Oreg.

Location.- Water-stage recorder, lat. 42°25', long. 122°36', in SE $\frac{1}{4}$ sec. 29, T. 36 S., R. 2 E., a quarter of a mile upstream from intake of Rogue River Valley Canal and 1 $\frac{1}{2}$ miles southeast of Lake Creek post office.

Records available.- April 1921 to September 1941. November 1910 to April 1913 at site in sec. 11, T. 37 S., R. 2 E., 5 miles above Lake Creek.

Average discharge.- 21 years (1911-12, 1921-41), 91.1 second-feet.

Extremes.- Maximum discharge during year, 564 second-feet Feb. 11 (gage height, 2.98 feet); minimum, 13 second-feet Aug. 14 (gage height, 1.36 feet).
1910-13, 1921-41: Maximum discharge, 2,210 second-feet (previously published in error as 3,000 second-feet) Dec. 30, 1924 (gage height, 5.25 feet), from rating curve extended above 1,300 second-feet on basis of records for other stations in Little Butte Creek Basin; minimum, 2 second-feet Aug. 10, 1931 (gage height, 0.97 foot).

Remarks.- Records good except those for periods of no gage-height record, which are poor. Diversions above station for irrigation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 24 to Dec. 1, Jan. 8-24)

Oct. 1 to Dec. 1	Jan. 8 to Sept. 30
1.5 16	1.4 15
1.6 28	1.6 37
1.8 60	1.8 72
2.0 100	2.0 128
	2.2 198
	2.4 278
	2.8 465

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	32	64	62	88	169	80	104	80	85	18	18
2	22	70	56	54	82	152	82	115	70	77	18	29
3	24	68	51	54	75	135	77	152	64	70	15	28
4	22	48	46	56	70	135	88	145	58	66	16	21
5	20	37	44	62	70	138	88	155	54	58	15	19
6	18	36	45	58	77	122	77	152	104	48	15	18
7	18	46	45	58	72	113	90	173	240	44	15	17
8	18	58	44	58	70	107	62	351	180	42	16	16
9	18	79	41	58	75	104	162	248	148	38	16	16
10	17	66	39	54	104	101	206	206	122	36	16	16
11	17	53	38	52	351	98	155	180	104	33	15	17
12	17	81	36	49	351	95	135	162	90	31	15	17
13	17	64	35	52	232	93	122	169	82	31	15	16
14	17	50	35	64	187	90	110	293	80	27	14	18
15	17	42	35	56	169	85	128	176	72	26	14	15
16	17	37	36	52	152	82	135	145	77	25	14	16
17	18	34	41	52	138	82	145	148	80	27	14	16
18	18	38	51	58	135	82	138	173	166	26	16	17
19	18	31	48	88	122	82	131	155	142	24	16	17
20	20	31	52	77	113	85	126	135	113	23	16	19
21	23	31	58	75	107	80	119	116	93	22	14	20
22	21	27	52	75	104	77	113	104	80	22	14	18
23	22	27	60	75	116	77	113	93	80	21	14	18
24	27	32	94	72	191	68	110	85	77	20	15	17
25	30	45	90	135	152	66	110	80	90	21	15	16
26	24	38	96	187	131	64	107	77	169	22	15	16
27	26	34	140	135	122	66	104	68	180	21	14	17
28	25	42	110	110	142	62	101	77	138	22	14	16
29	22	43	68	98	-	66	107	90	116	20	14	14
30	21	73	85	90	-	68	107	85	98	20	14	14
31	21	-	75	85	-	80	-	88	-	19	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	658	30	17	20.6	1,270
November.....	1,393	81	27	48.4	2,760
December.....	1,830	140	35	59.0	3,630
Calendar year 1940.....	32,968.6	812	5.6	90.1	65,410
January.....	2,311	187	49	74.5	4,580
February.....	3,798	351	70	156	7,580
March.....	2,924	169	62	94.3	5,800
April.....	3,447	206	77	115	6,840
May.....	4,501	351	68	145	8,930
June.....	3,247	240	54	108	6,440
July.....	1,067	85	19	34.4	2,127
August.....	464	18	14	15.0	923
September.....	526	29	14	17.5	1,043
Water year 1940-41.....	26,146	351	14	71.6	51,863

Peak discharge.- Jan. 25 (4:30 p.m.) 268 sec.-ft.; Feb. 11 (10 p.m.) 564 sec.-ft.; Apr. 9 (6 p.m.) 289 sec.-ft.

Note.- No gage-height record Oct. 28, 29, Dec. 1 to Jan. 7; discharge computed on basis of records for South Fork of Big Butte Creek near Butte Falls and North Fork of Little Butte Creek near Lake Creek.

North Fork of Little Butte Creek at Fish Lake, near Lake Creek, Oreg.

Location.- Water-stage recorder, lat. 42°23', long. 122°21', in S $\frac{1}{4}$ sec. 4, T. 37 S., R. 4 E., half a mile downstream from outlet of Fish Lake and 18 miles east of Lake Creek post office.

Drainage area.- 18 square miles.

Records available.- October 1914 to September 1941.

Mean annual discharge.- 26 years (1915-41), 31.6 second-feet.

Extremes.- Maximum discharge during year, 124 second-feet July 22-26 (gage height, 1.56 feet); minimum, 0.5 second-foot Oct. 19, 20 (gage height, -0.02 foot).
1914-41: Maximum discharge, 158 second-feet July 10, 1930; no flow at times.

Remarks.- Records good. Flow regulated by Fish Lake Reservoir. Since September 1923, water has been diverted by Cascade Canal from Fourmile Lake, in Klamath River Basin, into Fish Lake Basin. No diversion from creek above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

0.0	0.5	.8	21
.1	1.1	1.0	35
.2	1.9	1.2	58
.4	5.1	1.4	90
.6	11.2	1.6	133

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	1.7	5.4	8.8	11	12	13	14	17	23	111	30
2	.7	1.8	5.4	8.8	11	12	13	15	17	23	109	2.2
3	.7	1.9	5.4	9.2	12	12	13	15	17	23	103	1.6
4	.8	1.9	5.6	8.5	12	12	13	14	17	23	100	1.7
5	.7	2.2	5.9	8.8	12	12	13	15	17	23	98	1.7
6	.7	2.3	6.2	9.2	11	12	13	15	18	23	88	1.7
7	.7	2.7	6.2	9.2	11	12	13	15	18	23	85	2.8
8	.7	2.7	6.2	9.8	11	12	13	15	18	23	86	4.5
9	.7	2.8	6.2	9.8	11	12	13	15	18	55	81	6.4
10	.7	2.9	6.2	9.8	12	12	13	15	18	59	74	6.4
11	.7	3.1	6.2	9.8	12	12	13	15	18	72	74	6.2
12	.6	3.2	6.4	9.8	12	12	13	15	19	98	72	6.2
13	.6	3.2	6.4	9.8	12	12	13	16	19	98	72	6.2
14	.6	3.2	6.4	9.8	12	12	13	15	19	107	72	5.9
15	.6	3.1	6.4	10	12	12	13	15	19	115	72	12
16	.6	3.2	6.7	10	12	12	14	16	19	115	69	17
17	.6	3.6	7.0	10	12	12	13	16	19	118	69	17
18	.6	3.6	7.5	10	12	12	14	16	20	115	69	17
19	.6	3.6	7.5	10	12	12	14	15	20	109	68	17
20	.5	3.8	7.5	11	12	12	14	15	20	111	66	18
21	.6	4.0	7.5	11	12	12	14	16	20	115	66	18
22	.6	4.0	7.5	11	11	12	14	16	21	118	58	11
23	.6	4.5	7.8	11	11	12	14	16	22	122	52	5.9
24	.8	4.7	8.5	11	12	12	14	16	22	124	53	5.9
25	1.0	4.7	8.5	11	12	12	14	17	22	124	53	6.2
26	1.0	4.7	8.5	11	12	12	15	16	22	120	48	5.6
27	1.0	4.7	8.5	11	12	12	15	16	22	120	43	5.9
28	1.0	4.7	8.5	11	12	12	14	16	22	115	42	5.9
29	1.1	5.1	8.5	11	-	12	14	16	23	115	41	6.2
30	1.2	5.4	8.5	11	-	12	14	16	23	111	35	6.2
31	1.6	-	8.8	11	-	13	-	16	-	113	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	23.6	1.6	0.5	0.76	47
November.....	103.0	5.4	1.7	3.43	204
December.....	217.8	8.8	5.4	7.03	432
Calendar year 1940.....	12,092.5	133	.5	33.0	24,000
January.....	315.1	11	9.5	10.1	621
February.....	328	12	11	11.7	651
March.....	373	13	12	12.0	740
April.....	406	15	13	13.5	805
May.....	479	17	14	15.5	950
June.....	586	23	17	19.5	1,160
July.....	2,666	124	23	86.0	5,290
August.....	2,182	111	33	69.7	4,290
September.....	258.3	30	1.6	8.61	512
Water year 1940-41.....	7,915.8	124	.5	21.7	15,700

North Fork of Little Butte Creek near Lake Creek, Oreg.
(Formerly published as North Fork of Little Butte Creek
above Medford intake, near Lake Creek, Oreg.)

Location.- Water-stage recorder, lat. 42°24', long. 122°32', in SW 1/4 sec. 25, T. 36 S., R. 2 E., a quarter of a mile upstream from point of diversion of Hanley South Canal and 4 1/2 miles east of Lake Creek post office. Datum of gage is 2,125.01 feet above mean sea level, datum of 1929.

Records available.- September 1911 to March 1913 (incomplete), May 1922 to September 1928 (incomplete) and October 1931 to September 1941 in reports of Geological Survey; September 1911 to March 1913 and May 1922 to September 1936 in reports of State engineer.

Average discharge.- 15 years (1911-12, 1922-23, 1928-41), 63.9 second-feet.

Extremes.- Maximum discharge during year, 143 second-feet July 17, 18 (gage height, 2.22 feet); minimum, 18 second-feet Oct. 1, 3-23.

1911-13, 1922-28, 1931-41: Maximum discharge, 680 second-feet Dec. 30, 1924 (gage height, 3.30 feet), from rating curve extended above 170 second-feet; minimum, 11 second-feet (computed on basis of records for station at Fish Lake, near Lake Creek) Oct. 29 to Nov. 8, 1931.

Remarks.- Records good. Flow regulated by Fish Lake Reservoir. Small diversions above station for irrigation; some water diverted into Fish Lake from Fourmile Lake, in Klamath River Basin, since September 1923.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Jan. 19

Jan. 20 to Sept. 30

1.5	20	1.5	22
1.6	26	1.6	29
1.7	37	1.8	51
1.8	50	2.0	86
		2.2	137

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	24	32	32	a39	41	36	38	45	56	129	60
2	19	41	29	30	a38	40	36	40	44	54	124	32
3	18	32	28	30	a36	40	36	44	43	54	121	23
4	18	24	27	32	a35	40	37	41	43	54	121	22
5	18	22	28	34	a35	40	38	51	41	51	121	22
6	18	21	28	33	a40	39	37	46	58	51	113	22
7	18	24	27	33	a38	38	39	56	63	51	108	22
8	18	26	26	33	a36	38	37	80	54	57	108	24
9	18	34	26	33	a39	37	52	57	50	80	103	24
10	18	28	26	33	a47	37	50	51	49	82	93	25
11	18	28	25	32	a76	37	45	47	47	98	93	26
12	18	32	25	32	a62	37	40	46	46	124	93	26
13	18	26	25	32	51	37	39	51	45	126	93	26
14	18	25	25	36	47	36	38	74	45	126	93	26
15	18	24	25	34	45	36	39	54	45	132	91	28
16	18	24	25	34	43	36	41	50	47	137	91	37
17	18	24	26	34	41	36	44	56	49	140	91	35
19	18	24	28	36	41	36	43	64	68	137	91	35
19	18	23	26	40	40	37	41	57	57	134	88	36
20	18	24	27	39	39	36	41	54	54	134	88	37
21	18	25	28	39	39	36	40	51	52	137	88	37
22	18	24	27	39	39	36	39	49	51	137	80	33
23	18	24	29	39	43	36	39	47	50	137	74	25
24	19	28	36	37	51	35	39	45	51	140	74	25
25	19	28	35	47	46	35	39	44	58	137	74	25
26	19	26	37	47	43	35	39	44	80	137	72	25
27	19	27	53	43	41	36	38	43	64	137	64	25
28	19	28	40	a40	41	36	37	46	60	134	63	25
29	20	34	35	a39	-	35	39	46	58	126	63	25
30	20	37	35	a38	-	35	38	46	57	124	60	25
31	21	-	33	a37	-	36	-	47	-	124	56	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	571	21	18	18.4	1,130
November.....	811	41	21	27.0	1,610
December.....	922	53	25	29.7	1,830
Calendar year 1940.....	21,536	148	18	58.8	42,700
January.....	1,117	47	30	36.0	2,220
February.....	1,210	76	35	43.2	2,400
March.....	1,145	41	35	36.9	2,270
April.....	1,194	52	36	39.8	2,370
May.....	1,565	80	38	50.5	3,100
June.....	1,574	80	41	52.5	3,120
July.....	3,348	140	51	108	6,640
August.....	2,821	129	56	91.0	5,600
September.....	858	60	22	28.6	1,700
Water year 1940-41.....	17,136	140	18	46.9	33,990

a No gage-height record; discharge computed on basis of records for South Fork of Little Butte Creek near Lake Creek and South Fork of Big Butte Creek near Butte Falls.

Diversions from Little Butte Creek near Lake Creek, Oreg.

The following canals divert water from Little Butte Creek and its tributaries near Lake Creek post office.

Hanley South and Hanley North Canals, from North Fork in SW $\frac{1}{4}$ sec. 26, T. 36 S., R. 2 E. Water used for irrigation of land on both sides of Little Butte Creek near Lake Creek post office.

Rogue River Valley Canal, from South Fork in SE $\frac{1}{4}$ sec. 29, T. 36 S., R. 2 E., and from North Fork in NE $\frac{1}{4}$ sec. 20, T. 36 S., R. 2 E. Water used for irrigation of about 15,000 acres of land, chiefly in Bear Creek Basin, on both sides of that creek below Phoenix.

Eagle Point Canal, from main stream in SE $\frac{1}{4}$ sec. 31, T. 35 S., R. 1 E. Water used for irrigation of lands near Eagle Point.

Records for Hanley North and South Canals and Eagle Point Canal are partly estimated.

Records for these canals, published as a group, are available from April 1929 to September 1941; records of some of the canals published separately prior to 1929.

Many smaller canals divert from Little Butte Creek and its tributaries.

Diversions, in acre-feet, water year October 1940 to September 1941

Month	Hanley South Canal	Hanley North Canal	Rogue River Valley Canal below junction of intakes	Eagle Point Canal
October.....	-	-	0	-
November.....	-	-	0	-
December.....	-	-	0	-
January.....	-	-	0	-
February.....	-	-	0	-
March.....	-	102	2,560	†88
April.....	405	84	4,990	759
May.....	345	506	5,100	984
June.....	418	626	5,390	950
July.....	447	596	7,170	1,080
August.....	418	584	5,070	1,000
September.....	254	326	1,750	889
The year or period...	2,287	2,824	32,060	5,750

† Mar. 17-31; no record before Mar. 17.

Note.- Probably some flow in canals during periods of no record.

Emigrant Creek near Ashland, Oreg.

Location.- Water-stage recorder, lat. $42^{\circ}10'$, long. $122^{\circ}36'$, in SE $\frac{1}{4}$ sec. 20, T. 39 S., R. 2 E., 500 feet downstream from Emigrant Gap Reservoir Dam and 6 miles southeast of Ashland.

Records available.- January 1920 to September 1941 (some years incomplete).

Extremes.- Maximum discharge during year, 445 second-feet Jan. 25, by computation of flow through waste gate; no flow at times.

1920-41: Maximum discharge, 5,200 second-feet Feb. 20, 1927, by computation of flow over dam; no flow at times.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Flow regulated since December 1924 by Emigrant Gap Reservoir. Diversions above station for irrigation; principal canals are Ashland lateral and East lateral. Water diverted by Keene Creek Canal from Klamath River Basin into Emigrant Creek above station.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Jan. 12-28, May 3-11, Aug. 2 to Sept. 11)

0.1	0.4	1.0	26
.2	.7	1.2	43
.4	1.9	1.6	84
.6	5.3	2.0	132
.8	13		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					a0.8	45	0.9	2.0	1.1	0.8	44	6.9
2					a.8	44	.9	2.0	1.1	.8	41	4.1
3					a.8	43	.9	2.6	1.1	.8	34	2.6
4					a.8	43	30	5.6	1.0	.8	30	a2.3
5					a.8	45	82	8.2	1.0	.8	28	2.0
6												
7				a0.1	.8	46	70	9.0	1.2	.9	27	2.0
8					.8	46	67	9.0	1.2	1.2	26	1.9
9					.8	46	61	14	1.2	18	25	1.8
10					.7	45	109	15	1.2	36	21	2.7
					41	40	163	11	1.3	36	20	6.3
11					268	17	113	10	1.3	36	18	7.2
12				h-2	282	1.0	86	5.3	1.3	36	17	12
13					185	.9	76	8.2	1.3	36	22	12
14					141	.9	57	11	1.3	36	22	12
15					141	.9	49	9.0	1.3	36	22	12
16					140	.8	52	5.1	1.3	36	22	12
17					105	.8	54	3.9	1.3	37	22	12
18				a-2	77	.8	54	3.3	1.3	38	23	12
19					71	.8	46	2.9	1.3	38	22	12
20					33	.8	41	2.6	1.2	38	22	6.2
21					18	.8	32	2.0	1.1	38	17	a.3
22					18	.8	17	1.6	1.1	38	12	a.3
23					18	.8	11	1.2	1.0	38	12	.3
24				h-2	18	.8	4.5	1.1	1.0	38	12	
25				147	18	.8	2.9	1.2	1.0	38	11	
26				a300	18	.8	2.5	1.2	1.1	38	8.2	a-2
27				h124	a18	.8	2.3	1.2	1.0	39	8.2	
28				h1.0	36	.8	2.2	1.2	.9	39	8.2	
29				h.8	-	.8	2.2	1.2	.8	39	7.9	
30				a.8	-	.8	2.0	1.2	.8	39	7.5	
31				a.8	-	1.0	-	1.2	-	40	7.2	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					0	0	0	0	0			
November.....					0	0	0	0	0			
December.....					0	0	0	0	0			
Calendar year					-	-	-	-	-			
January.....					578.1	300	-	18.6	1,150			
February.....					1,633.1	268	.7	58.3	3,240			
March.....					476.7	46	.8	15.4	946			
April.....					1,291.3	163	.9	43.0	2,560			
May.....					154.0	15	1.1	4.97	305			
June.....					54.1	1.3	.8	1.14	68			
July.....					897.1	40	.8	28.6	1,760			
August.....					619.2	44	7.2	20.0	1,230			
September.....					144.3	12	-	4.81	286			
Water year 1940-41					5,817.9	300	0	15.9	11,540			

a No gage-height record; discharge interpolated or computed on basis of notes by watermaster and records for Bear Creek at Medford.

h Computed from staff-gage reading.

ROGUE RIVER BASIN

Bear Creek at Medford, Oreg.

Location.- Water-stage recorder, lat. 42°19', long. 122°52', in NW¼ sec. 30, T. 37 S., R. 1 W., just upstream from Main Street Bridge in Medford. Datum of gage is 1,343.89 feet above mean sea level, datum of 1929.

Records available.- March 1915 to September 1941 (incomplete prior to April 1927).

Average discharge.- 20 years (1920-26, 1927-41), 71.5 second-feet.

Extremes.- Maximum discharge during year, 1,440 second-feet Feb. 12 (gage height, 3.66 feet); minimum, 6.5 second-feet July 18, 22.

1915-41: Maximum discharge, 10,200 second-feet Feb. 20, 1927 (gage height, 10.15 feet), from rating curve extended above 1,600 second-feet; practically no flow at times.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Diversions above station for irrigation. Flow partly regulated since December 1924 by Emigrant Gap Reservoir.

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	f35	23	36	76	80	140	56	56	104	92	9.4	16
2	f35	f24	32	65	79	138	66	57	95	76	12	25
3	36	a30	30	a55	74	134	68	79	89	52	12	22
4	34	a40	29	a55	69	128	96	86	78	47	12	18
5	31	a29	29	58	64	136	191	96	66	37	9.9	18
6	30	f28	29	57	60	127	189	90	80	23	12	17
7	28	29	28	55	60	118	189	108	116	19	11	16
8	22	a33	28	49	58	112	191	191	101	16	11	14
9	19	f40	26	48	64	111	255	169	86	14	12	11
10	18	37	26	f46	75	108	520	152	73	11	12	11
11	18	33	25	a45	767	101	342	148	60	9.9	10	12
12	17	40	23	a44	1,080	80	252	156	43	9.0	8.2	12
13	18	45	21	a50	711	79	235	211	39	18	9.4	13
14	18	33	20	a74	256	74	204	246	32	15	8.6	12
15	16	116	22	a50	227	70	184	201	31	9.9	8.6	13
16	16	45	23	51	274	65	189	182	33	7.8	7.8	13
17	16	33	24	43	245	65	189	175	38	7.8	9.0	12
18	16	32	52	54	159	64	184	167	48	7.1	9.4	12
19	16	30	71	108	178	60	156	160	58	7.4	11	13
20	17	29	54	87	146	68	127	146	59	7.4	12	16
21	18	30	90	76	119	62	121	118	55	7.8	14	18
22	a19	28	77	70	112	57	80	94	47	7.4	11	17
23	a19	26	80	74	118	58	50	83	51	7.8	7.8	19
24	a20	28	148	73	138	50	36	66	50	8.6	8.2	19
25	a20	35	165	101	133	42	28	70	64	8.6	7.4	18
26	a20	f33	145	377	114	40	30	73	156	7.8	8.2	21
27	a20	f30	308	271	108	39	29	60	191	9.0	11	13
28	a20	30	150	123	111	35	26	56	138	10	12	10
29	a21	32	107	104	-	35	32	68	121	9.4	11	9.9
30	f22	34	a102	92	-	37	54	79	108	9.4	12	9.4
31	f22	-	a90	84	-	52	-	95	-	8.6	13	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						677	36	16	21.8	1,340		
November.....						1,053	116	23	35.1	2,090		
December.....						2,090	308	20	67.4	4,150		
Calendar year 1940.....						44,118.5	3,550	4.5	121	67,510		
January.....						2,635	377	44	85.0	5,230		
February.....						5,758	1,080	58	206	11,420		
March.....						2,485	140	35	80.2	4,930		
April.....						4,369	520	26	146	8,670		
May.....						3,738	246	56	121	7,410		
June.....						2,310	191	31	77.0	4,580		
July.....						577.7	92	7.1	18.6	1,160		
August.....						322.9	14	7.4	10.4	640		
September.....						452.3	25	9.4	15.1	897		
Water year 1940-41.....						26,467.9	1,080	7.1	72.5	52,510		

a No gage-height record; discharge computed on basis of records for South Fork of Little Butte Creek near Lake Creek.

f Computed on basis of partly estimated gage-height record.

Diversions in Bear Creek Basin, Oreg.

The following canals divert water from streams in Bear Creek Basin:

Ashland lateral of Talent Irrigation District, from Sampson Creek in SW $\frac{1}{4}$ sec. 26, T. 39 S., R. 2 E. Water used to irrigate lands near Ashland. Most of flow is received from Keene Creek, in Klamath River Basin, through Keene Creek Canal.

East lateral of Talent Irrigation District, from Emigrant Gap Reservoir in SE $\frac{1}{4}$ sec. 20, T. 39 S., R. 2 E. Water used to irrigate lands that are mostly on east side of Bear Creek above Medford.

Talent lateral of Talent Irrigation District, from Bear Creek in SW $\frac{1}{4}$ sec. 33, T. 38 S., R. 1 E. Water used to irrigate lands near Talent.

Phoenix Canal, from Bear Creek in NW $\frac{1}{4}$ sec. 23, T. 38 S., R. 1 W. Water supplements flow of Medford Irrigation District canal, used to irrigate lands west of Bear Creek.

Bear Creek Canal, from Bear Creek at Medford. Water used to irrigate lands west of Bear Creek near Central Point.

Records for all canals partly interpolated.

Records of these canals, published as a group, are available from April 1929 to September 1941; records for some of the canals published separately prior to 1929.

There are many smaller canals diverting from Bear Creek and tributaries.

Diversions, in acre-feet, water year October 1940 to September 1941

Month	Ashland lateral	East lateral	Talent lateral	Phoenix Canal	Bear Creek Canal
October.....	0	0	0	-	0
November.....	0	0	0	-	0
December.....	0	0	0	-	0
Calendar year.....	-	-	-	-	-
January.....	0	0	0	-	0
February.....	0	255	0	-	0
March.....	20	1,240	510	†128	0
April.....	78	1,300	1,440	717	9
May.....	172	1,430	1,690	1,630	1,060
June.....	32	725	1,470	1,580	885
July.....	846	2,950	2,170	1,070	702
August.....	557	2,070	1,560	867	712
September.....	328	593	441	1,220	97
Water year 1940-41.....	2,333	10,593	9,081	†7,212	3,465

† No record Oct. 1 to Mar. 19, probably little flow.

Applegate River near Copper, Oreg.

Location.- Water-stage recorder, lat. 42°03', long. 123°07', in SE¼ sec. 25, T. 40 S., R. 4 W., a quarter of a mile downstream from French Gulch, 1½ miles downstream from Squaw Creek, and 3 miles northeast of Copper store. Datum of gage is 1,759.66 feet above mean sea level, datum of 1929.

Records available.- December 1938 to September 1941.

Extremes.- Maximum discharge during year, 5,090 second-feet Dec. 20 (gage height, 9.26 feet); minimum, 37 second-feet Oct. 19, 20.
1938-41: Maximum discharge, 7,410 second-feet Feb. 28, 1940 (gage height, 11.84 feet); minimum, 20 second-feet Sept. 23-25, 1939.

Remarks.- Records good. About 11 second-feet diverted for irrigation of 482 acres above station in Applegate River Basin; Grand Applegate ditch diverts about 3.3 second-feet around station on left bank. About 21 second-feet for irrigation and 8 second-feet for mining use are diverted at times into Thompson Creek Basin. Several hundred acre-feet normally stored each winter in Squaw Lake for irrigation the following summer.

Rating tables, water year 1940-41, except period of ice-effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 20				Dec. 21 to Sept. 30			
1.0	33	3.0	500	1.0	30	3.0	485
1.3	64	3.5	725	1.3	62	3.5	700
1.6	110	4.0	1,020	1.6	106	4.0	995
2.0	191	4.5	1,340	2.0	184	4.5	1,330
2.5	328	5.5	2,060	2.5	318	5.5	2,060

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	187	119	401	641	878	548	898	496	198	84	63
2	56	193	108	364	636	761	510	910	474	180	86	127
3	65	169	103	342	592	655	492	1,000	457	177	84	86
4	57	130	100	321	536	596	710	969	443	173	80	71
5	52	156	115	353	502	544	745	1,270	432	164	78	63
6	49	161	121	315	492	510	655	1,030	460	162	75	61
7	50	482	112	315	457	499	641	1,090	422	158	72	58
8	50	312	105	306	480	510	618	1,220	377	154	70	58
9	50	235	100	309	492	536	641	1,110	361	144	74	56
10	46	184	93	306	791	560	600	1,140	358	138	68	56
11	45	161	86	312	988	592	552	1,390	358	129	67	57
12	45	176	78	330	632	532	532	1,250	348	125	65	56
13	44	163	668	460	783	665	840	1,390	339	123	65	52
14	44	150	665	540	710	665	605	1,140	321	120	63	52
15	43	140	81	524	646	614	685	1,010	303	111	62	51
16	41	132	88	478	600	592	614	950	300	109	61	50
17	40	124	114	474	569	605	564	917	282	108	61	47
18	38	121	980	568	504	592	528	778	315	105	61	47
19	37	102	438	1,110	544	544	510	700	280	101	57	49
20	38	103	1,960	878	520	499	510	705	260	98	61	51
21	46	100	2,180	740	496	468	528	805	241	95	61	51
22	45	90	1,140	735	498	457	564	917	252	93	61	50
23	46	87	1,010	730	528	460	650	943	257	88	57	49
24	266	90	1,480	823	564	443	745	884	266	82	57	47
25	146	98	1,130	1,340	516	443	794	785	260	90	57	46
26	100	90	1,550	1,430	485	464	865	715	282	96	57	44
27	82	86	1,500	1,000	482	485	865	636	263	104	61	44
28	82	93	884	766	632	502	847	614	238	100	61	44
29	132	96	655	646	-	520	943	552	223	93	56	43
30	130	140	536	569	-	552	943	536	213	88	56	43
31	154	-	457	536	-	597	-	524	-	90	55	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,150	266	37	69.4	4,260
November.....	4,557	482	86	152	9,040
December.....	17,256	2,180	65	557	34,230
Calendar year 1940	176,023	5,860	31	481	349,200
January.....	18,601	1,450	306	600	36,890
February.....	16,857	988	450	591	32,840
March.....	17,420	879	443	562	34,550
April.....	19,544	943	492	651	38,760
May.....	28,781	1,390	524	928	57,090
June.....	9,881	496	213	329	19,600
July.....	3,794	198	80	122	7,510
August.....	2,035	86	55	65.6	4,030
September.....	1,672	127	43	55.7	3,320
Water year 1940-41	142,236	2,180	37	390	282,100

Peak discharge.- Dec. 20 (9:30 p.m.) 5,090 sec.-ft.; Dec. 26 (8:30 p.m.) 2,380 sec.-ft.
b Stage-discharge relation affected by ice.

Applegate River near Ruch, Oreg.

Location.- Water-stage recorder, lat. 42°11', long. 123°03', in sec. 15, T. 39 S., R. 3 W., at Cameron bridge, 1½ miles upstream from Little Applegate River and 4½ miles south of Ruch. Datum of gage is 1,475.09 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Records available.- June 1911 to September 1914, September 1925 to September 1941.

Average discharge.- 18 years (1911-14, 1925-26, 1927-41), 333 second-feet.

Extremes.- Maximum discharge during year, 5,210 second-feet Dec. 20 (gage height, 6.26 feet); minimum, 38 second-feet Sept. 16, 17 (gage height, 0.41 foot).
1911-14, 1925-41: Maximum discharge, 20,000 second-feet Feb. 20, 1927 (gage height, 16.0 feet), from rating curve extended above 8,000 second-feet; minimum, 7 second-feet Sept. 2, 1929 (gage height, 0.26 foot).

Remarks.- Records good. Diversions above station for irrigation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Feb. 11 to Apr. 22)

Oct. 1 to Dec. 20				Dec. 21 to Sept. 30			
0.6	73	2.0	655	0.6	70		
	8	2.4	915		.8	117	
1.0	175	2.8	1,220		1.0	175	
1.2	246	3.2	1,570	Note.- Same as preceding table above 0.9 feet.			
1.4	335	3.6	1,960				
1.7	485	4.0	2,380				

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	182	126	430	685	873	562	887	524	201	81	53
2	52	185	113	385	709	796	534	873	502	182	79	128
3	59	172	108	365	649	697	507	985	470	175	79	85
4	54	137	104	335	601	625	703	929	465	163	79	64
5	49	148	111	355	562	578	782	1,190	450	157	72	59
6	46	163	126	330	551	540	697	1,020	475	148	70	57
7	48	430	111	350	518	524	673	1,040	445	139	68	51
8	54	340	106	316	502	540	643	1,200	395	139	64	51
9	52	250	101	321	534	562	667	1,100	a365	131	68	a48
10	50	195	96	316	775	595	651	1,120	a362	123	64	a47
11	48	163	90	316	1,020	619	584	1,340	a362	112	64	49
12	48	175	81	330	950	656	556	1,240	a350	110	60	a47
13	44	163	a73	450	908	679	562	1,380	a358	110	59	45
14	44	161	a69	551	810	691	613	1,160	316	100	59	44
15	44	145	88	551	739	637	703	1,020	302	a96	57	40
16	44	140	96	496	685	613	643	964	302	a94	55	39
17	44	134	104	490	655	613	590	943	280	a92	51	39
18	43	126	691	775	643	601	556	824	312	a88	50	40
19	42	118	496	1,160	619	568	534	733	254	a87	51	42
20	42	113	1,840	929	590	518	534	727	250	a85	59	40
21	48	111	2,200	789	562	480	534	810	235	83	59	42
22	49	101	1,080	789	540	470	568	915	231	83	57	44
23	50	99	964	775	568	475	555	936	254	83	55	42
24	232	99	1,450	866	590	455	751	901	254	81	51	42
25	166	106	1,160	1,330	568	455	803	817	238	77	51	44
26	108	101	1,570	1,580	529	475	859	739	284	61	51	44
27	88	96	1,680	1,080	507	496	852	673	267	97	51	44
28	79	99	1,360	866	631	512	845	643	238	90	53	42
29	123	101	715	733	-	534	922	595	227	85	51	42
30	132	140	584	649	-	562	936	562	216	81	50	42
31	126	-	496	607	-	601	-	556	-	85	48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,160	232	42	69.7	4,280
November.....	4,683	430	96	156	9,290
December.....	17,989	2,200	69	580	35,680
Calendar year 1940.....	182,405	7,120	24	498	361,800
January.....	19,595	1,580	316	632	38,970
February.....	18,200	1,020	502	650	36,100
March.....	19,039	873	455	582	35,780
April.....	19,999	936	507	667	39,670
May.....	28,822	1,380	556	930	57,170
June.....	9,963	524	216	332	19,760
July.....	3,458	201	77	112	6,860
August.....	1,866	81	48	60.2	3,700
September.....	1,496	128	39	49.9	2,970
Water year 1940-41.....	146,270	2,200	39	401	290,100

Peak discharge.- Dec. 20 (10:30 p.m.) 5,210 sec.-ft.; Dec. 26 (9:30 a.m.) 2,640 sec.-ft.; Jan. 26 (9-9 p.m.) 2,160 sec.-ft.
a No gage-height record; discharge computed on basis of records for stations near Copper and near Applegate.

Applegate River near Applegate, Oreg.

Location.- Water-stage recorder, lat. 42°14', long. 123°03', in NE¼ sec. 26, T. 38 S., R. 4 W., 0.9 mile downstream from Keeler Creek and 2 miles southeast of Applegate. Datum of gage is 1,285.33 feet above mean sea level, datum of 1929.

Records available.- October 1938 to September 1941.

Extremes.- Maximum discharge during year, 5,450 second-feet Dec. 21 (gage height, 6.94 feet), from rating curve extended above 4,300 second-feet; minimum, 37 second-feet (regulated) Aug. 13 (gage height, 0.93 foot).

1938-41: Maximum discharge, 10,600 second-feet Feb. 28, 1940 (gage height, 9.67 feet), from rating curve extended above 4,300 second-feet; minimum, 8 second-feet Sept. 7, 12, 13, 1939.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation of about 4,000 acres in Applegate River Basin. About 10 second-feet is diverted through Wagner Gap to Bear Creek Basin for several months each year; Fowler-Keeler and Berryman ditches may divert 4.3 and 13.6 second-feet, respectively, around station.

Rating table, water year 1940-41, except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.9	34	2.5	441	4.5	2,070
1.2	65	3.0	720	5.0	2,650
1.5	116	3.5	1,090	5.5	3,290
2.0	248	4.0	1,550		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	202	157	489	790	1,030	631	1,020	649	266	66	53
2	76	217	143	460	846	962	607	996	613	242	61	118
3	88	211	136	428	762	825	562	1,170	562	226	64	103
4	83	170	129	401	694	755	755	1,080	546	220	76	77
5	76	178	131	423	643	674	916	1,360	535	205	71	70
6	71	202	155	397	631	625	839	1,220	590	178	66	66
7	68	463	140	397	584	590	790	1,210	607	170	64	63
8	72	405	134	376	562	595	748	1,430	535	155	63	60
9	70	300	125	376	595	625	762	1,320	509	125	59	60
10	70	236	123	364	553	655	748	1,320	489	114	52	61
11	66	*202	110	364	1,320	681	661	1,610	499	105	49	63
12	63	220	b100	376	1,270	754	637	1,550	479	90	48	60
13	60	208	b95	459	1,190	769	643	1,750	470	87	46	57
14	59	188	b85	*613	1,040	776	674	1,530	432	94	49	53
15	58	175	b100	613	938	720	504	1,310	406	83	53	50
16	55	165	131	573	860	688	674	1,230	397	90	46	47
17	53	160	123	546	804	694	741	1,210	368	83	43	47
18	51	152	708	532	780	681	637	1,050	393	80	43	47
19	50	140	620	1,390	762	643	584	916	368	77	44	48
20	50	134	1,380	1,130	720	590	584	574	345	77	48	48
21	54	134	2,850	954	668	546	595	962	318	77	49	48
22	59	125	1,380	923	643	520	613	1,120	311	77	48	50
23	59	120	1,140	909	655	525	681	1,160	341	78	49	50
24	226	120	1,700	994	734	509	783	1,140	333	77	47	48
25	233	136	a1,300	1,430	668	509	867	1,020	326	74	50	49
26	143	127	a2,300	1,940	613	514	923	909	376	77	53	49
27	116	123	a1,900	1,350	590	535	954	811	360	101	52	46
28	108	127	a1,600	1,060	727	551	930	811	322	97	53	47
29	140	127	a1,100	881	-	578	1,030	734	311	88	52	44
30	150	157	a750	776	-	607	1,080	694	293	78	52	40
31	145	-	a600	707	-	681	-	688	-	78	50	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,749	233	50	88.7	5,450
November.....	5,624	463	120	187	11,160
December.....	21,445	2,850	85	692	42,540
Calendar year 1940.....	215,043	7,760	14	588	426,500
January.....	22,961	1,940	364	741	45,540
February.....	21,952	1,320	562	784	43,540
March.....	20,387	1,030	509	658	40,440
April.....	22,473	1,080	562	749	44,570
May.....	35,235	1,750	688	1,137	69,890
June.....	13,073	649	293	436	25,930
July.....	3,671	268	74	118	7,280
August.....	1,666	76	43	53.7	3,300
September.....	1,722	118	40	57.4	3,420
Water year 1940-41.....	172,958	2,850	40	474	343,100

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for stations near Ruch and near Wilderville.

b Stage-discharge relation affected by ice.

Applegate River near Wilderville, Oreg.

Location.- Staff gage, lat. 42°21', long. 123°24', in W¹/₄ sec. 15, T. 37 S., R. 6 W., 900 feet downstream from Jackson Creek and 4 miles southeast of Wilderville. Datum of gage is 949.54 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Records available.- October 1933 to September 1941.

Extremes.- Maximum discharge observed during year, 5,440 second-feet Dec. 21 (gage height, 7.85 feet); minimum observed, 28 second-feet Aug. 12 (gage height, 1.39 feet). 1938-41: Maximum discharge observed, 13,500 second-feet Feb. 28, 1940 (gage height, 12.16 feet); minimum discharge, 3.0 second-feet Sept. 12-15, 18-25, 1939.

Remarks.- Records good. Many diversions above station for irrigation and mining. Two ditches on left bank divert about 17 second-feet around station. Gage read once daily during low-water periods, twice daily at other times.

Rating table, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

1.3	24	2.8	306	5.0	1,820
1.6	43	3.2	480	6.0	2,920
1.9	78	3.6	700	7.2	4,480
2.2	129	4.0	945		
2.5	204	4.5	1,330		

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	213	201	820	1,190	1,150	706	61,100	700	310	51	37
2	93	266	184	756	1,460	1,190	688	61,080	688	284	47	49
3	95	299	176	682	1,260	1,040	646	1,220	654	262	42	125
4	102	255	168	664	1,110	945	1,110	1,210	586	249	40	108
5	95	229	171	772	1,010	893	1,770	1,510	580	238	41	96
6	88	269	182	766	958	832	1,270	1,310	596	201	40	92
7	84	299	179	694	919	796	1,100	1,280	634	161	35	86
8	78	563	176	640	862	784	997	1,680	596	151	36	81
9	80	426	168	607	900	802	1,010	1,540	552	131	34	74
10	81	373	161	580	1,260	826	984	1,430	520	110	50	72
11	78	310	154	558	2,680	832	893	1,620	495	100	30	70
12	75	284	151	558	2,460	868	838	1,700	480	75	28	68
13	70	284	129	646	2,110	893	808	1,960	470	64	30	65
14	67	259	114	796	1,790	900	832	1,720	450	52	30	62
15	67	249	127	1,040	1,620	868	932	1,460	460	49	31	60
16	65	235	171	971	1,300	832	886	1,350	430	64	30	54
17	63	226	164	926	1,220	814	808	1,320	403	54	31	50
18	61	210	530	1,290	1,210	820	760	61,250	440	52	32	47
19	57	198	900	2,560	1,160	802	736	1,040	403	45	31	49
20	57	193	1,290	1,950	1,070	772	700	945	385	43	31	50
21	60	190	4,260	1,680	997	724	712	61,080	365	43	31	51
22	65	179	1,860	1,820	945	670	724	61,250	353	46	35	49
23	70	168	1,630	1,580	958	688	748	61,300	373	47	38	50
24	100	174	2,800	3,260	990	634	802	61,250	377	48	34	47
25	276	184	2,880	3,310	945	629	6900	61,100	385	46	35	45
26	193	179	2,930	3,850	880	629	6950	61,000	440	47	37	48
27	164	171	4,470	2,440	826	629	61,000	6900	430	53	33	49
28	166	166	2,180	1,860	880	634	6970	6900	403	38	34	51
29	176	171	1,580	1,540	-	664	61,100	6840	377	60	34	53
30	182	171	1,180	1,280	-	682	61,200	760	361	57	35	52
31	190	-	971	1,130	-	748	-	748	-	55	34	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,192	276	57	103	6,330
November.....	7,393	563	166	246	14,660
December.....	32,337	4,470	114	1,043	64,140
Calendar year 1940.....	296,932.1	9,860	4.2	811	589,000
January.....	41,806	3,850	558	1,349	82,920
February.....	34,960	2,680	826	1,248	69,320
March.....	24,960	1,190	629	805	49,510
April.....	27,580	1,770	646	919	54,700
May.....	38,863	1,960	748	1,254	77,080
June.....	14,376	700	353	479	28,510
July.....	3,255	310	28	104	6,420
August.....	1,073	81	28	34.6	2,130
September.....	1,890	125	37	63.0	3,750
Water year 1940-41.....	231,655	4,470	28	635	459,500

e Gage reading not representative of average for day; discharge computed on basis of records for station near Applegate.

Illinois River at Kerby, Oreg.

Location.- Water-stage recorder, lat. 42°13', long. 123°39', in NW¹/₄ sec. 4, T. 39 S., R. 8 W., 1 mile northwest of Kerby. Altitude of gage, 1,218 feet (river-profile map).

Drainage area.- 367 square miles.

Records available.- March 1926 to September 1941.

Average discharge.- 15 years, 1,050 second-feet.

Extremes.- Maximum discharge during year, 20,700 second-feet Dec. 26 (gage height, 17.20 feet), from rating table extended above 5,540 second-feet; minimum daily, 49 second-feet Aug. 24-27.

1926-41: Maximum discharge, 50,000 second-feet Feb. 20, 1927 (gage height, 19.6 feet, site and datum then in use), from rating curve extended above 26,000 second-feet; minimum, 13 second-feet Sept. 10-15, 1934.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Diversions above station for irrigation.

Rating tables, water year 1940-41 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 26						Dec. 27 to Sept. 30					
0.3	86	1.6	440	6.0	3,410	-0.3	29	1.0	385	4.0	1,970
.5	124	2.0	605	8.0	5,580	-.1	77	1.5	570	6.0	3,550
.7	165	2.5	855	10.0	8,100	-.1	155	2.0	775	8.0	5,750
1.0	246	3.0	1,100	12.0	11,200	-.4	190	2.5	1,020	10.0	8,250
1.3	337	4.0	1,750	14.0	14,500	.7	280	3.0	1,310	12.0	11,400

Discharge, in second-feet, water year October 1940 to September 1941

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	905	494	1,660	2,290	3,260	995	762	590	265	73	75
2	90	1,390	429	1,440	2,770	3,120	952	757	550	247	71	150
3	106	1,530	387	1,340	2,280	2,430	1,200	970	518	229	70	106
4	106	925	360	1,450	1,900	2,080	3,630	1,230	475	217	68	85
5	102	965	506	2,950	1,660	1,590	6,210	2,190	455	202	64	74
6	93	1,200	668	2,890	1,670	1,610	3,830	1,750	462	190	62	72
7	91	1,990	543	3,050	1,620	1,430	2,610	1,450	458	182	61	70
8	91	1,810	470	2,360	1,680	1,300	2,070	1,900	420	170	59	70
9	88	1,790	422	1,940	2,600	1,220	1,970	1,770	392	152	61	71
10	84	1,320	387	1,680	5,130	1,180	1,750	1,500	374	146	60	69
11	83	965	354	1,490	6,400	1,130	1,500	1,470	350	138	59	70
12	81	800	324	1,390	4,460	1,090	1,330	1,410	322	130	58	70
13	78	700	299	1,840	3,330	1,050	1,230	1,450	277	128	56	68
14	76	610	278	2,540	2,670	1,020	1,170	1,320	265	124	57	66
15	76	526	272	4,060	2,270	945	1,180	1,150	263	116	54	64
16	76	474	269	3,600	1,970	870	1,090	1,050	241	110	55	63
17	74	455	237	4,130	1,750	852	998	1,030	241	106	55	62
18	76	404	3,300	8,860	1,690	852	910	1,180	304	102	56	63
19	76	370	3,220	7,420	1,540	920	835	1,090	304	100	60	62
20	79	350	9,420	4,400	1,410	920	806	998	277	95	58	63
21	88	340	9,680	3,370	1,300	829	775	960	259	95	54	64
22	91	315	5,580	3,790	1,210	775	770	960	253	93	51	65
23	91	296	4,860	4,490	1,230	744	753	940	274	92	50	62
24	737	318	11,600	1,800	1,410	714	829	890	325	90	49	64
25	569	401	9,270	12,900	1,290	686	829	829	343	88	49	65
26	327	394	14,500	6,600	1,200	662	847	757	374	98	49	64
27	240	370	11,300	4,330	1,140	662	834	686	343	110	49	61
28	229	350	4,810	3,160	1,700	654	780	646	312	90	58	55
29	467	357	3,230	2,500	-	666	784	630	301	77	56	57
30	704	564	2,470	2,080	-	770	516	602	277	76	55	56
31	762	-	2,020	1,830	-	1,040	-	614	-	76	54	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	6,019	762	74	194	11,940
November.....	23,165	1,990	296	772	45,950
December.....	102,009	14,500	269	3,291	202,300
Calendar year 1940.....	514,647	15,800	15	1,406	1,021,000
January.....	117,190	12,900	1,340	3,780	232,400
February.....	61,520	6,400	1,140	2,197	122,000
March.....	37,351	3,280	654	1,205	74,080
April.....	44,359	6,210	770	1,479	87,980
May.....	34,991	2,190	602	1,129	69,400
June.....	10,697	590	241	353	21,020
July.....	4,139	288	75	134	5,210
August.....	1,791	73	49	57.8	3,550
September.....	2,108	150	56	70.3	4,150
Water year 1940-41.....	445,239	14,500	49	1,220	883,000

Peak discharge.- Dec. 20 (11:30 p.m.) 20,100 sec.-ft.; Dec. 26 (11:30 p.m.) 20,700 sec.-ft.; Jan. 18 (7:30 p.m.) 13,000 sec.-ft.; Jan. 25 (4:30 p.m.) 16,500 sec.-ft.; Apr. 5 (11:30 a.m.) 7,240 sec.-ft.

Note.- No gage-height record July 10-13, 15-28, July 30 to Aug. 6, Aug. 8-17, 19-21, 23-25, 27-29, Aug. 31 to Sept. 2, Sept. 4-8, 10-14, 16, 17, 19-29; discharge computed on basis of records for Applegate River near Ruch.

Springs in the Walla Walla River Basin, Oreg.-Wash.

Ground-water overflow through many springs on the alluvial fan of the Walla Walla River near Milton and Freewater, Oreg., amounts to about 50,000 acre-feet a year. During the irrigation season practically all the overflow is used to water crops on land not served by diversion from the river. A survey made in 1933 listed 57 springs or spring groups in the area, arranged in "inner," "intermediate," and "outer" zones concentric about the apex of the alluvial fan.¹

The inner zone is 3 to 3½ miles downstream from Freewater and extends from the vicinity of Nicholas Spring, which is about half a mile east of the Walla Walla River at McCoy Bridge, to springs in the vicinity of Dugger Creek. Within this zone are fully three-fourths of the springs in the Walla Walla Basin. The intermediate and outer zones, each of which contains only a few springs, are about 2 miles and 4 miles, respectively, beyond the inner zone.

In order to bring about a more effective use of the available water supply through a better understanding of the relation between surface- and ground-water supplies in the basin, discharge measurements of each of the principal springs and measurements of ground-water levels in representative wells have been made periodically since 1932. Results of previous discharge measurements have been published in Water-Supply Papers 834, 864, 884, and 904.

Discharge measurements, in second-foot, of springs in Walla Walla River Basin, Oreg.-Wash., during water year October 1940 to September 1941²

Springs of the inner zone

Nicholas Spring, Oreg., NW¼ sec. 24, T. 6 N., R. 35 E., 150 feet above confluence of spring channel and Walla Walla River

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 11	0.38	Mar. 11	0.87	May 27	0.39	Aug. 12	0.15
Nov. 13	.20	25	.64	June 12	.90	26	.10
Dec. 11	1.08	Apr. 12	.59	25	.54	Sept. 11	.15
Jan. 11	.92	26	.27	July 12	.35	-	-
Feb. 11	.95	May 12	.20	26	.33	-	-

Big Spring Branch (west prong), Oreg., SE¼NW¼ sec. 24, T. 6 N., R. 35 E., at Ballou residence, 75 feet above bridge on county road

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 11	4.01	Mar. 11	1.63	May 27	9.20	Aug. 12	3.07
Nov. 13	2.24	25	1.71	June 10	8.61	26	3.26
Dec. 11	4.87	Apr. 12	1.59	25	9.62	Sept. 11	4.90
Jan. 11	4.56	26	2.43	July 12	7.14	-	-
Feb. 11	2.86	May 10	5.65	26	3.74	-	-

Big Spring Branch (east prong), Oreg., NE¼SW¼ sec. 24, T. 6 N., R. 35 E., above flow line of small reservoir supplying two diversion pumps

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 11	1.67	Mar. 11	1.19	May 27	3.11	Aug. 12	1.61
Nov. 13	1.14	25	.72	June 10	2.91	26	1.26
Dec. 11	2.52	Apr. 12	.67	25	2.49	Sept. 11	1.82
Jan. 11	2.47	26	1.50	July 12	2.40	-	-
Feb. 11	1.57	May 12	1.98	26	1.71	-	-

Engle Spring, Oreg., NW¼SE¼ sec. 23, T. 6 N., R. 35 E., at diversion dam

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 11	3.14	Mar. 11	1.86	May 27	3.78	Aug. 12	2.69
Nov. 13	2.01	25	1.73	June 12	3.66	26	2.90
Dec. 11	2.57	Apr. 12	1.90	25	3.65	Sept. 11	3.53
Jan. 11	2.75	26	2.50	July 12	3.40	-	-
Feb. 11	2.17	May 12	3.73	26	2.97	-	-

Downing Spring, Oreg., SE¼SW¼ sec. 23, T. 6 N., R. 35 E., at weir, 200 feet below spring orifice

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 11	1.34	Mar. 11	0	May 27	2.09	Aug. 12	0.84
Nov. 13	0	24	0	June 10	2.85	26	.90
Dec. 11	.55	Apr. 12	0	25	3.05	Sept. 11	1.91
Jan. 11	.97	26	.05	July 12	2.00	-	-
Feb. 11	.03	May 12	1.11	26	.90	-	-

Haun Spring, Oreg., NW¼SE¼ sec. 23, T. 6 N., R. 35 E., at Haun farm, 50 feet above highway crossing

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 11	1.47	Mar. 11	0.42	May 27	1.85	Aug. 12	1.04
Nov. 13	.61	25	.31	June 11	1.81	26	1.21
Dec. 11	1.11	Apr. 12	.37	25	1.60	Sept. 11	1.47
Jan. 11	1.40	26	.72	July 12	1.56	-	-
Feb. 11	.78	May 12	2.01	26	1.22	-	-

¹Measurements by the Oregon State Water Resources Department.

² Piper, A. M., Robinson, T. W., and Thomas, H. E., Ground water in the Walla Walla Basin, Oregon-Washington: Supreme Court of the United States, October term 1935, State of Washington vs. State of Oregon, transcript of record, p. 132 A, October 14, 1935.

SPRINGS IN THE WALLA WALLA RIVER BASIN, OREG.-WASH.

Discharge measurements, in second-feet, of springs in Walla Walla River Basin, Oreg.-Wash., during water year October 1940 to September 1941--Continued

Springs of the intermediate and outer zones

McEvoy Spring, Wash., SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10, T. 6 N., R. 35 E., at McEvoy farm and 200 feet above Walla Walla Valley Railway

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 11	3.33	Mar. 11	2.58	May 27	4.53	Aug. 12	2.88
Nov. 13	3.22	24	2.04	June 12	3.59	26	2.96
Dec. 11	3.36	Apr. 12	2.37	26	4.55	Sept. 11	3.63
Jan. 11	3.28	26	2.27	July 10	3.95	-	-
Feb. 11	3.51	May 10	2.99	26	3.66	-	-

Lewis Spring, Oreg., NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 6 N., R. 35 E., below road crossing

Oct. 11	1.76	Mar. 11	0.95	May 27	2.31	Aug. 12	2.02
Nov. 13	1.67	24	1.11	June 11	2.29	26	2.00
Dec. 11	1.27	Apr. 12	1.26	26	2.13	Sept. 11	2.33
Jan. 11	1.94	26	1.26	July 12	2.12	-	-
Feb. 11	1.29	May 10	1.97	26	2.06	-	-

Unnamed spring, Wash., NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 6 N., R. 35 E., at a small diversion structure

Oct. 10	2.55	Mar. 10	2.64	May 26	3.54	Aug. 11	2.18
Nov. 12	2.90	24	2.02	June 12	2.59	25	2.81
Dec. 10	2.94	Apr. 10	3.01	26	3.47	Sept. 11	2.56
Jan. 10	3.73	26	2.22	July 10	4.20	-	-
Feb. 10	2.74	May 10	2.89	24	3.17	-	-

East Mud Creek (west prong), Oreg., SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22, T. 6 N., R. 35 E., at weir

Oct. 10	3.04	Mar. 10	2.40	May 26	2.94	Aug. 11	1.99
Nov. 12	2.26	24	1.65	June 11	3.71	25	1.83
Dec. 10	2.53	Apr. 10	1.92	26	3.50	Sept. 11	2.64
Jan. 10	2.43	26	1.84	July 10	3.05	-	-
Feb. 10	2.89	May 10	3.18	24	2.74	-	-

East Mud Creek (east prong), Oreg., SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22, T. 6 N., R. 35 E., in diversion ditch, 150 feet below diversion dam

Oct. 10	1.51	Mar. 10	1.00	May 26	1.86	Aug. 11	0.89
Nov. 12	.96	24	.64	June 11	2.32	25	.66
Dec. 10	1.41	Apr. 10	.61	26	1.51	Sept. 11	1.10
Jan. 10	.94	26	.58	July 10	1.22	-	-
Feb. 10	.96	May 10	1.30	24	1.02	-	-

East Mud Creek (branch of), Oreg., SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 6 N., R. 35 E., near Lockwood dwelling

Oct. 10	2.74	Mar. 10	3.04	May 26	4.09	Aug. 11	2.58
Nov. 12	3.49	24	2.46	June 12	4.22	25	2.00
Dec. 10	2.45	Apr. 10	2.95	26	4.92	Sept. 11	2.29
Jan. 10	3.56	26	3.17	July 10	4.58	-	-
Feb. 10	4.24	May 10	3.41	24	3.98	-	-

South Mud Creek, Oreg., SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 6 N., R. 35 E., at Von der Ahe farm

Oct. 10	2.27	Mar. 10	1.37	May 26	3.79	Aug. 11	1.57
Nov. 12	2.75	24	1.28	June 11	4.09	25	1.39
Dec. 10	2.27	Apr. 10	2.12	26	4.27	Sept. 11	1.71
Jan. 10	1.01	26	2.67	July 10	3.81	-	-
Feb. 10	1.36	May 10	2.96	24	2.68	-	-

Johnson Creek, Oreg., SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29, T. 6 N., R. 35 E., at two weirs

Oct. 10	3.32	Mar. 11	2.33	May 26	4.94	Aug. 11	3.04
Nov. 12	3.71	24	2.79	June 11	4.06	25	3.12
Dec. 10	3.55	Apr. 10	3.45	24	4.51	Sept. 9	2.86
Jan. 10	2.69	27	4.65	July 10	3.78	-	-
Feb. 10	2.39	May 10	3.68	24	4.13	-	-

Dugger Creek, Oreg., NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32, T. 6 N., R. 35 E., at two weirs

Oct. 10	5.39	Mar. 10	5.08	May 26	12.8	Aug. 11	7.19
Nov. 12	9.79	24	6.39	June 10	19.5	25	6.52
Dec. 10	8.35	Apr. 10	6.55	26	16.9	Sept. 9	6.55
Jan. 10	5.36	26	7.86	July 10	12.4	-	-
Feb. 10	4.53	May 10	9.24	24	9.43	-	-

Schwartz Spring Branch (south prong), Oreg., SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 6 N., R. 34 E., at weirs

Oct. 10	1.89	Mar. 10	4.10	May 26	6.71	Aug. 11	5.34
Nov. 12	2.27	24	4.16	June 10	7.13	25	4.65
Dec. 10	3.72	Apr. 10	4.37	26	7.71	Sept. 9	4.70
Jan. 10	4.32	26	4.34	July 10	5.77	-	-
Feb. 10	4.94	May 10	3.99	24	6.06	-	-

Schwartz Spring Branch (north prong), Oreg., NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 6 N., R. 34 E., in ditch diverting from spring

Oct. 10	3.20	Mar. 10	4.58	May 27	4.93	Aug. 11	4.27
Nov. 12	3.90	24	3.65	June 10	5.84	25	4.42
Dec. 10	3.34	Apr. 10	4.66	26	5.08	Sept. 9	3.70
Jan. 10	4.41	26	4.48	July 10	4.35	-	-
Feb. 10	4.65	May 10	4.14	24	5.07	-	-

South Mud Creek, Oreg., SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 6 N., R. 34 E., at Krumbaugh farm

Oct. 10	3.16	Mar. 10	4.82	May 26	6.77	Aug. 11	5.82
Nov. 12	3.93	24	4.52	June 10	8.18	25	6.51
Dec. 10	4.01	Apr. 10	5.03	26	6.64	Sept. 9	6.18
Jan. 10	4.78	26	5.62	July 10	6.61	-	-
Feb. 10	4.03	May 10	5.85	24	5.43	-	-

In addition to the records of stream flow obtained at gaging stations in Pacific slope basins in Oregon and lower Columbia River Basin and reported in the preceding pages, measurements of flow were made at other points, as shown in the following table:

Miscellaneous discharge measurements in Pacific slope basins in Oregon and lower Columbia River Basin during water year October 1940 to September 1941

Walla Walla River Basin, Oreg.--Wash.

Date	Stream	Tributary to or diverting from-	Locality	Discharge (sec.-ft.)
Apr. 22	Walla Walla River	Columbia River.....	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 5 N., R. 36 E., above power plant, 1,800 feet upstream from Couze Creek, near Milton, Oreg.	a59.4
May 6	.....do.....	.....do.....	.....do.....	a167
20	.....do.....	.....do.....	.....do.....	a236
29	.....do.....	.....do.....	.....do.....	a102
Apr. 19	Couze Creek.....	Walla Walla River..	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 5 N., R. 36 E., near mouth, Oreg.	5.7
May 5	.....do.....	.....do.....	.....do.....	6.8
20	.....do.....	.....do.....	.....do.....	15.6
29	.....do.....	.....do.....	.....do.....	8.8
Apr. 19	Pine Creek.....	.....do.....	NE $\frac{1}{4}$ sec. 22, T. 4 N., R. 35 E., at highway bridge at Weston, Oreg.	2.8
May 29	.....do.....	.....do.....	.....do.....	11.9
Apr. 19	Dry Creek.....	Pine Creek.....	SE $\frac{1}{4}$ sec. 35, T. 5 N., R. 35 E., at road crossing $\frac{3}{4}$ mile south of Blue Mountain and $\frac{5}{8}$ miles northeast of Weston, Oreg.	4.4
May 29	.....do.....	.....do.....	.....do.....	8.1
Apr. 19	Touchet River....	Walla Walla River..	Sec. 7, T. 9 N., R. 37 E., 100 feet downstream from bridge and $\frac{1}{2}$ mile downstream from former gaging station at Bolles, Wash.	107
July 10	.....do.....	.....do.....	.....do.....	101
Sept. 17	.....do.....	.....do.....	.....do.....	47.6
Apr. 19	Wolf Creek.....	North Fork of Touchet River.	Sec. 25, T. 9 N., R. 39 E., 500 feet downstream from Robinson Creek, near Dayton, Wash.	35.3
July 10	.....do.....	.....do.....	.....do.....	37.0
Sept. 16	.....do.....	.....do.....	.....do.....	20.2
Apr. 19	South Fork of Touchet River.	Touchet River.....	Sec. 31, T. 10 N., R. 39 E., 200 feet upstream from confluence with North Fork, near Dayton, Wash.	16.7
July 10	.....do.....	.....do.....	.....do.....	19.7
Sept. 17	.....do.....	.....do.....	.....do.....	5.5
Apr. 19	Patit Creek.....	.....do.....	Sec. 30, T. 10 N., R. 39 E., 400 feet upstream from mouth at Dayton, Wash.	6.8
July 10	.....do.....	.....do.....	.....do.....	6.2
Sept. 16	.....do.....	.....do.....	.....do.....	.8

a Small diversion around measuring section for power and irrigation.

Deschutes River Basin, Oreg.

Oct. 6	Rock Creek.....	Crane Prairie Reservoir on Cultus River.	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1, T. 21 S., R. 7 E., 800 feet east of spring.	18.0
30	.....do.....	.....do.....	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 21 S., R. 8 E., 800 feet above Cold Creek.	18.6
Aug. 18	.....do.....	.....do.....	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 21 S., R. 8 E., 500 feet above Cold Creek.	19.5
Oct. 30	Cold Creek.....	Rock Creek.....	Mouth, in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 21 S., R. 8 E.	1.2
Aug. 18	.....do.....	.....do.....	.....do.....	2.2
May 1	Whitefish Creek..	Crescent Lake.....	Mouth, in sec. 29, T. 24 S., R. 6 E., at southwest end of Crescent Lake.	50.4
7	.....do.....	.....do.....	.....do.....	53.0
21	.....do.....	.....do.....	.....do.....	44.5
June 4	.....do.....	.....do.....	.....do.....	33.5
25	.....do.....	.....do.....	.....do.....	16.1
May 2	Jack Creek.....	Metolius River....	Below Zehnbauer diversion dam, which is in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T. 12 S., R. 9 E.	13.3

Little White Salmon River Basin, Wash.

Sept. 5	Little White Salmon River.	Columbia River.....	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 4 N., R. 9 E., 30 feet upstream from Moss Creek, near Willard.	18.8
20	.....do.....	.....do.....	.....do.....	21.6
4	.....do.....	.....do.....	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 4 N., R. 9 E., at bridge just downstream from Moss Creek, near Willard.	36.8
5	.....do.....	.....do.....	.....do.....	36.9
20	.....do.....	.....do.....	.....do.....	40.0
4	Moss Creek.....	Little White Salmon River.	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 4 N., R. 9 E., at mouth, near Willard.	19.5

Wind River Basin, Wash.

Oct. 21	Little Wind River	Wind River.....	SW $\frac{1}{4}$ sec. 22, T. 3 N., R. 8 E., at mouth, near Carson.	†6.0
Dec. 4	.....do.....	.....do.....	.....do.....	20.4

† Estimated.

Miscellaneous discharge measurements in Pacific slope basins in Oregon and lower Columbia River Basin during water year October 1940 to September 1941--Continued

Wind River Basin, Wash.--Continued

Date	Stream	Tributary to or diverting from	Locality	Discharge (sec.-ft.)
Jan. 8	Little Wind River	Wind River.....	SW $\frac{1}{4}$ sec. 22, T. 3 N., R. 8 E., at mouth, near Carson.	18.7
Feb. 22	.....do.....	.....do.....	.....do.....	22.0
Mar. 19	.....do.....	.....do.....	.....do.....	15.0
Apr. 13	.....do.....	.....do.....	.....do.....	14.4
May 20	.....do.....	.....do.....	.....do.....	35.7
June 23	.....do.....	.....do.....	.....do.....	5.8
July 21	.....do.....	.....do.....	.....do.....	14.5
Aug. 19	.....do.....	.....do.....	.....do.....	2.9
Sept. 23	.....do.....	.....do.....	.....do.....	4.5

† Estimated.

Herman Creek Basin, Oreg.

July 29	Herman Creek....	Columbia River....	Mouth, 2 miles northeast of Cascade Locks.	bl7.7
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b Includes 3.7 second-feet diverted through power plant.

Burntbridge Creek Basin, Wash.

Aug. 19	Burntbridge Creek	Columbia River....	300 feet west of Pacific Highway, $\frac{1}{2}$ mile north of Vancouver city limits.	0.1
6	.....do.....	.....do.....	E $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T. 2 N., R. 3 E., Vancouver junction highway, 0.4 mile from Pacific Highway, near Vancouver.	.6
Sept. 4	.....do.....	.....do.....	.....do.....	.4

Sandy River Basin, Oreg.

Aug. 4	Sandy River Canal	Sandy River.....	Intake, near Marmot.....	298
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Willamette River Basin, Oreg.

June 25	Calapooya River..	Willamette River...	Mouth, below return flow from power canal at Albany.	424
July 29	.....do.....	.....do.....	.....do.....	508
June 27	Grant Creek.....	Thiel (Peel) Creek.	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 8 S., R. 6 W., 2 miles southeast of Falls City.	1.15
Apr. 18	Mill Creek.....	Willamette River...	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 8 S., R. 1 W., 500 feet above outlet of Salem power canal, near Aumsville.	14.0
June 11	.....do.....	.....do.....	.....do.....	7.1
July 3	.....do.....	.....do.....	.....do.....	2.8
11	.....do.....	.....do.....	.....do.....	.99
22	.....do.....	.....do.....	.....do.....	1.5
Aug. 1	.....do.....	.....do.....	.....do.....	1.30
7	.....do.....	.....do.....	.....do.....	1.30
15	.....do.....	.....do.....	.....do.....	1.10
21	.....do.....	.....do.....	.....do.....	1.05
29	.....do.....	.....do.....	.....do.....	1.0
Sept. 5	.....do.....	.....do.....	.....do.....	1.64
12	.....do.....	.....do.....	.....do.....	2.41
June 11	Porter Creek.....	Mill Creek.....	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 8 S., R. 2 W., above Turner-Aumsville highway bridge.	1.82
July 3	.....do.....	.....do.....	.....do.....	1.22
11	.....do.....	.....do.....	.....do.....	1.01
22	.....do.....	.....do.....	.....do.....	.65
Aug. 1	.....do.....	.....do.....	.....do.....	.77
7	.....do.....	.....do.....	.....do.....	.62
15	.....do.....	.....do.....	.....do.....	.78
21	.....do.....	.....do.....	.....do.....	.68
29	.....do.....	.....do.....	.....do.....	.93
Sept. 5	.....do.....	.....do.....	.....do.....	.98
12	.....do.....	.....do.....	.....do.....	1.21
Apr. 18	Beaver Creek....	.....do.....	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24, T. 8 S., R. 2 W., at highway bridge, near Aumsville.	27.8
June 11	.....do.....	.....do.....	.....do.....	6.2
14	.....do.....	.....do.....	.....do.....	4.77
Aug. 15	.....do.....	.....do.....	.....do.....	0
July 3	.....do.....	.....do.....	Mouth, near Turner.....	2.05
11	.....do.....	.....do.....	.....do.....	.45
22	.....do.....	.....do.....	.....do.....	0
Aug. 1	.....do.....	.....do.....	.....do.....	0
7	.....do.....	.....do.....	.....do.....	0
21	.....do.....	.....do.....	.....do.....	0
Sept. 12	.....do.....	.....do.....	.....do.....	11.50
Aug. 1	Bear Creek.....	.....do.....	Road crossing near northeast corner, sec. 4, T. 9 S., R. 2 W.	4.48
July 3	.....do.....	.....do.....	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 8 S., R. 2 W., near Turner.	1.28
11	.....do.....	.....do.....	.....do.....	1.29
22	.....do.....	.....do.....	.....do.....	2.66
Aug. 1	.....do.....	.....do.....	.....do.....	2.26
7	.....do.....	.....do.....	.....do.....	4.75
15	.....do.....	.....do.....	.....do.....	1.92
21	.....do.....	.....do.....	.....do.....	.73

† Estimated.

Miscellaneous discharge measurements in Pacific slope basins in Oregon and lower Columbia River Basin during water year October 1940 to September 1941--Continued

Willamette River Basin, Oreg.--Continued

Date	Stream	Tributary to or diverting from	Locality	Discharge (sec.-ft.)
Aug. 29	Bear Creek.....	Mill Creek.....	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 8 S., R. 2 W., near Turner.	1.41
Sept. 5	.....do.....	.....do.....	.....do.....	3.21
12	.....do.....	.....do.....	.....do.....	.90
Aug. 21	Overflow from Turner Mill Pond into Bear Creek.	Bear Creek.....	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T. 8 S., R. 2 W.....	2.66
29	.....do.....	.....do.....	.....do.....	1.94
July 3	Battle Creek.....	Mill Creek.....	Above McKinney Creek, near Turner.....	1.3
11	.....do.....	.....do.....	.....do.....	.47
22	.....do.....	.....do.....	.....do.....	.13
Apr. 18	.....do.....	.....do.....	Mouth, NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T. 8 S., R. 2 W., near Turner.	24.1
June 11	.....do.....	.....do.....	.....do.....	12.9
21	.....do.....	.....do.....	.....do.....	7.1
July 3	.....do.....	.....do.....	.....do.....	7.3
11	.....do.....	.....do.....	.....do.....	2.22
22	.....do.....	.....do.....	.....do.....	1.23
Aug. 1	.....do.....	.....do.....	.....do.....	.99
7	.....do.....	.....do.....	.....do.....	4.48
15	.....do.....	.....do.....	.....do.....	5.19
21	.....do.....	.....do.....	.....do.....	4.86
29	.....do.....	.....do.....	.....do.....	1.91
July 3	McKinney Creek...	Battle Creek.....	Road crossing in center of NE $\frac{1}{4}$ sec. 8, T. 9 S., R. 2 W., above district drain.	†.1
22	.....do.....	.....do.....	.....do.....	0
Aug. 15	.....do.....	.....do.....	.....do.....	0
July 3	Unnamed.....	McKinney Creek...	Road crossing in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 9 S., R. 2 W.....	0
22	.....do.....	.....do.....	.....do.....	0
3	Morris Creek.....	.....do.....	On line between sec. 31, T. 8 S., and sec. 6, T. 9 S., R. 2 W., $\frac{1}{4}$ mile above Norton Creek.	.49
11	.....do.....	.....do.....	.....do.....	.31
22	.....do.....	.....do.....	.....do.....	.25
3	Norton Creek.....	Morris Creek.....	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 9 S., R. 2 W.....	.44
11	.....do.....	.....do.....	.....do.....	.26
22	.....do.....	.....do.....	.....do.....	.40
30	Mill Creek.....	Pudding River.....	Mouth, at Aurora.....	5.3
Apr. 23	Dairy Creek.....	Tualatin River.....	Road crossing 2.5 miles north of Cornelius.	97.8

† Estimated.

Washougal River Basin, Wash.

Aug. 19	Washougal River..	Columbia River.....	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 29, T. 2 N., R. 4 E., 2 miles above Western Light & Power Co. dam, $\frac{3}{4}$ miles northeast of Washougal.	65.6
Sept. 6	.....do.....	.....do.....	.....do.....	941
20	.....do.....	.....do.....	.....do.....	894
4	Lacamas Creek....	Washougal River....	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 2 N., R. 3 E., 350 feet upstream from bridge, 1 mile above Lacamas Lake, near Camas.	27.1
19	.....do.....	.....do.....	.....do.....	26.4

Salmon Creek Basin, Wash.

Aug. 6	Salmon Creek.....	Columbia River.....	NE $\frac{1}{4}$ sec. 12, T. 3 N., R. 2 E., at county road crossing near Battleground.	3.4
18	.....do.....	.....do.....	.....do.....	2.6
Sept. 3	.....do.....	.....do.....	.....do.....	10.1
19	.....do.....	.....do.....	.....do.....	16.7
Aug. 6	.....do.....	.....do.....	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 3 N., R. 2 E., 100 feet upstream from Weaver Creek, near Vancouver.	4.5
18	.....do.....	.....do.....	.....do.....	3.6
Sept. 3	.....do.....	.....do.....	.....do.....	11.6
19	.....do.....	.....do.....	.....do.....	20.2
Aug. 5	.....do.....	.....do.....	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 3 N., R. 1 E., just upstream from Pacific Highway, near Vancouver.	16.2
18	.....do.....	.....do.....	.....do.....	12.5
Sept. 2	.....do.....	.....do.....	.....do.....	36.6
18	.....do.....	.....do.....	.....do.....	28.3
Aug. 5	.....do.....	.....do.....	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 3 N., R. 1 E., $\frac{1}{4}$ mile upstream from Cougar Canyon Creek, near Vancouver.	20.6
18	.....do.....	.....do.....	.....do.....	15.7
Sept. 2	.....do.....	.....do.....	.....do.....	53.5
18	.....do.....	.....do.....	.....do.....	35.3
Aug. 6	Muddy Creek.....	Salmon Creek.....	SE $\frac{1}{4}$ sec. 12, T. 3 N., R. 2 E., $\frac{1}{4}$ mile above mouth, near Battleground.	.7
18	.....do.....	.....do.....	.....do.....	.6
Sept. 3	.....do.....	.....do.....	.....do.....	2.1
19	.....do.....	.....do.....	.....do.....	2.4

Miscellaneous discharge measurements in Pacific slope basins in Oregon and lower Columbia River Basin during water year October 1940 to September 1941--Continued

Salmon Creek Basin, Wash.--Continued.

Date	Stream	Tributary to or diverting from	Locality	Discharge (sec.-ft.)
Aug. 6	Weaver Creek.....	Salmon Creek.....	Sec. 15, T. 3 N., R. 2 E., at mouth near Brush Prairie.	0.6
18	...do.....	...do.....	...do.....	.4
Sept. 3	...do.....	...do.....	...do.....	1.4
19	...do.....	...do.....	...do.....	1.0
Aug. 5	Unnamed.....	...do.....	NE $\frac{1}{4}$ sec. 29, T. 3 N., R. 2 E., just upstream from bridge, 0.4 mile above mouth, near Brush Prairie.	2.2
18	...do.....	...do.....	...do.....	2.2
Sept. 3	...do.....	...do.....	...do.....	2.6
18	...do.....	...do.....	...do.....	2.2
Aug. 5	Mill Creek.....	...do.....	SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 3 N., R. 1 E., just above bridge at mouth, near Vancouver	.6
18	...do.....	...do.....	...do.....	.4
Sept. 3	...do.....	...do.....	...do.....	1.1
18	...do.....	...do.....	...do.....	.7
Aug. 5	Cougar Canyon Creek.	...do.....	SE $\frac{1}{4}$ sec. 28, T. 3 N., R. 1 E., 40 feet above mouth, near Vancouver.	.6
18	...do.....	...do.....	...do.....	.5
Sept. 2	...do.....	...do.....	...do.....	.6
18	...do.....	...do.....	...do.....	.7

Umpqua River Basin, Oreg.

Apr. 3	Cow Creek.....	South Umpqua River.	NW $\frac{1}{4}$ sec. 5, T. 32 S., R. 3 W., 0.9 mile below Dismal Creek damsite.	31.5
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Rogue River Basin, Oreg.

Aug. 18	Red Blanket power canal.	Main power canal...	Mouth, in NW $\frac{1}{4}$ sec. 34, T. 32 S., R. 3 E., 0.7 mile below gaging station.	51.0
Jan. 2	Grave Creek.....	Rogue River.....	SW $\frac{1}{4}$ sec. 12, T. 34 S., R. 6 W., $\frac{1}{2}$ mile downstream from new site of gaging station.	98.4
Feb. 19	Jump-off Joe Creek.	...do.....	Sec. 36, T. 34 S., R. 6 W.....	68.8
Mar. 3	...do.....	...do.....	...do.....	51.7
22	...do.....	...do.....	...do.....	14.9
Apr. 10	...do.....	...do.....	...do.....	74.9
May 19	...do.....	...do.....	...do.....	16.6
June 2	...do.....	...do.....	...do.....	9.4
Aug. 12	...do.....	...do.....	...do.....	.97
7	Illinois River...	...do.....	SE $\frac{1}{4}$ sec. 29, T. 38 S., R. 8 W., below entrance to canyon and 2 miles downstream from gaging station near Kerby.	65.2

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